ALACHUA COUNTY

GENERAL CONSTRUCTION AGREEMENT FOR BID NO. 20-936

PROJECT NO. 6194104

AGREEMENT NO. 11395

JONESVILLE PARK TENNIS IMPROVEMENTS AND RESTORATIONS

JOYNER CONSTRUCTION PARTNERS, LLC

GENERAL CONSTRUCTION AGREEMENT

THIS AGREEMENT ("Agreement") made and entered into this _____ day of _____, 20___, by and between Joyner Construction Partners, LLC, a Florida limited liability company with a principal address of 7545 W. University Avenue, Suite B, Gainesville, Florida 32607, hereinafter referred to as “Contractor”, and Alachua County, a charter county and a political subdivision of the State of Florida, hereinafter referred to as "County". Hereinafter, the Contractor and the County are collectively referred to herein as the “Parties”.

WITNESSETH:

WHEREAS, the County issued Bid No. 20-936 seeking the bids from contractors to provide all labor, materials, equipment and supervision for the renovation, maintenance, and repair to the tennis courts and associated buildings and shelters (interior and exterior), via laser grading, lighting, drainage, irrigation, sidewalks and fencing; and

WHEREAS, after evaluating and considering all timely responses to Bid No. 20-936 the County identified the Contractor as the lowest price, responsive, responsible bidder; and

WHEREAS, the County desires to contract with the Contractor to provide the services described in Bid No. 20-936 and the Contractor desires to provide such services to the County in accordance with the terms and conditions set forth herein; and

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is acknowledged by the Parties, the Parties hereby agree as follows:

1. **THE WORK:**

Bid No. 20-936 requested that prospective contractors submit bids for the Base Bid and two alternatives. The County has elected to not award the scope of work for the two alternatives. Therefore, the Parties agree that only the scope of work for the Base Bid is awarded to the Contractor by this Agreement. Accordingly, the Contractor shall furnish all labor, material, equipment, apparatus, perform all services and complete the construction set forth in the *Non-*

Technical Specifications, attached hereto and incorporated by reference as Exhibit 1, the *Scope of Services*, attached hereto and incorporated by reference as Exhibit 2, the *Jonesville Park Tennis Improvements and Restorations for Alachua County Parks and Recreation* plans, dated August 22, 2019, attached hereto and incorporated by reference as Exhibit 3, *Addendum #1*, dated November 19, 2019, attached hereto and incorporated by reference as Exhibit 12, and all incidental and necessary work thereto (collectively, the "Work"). Contractor shall complete the Work by the date specified in the Notice to Proceed (NTP), which shall be issued by the County after the Effective Date of this Agreement, the form of the NTP is attached hereto as Exhibit 5.

2. **TERM OF AGREEMENT:**

This Agreement shall be effective upon execution by both Parties ("Effective Date"). The term of the Agreement shall be from the Effective Date until the Work and all obligations, duties and responsibilities of the Parties have been completed as required by this Agreement and the NTP ("Term"), unless amended or terminated as provided herein.

3. **COMPENSATION AND PAYMENT:**

3.1. For performing and completing the Work, the Contractor shall be paid the lump sum of Four Hundred Fifty-Eight Five Hundred Eighty-Seven Dollars and Zero Cents ($458,587.00) (the "Contract Amount"), allocated as the Base Bid provided in the Bid Form, attached hereto and incorporated by reference as Exhibit 4.

3.2. As a condition precedent for any payment, the Contractor shall submit monthly an invoice to the County requesting payment for services properly rendered and expenses due. The Contractor's invoice shall describe with reasonable particularity each service rendered, the date thereof, the time expended if such services were rendered pursuant to a fee and the person(s) rendering such service. The Contractor's invoice shall be accompanied by such documentation or data in support of expenses for which payment is sought as the County may require. Each invoice shall bear the signature of the Contractor, which signature shall constitute the Contractor's representation to the County that the services indicated in the invoice have reached the level stated, have been properly and timely performed as required herein, that the expenses included in the invoice have been reasonably incurred in accordance with this Agreement, that all services provided are for a public purpose, that all obligations of the Contractor covered by prior invoices have been paid in full, and that

the amount requested is currently due and owing, there being no reason known to the Contractor that payment of any portion thereof should be withheld. Submission of the Contractor's invoice for final payment shall further constitute the Contractor's representation to the County that, upon receipt by the Contractor of the amount invoiced, all obligations of the Contractor to others, including its consultants, incurred in connection with the Project, will be paid in full. The Contractor shall submit invoices to the County at the following address:

Alachua County Parks & Conservation Lands
408 W. University Ave., Suite 106
Gainesville, FL 32601-3231

3.3. All applications for payment shall be processed and paid in accordance with the provisions of Chapter 218, Part VII Florida Statutes ("Local Government Prompt Payment Act"), and shall be remitted to:

Joyner Construction Partners, LLC
7545 W. University Avenue Suite B
Gainesville, Florida 32607

3.4. Except as otherwise authorized in Section 3.1, the County shall not pay or reimburse the Contractor for any expenses incurred by the Contractor to perform the Work.

3.5. No additional expense will be paid under this Agreement.

4. ALACHUA COUNTY MINIMUM WAGE

4.1. The Work performed through this Agreement is considered covered services under Chapter 22, Article III, of the Alachua County Code of Ordinances ("Wage Ordinance"), which establishes a government minimum wage for certain contractors and subcontractors providing selected services to Alachua County government. "Covered Employees," as defined in Sec. 22.45 of the Wage Ordinance, are those employees directly involved in providing covered services pursuant to this Agreement.

4.2. Current required Alachua County Government Minimum Wage is $14.00 per hour when health benefits are provided at the equivalent value of $2.17 per hour and $16.17 when health benefits are not provided (collectively, the "Minimum Wage").

4.3. The County may amend the applicable Minimum Wage on or before October 1st of each year.

4.4. The Contractor shall provide certification, the form of which is attached hereto as **Attachment 11**, to the County that it pays each of its employees the Alachua County Government Minimum Wage, as may be amended by the County on or before October 1st of each year, as well as ensuring that it will require the same of its subcontractors throughout the duration of this Agreement.

4.5. The Contractor shall prominently display a copy of the Wage Ordinance where it is easily seen by covered employees and supply to covered employees upon request. Additionally, the Contractor is responsible to make any person submitting a bid for a subcontract for covered services aware of the requirements.

4.6. Failure to comply with the provisions of the Wage Ordinance will be deemed a breach of contract and authorize the County to withhold payment of funds in accordance with Chapter 218, Florida Statutes.

4.7. The Contractor will include the necessary provisions in subcontracts to ensure compliance. However, the County shall not be deemed a necessary, or indispensable, party in any litigation between the contractor and subcontractor.

5. **PROGRESS PAYMENTS AND RETAINAGE:**

5.1. Progress payments and final payment for Work performed will be made in accordance with the provisions as stipulated in the NTP and the Non-Technical Specifications attached hereto and incorporated by reference as Exhibit 1. In case of conflict in payment terms, the terms in the NTP shall prevail.

5.2. As the Work is greater than $200,000.00, it is agreed that ten percent (10%) of the amount earned through each progress payment as set forth in the Contract Documents and Specifications will be withheld until the Project reaches fifty percent (50%) completion. For purposes of this project, fifty percent (50%) completion is defined in the Bid Form. Once fifty percent (50%) completion is reached the Contractor may request that the County shall pay up to one-half (1/2) of the retainage then held by the County for the properly completed Work. If the County does not dispute any services or payment, the

County will make such payment. Furthermore, once fifty percent (50%) completion is reached, the County shall only retain five percent (5%) of each progress payment.

5.3. Within thirty (30) days of Substantial Completion of the Work as defined herein, or if not defined upon reaching beneficial occupancy or use, the Contractor and County will develop a list (the "List") of items required to render complete, satisfactory and acceptable the construction services required herein. Contractor will provide a first draft of the List within fifteen (15) days of notice of Substantial Completion. The County will notify the Contractor of acceptance or of any changes requested within ten (10) days of receipt of the draft List. The List developed does not relieve the Contractor of the responsibility for corrective work or for pending items not yet completed for the Project and any items that are identified after development of the List that are required to correct or complete the Project remain the responsibility of the Contractor.

5.4. The County shall not be obligated to make payment to the Contractor for amounts that are the subject of a good faith dispute or a claim brought pursuant to §255.05, Florida Statutes.

6. **ASBESTOS FREE MATERIALS:**

6.1. All Work under this Agreement will be performed with asbestos free materials. A written, notarized statement on company overhead is to be submitted with the executed Agreement certifying this fact. All payments shall be withheld until such statement is submitted.

6.2. Contractor agrees that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction done by the Contractor or any of its Subcontractors or agents and were not specified in the design or required by the Agreement, Contractor shall be liable for all costs related to the abatement of such asbestos and damages or claims against the County.

7. **LIQUIDATED DAMAGES:**

7.1. It is agreed by both parties that **TIME IS OF THE ESSENCE** for the completion of the Work. The Contract Time shall begin with the date provided in the Notice to Proceed to the Contractor by the County and will be complete within the time specified by the NTP.

7.2. Inasmuch as failure to complete the Work within the time herein fixed will result in substantial injury to the County and whereas damages arising from such failure cannot be calculated with any degree of certainty, it is hereby agreed that if such Work is not

Substantially Completed as herein defined or within such further time, if any, as shall be allowed for such performance of Substantial Completion in accordance with the provisions of this Agreement, the Contractor shall pay the County as liquidated damages and not as a penalty the sum of Five Hundred Seventy-Six Dollars and Zero Cents ($576.00) per day for each and every calendar day after the date fixed for such Substantial Completion for the project.

7.3. Inasmuch as failure to complete the Work within the time herein fixed will result in substantial injury to the County and whereas damages arising from such failure cannot be calculated with any degree of certainty, it is hereby agreed that if such Work is not finally completed as herein defined or within such further time, if any, as shall be allowed for such performance of final completion in accordance with the provisions of this Agreement, the Contractor shall pay the County as liquidated damages and not as a penalty the sum of One Hundred Forty-Four Dollars and Zero Cents ($144.00) per day for each and every calendar day after the date fixed for such completion for the project. It is agreed by both parties that **TIME IS OF THE ESSENCE** for the completion of this project. The Contract time shall begin with the issuance of a NTP and will be complete within the time specified in the NTP.

8. **RELEASE OF CLAIMS:**

It is agreed that when all Work contemplated by this Agreement has been completed and has been inspected and approved by the County or the County's authorized representatives, the Contractor shall furnish to the County the Contractor's Final Payment Affidavit in the form provided in Exhibit 9. The Contractor shall also provide a Waiver of Right Against Payment Bond from every subcontractor, material man and supplier that has provided services or materials to the Project in the form provided in Exhibit 10 or on a form acceptable to the County.

9. **GOVERNING ORDER OF DOCUMENTS:**

9.1. In cases of discrepancy, the governing order of the documents is as follows:

9.1.1. Amendments and Change Orders;

9.1.2. This Agreement;

9.1.3. Agreement Specific Term from Bid No. 20-936;

9.1.4. General Terms from Bid No. 20-936;

9.1.5. Scope of Service from Bid No. 20-936;

9.1.6. Notice to Proceed;

9.1.7. Vendor's Bid Submittal

10. **INDEMNIFICATION**

10.1. To the maximum extent permitted by Florida law, the Contractor shall indemnify and hold harmless the County and its officers and employees from any and all liabilities, damages, losses and costs, including, but not limited to, reasonable attorneys' fees, caused by the negligence, recklessness, or intentional wrongful misconduct of the Contractor or anyone employed or utilized by the Contractor in the performance of this Agreement. Contractor agrees that indemnification of the County shall extend to any and all Work performed by the Contractor, its subcontractors, employees, agents, servants or assigns.

10.2. The Contractor obligation to indemnify under this Article will survive the expiration or earlier termination of this Agreement until it is determined by final judgment that an action against the County or an indemnified party for the matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

10.3. This obligation shall in no way be limited in any nature whatsoever by any limitation on the amount or type of Contractor insurance coverage. This indemnification provision shall survive the termination of the Agreement between the County and the Contractor.

10.4. In any and all claims against the County or any of its 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 under this Article 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 workers' compensation acts, disability benefit acts or employee benefit acts.

10.5. Nothing contained herein shall constitute a waiver by the County of sovereign immunity or the provisions or limits of liability of §768.28, Florida Statutes.

11. **PROJECT RECORDS**

11.1. **General Provisions:**

11.1.1. Any document submitted to the County may be a public record and is open for inspection or copying by any person or entity. "Public records" are defined as all documents, papers, letters, maps, books, tapes, photographs, films, sound recordings, data processing software, or other material, regardless of the physical form, characteristics, or means of transmission, made or received pursuant to law or ordinance or in connection with the transaction of official business by any agency per §119.011(12), Florida Statutes. Any document is subject to inspection and copying unless exempted under Chapter 119, Florida Statutes, or as otherwise provided by law.

11.1.2. In accordance with §119.0701, Florida Statutes, the Contractor, *when acting on behalf of the County*, as provided under 119.011(2), Florida Statutes, shall keep and maintain public records as required by law and retain them as provided by the General Record Schedule established by the Department of State. Upon request from the County's custodian of public records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time unless exempted under Chapter 119, Florida Statutes, or as otherwise provided by law. Additionally, the Contractor shall provide the public records at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

11.1.3. Contractor shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of this Agreement and following completion of this Agreement if the Contractor does not transfer the records to the County.

11.2. Confidential Information

11.2.1. During the term of this Agreement, the Contractor may claim that some or all of Contractor's information, including, but not limited to, software documentation, manuals, written methodologies and processes, pricing, discounts, or other considerations (hereafter collectively referred to as "Confidential Information"), is, or has been treated as confidential and proprietary by Contractor in accordance with

§812.081, Florida Statutes, or other law, and is exempt from disclosure under the Public Record Act. Contractor shall clearly identify and mark Confidential Information as "Confidential Information" or "CI" and the County shall use reasonable efforts to maintain the confidentiality of the information properly identified by the Contractor as "Confidential Information" or "CI."

11.2.2. The County shall promptly notify the Contractor in writing of any request received by the County for disclosure of Contractor's Confidential Information and the Contractor may assert any exemption from disclosure available under applicable law by seeking a protective order against disclosure from a court of competent jurisdiction. Contractor shall protect, defend, indemnify, and hold the County, its officers, employees and agents free and harmless from and against any claims or judgments arising out of a request for disclosure of Confidential Information. Contractor shall investigate, handle, respond to, and defend, using counsel chosen by the County, at Contractor's sole cost and expense, any such claim, even if any such claim is groundless, false, or fraudulent. Contractor shall pay for all costs and expenses related to such claim, including, but not limited to, payment of attorney fees, court costs, and expert witness fees and expenses. Upon completion of this Agreement, the provisions of this paragraph shall continue to survive. Contractor releases County from claims or damages related to disclosure by County.

11.2.3. **Project Completion**: Upon completion of the Work, or in the event this Agreement is terminated, the Contractor, *when acting on behalf of the County* as provided under §119.011(2), Florida Statutes, shall transfer, at no cost, to the County all public records in possession of the Contractor or keep and maintain public records required by the County to perform the service. If the Contractor transfers all public records to the County upon completion or termination of the Agreement, it must destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon the completion or termination of the Agreement all applicable requirements for retaining public records shall be met. All records stored electronically shall be provided to the County, upon request from the Counties custodian of public records, in a format that is compatible with the information technology systems of the County.

11.3. **Compliance:** The Contractor may be subject to penalties under §119.10, Florida Statutes, if the Contractor fails to provide the public records to the County within a reasonable time.

IF THE AGENCY HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE COUNTY REPRESENTATIVE AT E-MAIL: publicrecordsrequest@alachuacounty.us; PHONE: (352) 384-3132; ADDRESS: 12 SE 1ST STREET, GAINESVILLE, FL 32601

12. **AUDITING RIGHTS AND INFORMATION**

12.1. Contractor shall keep all records and supporting documentation which concern or relate to the Work hereunder for a minimum of ten (10) years from the date of termination of this Agreement or the date the Project is completed, whichever is later or such longer period of time as may be required by law. Contractor shall require all of its subcontractors to likewise retain all of their Project records and supporting documentation. County, and any duly authorized agents or representatives of County, shall be provided access to all such records and supporting documentation at any and all times during normal business hours upon request by County. Further, County, and any duly authorized agents or representatives of County, shall have the right to audit, inspect and copy all of Contractor's and any subcontractor's Project records and documentation as often as they deem necessary and Contractor shall cooperate in any audit, inspection, or copying of the documents. Employees' personal information is excluded, if exempt under Ch. 119, F.S. The access, inspection, copying and auditing rights shall survive the termination of this Agreement.

12.2. If at any time, County conducts such an audit of Contractor's records and documentation and finds that Contractor overcharged County, Contractor shall pay to County the Overcharged Amount which is defined as the total aggregate overcharged amount together with interest thereon (such interest to be established at the rate of 12% annum). If the Overcharged Amount is equal to or greater than $50,000.00, Contractor shall pay to County the Overcharged Amount and the Audit Amount which is defined as the total aggregate of County's reasonable audit costs incurred as a result of its audit of

Contractor. County may recover the Overcharged Amount and the Audit Amount, as applicable, from any amount due or owing Contractor with regard to the Project or under any other agreement between Contractor and County. If such amounts owed Contractor are insufficient to cover the Overcharged Amount and Audit Amount, as applicable, then Contractor hereby acknowledges and agrees that it shall pay such remaining amounts to County within seven (7) business days of its receipt of County's invoice for such remaining amounts. In no event shall the Overcharged Amount or the Audit Amount be deemed a reimbursable Cost of the Work.

13. **INSURANCE:**

Throughout the term of this project, the Contractor shall provide and maintain insurance of the types and in the amounts set forth in Exhibit 8. A current Certificate of Insurance showing coverage of the types and in the amounts required is attached hereto as Exhibit 8-A.

14. **BONDS:**

14.1. At least ten (10) days PRIOR to furnishing any labor, services or material in connection with the improvements to the Project, the Contractor shall provide Owner with Payment and Performance bonds, in the amount of one hundred percent (100%) of the Contract Amount, in the form attached hereto as Exhibits 6 & 7, the costs of which are to be paid by Contractor. It is mutually agreed between the parties hereto that if, at any time after the execution of this Agreement and the required surety bond for its faithful performance and payment, the County shall deem the surety or sureties upon such bond to be unsatisfactory, or if, for any reason, such bond ceases to be adequate to cover the performance of the Work the Contractor shall, at its own expense, within five (5) days after the receipt of notice from the County to do so, furnish an additional bond or bonds in such form and amount, and with surety or sureties as shall be satisfactory to the County. In such event, no further payment to the Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in a manner and form satisfactory to the County.

14.2. In accordance with the requirements of §255.05(1)(a), Florida Statutes, Contractor shall record a copy of the Performance and Payment Bonds in the Public Records of Alachua County, Florida, within five (5) days of furnishing the Performance and Payment

Bonds to Owner. Contractor shall deliver a certified copy of the recorded Performance and Payment Bond to Owner as evidence of recording said Bonds, within five (5) days of recording. The delivery of such evidence is a condition precedent to Owner's obligation to make any payments to Contractor hereunder.

15. **SEVERABILITY:**

It is understood and agreed by the parties to this Agreement that if any of the provisions of the Agreement shall contravene, or be invalid under the laws of the State of Florida, such contravention or invalidity shall not invalidate the entire Agreement, but it shall be construed as if not containing the particular provision or provisions held to be invalid, and the rights and obligations of the Parties shall be construed and enforced accordingly.

16. **AMENDMENT:**

This Agreement may be amended by mutual written agreement that is executed by both of the Parties hereto. Further, this Agreement, including without limitation all changes in the maximum indebtedness, scope of services, time of completion, and other material terms and conditions, may be changed only by such written and executed amendment.

17. **INDEPENDENT CONTRACTOR:**

In the performance of this Agreement, the Contractor will be acting in the capacity of an independent contractor, and not as an agent, employee, partner, joint venture, or associate of the County. The Contractor shall be solely responsible for the means, methods and techniques, sequences and procedures utilized by the Contractor in the full performance of this Agreement. Neither contractor nor anyone employed by Contractor shall represent, act, purport to act, or to be deemed to be the agent, representative, employee or servant of the County.

18. **OPTIONAL PARTICIPATION OF CONSULTANT:**

The County is free to elect to have a Consultant on the job site to respond to requests for information made by Contractors, and to approve any payment requests. If the County does not elect to have a Consultant on the job site, any provisions incorporated in this Agreement referring to the Consultant shall be disregarded, and any requests for information and approvals of payment requests shall be made by the Facilities Manager.

19. **CHOICE OF LAW:**

The laws of the State of Florida shall govern this Agreement and the duties and obligations stated within this Agreement. The sole and exclusive venue for any action under this Agreement shall be Alachua County, Florida.

20. **COMPLETE AGREEMENT:**

This Agreement contains the sole and entire Agreement between the County and the Contractor and supersedes any other written or oral Agreements between them not incorporated herein.

21. **NON-WAIVER:**

The failure of any party to exercise any right in this Agreement will not waive such right in the event of any further default or non-compliance.

22. **SUCCESSORS AND ASSIGNS:**

The Contractor shall not assign its rights hereunder, excepting its right to payment, nor shall it delegate any of its duties hereunder without the written consent of the County. Subject to the provisions of the preceding sentence, each party hereto binds itself, its successors, assigns and legal representatives to the other and to the successors, assigns and legal representatives of such other party. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of the County, nor shall it be construed as giving any right or benefit hereunder to anyone other than the County or the Contractor.

23. **NO THIRD PARTY BENEFICIARIES:**

Nothing contained herein shall create any relationship, contractual or otherwise, with, or any rights in favor of, any third party.

24. **COUNTERPARTS:**

This Agreement may be executed in any number of and by the different Parties hereto on separate counterparts, each of which when so executed shall be deemed to be an original, and such counterparts shall together constitute but one and the same instrument. Receipt via fax or email with pdf attachment by a party or its designated legal counsel of an executed counterpart of this Amendment shall constitute valid and sufficient delivery in order to complete execution and delivery of this Amendment and bind the Parties to the terms hereof.

25. **MODIFICATIONS:**

This agreement constitutes the entire agreement and understanding between the Parties hereto, and it shall not be considered modified, altered, changed or amended in any respect unless in writing and signed by the Parties hereto.

26. **DEFAULT AND TERMINATION:**

26.1. The failure of the Contractor to comply with any provision of this agreement will place the Contractor in default. Prior to terminating the agreement, the County will notify the Contractor in writing. This notification will make specific reference to the provision which gave rise to the default. The County will give the Contractor seven (7) days to cure the default or develop a plan and time line acceptable to the County to cure the default. If the default situation is not corrected within the allotted time, the Department is authorized to provide final termination notice on behalf of the County to the Contractor.

26.2. The County may terminate the agreement without cause by first providing at least thirty (30) days written notice to the Contractor prior to the termination date.

26.3. If funds to finance this agreement become unavailable, the County may terminate the agreement with no less than twenty-four hours' notice in writing to the Contractor. The County will be the final authority as to the availability of funds. The County will pay the Contractor for all work completed prior to any notice of termination.

26.4. If the contractor is adjudged bankrupt, either voluntary or involuntary, the County may terminate the contract effective on the day and at the time the bankruptcy petition is filed and may proceed to provide service as previously outlined.

27. **CLEANING UP:**

The Contractor will keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work, and, at the completion of the Work, he will remove all waste materials, rubbish and debris from and about the premises, as well as all tools, construction equipment and machinery and surplus materials, leaving the site clean and ready for occupancy by the County. The Contractor will restore to their original condition those portions of the site not designated for alteration by the Contract Documents.

28. INJURY OR DAMAGE TO PEOPLE OR PROPERTY

Should the County or the Contractor suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employees or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

29. ELECTRONIC SIGNATURES

The Parties agree that an electronic version of this Agreement shall have the same legal effect and enforceability as a paper version. The Parties further agree that this Agreement, regardless of whether in electronic or paper form, may be executed by use of electronic signatures. Electronic signatures shall have the same legal effect and enforceability as manually written signatures. The County shall determine the means and methods by which electronic signatures may be used to execute this Agreement and shall provide the Contractor with instructions on how to use said method. Delivery of this Agreement or any other document contemplated hereby bearing an manually written or electronic signature by facsimile transmission (whether directly from one facsimile device to another by means of a dial-up connection or whether mediated by the worldwide web), by electronic mail in "portable document format" (".pdf") form, or by any other electronic means intended to preserve the original graphic and pictorial appearance of a document, will have the same effect as physical delivery of the paper document bearing an original or electronic signature.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed for the uses and purposes therein expressed on the day and year first above-written.

ALACHUA COUNTY, FLORIDA

By:_____

Robert Hutchinson, Chair

Board of County Commissioners

Date: _____

ATTEST

_____

J.K. "Jess" Irby, Esq., Clerk

(SEAL)

APPROVED AS TO FORM

_____

Alachua County Attorney's Office

CONTRACTOR

WITNESS (By Corporate Officer)

By: Gina Goodyear

Print: Gina Goodyear

Title: Project Manager

By: _____

Print: JOHN SIKES

Title: MANAGING MEMBER

Date: 8-18-20

IF THE CONTRACTOR IS INCORPORATED OR OTHERWISE NOT A NATURAL PERSON, PLEASE PROVIDE A CERTIFICATE OF INCUMBANCY AND AUTHORITY, OR A CORPORATE RESOLUTION, LISTING THOSE AUTHORIZED TO EXECUTE AGREEMENTS. IF A NATURAL PERSON, THEN YOUR SIGNATURE SHOULD BE NOTARIZED.

EXHIBIT 1: NON-TECHNICAL SPECIFICATIONS

1. PRICING

The actual pricing for work performed under the Agreement will be as provide in the Scope of Services and the NTP.

2. HOURS OF WORK

2.1. Standard hours of work will be from 7:00 AM to 5:00 PM, Monday through Friday, unless alternate standard hours are agreed to and adopted. Under no circumstances will the Contractor perform any work at any time or access the site of the Work without specific written (by memorandum or email) of the Owner's representative.

2.2. Non-standard hours are hours required by Owner to be worked before 7:00 AM and after 5:00 PM (unless alternate standard hours are agreed and adopted), Monday thru Friday, and all hours worked on Saturdays, Sundays and holidays will be considered non-standard hours.

2.3. Non-standard hours worked by Contractor to regain schedule or for Contractor's convenience shall not be entitled to additional compensation.

2.4. County Holidays - Holidays falling on Saturday will be observed on the Friday preceding the holiday and those falling on Sunday will be observed on the Monday following the holiday.

New Year's Day
Martin Luther King Day
Memorial Day
4th of July
Labor Day
Veteran's Day
Thanksgiving Day and the day after Thanksgiving
Christmas Day and one additional day as designated by County Manager

3. WORK AUTHORIZATION

3.1. Any Work required under this Agreement shall be authorized by issuance of formal, written NTP, based on the Scope of Services (Exhibit 2).

3.2. Alachua County shall issue a revised Notice to Proceed in the form of Exhibit 5.

3.3. NTPs issued under this Agreement, shall authorized by signature of the County designee.

3.4. Amendments to the NTP (Change Orders) will be approved in accordance with County Policy and Ordinance and shall be issued in the form of the NTP Amendment.

4. SCHEDULING OF WORK

4.1. The County will issue a Notice to Proceed for the Work. The first day of performance under an NTP shall be the effective date specified in the Notice to Proceed. Any preliminary work started or material ordered or purchased before receipt of the Notice to Proceed shall be at the risk and expense of Contractor. Contractor shall diligently prosecute the Work to completion within the time set forth in the NTP. The period of performance includes allowance for mobilization, holidays, weekend days, normal inclement weather, and cleanup. Therefore, claims for delay based on these elements will not be allowed. When Contractor considers the Work complete and ready for its intended use the Contractor shall request Alachua County to inspect the Work to determine the status of completion.

4.2. Job placement of materials and equipment shall be made with a minimum of interference to Alachua County operations and personnel.

4.3. Furniture and portable office equipment in the immediate work area will be moved to a designated location by the Contractor and replaced to its original location upon completion of the Work. If the furniture and portable office equipment cannot be replaced to its original location, the County will designate new locations. If furniture and portable office equipment (or other items) must be moved and/or stored outside the immediate area, Alachua County will compensate Contractor for any such transportation and storage costs incurred through an Amendment to the NTP.

4.4. Contractor shall take all precautions to ensure that no damage will result from its operations to private or public property. All damages shall be repaired or replaced by Contractor at no cost to Alachua County.

4.5. Contractor shall be responsible for providing all necessary traffic control, such as street blockages, traffic cones, flagmen, etc., as required for the Work. Proposed traffic control methods shall be submitted to Alachua County for approval.

5. CONTRACTOR'S RESPONSIBILITIES:

5.1. The Contractor shall supervise, perform and direct the Work using the best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, safety, sequences and procedures, and for coordinating all portions of the Work under this Agreement. The Contractor shall ensure that the completed Work complies accurately with the Contract documents.

5.2. Contractor's Superintendent: The Contractor shall employ a competent resident superintendent who shall be in attendance at the project site during the progress of the work. The superintendent shall be satisfactory to County and shall not be changed except with the written approval of the County. The superintendent shall represent the Contractor at the site and shall have full authority to act on behalf of the Contractor. All communications given to the superintendent shall be binding on the Contractor. All oral communications affecting Contract Time, Contract amount and Contract interpretation will be confirmed in writing to the County.

6. DESIGN:

6.1. Contractor's duties under the Agreement may include the preparation of additional shop drawings or sketches necessary to permit orderly construction of the Work. The Contractor agrees to provide detailed design drawings and plans if requested by the County, with reimbursement included in an amended NTP and said cost should be incidental to the project.

6.2. Incidental means not exceeding 10% or $5,000, whichever is higher of the total project cost, unless properly justified and approved by the County.

7. ALACHUA COUNTY-FURNISHED UTILITIES:

7.1. The County shall provide at no cost to Contractor utilities and toilet facilities that are existing and available at each site for Work performed under the Agreement. If utilities and/or toilet facilities are not existing and available, an equitable price will be negotiated and included in the NTP to compensate Contractor for providing such items.

7.2. Water:

7.2.1. Alachua County shall furnish to Contractor from existing Alachua County facilities and without cost to Contractor, a supply of water necessary for the performance of work under this Agreement. Alachua County will in no case furnish or install any required supply connections and piping for the purpose of implementing the availability of the water supply. It is the responsibility of Contractor to determine the extent to which existing Alachua County water supply source is adequate for the needs of the Agreement.

7.2.2. All taps, connections, and accessory equipment required in making the water supply source available will be accomplished by and at the expense of Contractor, and costs included in the Scope of Services. All work in connection therewith shall be coordinated, scheduled, and performed as directed and approved by the County. Said taps, connections, and accessory equipment shall be maintained by Contractor in a workmanlike manner in accordance with the rules and regulations of the local authority. Upon completion of this Agreement the removal of all taps, connections and accessories will be accomplished by and at the expense of Contractor, so as to leave the water supply source and facility in its original condition. Such removal shall also be subject to the approval of the County.

7.3. Electricity:

7.3.1. The County shall furnish to Contractor from existing County facilities and without cost to Contractor, electricity necessary for the performance of work under this Agreement. It is the responsibility of Contractor to determine the extent to which existing County electrical facilities are adequate for the needs of this Agreement.

7.3.2. All taps, connections, and necessary equipment required in making the electrical power available will be accomplished by and at the expense of Contractor, and costs included in the Bid or proposal. All Work in connection therewith shall be

coordinated, scheduled and performed as directed and approved by the County. Said taps, connections, and accessory equipment shall be maintained by Contractor in a workman like manner in accordance with the rules and regulations of the local authority. Upon completion of this Agreement the removal of all taps, connections and accessories will be accomplished by and at the expense of Contractor, and costs included in the Bid or proposal, so as to leave the electrical power source and facility in its original condition. Such removal shall also be subject to the approval of County.

