

SECTION 00 91 13.01
ADDENDA
ADDENDUM NUMBER 1

1.1 PROJECT INFORMATION

- A. Project Name: **SGRWRF Headworks and UV Improvements Project**
- B. Project Number: 001-23-06 Inquiry No. 24-143
- C. Owner: **City of St. George**
- D. Engineer: Bowen Collins & Associates
- E. Date of Addendum: August 23, 2024

1.2 NOTICE TO PLANHOLDERS AND/OR BIDDERS

- A. This Addendum is issued to all registered plan holders. This Addendum serves to clarify, correct, and/or supersede information in the Specifications, Drawings, and previously issued Addenda (Contract Documents). Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.
- B. Bidder must acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

1.3 PRIOR ADDENDA

- A. None

1.4 BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT

- A. Bid Date:
 - 1. The date and time for receipt of Bids is changed by this Addendum: **Tuesday, September 10, 2024; at 2:30 pm**; same location.
- B. ADD the GENERAL CONDITIONS to the Conditions of the Contract. Insert the GENERAL CONDITIONS after the Agreement Documents. The General Conditions are included in the Attachments and consists of 29 pages.

1.5 TECHNICAL SPECIFICATIONS

- A. None

1.6 DRAWINGS

- A. Drawing S-HW-01 (Sheet 05) Demolition and Construction Sequence

1. Remove Drawing S-HW-01 in its entirety and replace with Drawing S-HW-01 that is included in the ATTACHMENTS.
- B. Drawing S-UV-01 UV (Sheet 08) Disinfection Building Stair Plan and Elevation
 1. Remove Drawing S-UV-01 in its entirety and replace with Drawing S-UV-01 that is included in the ATTACHMENTS.

1.7 APPENDICES

- A. None

1.8 CLARIFICATIONS

- A. Prebid Meeting Notes: A copy of the minutes and attendance list from the Prebid Meeting is included with this Addendum.
- B. Contractor Question #1: Will you provide the contact information for the Company that installed the existing FRP Foul Air Piping in the Headworks?

*United Team Mechanical
151 North 600 West
Kaysville, UT 84057
(801) 991-1100*

- C. Contractor Question #2: Will you provide the contact information for the Company that provided the existing exterior stairs at the Blower Building?

*Cody Builders Supply
12002 North Landry Boulevard
Austin, TX 78763
(512) 339-9834*

- D. Contractor Question #3: Please provide information regarding the roofing material in the UV Building.

See roofing material information in the Attachment.

1.9 ATTACHMENTS

1. Pre-Bid Meeting Minutes and Attendance List
2. General Conditions
3. Revised Drawings S-HW-02 and S-UV-01
4. Existing UV Building Roofing Information

END OF SECTION

ATTACHMENTS

PREBID MEETING MINUTES AND ATTENDANCE LIST



Owner: City of St George **Date:** August 20, 2020

Project: SGRWRF Headworks and UV Improvements Project **Inquiry No.:** 24-143

Location: SGRWRF Collections Building **Time:** 10:00 a.m.

Subject: Pre-Bid Meeting

Notes in Italics

1) Introductions

- a. City of St. George
 - i) Kade Bringhurst – Water Services Special Projects Manager
 - ii) Jason Crow – Wastewater Division Manager
 - iii) Eric Richins – Wastewater Treatment Superintendent
- b. Bowen, Collins & Associates
 - i) Jeff Beckman –Project Manager
- c. Others

2) Attendees List – See Attached

3) Communications: All communications are to go through Jeff Beckman (no exception). Verbal responses will not be given; all communication will be in writing.

Email: jbeckman@bowencollins.com

4) Project Overview:

Project Description: The WORK of this project The Project generally includes supply and installation of some safety metal grating and handrail in the Headworks Building and metal exterior stairs at the UV Building.

5) Contract Documents

- a. Volume 1 – Bid Forms, Contract Conditions, Technical Specifications and Drawings

The documents are available for download from the City's website.

6) Bid Forms

The following separate unbound bidding documents shall be provided with the Contractor's Bid:

- a. Bid Form including Bid Schedule
- b. Bidder's General Information
- c. Major Subcontractor Listing
- d. Bid Bond (5% of Bid Amount)
- e. ***Certificate of Legal Work Status***

7) **Contract Conditions**

- a. Bond Requirements
- b. Insurance Requirements

8) **Project Schedule:**

- a. Bid Submitted by: ~~August 27, 2024, 1:30 pm~~ **September 10, 2024, 2:30 at the City of St George Purchasing Department, 175 East 200 North) See Information for Bidders for other requirements.**
- b. Estimated Notice of Award: ~~September 16, 2024~~ **September 30, 2024** (tentative date)
- c. Estimated Notice to Proceed: ~~September 23, 2024~~ **October 7, 2024** (tentative date)
- d. Project duration: 275 Calendar Days to Substantial Completion
- e. Construction and Schedule Constraints
 - Mon-Friday 7 am – 5 pm
 - Shut Down Conveyor for 30 Min periods.

9) **Construction Issues**

- a. Existing Facilities to remain in full operation
- b. Conveyor Shutdowns coordinated with SGRWRF Staff
- c. Continuous Support of Conveyors (See Sequencing Requirements)
- d. Site Security – Contractor to provide
- e. Staging and Storage – Coordinate with SGRWRF Staff.
- f. Other

10) **Questions**

- a. *Please provide information regarding the existing roofing material on the UV Building.*
Response: Information will be included in the first addendum.
- b. *What is the requirement for the roof walkway material called out on S-UV-01?*
Response: Information will be included in the first addendum.
- c. *Please provide contact information for the company that provided the existing stairs at the Blower Building.*
Response: Information will be included in the first addendum.
- d. *Please provide contact information for the company that installed the FRP Foul Air piping that needs to be relocated in the Headworks Building.*
Response: Information will be included in the first addendum.

11) **Visit Site**

Attendees visited the Headworks Building, Blower Building and UV Building.



Project: SGRWRF Headworks and UV Improvements Project
City of St. George

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GENERAL CONDITIONS

GENERAL CONDITIONS INDEX

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GENERAL CONDITIONS

1. DEFINITIONS

- 1.1. Wherever used in the CONTRACT DOCUMENTS, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:
- 1.2. ADDENDA - Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the CONTRACT DOCUMENTS, DRAWINGS and SPECIFICATIONS, by additions, deletions, clarifications or corrections.
- 1.3. BID - The offer or proposal of the BIDDER submitted on the prescribed form setting forth the prices for the WORK to be performed.
- 1.4. BIDDER - Any person, firm or corporation submitting a BID for the WORK.
- 1.5. BONDS - Bid, Performance, and Payment Bonds and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the CONTRACT DOCUMENTS.
- 1.6. CHANGE ORDER - A written order to the CONTRACTOR authorizing an addition, deletion or revision in the WORK within the general scope of the CONTRACT DOCUMENTS, or authorizing an adjustment in the CONTRACT PRICE or CONTRACT TIME.
- 1.7. CITY – The City of St. George.
- 1.8. CITY’S REPRESENTATIVE – Kade Bringhurst
175 E 200 N
St. George, UT 84770
435-627-4854
- 1.9. CONTRACT DOCUMENTS – The documents listed as contract documents in the agreement signed by the parties.
- 1.10. CONTRACT PRICE - The total monies payable to the CONTRACTOR under the terms and conditions of the CONTRACT DOCUMENTS.
- 1.11. CONTRACT TIME - The number of calendar days stated in the CONTRACT DOCUMENTS for the completion of the WORK.
- 1.12. CONTRACTOR - The person, firm or corporation with whom the CITY has executed the Agreement.
- 1.13. DRAWINGS - The part of the CONTRACT DOCUMENTS which show the characteristics and scope of the WORK to be performed and which have been prepared by a licensed professional Landscape Architect, Architect, or Engineer and reviewed and approved by the INSPECTING OFFICER.
- 1.14. INSPECTING OFFICER - The person designated by the City of St. George.
- 1.15. FIELD ORDER - A written order effecting a change in the WORK not involving an adjustment in the CONTRACT PRICE or an extension of the CONTRACT TIME, issued by the INSPECTING OFFICER to the CONTRACTOR during construction.
- 1.16. NOTICE OF AWARD - The written notice of the acceptance of the BID from the CITY to the successful BIDDER.
- 1.17. NOTICE TO PROCEED - Written communication issued by the CITY to the CONTRACTOR authorizing him to proceed with the WORK and establishing the date of commencement of the WORK.
- 1.18. PROJECT - The undertaking to be performed as provided in the CONTRACT DOCUMENTS.
- 1.19. SHOP DRAWINGS - All drawings, diagrams, illustrations, brochures, schedules and

other data which are prepared by the CONTRACTOR, a SUBCONTRACTOR, manufacturer, SUPPLIER or distributor, which illustrate how specific portions of the WORK shall be fabricated or installed, or as described below:

- 1.19.1. Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by CONTRACTOR or any SUBCONTRACTOR, manufacturer, supplier, or distributor. Shop drawings illustrate some portion of the WORK and confirm dimensions and conformance to Contract Documents.
- 1.19.2. Samples are physical examples furnished by CONTRACTOR to illustrate materials, equipment, color, or workmanship and to assist in the establishment of standards by which the WORK will be judged.
- 1.20. SPECIFICATIONS OR TECHNICAL SPECIFICATIONS - A part of the CONTRACT DOCUMENTS consisting of written descriptions of a technical nature about the materials, equipment, construction systems, standards and workmanship.
- 1.21. SUBCONTRACTOR - An individual, firm or corporation having a direct contract with the CONTRACTOR or with any other SUBCONTRACTOR for the performance of a part of the WORK at the site.
- 1.22. SUBSTANTIAL COMPLETION - That date as certified by the INSPECTING OFFICER when the construction of the PROJECT or a specified part thereof is sufficiently completed, in accordance with the CONTRACT DOCUMENTS, so that the PROJECT or specified part can be utilized for the purposes for which it is intended. Obtaining a certificate of occupancy does not mean the WORK has reached SUBSTANTIAL COMPLETION.
- 1.23. SUPPLEMENTAL GENERAL CONDITIONS - Modifications to General Conditions required for participation in the PROJECT and approved in writing prior to inclusion in the CONTRACT DOCUMENTS, or such requirements that may be imposed by applicable state laws.
- 1.24. SUPPLIER - Any person or organization who supplies materials or equipment for the WORK, including that fabricated to a special design, but who does not perform labor at the site.
- 1.25. WORK - All labor necessary to produce the construction required by the CONTRACT DOCUMENTS, and all materials and equipment incorporated or to be incorporated in the PROJECT.
- 1.26. WRITTEN NOTICE - Any notice to any party of the Agreement relative to any part of this Agreement in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the WORK.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

- 2.1. The CONTRACTOR may be furnished additional instructions and detail drawings by the INSPECTING OFFICER as necessary to carry out the WORK required by the CONTRACT DOCUMENTS.
- 2.2. The additional drawings and instruction thus supplied will become a part of the CONTRACT DOCUMENTS. The CONTRACTOR shall carry out the WORK in accordance with the additional detail drawings and instructions.

3. SCHEDULES, REPORTS AND RECORDS

- 3.1. The CONTRACTOR shall submit to the CITY such schedule of quantities and costs,

progress schedules, payrolls, reports, estimates, records and other data where applicable when requested by the CITY for the WORK to be performed.

- 3.2. Prior to the first partial payment request the CONTRACTOR shall submit construction progress schedules showing the order in which he proposes to carry on the WORK, including dates at which he will start the various parts of the WORK, estimated date of completion of each part and as applicable:

- 3.2.1. The dates at which special detail drawings will be required; and

- 3.2.2. Respective dates for submission of SHOP DRAWINGS, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

4. DRAWINGS AND SPECIFICATIONS

- 4.1. The intent of the DRAWINGS and SPECIFICATIONS is that the CONTRACTOR shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the WORK in accordance with the CONTRACT DOCUMENTS and all incidental work necessary to complete the PROJECT in an acceptable manner, ready for use, occupancy or operation by the CITY.
- 4.2. In case of conflict between the DRAWINGS and SPECIFICATIONS, the SPECIFICATIONS shall govern. Figure dimensions on DRAWINGS shall govern over scale dimensions, and detailed DRAWINGS shall govern over general DRAWINGS.
- 4.3. Any discrepancies found between the DRAWINGS and SPECIFICATIONS and site conditions or any inconsistencies or ambiguities in the DRAWINGS or SPECIFICATIONS shall be immediately reported to the INSPECTING OFFICER, in writing, who shall promptly correct such inconsistencies or ambiguities in writing. WORK done by the CONTRACTOR after his discovery of such discrepancies, inconsistencies or ambiguities shall be done at the CONTRACTOR'S risk.

5. SHOP DRAWINGS AND SAMPLES

- 5.1. The CONTRACTOR shall provide SHOP DRAWINGS as may be necessary for the prosecution of the WORK as required by the CONTRACT DOCUMENTS. The INSPECTING OFFICER shall promptly review all SHOP DRAWINGS. The INSPECTING OFFICER'S approval of any SHOP DRAWING shall not release the CONTRACTOR from responsibility for deviations from the CONTRACT DOCUMENTS. The approval of any SHOP DRAWING which substantially deviates from the requirement of the CONTRACT DOCUMENTS shall be evidenced by a CHANGE ORDER.
- 5.2. When submitted for the INSPECTING OFFICER'S review, SHOP DRAWINGS shall bear the CONTRACTOR'S certification that he has reviewed, checked and approved the SHOP DRAWINGS and that they are in conformance with the requirements of the CONTRACT DOCUMENTS.
- 5.3. Portions of the WORK requiring a SHOP DRAWING or sample submission shall not begin until the SHOP DRAWING or submission has been approved by the INSPECTING OFFICER. A copy of each approved SHOP DRAWING and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the INSPECTING OFFICER.
- 5.4. Procedure: CONTRACTOR shall review and designate (stamp) his approval and submit to CITY'S REPRESENTATIVE, with reasonable promptness and in orderly

- sequence, all shop drawings and samples required by the Contract Documents. Three copies of the Drawings are required. CONTRACTOR shall bear cost of reproducing copies of shop drawings required by all concerned.
- 5.5. By approving shop drawings and samples, CONTRACTOR thereby represents that he has determined and verified all field measurements, field construction criteria, materials, catalog numbers, and similar data, or will do so, and that he has checked and coordinated each shop drawing and sample with requirements of the WORK and of the Contract Documents.
- 5.6. No WORK requiring a shop drawing or sample submission shall be commenced until submission has been approved by CITY'S REPRESENTATIVE.
- 5.7. Samples.
- 5.7.1. Where specified or required, CONTRACTOR shall submit samples to CITY'S REPRESENTATIVE together with specification material, affidavits, and other documentation as may be required by CITY'S REPRESENTATIVE.
- 5.7.2. It is the CONTRACTOR'S specific responsibility to ascertain that samples submitted have been checked and approved by him.
- 5.7.3. Cost of samples, together with transportation, delivery, and any other costs, shall be borne by CONTRACTOR. Samples shall be retained in the office of the CITY'S REPRESENTATIVE until completion of the Project.
- 5.7.4. Where samples are specifically required to be submitted for approval, no WORK involving the sampled materials shall proceed until written approval has been obtained from CITY'S REPRESENTATIVE.
- 5.8. Review of shop drawings and Samples by CITY'S REPRESENTATIVE shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Review of such drawings and samples will not relieve CONTRACTOR of responsibility for any error which may exist in the Submittals.