8. DIRECT PURCHASE OF MATERIALS:

County may purchase materials directly and provide them to Contractor for use on the project. Within forty-five (45) days of the issuance of the NTP the Contractor will provide County with a list of bulk materials needed on the project, the cost for those materials including sales tax, and a schedule of values showing when those items are needed. If County elects to purchase certain items, Contractor will prepare a deductive change order to the Agreement. County shall issue a purchase order and Contractor has sole responsibility for establishing delivery and schedule. There will be no reimbursement to the Contractor if the materials are obtained by the County at less than the estimated cost.

9. PROCEDURES:

9.1. Pre-Construction Conference: After award of the Agreement and before the issuance of the initial NTP under this Agreement, the County will conduct a conference to acquaint the Contractor with County policies and procedures that are to be observed during the prosecution of the Work and to develop mutual understanding relative to the administration of the Agreement.

9.2. The Work of this Agreement shall be determined by the Scope of Services (Exhibit 2). The Contractor shall perform its construction work in accordance with this Agreement including provision of all pricing, management, shop drawings, documents, labor, materials, supplies, parts (to include system components), transportation, facilities, supervision, and equipment needed to complete the Work. The Contractor shall provide quality assurance as specified in strict accordance with the Agreement General Conditions.

The Contractor shall also be responsible for site safety as well as site preparation and cleanup.

9.3. The Contractor shall prepare and submit required reports, maintain current record drawings, and submit required information. The Contractor shall provide materials lists to include trade names, brand names, model number, and ratings (if appropriate) for all materials necessary for a complete job.

9.4. The Contractor representative shall be available for a site visit with the County representative as mutually agreed prior to the issuance of the NTP.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

EXHIBIT 2: SCOPE OF SERVICES/ TECHNICAL SPECIFICATIONS

Project Manual
for

Jonesville Tennis Improvements and Restoration For Alachua County Parks and Recreation

RSC #19-148
9/10/19
FOR BIDDING

14080 NW 32nd Ave.
Gainesville, Florida 32606

Causseaux, Hewett, & Walpole, Inc.
1180 Research Drive
Alachua, FL 32615
(352) 331-1976 Office
www.chw-inc.com

RSC
& Assoc. Inc.

A Professional Corporation
FL Corp # C001995

Roy S. Cribb, AIA
NCARB #67633
FL Reg #11311
MS Reg #4257
LA Reg #6726
NC Reg #8500
GA Reg. #13604
SC Reg. #9864
AL Reg. #8339
TN Reg #103642

ARCHITECTS, PLANNERS & INTERIOR DESIGNERS

5200 NW 43rd St.
Suite 102-376
Gainesville, FL
32606
phone (352) 376 - 4642
fax (352) 377 - 3482
E-mail
Roy@RSCAarchitecture.com

Please read this agreement before copying or installing this electronic transfer file contained on the enclosed electronic media. By using this electronic file(s) you agree to be bound by the terms of this agreement.

COPYRIGHT AND INSTRUMENT OF SERVICE

In accepting and utilizing any drawings or other data on any form of electronic media generated and provided by RSC & Assoc., Inc.(hereafter referred to as "RSC"), the "USER" agrees that all such drawings and data are instruments of service of "RSC", who shall be deemed the author of the drawings and data, and shall retain all common law, statutory law and other rights, including copyrights. The electronic files are submitted for an acceptance period of 5 days. The "USER" hereby agrees to waive all claims against "RSC" resulting in any way from any unauthorized changes or reuse of the drawings and data contained on the electronic transfer media. The electronic file(s) are protected by copyright laws and international treaty provisions and may only be used in accordance with this agreement. In addition, the "USER" agrees, to the fullest extent permitted by law, to indemnify and hold "RSC" harmless from any damage, liability or cost, including reasonable attorney's fees and cost of defense, arising from any changes made by anyone other than "RSC", or from any reuse of the drawings or data without prior written consent of "RSC". Under no circumstances shall transfer of drawings and other instruments of service on electronic media be deemed a sale by "RSC", and "RSC" makes no warranties, either express or implied, of the merchantability and fitness for any particular purpose. "RSC" shall not be liable for special, incidental, consequential or other damages, even if "RSC" is advised or aware of the possibility or such damages. This means that "RSC" shall not be responsible or liable for lost profits or revenues, or for damages or costs incurred as a result of the loss of time, data or use of the electronic file. Data contained herein may be subject to change without notice. Responsibility for the accuracy is solely that of the "USER". These "Conditions of Use" shall be supplied to all users of this data. The signed and sealed documents take precedence over magnetic or electronically stored medium.

SPECIFICATION INDEX

Jonesville Park Tennis Improvements and Restorations
Alachua County Parks and Recreation
3401 NW 143rd Street
Gainesville, Florida 32606

DIVISION 8 - DOORS AND WINDOWS
08710 Door Hardware

DIVISION 9 - FINISHES
09260 Gypsum Wallboard Assemblies
09650 Resilient Tile Flooring
09900 Painting

DIVISION 10 – SPECIALTIES
None

DIVISION 11 – EQUIPMENT
None

DIVISION 12 – FURNISHINGS
None

DIVISION 13 - SPECIALTY CONSTRUCTION
None

DIVISION 14 – CONVEYING SYSTEMS
None

DIVISION 15 - MECHANICAL
None

DIVISION 16 - ELECTRICAL WORK
16010 Special Provisions for Electrical Work
16110 Raceways
16111 Conduit and Fittings
16120 Wire and Cable – 600 Volts and Under
16131 Junction and Pull Boxes
16134 Outlet Boxes
16140 Wiring Devices
16190 Supporting Devices
16450 Grounding
16501 Lighting Fixtures

END OF SECTION

SECTION 00851 LIST OF CONTRACT DRAWINGS

	DRAWINGS	DESCRIPTION
01	T0.01	Cover

SITE / CIVIL DRAWINGS

02	C0.01	Master Drainage Plan
03	C0.02	Detailed Drainage Plan And Details

ARCHITECTURAL DRAWINGS

04	A0.01	Legends / Life Safety Plan / Applicable Codes (For Reference Only)
05	A0.02	Construction Notes For Bidding
06	A1.00	Site Improvement Plan
07	A1.01	Grading And Drainage Plan
08	A2.01	Enlarged Demo And Floor Plans
09	A2.91	Enlarged Roof And Roof Framing Plans
10	A3.01	Exterior Elevations
11	A4.01	Misc Site Details
12	A8.01	Enlarged Reflected Ceiling Plan

EQUIPMENT DRAWINGS

13	Eq2.01	Vendor Supplied Equipment. (For Reference Only)
14	Eq2.02	Vendor Supplied Equipment (For Reference Only)

ELECTRICAL DRAWINGS

15	E0.01	Electric Legend / Schedules / Load Calculations / Notes & Distribution One Line Diagram (For Reference Only)
16	E1.01	Electrical Power Site Plan (For Reference Only)
17	E1.21	Electrical Lighting Site Plan
18	E2.01	Enlarged Electrical Plans
19	E2.21	Enlarged Electrical Lighting Plans

END OF SECTION

SECTION 000937 – REQUEST FOR INTERPRETATION

1.01 PROVISIONS INCLUDED

A. The conditions of the Contract and Division 1, General Requirements, apply to the work under this Section.

1.02 DESCRIPTION OF WORK

A. During Bidding – It is the responsibility of the Contractor to provide questions during bidding directly to RSC & Associates, Inc. per bid documents issued by Owner. RFI's will be forwarded to Architect through Owner for clarifications prior to bids being received. Answers to RFI's will be issued in a form of an Addenda.

B. During Construction – RFI's after bid award are to be addressed to Architect on enclosed RFI form as instructed below.

C. The Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information on the following form electronically. The Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the work. These obligations are the purpose of facilitating coordination and construction of the project through the RFI process.

D. The primary objective of the RFI is to enhance quality and efficiency to the project. The relevancy of RFIs vs. number of RFIs is dependent upon:

(1) Contractor's experience
(2) Contractor's work plan and schedule
(3) Contractor's responsibility and determination of how work is divided among trades
(4) Thorough research of the plans
(5) Early project buyout of a project

The objective of the RFI is to clarify the intent of the construction documents or to point out perceived omissions or conflicts in the documents.

E. RFIs - Appropriateness of questions. The RFI should address information that does not already exist in a discernable form, or is not reasonably inferable from the documents. RFIs are not intended for the following:

(1) Questions that proprietary in nature that is typically determined by a product manufacturer.
(2) Questions about means and methods of construction, unless delineated in Construction Documents

(3) Alternate product model or manufacturer instead of the prescribed product.
(4) Repeated RFIs indicating the previous questions were not adequately answered.

F. It is the responsibility of the Contractor to plan for time of response accordingly for RFIs dependent upon construction schedule, means and methods of construction, and impact to schedule.

G. Since the contractor should be the expert on means and methods of construction, it follows that the contractor is also likely best suited to determine an appropriate solution to a troublesome condition. The following RFI provides for a "proposed solution" to be included by the sender. This will give the architect a viable option to immediately consider and determine whether it is the best solution for the situation as it arises.

H. The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing with reasonable promptness, usually the next day, however may average 5 days due to the scope of RFI requested. It is acknowledged and understood that some RFIs will take longer to answer than others.

I. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. RFIs are not considered a portion of the construction documents. RFIs cannot change contract cost or time unless incorporated into a contract modification through a change order approved by Architect and Owner.

END OF SECTION

RSC & Associates, Inc.
5200 NW 43rd St., Suite 102-376
Gainesville, FL 32606

DOCUMENT 00937
REQUEST FOR INTERPRETATION

Project: _____ RFI #: _____

_____ From: _____

To: RSC & Associates, Inc. _____

9200 NW 39th Avenue #130-405 Date: _____

Gainesville, FL 32606 RSC Project #: _____

Re: _____ Contract For: _____

Spec Sec. Ref.: _____ Para: _____ Drawing Ref: _____ Detail: _____

Proposed Solution by Sender:

Signed: _____

Response:

☐ Attachments

Response By: _____ To: _____ Date Transmitted _____ Date Rec'd _____

Signed: _____

Copies: ☐Owner ☐Consultants ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐File

00937-3

END OF SECTION

SECTION 01010 SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

A. Location of project:

Jonesville Park Tennis Improvements and Restorations
Alachua County Parks and Recreation
3401 NW 143rd Street
Gainesville, Florida 32606

B. **Contract Documents:** Requirements of the work are contained in the contract documents, and include cross-reference herein to published information, which is not necessarily bound therewith.

C. **Verbal Summary:** Without force and effect on requirements of contract documents, the (incomplete) description of the work of the contract can be summarized as follows:

BRIEF DESCRIPTION OF WORK: INTERIOR AND EXTERIOR MAINTENANCE CONSISTING OF WORK ON SITEWORK, EXTERIOR & INTERIOR FINISHES, DOORS, HARDWARE, FINISHES, HVAC, PLUMBING AND ELECTRICAL. VALUE OF MAINTENANCE IS LESS THAN 10% OF VALUE OF EXISTING STRUCTURES.

D. **Breakdown of Bid Documents:** Without force and effect on requirements of contract documents, the (incomplete) description of the scope of work is as follows:

TENNIS COURTS IMPROVEMENTS

1. 8.1.1.1 RESURFACE / LASER SCREED / ROLL ALL COURTS WITH 20 TONS OF HAR-TRU COARSE BLEND AND/OR HYDROBLEND SURFACE MATERIALS FOR EACH COURT TO MAINTAIN AN AVERAGE SURFACE THICKNESS OF 1" THROUGHOUT. RESURFACE / LASER SCREED IN BANKS OF MAX 5 COURTS EACH

2. 8.1.1.2 REMOVE ALL FOREIGN DEBRIS INCLUDING ALL "DEAD MATERIAL" FROM THE SURFACE (TYPICAL ALL COURTS)

3. 8.1.1.3 REMOVE AND REINSTALL NEW COURTLINE TAPES FOR ALL COURTS ONCE RESURFACING / LASER SCREED PROCESS HAS BEEN INSTALLED. DEMO, ROLL AND SAVE LINE TAPES FOR FUTURE NEEDS OF FACILITY

4. 8.1.1.4 REMOVE AND REINSTALL NEW NETS FOR ALL COURTS ONCE RESURFACING / LASER SCREED PROCESS HAS BEEN INSTALLED INCLUDING NEW CENTER ANCHORS. DEMO, ROLL AND SAVE NETS FOR FUTURE NEEDS OF FACILITY

5. 8.1.1.5 ADJACENT TO COURT 2, REMOVE PALM TREE AND STABILIZE SOIL AT COURT

6. 8.1.1.6 VERIFY/ADJUST/REPLACE ON COURT WATER VALVES AS REQUIRED AT ALL COURTS

7. 8.1.1.7 VERIFY ONCE COMPLETE ALL CHEMICAL LEVELS FOR SURFACE AND SUBSURFACE ARE PER HAR-TRU STANDARDS FOR ALL COURTS

8. 8.1.1.8 REPLACE FILTER BALL VALVES, CLEAN ALL EXPOSED PIPING, PROVIDE/INSTALL NEW FILTER, PAINT ALL PIPING AND VALVES FLAT BLACK, INCLUDING CLEAR FILTER HOUSING.

9. 8.1.1.9 PROVIDE AND INSTALL NEW MATCHING 1000W/277V METAL HALIDE LIGHT BULBS IN ALL TENNIS COURT FIXTURES AND 175W/120V METAL HALIDE SITE FIXTURES. SAVE WORKING OLD BULBS AND HAND OVER TO OWNER IN BOXES FROM NEW INSTALL. DISPOSE OF NON-WORKING BULBS PER EPA GUIDELINES.

10. 8.1.2.1 FENCING CHAIN LINK FABRIC TO BE EVENLY STRETCHED AND SECURED TO UPRIGHT / HORIZONTAL POSTS AND FENCE BOTTOM TO BE TIED TO BOTTOM TENSION WIRE WITH HOG RINGS SPACED EVERY 24" O.C. (INTERIOR FENCING). PRIOR TO STRETCHING, CHAIN LINK FABRIC, REMOVE EXISTING WIND SCREENS AND RE-INSTALL AFTER STRETCHING OF CHAIN LINK FABRIC.

11. 8.1.2.2 FENCING CHAIN LINK FABRIC TO BE EVENLY STRETCHED AND SECURED TO UPRIGHT / HORIZONTAL POSTS AND FENCE BOTTOM TO BE TIED TO BOTTOM TENSION WIRE WITH HOG RINGS SPACED EVERY 24" O.C. (PERIMETER FENCING)PRIOR TO STRETCHING,CHAIN LINK FABRIC, REMOVE EXISTING WIND SCREENS AND RE-INSTALL AFTER STRETCHING OF CHAIN LINK FABRIC.

12. 8.1.2.3 GATE FRAME TENSION BARS, POST HINGES AND LATCHING DEVICES ARE TO BE SECURED. REPLACE ALL FENCE CATCHES

DRAINAGE IMPROVEMENTS

13. 8.1.2.4 ADD NEW MATCHING 5FT FENCE GATE WITH HASP AND LOCK

14. 8.2.1.1 ADD (2) NEW TYPE A 12" X 12" YARD DRAINS(MATCH EXISTING) ABOVE EXISTING 12" PVC SEWER LATERAL AT COURTS 5,6,7,8,9 LOW SIDES

15. 8.2.1.2 FLUSH / DESILT EXISTING DRAIN LINES FROM CLEANOUTS AND END RUN GRATING SYSTEMS AT ALL DRAINAGE LINES ASSOCIATED WITH THE TENNIS COURTS AFTER CONSTRUCTION IS COMPLETE

16. 8.2.1.3 CLEAR ALL BUILDUP OF SOD / SOILS FROM 2" DISCHARGE PIPING FROM COURTS TYPICAL COURTS 10-14 AND PROVIDE SPLASH PAD. EXTEND PIPE TO SPLASH PAD AS REQUIRED. DISCONNECT MANIFOLD ON COURTS 2-4 (TYPICAL SEE DETAIL 5/A4.01)

17. 8.2.1.4 ADD NEW TYPE A 12" X 12" AREA DRAIN (MATCH EXISTING) BETWEEN 2 EXISTING YARD DRAINS BEHIND COURTS 1

18. 8.2.1.5 ADD CONCRETE SWALE IN SEGMENTS AROUND DRAINS ON SIDE OF COURT SYSTEM ONLY (TYPICAL SEE DETAIL 1/A4.01)

19. 8.2.2.1 CLEAN OUT CLAY FROM 3' DRAINAGE / LANDSCAPE AREA TYP AROUND ALL COURTS

20. 8.2.2.2 REMOVE LANDSCAPING ADD CONCRETE SWALE IN ON LOW SIDE OF COURTS AROUND DRAINS (TYPICAL SEE DETAIL 2/A4.01)

21. 8.2.2.3 REMOVE DEBRIS AROUND TREE AND LOWER GRADE TO ALLOW FOR 3" OF PEA GRAVEL AROUND BASE OF TREE TO SIDEWALK. PROVIDE 12" AREA DRAIN AND TIE INTO 6" LATERAL TO EXISTING 12" PVC DRAINAGE LATERAL

22. 8.2.2.4.1 REMOVE DEBRIS AROUND TREE AND LOWER GRADE TO ADD 3" OF LARGE PEA GRAVEL AROUND

24. 8.2.2.5 RESTORE ORIGINAL SWALE ELEVATIONS NORTH OF COURT 14: REMOVE EXISTING OVERGROWN VEGETATION, REGRADE SWALE, SEED OR SOD AS NEEDED; FINAL ELEVATION IN SWALE NORTH OF COURT 14 SHALL BE APPROXIMATELY 84.30' (6" BELOW BOTTOM OF COURT AND WALL ELEVATION)

25. 8.2.2.6 RESTORE ORIGINAL SWALE ELEVATIONS SOUTH OF COURTS 2-4: REMOVE EXISTING OVERGROWN VEGETATION. FINAL ELEVATION IN SWALE SOUTH OF COURTS 2-4 SHALL BE APPROXIMATELY 6" BELOW BOTTOM OF COURT ELEVATION)

26. 8.2.3.1 ADD CONCRETE SIDEWALK AND PLACE 3 ROW SEAT BLEACHERS (BOTH SIDES) SIM TO PARK WAREHOUSE SKU: 129-1214-2 9' LENGTH. SLOPE TO DRAINS. SIDES TO BE FLUSH WITH EXISTING CONCRETE.SUBMITTAL OF BLEACHERS TO BE APPROVED BY COUNTY RECREATION DEPARTMENT.

27. 8.2.3.2 ADD CONCRETE SWALE IN SEGMENTS AROUND DRAINS ON HIGH SIDE OF COURT SYSTEM ONLY (TYPICAL SEE DETAIL 1/A4.01)

28. 8.2.3.3 ADD 2FT WIDE CONCRETE STRIP FOR CLAY DISCHARGE ON LOW SIDE OF COURTS 2-4 AND 10-14 (TYPICAL SEE DETAIL 3,5/A4.01)

29. 8.2.3.4 CONTINUE CONCRETE SIDEWALK (SEE DETAIL 4/A4.01)

30. 8.2.3.5 REMOVE DEBRIS ADD CONCRETE SWALE IN ON LOW SIDE OF COURTS AROUND DRAINS (WITH CURB AT COURTS 1 AND EDGE OF COURT 9 ONLY) (TYPICAL SEE DETAIL 6/A4.01)

31. 8.2.3.5.1 DISCHARGE PIPE OF WELL SAND SEPERATOR IS CLOGGED. CLEAR AND EXPOSE DISCHARGE PIPE ONTO SMALL 12" X 12" SPLASH PAD.

32. 8.2.3.5.2 PROVIDE NEW IRRIGATION CONTROL PANEL WITH MINIMUM OF (4) ZONES AND PROVIDE (2) NEW VALVES (REPLACE EXISTING VALVES TO IRRIGATION AND DISCHARGE SIDE OF LAKOS SAND FILTER). ZONE 1 - LAKOS SAND FILTER DISCHARGE OPEN FROM 5AM TO 7AM 7 DAYS A WEEK 365, ZONE 2 - IRRIGATION - RUN TO JTC DRIP LINE REQUIREMENTS

33. 8.2.3.5.3 REPLACE CHLORINATOR PUMP AND PROVIDE PRESSURE SWITCH FOR PUMP TO OPERATE TO MIXING TANK WHEN COURT IRRIGATION IS RUNNING. PROVIDE NEW FEED LINE TO MIXING TANK.

34. 8.2.3.5.4. PROVIDE IN SERVICE AND SEQUENCE OF OPERATION OF WELL TO JTC AND ALACHUA COUNTY STAFF

35. 8.2.3.5.5 REPAIR / REROUTE IRRIGATION DRIP LINE SYSTEM FROM BEDS TO WELL.

36. 8.2.3.6.1 AT ELECTRICAL SERVICE, LEVEL TRANSFORMERS

37. 8.2.3.6.2 AT EXPOSED MASONRY WALLS (RETAINING WALLS AND HITTING WALL) PRESSURE WASH AND PAINT WALL WITH ELASTOMERIC PAINT (HUNTER GREEN)

38. 8.2.3.8 ADD 3 ROW SEAT BLEACHERS SIM TO PARK WAREHOUSE SKU: 129-1214-2 9' LENGTH. SUBMITTAL TO BE APPROVED BY COUNTY RECREATION DEPARTMENT.

SHADE STRUCTURE IMPROVEMENTS

39. 8.2.3.9 DEMO EXISTING CONCRETE SLAB WHERE NEW WOOD DECK AND PERIMETER "RIM" FOOTING IS INSTALLED.

40. 8.2.3.10 PROVIDE NEW 6' X 10' WIDE PEDIGRID WITH RECESSED DEEP PIT / WITH DRAIN OPTION. MODEL SIM TO G1 PEDIGRID WITH RAIL STANDARD FINISH, RECYCLED RUBBER INSERT, NP - DEEP PIT PAN, ROLLING LOADS UP TO 500LBS / WHEEL, WITH APPROPRIATE SUPPORTS FOR 4" DEEP PIT WITH TRENCH DRAIN. FRAME TO BE POURED INTEGRAL WITH SLAB.

41. 8.2.3.11 REINFORCE ADJACENT UNDER EXISTING PERGOLA COLUMNS WITH NEW 2 X 2 FTG W/ (2) #5 REBAR E.W. PROVIDE 18" X 5/8" DOWELS @12" O.C. EPOXY INTO EXISTING

42. 8.2.3.12 AT PERGOLA CONCRETE SLAB CRACKED AREAS, ROUT OUT CRACKS, INJECT EPOXY. LEVEL AND FEATHER OUT FOR SMOOTH FINISH

43. 8.3.15.1 VERIFY ALL OUTLETS ARE OPERATIONAL AT ALL COURTSIDE SHADE STRUCTURES , PAVILIONS , AND PERGOLA. REPLACE IF NOT OPERATIONAL (ALLOWANCE #1 FOR REPLACEMENT COST, NOT INVESTIGATIVE SCOPE OF WORK)

44. 8.3.16.1 PRESSURE WASH ALL COURTSIDE SHADE STRUCTURES , PAVILIONS AND PERGOLA PRESSURE TREATED WOOD, WOOD SEATING AND PAINT WITH STAIN / SEALER

45. 8.3.7.1 AT COURTSIDE SHADE SHELTERS PROVIDE AND

47. 8.3.7.3 AT PAVILIONS PROVIDE AND INSTALL NEW TRIM BELOW BEAM WHERE BROKEN / MISSING(1 X 8)

48. 8.3.7.4 AT PAVILIONS PROVIDE AND INSTALL NEW 1 X 8 TRIM BELOW STUCCO AT GABLE ENDS.

49. 8.3.7.5 AT PAVILIONS REMOVE AND REPLACE TRIANGULAR PIECES OF WOOD AT GABLE ENDS WITH PT 1 X

50. 8.3.7.6 AT PERGOLA REPLACE TOP RAIL WITH 1 X MATERIAL SIMILAR TO TREX

51. 8.3.7.7 AT PERGOLA PROVIDE NEW RAIL SYSTEM MATCHING EXISTING BETWEEN POSTS. PROVIDE 1 X TREX SILL.

52. 8.3.7.8 AT WEST PERGOLA, REPLACE ENTIRE WEST BEAM (MATCH EXISTING MATERIAL, SIZE , ATTACHMENTS AND CONNECTORS)

53. 8.3.7.9 AT EAST PERGOLA, REPLACE ON BEAM ON NORTH SIDE (WEST END) WHICH IS DETERIORATING. (MATCH EXISTING MATERIAL, SIZE ATTACHMENTS, CONNECTORS, ETC...)

54. 8.3.7.10 AT PAVILIONS ,REPAIR ALUMINUM SOFFIT AND INSTALL MISSING SOFFIT

55. 8.3.8.1 AT PAVILIONS PAINT STUCCO AREAS WITH MATCHING PAINT EACH END OF PAVILION WITH ELASTOMERIC PAINT.

56. 8.3.9.1 AT COURTSIDE SHADE SHELTERS PROVIDE AND INSTALL NEW SUBFACIA METAL MISSING UNDER EAVE DRIP

57. 8.3.11.1 AT SHADE SHELTERS PROVIDE AND INSTALL NEW BAG HOOKS AFTER POWERWASH/STAIN/SEAL

58. 8.3.11.2 AT PAVILIONS PROVIDE AND INSTALL NEW BAG HOOKS AFTER POWERWASH/STAIN/SEAL

59. 8.3.14.1 AT EACH PAVILION REPLACE PHOTOCELL FOR LIGHT FIXTURES

60. 8.3.14.2 AT EACH PAVILION AT EXISTING JUNCTION BOX, PROVIDE WP 2 HOUR TIMER SWITCH FOR FANS

61. 8.3.14.3 AT EACH PAVILION PROVIDE AND INSTALL (2) WALL MOUNT OUTDOOR WATERPROOF FANS 18" (SIM TO ILIVING ILG18-15 BLACK)

62. 8.3.14.4 AT PAVILIONS REMOVE/PROVIDE/REPLACE ALL LIGHT FIXTURES PER SCHEDULE SHEET E2.21

LIGHTING IMPROVEMENTS

63. ALT#1 8.1.1.9 PROVIDE AND INSTALL NEW LED LIGHT FIXTURES IN ALL COURT AND SITE FIXTURES (SEE LIGHT FIXTURE SCHEDULE SHEET E2.21).

CLAY BARN AND PROSHOP RESTORATIONS

64. ALT #2 8.4.10.1 REMOVE/PROVIDE/INSTALL ALL LIGHT FIXTURES PER SCHEDULE SHEET E.2.21

65. ALT #2 8.4.10.4.1 PROVIDE AND INSTALL MATCHING NEW HARDWARE AND ADJUST EXISTING 3'-0" DOOR

66. ALT #2 8.4.2.1 REMOVE ALL STUCCO WHERE CRACKS ARE OCCURRING (BELOW 8FT OF CART BARN AND PRO SHOP). CONVENTIONAL STUCCO OVER MASONRY SURFACES MAY BE APPLIED WITH TWO OR THREE COATS. TWO-COAT SYSTEMS OVER MASONRY CONSIST OF: FIRST COAT = 3/8 INCH THICK AND FINISH COAT = 1/8 INCH THICK; OR OVER CAST CONCRETE CONSIST OF: FIRST COAT = 1/4 INCH THICK AND FINISH COAT = 1/8 INCH THICK. THREE-COAT SYSTEMS CONSIST OF: FIRST COAT = 1/4 INCH THICK, SECOND COAT = 1/4 INCH THICK, AND FINISH COAT = 1/8 INCH THICK OVER BOTH MASONRY AND CAST CONCRETE. PROVIDE ASREQUIRED BY ASTM C 926, SECTION 5.2.2; AN EXTERIOR BONDING AGENT, CONFORMING TO ASTM C 932, SHALL BE USED ON ALL MASONRY SURFACES. IN LIEU OF A BONDING AGENT, A DASH COAT, ROUGHING THE SURFACE, OR METAL LATH ARE ALSO ACCEPTABLE METHODS FOR BONDING. FBC 2510.3 INSTALLATION, REFERENCES ASTM C 926 REQUIRES FORM TIES OR OTHER OBSTRUCTIONS (INCLUDING MASONRY CUT NAILS FOR CLEAN OUT OPENING FORMS) TO BE REMOVED OR TRIMMED BACK EVEN WITH THE SURFACE OF THE SOLID BASE. IN ADDITION, IF THE NAILS ARE TO BE TRIMMED FLUSH AND LEFT IN PLACE, THEY NEED TO BE CORROSION RESISTANT AS WOULD BE REQUIRED FOR LATH OR OTHER METAL ACCESSORIES, ASTM C 926 SECTION 5.2 AND C 1063 SECTION 6. AT STUCCO AREAS ABOVE BAND LINES, PAINT WITH ELASTOMERIC PAINT (COLOR SCHEME TO REMAIN THE SAME)

67. ALT #2 8.4.3.4.1 STRIP AND REPAINT ALL DOORS

68. ALT#2 8.4.3.4.2 REPLACE ALL THRESHOLDS AT DOORS WITH NEW MATCHING THRESHOLD

69. ALT#2 8.4.9.1 REPLACE ELECTRICAL OUTLET WITH NEW GFI

70. ALT #2 8.4.9.2 REMOVE/PROVIDE/INSTALL WHERE EXISTING DUCTWORK AND FAN (2) 300CFM / 120V EXHAUST FAN WITH LINE VOLTAGE T-STAT AND LAND IN ELECTRICAL PANEL WITH NEW CIRCUIT

71. ALT#2 8.4.13.1 REPAIR / REPAINT ALL INTERIOR WALL SURFACES

72. ALT #2 9.10.4.1 PROVIDE AND INSTALL NEW 2 PAIR OF HD HINGES EACH DOOR LARGER THAN 3'-0" AND ADJUST DOOR.

73. ALT #2 9.12.1 RECAULK ALL WINDOWS AND DOORS

74. ALT #2 9.13.1 REPAIR / REPAINT ALL INTERIOR WALL SURFACES

75. ALT #2 9.13.2 REPAIR ALL CEILING DAMAGE DUE TO LEAKS OR LIGHT FIXTURE REPLACEMENT AND REPAINT

76. ALT #2 9.14 PROVIDE AND INSTALL LVT (ARMSTRONG - NATURAL CREATIONS, EARTH CUTS, TP710 "MYSTIX"). VERIFY WITH JTC STAFF PRIOR TO ORDERING

77. ALT #2 9.17.1 REPLACE /INSTALL / ADJUST ALL FLOOR, WALL AND CEILING ATTACHMENT HARDWARE FOR TOILET PARTITIONS (INCLUDING NEW DOOR HARDWARE)

78. ALT #2 9.2.1 REMOVE ALL STUCCO WHERE CRACKS ARE OCCURRING (BELOW 8FT OF CART BARN AND PRO SHOP). CONVENTIONAL OR SYNTHETIC STUCCO OVER MASONRY SURFACES MAY BE APPLIED WITH TWO OR THREE COATS. TWO-COAT SYSTEMS OVER MASONRY CONSIST OF: FIRST COAT = 3/8 INCH THICK AND FINISH COAT = 1/8 INCH THICK; OR OVER CAST CONCRETE CONSIST OF: FIRST COAT = 1/4 INCH THICK AND FINISH COAT = 1/8 INCH THICK. THREE-COAT SYSTEMS CONSIST OF: FIRST COAT = 1/4 INCH THICK, SECOND COAT = 1/4 INCH THICK, AND FINISH COAT = 1/8 INCH THICK OVER BOTH MASONRY AND CAST CONCRETE. PROVIDE ASREQUIRED BY ASTM C 926, SECTION 5.2.2; AN EXTERIOR BONDING AGENT, CONFORMING TO ASTM C 932, SHALL BE USED ON ALL MASONRY SURFACES. IN LIEU OF A BONDING AGENT, A DASH COAT, ROUGHING THE SURFACE, OR METAL LATH ARE ALSO ACCEPTABLE METHODS FOR BONDING. FBC 2510.3 INSTALLATION, REFERENCES ASTM C 926 REQUIRES FORM TIES OR OTHER OBSTRUCTIONS (INCLUDING MASONRY CUT NAILS FOR CLEAN OUT OPENING FORMS) TO BE REMOVED OR TRIMMED BACK EVEN WITH THE SURFACE OF THE SOLID BASE. IN ADDITION, IF THE NAILS ARE TO BE TRIMMED FLUSH AND LEFT IN PLACE, THEY NEED TO BE CORROSION RESISTANT AS WOULD BE REQUIRED FOR LATH OR OTHER METAL ACCESSORIES , ASTM C 926 SECTION 5.2 AND C 1063 SECTION 6. AT STUCCO AREAS ABOVE BAND LINES, PAINT WITH ELASTOMERIC PAINT (COLOR SCHEME TO REMAIN THE SAME)

79. ALT #2 9.2.2 IF USING CONVENTIONAL STUCCO, PROVIDE AND PAINT WITH ELASTOMERIC PAINT. IF USING SYNTHETIC STUCCO, PROVIDE COLOR MATCHING EXISTING SURFACES.

80. ALT #2 9.3.4.2 STRIP AND REPAINT ALL DOORS

81. ALT #2 9.3.4.3 REPLACE ALL THRESHOLDS AT DOORS WITH NEW.

82. ALT #2 9.30.1 REPLACE OUTLETS WITH NEW GFI AND SS COVERS AT EXTERIOR

83. ALT #2 9.31.1 REPLACE ALL LIGHT FIXTURES WITH NEW

84. ALT #2 9.31.2 REPLACE DUAL SWITCHING OCCUPANCY SENSORS COMPATIBLE WITH LED FIXTURES

85. ALT #2 9.7.1 REPAIR LEAK IN ROOF AT RIDGE AND VENT. PROVIDE NEW RIDGE ROOF CAP(MATCH COLOR)

86. ALT #2 9.7.2 RETIGHTEN ALL SCREWS ON ROOF AND PROVIDE MISSING (MATCH COLOR)

87. ALT #2 9.7.3 RECAULK / PAINT CUPOLA

88. ALT #2 9.7.4 REPAIR ALL FACIA AND SUBFACIA WHERE MISSING

89. ALT #2 9.7.5 PROVIDE AND INSTALL 4" GUTTER AND DOWNSPOUT. TIE INTO DRAINAGE SYSTEM FROM TREE AREA DRAIN AND PEDIMAT DRAIN. (SEE A2.91 AND A3.01)

90. ALLOWANCE #1 - $2000 FOR OUTLET REPLACEMENT COSTS

1.02 ALTERNATIVES:

As per Section 01100 of specifications for brief description.

1.03 CHANGE ORDERS: After and prior to complete date of construction documents (Construction Bulletins), change orders are to be placed in writing and approved by Architect and tenant before construction so as owner understands incurred cost. All change orders shall list specific material and labor breakdown of individual items in letter form. All items are to be added together to get total cost of change order per tenant. A decision will be made regarding the letter submitted. AIA Change Order Request forms will be filled out only when a decision has been made regarding the letter submitted.

1.04 PERMITS, FEES, INSPECTIONS AND CERTIFICATES: Permits, fees, inspections and certificates required by all applicable regulatory agencies will be secured and paid for by the Contractor. The cost of the building permit shall be included in contractor's bid proposal.

1.05 **SURVEYS AND LAYOUT WORK:** The Contractor shall verify all grades, lines, levels and dimensions as shown on the drawings, and he shall report any errors of inconsistencies in the above to the Architect before commencing work.

1.06 **UTILITY LINES:** The Contractor shall carefully examine the premises for any visible utility lines or equipment, including appurtenances on same, which are not indicated on the drawings, but which, in their present locations and position, will interfere in any way with any of the work called for on the drawings and/or specifications. The Contractor shall arrange and pay for, without added cost to the Owner, the removal and/or rerouting of such lines. Rerouting of lines shall be done so as not to interfere with the work and shall be subject to the Architect's approval.

1.07 **CODES:** (All codes and standards to include latest revisions).
Comply to following Codes and Standards:
International or Florida Building Code, including local modifications (Per location of Facility).
NFPA for Exits, Fire Protection and Warning System (Bulletin 101),
OSHA
Local Environmental Regulations
Physically Handicapped State Requirements
Florida State Department of Commerce Safety Rules During Construction
ACI 318-71, "Building Code Requirements for Reinforced Concrete" and ACI 301
AISC Code of Standard Practice, Manual of Steel Construction, 7th edition, S310 "Specifications for the Design Fabrication and Erection of Steel for Buildings", including supplements
Steel Deck Institute Design Manual
"Standard Specifications for Open Web Steel Joists", adopted by the Steel Joist Institute and the AISC
Specifications for Structural Joints Using ASTM A325 Bolts
Structural Welding Code, AWS D1.1
AISI "Specifications for the Design of Light Gage Cold-Formed Structural Steel Members" for metal decks
Metal Building Manufacturer's Association's "Recommended Design Practices Manual"
ASHRAE for mechanical work
ASME Boiler Code
FSBH Sanitary Code
NEC for electrical work
Codes required by Appendix B of Life Safety Code
Other standards listed in their respective sections.

1.08 **THRESHOLD LAW:** The Contractor shall be responsible for providing under the contract all inspections and certificates to comply with all requirements of the threshold law of the State of Florida.

1.09 **PROTECTION:** The greatest care shall be exercised by the Contractor in every way as required to safely protect the public, existing buildings, occupants, grounds and all equipment and permanent features. OSHA rules and regulations shall be observed.

A. **Lights and Barricades:**

1. **The Contractor** shall provide barricades, with lights at night, for protection of the public at all excavations, mounds of earth and other obstructions and shall be held liable for any injury to the public by lack of or inadequate protection. He shall provide temporary walls, canopies or walkways as required to protect the public and building personnel, at all times.

2. **The Contractor** shall construct and maintain substantial barricades for the protection of all persons around the building site, as required by the City, County, State and other pertinent authorities.

1.10 **SECURITY PROTECTION:** The building shall be completely locked and secure during nonworking hours when work has progressed to the point where materials and/or equipment may be subject to damage or theft.

1.11 **ENVIRONMENTAL PROTECTION:**

A. **The Contractor** shall provide environmental protection during the entire construction period to correct conditions developing during this time. He shall control pollution, sediment, debris, chemicals, sanitary wastes, erosion, dust and noise.

B. **Comply with all state,** county and other applicable regulations pertaining to water, air, solid waste and noise.

1.12 **RELEASE OF LIEN**

A notarized Conditional Release of Lien by the Contractor shall be delivered each monthly pay application. Final release of lien is required upon completion of project.

1.13 **DISRUPTION OF EXISTING SERVICE & DIALYSIS FACILITY**

Contractor is to coordinate with Tenants, Landlords and/or surrounding tenants when performing any work. There shall not be any disruption of services for the surrounding tenants during the expansion and/or renovation of the Facility.

1.14 **Expansion / Renovation of Operating Facilities (When Applicable)**

A. **The site superintendent** is to work with FMC staff to develop weekly schedules to assure quiet and odorless working environment for staff and patients.

1.15 **The site superintendent** is to complete the Hazard Communications Inservice with the facility Chief Technician prior to the commencement of any work. The completed form is to be sent to the Project Manager and a copy filed on site with the Chief Technician.

1.16 **Where Existing Roof** is bonded, General Contractors is to verify with existing Landlords Roofing subcontractor and coordinate bid/work with Roofing Company any penetrations to not void any warrantees.

END OF SECTION

SECTION 01015 CONTRACTOR'S USE OF THE PREMISES

PART 1 - GENERAL

1.01 DESCRIPTION

A. **Work included**: This section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property.

B. **Related Work**:
   1. **Documents affecting** work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 QUALITY ASSURANCE

A. **Promptly upon award of the Contract**, notify all pertinent personnel regarding requirements of this Section.

B. **Require that all personnel** who will enter upon the Owner's property certify their awareness of familiarity with the requirements of this Section.

1.03 USE OF PREMISES

A. **The Contractor** shall confine his apparatus, storage of materials and operations of his workmen to limits as required by the Owner, and shall not unreasonably encumber the premises with his materials.

B. **The Contractor** shall maintain access to and egress from the building in a safe manner, well marked and in locations as required by the local authorities having jurisdiction over this work. They shall be responsible for furnishing and maintaining in a safe condition all barricades, temporary enclosures, railings, lights, etc. and removing same at completion of job.

C. **At no time shall the structure** be loaded beyond safe limits, and in no case shall any loads exceed the design limits.

D. **All work shall be done during the regular work** hours of the day. All work carried on outside of regular working hours shall be done at the Contractor's expense, and no extras will be allowed. The use of "Overtime" shall be at the Contractor's option.

1.04 SECURITY

A. **Restrict the access of all persons entering** upon the Owner's property in connection with the Work to the Access Route and to the actual site of the work.

1.05 COORDINATION OF WORK

A. **The Contractor** shall limit the storage of materials and equipment to the areas indicated or required by the Owner.

B. **At no time during the work under the Contract** shall the Contractor place, or cause to be placed, any material or equipment, etc., at any location that would impede or impair access to or from the present facilities for other tenants, employees, or delivery facilities.

C. **The Contractor** shall cooperate with the Owner to the fullest extent in providing traffic control during the course of construction so as to provide a minimum of inconvenience to existing tenants.

D. **The Contractor** shall send proper notices, make all necessary arrangements, and perform all services required in the care and maintenance of all public utilities. The Contractor shall, during the construction period and until final acceptance of the work as a whole by the Owner, assume all responsibility concerning the same for which the Owner my be liable.

E. **It is of paramount importance** that the work of this Contract does not interfere in any way with the normal operation of the existing utility services and no interruption of the utility services in the existing building can be allowed. Coordinate all work affecting service in the existing building with the Architect and the Owner.

1.06 NOISE AND DUST CONTROL

A. **Exercise all possible** care to control excessive noise and dust during the construction to keep these problems to a minimum. Traffic or construction areas shall be kept clean as required by the Owner and n accordance with applicable local requirements.

B. **Notify the Owner** prior to using air compressor, jack-hammers, etc., in sufficient time to permit removal of any occupants close enough to be affected by such disturbances. Screen all noisy equipment with temporary enclosures to shield adjacent areas as much as possible.

1.07 ADJACENT WORK

A. **In preparing the proposal**, the Contractor and Subcontractors shall be aware that adjacent work may be required due to the scope of the work indicated by the Documents. These areas include, but are not limited to:

1. **Adjacent space to remain**
2. **Remote mechanical or electrical locations**
3. **Roof areas above or adjacent to the space**

END OF SECTION

SECTION 01070 ABBREVIATIONS & DEFINITIONS

PART 1-GENERAL

1.01 INTERPRETATIONS

A. **This section is not intended to cover all definitions** which may be required, nor all the abbreviations which may be used on the Contract Documents.

B. **Questions regarding definition** of terms, or meaning of abbreviations should be directed to the Architect.

1.02 DEFINITIONS

C. **The following definitions** shall apply to the Specifications:

1. The words "Furnish" or "Supply" means purchase and delivery of items or materials to the project site, including proper storage without installation.

2. **The word "Install"** means applications, connection or erection of items or materials that have been furnished.

3. **The word "Provide"** means both furnishing and supplying and installing of items or materials.

4. **The term "Work"** as used herein refers to work at site of project and includes all labor and materials to be incorporated in the construction.

5. **The word "Concealed"** means work within or behind various construction elements, or in crawl spaces or trenches, which is not exposed to view when the project is complete.

6. **The word "Exposed"** means anything exposed to view when the project is complete, as opposed to being "concealed."

1.03 ABBREVIATIONS

The following list of abbreviations shall apply to the Drawings and Specifications. This list is not an inclusive. Other abbreviations may exist on the drawings. If any questions arise regarding abbreviations, contact the Architect for interpretation.

A/B	Acid, Bicarb Tubing
ABV	Above
AC	Air Conditioning
ACT	Acoustical Tile
ADD	Addendum
ADJ	Adjacent
ADJT	Adjustable
AFC	Above Finished Ceiling
AFF	Above Finished Floor
ALT	Alternate
ALUM	Aluminum
APPROX	Approximate
APX	Approximate
ARCH	Architect(ural)
AUTO	Automatic

BD	Board
BEL	Below
BET	Between
BIT	Bituminous
BK	Brick
BLK	Block
BLKG	Blocking
BOT	Bottom
BRG	Bearing
BRK	Brick
BSMT	Basement
BPW	Bed Pan Washer
CAB	Cabinet
CG	Corner Guard
CIPC	Cast-in-Place Concrete
CJ	Control Joint
CJT	Control Joint
CL	Clear
CLG	Ceiling
CMU	Concrete Masonry Unit
CO	Cased Opening
COL	Column
CONC	Concrete
CPT	Carpet
CRS	Course
CSC	Concealed Spline Ceiling
CT	Ceramic Tile
CTSK	Countersunk Screw
CW	City Water
CEN	Centrifuge
CH	Coat Hook
DET	Detail
DI	DeIonized Water
DIM	Dimension
DISP	Disposal
DISPEN	Dispenser
DO	Door Opening
DPL	Disposal
DPR	Dispenser
DR	Door
DW	Drywall
DWG	Drawing
DWR	Drawer
DAPFW	Dens Armor Plus Fireguard Wallboard
DFP	Dry Fog Paint
ELEC	Electrical
EMER	Emergency
EMR	Existing Material to Remove
EQ	Equal
EQUIP	Equipment

EXG	Existing
EXIST	Existing
EXT	Exterior
EP	Epoxy Paint
EGG	Eggshell
FCO	Floor Clean Out
FD	Floor Drain
FE	Fire Extinguisher
FEC	Fire Extinguisher Cabinet
FIN	Finish(ed)
FIXT	Fixture
FL	Floor
FLR	Floor(ing)
FLUR	Fluorescent
FP	Fixed Panel
FS	Floor Sink
FRP	Fiberglass Reinforced Polyester
FACP	Fire Alarm Control Panel
GA	Gage, Gauge
GEN	Generator
GL	Glass
GV	Galvanized
GWB	Gypsum Wall Board
H	High
HP	Handicapped
HR	Hour
HSF	Homogenous Sheet Flooring
HT	Height
HVAC	Heating-Ventilating-Air-Conditioning
HW	Hot Water
HWR	Hot Water Return
HM	Hollow Metal
ID	Inside Diameter
INS	Insulate, Insulated, Insulation
INT	Interior
IW	Indirect Waste
IWV	Indirect Waste Vent
JT	Joint
KW	Kilowatt
LAM	Laminate
LAV	Lavatory
LT	Light
MAS	Masonry
MAX	Maximum
MECH	Mechanical
MT	Metal
MIN	Minimum
MISC	Miscellaneous
MO	Masonry Opening

MOV	Moveable
MRGB	Moisture Resistant Gypsum Wallboard
NIC	Not in Contract
NO	Number
NS	Nurses Station
NTS	Not to Scale
NC	Nurse Call
NCL	Nurse Call Light
OA	Overall
OC	On Center
OF	Owner Furnished
OFI	Owner Furnished and Installed
OFIC	Owner Finished Installed by Contractor
OH	Opposite Hand
OPG	Opening
OPNG	Opening
OTS	Open to Structure
PAT	Patient
PL	Plate
PLAM	Plastic Laminate
PLAS	Plaster
PLYWD	Plywood
PNL	Panel
PSTA	Patient Station
PTD	Paper Towel Dispenser
PTN	Partition
PTR	Paper Towel Dispenser
PVC	Poly. Vinyl Chloride
PWD	Plywood
R	Rubber
RA	Return Air
RB	Rubber Base
REF	Refrigerator
REFR	Refrigerator
REFRIG	Refrigerator
RM	Room
REMOV	Removable
RO	Reverse Osmosis (water)
RP	Removable Panel
SDS	Solution Delivery System
SHT	Sheet
SIM	Similar
SL	Sliding
SQ	Square
SR	Sheet Rubber
SST	Stainless Steel
ST	Steel
STA	Station
STD	Standard
STL	Steel
STR	Structural
STRUCT	Structural

STUC	Stucco
SUS	Suspended
SV	Sheet Vinyl
SG	Semi-Gloss
SC	Sealed Concrete
THK	Thick(ness)
TKBD	Tackboard
TPD	Toilet Paper Dispenser
TYP	Typical
TC	Time Clock
UCR	Under Counter Refrigerator
V	Vinyl
VCT	Vinyl Composition Tile
VERT	Vertical
VWC	Vinyl Wall Covering
VACT	Vinyl Acoustical Ceiling Tile (washable)
WC	Water Closet
WCO	Wall Clean Out
WD	Wood
WDP	Wood Panel on Gypsum Wallboard
WIN	Window
WO	Window Opening
WS	Wall Sconce

END OF SECTION

SECTION 01100 ALTERNATES

1.01 PROVISIONS INCLUDED

A. **The conditions of the Contract** and Division 1, General Requirements, apply to the work under this Section.

1.02 DESCRIPTION OF WORK

A. **Furnish all labor**, materials and services necessary for the proper and complete execution of accepted alternates. The amount of alternate prices to be added to or deducted from the base bid shall be stated on the Bid Form and shall include the cost of any and all modifications made necessary by the Owner's acceptance of an alternate.

B. **State the amount to be added** to or deducted from the base bid for each of the following alternates, if these alternates are added to the work of the Contract. The base bid shall not include the following listed alternates or work required to be performed in connection thereto.

1.03 SCHEDULE OF ALTERNATES

A. **Alternate Number 1** : Provide separate cost for additive alternate of replacement of court lighting (led fixtures) minus new bulbs material and installation.

B. **Alternate number 2**: Tennis Complex Maintenance enhancements

END OF SECTION

SECTION 01150 ALLOWANCES

1.01 PROVISIONS INCLUDED

A. **The conditions of the Contract** and Division 1, General Requirements, apply to the work under this Section.

1.02 DESCRIPTION OF WORK

A. **Furnish all labor**, materials and services necessary for the proper and complete execution of accepted alternates. The amount of alternate prices to be added to or deducted from the base bid shall be stated on the Bid Form and shall include the cost of any and all modifications made necessary by the Owner's acceptance of an alternate.

B. **State the amount to be added** to or deducted from the base bid for each of the following alternates, if these alternates are added to the work of the Contract. The base bid shall not include the following listed alternates or work required to be performed in connection thereto.

1.03 SCHEDULE OF ALTERNATES

A. **ALLOWANCE #1** – Provide $2000 allowance for replacement of damaged outlets throughout the facility.

END OF SECTION

SECTION 01200 PROJECT MEETING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. Contractor's Responsibilities:
   1. Schedule and administer meetings throughout duration of work.
   2. Prepare agenda for meetings.
   3. Distribute written notice of each meeting seven working days in advance of meeting date.
   4. Make physical arrangements for meetings.
   5. Preside at meetings.
   6. Record the minutes; include all significant proceedings and decisions.
   7. Reproduce and distribute copies of minutes within three working days after each meeting.
   8. Provide one copy to:
      a) All participants in the meeting, including the Architect.
      b) All parties affected by decisions made at the meeting.

B. Participants:
   1. Qualified representative of Contractors, Subcontractors, and Suppliers authorized to act on behalf of the parties they represent.
   2. Owner's Representative at their option.

1.02 PRE-CONSTRUCTION MEETING

A. Schedule meeting within the early stages of Construction as determined by the General Contractor.

B. Suggested agenda: Prepare written material, distribute lists, and discuss the following:
   1. Identification of major Subcontractors and Suppliers
   2. Projected construction schedules.
   3. Critical work sequencing
   4. Major equipment deliveries and priorities
   5. Project coordination, including designation of responsible person.
   6. Procedures for, and processing of:
      a) Field decisions.
      b) Proposal requests.
      c) Submittals
      d) Change orders.
      e) Applications for payments.
   7. Adequacy of distribution of Contract Documents.
   8. Procedures for Maintaining Record Documents
   9. Use of premises:
      a) Office, work, and storage areas.
      b) Owner's requirements.
      c) Compliance with applicable CDC Guidelines
   10. Construction facilities, construction aids, and controls.
   11. Temporary utilities.
   12. Safety and first aid procedures.
   13. Security procedures.
   14. Housekeeping procedures.
   15. Working days/hours.

1.03 PROGRESS MEETINGS

A. Schedule regular monthly meetings and as necessary, schedule additional meetings.

B. Suggested Agenda:
   1. Review and approval of minutes of previous meeting.
   2. Review of work progress since previous meeting.
   3. Field observations, problems, and conflicts.
   4. Problems which impede construction schedule.
   5. Review of off-site fabrication, delivery schedules.
   6. Corrective measures and procedures required to regain projected schedule.
   7. Revisions to construction schedule.
   8. Plan progress and schedule for succeeding work period.
   9. Coordination of schedules.
   10. Review submittal schedules; expedite as required.
   11. Maintenance of quality standards.
   12. Review proposed changes for:
      a) Effect on construction schedule and on completion date.
      b) Effect on other contracts of the Project.
   13. Other business.

1.04 PRE-INSTALLATION

A. When required in individual Specification Section, schedule a pre-installation meeting at the job-site prior to starting the work of the Section.

B. Require attendance of entities directly affecting, or affected by, the work of the Section.

C. Notify Owner's Project Manager two weeks in advance of meeting date.

END OF SECTION

SECTION 01340 SHOP DRAWINGS & PRODUCT DATA AND SAMPLES

PART 1- GENERAL

1.01 GENERAL CONDITIONS

A. **Refer to General and Supplemental Conditions, specifically 1.2.12, 4.2 and 3.12.**

B. **In the event of conflict** between requirements of the General Conditions and this Section covering shop drawings, product data and samples. the requirements of Section 01340 shall govern except for resubmission requirements as stipulated in Supplemental Conditions. Unaltered provisions remain in effect.

1.02 DESCRIPTION

A. **Submit to the Architect** shop drawings, product data and samples required by specification sections.

B. **Prepare and submit** the Construction Schedule, a separate schedule listing dates for submission and dates reviewed shop drawings, product data and samples will be needed for each product.

PART 2-PRODUCTS

2.01 SHOP DRAWINGS

A. **Submit seven copies of each drawing/ submittal** of certain trade shop drawings requested by Architect. Include fabrication, erection, layout and setting drawings and other such drawings as required under various sections of the specifications until final approval is obtained. Reproduction of Contract Drawings will not be used for Shop Drawings.

B. **Date and mark shop drawings** to show name of the Project, the Architect, Contractor, originating Subcontractor, Manufacturer or Supplier, and separate details as pertinent.

C. **Completely identify on shop drawings** specification section and locations at which materials or equipment are to be installed.

2.02 PRODUCT DATA

A. **Submit sufficient copies** of manufacturers descriptive data including catalog sheets for materials, equipment and fixtures, showing dimensions, performance characteristics and capacities, wiring diagram and controls, schedule and other pertinent information as required.

B. **Submit brochures and other submittal data** that cannot be reproduced economically in such quantities as to allow the Architect to retain two (2) copies of each after review. Mark product data to show the name of the Project, Architect, Contractor, originating Subcontractor, Manufacturer or Supplier, and separate details if pertinent.

C. **Completely identify** on product data specification section and location at which materials or equipment are to be installed.

D. **Clearly mark to show pertinent data** applicable to the Project.

2.03 SAMPLES

A. **Submit physical examples** of materials in duplicate when required by specification sections to illustrate materials, workmanship or to establish standards by which completed work shall be judged.

B. **Date samples and mark to show the name of the project**, Architect, Contractor, originating Subcontractor, Manufacturer or Supplier and separate details if pertinent.

C. **Completely identify on samples specification section** and location in which materials or equipment are to be installed.

2.04 CONTRACTOR RESPONSIBILITIES

A. **Review shop drawings**, product data and samples prior to submission to the Architect. Provide **ALL** submittals in one submissions. **If they are not, Charges to General Contractor will be incurred as described in supplemental and General Conditions of the Contract.**

B. Include on submittals the Contractor's stamp, initialed or signed, certifying review of submittals, verification of field dimensions and compliance with Contract Documents. Shop drawings, product data and samples not so stamped, and checked and approved by the Contractor will not be reviewed by the Architect, but will be returned to the Contractor. Shop drawings stamped and signed as approved by the Contractor but showing evidence that they have not been carefully checked by the Contractor may be returned to the Contractor to be re-checked and re-submitted to the Architect.

C. Contractor is to verify design intent, quantities, sizes, dimensions, etc... of each submittal prior to submitting to Architect. If submittal has not been checked by General Contractor prior to submission, Submittal will be returned prior to Architect or Engineer review. It is not the responsibility of the Architect or Engineer to verify quantities, sizes or dimensions of submittal items.

2.05 SUBSTITUTIONS

A. Approval required:

1. **The Contract is based on the standards** of quality established in the Contract Documents.

2. **All products proposed for use**, including those specified by required attributes and performance, require approval by the Architect before being incorporated into the Work.

3. **Do not substitute materials**, equipment or methods unless substitution has been specifically approved for this Work by the Architect.

4. **If substitutions are required for the project, all substitutions are to be flagged as substitute and reason for substitution. Provide specified item in submittal for GC, Architect and / or Engineer to review submittal for verification of "or equal".**

B. "Or equal":

1. **Where the phrase "or equal" or "or equal as approved by the Architect"** occurs in the Contract Documents, do not assume that materials, equipment or methods will be approved as equal unless the items have been specifically approved for this Work by the Architect.

2. **Substitutions shall be judged against the specified item** for quality, durability, operation, appearance, and other applicable qualities including fitness for use in this situation. The decision of the Architect is final.

PART 3- EXECUTION

3.01 SUBMISSION REQUIREMENTS

A. **Schedule submission** immediately with subcontractors and suppliers for submission to Architect as prescribed previously in one submission.

B. **Accompany submittals** with transmittal letters containing the date, project title, Contractor's name and address, number of each shop drawing, product data and samples submitted, and notification of deviation from Contract Documents.

1. **Material Safety Data Sheet**

Contractor shall furnish to the Architect, for review, for (4) copies of Material Safety Data Sheets (MSDS) for all products as specified or required. Allow ample time for Architect's comment and review.

Do not install products until confirmation of review is obtained.

MSDS copies should be included at the same submittal with shop drawings or product submittal. The following products must include the MSDS copy with the shop drawing or submittal:

a) Mechanical Insulation
b) Mastic or Adhesive
c) Ceiling Tiles or other Composite Materials
d) Sealants or Caulking
e) Materials containing or releasing volatile organic compounds (VOC's)
f) Paints, Varnishes, Stains or other similar coatings

2. **Flame Spread Certificates**

Contractor shall furnish to the Architect, for review, four (4) copies of Flame Spread Certificates for all products as specified or required. Allow ample time for Architect's comment and review.

Do not install products until confirmation of review is obtained.

Flame Spread Certificate copies should be included at the same submittal with shop drawings or product submittal. The following products must include the Flame Spread Certificate copy with the shop drawing or submittal:

a) Carpet
b) Wallcovering
c) Fabrics
d) Cubicle curtains

3.02 RESUBMISSION REQUIREMENTS

A. **Shop Drawings**: Revise initial drawings as required and resubmit as specified for initial submittals. Clearly identify on drawings any changes which have been made other than those requested by the Architect.

B. **Product Data and Samples:** Submit new datum and samples as required for initial submittal.

C. Rechecking of shop drawings by Architect/ Engineer more than 2 times will result in the General contractor being charged as noted in General and Supplemental Conditions.

3.03 DISTRIBUTION OF SHOP DRAWINGS AND SUBMITTALS

A. **Contractor is still responsible for obtaining and distributing prints** of shop drawings as necessary after as well as before final approval and for coordination of submittals between his subcontractors and suppliers.

B. **Make prints of approved shop drawings** from originals that carry the Architect's appropriate stamp.

C. **The cost of printing** is the responsibility of the Contractor.

END OF SECTION

SECTION 01410 TESTING AND INSPECTION

TABLE OF CONTENTS

PART 1- GENERAL

1.01 GENERAL PROVISIONS

A. **These specifications for Testing and Inspection** are applicable to the Project and the Contract Documents therefore are hereby incorporated into these Specifications.

B. **The Testing Agency** shall conform to applicable requirements of ASTM E329, and any additional requirements specified herein or in the Contract Documents.

C. **Examine the Contract Documents** and the Report on Subsurface Investigation and become thoroughly acquainted with the detailed testing and inspection requirements, especially those of the following Sections:

Division 3 - Concrete

D. **The Testing Agency** shall make all necessary arrangements with the Contractor in insuring the presence of the required Inspectors at all Contract Operations specified to be included under the Testing and Inspection Agreement.

E. **The Contractor** shall notify the Testing Agency a reasonable time in advance (not less than 24 hours) of the time when operations requiring inspection or testing are scheduled to start.

F. **Provide necessary personnel**, equipment and facilities for tests and inspection. Personnel shall be experienced and competent in their particular specialties.

G. **Nothing herein specified permits the Testing Agency** to allow the Contractor to deviate from the requirements of the Contract Documents.

H. **The Testing Agency** shall conduct its work so as not to cause delay in the progress of construction. Any non-compliance with the Contract Documents shall be immediately reported to the Contractor and Architect.

I. **The costs of the following tests and inspections shall be accounted for separately**:

1. Tests and inspection of materials and workmanship not conforming to Specification requirements.
2. Acceptance tests for materials because of changes in properties or changed sources.
3. Tests and services of inspectors required by a Public Authority.

1.02 TESTING AND INSPECTION

A. **The Testing Agency** shall maintain and distribute a continuous record of the quality of materials and workmanship under its control, and certify that such materials and workmanship meet the Specification requirements.

B. **The Inspection and control** shall be performed under the direction of the Architect.

C. **The duties of the Testing Agency shall include:**

1. Test and certification of materials or components designated to be tested at source, at place of fabrication, or at the job site.

2. Supervision and certification of installation of materials designated to be inspected.

3. Submission of reports:

a) Copies of each report of source and field inspection shall be made and distributed within 3 days. Copies of each report of tests shall be distributed within 2 days of the performance of tests. Results of tests showing non-conformance to specification requirements shall be advised to the Contractor and the Architect by phone on the same day.

b) Distribution of one copy of each report shall be as follows:
(1) Architect (name and address)

(2) Engineer (name and address)

(3) Contractor

(4) Local Building Inspectors, when required by them.

c) All reports shall include accurate and unambiguous descriptions of the source of the materials and their location in the project and a statement whether the work inspected or tested conforms or does not conform to Contract Documents.

1.03 MATERIALS ACCEPTANCE TESTS

A. **To determine that materials** to be used on the job meet Specification requirements, the following tests shall be made prior to actual use of materials.

1. Composition, gradation and moisture-density relationships for compacted and ordinary fill materials. One set of tests for each type of material from each source.

2. Review of Contractor's qualification test results for cements and for fine and coarse aggregates for:
a) Normal weight concrete

3. Review of Contractor's qualification test results for masonry unit and masonry prism strengths.

B. **Whenever the source or characteristics of materials change** or the quality of materials provided indicates lack of compliance with specification requirements, full or partial acceptance tests shall be repeated as directed by the Architect until such materials conform. Cost of such tests and inspection repetitions shall be kept separately.

1.04 CONCRETE MIX DESIGNS

A. **The Testing Agency** shall review and/or make acceptance tests as specified for concrete design mixes provided by the Contractor.

1. A mix for each specified strength and type of concrete and each admixture or combination of admixtures specified.

2. All materials and design mixtures to be supplied by the Contractor at least five (5) weeks prior to proposed use.

1.05 CONCRETE

A. **Inspection and control** shall, in general, conform to ACI Recommended Practice for Concrete Inspection, ACI 311, and shall include:

1. Inspection of forms and form facing materials for line, grade, tightness, quality of surface, and cleanliness.

2. Inspection of reinforcement for quantity, details, clearances and placement, including proper use of accessories.

3. Inspection of concrete at the mixing plant, consisting of inspection of materials for conformance to the approved materials, check of batch quantities for compliance with design mixes and project requirements, recommendations for adjustment of batches for consistency.

4. Inspection of concrete at the job site, including transportation, mixing, placement, protection and curing.

5. Sampling of concrete at site, fabrication of compression test specimens, transportation to laboratory and performing standard compression tests. One set of three (3) specimens shall be made for each 50 cubic yards of concrete placed, but not less than one (1) set for each day's placement for each design mix used.