6. MATERIALS, SERVICES AND FACILITIES

- 6.1. It is understood that, except as otherwise specifically stated in the CONTRACT DOCUMENTS, the CONTRACTOR shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the WORK within the specified time. Materials incorporated into Project shall be new, except as otherwise indicated in the Specifications, of specified quality, and furnished in sufficient quantity to facilitate proper and speedy execution of the WORK. CONTRACTOR shall, if requested, furnish evidence of the quality of any materials. Materials not meeting the requirements of the Contract Documents shall be removed from the Project by CONTRACTOR without expense to CITY.
- 6.2. Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the WORK. Stored materials and equipment to be incorporated in the WORK shall be located so as to facilitate prompt inspection.
- 6.2.1. Materials shall be delivered to the site in original packaging with labels and trademarks intact, and such labels and trademarks shall remain intact until used.
- 6.2.2. CONTRACTOR shall confine his apparatus, storage of materials, and opera-

tions of his workmen to limits indicated by law, ordinances, and permits and shall arrange and maintain parking of vehicles and storage of materials in an orderly manner leaving all walks, driveways, roads, and entrances, unencumbered.

- 6.3. All equipment on site shall be protected from physical damage and from the elements. All rotating equipment shall be rotated four turns once each week during construction.
- 6.4. Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.
- 6.5. Materials, supplies and equipment shall be in accordance with samples submitted by the CONTRACTOR and approved by the INSPECTING OFFICER.
- 6.6. Materials, supplies or equipment to be incorporated into the WORK shall not be purchased by the CONTRACTOR or the SUBCONTRACTOR subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

7. INSPECTION AND TESTING

- 7.1. All materials and equipment used in the construction of the PROJECT shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the CONTRACT DOCUMENTS.
- 7.2. The CITY shall provide all inspection and testing services not required by the CONTRACT DOCUMENTS.
- 7.3. The CONTRACTOR shall provide at his expense the testing and inspection services required by the CONTRACT DOCUMENTS unless otherwise stated in the CONTRACT DOCUMENTS.
- 7.4. If the CONTRACT DOCUMENTS, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any WORK to specifically be inspected, tested, or approved by someone other than the CONTRACTOR, the CONTRACTOR will give the INSPECTING OFFICER timely notice of readiness. The CONTRACTOR will then furnish the INSPECTING OFFICER the required certificates of inspection, testing or approval.
- 7.5. Inspections, tests or approvals by the INSPECTING OFFICER or others shall not relieve the CONTRACTOR from his obligations to perform the WORK in accordance with the requirements of the CONTRACT DOCUMENTS.
- 7.6. The INSPECTING OFFICER and his representatives will at all times have access to the WORK. In addition, authorized representatives and agents of the CITY or any participating Federal or state agency shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records. The CONTRACTOR will provide proper facilities for such access and observation of the WORK and also for any inspection, or testing thereof.
- 7.7. If any WORK is covered prior to inspections, tests, or approval or contrary to the CONTRACT DOCUMENTS it must, if requested by the INSPECTING OFFICER, be uncovered for his observation and replaced at the CONTRACTOR'S expense.
- 7.8. If the INSPECTING OFFICER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the INSPECTING OFFICER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the INSPECTING OFFICER may require, that portion of the WORK in question, furnishing all necessary labor, materials, tools, and equipment. If

it is found that such WORK is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction. If, however, such WORK is not found to be defective, the CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate CHANGE ORDER shall be issued.

8. SUBSTITUTIONS

- 8.1. Whenever a material, article or piece or equipment is identified on the DRAWINGS or SPECIFICATIONS by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may, by written request with supporting documentation, recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the CONTRACT DOCUMENTS by reference to brand name or catalogue number, and if, in the opinion of the INSPECTING OFFICER, such material, article, or piece of equipment provides equal or better level of performance than that expected from the originally specified material, article, or piece of equipment at equal or less cost to the CITY, and provides an equal or better warranty and service conditions, such materials, articles, and pieces of equipment may be considered for substitution. Such consideration on the part of the INSPECTING OFFICER does not constitute agreement to or approval of any substituted materials, articles, or pieces of equipment. The written request for substitution shall include a statement that CONTRACTOR accepts responsibility for any and all adjustments to the rest of the project to accommodate the proposed substitution, including any additional costs created by the change.
- 8.2. INSPECTING OFFICER retains the right to reject any and all materials, articles, and pieces of equipment offered for consideration as substitutes for those originally specified, and may require the CONTRACTOR to install all materials, articles, and pieces of equipment as originally specified.
- 8.3. When several materials are specified in the Contract Documents by name for one use, CONTRACTOR may select any one of those so specified. The mixing of several products specified by name for one use is prohibited.
- 8.4. Wherever an item or class of material is specified exclusively by trade name, by name of maker, or by catalog reference, use such item only unless CITY'S REPRESENTATIVE'S approval for a substitution is secured. Items and material not specified in the Contract Documents and installed in the WORK shall be removed and replaced by specified items and material at no additional cost to CITY and for no additional time added to Contract.

9. PATENTS

The CONTRACTOR shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the CITY harmless from loss on account thereof, except that the CITY shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is

specified, however if the CONTRACTOR has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the INSPECTING OFFICER.

10. SURVEYS, PERMITS, REGULATIONS

- 10.1. The CITY shall furnish all boundary and topographic surveys, establish a point of beginning, and provide a plan showing the basic data necessary for locating the principal component parts of the WORK together with a suitable number of bench marks adjacent to the WORK as shown in the CONTRACT DOCUMENTS. From the information provided by the CITY, unless otherwise specified in the CONTRACT DOCUMENTS, the CONTRACTOR shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pile locations and other working points, lines, elevations and cut sheets.
- 10.2. The STAKING AND LAYOUT PLAN shall be the responsibility of the CONTRACTOR in coordination with the CITY.
- 10.3. The CONTRACTOR shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, the CONTRACTOR shall be charged with the resulting expense, which expense shall include the cost of all labor and materials necessary to repair the damage, and the CONTRACTOR shall be responsible to remedy any mistakes that may be caused by their unnecessary loss or disturbance.
- 10.4. Permits and licenses necessary and required for the prosecution of the WORK shall be secured and paid for by the CONTRACTOR unless otherwise stated in the CONTRACT DOCUMENTS. Such permits and documents shall include but not be limited to a City business license or registration, the SWPPP (Storm Water Pollution Prevention Plan), NOI (Notice of Intent which is part of the SWPPP), Air Quality Control Permit, Grading Permit, Building Permit, Encroachment permit, and NOT (Notice of Termination of the Stormwater Permit). Easements shall be secured and paid for by the CITY, unless otherwise specified in the CONTRACT DOCUMENTS. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the CONTRACT DOCUMENTS are at variance therewith, he shall promptly notify the INSPECTING OFFICER in writing, and any necessary changes shall be adjusted as provided in Section 13, CHANGES IN THE WORK.

11. PROTECTION OF WORK, PROPERTY AND PERSONS

- 11.1. The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the WORK. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the WORK and other persons who may be affected thereby, all the WORK and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- 11.2. The CONTRACTOR will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the WORK, all necessary

safeguards for safety and protection. He will notify owners of adjacent utilities when prosecution of the WORK may affect them. The CONTRACTOR will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the CONTRACTOR, any SUBCONTRACTOR or anyone directly or indirectly employed by any of them or anyone for whose acts any of them be liable, except damage or loss attributable to the fault of the CONTRACT DOCUMENTS or to the acts or omissions of the CITY or the INSPECTING OFFICER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the CONTRACTOR.

- 11.3. In emergencies affecting the safety of persons or the WORK or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the INSPECTING OFFICER or CITY, shall act to prevent threatened damage, injury or loss. He will give the INSPECTING OFFICER prompt WRITTEN NOTICE of significant changes in the WORK or deviations from the CONTRACT DOCUMENTS caused thereby, and a CHANGE ORDER shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

The CONTRACTOR will supervise and direct the WORK. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain on the WORK a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the WORK.

13. CHANGES IN THE WORK

- 13.1. The CITY may at any time, as the need arises, order changes within the scope of the WORK without invalidating the Agreement. If such changes increase or decrease the amount due under the CONTRACT DOCUMENTS, or in the time required for performance of the WORK, an equitable adjustment shall be authorized by CHANGE ORDER.
- 13.2. The INSPECTING OFFICER, also may at any time, by issuing a FIELD ORDER, make changes in the details of the WORK. The CONTRACTOR shall proceed with the performance of any changes in the WORK so ordered by the INSPECTING OFFICER unless the CONTRACTOR believes that such FIELD ORDER entitles him to a change in CONTRACT PRICE or TIME, or both, in which event he shall give the INSPECTING OFFICER WRITTEN NOTICE thereof within seven (7) days after the receipt of the ordered change. Thereafter the CONTRACTOR shall document the basis for the change in CONTRACT PRICE or TIME within thirty (30) days. The CONTRACTOR shall not execute such changes pending the receipt of an executed CHANGE ORDER or further instruction from the CITY.

14. CHANGES IN CONTRACT PRICE

- 14.1. The CONTRACT PRICE may be changed only by a CHANGE ORDER. The value of

any work covered by a CHANGE ORDER or of any claim for increase or decrease in the CONTRACT PRICE shall be determined by one or more of the following methods in the order of precedence listed below:

14.1.1. Unit prices previously approved;

14.1.2. An agreed lump sum; or

14.1.3. The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work. In addition there shall be added an amount to be agreed upon but not to exceed fifteen (15) percent of the actual cost of the WORK to cover the cost of general overhead and profit.

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

15.1. The date of beginning and the time for completion of the WORK are essential conditions of the CONTRACT DOCUMENTS and the WORK embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

15.2. The CONTRACTOR will proceed with the WORK at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the CITY, that the CONTRACT TIME for the completion of the WORK described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

15.3. If the CONTRACTOR shall fail to complete the WORK within the CONTRACT TIME, or extension of time granted by the CITY, then the CONTRACTOR will pay to the CITY the amount for LIQUIDATED DAMAGES as specified in the BID for each calendar day that the CONTRACTOR shall be in default after the time stipulated in the CONTRACT DOCUMENTS.

15.4. The CONTRACTOR shall not be charged with LIQUIDATED DAMAGES or any excess cost when the delay in completion of the WORK is due to the following and the CONTRACTOR has promptly given WRITTEN NOTICE of such delay to the CITY or INSPECTING OFFICER.

15.4.1. To any preference, priority or allocation order duly issued by the CITY;

15.4.2. To unforeseeable causes beyond the control and without the fault or negligence of the CONTRACTOR, including but not restricted to acts of God, or of the public enemy, acts of the CITY, acts of another CONTRACTOR in the performance of a contract with the CITY, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and abnormal and unforeseeable weather; and

15.4.3. To any delays of SUBCONTRACTORS occasioned by any of the causes specified in paragraphs 15.4.1 and 15.4.2 of this article.

15.5. Failure to make repairs to deficiencies throughout the Guaranty Period within 10 days after the monthly inspection will result in the assessment of LIQUIDATED DAMAGES at the rate specified in the BID.

15.6. Failure to remove and / or replace defective or rejected materials and WORK found not in compliance with the CONTRACT DOCUMENTS, as specified in Section 16 - CORRECTION OF WORK, within TEN DAYS (10) after receipt of WRITTEN NOTICE given by the INSPECTING OFFICER will result in the assessment of LIQUIDATED DAMAGES at the rate specified in the BID.

15.7. The conditions specified in 15.5 and 15.6 and the rates specified in the Bid are

cumulative and are in addition to any LIQUIDATED DAMAGES assessed in accordance with 15.1, 15.2, 15.3, and 15.4 that may be associated with the overall Contract Time.

16. CORRECTION OF WORK

- 16.1. The CONTRACTOR shall promptly remove from the premises all WORK rejected by the INSPECTING OFFICER for failure to comply with the CONTRACT DOCUMENTS, whether incorporated in the construction or not, and the CONTRACTOR shall promptly replace and re-execute the WORK in accordance with the CONTRACT DOCUMENTS and without expense to the CITY and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.
- 16.2. All removal and replacement WORK shall be done at the CONTRACTOR'S expense. If the CONTRACTOR does not take action to remove such rejected WORK within ten (10) days after receipt of WRITTEN NOTICE, CONTRACTOR shall be assessed LIQUIDATED DAMAGES as specified in the CONTRACT DOCUMENTS. CITY has the right to remove the WORK and store the materials at the expense of CONTRACTOR.