6. Periodic slump, air content and density tests at the site. These tests shall be made whenever cylinders are taken or whenever field conditions indicate non-compliance with Specification requirements.

7. In addition to the above, the Contractor may direct additional control cylinders to be made, cured and tested to check strengths for shoring or adequacy of curing or cold weather protection. In such instances, the cylinders shall be cured with the concrete in the field under the least advantageous conditions. All work requested by the Contractor or all work required by non-compliance with the Specifications shall be at the Contractor's expense, utilizing the selected Testing Agency.

8. When tests of control specimens fall below the required strength, the Architect may require core specimens to be taken from the concrete which it represents, and tested in accordance with ASTM Methods, at Contractor's expense.

END OF SECTION

SECTION 01500 TEMPORARY FACILITIES AND CONTROLS

PART 1- GENERAL

1.01 DESCRIPTION

A. **Work included:** Provide temporary facilities and controls needed for the work including, but not necessarily limited to:
   1. Temporary utilities such as heat, water, electricity, and telephone;
   2. Field office for the Contractor's personnel;
   3. Sanitary facilities;
   4. Enclosures such as tarpaulins, barricades, and canopies;
   5. Fire protective measures;
   6. Staging and scaffolding.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

   2. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations, such equipment normally furnished by the individual trades in execution of their own portions of the work are not part of this Section.

   3. Permanent installation and hookup of the various utility lines are described in other Sections.

1.02 PRODUCT HANDLING

A. **Maintain temporary facilities** and controls in proper and safe condition throughout progress of the work.

PART 2- PRODUCTS

2.01 UTILITIES

A. Temporary Toilet Facilities
   1. Provide suitable toilet facilities, conforming with all code requirements, for use by his staff, representatives of the Owner and the Architect, and for all workmen on the job. Keep in neat and sanitary condition and provide reasonable heat during the winter months.

B. Temporary Services
   1. Water:

      a) Make all necessary arrangements, with the responsible local authorities, and with the building Owner (if leased space), for all temporary water services for the construction operations as required for his use and the use of all trades.

      b) Obtain and pay for all permits or other sanctions required to furnish temporary water on the job site. The cost of all water use on the job shall be borne by the Contractor.

      c) Make all connections, furnish and install all pipes and fittings, including meter, and remove all temporary materials when this service is no longer required.

      d) Use due care to prevent waste of water, maintain in perfect condition at all times; pipes, hoses, valves, and connections.

e) Provide adequate drinking water satisfactorily cooled for all workmen on the job; water units shall be strategically located throughout the job.

2. Temporary Electricity:

a) Make arrangements with local electric company for temporary electric service, pay expenses in connection with installation, operation and removal thereof and pay cost of energy consumed by all trades.

b) Provide power distribution as required throughout structure 120/208 - volt, 3-phase, 60 cycle, AC. Termination or power distribution shall be one location on each floor or each major wing or section of building. Termination shall be provided complete with circuit breakers, disconnect switches and other electrical devices as required to protect power supply system.

c) Temporary lighting systems shall be furnished, installed and maintained by Contractor as required to satisfy minimum requirements of safety and security. Temporary lighting to illuminate staging, stockpiles, trenches, projections, etc., to the satisfaction of the Architect and general illumination throughout, adequate for watchmen and emergency personnel.

d) Temporary equipment and wiring for power and lighting shall be in accordance with applicable provisions of governing codes. Temporary wiring shall be maintained in safe manner and utilized so as not to constitute a hazard to persons or property.

e) When permanent electrical power and lighting systems are in operating condition, they may be used for temporary power lighting for construction purposes, provided that Contractor obtains written approval of Architect and Owner, assumed full responsibility for entire power and lighting systems, and pays costs for operation and restoration of systems.

f) At completion of construction work or at such time as Contractor makes use of permanent electrical installation, temporary wiring, lighting and other temporary electrical equipment and devices shall be properly removed by Contractor.

3. Temporary Heat:

a) Provide all heat as may be necessary for thawing out and heating the ground or materials, and for the proper execution, protection and drying out of his and his Subcontractor's work before permanent apparatus is installed.

b) Temporary heaters shall be smokeless, portable unit heaters, (Underwriter's Laboratories, Factory Mutual, and Fire Marshall approved).

c) After the building or portion thereof has been enclosed, either temporary or permanently, provide temporary heat and maintain continuously at a temperature of not less than 60 degrees nor more than 75 degrees until final acceptance of the work. Comply with requirements under Division 15, Heating, Ventilating, and Air Conditioning for use of permanent heating system for temporary heat.

d) Provide heat as required for temporary structures of a type approved by the Architect.

e) Include all costs of temporary heat in his proposal.

f) When permanent heating system, or suitable portion thereof, is in operating condition, such system may be used for temporary heating, provided that Contractor obtains written approval of Architect and Owner, assumes full responsibility for new heating system and pays costs for operation and maintenance and restoration of system.

g) Furnish an acceptable operator for the new heating plant during the period when temporary heat is required.

h) Upon conclusion of temporary heating period, remove temporary piping, temporary radiators, other equipment and pay costs in connection with repairing damage caused by installation or removal of temporary heating equipment and shall thoroughly clean and recondition those parts of permanent heating system used for temporary service.

2.02 STAGING AND SCAFFOLDING

A. **Furnish, erect, and maintain** all staging and scaffolding (exterior and interior) eight (8) feet or over in height for all trades for such use. Furnish, erect and maintain all staging and scaffolding (exterior and interior) for his own use during construction of the building. Staging and scaffolding shall be of approved design, erected and removed by experienced stage builders and shall have all accident prevention devices required by Federal, State, and Local Laws.

B. **Erect such staging and scaffolding** in sufficient time and in proper sequence so as not to delay work. Subcontractors shall schedule and commence their work so that building progress is not delayed or obstructed once staging and scaffolding come available.

C. **Each Subcontractor entering upon the work** shall furnish, erect, and maintain all staging and scaffolding under 8 feet in height required for work under his subcontract, and where so indicated all other staging and scaffolding required for his work. On completion of his work, each Subcontractor shall dismantle and remove such staging and scaffolding.

D. **Erection of all staging, scaffolding, rigging, etc**., shall be supervised and directed by a Licensed Rigger and inspected by a Registered Engineer. A certified affidavit shall be submitted to the Architect by this Engineer stating that all staging, scaffolding, rigging, etc., has been safely erected and conforms in all respects to State and Local Codes. The General Contractor shall pay for all services in connection with the erection and inspection of all staging, scaffolding, and rigging, etc.

E. **Above facilities** shall be constructed and maintained in accordance with applicable requirements of "American Standard Safety Code of Building and Construction", published by USASI, and be removed after they have served their purpose or when directed by Architect.

F. **Permanent stairs** shall be erected as soon as possible and Contractor shall provide suitable temporary treads, risers, etc., as required to protect permanent stair members, and provide temporary railing as required for safety.

2.03 FIELD OFFICE AND TELEPHONE

A. **The General Contractor** shall maintain a field office for the duration of the project, where written and telephone communications can be received.

B. **A job site telephone** shall be installed within one week of commencing work.

2.04 TEMPORARY STRUCTURES

A. **The Contractor and Subcontractor** shall construct and maintain, in locations approved by the Architect, all temporary structures, sheds, and similar needs for the storing of their respective materials for the duration of the Contract.

B. **All temporary structures** shall be of substantial construction and weather tight. Temporary structures shall be removed from site when no longer needed by the Contractor or trade responsible for their erection.

PART 3- EXECUTION

3.01 FIRE PROTECTIVE MEASURES

A. **The Contractor** shall maintain a rubbish-free building and building site, and shall provide metal barrels into which all luncheon refuse shall be deposited. All such barrels shall have tight-fitting covers.

B. **Store materials** so they do not create natural pockets for papers or other combustible materials.

C. **Construction debris** shall not be thrown from the windows of the building but shall be removed through tight strong chutes, and all debris shall be wet down if necessary, or as directed by Architect.

D. **When building materials** with combustible contents are stored in the building during construction, they shall be located within easy reach of fire protection equipment.

E. **An approved number of fire extinguishers** shall be placed throughout work areas, temporary paint shop and within easy reach of mechanics who are operating plumber's furnaces, burning or welding apparatus. The number and location shall be approved from time to time by the local fire department.

F. **It shall be the duty and responsibility** of the General Contractor or any subcontractor performing any cutting or welding, to comply with the safety provisions of the national Fire Protection Association's "National Fire Codes" pertaining to such work and the respective contractor shall be responsible for all damages resulting from a failure to do so comply.

3.02 POLICE, FIREMEN AND INSPECTORS

A. **Any police officer, fireman or inspector required by the local authorities** having jurisdiction over the work, shall be employed by the Contractor and paid the standard rate or wage for the respective occupation of the work area. All personnel employed shall be covered by Workman's Compensation and Employer's Liability Insurance by the Contractor.

3.03 WINTER CONSTRUCTION

A. **Remove snow and ice** which may impair progress of work, be detrimental to workmen, or impair trucking, delivery or moving of materials at job site or prevent adequate drainage at site or adjoining areas.

B. **Contractor** shall take special precautions against damage to materials and work installed in freezing weather, by providing special heat and covering to prevent damage by elements, in manner approved by Architect. Ground surfaces under footings and under pipe lines, and masonry, concrete and other work subject to damage shall be protected against freezing.

3.04 MAINTENANCE AND REMOVAL

A. **Maintain temporary facilities** and controls as long as needed for safe and proper completion of the work.

B. **Remove such temporary facilities** and controls as rapidly as progress of the Work will permit, or as directed by the Architect.

END OF SECTION

SECTION 01560 TEMPORARY BARRIERS, ENCLOSURES & EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. **Work included:** Provide temporary facilities and controls needed for the work including, but not necessarily limited to:
   1. Enclosures such as tarpaulins, barricades, and canopies
   2. Fire protective measures
   3. Staging and scaffolding
   4. Air Filtration & exhaust

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

   2. Equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations. Such equipment normally furnished by the individual trades, in execution of their own portions of the work, are not part of this Section.

   3. Permanent installation and hookup of the various utility lines are described in other Sections.

1.02 PRODUCT HANDLING

A. Maintain temporary equipment and controls in proper, tight and safe condition throughout progress of the work.

PART 2 - PRODUCTS

2.01 UTILITIES

Temporary Services

1. **Water:**

   a) Do not cut or otherwise disturb existing potable or process water lines during operating hours and without the consent of the Manager.

   b) Use due care to prevent water waste, maintain pipes, hoses, valves and connections in perfect condition at all times.

2.02 STAGING AND SCAFFOLDING

A. Furnish, erect, and maintain all staging and scaffolding (exterior and interior) eight (8) feet or over in height for all trades for such use. Staging and scaffolding shall be of approved design, erected and removed by experienced stage builders and shall have all accident prevention devices required by Federal, State, and Local Laws.

B. Erect such staging and scaffolding in sufficient time and in proper sequence so as not to delay work. Subcontractors shall schedule and commence their work so that building progress is not delayed or obstructed once staging and scaffolding become available.

C. Each Subcontractor shall furnish, erect, and maintain all staging and scaffolding, under 8 feet in height, required for work under his subcontract. On completion of his work, each Subcontractor shall dismantle and remove such staging and scaffolding.

D. Erection of all staging, scaffolding, rigging, etc., shall be supervised and directed by a Licensed Rigger and inspected by a Registered Engineer. A certified affidavit shall be submitted to the Architect by this Engineer stating all staging, scaffolding, rigging, etc., has been safely erected and conforms in all respects to State and Local Codes. The General Contractor shall pay for all services in connection with the erection and inspection of all staging, scaffolding, and rigging, etc.

E. Staging and scaffolding shall be constructed and maintained in accordance with applicable requirements of "American Standard Safety Code of Building and Construction", published by USASI, and be removed after they have served their purpose or when directed by Architect.

F. Permanent stairs shall be erected as soon as possible; General Contractor shall provide suitable temporary treads, risers, etc., as required, to protect permanent stair members, and provide temporary railing as required for safety.

2.03 TEMPORARY STRUCTURES & BARRIERS

A. The Contractor and Subcontractor shall construct and maintain, in locations approved by the Architect, all temporary structures, sheds, and similar needs for the storing of their respective materials for the duration of the Contract.

B. All temporary structures shall be of substantial construction and weather tight. Temporary structures shall be removed from site when no longer needed by the Contractor or trade responsible for their erection.

C. Construct temporary barriers to separate the construction area from areas occupied by patients or staff.

D. Temporary barriers shall consist of a minimum of 2.5" metal studs @ 24" o.c. covered with ½" gypsum drywall on both sides, and covered with 6 mil plastic on the construction activity side.

E. Temporary barriers shall run continuously from floor to the underside of structural deck above, and be sealed against the passage of air borne dust or contaminants.

F. Location of temporary barriers shall in no way impede means of egress.

PART 3 - EXECUTION

3.01 DUST CONTROL MEASURES

A. Prior to commencement of any construction activity, the Owner's Project Manager shall convene a team with the Manager, Contractor, Sub Contractors, and Architect to conduct risk assessment.

This risk assessment shall include the assumption that demolition activities will be occurring in operating areas. Temporary barriers, filters and exhausts shall be implemented to prevent dust from reaching occupied areas.

B. Prior to commencing demolition or construction activities in an occupied facility, erect substantial dust tight temporary partitions to isolate the construction area from the occupied spaces if required.

C. Prior to commencement of demolition or construction activities, install exhaust fans to the exterior, capable of keeping the construction area under negative pressure. If it is not feasible to exhaust to the exterior, install HEPA filters before the air is returned to the HVAC system.

D. Cover all return air grilles in the construction area with an airtight barrier of plastic sheet or similar material.

E. Cover all fire detection and fire alarm devices in the construction area with airtight plastic during construction activity. Uncover such devices at night, or when construction activities are not in progress.

F. Provide Protect Tacky Mats, or equal at all openings connecting the construction area with occupied spaces.

3.02 **FIRE PROTECTIVE MEASURES**

A. The Contractor shall maintain a rubbish-free building and building site, and shall provide metal barrels into which all luncheon refuse shall be deposited. All such barrels shall have tight-fitting covers.

B. Store materials so they do not create natural pockets for papers or other combustible materials.

C. Construction debris shall not be thrown from the windows of the building but shall be removed through tight, strong chutes, and all debris shall be wet down if necessary, or as directed by Architect.

D. When building materials with combustible contents are stored in the building during construction, they shall be located within easy reach of fire protection equipment.

E. An approved number of fire extinguishers shall be placed throughout work areas, temporary paint shop and within easy reach of mechanics who are operating plumber's furnaces, burning or welding apparatus. The number and location shall be approved by the local fire department.

F. It shall be the duty and responsibility of the General Contractor or any subcontractor performing any cutting or welding, to comply with the safety provisions of the National Fire Protection Association's "National Fire Codes" pertaining to such work and the respective contractor shall be responsible for all damages resulting from a failure to comply.

3.03 POLICE, FIREMEN AND INSPECTORS

A. Any police officer, fireman or inspector required by the local authorities having jurisdiction over the work, shall be employed by the Contractor, and paid the standard rate or wage for the respective occupation of the work area. All personnel employed shall be covered by Workman's Compensation and Employer's Liability Insurance by the Contractor.

3.04 MAINTENANCE AND REMOVAL

A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the work.

B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Architect.

END OF SECTION

SECTION 01600 OWNER FURNISHED EQUIPMENT

PART 1-GENERAL

1.01 DESCRIPTION

A. **Work included**: Receive, unload, store and install Owner furnished equipment as shown on the plans and called for in the Specifications.

B. **Related Work**:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of the Specifications.

2. See Division 15 - Plumbing. See Division 16 - Electrical

C. QUALITY ASSURANCE

D. **Use adequate numbers** of skilled workmen necessary to handle, receive and install Owner Furnished Equipment.

E. **Upon written acknowledgment** by Contractor of receipt in proper condition, the Contractor shall maintain responsibility for proper storage of the equipment, and shall provide a locked storage room on site as soon as possible for the storage of Owner furnished equipment.

1.02 WORK NOT INCLUDED

A. **The Owner** shall pay the net cost of shipping of owner furnished equipment, F.O.B. job site.

PART 2-PRODUCTS

2.01 EQUIPMENT

A. **Owner furnished Equipment** includes certain plumbing and/or electrical items purchased by the Owner and shipped to the job site.

B. **See plans and other sections** of these specifications for items designated O.F.I.C. (Owner Furnished Installed by Contractor) and for items designated O.F.I. (Owner Furnished and Installed). Including but not limited to:

1. TBD with Parks and Recreation

2.02 NOT IN CONTRACT

A. **"N.I.C." (Not in Contract)** indicates equipment furnished by the Owner and installed under another construction contract or by another Contractor, or operations at the site not included as part of this Contract, unless the drawings or specifications require installation under this Contract.

B. **Any questions concerning the scope** or intent of any N.I.C. items during the bidding period shall be referred to the Architect.

C. **The Owner** reserves the right to let other contracts for work at the site.

PART 3- EXECUTION

3.01 RECEIVING/UNLOADING

A. **The Contractor** shall be responsible for noting any damage and/or short count on the Bill of Lading for any Owner Furnished Equipment received by him; such listing of damages or short count being required to establish the Owner's potential claim against the carrier. The Contractor shall also notify the Architect and Owner directly on any such damage and/or short count.

B. **Unload Owner furnished equipment** at the job site using necessary care and equipment as required to handle the equipment in a safe manner.

C. **Install Owner furnished equipment** as called for on the drawings in these specifications.

D. **Contract shall provide** blocking and electrical service for owner furnished equipment including but not limited to all lighting.

END OF SECTION

SECTION 01640 PRODUCT HANDLING

PART 1- GENERAL

1.01 DESCRIPTION

A. **Work included**: Products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

B. **Related Work:**

1. **Documents affecting work** of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. **Additional procedures** also may be prescribed in other Sections of these Specifications.

1.02 QUALITY ASSURANCE

A. **Include within the Contractor's quality** assurance program such procedures as are required to assure full protection of work and materials.

1.03 MANUFACTURERS' RECOMMENDATIONS

A. **Except as otherwise approved** by the Architect and Owner, determine and comply with manufacturers' recommendations on product handling, storage and protection.

1.04 PACKAGING

A. **Deliver products to the job** site in their manufacturer's original container, with labels intact and legible.

1. **Maintain packaged materials** with seals unbroken and labels intact until time of use.

2. **Promptly remove damaged** material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.

B. **The Owner may reject as non-complying** such material and products that do not bear identification satisfactory to the Owner as to manufacturer, grade, quality and other pertinent information.

1.05 PROTECTION

A. **Every precaution** shall be taken to see that all building materials and equipment of all descriptions and parts of the building under construction are properly braced and secured, protected from injury by water, fire, accident, cold weather or other cause; both during work hours and non-working hours.

B. **Furnish,** erect and maintain exterior barricades, fences and all other safety protection measures required by traffic, municipal and state safety regulation. Remove all enclosures when no longer needed.

C. **All damage** to materials shall be replaced at no cost to the Owner.

D. **Temporary wood doors** with self-closing hardware and padlocks, shall be provided for exterior entrances and elsewhere as required.

E. **Provide protection for all concrete and finished floors**, treads, platforms and the like against mechanical damage, oil, grease, paint and other material which will stain the floor finish. Install and maintain adequate strips of Polyethylene laminated to sisal reinforced paper on finished floors where further work will be done by trades or where subject to traffic.

F. **After the installation** of work by a given Subcontractor is properly completed, the Contractor shall be responsible for protection and for repair, replacement or cleaning should the subject work be damaged by other trades or by any other cause. All work shall be in perfect condition at the time of final acceptance of the project.

G. **Keep all access roads and walks** clear of construction equipment, materials, debris and all other items. Repair all work disturbed by construction operation and leave in as good or better condition after completion as found before new work started.

H. **Protect everything on the premises** from injury by water, frost, wind, fire, accident of other cause and any interference.

I. **Provide ways and means to control the flow of water** from every source which may cause inconvenience or damage during the building operation.

J. **All temporary protection** and coverage shall be removed at the completion of the work.

1.06 REPAIRS AND REPLACEMENTS

A. **In event of damage**, promptly make replacements and repairs to the approval of the Architect and at no additional cost to the Owner.

B. **Additional time required** to secure replacements and to make repairs will not be considered by the Owner to justify an extension in the Contract Time of Completion.

1.07 BROKEN GLASS

A. **The Contractor shall be responsible** for all broken, scratched and cracked glass, regardless of cause and no matter by whom damaged, from the time construction has begun until the project is accepted by the Owner. He shall replace all damaged glass and deliver the entire job with all glazing intact and clean.

END OF SECTION

SECTION 01700 CONTRACT CLOSEOUT

PART 1- GENERAL

1.01 DESCRIPTION

A. **Work included**: Provide an orderly and efficient transfer of the completed Work to the Owner.

B. **Related work**:
1. **Documents affecting work** of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. **Activities relative to Contract** closeout are described in, but not necessarily limited to the General Conditions.

3. **"Substantial Completion"** is defined as work complete minus punch (or certification of Occupancy / completion whichever the later).

1.02 QUALITY ASSURANCE

A. **Prior to requesting inspection by the Owner**, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for the requested inspection.

1.03 PROCEDURES

A. **Substantial Completion**:
1. **Prepare and submit the punch list** required by the General Conditions.

2. **Within a reasonable time after receipt** of the list, the Owner will inspect to determine status of completion.

3. **Should the Owner determine** that the Work is not substantially complete:
   a) **The Owner** promptly will so notify the Contractor, in writing, giving the reasons therefore.

   b) **Contractor shall remedy the deficiencies promptly** and notify the Owner when ready for re-inspection.

   c) **The Owner** will re-inspect the Work.

4. **When the Owner concurs** that the Work is substantially complete:

   a) **The Architect** will prepare a "Certificate of Substantial Completion" on AIA Form G704, accompanied by the Contractor's list of items to be completed or corrected, as verified by the Owner.

   b) **The Architect** will submit the Certificate to the Owner and to the Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

B. Final Completion:
1. **Prepare and submit** the notice required by the General Conditions.

2. **Verify that the Work** is complete including, but not necessarily limited to, the items mentioned in Construction Documents and the General Conditions.

3. **Certify that:**
   a) **Contract Documents** have been reviewed;
   b) **Work** has been inspected for compliance with the Contract Documents;
   c) **Work** has been completed in accordance with the Contract Documents;

d) **Equipment and systems** have been tested as required, and are operational;
e) **Work** is completed and ready for final inspection.

4. **If the Contractor** is not complete for any of the above requested inspections, the Contractor shall bear the cost of any subsequent inspections to examine the work not complete at previously requested inspections. Costs due to the owner will include any travel costs and related direct hourly costs from the Architect, Project Manager, Chief Technician and Administrator.

5. **The Owner** will make an inspection to verify status of completion.

6. **Should the Owner determine** that the Work is incomplete or defective:

   a) **The Owner** promptly will so notify the Contractor, in writing, listing the incomplete or defective work.

   b) **Contractor** shall remedy the deficiencies promptly, and notify the Owner when ready for re-inspection.

7. **When the Owner determines** that the work is acceptable under the Contract Documents, he will request the Contractor to make closeout submittals.

C. **Closeout submittals include**, but are not necessarily limited to:

1. **Project Record Documents** described in Section 01720;

2. **Complete operation and maintenance** manuals, and data for items so listed in pertinent other sections of these Specifications, and for other items when so directed by the Owner; Two copies of these documents shall be submitted on CD in electronic (PDF) format to Architect for final review and then submission to Owner.

3. **Warranties and bonds**;

4. **Keys and keying schedule;**

5. **Spare parts and materials extra stock;**

   a) **The Contractor** shall deliver to the Owner the spare parts, extra stock and maintenance materials listed below, and shall obtain a signed receipt for these materials. Materials shall be neatly packaged and identified.

Resilient Flooring	10% of each color of major VCT used throughout, 8 lineal feet, each color and type of base.
Painting	One full gallon, each color and type of paint or stain.

6. **Evidence of compliance** with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
   a) **Certificates of Inspection**;
   b) **Certificates of Occupancy**;

7. **Certificates of Insurance** for products and completed operations;

8. **Evidence of payment** and release of liens (see Lien Release Form at the end of this Section);

9. **List of Subcontractors**, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends and holidays.

10. **Project data catalog sheets** and shop drawing approved and returned by architect described in section 01340.

D. **Final adjustment of accounts**:
   1. **Submit a final statement** of accounting to the Owner, showing all adjustments to the Contract Sum.

   2. **If so required, the Owner** will prepare a final Change Order showing adjustments to the Contract Sum which were not made previously by Change orders.

1.04 INSTRUCTION

A. **Provide training and introduction** for the Owner's personnel in proper operation and maintenance of all systems and equipment, after acceptance of Operation and Maintenance Manual. Provide at the Final Completion walkthrough a schedule of such training, allowing the following time periods:

Mechanical Systems –	**2 Hours**
Electrical , Systems -	**2 Hours**
Plumbing Systems -	**2 Hours**
Well System-	**2 Hours**
Miscellaneous -	**1 Hour**

It is intended for all system to be reviewed with personnel on one complete day prior to the opening and operation of the facility.

CONDITIONAL AFFIDAVIT AND WAIVER OF LIEN

STATE OF: _____

COUNTY OF: _____

_____, being duly sworn upon his oath, deposed and says:

That he makes this Affidavit on behalf of _____ having heretofore entered into and Agreement with_____ for _____ _____ in connection with _____ located at _____, that all labor, materials, and services committed for have been fully paid and indebtedness discharged to date of this Affidavit.

Upon receipt of the outstanding balance of the contract in the sum of _____ Dollars (_____) the undersigned does hereby waive, release and relinquish all rights of lien which the undersigned may now have upon the premises above described for labor and material, general supervision, of construction of alterations and/or otherwise.

FURTHERMORE, the undersigned will hold_____ harmless, and pay any judgments or settlements, resulting from lien(s) filed by any supplier of materials or labor in connection with the above referenced project.

_____
COMPANY

By: _____
SUBSCRIBED IN MY PRESENCE AND SWORN TO BEFORE ME THIS _____ day of _____ _____, 20_____.

_____
Notary Public

My commission expires:

END OF SECTION

SECTION 01710 CLEANING

PART 1- GENERAL

1.01 DESCRIPTION

A. **Work included**: Throughout the construction period, maintain the building, work area and site in a standard of cleanliness as described in this Section.

B. **Related work:**

1. **Documents affecting work of this Section** include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. **In addition to standards** described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

1.02 QUALITY ASSURANCE

A. **Conduct daily inspection**, and more often if necessary, to verify that requirements for cleanliness are being met.

B. **In addition to the standards** described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2- PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

A. **Provide required personnel**, equipment, and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY

A. **Use only the cleaning materials** and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3- EXECUTION

3.01 PROGRESS CLEANING

A. **General:**

1. **Retain stored items** in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.

2. **Do not allow accumulation** of scrap, debris, waste material, and other items not required for construction of this Work.

3. **At least twice each month**, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.

4. **Provide adequate storage** for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

B. **Site:**

1. **Daily, and more often if necessary**, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.

2. **Weekly, and more often if necessary**, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1-A-1 above.

3. **Maintain the site in a neat and orderly condition** at all times.

C. **Structures:**

1. **Weekly, and more often if necessary**, inspect the structures and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.

2. **Weekly, and more often if necessary**, sweep interior spaces clean.
   a) **"Clean,"** for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and a hand-held broom.

3. **As required preparatory** to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using equipment and materials required to achieve the necessary cleanliness.

4. **Following the installation** of finish floor materials, clean the finish floor daily (and more often if necessary) at all times while work is being performed in the space in which finish materials are installed.

   a) **"Clean,"** for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Owner, may be injurious to the finish floor material.

3.02 FINAL CLEANING

A. **"Clean,"** for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.

B. **Prior to completion** of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.1 above.

C. **Site:**

1. **Unless otherwise specifically directed** by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site.

2. **Completely remove the resultant debris**.

D. **Structures:**

1. **Exterior:**

   a) **Visually inspect exterior** surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.

   b) **Remove all traces** of splashed materials from adjacent surfaces.

c) **If necessary** to achieve a uniform degree of cleanliness, hose down the exterior of the structure.

d) **In the event of stubborn stains** not removable with water, the Owner may require light sandblasting or other cleaning at no additional cost to the Owner.

2. **Interior:**

a) **Visually inspect interior surfaces** and remove all traces of soil, waste materials, smudges, and other foreign matter.

b) **Remove all traces** of splashed material from adjacent surfaces.

c) **Remove paint droppings**, spots, stains, and dirt from finished surfaces.

3. **Glass:** Clean inside and outside.

4. Resilient Tile Flooring:
   a) Scrub the floor with a neutral detergent solution (Armstrong S-485 Floor Cleaner and scrubbing pad (3M blue/green or equal) or equivalent brushes.

   b) Thoroughly rinse floor and allow it to dry.

   c) Apply 3 coats of Armstrong S-480 Floor Polish.

5. **Polished surfaces:** To surfaces requiring routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.

E. **Schedule final cleaning** as approved by the Owner to Provide to the Owner a completely clean Work.

3.03 CLEANING DURING OWNER'S OCCUPANCY

A. **Should the Owner** occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning shall be as determined by the Owner in accordance with the General Conditions of the Contract.

END OF SECTION

SECTION 01720 PROJECT RECORD DOCUMENT

PART 1- GENERAL

1.01 DESCRIPTION

A. **Work included:**
   1. **Throughout progress of the Work**, maintain an accurate record of changes in the Contract Documents, as described in Article 3.01 below.

   2. **Upon completion of the Work**, transfer the recorded changes to a set of Record Documents, as described in Article 3.02 below.

B. **Related Work:**
   1. **Documents affecting the work** of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

   2. **Other requirements** affecting Project Record Documents may appear in other pertinent Sections of these Specifications.

1.02 QUALITY ASSURANCE

A. **Delegate the responsibility for maintenance** of Record Documents to one person on the Contractor's staff as approved by the Architect.

B. **Accuracy of Records:**
   1. **Thoroughly coordinate** changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry in required to show the change properly.

   2. **Accuracy of records** shall be such that future search for items shown in the Contract Documents may reasonably rely on information obtained from the approved Project Record Documents.

C. **Make entries within 24 hours** after receipt of information the change has occurred.

1.03 SUBMITTALS

A. **Comply with pertinent provisions** of Section 01340.

B. **Prior to submitting request** for final payment, submit the final Project Record Documents to the Architect and secure his approval.

PART 2- PRODUCTS

2.01 RECORD DOCUMENTS

A. **Job set:** Promptly following the receipt of the Owner's Notice to Proceed, secure from the Architect at no charge to the Contractor one complete set of all Documents comprising the Contract.

B. **Final Record Documents:** At a time nearing the completion of the Work, Contractor to provide one complete set of Xerox prints of all Drawings in the Contract and scanned images on CD of all construction drawings and submittals.

PART 3- EXECUTION

3.01 MAINTENANCE OF JOB SET

A. **Immediately upon receipt** of the job set described in Paragraph 2.01A above, identify each of the Documents with the title "RECORD DOCUMENTS - JOB SET".

B. Preservation:

1. **Do not use the Job Set** for any purpose except entry of new data and for review by the Architect.

2. **Maintain the Job Set** at the site of work.

C. Making entries on the Drawings:

1. **Using an erasable colored pencil** (not ink or indelible pencil), clearly describe the change by graphic line and note as required.

2. **Date all entries.**

3. **Call attention** to the entry by a "cloud" drawn around the area or areas affected.

4. **In the event of overlapping changes**, use different colors for overlapping changes.

D. **Make entries** in the pertinent other Documents as approved by the Architect.

E. Conversion of Schematic Layouts:

1. **In some cases on the Drawings**, arrangements of conduits, circuits, ducts, and similar items are shown schematically and are not intended to portray precise physical layout.
   a) **Final physical arrangement** is determined by the Contractor, subject to the Architect's approval.
   b) **However,** design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Drawings.

2. **Show on the Job Set of Record Documents**, by dimension, accurate within one inch, the centerline of each run of items such as are described in subparagraph 3.01E.1 above.
   a) **Clearly identify** the item by accurate note such as "cast iron drain", "galv. water", and the like.
   b) **Show, by symbol or note,** the vertical location of the item, such as "under slab", "in ceiling", "exposed", and the like.
   c) **Make all identification** sufficiently descriptive that it may be related reliably to the Specifications.