17. SUBSURFACE CONDITIONS

- 17.1. The CONTRACTOR shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the CITY by WRITTEN NOTICE of:
- 17.1.1. Subsurface or latent physical conditions at the site differing materially from those indicated in the CONTRACT DOCUMENTS; or
- 17.1.2. Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the CONTRACT DOCUMENTS.
- 17.2. The CITY shall promptly investigate the conditions, and if it finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the WORK, an equitable adjustment shall be modified by a CHANGE ORDER. Any claim of the CONTRACTOR for adjustment hereunder shall not be allowed unless he has given the required WRITTEN NOTICE; provided that the CITY may, if he determines the facts so justify, consider and adjust any such claims asserted before the date of final payment.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

- 18.1. The CITY may suspend the WORK or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the CONTRACTOR, by WRITTEN NOTICE to the CONTRACTOR and the INSPECTING OFFICER which notice shall fix the date on which WORK shall be resumed. The CONTRACTOR will resume that WORK on the date so fixed. The CONTRACTOR will be allowed an increase in the CONTRACT PRICE or an extension of the CONTRACT TIME, or both, directly attributable to any suspension.
- 18.2. If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or if he

- repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to SUBCONTRACTOR or for labor, materials or equipment or if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the WORK or if he disregards the authority of the INSPECTING OFFICER, or if he otherwise violates any provision of the CONTRACT DOCUMENTS, then the CITY may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety a minimum of ten (10) days from delivery of a WRITTEN NOTICE, terminate the services of the CONTRACTOR and take possession of the PROJECT and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the WORK by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the WORK is finished. If the unpaid balance of the CONTRACT PRICE exceeds the direct and indirect costs of completing the PROJECT, including compensation for additional professional services, such excess SHALL BE PAID TO THE CONTRACTOR. If such cost exceeds such unpaid balance, the CONTRACTOR will pay the difference to the CITY. Such costs incurred by the CITY will be determined by the INSPECTING OFFICER and incorporated in a CHANGE ORDER.
- 18.3. Where the CONTRACTOR'S services have been so terminated by the CITY, said termination shall not affect any right of the CITY against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of monies by the CITY due the CONTRACTOR will not release the CONTRACTOR from compliance with the CONTRACT DOCUMENTS.
- 18.4. After ten (10) days from delivery of a WRITTEN NOTICE to the CONTRACTOR and the INSPECTING OFFICER, the CITY may, without cause and without prejudice to any other right or remedy, elect to abandon the PROJECT and terminate the Contract. In such case, the CONTRACTOR shall be paid for all WORK executed and any expense sustained plus reasonable profit.
- 18.5. If, through no act or fault of the CONTRACTOR, the WORK is suspended for a period of more than ninety (90) days by the CITY or under an order of court or other public authority, or the INSPECTING OFFICER fails to act on any request for payment within thirty (30) days after it is submitted, or the CITY fails to pay the CONTRACTOR substantially the sum approved by the INSPECTING OFFICER within thirty (30) days of its approval and presentation, then the CONTRACTOR may, after ten (10) days from delivery of a WRITTEN NOTICE to the CITY and the INSPECTING OFFICER, terminate the CONTRACT and recover from the CITY payment for all WORK executed and all expenses sustained. In addition and in lieu of terminating the CONTRACT, if the INSPECTING OFFICER has failed to act on a request for payment or if the CITY has failed to make any payment as aforesaid, the CONTRACTOR may upon ten (10) days written notice to the CITY and the INSPECTING OFFICER stop the WORK until he has been paid all amounts then due, in which event and upon resumption of the WORK, CHANGE ORDERS shall be issued for adjusting the CONTRACT PRICE or extending the CONTRACT TIME or both to compensate for the costs and delays attributable to the stoppage of the WORK.
- 18.6. If the performance of all or any portion of the WORK is suspended, delayed, or interrupted as a result of a failure of the CITY or INSPECTING OFFICER to act within the time specified in the CONTRACT DOCUMENTS, or if no time is specified, within a reasonable time, an adjustment in the CONTRACT PRICE or an extension of the

CONTRACT TIME, or both, shall be made by CHANGE ORDER to compensate the CONTRACTOR for the costs and delays necessarily caused by the failure of the CITY or INSPECTING OFFICER.

19. PAYMENTS TO CONTRACTORS

19.1. REQUEST FOR PAYMENT. Payment request shall be submitted on CITY'S standard payment request form. The breakdown shall follow the trade Divisions of the Specification and each item there under shall include its pro rata part of overhead and profit so the sum of the items equal the contract price. The breakdown will correspond exactly to items of WORK in the schedule including WORK of SUBCONTRACTORS.

19.1.1. PROGRESS PAYMENTS. The following general requirements shall be met:

19.1.1.1. CONTRACTOR shall submit to INSPECTING OFFICER three (3) copies of an itemized request for payment or partial payment for work completed in accordance with the terms of the Contract. The request for payment shall not be submitted more than once a month and must be on forms approved by CITY.

19.1.1.2. The request shall be supported by data substantiating CONTRACTOR's right to payment as CITY may require. Said data may include, but is not limited to, copies of requisitions from Subcontractors, invoices for material purchased, timecards for employees, proof of payment to Subcontractors and photographs clearly showing the work for which payment is requested.

19.1.1.3. The request may include requests for payment pursuant to approved Change Orders or Construction Change Directives.

19.1.1.4. The request may not include requests for payment for portions of the work performed by a Subcontractor when CONTRACTOR does not intend to pay a Subcontractor because of a dispute or other reason. CONTRACTOR shall notify CITY of intent not to pay a Subcontractor and clearly state the reasons for nonpayment.

19.1.1.5. In executing the request for payment, CONTRACTOR shall attest that CONTRACTOR'S employees and Subcontractors involved with prior requests for payment have been paid, unless CONTRACTOR provides a detailed explanation why such payment may not have occurred. CONTRACTOR shall require each Subcontractor to sign a "Conditional Waiver and Release Upon Progress Payment" and a Certificate of Legal Work Status at the time Subcontractor is paid and shall provide a copy of both documents to CITY. CONTRACTOR shall also sign a "Conditional Waiver and Release Upon Progress Payment" and a Certificate of Legal Work Status and submit them with each request for payment.

19.1.2. PAYMENT FOR MATERIAL AND EQUIPMENT. If payment is requested on the basis of materials and equipment not incorporated in the work, but delivered and suitably stored at or near the site the payment request shall be conditioned upon compliance by CONTRACTOR with procedures satisfactory to CITY to establish CITY's title to such materials and equipment or otherwise protect CITY's interest, and shall include applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

CITY may require copies of invoices or other suitable documentation.

19.1.3. **CONTINUE WORK EVEN IF PAYMENT DISPUTED.** If CONTRACTOR disputes any determination by INSPECTING OFFICER with regard to any Certification of Payment, CONTRACTOR nevertheless shall expeditiously continue to perform the work as set out in the Contract.

19.1.4. **CONTRACTOR'S RESPONSIBILITY FOR SUBCONTRACTOR.** CONTRACTOR shall promptly pay each Subcontractor, upon receipt of payment from CITY, out of the amount paid to CONTRACTOR on account of such Subcontractor's portion of the work, the amount to which said Subcontractor is entitled. CONTRACTOR shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payment to its Subcontractors in a similar manner.

19.1.5. **CERTIFICATE, PAYMENT OR USE NOT ACCEPTANCE OF IMPROPER WORK.** A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by CITY shall not constitute acceptance of work that is not in accordance with the Contract Documents.

19.1.6. **CONDITIONS FOR FINAL PAYMENT.** Upon completion and acceptance of the work, CONTRACTOR shall submit to INSPECTING OFFICER, to the extent required by INSPECTING OFFICER, the following:

19.1.6.1. An affidavit that payrolls, bills for material and equipment, and other indebtedness connected with the work for which CITY or CITY's property might be responsible or encumbered have been paid or otherwise satisfied;

19.1.6.2. A current or additional 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 30 days prior written notice, by certified mail, return receipt requested, has been given to CITY;

19.1.6.3. A written statement that CONTRACTOR knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents;

19.1.6.4. If requested by surety in a timely manner or by CITY, consent of surety, to final payment;

19.1.6.5. Receipt of Record Drawings, the warranties, instructions, operation and maintenance manuals, and training videos required to be furnished by the Contract Documents; and

19.1.6.6. 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 CITY. If a Subcontractor refuses to furnish a release or waiver required by CITY, CITY may require consent of Surety to the final payment. If such liens, claims, security interests or encumbrances remain unsatisfied after payments are made, CONTRACTOR shall refund to CITY all money that CITY may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

19.1.6.7. After INSPECTING OFFICER has reviewed the items submitted, INSPECTING OFFICER shall issue a Certificate for Payment attached to the final payment request and shall include a Final Acceptance Letter that the work has been accepted by INSPECTING OFFICER under the conditions of the Contract Documents.

19.1.7. **FINAL PAYMENT.** In executing the request for final payment, CONTRACTOR shall provide a “Waiver and Release Upon Final Payment” signed by CONTRACTOR attesting that all subcontractors, laborers and material suppliers involved with prior requests for payment have been paid, and that all subcontractors, laborers and material suppliers upon which the final payment is based will be paid immediately unless CONTRACTOR provides a detailed explanation why such payments have not occurred or will not occur. CONTRACTOR shall also submit a Certificate of Legal Work Status a copy of which shall be given to City. CONTRACTOR shall require each Subcontractor, vendor, and supplier to sign a “Waiver and Release Upon Final Payment” at the time Subcontractors are paid their final payment and shall provide a copy of the waiver to CITY. Subcontractors shall also submit a Certificate of Legal Work Status a copy of which shall be given to City. Retainage shall be released after receipt of all final waivers.

19.2. **CERTIFICATES FOR PAYMENT.**

19.2.1. **SSUED BY INSPECTING OFFICER.** INSPECTING OFFICER shall within ten (10) days after receipt of CONTRACTOR's request for payment, either issue to CITY a Certificate for Payment, with a copy to CONTRACTOR, for the amount requested, or notify CONTRACTOR and CITY in writing of INSPECTING OFFICER reasons for withholding certification in whole or in part.

19.2.2. **REQUIREMENTS FOR ISSUANCE.** INSPECTING OFFICER's issuance of a Certificate for Payment shall constitute a representation to CITY that to the best of INSPECTING OFFICER's knowledge, information and belief, based upon INSPECTING OFFICER's observations at the site, reviewing supporting data such as but not limited to, copies of requisitions from Subcontractors, invoices for material purchased, timecards for employees, proof of payment to Subcontractors and color photographs clearly showing the work for which payment is requested, reviewing other data comprising the request for payment, and what is reasonably inferable from the observations and data, that the work has progressed to the point indicated in the request and that the quality of the work is in accordance with the Contract Documents. The foregoing representations are subject to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by INSPECTING OFFICER. The issuance of a Certificate for Payment will further constitute a representation that CONTRACTOR is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment shall not be a representation that INSPECTING OFFICER has:

19.2.2.1. made exhaustive or continuous on-site inspections to check the quality or quantity of the work;

19.2.2.2. reviewed construction means, methods, techniques, sequences or procedures;

19.2.2.3. reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by CITY to substantiate CONTRACTOR's right to payment;

19.2.2.4. ascertained how or for what purpose CONTRACTOR used money previously paid on account of Contract Sum; or

19.2.2.5. any duty to make such inquiries.

CONTRACTOR is solely responsible for and is not relieved of liability for compliance with the terms of this Contract.

19.2.3. **DECISIONS TO WITHHOLD CERTIFICATION.** INSPECTING OFFICER may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect CITY, if in INSPECTING OFFICER's judgment the representations to CITY required above cannot be made. If INSPECTING OFFICER is unable to certify payment in the amount of the request, INSPECTING OFFICER shall notify CONTRACTOR and CITY. If CONTRACTOR and INSPECTING OFFICER cannot agree on a revised amount, INSPECTING OFFICER shall promptly issue a Certificate for Payment for the amount to which INSPECTING OFFICER is able to make such representations to CITY. INSPECTING OFFICER may decide not to certify any amount or, because of subsequently discovered evidence or observations, may nullify the whole or part of a Certificate for Payment previously issued, to such extent as may be necessary in INSPECTING OFFICER's opinion to protect CITY from loss because of:

19.2.3.1. Defective work not remedied;

19.2.3.2. Third party claims filed or reasonable evidence indicating probable filing of such claims;

19.2.3.3. Failure of CONTRACTOR to make payments properly to Subcontractors or for labor, materials or equipment;

19.2.3.4. Reasonable evidence that the work cannot be completed for the unpaid balance of the Contract Sum;

19.2.3.5. Damage to CITY or another CONTRACTOR;

19.2.3.6. Reasonable evidence that the work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or LIQUIDATED DAMAGES for the anticipated delay; or

19.2.3.7. Failure to carry out the work in accordance with the Contract Documents.

19.2.4. **CERTIFICATION ISSUED WHEN REASONS FOR WITHHOLDING REMOVED.** When the reasons for withholding certification are removed, certification will be made for the remaining amount requested.

19.3. **CITY PAYMENT PROCEDURE.**

19.3.1. **TIME FOR PAYMENT.** CITY shall pay any undisputed amount, less retainage, within thirty (30) days of the date that the request for payment was submitted to INSPECTING OFFICER. CITY is not required to pay any disputed amount until the dispute is resolved.

19.3.2. **PAYMENT UPON SUBSTANTIAL COMPLETION.** Upon substantial completion of the work or designated portion thereof and upon request by CONTRACTOR and certification by INSPECTING OFFICER, CITY may

reduce the retainage to less than five (5) percent, if any, for such work or portion thereof which has not been completed. CITY may pay part of the retained portion of the payments to CONTRACTOR, continuing to retain up to 200% of the fair market value of the work that has not been completed in accordance with the Contract Documents.

19.3.3. **FINAL PAYMENT.** After receiving the Certificate for Payment with the final payment request, the entire balance due CONTRACTOR, less the retained percentages and less deductions that may be lawfully retained by CITY, shall be paid to CONTRACTOR within thirty (30) days of completion and acceptance of the work.

19.3.4. **RETAINAGE.** CITY shall retain five (5) percent of the amount of each payment until the final completion and acceptance of all work and after the CITY has received all items required for final payment, such as the Final Acceptance Letter and waivers.

19.3.5. **HOLDBACKS.**

19.3.5.1. **FOR CLAIMS.** CITY may withhold from payment to CONTRACTOR such amounts as, in CITY's judgment, may be necessary to pay claims against CONTRACTOR or Subcontractor at any tier for labor and services rendered and materials furnished in and about the work. CITY may apply such withheld amounts for the payment of such claims in CITY's discretion. Payment so made by CITY shall be considered as payments made under this Contract by CITY to CONTRACTOR. CITY shall not be liable to CONTRACTOR for any such payment made in good faith. Such withholdings and payments may be made without prior approval of CONTRACTOR.

19.3.5.2. **FAILURE TO PERFORM OBLIGATIONS.** CITY may withhold any payment to CONTRACTOR if and for so long as CONTRACTOR fails to perform any of its obligations or otherwise is in default under any of the Contract Documents.

19.3.6. **CITY NOT IN BREACH.** CITY shall not be deemed to be in breach of this Contract by reason of the withholding of any payment pursuant to any provision of the Contract Documents.

19.4. **WARRANTY OF TITLE.**

19.4.1. **TITLE.** CONTRACTOR warrants that title to all work covered by a request for payment will pass to CITY no later than the time for payment. CONTRACTOR further warrants that upon submittal of a request for payment, all work for which Certificates for Payment have been previously issued and payments received from CITY shall, to the best of CONTRACTOR's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of CONTRACTOR, Subcontractors, or other persons or entities making a claim by reason of having provided labor, materials and/or equipment relating to the work.

19.4.2. **INDEMNIFY CITY.** CONTRACTOR will indemnify and save CITY or CITY'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of

machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the work. CONTRACTOR shall, at CITY'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If CONTRACTOR fails to do so CITY may, after having notified CONTRACTOR, either pay unpaid bills or withhold from CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the CONTRACT DOCUMENTS, but in no event shall the provisions of this sentence be construed to impose any obligations upon the CITY to either the CONTRACTOR, his Surety, or any third party. In paying any unpaid bills of the CONTRACTOR, any payment so made by the CITY shall be considered as a payment made under the CONTRACT DOCUMENTS by the CITY to the CONTRACTOR and the CITY shall not be liable to the CONTRACTOR for any such payments made in good faith.