3. **The Architect** may waive the requirements for conversion of schematic layouts where, in the Architect's judgement, conversion serves no useful purpose. However, **do not rely upon waivers being issued except as specifically issued in writing by the Architect.**

3.02 FINAL PROJECT RECORD DOCUMENTS

A. **The purpose of the final Project Record Documents** is to provide **factual information** regarding all aspects of the Work, both concealed and visible, to enable future modification of the work to proceed without lengthy and extensive site measurement, investigation, and examination.

B. **Approval** of recorded data prior to transfer:

1. **Following receipt of the bluelines** described in Paragraph 2.01B above, and prior to start of transfer of recorded data thereto, secure the Architect's approval of all recorded data.

2. **Make required revisions**.

C. **Transfer of data to Drawings**:
1. **Carefully transfer change** data shown on the Job Set of Record Drawings to the corresponding transparencies, coordinating the changes as required.

2. **Clearly indicate** at each affected detail and other Drawing a full description of changes made during construction, and actual location of items described in subparagraph 3.01E above.

3. **Call attention** to each entry by drawing a "cloud" around the area or areas affected.

4. **Make changes** neatly, consistently, and with the proper media to assure longevity and clear reproduction.

D. **Transfer data to other Documents**:
1. **If the Documents other than the Drawings have been kept clean** during the progress of the Work, and if entries thereon have been orderly to the approval of the Architect, the job set of those Documents other than Drawings will be accepted as final Record Documents.

2. **If any such Document is not so approved by the Architect**, secure a new copy of that Document from the Architect at the Architect's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the approval of the Architect.

E. **Review and Submittal:**
1. **Submit the completed** set of Project Record Documents to the Architect as described in Paragraph 1.03D above.

2. **Participate** in review meetings as required.

3. **Make required changes** and promptly deliver the final Project Record Documents to the Architect.

3.03 CHANGES SUBSEQUENT TO ACCEPTANCE

A. **The Contractor** has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

END OF SECTION

SECTION 01741 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for salvaging, recycling and disposing of construction waste.

1.2 RELATED SECTIONS

A. Section 01500 - TEMPORARY FACILITIES AND CONTROLS:
1. Environmental-protection measures during construction.

B. Section 02410 - DEMOLITION:
1. Demolition and selective demolition activities.

1.3 DEFINITIONS

A. **Asphalt Pavement, Brick, and Concrete (ABC) Rubble:** Rubble that contains only weathered (cured) asphalt pavement, clay bricks and attached mortar normally used in construction, or concrete that may contain rebar. The rubble shall not be mixed with, or contaminated by, another waste or debris.

B. **Construction Waste:** Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

C. **Demolition Waste:** Building and site improvement materials resulting from demolition or selective demolition operations.

D. **Disposal:** Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

E. **Recycle:** Diversion of demolition and construction waste from the landfill for reuse.

F. **Salvage:** Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

G. **Salvage for Reuse:** Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

A. **General:** Develop waste management plan to meet requirements of authority having jurisdiction and that results in end-of-Project rates for salvage/recycling of a percentage by weight of total waste generated by the Work per Alachua County Parks and Recreation specifications.

B. **Salvage/Recycle Requirements:** Salvage and recycle as much non-hazardous demolition and construction waste as possible including the following materials:

1. **Demolition Waste:**

   a. Asphaltic concrete paving.
   b. Concrete and concrete reinforcing steel.
   c. Brick and concrete masonry units.
   d. Wood studs, wood joists, plywood, oriented strand board, paneling and trim.
   e. Casework and cabinetry.
   f. Structural steel, miscellaneous steel and rough hardware.
   g. Roofing.
   h. Insulation.
   i. Doors, door frames and door hardware.
   j. Windows and glazing.
   k. Metal studs.
   l. Gypsum board (new unpainted scrap).
   m. Acoustical tile and panels.
   n. Carpet and carpet pad.
   o. Demountable partitions.
   p. Equipment.
   q. Plumbing fixtures, piping, supports, hangers, valves and sprinklers.
   r. Mechanical equipment and refrigerants.
   s. Electrical conduit, copper wiring, lighting fixtures, lamps, and ballasts.
   t. Electrical devices, switchgear, panelboards and transformers.

2. **Construction Waste:**

   a. Site-clearing waste.
   b. Concrete and concrete reinforcing steel.
   c. Masonry and CMU.
   d. Lumber, wood sheet materials and wood trim.
   e. Metals.
   f. Roofing.
   g. Insulation.
   h. Carpet and pad.
   i. Gypsum board.
   j. Piping.
   k. Wire and cable
   l. Electrical conduit.
   m. Packaging: 100 percent of the following uncontaminated packaging materials: Paper, cardboard, boxes, plastic sheet and film, polystyrene packaging, wood crates, plastic pails.

C. In the event the Contractor encounters previously unidentified material that is reasonably believed to be hazardous, asbestos containing, coated with lead-based paint, or oily debris, the Contractor shall immediately stop work in the affected area and report the condition to the Architect. At no time shall such material be handled or disposed of by the Contractor. The Contractor agrees to cooperate with the Owner and any consultants engaged by Owner to perform services with respect to the analysis, detection, removal, containment, treatment and disposal of such regulated materials.

1.5 SUBMITTALS

A. **Recycling Plan:** Prior to preparation of the Waste Management Plan or engagement of waste or recycling subcontractors, submit the recycling plan to the Architect for approval.

B. **Waste Management Plan:** Submit 3 copies of plan within 30 days of date established for the Notice to Proceed, in a format acceptable to the Architect.

C. **Waste Reduction Progress Reports:** Concurrent with each Application for Payment, submit three copies of report. Include separate reports for demolition and construction waste. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste salvaged, both estimated and actual in tons.
5. Quantity of waste recycled, both estimated and actual in tons.
6. Total quantity of waste recovered (salvaged plus recycled) in tons.
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

D. **Waste Reduction Calculations:** Before request for Substantial Completion, submit three copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

E. **Record Keeping for Donations, Recycling and Landfill Disposal:** Documentation shall be submitted by the Contractor and include the following:

1. **Records of Donations:** Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
2. **Records of Sales:** Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
3. **Recycling and Processing Facility Records:** Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices. Include documentation for backcharge fees, if any, for improperly segregated waste.
4. **Landfill and Incinerator Disposal Records:** Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. **Facility Permitting Information:** For ABC rubble crushing and/or recycling facilities, provide a copy of the facility's current solid waste management facility permit.

G. **Qualification Data:** For Waste Management Coordinator and refrigerant recovery technician.

H. **Statement of Refrigerant Recovery:** Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations and using equipment that has a current EPA Registration. Include name and address of technician, date refrigerant was recovered, amount of refrigerant recovered and shipped, and date of receipt of shipment by the reclaimer.

I. **Penalties and Assessments:** Copies of penalty notices for non-compliance with regulations assessed by authorities having jurisdiction, and proof of payment.

1.6 QUALITY ASSURANCE

A. **Waste Management Coordinator Qualifications:** LEED Accredited Professional by U.S. Green Building Council, or three years documented experience with construction waste management activities.

B. **Refrigerant Recovery Technician Qualifications:** Certified by EPA-approved certification program, using recycling/recovery equipment that has a current EPA Registration.

C. **Regulatory Requirements:** Comply with hauling and disposal regulations of authorities having jurisdiction.

D. **Waste Management Conference:** Conduct conference at Project site. Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.
6. Provide recycling education and recycling information to Contractor and subcontractor employees working on the project.

1.7 WASTE MANAGEMENT PLAN

A. **General:** Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Include separate sections in plan for demolition and construction waste. Indicate quantities by weight throughout waste management plan.

B. **Waste Identification:** Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. **Waste Reduction Work Plan:** List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

D. **Cost/Revenue Analysis:** Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per ton). Include hauling and tipping fees and rental cost of collection containers for each type of waste.

3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in hauling and tipping fees by donating materials.
7. Savings in hauling and tipping fees that are avoided.
8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. **General:** Implement waste management plan as approved by the Owner. Provide containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. **Waste Management Coordinator:** Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.

C. **Training:** Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
3. Provide recycling education for all workers, subcontractors and suppliers engaged in on-site activities.
4. Distribute recycling educational literature.
5. Provide appropriate recycling signage for containers and workspaces.

D. **Site Access and Temporary Controls:** Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with project requirements for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. **Salvaged Items for Sale and Donation:** Sale not permitted on Project site. Labor for loading donated items acceptable to local trade practices; union labor if applicable.

C. **Salvaged Items for Owner's Use:**

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area off-site.
5. Protect items from damage during transport and storage.

D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. **General:** Recycle paper and beverage containers used by on-site workers.

B. **Recycling Incentives:** Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Owner.

C. **Procedures:** Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical. For waste which cannot be separated at Project site, co-mingle only with waste which is to be separated later at a recycling facility. Contamination of recycling containers with trash or other contaminants is subject to a penalty of $750.00 per container, payable to the Owner.

1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

D. On-site crushing of asphalt pavement, brick, and concrete (ABC) rubble is not allowed. All ABC waste must be transported off-site to an asphalt batching plant or to an ABC crushing or recycling operation that has been sited and permitted for that purpose.

3.4 RECYCLING DEMOLITION WASTE

A. **Asphaltic Concrete Paving:** Break up and transport paving to asphalt-recycling facility.

B. **Concrete:** Deposit all debris in designated container to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for fill or sub-base.

C. **Masonry:** Deposit all masonry debris in designated container to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for general fill or satisfactory soil for fill or sub-base. Clean and stack undamaged whole masonry units on wood pallets for reuse.

D. **Wood Materials:** Sort and stack salvageable members according to size, type, and length. Separate lumber waste and deposit into appropriate container. Separate engineered wood products, panel products, and treated wood materials into designated containers.

E. **Metals:** Separate metals by type if practical. Stack salvageable structural steel members according to size, type of member, and length.

F. **Asphalt Shingle Roofing:** Organic and glass-fiber asphalt shingles and felts shall be disposed of at a facility permitted by local Department of Environmental Protection (DEP) to process post-consumer (used) asphalt shingles. Recycle nails, staples acceptable, flashing trim and accessories as metals.

1. Asbestos containing shingles shall be pre-abated and properly disposed of by a licensed asbestos abatement contractor, in accordance with all applicable regulations. Asbestos abatement work, including disposal of asbestos contain materials, is not included in the scope of the Work and will be performed by others.

G. **Gypsum Board:** Deposit clean gypsum scrap into appropriate containers. Protect from weather. Remove edge trim and sort with other metals. Remove and dispose of fasteners and other contaminants.

H. **Acoustical Ceiling Panels and Tile:** Stack large clean pieces on wood pallets, stretch wrap and store in a dry location. Separate suspension system, trim, and other metals from panels and tile and sort with other metals.

I. **Carpet and Pad:** Roll large pieces tightly after removing debris, trash, adhesive, and tack strips. Store clean, dry carpet and pad in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

J. **Equipment:** Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

K. **Plumbing Fixtures:** Separate by type and size fixtures suitable for reuse. Deposit all other fixtures into designated containers by material type to be transported to approved recycling facility.

L. **Piping:** Separate piping materials by material composition. Deposit in designated containers. Separate supports, hangers, valves, sprinklers, and other components by material type and deposit in designated containers for transport to approved recycling facility.

M. **Lighting Fixtures:** Separate lamps by type and protect from breakage.

N. **Electrical Devices:** Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

O. **Conduit:** Deposit conduit and fittings into designated container.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.

4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. **Site-Clearing Wastes:** Chip brush, branches, and trees on-site.

C. **Concrete:** Deposit all debris in designated container to be transported to approved aggregate recycling facility to be crushed and screened for use as satisfactory soil for fill or sub-base.

D. **Masonry:** Deposit all masonry debris in designated container to be transported to approved aggregate recycling facility to be. Crushed and screened for use as satisfactory soil for general fill or satisfactory soil for fill or sub-base. Clean and stack undamaged whole masonry units on wood pallets for reuse.

E. **Asphalt Shingle Roofing:** Deposit and recycle asphalt shingles (nails, staples acceptable, flashing trim and accessories recycle as metals.

F. **Metals:** Separate metals by material type if practical. Stack salvageable structural steel members according to size, type of member, and length.

G. **Wood Materials:**

1. Clean Cut-Offs of Lumber: Deposit into designated clean wood container to be transported to designate recycling facility for use as mulch or bio-fuel.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

H. **Clean Gypsum Board:** Deposit scraps of clean gypsum board into designated container protected from weather and transport to appropriate gypsum recycling facility to be processed into new gypsum board.

3.6 DISPOSAL OF WASTE

A. **General:** Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. For solid waste disposal facilities, dispose of materials only in facilities which currently comply with applicable local regulations.

B. **Burning:** Do not burn waste materials.

C. **Disposal:** Transport waste materials off the property and legally dispose of waste materials

END OF SECTION

SECTION 02182 – TENNIS COURT RESTORATION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Resurfacing and laser grading (Base Bid) of 14 tennis Courts

B. Providing New Lines

C. Providing New Nets

D. Repairing Existing Fences and gates including hogties (Coordinate with General Contractor)

E. Repair Existing Underground Irrigation System up to individual banks of courts as required

F. Replace all Light Bulbs (Base Bid) or providing new LED Light Bulbs (Alternate #2) for all tennis courts in facility (Coordinate with Electrical Drawings and General Contractor to assure electrician costs not duplicated).

G. Do not interrupt existing utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.

1.2 SELECTION OF TENNIS COURT CONTRACTOR

A. The contractor is to be knowledgeable about and have had a minimum 10 years of experience in dealing with slope, drainage, base materials, type of surface, lighting fencing, nets, net posts, maintenance, resurfacing to acceptable tolerances.

B. The contractor shall provide a guarantee against defective materials and / or workmanship for a minimum of 2 years.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Har-Tru Coarse Blend and/or HydroBlend Surface Material per Manufacturers specification for sub-irrigated courts.

B. Herringbone line Tape with raised herringbone pattern..

C. Nets – Minimum tope six rows of net body are double weaved. Netting to be 3.5mm, extra-duty braided polyethylene net body manufactured with UV treated double vinyl headband. Stitching of net to be minimum 6, not overlapped. 5yr Warranty.

D. Court Treatment, Welch Tennis AlgaeBlaster algaecide or equal (Moss Buster with copper sulfate).

E. Curtrine Algaecide is to be introduced sub-irrigated tennis court system as a preventative. Provide 28 gallons of material (installing 14 gallons once complete for discharge onto courts and 14 gallon application 4 months later).

PART 3 - EXECUTION

3.1 GENERAL

A. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.

B. Maintain areas which are still considered in use for continual play for the courts

3.2 RESURFACING OF COURTS

A. Inspect obstruction along court perimeter that may affect surface drainage especially on the low side of the court.. Verify and confirm General Contractor removes all clay material from all landscape islands.

B. Remove line tapes and nets, rolling acceptable for reuse tapes and nets for post construction inventory.

C. Scarify surface, clean of all excess dead material, surface algae, mold and other organic growth.

D. Add specified amount of Har-Tru placed with laser guided equipment for smooth even surface, roll courts minimum 2 times after placement of material. After rolling line tapes, additional rolling of entire court, when time is appropriate, is required to create a smooth playable surface.

E. Verify and confirm sub irrigation system is working properly and free of surface algae, mold and other organic growth.

F. Test and inspect each bank of courts and verify compliance with requirements for sub-irrigated courts.

G. Repaint existing net posts, verify anchoring of net posts are appropriate for new net installations. Central Strap anchors are to be adjusted as necessary to assure proper anchoring.

H. Inspect court fencing and make sure Bottom, Intermediate and top rails are secured. Stretch fabric at the proper height above the court surface and evenly with bottom parallel around the court. Fencing fabric to be appx. ¾" above the court surface with hog rings spaced every 24" o.c.

I. Install court tape lines per standard tennis court layout. Roll nail heads down to tape surface slowly and carefully in a straight line with the direction of line tape (never turning until roller is off the tape surface).

J. Remove surplus satisfactory soil and waste material from courts and surrounding landscape islands for drainage, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

K. Upon completion of courts, provide in-service to JTC and Alachua County Parks and Recreation Staff on care and maintenance of Courts, including but not limited to daily, quarterly, semi-annual and yearly care maintenance requirements including chemicals and clay required.

END OF SECTION

SECTION 02221 TRENCHING, BACKFILLING, AND COMPACTING

PART 1- GENERAL

1.01 DESCRIPTION

A. **Work included**: Cut slabs, trench, backfill, and compact as specified herein and as needed for installation of underground utilities associated with the work.

B. **Related work**:
   1. **Documents affecting work** of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

   2. **Section 03300**: Cast-in-place concrete.

1.02 QUALITY ASSURANCE

A. **Use adequate numbers of skilled workmen** who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. **Use equipment adequate in size**, capacity, and numbers to accomplish the work in a timely manner.

PART 2- PRODUCTS

2.01 SOIL MATERIALS

A. **Fill and backfill materials:**
   1. **Provide soil materials free from organic** matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension, and with not more than 15% of the rocks or lumps larger than 2-3/8" in their greatest dimension.

   2. **Fill material** is subject to the approval of the Architect, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soil free from roots and other deleterious matter.

   3. **Do not permit rocks** having a dimension greater than 1" in the upper 12" of fill.

   4. **Cohesionless material used for backfill**: Provide sand free from organic material and other foreign matter, and as approved by the Architect.

2.02 OTHER MATERIALS

A. **Provide other materials,** not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3- EXECUTION

3.01 SURFACE CONDITIONS

A. **Examine the areas and conditions** under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PROCEDURES

A. **Utilities:**

1. **Unless shown to be removed**, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace at no additional cost to the Owner.

2. **If active utility lines are encountered**, and are not shown on the drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.

3. **If service is interrupted as a result of work** under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.

4. **If existing utilities** are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.

5. **Do not proceed with permanent relocation** of utilities until written instructions are received from the Architect.

B. **Protection of persons and property:**

1. **Barricade open holes and depressions** occurring as part of the work, and post warning lights on property adjacent to or with public access.

2. **Operate warning lights during hours** from dusk to dawn each day and as otherwise required.

3. **Protect structures**, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.

C. **Dewatering:**

1. **Remove all water, including rain water**, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.

2. **Keep trenches** and site construction area free from water.

D. **Use means necessary** to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

E. **Maintain access** to adjacent areas at all times.

3.03 TRENCHING

A. **Provide sheeting and shoring** necessary for protection of the work and for the safety of personnel.

1. **Prior to backfilling**, remove all sheeting.

2. **Do not permit sheeting to remain** in the trenches except when, in the opinion of the Architect, field conditions or the type of sheeting or methods of construction such as use of concrete bedding are such as to make removal of sheeting impracticable. In such cases, the Architect may permit portions of sheeting to be cut off and remain in trench.

B. **Open cut**:

1. **Excavate** for utilities by open cut.

2. **If conditions at the site prevent** such open cut, and if approved by the Architect, trenching may be used.

3. **Short sections** of a trench may be tunneled if, in the opinion of the Architect, the conductor can be installed safely and backfill can be compacted properly into such tunnel.

4. **Where it becomes necessary to excavate** beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, backfill the voids remaining after removal of the objects as directed by the Architect.

5. **When the void is below the subgrade** for the utility bedding, use suitable earth materials and compact to the relative density directed by the Architect, but in no case to a relative density less than 90%.

6. **When the void is in the side** of the utility trench or open cut, use suitable earth or sand compacted or consolidated as approved by the Architect, but in no case to a relative density less than 80%.

7. **Remove boulders and other interfering objects**, and backfill voids left by such removals, at no additional cost to the Owner.

8. **Excavating for appurtenances**:

   a) **Excavate for manholes** and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.

   b) **Overdepth excavation** beyond such appurtenances that has not been directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the Architect, and at no additional cost to the Owner.

C. **Trench to the minimum** width necessary for proper installation of the utility, with sides as nearly vertical as possible. Accurately grade the bottom to provide uniform bearing for the utility.

D. Depressions:

1. **Dig bell holes** and depressions for joints after the trench has been graded. Provide uniform bearing for the pipe on prepared bottom of the trench.

2. **Except where rock is encountered**, do not excavate below the depth indicated or specified.

3. **Where rock is encountered**, excavate rock to a minimum overdepth of 4" below the trench depth indicated or specified.

E. **Where utility runs traverse public property** or are subject to governmental or utility company jurisdiction, provide depth, bedding, cover, and other requirements as set forth by legally constituted authority having jurisdiction, but in no case less than the depth shown in the Contract Documents.

F. **Where trenching occurs in existing lawns**, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.

G. Cover:

1. **Provide minimum trench depth** indicated below to maintain a minimum cover over the top of the installed item below the finish grade or subgrade:
   a) **Areas subject to vehicular traffic**: (1) Sanitary sewers: 48" (2) Storm drains: 36"

   b) **Areas not subject to vehicular traffic**: (1) Sanitary sewers: 30" (2) Storm drains: 18"

c) **All areas**:
   (1) Water lines: 30"
   (2) Natural gas lines: 24"
   (3) Electrical cables: 42"
   (4) Electrical ducts: 36"

d) **Concrete encased**:
   (1) Pipe sleeves for water and gas lines: 24"
   (2) Sanitary sewers and storm drains: 12"
   (3) Electrical ducts: 24"

2. **Where utilities are under a concrete structure slab** or pavement, the minimum depth need only be sufficient to completely encase the conduit or pipe sleeve, and electrical long-radius rigid metal conduit riser, provided it will not interfere with the structural integrity of the slab or pavement.

3. **Where the minimum cover is not provided**, encase the pipes in concrete as indicated. Provide concrete with a minimum 28 day compressive strength 2500 psi.

3.04 BEDDING

A. **Provide bedding as indicated** on the drawings.

3.05 BACKFILLING

A. General:

1. **Do not completely backfill trenches** until required pressure and leakage tests have been performed, and until the utilities systems as installed conform to the requirements specified in the pertinent Sections of these Specifications.

2. **Except as otherwise specified** or directed for special conditions, backfill trenches to the ground surface with selected material approved by the Architect.

3. **Reopen trenches** which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the Architect.

4. **Do not allow or cause any of the work performed** or installed to be covered up or enclosed by work of this Section prior to required inspections, tests, and approvals.

5. **Should any of the work be so enclosed or covered** up before it has been approved, uncover all such work and, after approvals have been made, refill and compact as specified, all at no additional cost to the Owner.

B. **Lower portion of trench**:
1. **Deposit approved backfill and bedding** material in layers of 6" maximum thickness, and compact with suitable tampers to the density of the adjacent soil, or grade as specified herein, until there is a cover of not less than 24" over sewers and 12" over other utility lines.

2. **Take special care in backfilling** and bedding operations to not damage pipe and pipe coatings.

C. **Remainder of trench**:
1. **Except for special materials for pavements**, backfill the remainder of the trench with material free from stones larger than 6" or 1/2 the layered thickness, whichever is smaller, in any dimension.

2. **Deposit backfill material in layers** not exceeding the thickness specified, and compact each layer to the density of the adjacent soil.

3.06 TEST FOR DISPLACEMENT OF SEWERS AND STORM DRAINS

A. **Check sewers** and storm drains to determine whether displacement has occurred after the trench has been backfilled to above the pipe and has been compacted as specified.

B. **Flash a light between manholes** or, if the manholes have not yet been constructed, between the locations of the manholes, by means of a flashlight or by reflecting sunlight with a mirror.

C. **If the illuminated interior** of the pipe line shows poor alignment, displaced pipes, or any other defects, correct the defects to the specified conditions and at no additional cost to the Owner.

3.07 PIPE JACKING

A. **The Contractor** may, at his option, install steel pipe casings, tongue-and-groove reinforced concrete pipes, and steel pipes under existing roads or pavements by jacking into place using procedures approved by the governmental agencies having jurisdiction and approved by the Architect.

3.08 TUNNELING OPERATIONS

A. **The Contractor** may, at his option, tunnel pipes into position using procedures approved by the Architect and the governmental agencies having jurisdiction.

3.09 FIELD QUALITY CONTROL

A. **The General Contractor** will inspect and approve open cuts and trenches before installation of utilities, and will make the following tests and certifications:

1. **Assure that trenches** are not backfilled until all tests have been completed;

2. **Check backfilling** for proper layer thickness and compaction;

3. **Verify that test results** conform to the specified requirements, and that sufficient tests are performed;

4. **Assure that defective work** is removed and properly replaced.

5. **Certify in writing to the Architect** that the utilities have been properly installed and that all backfilling has been completed in accordance with these Specifications, prior to installing concrete slab(s).

END OF SECTION

SECTION 02270 EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. **Work Included:** Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. **Control measures** to prevent all erosion, siltation and sedimentation of wetlands, waterways, construction areas, adjacent areas and off-site areas.
2. **Control measures** shall be accomplished adjacent to or in the following work areas:
   a. Soil stockpiles and on-site storage and staging areas.
   b. Cut and fill slopes and other stripped and graded areas.
   c. Constructed and existing swales and ditches.
   d. Retention ponds.
   e. At edge of wetlands areas, if applicable, as shown on Drawings.
3. **Additional means of protection shall be provided** by the Contractor as required for continued or unforeseen erosion problems, at no additional cost to Owner.
4. **Periodic maintenance of all sediment control structures** shall be provided to ensure intended purpose is accomplished. Sediment control measures shall be in working condition at the end of each day.
5. **After any significant rainfall**, sediment control structures shall be inspected for integrity. Any damaged device shall be corrected immediately.
6. **Follow all requirements as per the CHW documents.**

B. **Related Work:** The following items are not included in this Section and will be performed under the designated Sections:

1. Section 02210 - SITE CLEARING for protection of existing tress and other vegetation to remain.
2. Section 02300 – EARTHWORK for soil materials, excavating, backfilling, and site grading and removal of site utilities.

1.2 QUALITY ASSURANCE

A. **When applicable, comply with the requirements of Stormwater Pollution Prevention Plan** prepared for the National Pollutant Discharge Elimination System (NPDES) permit, which are incorporated herein by reference, and all other applicable requirements of governing authorities having jurisdiction. The specifications and drawings are not represented as being comprehensive, but rather convey the intent to provide complete slope protection and erosion control for both the Owner's and adjacent property.

1. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to a sediment and erosion control plan specific to the site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.
2. Regulatory Order of Conditions (Attach to the end of this Section, when applicable).

B. **Erosion control measures** shall be established at the beginning of construction and maintained during the entire period of construction. On-site areas, which are subject to severe erosion, and off-site areas which are especially vulnerable to damage from erosion and/or sedimentation, are to be identified and receive special attention.

C. **All land-disturbing activities** are to be planned and conducted to minimize the size of the area to be exposed at any one time, and the length of time of exposure.

D. **Surface water runoff** originating upgrade of exposed areas should be controlled to reduce erosion and sediment loss during the period of exposure.

E. **When the increase in the peak rates** and velocity of storm water runoff resulting from a land-disturbing activity is sufficient to cause accelerated erosion of the receiving stream bed, provide measures to control both the velocity and rate of release so as to minimize accelerated erosion and increased sedimentation of the stream.

F. **All land-disturbing activities** are to be planned and conducted so as to minimize off-site sedimentation damage.

G. **The Contractor is responsible for cleaning out** and disposing of all sediment once the storage capacity of the sediment facility is reduced by one-half.

H. **Inspect, repair, and maintain erosion and sedimentation** control measures during construction until permanent vegetation has been established.

I. **Remove erosion and sedimentation controls** and restore and stabilize areas disturbed during removal.

PART 2 - PRODUCTS

2.1 MATERIALS

A. **Straw Bales:** Wire or nylon bound bales of straw, oriented around sides, rather than over and under.

B. **Stakes:** Stakes for bales shall be one of the following materials: Wood stakes of sound hardwood 2 by 2 inches in size or steel reinforcing bars of at least No. 4 size. Lengths shall be approximately three feet.

C. **Siltation Fence:** Fabricated or prefabricated unit consisting of the following filter fabric properties:

1.	Grab Tensile Strength	90	ASTM D1682
2.	Elongation at Failure (%)	50	ASTM D1682
3.	Mullen Burst Strength (PSI)	190	ASTM D3786
4.	Puncture Strength (lbs)	70	ASTM D751 (modified)
5.	Slurry Flow Rate (gal/min/sf)	0.5	Virginia DOT VTM-51
6.	Equivalent Opening Size	40-80	US Std Sieve CW-02215
7.	Ultraviolet Radiation Stability (%)	90	ASTM G26

D. **Fencing:** Steel posts shall be standard 6 foot long metal stamped drive stakes commonly used to support snow fences. Fencing shall be new four foot height wood lath snow fencing. Provide suitable steel staples or heavy nylon cord for securing filter cloth to support system.

E. **Protective Measures:** As temporary coverings on ground areas subject to erosion, provide one of the following protective measures, and as directed by the Architect with concurrence of the Owner:

1. Hay or straw temporary mulch, 100 pounds per 1,000 square feet.
2. Wood fiber cellulose temporary mulch, 35 pounds per 1,000 square feet.
3. Tackafier for anchoring mulch or straw shall be a non-petroleum based liquid bonding agent specifically made for anchoring hay or straw.

4. Provide natural (jute, wood excelsior) or man-made (glass fiber) covering with suitable staples or anchors to secure to ground surface. Note that wire staples and non-biodegradable coverings shall not be used for any area that will be mown turf.
5. Temporary vegetative cover for graded areas shall be undamaged, air dry threshed straw or hay free of undesirable weed seed.

PART 3 - EXECUTION

3.1 STRAW BALE BARRIERS

A. **Excavation shall be** to the width of the bale and the length of the proposed barrier to a minimum depth of 4 inches.

B. **Bales shall be** placed in a single row, lengthwise on proposed line, with ends of adjacent bales tightly abutting one another. In swales and ditches the barrier shall extend to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale.

C. **Staking shall be** accomplished to securely anchor bales by driving at least two stakes or rebars through each bale to a minimum depth of 18 inches.

D. **The gaps between bales shall be** filled by wedging straw in the gaps to prevent water from escaping between the bales.

E. **The excavated soil shall be** backfilled against the barrier. Backfill shall conform to ground level on the downhill side and shall be built up to 4 inches on the uphill side. Loose straw shall then be scattered over the area immediately uphill from a straw barrier.

F. **Inspection shall be** frequent and repair or replacement shall be made promptly as needed.

3.2 STABILIZED CONSTRUCTION ENTRANCE AND STONE BERMS

A. **Stone size:** Use ASTM designation C-33, size No. 2 (1-1/2" to 2-1/2"). Use crushed stone.

B. **Length:** As effective, but not less than 50 feet.

C. **Thickness:** Not less than eight inches.

D. **Width:** Not less than full width of all points on ingress or egress, but not less than 25 feet.

E. **Washing:** When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it shall be done on an area stabilized with crushed stone, which drains into an approved sediment trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch, or watercourse through the use of sand bags, gravel boards or other approved methods.

F. **Maintenance:** The entrance shall be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-or-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spoiled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

G. **Place crushed stone berms** in locations required and as directed. Berms shall have side slopes of 1:3 or less.

H. **Inspect stone berms** periodically and replace and/or regrade crushed stone as required.

3.3 SILT FENCING

A. **Excavate a 6 inch trench** along the upstream side of the desired fence location.

B. **Drive fence posts** a minimum of 1'-6" into the ground. Install fence, well-staked at maximum eight foot intervals in locations as shown on Drawings. Secure fabric to fence and bury fabric end within the six inch deep trench cut.

C. **Lay lower 12 inches of silt** fence into the trench, 6 inches deep and 6 inches wide. Backfill trench and compact.

D. **Overlap joints in fabric** at post to prevent leakage of silt at seam.

3.4 EROSION CONTROL GRASSING

A. **Grassing shall be** applied according to local Highway Department Standard Specifications.

3.5 INLET PROTECTION

A. **Install silt fence** or straw bales around inlet as specified herein.

3.6 DUST CONTROL

A. **Throughout the construction period** the Contractor shall carry on an active program for the control of fugitive dust within all site construction zones, or areas disturbed as a result of construction. Control methods shall include the following: Apply calcium chloride at a uniform rate of one and one-half (1 ½) pounds per square yard in areas subject to blowing. For emergency control of dust apply water to affected areas. The source of supply and the method of application for water are the responsibility of the contractor.