19.5. INFORMATION TO SUBCONTRACTOR. INSPECTING OFFICER or CITY shall, on request, furnish to the Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by CONTRACTOR and action taken thereon by INSPECTING OFFICER and CITY on account of portions of the work done by Subcontractor.

19.6. CITY NOT LIABLE. Neither CITY nor INSPECTING OFFICER shall have an obligation to pay, monitor or enforce the payment of money to a Subcontractor, except to the extent as may otherwise be required by law.

20. ACCEPTANCE OF FINAL PAYMENT AS RELEASE.

The acceptance by CONTRACTOR or a Subcontractor of final payment shall be and shall operate as a release to CITY of all claims, all liability, every act including negligence of the CITY and others relating to or arising out of this work, to CONTRACTOR or Subcontractor other than claims previously made in writing and identified by Contractor or Subcontractor as unsettled at the time of final request for payment. Any payment, however, final or otherwise, shall not release CONTRACTOR or his sureties or Subcontractor from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

21. INSURANCE

21.1. CONTRACTOR shall carry insurance required by LAWS and REGULATIONS to protect CONTRACTOR, CITY and CITY'S officials, employees and CONSULTANTS.

21.2. Neither CONTRACTOR, nor any SUBCONTRACTOR, shall enter the site of the WORK or commence work under this CONTRACT before CITY has received and accepted CERTIFICATES(s) of INSURANCE, and INSURANCE ENDORSEMENTS, and has issued the NOTICE TO PROCEED.

21.3. To the fullest extent permitted by laws and regulations, CONTRACTOR shall indemnify and hold harmless CITY, and its CONSULTANTS and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the

- performance of the WORK, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the WORK itself, including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any subcontractor, any supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the WORK or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by laws and regulations regardless of the negligence of any such person or entity.
- 21.4. In any and all claims against CITY or its CONTRACTOR or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any subcontractor, any supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the WORK, or anyone for whose acts any of them may be liable, the indemnification obligations shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such subcontractor, supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.
- 21.5. CONTRACTOR shall secure and maintain during the CONTRACT TIME and warranty period certain insurance that shall protect CONTRACTOR, CITY, and its CONSULTANTS in such manner and amounts as set forth hereinafter. The insurance requirements stipulated herein shall not be construed as limiting CONTRACTOR'S liability.
- 21.6. All loss or damage arising from obstructions or difficulties which may be encountered in the prosecution of the WORK, from the action of the elements, or from any act or omission on the part of CONTRACTOR or any SUBCONTRACTOR, supplier, person, or agent employed by CONTRACTOR shall be borne by CONTRACTOR.
- 21.7. INSURANCE CERTIFICATES, shall set forth the following information and shall be signed by an authorized representative of the insurance company:
- 21.7.1. Name and address of the insured.
 - 21.7.2. Shall name as CERTIFICATE HOLDER the CITY and CITY'S CONSULTANTS.
 - 21.7.3. The location of the operations to which the insurance applies.
 - 21.7.4. The number of the policy and the type or types of insurance in force thereunder on the date borne by the certificate.
 - 21.7.5. The expiration date of the policy and the limit or limits of liability thereunder on the date borne by the certificate.
 - 21.7.6. A statement that the insurance covered by the certificate applies to all of the operations on and at the site of the WORK which are undertaken by the insured during the life of the CONTRACT.
 - 21.7.7. A statement that all coverage is on an occurrence basis rather than a claims basis.
 - 21.7.8. A provision that the policy or policies may not be cancelled, denied renewal, or reduced in coverage until at least 30 days after written notice has been received by CITY.

- 21.7.9. A statement that a cross liability or severability of interests' clause is included, unless a separate policy covering CITY is provided.
- 21.7.10. Name, address, and telephone number of the insurance company's agent of process in Utah.
- 21.7.11. Other information to demonstrate compliance with additional requirements stipulated for the various types of insurance coverages.
- 21.8. Compensation Insurance. CONTRACTOR shall take out and maintain WORKER'S COMPENSATION INSURANCE as required by the LABOR CODE for all its employees at the site of the WORK during the life of this CONTRACT:
 - 21.8.1. Insurance certificates shall provide a waiver of subrogation by the carrier to CERTIFICATE HOLDER.
 - 21.8.2. CONTRACTOR shall require each SUBCONTRACTOR to provide WORKER'S COMPENSATION INSURANCE for its employees unless such employees are covered by the CONTRACTOR.
 - 21.8.3. In the event any class of employees engaged in hazardous work under this CONTRACT is not protected by the WORKER'S COMPENSATION STATUTE, CONTRACTOR shall provide, and shall cause its SUBCONTRACTORS to provide, special insurance for the protection of such employees not otherwise protected.
- 21.9. Commercial General Liability and Property Damage Insurance:
 - 21.9.1. CONTRACTOR shall procure, and maintain during the life of the CONTRACT, such general liability and property damage insurance necessary to protect itself, CITY, the CERTIFICATE HOLDER, and SUBCONTRACTORS performing work under this CONTRACT, from all claims and legal costs for bodily injury or personal injury, including accidental death and property damage claims arising from operations under this CONTRACT, whether such operations are the CONTRACTOR'S or the SUBCONTRACTORS'.
 - 21.9.2. CERTIFICATE HOLDER shall be named as additional primary insured without offset against their existing insurance.
 - 21.9.3. The INSURANCE ENDORSEMENT shall evidence such provisions.
 - 21.9.4. The minimum general liability and property damage liability shall be as follows:
 - 21.9.4.1. Comprehensive general liability insurance for injuries, including accidental death, to any one person in any one occurrence in an amount not less than \$1,000,000.00 Dollars.
 - 21.9.4.2. Comprehensive general liability insurance for injuries, including accidental death, to two or more persons in any one occurrence in an amount not less than \$3,000,000.00 Dollars.
 - 21.9.4.3. Broad form property damage insurance in an amount not less than \$300,000 Dollars.
 - 21.9.5. Such policy shall include each of the following coverages:
 - 21.9.5.1. Comprehensive form.
 - 21.9.5.2. Premises - operations.
 - 21.9.5.3. Explosion and collapse hazard.
 - 21.9.5.4. Underground hazard.
 - 21.9.5.5. Product/completed operations hazard.
 - 21.9.5.6. Contractual insurance.

- 21.9.5.7. Broad form property damage, including completed operations.
 - 21.9.5.8. Independent contractors.
 - 21.9.5.9. Personal injury.
 - 21.9.5.10. Fire and extended coverage with endorsement for vandalism and malicious mischief in an amount of at least 50 percent of the CONTRACT PRICE.
- 21.10. Motor Vehicle Public Liability and Property Damage Insurance.
 - 21.10.1. CONTRACTOR shall carry and maintain a motor vehicle public liability and property damage insurance coverage on each vehicle used in the performance of the WORK in an amount not less than \$1,000,000 Dollars for one person and \$3,000,000 Dollars for more than one person and for property damage resulting from any one occurrence which may arise from the operations of CONTRACTOR in performing the WORK in the sum of \$1,000,000 Dollars.
 - 21.10.2. Such motor vehicle liability insurance shall include each of the following types:
 - 21.10.2.1. Comprehensive form, including loading and unloading.
 - 21.10.2.2. Owned.
 - 21.10.2.3. Hired.
 - 21.10.2.4. Non-owned.
 - 21.10.3. CERTIFICATE HOLDER shall be named as additional primary insureds without offset against their existing insurance. Insurance certificates shall name CERTIFICATE HOLDER as additional insureds.
- 21.11. Builder's "All Risk" Insurance. CONTRACTOR shall provide CERTIFICATES OF INSURANCE showing that CONTRACTOR has obtained, for the duration of the CONTRACT TIME, BUILDER'S RISK "ALL RISK" insurance in the amount equal to the CONTRACT PRICE including flood, tidal wave, and earthquake, but excluding tidal wave and earthquake coverage in excess of 5 percent of the CONTRACT PRICE. INSURANCE CERTIFICATES, shall name CERTIFICATE HOLDER as additional insureds.

22. CONTRACT SECURITY.

The CONTRACTOR shall within ten (10) days after the receipt of the NOTICE OF AWARD furnish the CITY with a Performance Bond and a Payment Bond in penal sums equal to the amount of the CONTRACT PRICE, conditioned upon the performance by the CONTRACTOR of all undertakings, covenants, terms, conditions and agreements of the CONTRACT DOCUMENTS, and upon the prompt payment by the CONTRACTOR to all persons supplying labor and materials in the prosecution of the WORK provided by the CONTRACT DOCUMENTS. Such BONDS shall be executed by the CONTRACTOR and a corporate bonding company licensed to transact such business in the state in which the WORK is to be performed and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. The expense of these BONDS shall be borne by the CONTRACTOR. If at any time a surety on any such BOND is declared a bankrupt or loses its right to do business in the state in which the WORK is to be performed or is removed from the list of Surety Companies accepted on Federal BONDS, CONTRACTOR shall within ten (10) days after notice from the CITY to

do so, substitute an acceptable BOND (or BONDS) in such form and sum and signed by such other surety or sureties as may be satisfactory to the CITY. The premiums on such BOND shall be paid by the CONTRACTOR. No further payments shall be deemed due nor shall have furnished an acceptable BOND to the CITY.

23. ASSIGNMENTS.

Neither the CONTRACTOR nor the CITY shall sell, transfer, assign or otherwise dispose of the Contract or any portion thereof, or of his right, title or interest therein, or his obligations thereunder, without written consent of the other party.

24. INDEMNIFICATION.

24.1. The CONTRACTOR will indemnify and hold harmless the CITY and the INSPECTING OFFICER and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the WORK, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the CONTRACTOR, and SUBCONTRACTOR, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

24.2. In any and all claims against the CITY or the INSPECTING OFFICER, or any of their agents or employees, by any employee of the CONTRACTOR, any SUBCONTRACTOR, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any SUBCONTRACTOR under workmen's compensation acts, disability benefit acts or other employee benefits acts.

24.3. The obligation of the CONTRACTOR under this paragraph shall not extend to the liability of the INSPECTING OFFICER, his agents or employees arising out of the preparation or approval of maps, DRAWINGS, opinions, reports, surveys, CHANGE ORDERS, designs or SPECIFICATIONS.

25. SEPARATE CONTRACTS

25.1. The CITY reserves the right to let other contracts in connection with this PROJECT. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their WORK, and shall properly connect and coordinate his WORK with theirs. If the proper execution or results of any part of the CONTRACTOR'S WORK depends on the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the INSPECTING OFFICER any defects in such WORK that render it unsuitable for proper execution and results.

25.2. The CITY may perform additional WORK related to the PROJECT by himself, or he may let other contracts containing provisions similar to these. The CONTRACTOR will afford the other CONTRACTORS who are parties to such Contracts (or the CITY, if he is performing the additional WORK himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of WORK, and shall properly connect and coordinate his WORK with theirs.

- 25.3. If the performance of additional WORK by other CONTRACTORS or the CITY is not noted in the CONTRACT DOCUMENTS prior to the execution of the CONTRACT, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional WORK. If the CONTRACTOR believes that the performance of such additional WORK by the CITY or others involves him in additional expense or entitles him to an extension of the CONTRACT TIME, he may make a claim therefor as provided in Sections 14 and 15.

26. SUBCONTRACTING.

- 26.1. The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the WORK which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.
- 26.2. The CONTRACTOR shall not award WORK to SUBCONTRACTOR(s), in excess of SEVENTY (70%) percent of the CONTRACT PRICE, without prior written approval of the CITY.
- 26.3. The CONTRACTOR shall be fully responsible to the CITY for the acts and omissions of his SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
- 26.4. The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the WORK to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the CONTRACT DOCUMENTS insofar as applicable to the WORK of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the CITY may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.
- 26.5. Nothing contained in this CONTRACT shall create any contractual relation between any SUBCONTRACTOR and the CITY.

27. INSPECTING OFFICER'S AUTHORITY.

- 27.1. The INSPECTING OFFICER shall act as the CITY 'S representative during the construction period. He shall decide questions which may arise as to quality and acceptability of materials furnished and WORK performed. He shall interpret the intent of the CONTRACT DOCUMENTS in a fair and unbiased manner. The INSPECTING OFFICER will make visits to the site and determine if the WORK is proceeding in accordance with the CONTRACT DOCUMENTS.
- 27.2. The CONTRACTOR will be held strictly to the intent of the CONTRACT DOCUMENTS in regard to the quality of materials, workmanship and execution of the WORK. Inspections may be made at the factory or fabrication plant of the source of material supply.
- 27.3. The INSPECTING OFFICER will not be responsible for the construction means, controls, techniques, sequences, procedures, or construction safety.
- 27.4. The INSPECTING OFFICER shall promptly make decisions relative to interpretation of the CONTRACT DOCUMENTS.

28. LAND AND RIGHTS-OF-WAY.

- 28.1. Prior to issuance of NOTICE TO PROCEED, the CITY shall obtain all land and rights-of-way necessary for carrying out and for the completion of the WORK to be performed pursuant to the CONTRACT DOCUMENTS, unless otherwise mutually agreed.
- 28.2. The CITY shall provide to the CONTRACTOR information which delineates and describes the lands owned and rights-of-way acquired.
- 28.3. The CONTRACTOR shall provide at his own expense and without liability to the CITY any additional land and access thereto that the CONTRACTOR may desire for temporary construction facilities, or for storage of materials.

29. GUARANTEE.

- 29.1. The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one (1) year from the date of FINAL ACCEPTANCE. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of FINAL ACCEPTANCE of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall within 10 days of receipt of Notice of Defect make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The CITY will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, the CITY reserves the right to make the necessary repairs and charge the CONTRACTOR the cost thereby incurred and assess LIQUIDATED DAMAGES as specified in the CONTRACT DOCUMENTS. The PERFORMANCE BOND shall remain in full force and effect through the guarantee period.
- 29.2. WARRANTY INSPECTION. CONTRACTOR shall, upon the twelve month anniversary of the date of FINAL ACCEPTANCE, arrange for and conduct a warranty inspection of all WORK completed under this Agreement.
- 29.3. Failure of CONTRACTOR to affect repairs as specified in Sub-Section 29.1 above within the 10 day grace period shall constitute a failure to perform and shall be cause to initiate LIQUIDATED DAMAGES in the rate stated in the CONTRACT DOCUMENTS and shall be assessed per day for each day said repairs are not corrected.
- 29.4. WARRANTY DELIVERY: Delivery of guarantees and warranties shall not relieve CONTRACTOR from any obligation assumed under any other provisions of this contract.
- 29.5. EXCLUSIONS: Nothing herein intends or implies that guarantees and/or warranties shall apply to WORK or materials abused or neglected by CITY.