B. **The frequency and methods of application** for fugitive dust control shall be as directed by the Architect with concurrence by the Owner.

3.7 TEMPORARY PROTECTIVE COVERINGS (AFTER GROWING SEASON)

A. **Place temporary covering** for erosion and sedimentation control on all areas that have been graded and left exposed after October 30. Contractor shall have the choice to use either or both of the methods described herein.

B. **Hay or straw shall be** anchored in-place by one of the following methods and as approved by the Architect with concurrence by the Owner: Mechanical "crimping" with a tractor drawn device specifically devised to cut mulch into top two inches of soil surface or application of non-petroleum based liquid tackifier, applied at a rate and in accordance with manufacturer's instructions for specific mulch material utilized.

C. **Placement of mesh or blanket matting** and anchoring in place shall be in accordance with manufacturer's printed instructions.

D. **Inspect protective coverings** periodically and reset or replace materials as required.

END OF SECTION

SECTION 02281 TERMITE CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Soil treatment for termite control.

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 02300 – EARTHWORK for soil materials, excavating, backfilling and site grading.

2. Section 03300 – CAST-IN-PLACE CONCRETE for footings, foundation walls and slabs-on-grade.

1.02 SUBMITTALS

A. Submit product data and application instructions.

B. Submit certification that products used comply with U.S. Environmental Protection Agency (EPA) regulations for termiticides and requirements applicable at the location of the Project.

1.03 QUALITY ASSURANCE

A. In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for preparing substrate and application.

B. Engage a professional pest control operator who is licensed according to regulations of governing authorities to apply soil treatment solution.

C. Use only termiticides that bear a federal registration number of the EPA and are approved by local authorities having jurisdiction.

1.04 JOB CONDITIONS

A. Restrictions: Do not apply soil treatment solution until excavating, filling, and grading operations are completed, except as otherwise required in construction operations.

B. To ensure penetration, do not apply soil treatment to frozen or excessively wet soils or during inclement weather. Comply with handling and application instructions of the soil toxicant manufacturer.

1.05 WARRANTY

A. Warranty: Furnish written warranty, executed by Applicator and Contractor, certifying that applied soil termiticide treatment will prevent infestation of subterranean termites. If subterranean termite activity is discovered during warranty period, Contractor will re-treat soil and repair or replace damage caused by termite infestation.

B. Warranty Period: Five years from date of Substantial Completion.

C. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

02.01 SOIL TREATMENT SOLUTION

A. General: Use an emulsible, concentrated termiticide that dilutes with water, specially formulated to prevent termites infestation. Fuel oil will not be permitted as a diluent. Provide a solution consisting of one of following chemical elements.

B. Products: Subject to compliance with requirements, provide one of the following:

3. Chloropyrifos:
   a. Dursban TC, Dow Chemical Co.
4. Permathrin:
   a. Dragnet FT, FMC Corp.
   b. Torpedo, ICI Americas, Inc.
5. Cypermethrine:
   a. Prevail FT, FMC Corp.
   b. Demon, ICI Americas, Inc.
6. Fenvalerate:
   a. Gold Coast Tribute, Du Pont.
7. Isofenphose:
   a. Pryfon, Mobay Corp.

C. Dilute with water to concentration level recommended by manufacturer.

D. Other solutions may be used as recommended by Applicator if approved for intended application by local authorities having jurisdiction. Use only soil treatment solutions that are not harmful to plants.

PART 3 - EXECUTION

3.01 APPLICATION

A. Surface Preparation: Remove foreign matter that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and foundations. Toxicants may be applied before placing compacted fill under slabs if recommended by toxicant manufacturer.

B. Application Rates: Apply soil treatment solution as follows:

1. **Under slab-on-grade structures**, treat soil before concrete slabs are placed, using the following application rates:
   a. Apply 4 gallons of chemical solution per 10 linear feet to soil in critical areas under slab, including entire inside perimeter of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating slab, and around interior column footers.
   b. Apply 1 gallon of chemical solution per 10 sq. ft. as an overall treatment under slab and attached slab areas where fill is soil or unwashed gravel. Apply 1-1/2 gallons of chemical solution to areas where fill is washed gravel or other coarse absorbent material.

c. Apply 4 gallons of chemical solution per 10 linear feet of trench for each foot of depth from grade to footing, along outside edge of building. Dig a trench 6 to 8 inches wide along outside of foundation to a depth of not less than 12 inches. Punch holes to top of footing at not more than 12 inches o.c. and apply chemical solution. Mix chemical solution with the soil as it is being replaced in the trench.

2. **At expansion joints, control joints, and areas where slabs will be penetrated, apply at rate of 4 gallons per 10 linear feet of penetration**.

B. **Post signs in areas of application to warn workers** that soil termiticide treatment has been applied. Remove signs after areas are covered by other construction.

C. **Reapply soil treatment solution to areas** disturbed by subsequent excavation, landscape grading, or other construction activities following application.

END OF SECTION

SECTION 03300 CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1. DESCRIPTION OF WORK

Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

a. Cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures and finishes for the following applications:
   1) Footings.
   2) Slabs-on-grade.
   3) Concrete toppings.
   4) Cutting and patching of mechanical and electrical penetrations through cast-in-place concrete.

Items To Be Installed Only: Install the following items as furnished by the designated Sections:
   5) Section 16111 - ELECTRICAL:
   6) Lintels, sleeves, anchors, inserts, plates, floor boxes and similar items for electrical systems.

Items To Be Furnished Only: Not Applicable.

Related Work: The following items are not included in this Section and will be performed under the designated Sections.

2. DEFINITIONS

Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

3. SUBMITTALS

Product Data: For each type of product indicated.

Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

a. Indicate amounts of mixing water to be withheld for later addition at Project site.
b. Indicate amount of fly ash in the mix.

Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

c. Indicate coordination requirements for reinforcement locations with requirements of structural steel, steel joints and steel deck.

Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.

d. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing reshoring.
e. Blockouts for Architectural Joint Systems: Indicate blockouts and coordination with architectural joint systems

Formwork Inspection: Indicate compliance with approved shop drawings.

Anchor Bolt Location: Indicate compliance with approved shop drawings.

Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:

1) Aggregates.

Material Certificates: For each of the following, signed by manufacturers:

2) Cementitious materials.
3) Admixtures.
4) Form materials and form-release agents.
5) Steel reinforcement and accessories.
6) Fiber reinforcement.
7) Waterstops.
8) Curing compounds.
9) Floor and slab treatments.
10) Bonding agents.
11) Adhesives.
12) Vapor retarders.
13) Semirigid joint filler.
14) Joint-filler strips.
15) Repair materials.

Floor surface flatness and levelness measurements to determine compliance with specified tolerances and requirements for applied finishes and materials, except as noted for slope to drains.

Field quality-control test and inspection reports.

Minutes of preinstallation conference.

4. QUALITY ASSURANCE

Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

a. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
b. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."

ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

c. ACI 301, "Specification for Structural Concrete."

d. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.

e. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
   1) Contractor's superintendent.
   2) Independent testing agency responsible for concrete design mixtures.
   3) Ready-mix concrete manufacturer.
   4) Concrete subcontractor.

f. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

DELIVERY, STORAGE, AND HANDLING

1. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

2. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

1. CONCRETE MATERIALS

a. Cement: shall be American-made Portland Cement, free from water soluble salts or alkalis which will cause efflorescence on exposed surfaces. Portland Cement shall be Type II, ASTM C150. Use only one brand of cement for each type of cement throughout project. Contractor shall be responsible for whatever steps are necessary to insure that no visual variations in color will result in exposed concrete and shall place on order and secure in advance a sufficient quantity of this (these) cement(s) to complete concrete work specified herein.
   1) Fly Ash: ASTM C 618
   2) Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

b. Normalweight Fine Aggregate: shall be washed, inert, natural sand conforming to ASTM C33 and following additional requirements:

Sieve	Retained Percent
#4	0 - 5
#16	25 - 40
#50	70 - 87
#100	93 - 97

Fineness Modulus	2.80 (Plus/Minus 0.20)
Organic	Plate 2 maximum
Silt	2.0 percent maximum
Mortar Strength	100 percent minimum compression ratio
Soundness	5 percent maximum loss, magnesium sulfate, five cycles

c. Normalweight Coarse Aggregate: shall be well graded crushed stone or washed gravel conforming to ASTM C33 and the following additional requirements:

Designated Size (inches)	3	2	1-1/2	1	3/4	1/2	3/8
F.M.(+/-0.20)	7.95	7.45	7.20	6.95	6.70	6.10	4.50

Organic	Plate 1 maximum
Silt	1.0 percent maximum
Soundness	5 percent maximum loss, magnesium sulfate, five cycles

Maximum designated sizes for normalweight coarse aggregate to be used in concrete sections shall be as noted below, except that sizes shall also be chosen in conjunction with required clearances.

1. One and one-half inches for sections over ten inches in thickness.
2. One inch for sections more than eight and up to ten inches in thickness.
3. Three-quarter inch for sections more than three and up to eight inches in thickness.

Concrete Fill for Steel Stair and Landing Pans: shall be composed of 1:2:2 mix with three-eighths inch maximum size normalweight aggregate and shall be placed with a 0 inches to 1 inch slump.

PART 3 - Water: shall be from approved source, potable, clean and free from oils, acids, alkali, organic matter and other deleterious material.

F. Admixtures:

1. Water-reducing agent:
   a. "WRDA" - W.R. Grace & Co.
   b. "PDA25" - Protex Industries, Inc.
   c. "Pozzolith 344H" - Master Builder's Co.
   d. Note: Water-reducing agent shall be by same manufacturer as air-entraining agent.
2. Air-entraining agent:
   a. "DAREX AEA" - W.R. Grace & Co.
   b. "PROTEX AEA" - Protex Industries
   c. "MB-VR" or "MB-AE" - Master Builder's Co.
3. Superplasticizer: High-range water-reducer conforming to ASTM C494, Type F or Type G.
4. Admixtures retarding setting of cement in concrete shall not be used without written approval of Architect.
5. Admixtures causing accelerated setting of cement in concrete shall not be used without written approval of Architect.

2.2 CONCRETE MIXTURES

A. The Contractor shall recommend, on the basis of trial mixes and strength curves specified below, design mixes for each type and strength of concrete. The Testing Agency will verify that the proposed mix designs conform to all specification requirements.

B. Sufficient materials for concrete mix design shall be furnished by Contractor not less than five weeks before use. Duplicate small samples plainly and neatly labeled with source, where proposed to be used, date, and name of collector shall be provided and presented to Testing Agency for permanent reference.

C. Mixes shall be designed in accordance with "Method 1" of ACI 301, and the requirements of this Section All concrete is normalweight unless specifically designated otherwise; air-dry weight not to exceed 150 lbs. per cubic foot.

D. Limiting values shown below apply for specific strengths of concrete with coarse aggregates less than one and one-half inches unless noted otherwise in TABLE A below.

TABLE A

Minimum Allowable Compressive Strength at 28 day (psi)	Max. Allowable Net Water Content Gallons/Sack*	Minimum Permissible Cement Factor Sacks/Cubic Yard**
4000	5.75	6.00
3000	6.50	5.00

* Maximum; decrease if possible. This represents total water in mix at time of mixing, including free water on aggregate.

** Minimum; increase as necessary to meet other requirements.

E. In all slabs and walls exposed to weather, all concrete shall contain the approved air-entraining admixture as per manufacturer's written instructions, to provide entrained air, by volume, in the cured concrete within 4.5 to 6.5 percent.

F. Water-Reducing Admixture - The approved water-reducing admixture shall be used in all concrete, in accordance with manufacturer's written instructions.

G. Concrete slabs, including slabs on grade, shall have a maximum water cement ratio of 0.45.

H. The approved superplasticizer shall be used in all concrete slabs, including slabs on grade.

I. Water content and cement content of concrete to be used in work shall be based on curve showing relation between water content, cement content, and 7 and 28 day compressive strengths of concrete made using proposed materials. Curves shall be determined by four or more points, each representing an average of at least three test specimens at each age, and shall have range of values sufficient to yield desired data, including all compressive strengths required by Contract Documents, without extrapolation. Design mix of concrete to be used in work, as determined from curve, shall correspond to following test strengths (TABLE B) obtained in laboratory trial mixtures, but in no case shall resulting mix conflict with limiting values as specified in TABLE A.

TABLE B
Minimum Strength of Lab Trial Mixes (psi)

Design Strength	Trial Mix Strength 7-days	14-days	28-days
	4000	3800	5000
	2700	3000	3750

J. Any deviation from approved mix design, which Contractor deems desirable under certain project conditions, will not be allowed without written approval of Architect. Cost of any additional testing by Testing Agency associated therewith shall be paid for by Contractor.

2.3 FORM MATERIALS

A. Construct formwork to shapes, lines, and dimensions required, plumb and straight, secured and braced sufficiently rigid to prevent deformation under load, and sufficiently tight to prevent leakage, all in conformance with ACI Standard 347, "Recommended Practice for Concrete Formwork".

B. Formwork for exposed concrete shall be medium-density plastic overlaid plywood, 5/8" minimum thickness; for concealed concrete shall be "Plyform" plywood, 5/8" minimum thickness.

C. Chamfer Strips: Half-inch, 45 degree poplar wood strips, nailed six inches on center, and installed in inside corners of all forms, unless otherwise directed by Architect.

D. Form Ties and Spreaders: Richmond Tyscrus by Richmond Screw Anchor Co.; Superior-ties by Superior Concrete Accessories, Ind.; or Sure-Grip Ties by Dayton Sure-Grip and Shore Co. Wire ties shall not be used. Ties for foundation walls shall be snap-ties or type specified above with removal cones and shall incorporate water seal washer. Ties shall be arranged in a symmetrical manner.

E. Form Release Agent: Non-staining and non-emulsifiable type, or equal approved by Architect. Form release agent shall be biodegradable and shall not impart any stain to concrete nor interfere with adherence of any material to be applied to concrete surfaces.

2.4 REINFORCEMENT AND ACCESSORIES

A. Reinforcing Steel Bars: shall be newly rolled billet steel conforming to ASTM A615 Grade 60. Bars shall be bent cold.

B. Welded Wire Fabric: shall conform to ASTM A185.

C. All structural steel reinforcement and embedded items shall be hot-dip galvanized after fabrication in accordance with ASTM A123.

All hot-dip galvanized steel shall be inspected for compliance with ASTM A123 and shall be marked with a stamp that indicates the number of ounces of zinc per square foot of steel. After galvanizing, the bars shall be dipped in a 0.2 percent chromic acid solution. A notarized Certificate of Compliance with all of the above shall be required from the galvanizer.

D. Reinforcement Accessories: shall conform to Product Standard PS7-766, National Bureau of Standards, Department of Commerce, Class C, as produced by Superior Concrete Accessories, Inc.; Dayton Sure-Grip Co.; or R.K.L. Building Specialties Co., Inc. Reinforcement accessories shall include spacers, chairs, ties, slab bolsters, clips, chair bars, and other devices for properly assembling, placing, spacing, supporting, and fastening reinforcement. Tie wire shall be galvanized or stainless wire of sufficient strength for intended purpose, but not less than No. 18 gage. Metal supports shall be of such type as not to penetrate surface of formwork and show through surface of concrete. Accessories touching interior formed surfaces exposed to view shall have not less than 1/8 inch of plastic between metal and concrete surface. Plastic tips shall extend not less than 1/2 inch up on metal legs. Individual and continuous slab bolsters and chairs shall be of type to suit various conditions encountered and must be capable of supporting 300 pound load without damage or permanent distortion.

2.5 MISCELLANEOUS MATERIALS

A. Grout: shall be ready-to-use metallic aggregate product requiring only addition of water at job site such as "Embeco Pre-mixed Grout" by Master Builder's; "Vibro-Foil Ready-Mixed" by W.R. Grace & Co.; or "Ferrolith G" by Sonneborn Building Products, Inc. Grout shall be easily workable and shall have no drying shrinkage at any age. Compressive strength of grout (2" x 2" cubes) shall not be less than 5000 psi at 7 days, and 7500 psi at 28 days.

B. Vapor Barrier: shall be 6 mil polyethylene, unless specifically specified elsewhere.

C. Membrane Curing Compound: shall conform to ASTM C309, Type 1. Product used shall be shown to be compatible with the later application of coatings. Curing compound shall not be used on any floor slab scheduled to receive an adhered floor finish.

D. Chemical Hardener: All exposed concrete floor slabs shall be hardened with three applications of fluosilicate chemical hardener followed by two applications of clear acrylic concrete sealer by Sonneborn Division, ChemRex Inc. "Lapidolith"; or equal product by W.R. Meadows Co. or Concrete Service Material Company.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine all work prepared by others to receive work of this Section and report any defects affecting installation to the Contractor for correction. Commencement of work will be construed as complete acceptance of preparatory work by others.

1. Inspection shall be performed by a structural engineer licensed by the local authorities having jurisdiction. Certify compliance with shop drawings.

3.2 HANDLING, STORAGE, AND PROTECTION OF MATERIALS

A. Handle and store materials separately in such manner as to prevent intrusion of foreign matter, segregation, or deterioration. Do not use foreign materials or those containing ice. Remove improper and rejected materials immediately from point of use. Cover materials, including steel reinforcement and accessories, during construction period. Stockpile concrete constituents properly to assure uniformity throughout project.

3.3 ERECTION OF FORMWORK, SHORING AND RESHORING

A. Set and maintain formwork to insure complete concrete work within tolerance limits listed in ACI 347 latest edition, "Recommended Practice for Concrete Formwork", and with following additional requirements:

1. Maximum variations from plumb:

a. In surfaces of columns and walls:

In any 10 feet of length	1/4 inch
Maximum for entire length	1/2 inch

2. Maximum variations from established position in plan shown on the drawings:

Column	1/2 inch
Walls	3/4 inch

3. Variations in cross-sectional dimensions of columns and beams and in thickness of slabs and walls.

Minus	1/8 inch
Plus	1/4 inch

B. For a minimum of one hour prior to concrete placement, wet forms continuously with water to swell forms in order to prevent leakage of concrete matrix and to minimize absorption of concrete matrix water by form materials. This requirement may be waived for those specific cases where Architect deems it unnecessary or impractical. Care must be exercised to prevent a build-up of water at base of forms.

C. Before form materials can be re-used, surfaces that will be in contact with freshly cast concrete shall be thoroughly cleaned, damaged areas repaired and projecting nails withdrawn. Re-use of form material shall be subject to approval by Architect.

3.4 PLACING OF REINFORCEMENT

A. Reinforcement shall be placed in accordance with requirements of CRSI 93, "Recommended Practice for Placing Reinforcing Bars" and CRSI 93, "Recommended Practice for Placing Bar Supports" and with further requirements below.

B. Reinforcement shall be accurately placed in accordance with Contract Documents and shall be firmly secured in position by wire ties, chairs, spacers, and hangers, each of type approved by Architect.

C. Bending, welding or cutting reinforcement in field in any manner other than as shown on Drawings, is prohibited, unless specific approval for each case is given by Architect.

D. Reinforcement shall be continuous through construction joints unless otherwise indicated on Drawings.

E. Reinforcement shall be spliced only in accordance with requirements of Contract Documents or as otherwise specifically approved by Architect. Splices of reinforcement at points of maximum stress shall generally be avoided. Welded wire fabric shall lap six inches or one space plus two inches whichever is larger, and shall be wired together.

F. At time concrete is placed, reinforcement shall be free of excessive rust, scale, or other coatings that will destroy or reduce bond requirements. Reinforcement expected to be exposed to weather for a considerable length of time shall be painted with a heavy coat of cement grout. Protect stored materials so as not to end or distort bars in any way. Bars that become damaged will be rejected.

G. Before concrete is cast, check all reinforcement after it is placed to insure that reinforcement conforms to Contract Documents and approved Shop Drawings. Such checking shall be done only by qualified experienced personnel. In addition, the Architect shall be notified at least 36 hours prior to concrete placement and given opportunity to inspect completed reinforcement and formwork before concrete placement. Prior approval of Shop Drawings shall in no way limit Architect's right to demand modifications or additions to reinforcement or accessories.

3.5 JOINTS

A. Construction and control joints indicated on Drawings are mandatory and shall not be omitted.

B. Joints not indicated or specified shall be placed to least impair strength of structure and shall be subject to approval of Architect.

3.6 INSTALLATION OF EMBEDDED ITEMS

A. Conform to requirements of ACI 318, paragraph 6.3, "Conduits and Pipes Embedded in Concrete", and as specified below.

B. Install steel sleeves, embedded wall plates and similar items, furnished by other trades, at locations shown on the drawings.

C. Anchor bolts for column baseplates shall be installed with templates provided. Vertical alignment and plan locations shall be maintained within one-sixteenth inches of the locations shown on the drawings.

1. Inspection shall be performed by a surveyor licensed by the local authorities having jurisdiction. Certify compliance with shop drawings.

3.7 MIXING, CONSISTENCY, AND DELIVERY OF CONCRETE

A. Concrete shall be ready-mixed, produced by plant acceptable to Architect. Hand or site mixing shall not be done. Constituents, including admixtures except certain corrosion inhibitors and superplasticizers, shall be batched at central batch plant. Admixtures shall be premixed in solution form and dispensed as recommended by manufacturer.

B. Central plant and rolling stock equipment and methods shall conform with Truck Mixer and Agitator Standard of Truck Mixer Manufacturer's Bureau of National Ready-Mixed Concrete Association, and Contract Documents. Consistency of concrete at time of deposit shall be as follows:

	Slump	
Portion of Structure	Recommended	Max. Range
Walls, columns	4"	3" - 5"
Slabs, beams	3"	2" - 4"

C. Ready mixed concrete shall be transported to site in watertight agitator or mixer trucks loaded not in excess of rated capacities. Discharge at site shall be within one and one-half hours after cement was first introduced into mix. Discard cement not discharged within one and one-half hours and dispose of legally. Concrete with a temperature greater than 85 degrees F. shall not be placed. Central mixed concrete shall be plant mixed a minimum of five minutes. Agitation shall begin immediately after premixed concrete is placed in truck and shall continue without interruption until discharged. Transit mixed concrete shall be mixed at mixing speed for at least ten minutes immediately after charging truck followed by agitation without interruption until discharged. Concrete shall be furnished by a single plant unless accepted by the Architect in writing.

D. Retempering of concrete which has partially hardened, that is, mixing with or without additional cement, aggregates, or water, will not be permitted.

3.8 PLACING CONCRETE

A. Intent of this Specification is that concrete shall not be pumped. Refer to "Submittals and Concrete Constituents" in this Section for requirements should pumping be proposed.

B. Remove water and foreign matter from forms and excavations and, except in freezing weather or as otherwise directed, thoroughly wet wood forms just prior to placing concrete. Place no concrete on frozen soil and provide adequate protection against frost action during freezing weather.

C. To secure full bond at construction joints, surfaces of concrete already placed, including vertical and inclined surfaces, shall be thoroughly cleaned of foreign materials and laitance, roughened with suitable tools such as chipping hammers or wire brushes, and recleaned by stream of water or compressed air. Well before new concrete is deposited, joints shall be saturated with water. After free or glistening water disappears joints shall be given thorough coating of neat cement slurry mixed to consistency of very heavy paste. Surface shall receive coating of approximately one-eighth inch thick; this shall be scrubbed in by means of stiff bristle brushes. New concrete shall be deposited before neat cement dries or changes color.

D. Do not place concrete having slump outside of allowable slump range.

E. Transport concrete from mixer to place of final deposit as rapidly as practical by methods which prevent separation of ingredients and displacement of reinforcement, and which avoid rehandling. Deposit no partially hardened concrete. When concrete is conveyed by chutes, equipment shall be of such size and U-shaped design as to insure continuous flow in chute. Flat (coal) chutes shall not be employed. Chutes shall be of metal or metal lines and different portions shall have approximately same slope. Slope shall not be less than 25 degrees nor more than 45 degrees from horizontal and shall be such as to prevent segregation of ingredients. Discharge end of chute shall be provided with baffle plate or spout to prevent segregation. If discharge end of chute is more than five feet above surface of concrete in forms, spout shall be used, and lower and maintained as near surface of deposit as practicable. When operation is intermittent, chute shall discharge into hopper. Chute shall be thoroughly cleaned before and after each run and debris and any water used shall be discharged outside forms. Concrete shall not be allowed to flow horizontally over distances exceeding five feet.

F. Concrete shall be placed in such manner as to prevent segregation, and accumulations of hardened concrete on forms or reinforcement above mass of concrete being placed. To achieve this end, suitable hoppers, spouts with restricted outlets and tremies shall be used as required.

G. During and immediately after depositing, concrete shall be thoroughly compacted by means of internal type mechanical vibrators or other tools, or by spading to produce required quality of finish. Vibration shall be done by experienced operators under close supervision and shall be carried on only enough to produce homogeneity and optimum consolidation without permitting segregation of constituents or "pumping" of air. Vibrators used for normalweight concrete shall operate at speed at not less than 7,000 vpm and be of suitable capacity. Do not use vibrators to move concrete. Vibration shall be supplemented by proper wooden spade puddling to remove included bubbles and honeycomb adjacent to visible surfaces. At least one vibrator shall be on hand for every 10 cubic yards of concrete placed per hour, plus one spare. Vibrators shall be operable and on site prior to starting placement.

H. Vertical lifts shall not exceed 18 inches. Vibrate completely through successive lifts to avoid pour lines. Vibrate first lift thoroughly until top of lift glistens to avoid stone pockets, honeycomb, and segregation.

I. Concrete shall be deposited continuously, and in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause formation of seams and planes of weakness within section. If section cannot be placed continuously between planned construction joints, as specified, field joint and additional reinforcement shall be introduced so as to preserve structural continuity. Architect shall be notified in any such case.

J. Cold joints, particularly in exposed concrete, including "honeycomb", are unacceptable. If they occur in concrete surfaces exposed to view, Architect will require that entire section in which blemish occurs be removed and replaced with new materials at Contractor's expense.

K. When placing exposed concrete walls or columns, strike corners of forms rapidly and repeatedly from outside along full height while depositing concrete and vibrating.

L. Chutes, hoppers, spouts, adjacent work, etc. shall be thoroughly cleaned before and after each run and water and debris shall be discharged outside form.

3.9 FINISHING OF UNFORMED CONCRETE SURFACES

A. Smooth troweled finish: shall be provided where concrete flatwork is to be exposed in the finished work or is to receive resilient flooring materials.

B. Floated finish: shall be provided where concrete flatwork is to receive waterproofing membranes or setting beds for finished materials.

C. Floated finish: shall be provided for top surfaces of walls, slabs and beams.

D. Rough struck surface shall be provided at top of pedestals.

E. Steel Broom Finish (with smooth edging): shall be provided at exterior concrete walks, pavements and steps.

F. Contractor, at his own expense, shall level depressed spots and grind high spots in concrete surfaces which are in excess of specified tolerances of new and existing surfaces adjacent to new pours. Leveling materials proposed for providing proper surface shall be approved by Architect.

3.10 REPAIRING OF UNFORMED CONCRETE SURFACES

A. Tops of slabs and walls shall be repaired by using either same material as originally cast or by use of dry-pack material, as approved by Architect. Areas affected shall be chipped back square and to depth of one inch minimum. Hole shall then be moistened with water for a minimum of two hours, followed by brush coat of 1/16 inch thick cement paste. Immediately plug hole with concrete, or with dry pack material consisting of 1:1.5 mixture of cement and concrete sand mixed slightly damp to touch. Hammer dry-pack into hole until dense, and excess paste appears on surface. Finish patch flush and to same texture as surrounding concrete. For large repairs employ 1-1-2 mixture of cement, concrete sand and pea gravel at same dry-pack consistency.

3.11 CURING AND PROTECTION

A. When concrete is placed at or below ambient air temperatures of 40 degrees F. or whenever in opinion of Architect, such or lower temperatures are likely to occur within 48 hours after placement of concrete, cold weather concreting procedures, according to ACI 306 and as specified herein, shall be followed. To this end, entire area affected shall be protected by adequate housing or covering, and heating. No salt, chemicals or other foreign materials shall be used in the mix to lower freezing point of concrete.

B. Protect concrete work against injury from heat, cold, and defacement of any nature during construction operations.

C. Concrete shall be treated and protected immediately after concreting or cement finishing is completed, to provide continuous moist curing above 50 degrees F. for at least seven days, regardless of ambient air temperatures.

D. Curing compounds will not be permitted for slab and beams.

E. Keep permanent temperature record showing date and outside temperature for concreting operations. Thermometer readings shall be taken at start of work in morning, at noon, and again late in afternoon. Locations of concrete placed during such periods shall likewise be recorded, in such manner as to show any

effect temperatures may have had on construction. Copies of temperature record shall be distributed daily to Architect.

3.12 HARDENER

A. Prepare surfaces and apply surface hardener to all concrete floors not receiving resilient flooring, ceramic tile or membrane waterproofing.

B. Prepare surface and apply special sealer system to all concrete flatwork and curbs exposed to the elements.

3.13 REMOVAL OF FORMWORK, SHORING AND RESHORING

A. Contractor shall be responsible for proper removal of formwork, shoring, and reshoring.

B. Forms shall be removed only after concrete has attained sufficient strength to support its shown weight, construction loads to be placed thereon and lateral loads, without damage to structure or excessive deflection.

C. Forms and supports shall remain in place for not less than minimum periods of time noted below. These periods represent cumulative number of days or fractions thereof, consecutive unless otherwise approved by Architect during which time mean daily air temperature at surfaces of concrete is above 50 degrees F.

1. Vertical surfaces: concrete shall have reached 100 day-degrees# and shall have attained strength of not less than 30 percent of f'c. Where such forms also support formwork for slab or beam soffits, removal times for latter shall govern.

2. Horizontal surfaces: except as noted below, concrete shall have reached 300 day-degrees# of curing and attained strength of not less than 60 percent of f'c.

   a. Soffits of beams or girders shall remain supported and in place until concrete has attained 600 day-degrees#.

   b. Forms and supports of floor slabs shall remain in place until concrete has reached 400 day-degrees#.

   #Definition of day-degrees: Total number of days times mean daily air temperature at surfaces of concrete. For example, five days at temperature of 60 degrees F. equals 300 day degrees. Days or fractions of days in which temperature is below 50 degrees F. shall not be included in calculation of day-degrees.

D. Form removal shall be so performed that reshores are placed at same time as stripping operations, and that no area larger than one-fourth of a slab panel is unsupported at any time.

E. Any test cylinders required to verify the specified minimum strengths for form removal shall be field cured under the same conditions as the concrete they represent. Such cylinders and testing shall be at the Contractor's expense.

3.14 REPAIRING AND FINISHING OF FORMED AND ARCHITECTURAL CONCRETE SURFACES

A. In accordance with the provisions of ACI 301, Chapter 10, all concrete shall have "smooth form finish".

B. Intent of this Specification is to require forms, mixtures of concrete, and workmanship so that concrete surfaces will require no patching, except for plugging of tie holes. However, where patching is acceptable to Architect, procedure described below shall be followed.

C. Defective concrete and honeycombed areas shall not be patched unless examined and approval is given by Architect. If such approval is received by Contractor, areas involved shall be chipped down square and at least one inch deep to sound concrete by means of cold chisels or pneumatic chipping hammers. If honeycomb exists around reinforcement, chip to provide clear space at least three-quarter inch wide all around steel to afford proper ultimate bond thereto. For areas less than one and one-half inches deep, patch shall be made in same manner as described above for filling unformed concrete surfaces, care being exercised to use crumbly-dry (non-trowelable) mixtures and to avoid sagging. Thicker repairs shall require build-up in successive days, each layer being applied as described. To aid strength and bonding of multiple layer repairs, non-shrink, non-metallic aggregate shall be used as an additive as follows:

Materials	Volumes	Weights
Cement	1.0	1.0
Non-Metallic Aggregate	0.15	0.25
Sand	1.5	1.55

For very heavy (generally, formed) patches, pea gravel may be added to mixture and proportions modified as follows:

Materials	Volumes	Weights
Cement	1.0	1.0
Non-Metallic Aggregate	0.2	0.33
Sand	1.0	1.0
Pea Gravel	1.5	1.55

After hardening, rub lightly as described above for form tie holes.