30. TAXES.

The CONTRACTOR will pay all sales, consumer, use and other similar taxes required by the law of the place where the WORK is performed.

31. CONSTRUCTION STAKING.

CONTRACTOR shall coordinate with the CITY on layout and staking of all WORK

associated with this Project. All WORK shall be staked in the field prior to commencing construction of any portion of the WORK. No WORK shall be commenced without inspection and approval of the Inspecting Officer. (See: Section 10- Survey, Permits, Regulations; Section 10.2-Additional clarifications and information.)

32. SAFETY AND HEALTH.

32.1. The CONTRACTOR shall comply with, and is responsible for enforcement of safety and health regulations for construction, promulgated by the Secretary of Labor under Section 107 of the Contract Hours and Safety Standards Act, as set forth in Title 29, C.F.R.

32.2. Copies of these regulations may be obtained from the Labor Building, 14th and Constitution Avenue NW, Washington, DC 20013.

32.3. The CONTRACTOR shall also comply with the provisions of the Federal Occupational Safety and Health Act as amended and Utah Occupational Safety and Health.

33. REFERENCES. Abbreviations used in this specification for various societies, organizations, or government bodies shall stand for the following:

AASHTO American Association of State Highway and Transportation Officials

ACI American Concrete Institute

ANSI American National Standards Institute

ASTM American Society for Testing and Materials

AISC American Institute of Steel Construction

AITC American Institute of Timber Construction

AISI American Iron and Steel Institute

APA American Plywood Association

AWWA American Water Works Association

AWS American Welding Society

FHA Federal Housing Authority

ICBO International Conference of Building Officials

NEMA National Electrical Manufacturers' Association

UBC Uniform Building Code

34. SITE EXAMINATION.

CONTRACTOR shall examine the site before submitting bids or proposals for any WORK and inform himself regarding existing facilities and conditions affecting the proposed WORK. Failure to make such inspection shall in no way relieve the CONTRACTOR of any of the obligations or conditions of the specifications and special provisions or serve in any way as a basis of extra remuneration to the CONTRACTOR for conditions arising from unfamiliarity with the site or conditions affecting the WORK.

35. COORDINATION WITH EXISTING TRADES.

Coordinate the WORK of this Contract with the WORK and schedules of other trades so as

not to cause delay or damage to WORK, WORK of others, existing improvements, or additional costs.

36. PUBLIC SAFETY AND TRAFFIC CONTROL.

- 36.1. The cost of all safety and traffic control devices shall be included in the lump sum bid price.
- 36.2. CONTRACTOR shall submit a traffic control plan for the City's review and shall obtain a traffic control permit from CITY'S Public Works Department. CONTRACTOR shall comply with all applicable laws, ordinances and safety standards including those established by the Department of Transportation. The CONTRACTOR shall be solely responsible for maintaining a safe Project Site by complying with the traffic plan, all safety standards, and by keeping all stockpiles, debris, construction materials, and temporary facilities out of the clear zone.

37. PROJECT MEETINGS

- 37.1. PRE-CONSTRUCTION CONFERENCE. A pre-construction conference between CITY'S REPRESENTATIVE, Trade Contractors currently occupying the Project Site and CONTRACTOR shall be held at the site prior to commencement of the WORK. This meeting shall be for the purpose of:
 - 37.1.1. Coordinating schedules.
 - 37.1.2. Further orienting CONTRACTOR to requirements of the Contract Documents.
 - 37.1.3. Informing CONTRACTOR of the INSPECTING OFFICER'S responsibility.
 - 37.1.4. Working out with CONTRACTOR a general schedule of inspection.
- 37.2. Periodic job site meetings will be scheduled by CITY, attended by CONTRACTOR's staff, SUBCONTRACTORS and inspecting officers for the purposes of:
 - 37.2.1. Addressing proper coordination of all activities on project;
 - 37.2.2. To assist in staying on schedule; and
 - 37.2.3. Checking Status of:
 - 37.2.3.1 Submittals;
 - 37.2.3.2 Changes;
 - 37.2.3.3 Progress payments; and
 - 37.2.3.4 Other matters will be reviewed.

38. OPERATIONS WITHIN THE RIGHT-OF-WAY

- 38.1. CONTRACTOR shall permit vehicular and pedestrian traffic to pass through and around the Project Area safely with a minimum of inconvenience. Specifications described in this section shall in no way supersede the requirements set forth in the Department of Transportation Standard Specifications for Traffic and Roadway Safety and City Ordinances and Regulations.
- 38.2. The CONTRACTOR's trucks and other vehicles shall travel in the direction of normal roadway traffic unless separated from the through-traffic by positive construction barriers approved by the CITY'S REPRESENTATIVE. On Interstates or other divided highways, the CONTRACTOR's vehicles shall not cross the medians and shall enter and exit at the existing ramps.

- 38.3. Where traffic is permitted through the site under stage construction, the CONTRACTOR may choose to construct, at no additional expense to the CITY or the Department of Transportation, temporary on-site bypasses or detours in order to expedite the WORK. Plans for such bypasses shall be submitted to the CITY and any other agency as required by law for approval 30 calendar days prior to the proposed construction. Such bypasses or detours shall be removed promptly when in the opinion of the Inspecting Officer, they are no longer necessary for the satisfactory progress of the WORK.
- 38.4. If construction operations necessitate regulation of traffic by off-duty police officer(s), CONTRACTOR shall furnish said officer(s) at his own expense.
- 38.5. The CONTRACTOR shall not simultaneously perform WORK on both the inside and outside shoulders on either direction of traffic flow when WORK is within 12' - 0" of the traveled way, unless such areas are separated by at least one-half mile of distance in rural areas or at least 500 feet of distance in urban areas.
- 38.6. All areas within the Project Limits which are determined by the INSPECTING OFFICER to be damaged, due either directly or indirectly to the process of construction, shall be cleaned up, redressed and grassed. All surplus materials shall be immediately removed and disposed of in approved manner.
- 38.7. The CONTRACTOR shall schedule and arrange the WORK to ensure the least inconvenience and the utmost safety to the travelling public, the CITY and to the CONTRACTOR's and Department of Transportation's forces.
- 38.8. Grading, clearing, and planting operations shall not be performed in such a way as to cause water or stormwater runoff to back up onto pavement, or to cause silt or debris to be deposited onto pavement. Roadways shall be kept free of debris, dust, mud, silt, and trash at all times, and shall be kept dry as possible.
- 38.9. Should prosecution of the WORK require removal of existing signs, markers, guardrail, etc., not covered by any specific Bid Item, they shall be removed, stored, and reinstalled, in the same condition as when removed, at the earliest time that construction has been completed in the area said marker or sign is located.
- 38.10. Sequencing of construction as described in this Section is intended as a guideline for the orderly execution of the WORK. CONTRACTOR shall prepare staging and sequencing plans for the WORK and shall submit them two weeks prior to commencing construction.

39. TEMPORARY FACILITIES AND UTILITIES.

- 39.1. Provide on-site, portable toilet facilities to service the needs of the Workers. Such facilities shall be serviced regularly to avoid build-up of sewage waste.
- 39.2. The CONTRACTOR shall make arrangements for, secure and pay for, any and all utility supplies such as electric power, water, natural gas, or telephone that may be required for prosecution of the WORK.
- 39.3. If needed, CONTRACTOR to provide temporary lighting.
- 39.4. The CONTRACTOR shall maintain a clean work site by keeping the site free from litter and debris. The CONTRACTOR shall provide an adequate number of trash

receptacles on site. Failure to maintain a clean work site may constitute a breach of contract and/or violate city ordinances.

40. CONTRACT CLOSEOUT.

40.1. FINAL CLEANING: CONTRACTOR shall, at completion of WORK, remove all rubbish from under and about the Construction Site. If CONTRACTOR fails to clean up, CITY may do so and the cost thereof will be charged to the CONTRACTOR.

40.2. SUBSTANTIAL COMPLETION INSPECTION:

40.2.1. At a point during the Construction Time that at least 90% of the entire WORK is deemed by the Inspecting Officer to be complete and not in a rejectable condition, a substantial completion inspection by the CITY'S REPRESENTATIVE, INSPECTING OFFICER, and CONTRACTOR will be made with the purpose of creating a list of items required to be completed in an acceptable manner before the WORK can be accepted. At this time a Certificate of Substantial Completion will be issued which states the dates for:

40.2.1.1. Commencement of warranties;

40.2.1.2. Final completion inspection; and

40.2.1.3. Modifications to the amount assessed for LIQUIDATED DAMAGES.

40.2.2. Inspecting Officer retains the right to declare the WORK unsatisfactory for receipt of a Certificate of Substantial Completion should the WORK at the time of the Inspection not be at least 90% satisfactorily completed and in an acceptable condition.

40.2.3. After inspection, CITY'S REPRESENTATIVE will furnish final list of items to be corrected.

40.3. A FINAL COMPLETION INSPECTION will be conducted to ensure that all deficiencies noted at the substantial completion inspection have been corrected according to terms of the substantial completion certificate.

40.3.1. The CONTRACTOR shall obtain and submit signed release waivers from all suppliers and SUBCONTRACTOR'S before final payment will be authorized.

40.3.2. When all items have been corrected, CITY'S REPRESENTATIVE will issue a certificate authorizing final payment and a letter of final acceptance. Commencement of warranties will begin on final acceptance of project.

40.3.3. If all items have not been corrected as agreed, CITY may elect to complete the WORK and deduct the cost for such WORK from the remaining CONTRACT FUNDS not yet paid to the CONTRACTOR.

41. BREACH OF CONTRACT.

In addition to collecting allowable damages as such may be determined by applicable law or the terms of this contract, if either party is determined to be in material breach of any provision of the contract, the non-breaching party shall be entitled to terminate the contract.

If CITY is the non-breaching party, CITY may choose to specifically enforce the contract by its terms in lieu of termination.

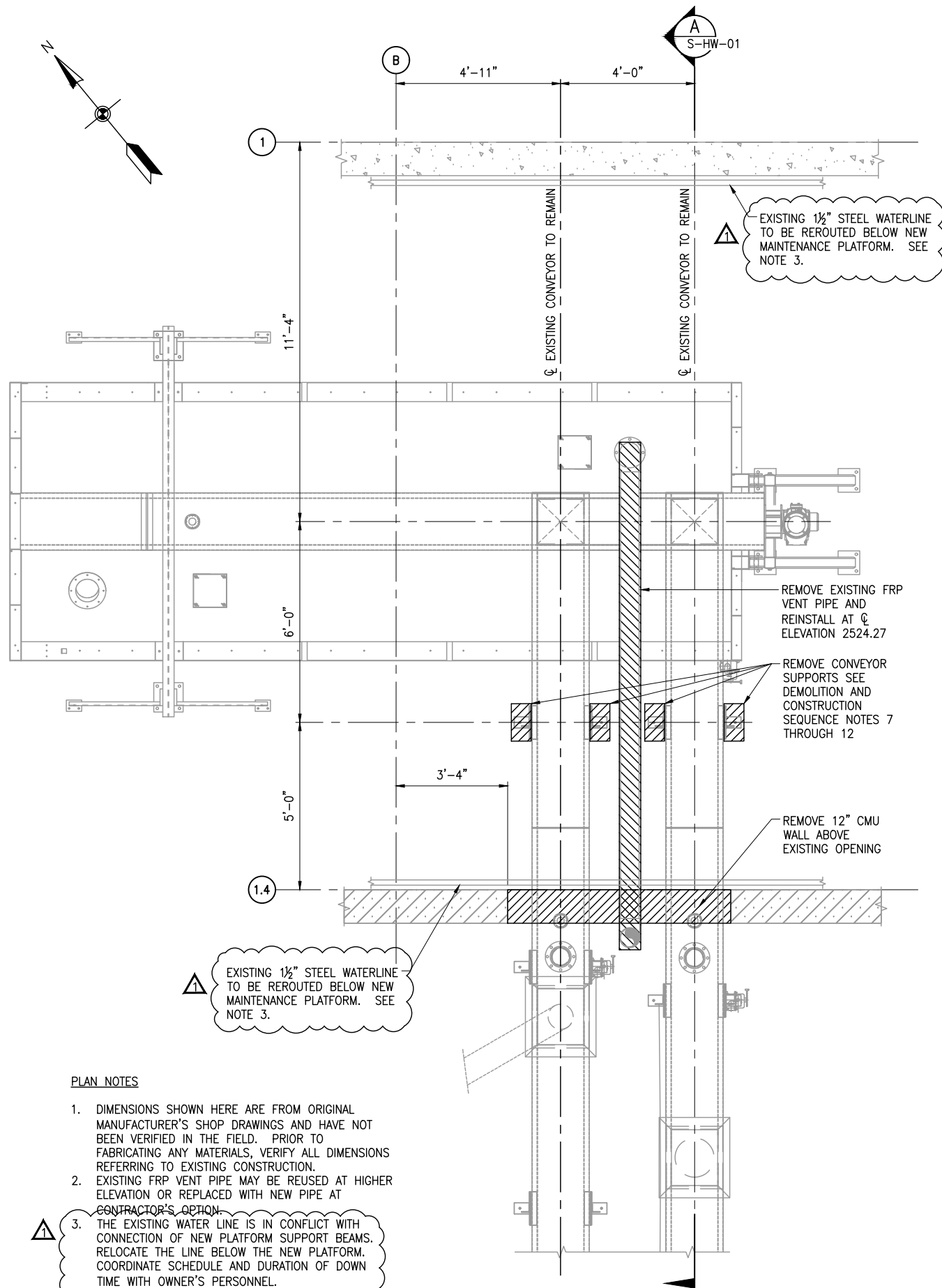
42. COMPLIANCE CERTIFICATION OF LEGAL WORK STATUS.