1. Mortar for patching shall be same mix as above except aggregate shall pass a No. 14 sieve.

2. For all concrete to receive "smooth" finish, remove formwork fins and clean entire surface of grease, form oil, laitance, dust, and other foreign matter.

3. "Smooth" finish shall consist of having all fins removed, joint marks smoothed off, blemishes removed, and surfaces left smooth and unmarred.

4. Begin finishing operations as soon as practicable after removal of forms, continue with curing operations after finishing is completed. After concrete has been well cured, carefully inspect surfaces. Remove any fins, rough spots, streaks, hardened mortar or grout and other foreign material. Patch defects with finishing mortar as specified above, to satisfaction of Architect.

D. Patches which become crazed, cracked, or sound hollow upon tapping shall be removed and replaced with new material at Contractor's expense.

G. Concrete slabs installed over utility trenches (which are cut into existing slabs) shall be reinforced to equal reinforcing in existing slabs. As a minimum provide #4 bars, doweled at 24" o.c. (staggered into existing slab, and 2 continuous #4 bars 12" apart running the length of the trench on top of the doweled rods. Top of fill concrete to be ½" below adjacent slab. After the concrete fill has dried sufficiently, fill the top ½"

with pourable non-shrink self-leveling Portland cement based filler to bring trench topping level with surrounding slab.

H. Vapor barriers that are cut by trenching operations must be repaired with minimal 6 Mil material equal to or better than the original vapor barrier, with all seams carefully sealed and taped.

I. When required to correct any unsatisfactory floor surface due to undue settlement, shrinkage or cracking, leveling agent shall be used. Apply material, when required, in accordance with manufacturer's printed instructions when, in the opinion of the Architect, it is necessary to provide an acceptable surface. Application to be in accordance with Section 03530.

3.15 CLEANING

A. Concrete surfaces shall be cleaned of objectionable stains as determined by the Architect. Materials containing acid in any form or methods which will damage "skin" of concrete surfaces shall not be employed, except where otherwise specified.

END OF SECTION

SECTION 06100 ROUGH CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION

A. **Includes all labor, materials, services, equipment and related items** required for the complete installation of Rough Carpentry work as indicated by the Contract Documents.

B. **Related Work:**
1. **Section 09260** – Gypsum Wall Board System

1.02 QUALITY ASSURANCE

A. **Use adequate numbers of skilled workmen** who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. **Meet Requirements and recommendations of applicable portions of Standard listed.**

1.	Products Standards	PS
2.	American Plywood Association	APA, DFPA
3.	Architectural Woodwork Institute	AWI
4.	American Wood Preservers Institute	AWPI
5.	National Forest Products Association	NFPA
6.	Southern Pine Inspection Bureau	SPIB

C. **Material Grading**
1. **The grades of the materials used shall be defined by the rules** of the recognized associations of lumber manufacturers producing the material specified, but the maximum defects permissible in any specific grade shall not exceed the limitations of the American Lumber Standards.
2. **Defects expressly prohibited** by this Section shall not appear in the material used, even if permissible in the grade specifications.
3. **The sized specified are nominal board measure dimensions** unless otherwise noted.
4.

1.03 SUBMITTALS

A. **Submit product data in accordance with Section 01340.**

B. **Certification:**
1. **Pressure treated wood:** Submit certification by treating plant stating chemicals and process used, net amounts of salts retained, and conformance with applicable standards.
2. **Preservation treated wood:** Submit certification for water-borne preservative that moisture content was reduced to 15% maximum, after treatment.

C. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials, both before and after exposure to elevated temperatures when tested according to ASTM D 5516 and ASTM D 5664.

D. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

E. Manufacturers' product data for construction adhesive, including printed statement of VOC content.

F. Composite wood manufacturer's product data for each composite wood product used indicating that bonding agent used contains no urea formaldehyde.

1.04 PRODUCT HANDLING

A. **Immediately upon delivery** to the job site, place materials in area protected from water.

B. **Store materials a minimum of 6" above ground** on framework or blocking and cover with protective waterproof covering providing for adequate air circulation and ventilation.

C. **Do not store seasoned materials in wet or damp** portions of building.

D. **Protect fire retardant materials** against high humidity and moisture during storage and erection.

E. **Protect sheet materials** from corners breakage and surface damage, while unloading.

F. **Comply with pertinent provisions** of Section 01640.

PART 2 - PRODUCTS

2.01 MATERIALS

A. **Framing Lumber:** Grade marked, No. 2 com. Southern Yellow Pine or construction grade Douglas Fir, moisture content under 15% free of warp that cannot be corrected by nailing, S4S.

B. **Bracing, Blocking and Grounds:** Grade marked No. 2 com. Southern Yellow Pine or construction grade Douglas Fir, moisture content under 15%, S4S.

C. **Underlayment:** 11/32" APA rated plywood underlayment A/C, exterior exposure with fully sanded face, as manufactured by an APA member mill complying with PS-183.

D. **Fasteners:**

1. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

   a. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

2. Nails, Wire, Brads, and Staples: FS FF-N-105.

3. Power-Driven Fasteners: CABO NER-272.

4. Wood Screws: ASME B18.6.1.

5. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.

6. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.

7. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

   a. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

E. **Composite Decking similar to Trex. Color to be selected at later date**

F. **Cedar Beams and Columns (#2 Structural dressed). If non dressed, GC to coordinate elevations in field of deck area.**

G. **Pressure Treated Wood.** For all wood above deck area, provide matching species for areas needing replacement of wood.

2.02 PRESERVATIVES

A. **Use lumber pressure treated** with a water-borne salt preservative, Wolman, Erdalith, or Chemowater Zinc Chloride in accordance with AWPI Specifications P-5 for abutting concrete or masonry in damp locations, concrete, plaster, stucco or steel, including use for sills, plates, screeds, cant strips, blocking, nailers and bucks. **Contact with the ground in prohibited.**

B. **Reduce moisture content** to 19% or less after treatment for 2" thick lumber.

C. **Reduce moisture content** to 23% or less after treatment for over 2" thick lumber.

D. **Reduce moisture content** to 15% or less after treatment for plywood.

E. **Furnish certificate from lumber** treating company showing treatment amount and moisture content after drying.

1. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.

2. Application: Treat items indicated on Drawings, and the following:

   a. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
   b. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete in exterior walls.

F. **Brush coat surfaces** that have been cut after treatment with preservatives.

2.05 MISCELLANEOUS MATERIALS

A. Adhesive, Including Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

1. Use adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.01 INSTALLATION

A. **Discard units of material with defects** that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

B. **Set carpentry to required levels and lines**, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

C. **Apply field treatment complying with AWPA M4** to cut surfaces of preservative-treated lumber and plywood.

D. **Securely attach carpentry work** as indicated in drawings and specifications and according to applicable codes and recognized standards.

E. **Countersink fastener heads** on exposed carpentry work and fill holes with wood filler.

F. **Use fasteners of appropriate type and length**. Predrill members when necessary to avoid splitting wood.

G. **Cutting and Repairing**: Do such work as normally required and done for mechanical and other trades.

H. **Blocking: Furnish and install blocking,** furring, brackets, etc., as required to properly carry out all work shown and reasonably inferred by the Drawings and Specifications.

I. **Nailers and Wood Cants:** Nailers, 2" stock unless otherwise noted, of the proper widths. Bevel nailers for concrete 1/2" both sides and properly place in forms. Bolt nailers in place on steel or masonry. Furnish ledgers bolted to wall in locations shown and as required.

J. **Shoring:** Furnish and place all necessary shoring and bracing of types and sizes best suited for the conditions to be met. Shoring must comply with all governing requirements where replacement of beams are necessary.

K. **Provide wood curbs, required blocking and cants** around all openings through the roof indicated on all architectural, mechanical and electrical drawings. Check drawings for all trades and furnish for all openings indicated.

L. **Headers over openings in walls or beams shall be as follows,** unless noted otherwise:

Opening Width	Header Size
up to 6' - 0"	2-2x6
6' to 8' - 0"	2-2x8
8' to 10' - 0"	2-2x10

3.02 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

END OF SECTION

SECTION 07240 EXTERIOR INSULATION AND FINISH SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. **Work included:** Exterior wall insulation and finish system shall include, but is not necessarily limited to:

1. **Exterior wall insulation** and/or finish system on masonry surfaces gypsum sheathing, where Indicated.

B. **Related work specified elsewhere.**

1. **Rough Carpentry** Section 06100

1.02 QUALITY ASSURANCE:

A. **At all locations** the insulation board shall be encapsulated by the Lamina or substrate and shall be separated from the interior of the building by a thermal barrier having at least a 15-minute rating.

1.03 SUBMITTALS: Submit the following information to the Architect for review and/or approval:

A. **Complete** literature, data, and insulation value for the proposed system, and installation details.

B. **Shop drawings** for panelized construction coordinated with steel studs and other suppliers.

C. **Color samples:** Submit all colors available. Two colors will be sued on job as selected by Architect. After colors are selected submit a 2' x 4' sample of each finish color and texture selected.

D. **U.L. Laboratories approval** of the lamina and insulation board and all fire ratings described in the manufacturer's literature (Dryvit). Also - Factory Mutual approvals as listed in the Factory Mutual Approval Guide.

E. **Certifications that the system complies to H.U.D. Materials Release No. 833a and H.H.S. Technical Bulletin No. 30.**

F. **U-Value of Wall:** Calculations showing that each type of exterior wall make-up has a U-Value not greater than .07.

G. **Guarantee:** Manufacturer's Warranty shall be issued for 10-years on materials.

1.04 WARRANTY:

A. All new applied finishes to have 10 year manufacturer warranty.

PART 2 - PRODUCTS

2.01 APPROVED MANUFACTURERS:

Dryvit System, Inc. - "Outsulation" or "Equal"

2.02 MATERIALS:

A. **Primus/Adhesive:** Acrylic based product by the system manufacturer.

B. **Insulation Board (where indicated on drawings):**

1. **Nominal 1.0 pcf (16 kg/m3)**, aged expanded polystyrene meeting the system manufacturer's specifications and complying to Fed. Spec. HH-1524C, Type 1, except for labeling.
2. **Flame spread** and smoke development shall be less than or equal to 25 and 240 respectively when tested by ASTM E84.
3. **1/2" Thick Insulation throughout**. Thickness shall be as required to obtain the specified .07 U-Value, for each type wall (See Par. 1.03, F) for banding as indicated on the drawings.

C. **Reinforcing Mesh:** Balanced open weave, treated glass fiber mesh supplied by system manufacturer.

D. **Finish:** Acrylic based, factory-mixed coating made by system manufacturer, having integral color and texture, for use with the system. Texture shall be sandblast regular or sprayed as selected by Architect. Provide "PANZER" finish below 3'6" AFF throughout, at pediment Entrance Area and exterior doors 6'-8" and below(4'0" ea side of door).

E. **Lamina:** Shall be classified by Underwriters laboratory as having a flame spread of less than or equal to 25 when tested by ASTM E84.

F. **Drainage Mat: Self-furring PVC mesh lath** designed to drain moisture by gravity; EIFS manufacturer's standard or product recommended in writing by EIFS manufacturer.

G. **System:**

1. **Shall have been tested** for moisture resistance, rain resistance, absorption-freeze, accelerated weathering, mildew resistance, salt spray resistance, chemical resistance and abrasion resistance.
2. **Shall have been tested** at full scale for impact resistance and structural load capacity per ASTM E72 and E330 respectively.
3. **Cement:** Type 1, 1-11 or 11 Portland cement meeting ASTM C150.
4. **Water:** Clear and potable.
5. **Sealant System:** Tremco "Dymeric" with Primer #1 or Pecora "Dynatrol II" with Primer P75, as approved by system manufacturer.
6. **Finisher coating:** Acrylic-based coating manufactured in the specified texture type as the system finish, for direct application to substrate.

2.03 MIXING AND PREPARATION:

A. **Primus/Adhesive Mixture:** Mix with cement in a ration of 1:1 by weight, wait 5 minutes, then stir again. Use immediately.

B. **Finish and Finish Coating:** Stir until material is homogenous.

PART 3 - EXECUTION

3.01 INSPECTION:

Prior to application of the systems, the substrate shall be examined for compliance with the contract documents and the system's requirements. The General Contractor and Architect shall be advised of all discrepancies. Work shall not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION:

A. **The system:** All work shall be installed in accordance with the system manufacturer's directions.
   1. **Insulation Board (When applicable):**
      a. **General:**
         1) **Apply with joints** offset with substrate joints using running bond pattern or as required to comply with design intent.
         2) **Joints** shall be staggered and interlocked at corners.
      b. **Primus/Adhesive Mixture:** Use matched-trowel, applying beads to entire surface of one face of insulation board using trowel meeting system manufacturer's approval. Apply 2"\ x 3/8" thick ribbon to entire perimeter of same side with trowel.
      c. **Mount prepared insulation board** to substrate using even pressure to produce uniform contact and bond. Flatten surface by using straight edge to align edges of adjacent insulation boards.
      d. **Let dry 24 hours.**
      e. **Sand high areas** to produce level surface.
   2. Base Coat:
      a. **General:** Inspect surface flatness, damage and deterioration due to weathering and repair prior to application of base coat.
      b. **Standard Base Coat:** Apply 1/16" thick coat of Prima/Adhesive mixture to entire surface of insulation board. Immediately imbed standard reinforcing mesh into wet Primus/Adhesive and smooth surface until mesh is not visible. Lap mesh edges 2 1/2" minimum on all sides. Allow to dry 24 hours.
   3. **Finish:** Apply finish using clean stainless trowel using sufficient manpower and equipment to insure a continuous operation without cold joints, scaffolding lines, etc. Finish to be in accordance with approved sample.

B. **Finish Coating: Apply to substrate per manufacturer's directions.**

C. **Exterior Finishing :**
   1. **Coordinate finish batch numbers and texturing techniques to insure matched appearance.**
   2. **Protect system** at all times from weather. Install flashings and sealants immediately after installation.
   3. **Install dryvit between 2" and 4" above finish grade to prevent wicking.**

D. **Joints:**
   1. **Joints shall be 1/2"** wide and shall be 1/2" deep or as noted on plans.
   2. **Expansion joints** and control joints shall be located where shown and as required by the system manufacturer's recommendations. See details and drawings. Joints shall be caulked with sealant as specified herein and installed in accordance with Section 07900. Wrap Lamina around board edges.

E. **Openings**, such as doors, windows, louvers and the like, shall have Lamina wrapped around board edges before installing sealant, back up rods, or sills.

F. **Drip Screed:**
Provide drip screeds at all soffits. Drip screed to be min. 1" wide. "V-Groove"

3.03 HEAVY DUTY SYSTEM:

Provide at Entrance Areas and at Loading Area, "PANZER" finish. Also provide "PANZER" finish 3'-4" above grade.

END OF SECTION

SECTION 07410 PREFORMED SOFFIT PANELS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DESCRIPTION OF REQUIREMENTS

A. **Performance Requirements:** provide preformed soffit panels systems which comply with performance requirements indicated based on pretesting of installed panels using the following methods:

Air Infiltration: ASTM E 283.
Water Penetration: ASTM E 331.
Structural Properties: ASTM E 72.

B. **Structural Design Requirements**: provide panels which comply with structural requirements indicated based on design procedures for AISI "Specification for the Design of Cold-Formed Steel Structural Members:.

1.03 SUBMITTALS: Submit manufacturer's product data describing preformed soffit panels and structural support system. Match existing where panels cannot be reused.

Submit shop drawings showing layout of panels in soffits and details of special and typical conditions.

Submit samples of each exposed finish material and colors for Architect's selection.

Submit certification by manufacturer that products have been pretested and comply with performance requirements indicated.

PART 2 - PRODUCTS

2.01 Manufacturers: Alumax/Howmet or approved equal.

A. **Soffit Panels**: DECOR-FLUSH WALL rollformed panels, 12" wide, tongue and groove interlock and concealed fasteners. Panels shall have baked-on smooth finish in manufacturer's standard colors. Match existing style and color if required.

B. **Material**: .032" aluminum alloy 3105-H14 or approved equal colors selected by Architect.

2.02 Fasteners: Manufacturer's standard, with heads gasketed where exposed on exterior. Provide J-trim at wall and retainer at fascia.

2.03 Accessories: Provide manufacturer's standard and accessories as required for a complete installation including trim, flashing, corner units, closures, clips, battens, louvers, gaskets, sealants, and similar items.

2.04 Metal Finishes: Apply coatings either before or after forming and fabricating panels, as required by coating process or for maximum coating performance. Provide color as selected by Architect from manufacturer's standard colors. Finish coating to be manufacturer's standard.

2.05 **Fabricate and finish** panels and accessories at factory by manufacturer's standard procedures and processes to produce panels of type indicated and to comply with indicated profiles, and to dimensional performance requirements indicated. Smooth, flat interlocking surface.

2.06 **Panel Assembly**: Assemble in place and comply with panel manufacturer's instructions for anchorage and support of components.

2.07 **Gaskets**: Provide manufacturer's standard panel gaskets, in joint system, of hollow or fingered vinyl or neoprene.

2.08 **Sealants**: Provide non-skinning, non-drying butylene mastic sealants in all joints of soffit panel system, to form a continuous vapor barrier.

PART 3 - EXECUTION

3.01 **Installation**:

A. **Comply with panel manufacturer's instructions** for anchorage joint sealers, flashing and trim for the proper and permanent installation of panels, with provisions for thermal expansion, erected in panel pattern indicated.

Conceal fasteners by use of laps and joint clips or equal methods.

B. **Separate aluminum sheets** from contact with wood, masonry and steel (structure, panels or fasteners), by either a 15-mil coating of fibered asphalt paint or by tapes or gaskets of type recommended by panel manufacturer. Except as otherwise recommended by manufacturer, fasten aluminum work with non-magnetic stainless steel fasteners, gasketed where needed for waterproof or vaporproof performance.

C. **Repair and/or replace** as necessary at all pavilions.

END OF SECTION

SECTION 07472 MANUFACTURED METAL FASCIA

PART 1 - GENERAL

1.01 SUMMARY

A. Includes but not limited to:
1. Furnishing and installing metal fascia and eave drip on building.

B. Related Sections:
1. **General Conditions** and Division 01 apply to this Section.

1.02 SUBMITTALS

A. Provide Manufacturer's written 20 year guarantee for finishes.

1.03 QUALITY ASSURANCE

A. Fascia and drip edge shall be of same material.

PART 2 - PRODUCTS

2.01 GALVANIZED FASCIA

A. 0.024 inch thick minimum complete with accessories proper installation.

B. Standards:
1. **Face finish system and color shall be same as metal soffit. Match existing where panels cannot be reused.**

PART 3 - EXECUTION

3.01 INSTALLATION

A. Fasteners shall be concealed except where details might require a minimum number to be exposed.
1. **Paint heads of exposed fasteners to match background.**

B. Install with slip joints at each end. Screw to substrate through pre-drilled, oversized holes.

C. Isolate from dissimilar metals to prevent electrolytic action.

D. Repair buckling or bowing due to improper installation at no cost to Owner.

END OF SECTION

SECTION 07600 FLASHING AND SHEET METAL

PART 1 - GENERAL

1.01 **Conform** to profiles and sizes shown, and comply with "Architectural Sheet Metal Manual" by SMACNA, for each general category of work required. Exposed flashings shall match existing fascia.
Metal flashing and counter flashing.
Metal wall flashing and expansion joints.
Metal valleys, sumps and scuppers.
Miscellaneous sheet metal accessories.
Gutters and downspouts (rain drainage).

1.02 DESCRIPTION

A. **Work Included:**
Flashing and sheet metal work at roof.

B. **Related Work:**
Joint Sealers Section 07900

1.03 SUBMITTALS

A. **Complete data** on all materials to be used and certifications that roofing and flashing materials comply to UL Class A and F.M. Class 1.

B. **Guarantee: Five year maintenance guarantee stating that all work in this Section will remain watertight for a period of 5 years from date of project acceptance, consigned by the General Contractor.**

1.04 QUALITY ASSURANCE

A. **Deliver and store materials** in manufacturer's original packages with seals and labels intact. Store in a dry protected shelter until time of use.

B. **Install in dry weather.** Do not apply when temperature is below 40 deg. F.

C. **Protect completed work against traffic.** Protect building from damage by roofing operations.

D. **Roofer shall inspect all surfaces** to which roofing, flashing and sheet metal is to be applied and have deficiencies corrected before applying.

E. **Materials and application** shall meet the accepted manufacturer's general requirements, conditions and specifications. Component roofing materials and incidentals connected with roofing and flashing shall meet roofing and flashing manufacturer's recommendations.

F. **Where dissimilar metals** are used on contact with each other, they shall be separated by a layer of felt or by a coat of elastic cement to prevent electrolysis. Provide bitumastic paint coating where indicated.

G. **Conform to profiles** and sizes shown, and comply with Architectural Sheet Metal Manual: by SMACNA, for general category of work required.

PART 2 - PRODUCTS

2.01 SHEET METAL

A. **Except as otherwise specified, all sheet metal shall be paint-grip treatment.** Fasteners shall be rust resistive, compatible with flashing. Flux shall be raw muriatic acid, filled with zinc. Solder shall conform to ASTM B32.

1. **All sheet metal items shall be complete with incidentals, as indicated.**

2. **Counter flashing** shall be 24 gage galvanized metal at all base flashing and elsewhere indicated. Fill top of cap flashing with sealant.

2.02 WALL FLASHING

A. **Concealed flashing** shall be copper coated fabric type or synthetic sheet type and one of the following:
Sandell Copper Fabric.
NERVASTRUL 56, Specification No. 3532-C.
LEXSUCO F62 Flexible Flashing

B. **Adhesive for bonding** and splicing flashing shall be a synthetic rubber-based waterproof cold setting mastic, as recommended and approved by the flashing manufacturer.

2.03 **Provide for thermal expansion** of running sheet metal work, by overlaps of expansion joints in fabricated work. Where required for watertight construction, provide hooked flanges filled with polyisobutylene mastic for 1" embedment of flanges. Space joints at intervals of not more than 50' for steel, 24' for copper or stainless steel, or 30' for zinc alloy or aluminum. conceal expansion provisions where possible.

2.04 EXTRUDED ALUMINUM TRIM AND FLASHINGS

A. **Provide standard products conforming to the profiles and sizes indicated, alloy 6063-T52, 0.08" minimum thickness; complete with welded corner units, flashings and accessories**.
1. **Finish:** Color to match existing and reviewed/approved by Architect.

PART 3 - EXECUTION

3.01 INSTALLATION REQUIREMENTS

A. **Flashing materials** shall be UL approved for Class A construction. Adhesives and fasteners shall have a minimum uplift resistance of 40 lbs. psf.

1. **Provisions** shall be made for top side venting at all flashing.
2. **All flashing** shall comply to the manufacturer's typical details for the various conditions and shall meet with the roof manufacturer's approval.

3.02 SHEET METAL INSTALLATION

A. **Sheet metal shall be installed** in accordance with applicable details of the "Architectural Sheet Metal Manual" of the Sheet Metal and Air Conditioning Contractors Association, Inc. (SMACNA).

B. **Cap flashing** where indicated, shall be wedged and sealed in reglets and reglets filled with flashing cement.

C. **Reglets and flashing receivers** shall be furnished to masons and/or other trades for building in. Seal all laps and caulk recess completely.

D. **Vent pipe, roof drains,** coping and flashing shall be installed to meet the roofing manufacturer's approval and to preserve the roof guarantee.

3.03 **WALL FLASHING INSTALLATION - Install where indicated**, in accordance with manufacturer's specifications. Lap all joints at least 4 inches and seal with waterproof mastic. Comply with flashing manufacturer's recommendations.

3.04 **CAULKING -** Shall be as specified in Section 07900. See that all metal caps flashing, vents and similar items are completely sealed.

3.05 **FLASHING - GENERAL**

A. **Where flashing reglets** cannot be formed, use MM Systems Corp. "Snap-Tite" reglets and "Counterflashing", or equal, in strict accordance with manufacturer's directions.

B. **Flashing details and installation** for gravel stops, roof equipment curbs and similar items shall comply to SMACNA applicable details and/or to membrane manufacturer's details and meet with his approval.

3.06 **Other Installation Requirements:**

A. **Anchor work** in place with noncorrosive fasteners, adhesives, setting compounds, tapes and other materials and devices as recommended by manufacturer of each material or system. Provide for thermal expansion and building movements. Comply with recommendations of "Architectural Sheet Metal Manual" by SMACNA.

B. **Seal moving joints** in metal work with elastomeric sealants, complying with FS SS-T-00227, -00230, or 001543.

C. **Clean metal** surfaces of soldering flux and other substances which could cause corrosion.

D. **Nail flanges** of expansion joint untis to substrates at spacing of 6" o.c.

E. **Composition Stripping:** Cover flanges (edges) of work set on bituminous substrate with 2 courses of glass fiber fabric (ASTM D 1668) set in and covered with roofing cement, FS SS-C-153.

F. **Performance:** water-tight/weatherproof performance of flashing, gutters, and sheet metal work is required.

G. At Roofing Cap, provide matching color ridge cap.

H. Provide appropriate color boot for all penetrations in existing roof.

END OF SECTION

SECTION 07900 CAULKING AND SEALANTS

PART 1 - GENERAL

1.01 WORK SPECIFIED HEREIN

A. **All labor, materials, equipment and services** necessary to furnish all sealants and related materials and perform all caulking as indicated or specified.

1.02 SUBSTITUTIONS

A. **In accordance with Section 01600.**

1.03 SUBMITTALS

A. **Submit samples** in accordance with Section 01340 for all work under this Section. Submit samples of all materials specified herein, in quantity directed for approval. Sealant samples shall be color proposed for use.

B. **Caulk a section of joint** (at all job conditions requiring caulking) at least seven (7) days prior to start of caulking for review by the Architect. When approved, this sample shall be used as a standard of comparison for the remainder of the work.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. **Deliver sealant** to the job site in sealed containers, each bearing manufacturer's name and product designation.

1.05 JOB CONDITIONS

A. **Do not apply sealants** in temperatures or to material below 40°F.

B. **Caulk joints** before final coat of paint or before application of any clear or stain waterproofing compounds.

C. **Do not apply sealants** to surfaces that are wet.

PART 2 - PRODUCTS

2.01 MATERIALS

A. **Sealant shall be single component** polyurethane base sealant, in colors selected. Sealants shall conform to ASTM C920 as follows:

Traffic Joints	Type S, Grade P, Class 25, Use T
Horizontal Joints	Same as Traffic Joints
Other Joints	Type S, Grade NS, Class 25, Use NT, M, A, O

B. **Sealant shall be acrylic latex base** conforming to ASTM C834. Colors shall be as selected.

C. **All sealant**s used on exterior of project are to be (single) component (polyurethane) base, including inside surface of exterior joints.

D. **All sealants** used on interior of project are to be (single) component (acrylic latex) base.

E. **All sealants** used in water treatment area are to be one-part acrylic terpolymer such as "mono" by Tremco.

F. **Primer:** Where required, shall be used as recommended, in writing, by the manufacturer. The primer shall have been tested for non-staining characteristics and durability on samples of actual surfaces to be sealed.

G. **Back-up materials** and preformed joint fillers shall be non staining, compatible with sealant and primer, and of a resilient nature, such as closed cell polyethylene rod, closed cell urethane or Neoprene rod, or elastomeric tubing or rod (Neoprene, butyl, or EPDM). Materials impregnated with oil, bitumen or similar materials shall not be used. Size and shape shall be as indicated by joint details on Drawings and shall be as recommended by sealant manufacturer in writing. Sealant shall not adhere to back-up material.

H. **Bond Breakers**: Where required, shall be polyethylene tape (or equal) as recommended by manufacturer of sealant, in writing.

I. **Solvents, cleaning agents and other accessory materials** shall be as recommended by sealant manufacturer in writing.

J. **Roofing:** The roofing work required for this project consists of patching the existing roof where pipe or conduit penetrations are installed. Patch existing roof to completely match the existing roof system materials and construction, in order to maintain a complete, watertight system. Utilize the original product manufacturers, where possible.

PART 3 - EXECUTION

3.01 WORKMANSHIP

A. General:

1. **Qualified applicators** shall apply sealants in conformance with manufacturer's written directions.

2. **Examine all surfaces** and report all conditions not acceptable.

3. **Apply sealant under pressure** with hand or power actuated gun or other appropriate means. Gun shall have nozzle of proper size and provide sufficient pressure to completely fill joints as designed.

4. **All joint surfaces** shall be tooled to provide the contour as indicated.

B. Preparation:

1. **Thoroughly clean all joints**, removing all foreign matter such as dust, oil, grease, water, surface dirt and frost. Sealant must be applied to the base surface. Previously applied paint or primer must be entirely removed.

2. **Porous materials** such as concrete or masonry shall be cleaned where necessary by grinding, blast-cleaning, mechanical abrading, acid washing or combination of these methods to provide a clean, sound base surface for sealant adhesion.

3. **Laitance** shall be removed by acid washing, grinding or mechanical abrading.

4. **Form oils** shall be removed by blast-cleaning.

5. **Loose particles** present or resulting from grinding, abrading or blast-cleaning shall be removed by blowing out joints with oil-free compressed air (or vacuuming) prior to application of primer or sealant.

6. **Non-porous surface**, such as metal and glass, shall be cleaned either mechanically or chemically. Protective coating on metallic surfaces shall be removed by a solvent that leaves no residue. Solvent shall be used with clean cloths or lintless paper towels. Do not allow solvent to air dry without wiping. Wipe dry with clean, dry cloth or lintless paper towels.

7. **Joint areas** to be protected with masking tape or strippable films shall be cleaned before application of tape or film.

8. **All joints** to receive sealant shall be as indicated on shop or project drawings. Do not seal joints until they are in compliance with drawings; or meet with the approval of the Architect.

9. **For joints in metal, glass and other non-porous surfaces**: sealant depth shall be a minimum of 1/2 the applied sealant width, and shall in no case exceed the applied sealant width.

10. **Joints to receive sealant**, back-up material or pre-formed joint filler shall be cleaned out, raked to full width and depth as required.

11. **Joints shall be of sufficient width and depth** to accommodate specified back-up material or preformed joint filler and sealant.

C. **Application:**

1. **Install back-up material** or joint filler, of type and size specified, at proper depth to provide sealant dimensions as detailed. Back-up material shall be of suitable size and shape; and compressed 25-50% to fit joints as required. Sealant shall not be applied without back-up material and/or bond breaker strip. When using back-up tube avoid lengthwise stretching. Tube or rod shall not be twisted or braided.

2. **Apply masking tape**, where required, in continuous strips in alignment with joint edge.

3. **Prime surfaces**, where required, with primer as recommended by sealant manufacturer.

4. **Follow sealant manufacturer's instructions** regarding mixing (if required), surface preparation, priming, application life, and application procedure.

5. **Apply, tool and finish sealant as required**. When tooling sealants, use tooling solution recommended by sealant manufacturer. Remove masking tape immediately after joints have been tooled.

6. **Clean adjacent surfaces** of sealant as work progresses. Use solvent or cleaning agent as recommended by sealant manufacturer.

7. **All finished work shall be left in a neat, clean condition**.

PART 4 - SCHEDULE

A. **Provide caulking** at the following locations. This schedule is not to be construed to be complete. Provide caulking at other areas as indicated.

B. **Control joints** in masonry surfaces, interior and exterior.

C. **Control joints** in concrete surfaces, interior and exterior.

D. **Perimeter of door frames**, interior and exterior.

E. **Perimeter of window frames**, interior and exterior.

F. **Perimeter of louvers and grilles**, interior and exterior.

G. **Perimeter of aluminum sections**, interior and exterior.

H. **Perimeter and joints at plywood** in water treatment area.

Note: At interior partitions caulking is required at all joints between dissimilar materials where the joint width exceeds 1/16".