CONTRACTOR certifies that it does not and will not during the performance of this contract knowingly employ, or subcontract with any entity which employs workers in violation of 8

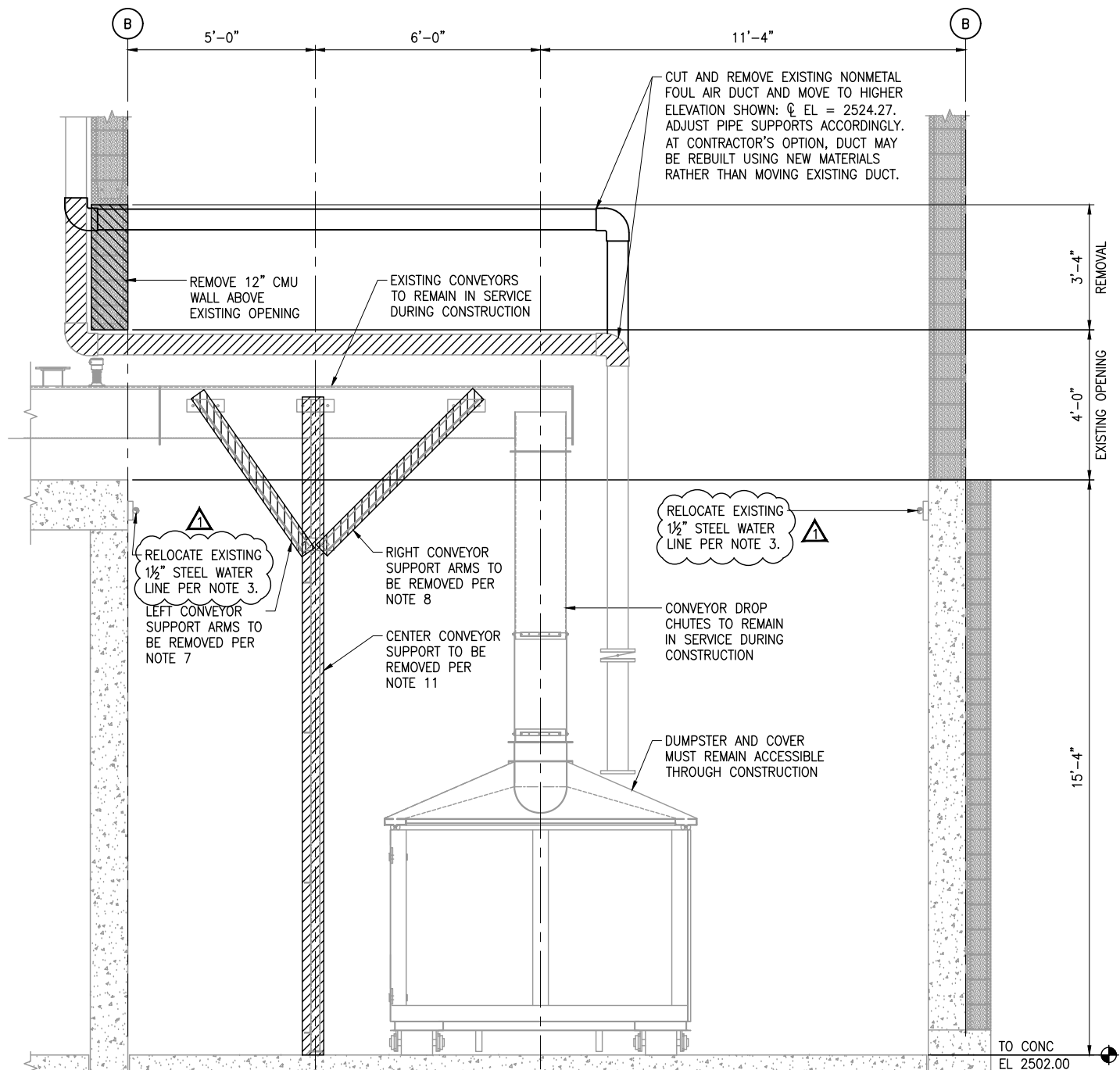
USC § 1324a. CONTRACTOR agrees to require all subcontractors at the time they are hired for this project to sign a Certification of Legal Work Status and submit the Certification to CITY prior to any work being performed by the subcontractors. CONTRACTOR agrees to produce, at CITY's request, such documents which are required to verify compliance with applicable State and Federal laws. If CONTRACTOR knowingly employs workers in violation of 8 USC § 1324a, such violation shall be cause of unilateral cancellation of the contract between CONTRACTOR and CITY. In the event this contract is terminated due to violation of 8 USC § 1324a by CONTRACTOR or subcontractor of CONTRACTOR, CONTRACTOR shall be liable for any and all costs associated with such termination, including, but not limited to, any damages incurred by CITY as well as attorney fees. In addition, CONTRACTOR may be suspended from participating in future projects with CITY. For purposes of compliance, CITY requires CONTRACTOR and subcontractors to use E-Verify or other federally accepted forms of verification to verify the employment eligibility of all employees as allowed by law and the E-Verify procedures. CONTRACTOR and subcontractors must maintain authorized documentation of the verification.

END OF GENERAL CONDITIONS

REVISED DRAWINGS



DEMOLITION PLAN
SCALE: 1/2"=1'-0"



SECTION
SCALE: 1/2"=1'-0"

NO.	DATE	REV. BY	DESCRIPTION
1	8/22/2024	CRD	RELOCATE WATER LINE PER ADDENDUM NO. 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN	REVIEW
DESIGN R. DAVIS	CHECKED J. BECKMAN
DRAWN R. DAVIS	APPROVED R. DAVIS

STRUCTURAL	PROJECT NUMBER
DEMOLITION AND CONSTRUCTION SEQUENCE	001-23-06
DATE: JANUARY 2024	

EXISTING UV BUILDING ROOFING INFORMATION

DURO-TUFF® 80-MIL MEMBRANE

Advantages:

Duro-Last® Duro-Tuff® 80-Mil (DT80) membrane is an excellent choice for low-slope roof projects requiring a long lasting, energy efficient roofing membrane. A complete line of custom prefabricated accessories is available for the DT80 membrane.

Description:

Duro-Tuff membrane incorporates a weft-inserted, knitted scrim within PVC films to provide exceptional strength and waterproofing.

Duro-Tuff membranes must not be used with Duro-Last EV membranes.

PVC Film - Proprietary thermoplastic PVC formulation of resins, plasticizers, stabilizers, biocides, flame retardants, and U.V. absorbents.

- PVC film above weft-inserted scrim – 41 mil

Weft-Inserted Scrim - An 18 x 9 polyester fabric construction with weft insertion, composed of 840 x 1000 denier threads, provides superior tear and puncture resistance. The polyester thread is treated to prevent wicking.

Total Thickness – 80 mil, nominal.

Weight – 0.51 lb. per square foot.

Color – Top surface: white. Bottom surface: light gray.

R-Value – 0.1 ft²·°F·hr/Btu.

Packaging – DT80 is supplied in the roll sizes shown below. A full pallet contains ten rolls.

Roll Dimensions:

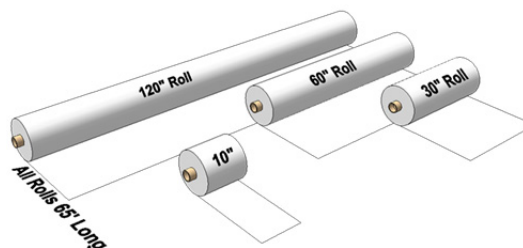
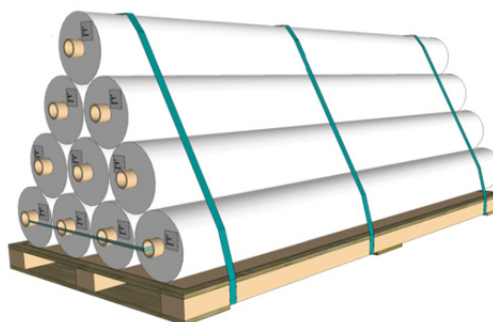
Dimensions	Estimated Coverage		Roll Weight
	6" Overlap ¹	4" Overlap ²	
120 in. x 65 ft.	617 sq. ft.	628 sq. ft.	335 lb.
60 in. x 65 ft.	292 sq. ft.	303 sq. ft.	170 lb.
30 in. x 65 ft.	130 sq. ft.	140 sq. ft.	85 lb.
10 in. x 65 ft.	Stripping		30 lb.

¹ 6 inch overlap and use of Duro-Last Poly or Cleat Plates.

² 4 inch overlap and use of Duro-Last Oval Metal Plates.

Overlap Line – A blue line, 6 inches from one edge of the sheet, is factory applied to the top of the sheet to assist in maintaining proper overlap between sheets.

Seam Plate and Fastener Placement Guides – "X"s are placed at 6-inch intervals along one edge of the sheet to assist in maintaining proper spacing between fasteners. Install fasteners so that the outside edge of the seam plate is flush with the edge of the sheet.



"T-Lap" Patches – A patch, with rounded corners, is required at all lap areas where 3 or more layers of membrane intersect ("T-Lap"). The minimum size of the patch is 4 x 4 inches or 4-inch diameter. Patches can be made of either DT or DL membrane of any thickness. Refer to Detail Drawing DT1066.

Energy Efficiency:

White DT80 membrane is an excellent product for complying with California Title 24 and other energy efficiency programs requiring the use of a highly reflective roof membrane.

Cool Roof Rating Council (CRRC)¹

	Solar Reflectance		Thermal Emittance		Solar Reflective Index (SRI)	
	Initial	3-yr	Initial	3-yr	Initial	3-yr
White	0.85	0.73	0.89	0.88	108	90

¹ Duro-Last's CRRC Product ID: 0610.

Warranty:

The following warranties are available for projects utilizing DT80 membrane. Contact Duro-Last for warranty details. **Consequential damage coverage is not available for Duro-Tuff installations.**

Available Warranties		
Supreme	Not applicable for this product	
Ultra	15-YR High Wind	20-YR High Wind
Basic	15-YR NDL	20-YR NDL
Residential	15-YR Material Only	20-YR Material Only

Codes and Standards:

Underwriters Laboratories.

Storage:

Store rolls lengthwise on pallets. Use tarps to keep rolls dry.

Membrane Attachment:

Mechanically Fastened – DT80 membrane may be mechanically attached to a variety of roof deck and wall materials. An appropriate slip sheet or cover board may be required. Refer to the Roll Good Mechanically Fastened System Specification for system requirements.

Duro-Bond® System – The Duro-Bond system (induction weld) may be used to attach DT80 membrane. Refer to the Duro-Last Duro-Bond System Specification for system requirements.

Adhered – DT80 membrane may be adhered to a variety of properly prepared roof decks, walls, cover boards and insulations. Refer to the Duro-Last Adhered Systems Specification for system requirements.

Physical Properties:

DT80 membrane has been subjected to the tests required by ASTM 4434 “*Standard Specification for Poly (Vinyl Chloride) Sheet Roofing*” and has been classified as a Type III, internally reinforced sheet. The results of each test are listed below. ASTM’s *Overall Thickness* requirements for the membrane are plus or minus 10% (nominal) of the listed *Typical Value*.

Physical Property	Test Method	ASTM D4434 Requirement for Type III Sheet	Typical Value
Overall Thickness	ASTM D751	≥ 0.072 and ≤ 0.088 in. (≥ 72 and ≤ 88 mil)	0.080 in. (80 mil), nominal
Thickness Over Scrim	ASTM D7635	≥ 0.016 in.	0.041 in. (41 mil)
Breaking Strength ¹	ASTM D751 Grab Method	≥ 200 lbf./in.	481 x 341 lbf./in.
Elongation ¹	ASTM D751 Grab Method	≥ 15%	33% x 33%
Seam Strength	ASTM D751 Grab Method	≥ 360 lbf. (75% of Breaking Strength.)	452 lbf.
Tear Strength ¹	ASTM D751 Procedure B	≥ 45 lbf.	53 x 196 lbf.
Low Temp. Bend	ASTM D2136	Must Pass at -40° F.	PASS
Heat Aging	ASTM D3045	Conditioned for 56 days in oven maintained at 176° F.	PASS
Accelerated Weathering	ASTM G154 (Formerly G53)	5,000 hours total test time. Irradiance level of 0.68 W/m ² -nm. Cycle: 8 hours at 145° F, 4 hours condensation at 122° F.	PASS
Dimensional Stability ¹	ASTM D1204	Conditioned for 6 hours in oven maintained at 176° F. Allowable change: ≤ 0.5%	-0.10% x -0.10%
Water Absorption	ASTM D570	Immersed in water at 158° F for 168 hours. Allowable weight change: ≤ 3%	0.10%
Static Puncture	ASTM D5602	≥ 33 lbf.	≥ 33 lbf.
Dynamic Puncture	ASTM D5635	≥ 14.7 ft-lbf. (20 J)	≥ 14.7 ft-lbf. (20 J)

¹ Typical values are shown for both machine and cross machine directions. The machine direction results are listed first.

² Values will be added upon completion of testing.



DURO-GUARD® DENSDECK® 1/4-INCH ROOF BOARD

Description

DensDeck® Roof Board is an exceptional fire barrier, thermal barrier, coverboard and recovery board used in various Duro-Last® roofing systems. The DensDeck Roof Board design employs fiberglass mats, front and back, that are mechanically bonded to a high density gypsum core, providing excellent fire resistance and wind uplift properties. The unique construction of DensDeck Roof Board provides superior flute spanning that stiffens and provides increased foot traffic resistance to the roof deck. Additionally, DensDeck Roof Board has been shown to withstand delamination, deterioration and job-site damage far more effectively than roofing membrane substrates such as paperfaced gypsum board, fiberboard and perlite insulation. DensDeck Roof Board has scored a 10, the highest level of performance for mold resistance per the ASTM D3273 test method.

Primary Uses

DensDeck Roof Board can be used as a substrate board, recovery board and overlayment protection board for polyisocyanurate and polystyrene insulation.

Standards and Code Approvals

DensDeck Roof Boards are manufactured to meet ASTM C1177 and have the following approvals:

- Florida Product Approved
- Miami-Dade County, Product Control Approved

Recommendations and Limitations

DensDeck Roof Boards are manufactured to act with a properly designed roof system following good roofing practices. The actual use of DensDeck Roof Board as a roofing component in any system or assembly is the responsibility of the roofing system's design authority. Consult with the appropriate design authority for system and assembly specifications and instructions on applying other products to DensDeck Roof Board.

DensDeck Roof Boards should not be subjected to abnormal or excessive loads or foot traffic, such as, but not limited to, use on plaza decks or under steel-wheeled equipment that may fracture or damage the panels. Provide suitable roofing system protection when required.

Moisture Management

DensDeck Roof Boards, like other components used in roofing systems, must be protected from exposure to moisture before, during and after installation.

Remove the plastic packaging from all DensDeck Roof Board immediately upon receipt of delivery. Failure to remove the plastic packaging may result in entrapment of condensation or moisture. DensDeck Roof Board stored outside must be stored level and off the ground and protected by a breathable waterproof covering. Provide means for air circulation around and under stored bundles of DensDeck Roof Board. DensDeck Roof Board must be covered the same day as installed.

Avoid application of DensDeck Roof Boards during rain, heavy fog and any other conditions that may deposit moisture on the surface, and avoid the overuse of non-vented, direct-fired heaters during winter months. When roofing systems are installed on newly poured concrete or light weight concrete decks or when re-roofing over an existing concrete deck, a vapor barrier should be installed above the concrete to limit the migration of water from the concrete into the roof assembly. Always consult a design authority for specific instructions for applying other products to DensDeck Roof Boards.

Moisture vapor movement by convection must be eliminated, and the flow of water by gravity through imperfections in the roof system must be controlled. After a leak has occurred, no condensation on the upper surface of the system should be tolerated, and the water introduced by the leak must be dissipated to the building interior in a minimum amount of time.

Although DensDeck Roof Boards are engineered with fiberglass facings and high density gypsum cores, the presence of free moisture can have a detrimental effect on the performance of the product. Moisture accumulation may also significantly decrease wind uplift and vertical pull resistance in the system or assembly. DensDeck Roof Boards containing excessive free moisture content may need to be evaluated for structural stability to assure wind uplift performance.

Fire Resistance Classifications

DensDeck Roof Boards are excellent fire barriers over combustible and noncombustible roof decks, including steel decks.

UL 790 Classification. DensDeck Roof Boards have been classified by Underwriters Laboratories (UL) for use as a fire barrier over combustible and noncombustible decks in accordance with the ANSI/UL 790 test standard. The UL classification includes a comprehensive Class A, B or C rating. For additional information concerning the UL 790 classification, consult the UL Certification Directory.

UL 1256 Classification. DensDeck Roof Boards have also been classified by UL in roof deck constructions for internal (under deck) fire exposure in accordance with the ANSI/UL 1256 Steiner Tunnel test. For additional information concerning the UL 1256 classification, consult the UL Certification Directory.

FM Class 1 Approvals. DensDeck Roof Boards are included in numerous roofing assemblies with a Factory Mutual (FM) Class 1 fire rating. For more information concerning FM Approvals and FM Class 1 assemblies with DensDeck Roof Boards, consult FM or RoofNav®.

UL Fire Resistance Ratings. For information concerning UL fire rated assemblies, please visit www.ul.com.

Flame Spread and Smoke Developed. When tested in accordance with ASTM E84, DensDeck Roof Boards had Flame Spread 0, Smoke Developed 0.

Wind Uplift

DensDeck Roof Boards are included in numerous assemblies evaluated by FM or other independent laboratories for wind uplift performance. For information concerning such assemblies, please visit www.roofnav.com.

Handling and Use—CAUTION

This product contains fiberglass facings which may cause skin irritation. Dust and fibers produced during the handling and installation of the product may cause skin, eye and respiratory tract irritation. Avoid breathing dust and minimize contact with skin and eyes. Wear long sleeve shirts, long pants and eye protection. Always maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas.

Physical Properties

Properties	1/4" (6.4 mm)
Thickness, nominal	1/4" (6.4 mm) ± 1/16" (1.6 mm)
Width, standard	4' (1219 mm) ± 1/8" (3 mm)
Length, standard	8' (2438 mm) ± 1/4" (6.4 mm)
Weight, nominal, lbs./sq. ft. (Kg/m ²)	1.2 (5.9)
Surfacing	Fiberglass mat
Flexural Strength ¹ , parallel, lbf. min.	≥40 (178)
Flute Spanability ²	2-5/8" (67 mm)
Permeance ³ , perms	>50 (2850)
R Value ⁴ , ft ² •°F•hr/BTU (m ² •K/W)	.28
Linear Variation with Change in Temp., in/in °F (mm/mm/°C)	8.5 x 10 ⁻⁶ (15.3 x 10 ⁻⁶)
Linear Variation with Change in Moisture	6.25 x 10 ⁻⁶
Water Absorption ⁵ , % max	<10
Compressive Strength ⁶ , psi nominal	900
Surface Water Absorption, grams, nominal	<2.5
Flame Spread, Smoke Developed (ASTM E84)	0/0
Bending Radius	5' (1524 mm)

1. Tested in accordance with ASTM C473 method B.

2. Tested in accordance with ASTM E661.

3. Tested in accordance with ASTM E96 (dry cup method).

4. Tested in accordance with ASTM C518 (heat flow meter).

5. Tested in accordance with ASTM C1177.

6. Tested in accordance with ASTM C473.

FIRE SAFETY CAUTION

Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two-hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.

DURO-GUARD® ISO II

FLAT AND TAPERED PANELS

Description:

Duro-Guard® ISO II is a closed-cell polyisocyanurate foam core insulation board with an integrally laminated, fiber-reinforced facer which is compatible with Duro-Last® roof membranes.

- Available in both flat and tapered panels in order to meet thermal insulation needs as well as provide slope for proper roof drainage.
- Manufactured with a blowing agent that has zero ozone depletion potential (ODP) and virtually no global warming potential (GWP).
- Approved for direct application to steel and other deck types.
- Available in two grades of compressive strength per ASTM C 1289:
 - Type II, Class 1, Grade 2 (20 psi).
 - Type II, Class 1, Grade 3 (25 psi).
- Refer to Table 3 for physical properties.

Recommended Uses:

- Mechanically attached Duro-Last roof systems.
- Adhered/Fully Bonded Duro-Last roof systems.
- Duro-Bond® roof systems.
- Metal retrofit roof systems.

Underwriters Laboratories, Inc. Classifications:

- UL 1256.
- Insulated Metal Deck Constructions:
 - No. 120, 123, 292.
- UL 790.
- UL 263 Hourly Rated P Series Roof Assemblies.
- UL Classified for use in Canada.

Factory Mutual Approvals:

- FM 4450, FM 4470.
- Approved for Class 1 insulated steel, wood, concrete and gypsum roof deck construction.
- Refer to FM Approval's RoofNav for details on FM Approved systems (www.roofnav.com).

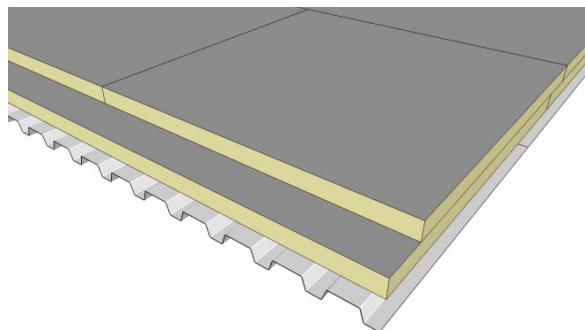


Figure 1. Duro-Guard ISO II Flat On Steel Deck

Flat Panels:

- Available sizes:
 - 4 ft. x 4 ft.
 - 4 ft. x 8 ft.
 - Thicknesses: 1 to 4 inches.
- Refer to Table 2 for R-value and flute spanability.

Tapered Panels:

- Available sizes:
 - 4 ft. x 4 ft.
 - Thicknesses: ½ to 4-½ inches.
- Precut miters and crickets are also available.
- Taper designs and shop drawings available.

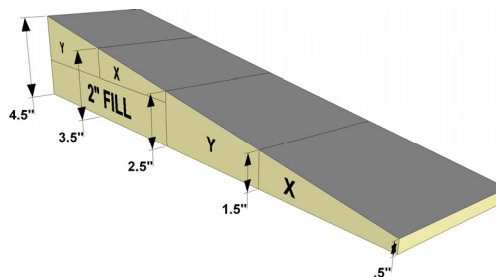


Figure 2. Duro-Guard ISO II Taper

TABLE 1. TYPICAL TAPER PANEL DIMENSIONS

ID	SLOPE*		SIZE	MIN	MAX
Q	½" per ft.	4%	4 ft. x 4 ft.	½"	2-½"
QQ	½" per ft.	4%	4 ft. x 4 ft.	2-½"	4-½"
X	¼" per ft.	2%	4 ft. x 4 ft.	½"	1-½"
Y	¼" per ft.	2%	4 ft. x 4 ft.	1-½"	2-½"
Z	¼" per ft.	2%	4 ft. x 4 ft.	2-½"	3-½"
G	¼" per ft.	2%	4 ft. x 4 ft.	1"	2"
H	¼" per ft.	2%	4 ft. x 4 ft.	2"	3"
AA	⅛" per ft.	1%	4 ft. x 4 ft.	½"	1"
A	⅛" per ft.	1%	4 ft. x 4 ft.	1"	1-½"
B	⅛" per ft.	1%	4 ft. x 4 ft.	1-½"	2"
C	⅛" per ft.	1%	4 ft. x 4 ft.	2"	2-½"

* Contact Duro-Last for additional slope options.

Installation:

- Panels must be kept dry before, during and after installation. Install only as much insulation as can be covered the same day with completed roofing.
- The use of multiple layers of insulation with joints staggered a minimum of 6 inches between layers is recommended to eliminate thermal bridging.
- Abut panel edges together and stagger joints of adjacent panels.
- Boards must be neatly fitted to roof deck and around penetrations with no gaps greater than ¼ inch.
- Refer to the appropriate Duro-Last roof system specification and detail drawings for deck preparation and attachment requirements.
- Precautions must be taken to ensure that new concrete decks have fully hydrated and do not continue to release moisture.

Panel Attachment:

- Panels may be attached to the roof deck using mechanical fasteners, insulation adhesive or hot bitumen. It is acceptable to use these products in combination.

Mechanical Attachment

- When installing multiple layers (which may include insulation, cover boards and thermal barriers) it is acceptable to mechanically secure through all layers.
- Use fasteners and plates supplied by or approved by Duro-Last, Inc.

Adhesive Attachment

- Insulation adhesive must be supplied by Duro-Last, Inc. Refer to the adhesive's product data sheet for application guidelines. Acceptable products:
 - Duro-Grip® Insta-Stik™.
 - Duro-Grip Olybond®.
 - Duro-Grip Millenium Weather-Tite®.
 - Duro-Grip CR-20.
- Subsequent layers of insulation and approved cover boards may be attached with insulation adhesive.
- Maximum panel dimensions are 4 ft. x 4 ft.

Hot Bitumen Attachment

- When using hot bitumen on concrete decks, priming is necessary.
- Temperature of the bitumen shall be approximately 50° F below the inter-ply hand mopping EVT.
- The deck shall be dry and care must be taken to apply the bitumen in sufficient quantity to

TABLE 2. THERMAL VALUES				
THICKNESS*		LTTR R-VALUE	FLUTE SPANABILITY	
inches	mm		inches	mm
1.00	25	5.70	2.625	67
1.50	38	8.60	4.375	111
1.60	41	9.10	4.375	111
1.70	43	9.70	4.375	111
2.00	51	11.40	4.375	111
2.50	64	14.40	4.375	111
2.70	69	15.60	4.375	111
3.00	76	17.40	4.375	111
3.30	84	19.20	4.375	111
3.50	89	20.50	4.375	111
3.60	91	21.10	4.375	111
4.00	102	23.60	4.375	111

* Contact Duro-Last for additional thickness options.

TABLE 3. TYPICAL PHYSICAL PROPERTIES			
Compressive Strength	ASTM D 1621 ASTM C 1289	Grade 2	20 psi (138 kPa)
		Grade 3	25 psi (172 kPa)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)	
Moisture Vapor Transmission	ASTM E 96	< 1 perm (85.0 ng/Pa·s·m ²)	
Water Absorption	ASTM C 209	< 1% volume	
Service Temperature		-40° to 200° F (-40° to 93° C)	

totally cover the available deck surface.

- To ensure embedment, the board shall also be "stepped in" at several points while the bitumen is still hot enough to allow positive attachment.
- Maximum panel dimensions are 4 ft. x 4 ft.
- Any roof membrane contaminated with bitumen must be replaced.

Storage:

- Insulation must be protected from open flame and kept dry at all times.
- Factory applied packaging is intended only for protection during transit. Slit or remove the packaging to prevent accumulation of condensation.
- Store elevated (at least 3 inches) and completely covered with a weatherproof covering such as a tarpaulin.
- Do not use panels which are wet or damaged.
- Refer to PIMA Technical Bulletin No. 109: *Storage and Handling Recommendations for Polyiso Roof Insulation* for additional guidelines (www.pima.org).

Limitations:

- Duro-Last, Inc. will not be responsible or liable for any defects or problems related to building or roof design by others, to deficiencies in construction, to dangerous conditions on the job site, or to improper storage, handling or installation by others.

ROOF TRAK® III WALKWAY PAD

Description:

Roof Trak® III is a non-skid, maintenance-free walkway/protection pad. Roof Trak III is an extruded pad made from both recycled Duro-Last® membrane and an oriented-strand polyester reinforcement.

Duro-Last, Inc. manufactures the Roof Trak III Walkway Pad to provide protection in heavily traveled rooftop areas. It also provides added protection around mechanical equipment and as a separator for sleepers that support mechanical equipment. Field and laboratory testing have proven that Roof Trak III can be used in all seasons and applications.

Roof Trak III utilizes factory-attached, 4-inch wide, white membrane skirts for attachment to the field membrane by heat welding (hot-air).

Duro-Last, Inc. manufactures Roof Trak III in the colors and skirt configurations shown in the table below.

TABLE 1. ROOF TRAK III AVAILABLE COLORS AND SKIRT CONFIGURATIONS		
Sizes	Colors	Attachment Skirts
30 in. x 60 in.	White, Tan and Gray solid colors. White with safety-yellow skirts.	2 skirts along 60-in. sides
60 in. x 60 in.	White, Tan and Gray solid colors. White with safety-yellow skirts.	2 skirts along 60-in. sides
30 in. x 60 in.	White solid color. White with safety-yellow skirts.	Fully skirted along all 4 sides

Installation:

1. Roof Trak III attachment skirts shall be heat-welded (hot-air) to the field membrane using a 1.5-inch wide weld along the entire length of the skirt.
2. Walkway pads installed directly over field seams shall have one side unattached to allow for the inspection of field seams for warranty purposes. Following inspection, the unattached skirt must be welded to the roof membrane.
3. A 1-inch gap is required between sections of walkway pad to allow for proper water drainage.

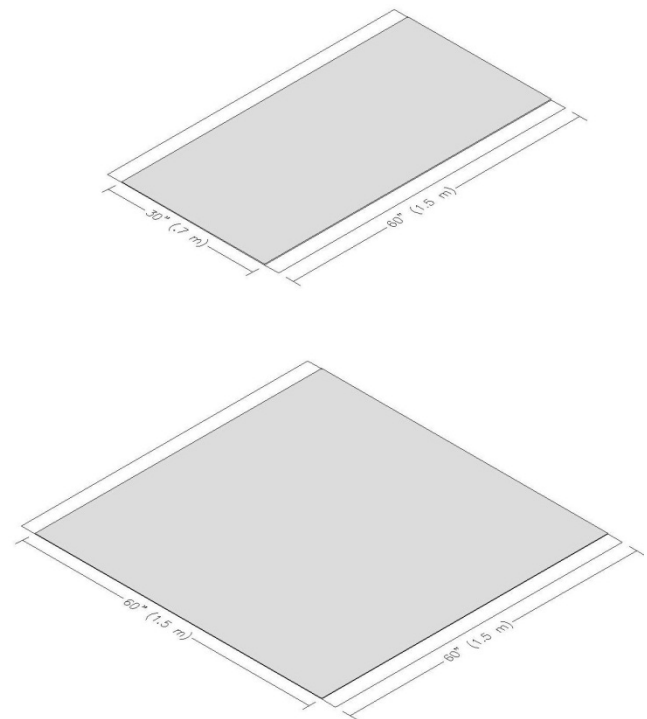


Figure 1. Roof Trak III Available Sizes

TABLE 2. TYPICAL PHYSICAL PROPERTIES		
Property	Result (US)	Result (metric)
Thickness	0.135 in.	3 mm
Weight	0.79 lb./ft. ²	3.9 kg/m ²
Breaking Strength (machine direction)	516 lb.	2,296 N
Breaking Strength (cross machine direction)	489 lb.	2,176 N
Elongation (machine direction)	50%	50%
Elongation (cross machine direction)	64%	64%
Tear Strength (machine direction)	45 lb.	200 N
Tear Strength (cross machine direction)	71 lb.	316 N
Static Coefficient of Friction (Dry)	0.95	
Static Coefficient of Friction (Wet)	1.19	

DURO-LAST® VAPOR BARRIER

DESCRIPTION:

Duro-Last® Vapor Barrier is a self-adhesive vapor barrier membrane composed of SBS modified bitumen adhesive on the bottom surface and a tri-laminated woven polyethylene on the top surface. A silicone release film covers the self-adhesive on the bottom surface.

Duro-Last Vapor Barrier can be used within a Duro-Last roof system to minimize vapor transmission. Duro-Last recommends the use of vapor barriers, however it is the responsibility of the Duro-Last contractor of record to ensure that all applicable specifications, building codes, regulations and ordinances are complied with and followed. A roofing professional, such as a consultant or architect, should be utilized for correct roof system design prior to installing any roof system.

Duro-Last Vapor Barrier can provide a durable, walkable, temporary surface that protects the decking for up to 4 months until a Duro-Last system can be installed (See Figure 1). Duro-Last does not warrant the water-tightness of temporary roofs. Temporary roofs do not carry any type of warranty and must only be used at the discretion of a roofing consultant or architect.

BENEFITS

- Meets IECC air barrier requirements for mechanically fastened roof systems
- Quick release film
- Self-sealing
- Temporarily protects against inclement weather
- Slip resistant
- Substrate board not required for most applications.
- 100% UV protection for up to 4 months
- Puncture resistant
- No primer required on steel decks or within mechanically fastened roof systems.
- Ideal for mechanically fastened or adhered roof systems
- Highly resistant to work crew traffic

ACCEPTABLE SUBSTRATES:

Prior to installation of the Duro-Last Vapor Barrier, the substrate must be smooth and level without significant surface irregularities or depressions. It must be clean, dry and free of grease, dust and loose debris. Do not apply to wet or damp surfaces. Concrete and gypsum decks must be cured prior to installation.



Figure 1. Duro-Last Vapor Barrier as temporary roof

The installing contractor is responsible for following applicable building, plumbing and electrical codes. Duro-Last VB Primer is not required when the roof system is mechanically fastened or when the substrate is a steel deck. When used within an adhered roof system, the following substrates will require the use of Duro-Last VB Primer prior to installing the Duro-Last Vapor Barrier:

- Structural Concrete (poured in place or precast)
- Gypsum (poured in place or precast)
- Lightweight Concrete (insulating or cellular)
- Wood (Plywood, OSB or Lumber)
- Cement Block/Masonry

APPROVED DIRECT-CONTACT ASSEMBLIES

The following membrane assemblies are approved for direct contact with Duro-Last Vapor Barrier. All other assemblies must be separated from the Duro-Last Vapor Barrier by any Duro-Last slip sheet, insulation or cover board.

- Duro-Fleece® and Duro-Fleece Plus®
 - Adhered directly to Duro-Last Vapor Barrier with Duro-Fleece Membrane Adhesive or Duro-Fleece CR-20 Membrane Adhesive (Splatter).
- Duro-Last, Duro-Tuff® and Duro-Last EV
 - Adhered directly to Duro-Last Vapor Barrier with SB IV Adhesive.

WB II Adhesive is not allowed.

FACTORY MUTUAL REQUIREMENTS

Factory Mutual projects that require Duro-Last Vapor Barrier will require an increase in the preliminary attachment of insulation and/or cover boards underneath mechanically fastened roof systems. Each board must be fastened at a rate of one fastener and plate per two square feet. Corner and perimeter enhancements are not required for preliminary attachment.

PRECAUTIONS:

1. Read Safety Data Sheets (SDS) prior to using.
2. Wear proper personal protective equipment, such as gloves and eye protection, per the SDS.

ORDERING:

Rolls may be ordered individually. Each roll measures 3.75 ft. by 133 ft. and will cover 465 square feet with a 3-inch overlap.

- 80-lb roll (Item #1344)

INSTALLATION:

1. Limitations
 - a. **The minimum ambient and surface temperature before application should be 14° F and rising.**
 - b. Do not use during wet weather.
 - c. Do not use on wet substrates.
 - d. Do not use on dirty or greasy substrates.
 - e. Do not use on substrates that show signs of deterioration or loss of structural integrity.
 - f. Do not use product after expiration date.
2. Duro-Last Vapor Barrier (immediately covered by a roof system)
 - a. Install according to the 6 steps shown in the pictures below.

3. Temporary roof (not immediately covered by a roof system)
 - a. Install according to the 6 steps shown below.
 - b. Cover and seal all T joints, transitions and any other openings with Sopramastic.
 - c. Contractors are responsible for providing adequate slope to roof drains to allow for proper drainage of the roof area.

TABLE 1. PHYSICAL PROPERTIES ²		
	Standards	Results
Thickness	-	31.5 mils
Weight	-	0.16 lb/sqft
Tensile Strength	ASTM D 5147	64 lbf/in x 88 lbf/in ¹
Elongation	ASTM D 5147	52% x 24% ¹
Cold Bending	ASTM D 5147	-31° F
Static Puncture	ASTM D 5602	90 lbf
Tear Resistance	ASTM D 5601	84 lbf x 90 lbf ¹
Lap Adhesion	ASTM D 1876	138 lbf
Water Absorption	ASTM D 5147	0.1% maximum
Peel Resistance	ASTM D 903	83 lbf/ft
Water Vapor Permeance	ASTM E 96 (Pro. B)	.017 perm
Air Permeability	ASTM E 283 (75 Pa)	< 0.007 L/sec·m ²

¹ Values are shown for both machine and cross machine directions. The machine direction results are listed first.

² All values are nominal.



1. Roll out the Duro-Last Vapor Barrier over a clean, dry deck.



2. Once the membrane is in place, while holding the membrane tight, peel off the silicone release film by pulling diagonally.



3. Install subsequent rolls of membrane in the same way, taking care to overlap the longitudinal joints by 3 inches.



4. On steel decks, at the end of a roll, install a metal plate (6 in. by 42 in.) to support the membrane end lap between the metal flutes ensuring a complete end lap seal. End laps must overlap by 6 inches.



5. The membrane's superior strength offers extra protection from heavy foot traffic during installation. The slip-resistant surface allows for safe movement across the roof.



6. Once installation is complete, the Duro-Last Vapor Barrier membrane temporarily protects against inclement weather. If not immediately covered, follow extra steps per 3a and 3b in the instructions above.

WB II ADHESIVE

DESCRIPTION:

Duro-Last® WB II Adhesive is a polymeric waterborne adhesive used to bond all Duro-Last roofing membranes to a variety of substrates on horizontal and vertical surfaces.

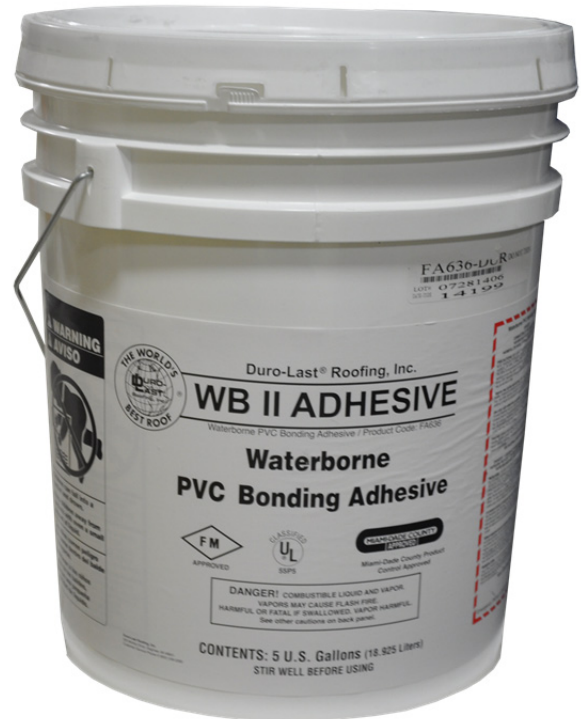
WB II Adhesive has VOC content less than 250 g/L and meets all VOC restrictions and regulations in the United States.

WB II adhesive may be used on the following substrates after they have been properly prepared as described in either the Duro-Last *Adhered Duro-Fleece® Roofing System* specification or the *Adhered Systems* specification. The installing contractor is responsible for following all applicable building, plumbing and electrical codes.

- Structural Concrete (poured in place or precast)
- Wood (Plywood, OSB or Lumber)
- Polyisocyanurate Rigid Insulation Board
- Duro-Guard® DensDeck® Prime Roof Board
- Duro-Guard DensDeck Roof Board (not recommended)
- Duro-Guard SECUROCK® Gypsum-Fiber Roof Board

ORDERING:

WB II Adhesive may be ordered per 5-gallon pail. Follow coverage rates below for estimating quantities.



COVERAGE – DURO-FLEECE MEMBRANE		
Roof Deck	100 – 120 ft ² / gallon (500 – 600 ft ² / pail)	0.8 – 1.0 gallon / 100 ft ²
Vertical Applications	100 – 120 ft ² / gallon (500 – 600 ft ² / pail)	0.8 – 1.0 gallon / 100 ft ²

COVERAGE – DURO-LAST, DURO-TUFF® AND DURO-LAST EV MEMBRANES		
Roof Deck	140 – 180 ft ² / gallon (700 – 900 ft ² / pail)	0.55 – 0.7 gallon / 100 ft ²
Vertical Applications	180 ft ² / gallon per surface for net coverage of 90 ft ²	0.55 gallon / 100 ft ² per surface

WB II ADHESIVE PROPERTIES

Weight	9 lb. / gallon	45 lb. / pail
Color	White	
VOC Content	179 g / L	
Viscosity	10,000 – 16,000 CPS	
Total Solids	52% ± 3%	

STORAGE AND HANDLING

1. Protect product from freezing.
2. Adhesive must not be shipped in temperatures less than 50° F (10° C).
3. Store product between 60° F (16° C) and 80° F (27° C), out of direct sunlight, for maximum shelf life. Shelf life is one year in an unopened container, from date of manufacture, when following these recommended storage procedures.

PRECAUTIONS:

1. Read Safety Data Sheets (SDS) prior to using.
2. Wear proper personal protective equipment, such as gloves and eye protection, per the SDS.
3. Combustible. Do not expose to heat, flame or sparks. Do not smoke while applying.
4. Use only in well ventilated areas and avoid breathing vapors.
5. Keep container closed when not in use.
6. When transferring adhesive between containers, ensure that both containers are grounded.
7. Treat empty containers with caution since they may contain flammable vapors.

INSTALLATION:

1. General

- a. Do not exceed Open Time of 3 hours.
- b. Apply to surfaces which are clean, smooth, dry and free of oil and grease.
- c. **Only apply adhesive when the ambient temperature is at least 50° F (10° C) and rising. Adhesive must be stored between 60° F (15° C) and 80° F (26° C) for 24 hours prior to installation.**
- d. Stir adhesive vigorously by hand to achieve homogeneous mixture prior to application.
- e. Thinning the adhesive is not allowed.

2. Duro-Fleece Membrane

- a. Using a 3/8-inch (medium) nap solvent resistant roller, apply evenly at a coverage rate of 100 – 120 square feet per gallon to the SUBSTRATE ONLY. The coverage rate will vary depending upon the porosity of the substrate. Do not apply to non-porous substrates.
- b. Do not apply adhesive where hot-air welding will be performed.
- c. Roll the membrane into the adhesive IMMEDIATELY after it is applied. Do not wait for the adhesive to dry. Duro-Fleece membrane must be rolled into wet adhesive.
- d. Roll membrane onto the adhesive coated substrate slowly and evenly to avoid trapping air and to minimize wrinkles.
- e. Apply pressure by means of a heavy roller with a minimum weight of 150 pounds to ensure proper bonding.
- f. For vertical applications, apply adhesive to the substrate at a rate of 100 to 120 square feet per gallon. The coverage rate will vary depending upon the porosity of the substrate.

- For porous substrates, such as concrete block, apply an initial light coating of adhesive as a seal coat. Allow the seal coat to dry thoroughly prior to adhesive application as described above.
 - **Do not allow adhesive to dry.** Place membrane into wet adhesive.
 - Apply pressure to complete the bond.
 - Use appropriate fastening or termination to secure the membrane while the adhesive dries.
- g. Refer to the Duro-Last *Adhered Duro-Fleece Roofing System* specification for guidelines regarding Duro-Fleece membrane installation.

3. Duro-Last, Duro-Tuff and Duro-Last EV Membranes

- a. Using a 3/8-inch (medium) nap solvent resistant roller, apply evenly at a coverage rate of 140 – 180 square feet per gallon to the SUBSTRATE ONLY. The coverage rate will vary depending upon the porosity of the substrate. Do not apply to non-porous substrates.
- b. Do not apply adhesive where hot-air welding will be performed.
- c. Adhesive should be wet or partially dried to a "wet" surface tack prior to bonding membrane. Dry time will vary according to weather conditions.
- d. Roll membrane onto the adhesive coated substrate slowly and evenly to avoid trapping air and to minimize wrinkles.
- e. Apply pressure by means of a heavy roller or push broom to ensure proper bonding.
- f. For vertical applications, apply adhesive to BOTH the membrane and the substrate at a rate of 180 square feet per gallon (for a net coverage rate of 90 square feet per gallon). The coverage rate will vary depending upon the porosity of the substrate.
 - For porous substrates, such as concrete block, apply an initial light coating of adhesive as a seal coat. Allow the seal coat to dry thoroughly prior to adhesive application as described above.
 - Allow adhesive to dry to "finger tack" and then place membrane onto the substrate.
 - Apply pressure to complete the bond.
- g. Refer to the Duro-Last *Adhered Systems* specification for guidelines regarding membrane installation.