END OF SECTION

SECTION 08710 DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes

1. Furnishing and installation of all mechanical finish hardware necessary for all doors, and hardware as specified herein and as enumerated in hardware sets and as indicated and required by actual conditions at the building. The hardware shall include the furnishing of all necessary screws, bolts, expansion shields, drop plates, and all other devices necessary for the proper application of the hardware. Installation shall include field modification and preparation of existing doors and/or frames for new hardware being installed. Provide necessary fillers, Dutchmen, reinforcements, and fasteners for mounting new hardware and to cover existing door/frame preps.

B. Related Sections

1. None

C. Specific Omissions: Hardware for the following is specified or indicated elsewhere, unless specifically listed in the hardware sets:

1. Windows

2. Cabinets of all kinds, including open wall shelving and locks.

1.3 REFERENCES

A. Applicable state and local building codes and standards.

B. FIRE/LIFE SAFETY

1. NFPA - National Fire Protection Association
   a. NFPA 70 – National Electric Code
   b. NFPA 80 - Standard for Fire Doors and Fire Windows
   c. NFPA 101 - Life Safety Code
   d. NFPA 105 - Smoke and Draft Control Door Assemblies

C. UL - Underwriters Laboratories

1. UL 1784 - Air Leakage Tests of Door Assemblies

D. Accessibility

1. ADA - Americans with Disabilities Act

2. ICC (CABO) / ANSI A117.1 - Accessible and Usable Buildings and Facilities

E. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule

2. Recommended Locations for Builders Hardware

F. ANSI - American National Standards Institute

1 ANSI/BHMA A156.1 - A156.24 - Standards for Hardware and Specialties

1.4 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 requirements. Prior to submittal field verify existing doors and/or frames receiving new hardware and/or existing conditions receiving new openings. Verify new hardware is compatible with the existing door/frame preparation and/or existing conditions. Advise architect within the submittal package of incompatibility or issues.

B. Catalog Cuts: Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

C. Final Hardware Schedule Content: Submit schedule with hardware sets in vertical format as illustrated by the Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening. Include the following information:

1. Door Index; include door number, heading number, and Architects hardware set number.

2. Opening Lock Function Spreadsheet; list locking device and function for each opening.

3. Type, style, function, size, and finish of each hardware item.

4. Name and manufacturer of each item.

5. Fastenings and other pertinent information.

6. Location of each hardware set cross-referenced to indications on Drawings.

7. Explanation of all abbreviations, symbols, and codes contained in schedule.

8. Mounting locations for hardware.

9. Door and frame sizes and materials.

10. Name and phone number for the local manufacturer's representative for each product.

11. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder

units, and/or access control components). Operational description should include how the door will operate on egress, ingress, and/or fire/smoke alarm connection.

D. Key Schedule: After a keying meeting between representatives of the Owner, Architect, hardware supplier, and, if requested, the representative for the lock manufacturer, provide a keying schedule, listing the levels of keying, as well as an explanation of the key system's function, the key symbols used, and the door numbers controlled. Refer to keying schedule in this section.

E. Samples: If requested by the Architect, submit production sample or sample installations as requested of each type of exposed hardware unit in the finish indicated, and tagged with a full description for coordination with the schedule.

1. Samples will be returned to the supplier in like-new condition. Units that are acceptable to the Architect may, after final check of operations, be incorporated into the Work, within limitations of key coordination requirements.

F. Templates: After final approval of the hardware schedule, provide templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware.

G. Riser and Wiring Diagrams: After final approval of the hardware schedule, submit riser and wiring diagrams as required for the proper installation of complete electrical, electromechanical, and electromagnetic products.

H. Operations and Maintenance Data: Provide in accordance with Division 1 and include the following:

1. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.

2. Catalog pages for each product.

3. Name, address, and phone number of local representative for each manufacturer.

4. Parts list for each product.

5. Copy of final approved hardware schedule, edited to reflect "As installed."

6. Copy of final keying schedule.

7. As installed "Wiring Diagrams" for each opening connected to power, both low voltage and 110 volts.

8. One (1) complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

9. Copy of warranties including appropriate reference numbers for manufacturers to identify the project.

I. Certificates of Compliance: Upon request of Architect or Authority Having Jurisdiction certificates of compliance for fire-rated hardware and installation instructions shall be made available.

1.5 QUALITY ASSURANCE

A. Substitutions: Products are to be those specified to ensure a uniform basis of acceptable materials. Requests for substitutions must be made in accordance with Division 1 requirements. If proposing a substitute product, submit product data for the proposed item with product data for the specified item and indicate basis for substitution and savings to be made. Provide sample if requested. Certain products have been selected for their unique characteristics and particular project suitability.

1. Items specified as "no substitute" shall be provided exactly as listed.

2. Items listed with no substitute manufacturers listed have been requested by the Owner or Architect to match existing for continuity and/or future performance and maintenance standards or because there is no known equal product.

3. If no other products are listed in a category, then "no substitute" is implied.

B. Supplier Qualifications: A recognized architectural hardware supplier, with warehousing facilities in the Project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an accredited Architectural Hardware Consultant (AHC), who is available to the Owner, Architect, and Contractor, at reasonable times during the course of the Work for consultation.

C. Single Source Responsibility: Obtain each type of hardware (latch and locksets, hinges, exit devices, closers, etc.) from a single manufacturer.

D. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by Underwrites Laboratories, Intertek Testing Services, Factory Mutual, or other testing and inspecting organizations acceptable to the authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

E. Electronic Security Hardware: When electrified hardware is included in the hardware specification, the hardware supplier must employ an individual knowledgeable in electrified components and systems, who is capable of producing wiring diagrams and consulting as needed. Coordinate installation of the electronic security hardware with the Architect and electrical engineers and provide installation and technical data to the Architect and other related subcontractors. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

F. Comply with local codes and regulations.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Tag each item or package separately with identification related to the final hardware schedule, and include installation instructions with each item or package.

B. Each article of hardware shall be individually packaged in manufacturer's original packaging.

C. Contractor will provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

D. Items damaged in shipment shall be replaced promptly and with proper material and paid for by whomever did the damage or caused the damage to occur.

E. Hardware shall be handled in a manner to avoid damage, marring, or scratching. Irregularities that occur to the hardware after it has been delivered to the Project shall be corrected, replaced, or repaired by the Contractor. Hardware shall be protected against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. No direct shipments will be allowed unless approved by the Contractor.

1.7 WARRANTY

A. Provide manufacturer's warrantees as specified in Division 1 and as follows:

1. Closers: 10 years, except electronic closers, 2 years.

2. Exit Devices: 3 years, except electrified devices, 1 year.

3. Locksets: 3 years, except electrified locksets, 1 year.

4. Other hardware: 1 year.

B. No liability is to be assumed where damage or faulty operation is due to improper installation, improper use, or abuse.

C. Products judged to be defective during the warranty period shall be replaced or repaired in accordance with the manufacturer's warranty, at no additional cost to the Owner.

1.8 MAINTENANCE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Approval of manufacturers other than those listed shall be in accordance with paragraph 1.05.A.

B. Note that even though an acceptable substitute manufacturer may be listed, the product must provide all the functions and features of the specified product or it will not be approved.

Item	Scheduled Manufacturer	Acceptable Substitute
Hinges	Ives (IVE)	Hager, McKinney
Emergency Release Pivots	Ives (IVE)	Rixson, Stanley
Double Lipped Strikes	Donjo (DON)	Hager, McKinney
Emergency Stop	Hager (HAG)	McKinney, Stanley
Flush Bolts & Coordinators	Ives (IVE)	Don-jo, Rockwood
Locksets	Schlage (SCH)	No Substitute
Aluminum Door Locks – Narrow Style	Adams Rite (ADA)	No Substitute
Hospital Latches	Glynn-Johnson (GLY)	No Substitute

Exit Devices & Mullions	Adams Rite (ADA) or Von Duprin (VON)	No Substitute
Key Pad Locks	Schlage (SCH)	No Substitute
Electric Strikes	Adams Rite (ADA) or Von Duprin (VON)	No Substitute
Door Closers	LCN (LCN)	No Substitute
Electro-Mechanical Automatic Operators	LCN (LCN)	No Substitute
Door Pulls at Aluminum Doors	Kawneer (KAW)	No Substitute
Door Trim	Ives (IVE)	Don-jo, Rockwood
Protection Plates	Brookline	Don-jo, Rockwood
Overhead Stops	Glynn-Johnson (GLY)	Rixson, Sargent
Stops	Ives (IVE)	Don-jo, Rockwood
Thresholds & Weatherstrip	Pemko (PEM)	As pre-approved
Silencers	Ives (IVE)	Don-jo, Rockwood
Latch Protector	Ives (IVE)	Don-jo, Rockwood
Bi-pass Hardware	Hager (HAG)	Lawrence, Stanley
Bi-fold Hardware	Hager (HAG)	Lawrence, Stanley
Robe Hooks	Gallery Specialty Hardware (GAL)	No Substitute
Cylinders & Keying	Schlage (SCH)	No Substitute
Key Cabinets	Telkee (TEL)	HPC, Lund

C. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.

D. Where the hardware specified is not adaptable to the finished shape or size of the members requiring hardware, furnish suitable types having the same operation and quality as the type specified, subject to the Architect's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.

2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.

3. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent that no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Review door specification and advise Architect if thru-bolts are required.

4. Hardware shall be installed with the fasteners provided by the hardware manufacturer.

B. Hinges

1. Provide five-knuckle, ball bearing hinges of type, material, and height as outlined in the following guide for this specification:
   a. 1-3/4 inch thick doors, up to and including 36 inches wide:
   Exterior: standard weight, bronze/stainless steel, 4-1/2 inches high
   Interior: standard weight, steel, 4-1/2 inches high
   b. 1-3/4 inch thick doors over 36 inches wide:
   Exterior: heavy weight, bronze/stainless steel, 5 inches high
   Interior: heavy weight, steel, 5 inches high
   c. 2 inches or thicker doors:
   Exterior: heavy weight, bronze/stainless steel, 5 inches high
   Interior: heavy weight, steel, 5 inches high

2. Provide three hinges per door leaf for doors 90 inches or less in height, and one additional hinge for each 30 inches of additional door height or doors over 36" wide.

3. Where new hinges are specified for existing doors and/or existing frames, the new hinge size must be identical to hinge preparation present in the existing door and/or existing frame. Prep new hinge sets for additional hinge on doors greater than 36" in width. Patch and paint existing / non reused preps.

4. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

5. The width of hinges shall be 4-1/2 inches at 1-3/4 inch thick doors, and 5 inches at 2 inches or thicker doors. Adjust hinge width as required for door, frame, and/or wall conditions to allow proper degree of opening.

6. Provide hinges with electrified option where specified. Provide with sufficient number and gage of concealed wires to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to the electrified locking component.

7. Provide mortar guard for each electrified hinge specified, unless specified in hollow metal frame specification.

8. Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches or less in height. Provide one additional bearing hinge for each 30 inches of additional door height.

9. Acceptable manufacturers and/or products: Ives 5BB series, Hager BB series, McKinney TA/T4A series.

C. Mortise Locks

1. Provide mortise locks, where specified, certified as ANSI A156.13, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Lock case shall be multi-function and field reversible for handing without opening the case. Cylinders: Refer to 2.04 KEYING.

2. Provide locks with a standard 2-3/4 inches backset with a full 3/4 inch throw stainless steel mechanical anti-friction latchbolt. Deadbolt shall be a full 1 inch throw, constructed of stainless steel.

3. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.

4. Lever trim shall be solid brass, bronze, or stainless steel, cast or forged in the design specified, with wrought roses and external lever spring cages. Levers shall be thru-bolted to assure proper alignment, and shall have a 2-piece spindle.
   a. Lever design shall be Schlage 06A.
   b. Lever trim on the secure side of doors serving rooms considered by the authority having jurisdiction to be hazardous shall have a tactile warning.

5. Acceptable manufacturers and/or products: Schlage L9000 series, No Substitute.

D. Cylindrical Locks - Grade 1 Exterior doors only, with rechangeable cores.

1. Provide grade 1 cylindrical locks, where specified, conforming to ANSI A156.2 Series 4000, Grade 1. Cylinders: Refer to 2.04 KEYING.

2. Provide locksets able to withstand 1500 inch pounds of torque applied to the locked outside lever without gaining access per ANSI A156.2 Abusive Locked Lever Torque Test and cycle tested to 3 million cycles per ANSI A156.2 Cycle Test.

3. Provide locks with a standard 2-3/4 inches backset, unless noted otherwise, with a 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.

4. Provide locksets with a separate anti-rotation throughbolts, and shall have no exposed screws. Levers shall operate independently, and shall have two external return spring cassettes mounted under roses to prevent lever sag.

5. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.

6. Provide electrical options as scheduled. Provide power supplies, recommended and approved by the manufacturer of the electrified lock and other components requiring a power supply.

7. Lever trim shall be solid cast levers without plastic inserts, and wrought roses on both sides. Locksets shall be thru-bolted to assure proper alignment.
   a. Lever design shall be Schlage Athens. When lever with return is required by code, lever design shall be Rhodes.
   b. Lever trim on the secure side of doors serving rooms considered by the authority having jurisdiction to be hazardous shall have a tactile warning.

8. Acceptable manufacturers and/or products: Schlage ND series, No Substitute.

E. Cylindrical Locks - Grade 2 – All interior doors

1. Provide grade 2 cylindrical locks, where specified, conforming to ANSI A156.2 Series 4000, Grade 2. Cylinders: Refer to 2.04 KEYING.

2. Provide locks with a standard 2-3/4 inches backset, unless noted otherwise, with a 1/2 inch latch throw. Provide 2-3/8 inches backset where noted of if door or frame detail requires. Provide proper latch throw for UL listing at pairs.

3. Provide locksets with a separate anti-rotation throughbolts, and shall have no exposed screws. Levers shall operate independently, and shall have two external return spring cassettes mounted under roses to prevent lever sag.

4. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.

5. Lever trim shall be solid cast levers without plastic inserts, and wrought roses on both sides. Locksets shall be thru-bolted to assure proper alignment.
   a. Lever design shall be Schlage Juniper. When lever with return is required by code, lever design shall be Saturn.
   b. Lever trim on the secure side of doors serving rooms considered by the authority having jurisdiction to be hazardous shall have a tactile warning.

6. Acceptable manufacturers and/or products: Schlage AL series, No Substitute.

F. Door Closers - Heavy Duty

1. Provide heavy-duty door closers, at exterior doors where specified, certified to ANSI/BHMA A156.4 Grade 1 requirements by a BHMA certified independent testing laboratory. Surface mounted mechanical closers shall be certified to exceed ten million (10,000,000) full load cycles by a recognized independent testing laboratory. Closers shall be ISO 9000 certified. Units shall be stamped with date of manufacture code.

2. Door closers shall have fully hydraulic, full rack and pinion action with a high strength cast iron cylinder and shall utilize full complement bearings at shaft. Cylinder body shall be 1-1/2 inch diameter, and double heat-treated pinion shall be 11/16 inch diameter.

3. Provide hydraulic fluid requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F. Fluid shall be fireproof and shall pass the requirements of the UL10C "positive pressure" fire test.

4. Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force as required by accessibility codes and standards. Hydraulic regulation shall be by tamper-proof, non-critical valves. Closers shall have separate adjustment for latch speed, general speed, and backcheck.

5. Provide closers with a solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers. When closers are parallel arm mounted, provide closers which mount within a 6-inch top rail without the use of a mounting plate so that closer shall not be visible through vision panel from pull side.

6. Closers shall not incorporate Pressure Relief Valve (PRV) technology.

7. Closer cylinders, arms, adapter plates, and metal covers shall have a powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or shall have special rust inhibitor (SRI).

8. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other finish hardware items interfering with closer mounting.

9. Mount closers inside of exterior and vestibule doors.

10. Door closers meeting this specification: LCN 4010/4110 series, No Substitute.

G. Protection Plates

1. Provide 1/8" thick clear plexiglass kick plates beveled 4 edges as scheduled. Furnish with machine or wood screws. Sizes of plates shall be as follows:
   a. Kick Plates – 16 inches high x 2 inches less width of door on single doors, 1 inch less width of door on pairs
   b. 30 inches high x 2 inches less width of door on single doors, 1 inch less width of door on pairs.

2. Acceptable manufacturers and/or products: Brookline Ives, Don-jo, Rockwood.

H. Door Stops and Holders

1. Provide door stops for all doors in accordance with the following requirements:
   a. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
   b. Where wall stops cannot be used, provide dome type floor stops of the proper height.
   c. At any opening where a wall or floor stop cannot be used, a medium duty surface mounted overhead stop shall be used.

2. Acceptable manufacturers and/or products: Ives, Don-jo, Rockwood.

I. Thresholds, Seals, Door Sweeps, Automatic Door Bottoms, and Gasketing:

1. Provide thresholds, weatherstripping (including door sweeps, seals, astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items as closely as possible. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

2. Provide Pemko S88 gasketing or equal, at all fire-rated doors in smoke barriers or corridors.

3. Acceptable manufacturers and/or products: Pemko, as pre-approved.

J. Silencers:

1. Provide "Push-in" type silencers for each hollow metal or wood frame. Provide three for each single frame and two for each pair frame. Omit where gasketing is specified or required by code.

2. Acceptable manufacturers and/or products: Ives, Don-jo, Rockwood.

K. Latch Protectors

1. Provide latch protectors of type required to function with the specified lock.

2. Acceptable manufacturers and/or products: Ives, Don-jo, Rockwood.

3.

L. Coat Hooks

1. Match existing on all shade shelters.

2. Acceptable manufacturers and/or products: Gallery Specialty Hardware, No Substitute.

2.3 FINISHES

A. Finish of all hardware shall be US10B (BHMA 613/640) with the exceptions as follows:

1. Door Closers: Powder Coat to Match.

2. Latch Protectors: SP313 (Steel Dark Bronze).

3. Weatherstipping: Dark Bronze Anodized Aluminum.

4. Thresholds: Mill Finish Aluminum Dark Bronze.

2.4 KEYING

A. Provide cores for the new or Owner's Existing Schlage key system conforming to the following requirements:

1. Provide removable core cylinders at all exterior keyed devices. Provide construction cores with construction master keying for use during construction. The hardware supplier, accompanied by the Owner or Owner's security agent, shall install permanent keyed cores upon completion of the project. The temporary construction cores are to be returned to the hardware supplier.

2. Provide permanent cores keyed by the manufacturer or authorized distributor into the existing key system as directed by the Owner. Provide owner with a copy of the bitting list, return receipt requested.

3. The hardware supplier, accompanied by a qualified factory representative for the manufacturer of the cores and cylinders, shall meet with Owner and Architect to review keying requirements and lock functions prior to ordering finish hardware. Submit a keying schedule to Architect for approval.

4. Provide keys as follows. Refer to keying schedule.
   a. Ten master keys for each set.
   b. Three keys per core and/or cylinder.
   c. Two construction core control keys
   d. Two permanent core control keys
   e. Six construction master keys for each type (Contractor is to provide one set of construction keys to Architect)

5. Visual key control:
   a. Keys for exterior locks shall be stamped with their respective key set number and stamped "DO NOT DUPLICATE".
   b. All keys shall be stamped with their respective key set letters.
   c. Do not stamp any keys with the factory key change number.
   d. Do not stamp any cores with key set on face (front) of Core. Stamp on back or side of cores so not to be visible when core is in cylinder.

6. Deliver all keys and/or key blanks from the factory or authorized distributor directly to the Owner in sealed containers, return receipt requested. Failure to comply with these requirements may be cause to require replacement of all or any part of the keying system that was compromised at no additional cost to the Owner.

7. Approved products: Schlage Everest C, No Substitute.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of any hardware, examine all doors, frames, walls and related items for conditions that would prevent proper installation of finish hardware. Correct all defects prior to proceeding with installation.

3.2 INSTALLATION

A. Coordination:

1. Prior to installation of hardware, schedule and hold a meeting for the purpose of instructing installers on proper installation and adjustment of finish hardware. Representatives of locks, exit devices, closers, automatic operators, and electrified hardware shall conduct training, provide at least 10 days notice to representatives. After training a letter of compliance, indicating when the training was held and who was in attendance, shall be sent to the Architect.

2. Prior to ordering electrified hardware, schedule and hold a meeting for the purpose of coordinating finish hardware with security, electrical, doors and frames, and other related suppliers. A representative of the supplier of finish hardware, and doors and frames, the electrical subcontractor, and the Owner's security contractor shall meet with the Owner, Architect, and General Contractor prior to ordering finish hardware. After meeting a letter of compliance, indicating when the training was held and who was in attendance, shall be sent to the Architect.

B. Hardware will be installed by qualified tradesmen, skilled in the application of commercial grade hardware. For technical assistance if necessary, installers may contact the manufacturer's rep for the item in question, as listed in the hardware schedule.

C. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.

D. Install each hardware item in compliance with the manufacturer's instructions and recommendations, using only the fasteners provided by the manufacturer.

E. Do not install surface mounted items until finishes have been completed on the substrate. Protect all installed hardware during painting.

F. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

G. Operating parts shall move freely and smoothly without binding, sticking, or excessive clearance.

H. Existing Doors and/or Frames: Remove existing hardware being replaced, tag, and store according to contract documents. Field modify and prepare existing door and/or frame for new hardware being installed. Provide necessary fillers, Dutchmen, reinforcements, and fasteners for mounting new hardware and to cover existing door/frame preps.

3.3 ADJUSTING, CLEANING, AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door, to insure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly.

B. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make a final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

C. Clean adjacent surfaces soiled by hardware installation.

D. Instruct Owner's personnel in the proper adjustment, lubrication, and maintenance of door hardware and hardware finishes.

3.4 FIELD QUALITY CONTROL

A. Prior to Substantial Completion, the installer, accompanied by representatives of the manufacturers of locks, exit devices, closer, and any electrified hardware, shall perform the following work:

1. Examine and re-adjust each item of door hardware as necessary to restore function of doors and hardware to comply with specified requirements.

2. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures.

3. Replace hardware items that have deteriorated or failed due to faulty design, materials, or installation of hardware units.

4. Prepare a written report of current and predictable problems of substantial nature in the performance of the hardware.

5. At completion of project, a qualified factory representative for the manufacturers of locksets, closer, exit devices, and access control products shall arrange and hold a training session to instruct the Owner's personnel on the proper maintenance, adjustment, and/or operation of their respective products. After training a letter of compliance, indicating when the training was held and who was in attendance, shall be sent to the Architect.

3.5 PROTECTION

A. Provide for the proper protection of complete items of hardware until the Owner accepts the project as complete. Damaged or disfigured hardware shall be replaced or repaired by the responsible party.

3.6 HARDWARE SCHEDULE

A. Provide hardware for each door to comply with requirements of the notes on the drawing sheet.

B. It is intended that the following schedule includes complete items of door hardware necessary to complete the work. If a discrepancy is found in the schedule, such as a missing item, improper hardware for a frame, door or fire codes, the preamble will be the deciding document.

C. Locksets, exit devices, and other hardware items are referenced in the Hardware Sets for series, type, and function. Refer to the preamble for special features, options, cylinders/keying, and other requirements.

END OF SECTION

SECTION 09260 GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Interior gypsum wallboard.

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 06100 – Rough carpentry for installation of wood blocking.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: Full-size Sample in 12-inch-long length for each trim accessory indicated.

1. Manufacturers' product data for adhesives used to laminate gypsum board panels to substrates, including printed statement of VOC content.

1.3 QUALITY ASSURANCE

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.4 STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install interior products until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 INTERIOR GYPSUM BOARD

A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. USG Corporation.
b. G-P Gypsum.
c. National Gypsum Company
d. Georgia Pacific.

B. Regular Type:

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

C. Fire-Resistant Type X:

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

D. Flexible Type: Manufactured to bend to fit radii and to be more flexible than standard regular-type gypsum board of same thickness.

1. Thickness: 1/4 inch.
2. Long Edges: Tapered.

E. Moisture Resistant, Glass-Mat Gypsum Board / Tile Backing Panels: ASTM C 1177/C 1177M.

1. Product: Subject to compliance with requirements, provide "Dens Armor Plus Fire Guard" by G-P Gypsum.
2. Core: 5/8 inch , Type X.

2.2 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
2. Shapes:

a. Cornerbead.
b. Bullnose bead.
c. LC-Bead: J-shaped; exposed long flange receives joint compound.
d. Expansion (control) joint.
e. Curved-Edge Cornerbead: With notched or flexible flanges.

B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Fry Reglet Corp.
b. Gordon, Inc.
c. Pittcon Industries.

2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, Alloy 6063-T5.
3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.

2.3 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.
2. Glass-Mat Gypsum Board/Tile Backing Panels: 10-by-10 glass mesh, as recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

2.4 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

1. Use adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

D. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

E. Acoustical Sealant: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Acoustical Sealant for Exposed and Concealed Joints:

   a. Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.
   b. United States Gypsum Co.; SHEETROCK Acoustical Sealant.

2. Acoustical Sealant for Concealed Joints:

   a. Ohio Sealants, Inc.; Pro-Series SC-170 Rubber Base Sound Sealant.
   b. Pecora Corp.; BA-98.
   c. Tremco, Inc.; Tremco Acoustical Sealant.

F. Access Doors: Provide access doors in gypsum wallboard ceilings were required for access to mechanical and electrical units (i.e. fire dampers, electrical boxes). Access doors shall be of the size indicated on the drawings or as required for proper access to equipment beyond. Provide mounting straps, concealed hinges and screwdriver locks. Door panel should open to 180 degrees. All doors to be constructed from 16 gauge. Door and frame to have prime coat finish.

1. Fire Rated Walls

   a. Acudor Products Inc.; FB-5060 Access Door

2. Non-Fire Rated Walls

   a. Acudor Products, Inc.; DW-5040 Access Door.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

D. At existing areas, verify all surfaces and patch / repair as necessary.

3.2 PREPARATION

A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.

1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754. Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

C. Install bracing at terminations in assemblies.

D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.5 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels to minimize end joints.

3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

B. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints 1 framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. On Z-furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

C. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

D. Curved Surfaces:

1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch-long straight sections at ends of curves and tangent to them.
2. For double-layer construction, fasten base layer to studs with screws 16 inches o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches o.c.

3.6 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners, unless otherwise indicated.
2. LC-Bead: Use at exposed panel edges.
3. Curved-Edge Cornerbead: Use at curved openings.

D. Aluminum Trim: Install in locations indicated on Drawings.

3.7 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints, rounded or beveled edges, and damaged surface areas.

C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: Panels that are substrate for tile.
3. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated.
4. Level 5: Where new wallboard meets existing conventional wallboard

3.8 REPAIR OF EXISTING

A. Remove and replace panels that are wet, moisture damaged, or exhibit mold growth. Repair of damaged panels in place is not acceptable.

3.9 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, or exhibit mold growth. Repair of damaged panels in place is not acceptable.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 09650 RESILIENT FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Luxury Vinyl tiles.
2. Resilient wall base and accessories.
3. Substrate preparation for resilient flooring and accessories.

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. None

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

1. Manufacturers' product data for adhesives, including printed statement of VOC content

B. Samples for Verification:

1. LVT Flooring: Full-size units of each color and pattern of floor tile required.
2. Resilient Wall Base and Accessories: Manufacturer's standard-size samples, but not less than 12 inches long, of each resilient product color and pattern required.

C. Maintenance Data: For resilient products to include in maintenance manuals.

D. Test Results: For field testing of substrate, signed by installer.

1.3 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: Provide products identical to those tested for fire-exposure behavior per test method indicated by a testing and inspecting agency acceptable to authorities having jurisdiction.

B. Purchase and install consecutive sheet vinyl rolls from the same dye lot only. Confirm with supplier at time of order.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store tiles on flat surfaces.

1.5 PROJECT CONDITIONS

A. Maintain temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F in spaces to receive floor tile during the following time periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. After post installation period, maintain temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during floor covering installation.

D. Close spaces to traffic per manufacturers instructions.

E. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 LUXURY VINYL TILE

A. See drawings for style a specifications

2.2 RESILIENT WALL BASE

A. Wall Base: ASTM F 1861.

1. Product: Color-Integrated Wall Base, by Armstrong World Industries, Inc.
2. Style and Colors: Refer to Finish Schedule.
3. Type (Material Requirement): TV or TS (rubber, vulcanized thermoset), TP (rubber, thermoplastic) or Vinyl.
4. Shape: Straight (toeless) at carpet and coved at resilient flooring.
5. Standard Thicknesses: 0.080 inch (vinyl); 0.125 inch (rubber)
6. Height: 4 inches.
7. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.
8. Surface: Smooth.

2.3 RESILIENT MOLDING ACCESSORY

A. Types Include the Following As Applicable: Cap for cove carpet, cap for cove resilient sheet floor covering, carpet edge for glue-down applications, nosing for carpet, nosing for resilient floor covering, reducer strip for resilient floor covering, joiner for tile and carpet

1. Manufacturer: Armstrong World Industries, Inc.
2. Material: Rubber or vinyl, as indicated.
3. Profile and Dimensions: As indicated.

2.4 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement based or blended hydraulic cement based formulation provided or approved by resilient product manufacturer for applications indicated.

1. Ardex Feather Finish – Rapid Drying Smoothing and Patching Compound or approved equal.

B. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. LVT and Asphalt Tile Adhesives: 50 g/L.
b. Cove Base Adhesives: 50 g/L.

2. For moisture vapor emissions exceeding up to 3 lb/1000 sq. ft., use the following product:

a. For moisture vapor emissions up to 8 lb/1000 sq. ft., use the following product:

TO BE DETERMINED

b. For moisture vapor emissions up to 8 lb/1000 sq. ft., use the following product (with flooring manufacturers recommended adhesive).

Koester VAP 1 2000

C. Heat-Welding Bead: Solid-strand product of floor covering manufacturer.

1. Color: As selected by Architect from manufacturer's full range to complement or to contrast with floor covering.

D. Integral-Flash-Cove-Base Accessories:

1. Cove Strip: 1-inch radius provided or approved by floor covering manufacturer.
2. Cap Strip: [Square metal, vinyl, or rubber cap] provided or approved by floor covering manufacturer.

E. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edges of tiles, and in maximum available lengths to minimize running joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. General: Prepare and clean substrates according to resilient flooring manufacturer's written instructions for substrate indicated. Provide clean, dry, and neutral Ph substrate for resilient flooring application.

B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.

1. Prepare according to ASTM F 710.
2. Repair damaged and deteriorated concrete according to resilient flooring manufacturer's written recommendations.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

    a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Perform plastic sheet test, ASTM D 4263. Proceed with application only after testing indicates absence of moisture in substrates.
    c. Perform additional moisture tests recommended by manufacturer. Proceed with application only after substrates pass testing.
    d. If Moisture vapor emissions exceeds 3lb/1000 sq. ft., application of moisture abatement product is required.

5. Verify that concrete substrates have neutral pH and that resilient flooring will adhere to them. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.

6. Provide written copies of test to Owner's Rep. and Architect.

C. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.

D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.

E. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

1. Do not install resilient products until they are same temperature as space where they are to be installed.

F. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 LUXURY TILE FLOORING INSTALLATION, GENERAL

A. Install resilient flooring in strict accordance with the latest edition of Armstrong Guaranteed Installation System, No. F-5061, by Armstrong World Industries, Inc.

3.3 LUXURY TILE INSTALLATION

A. Lay out tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles in pattern indicated.

B. Match tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

C. Scribe, cut, and fit tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, edgings, door frames, thresholds, and nosings.

D. Extend tiles into toe spaces, door reveals, closets, and similar openings.

E. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.

F. Install tiles on covers for telephone and electrical ducts and similar items in finished floor areas. Maintain overall continuity of color and pattern with pieces of tile installed on covers. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

G. Adhere tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 RESILIENT WALL BASE INSTALLATION

A. Apply wall base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

B. Install wall base in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned.

C. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

D. Do not stretch wall base during installation.

E. On masonry surfaces or other similar irregular substrates, fill voids along top edge of wall base with manufacturer's recommended adhesive filler material.

F. Inside Corners: Meter, scribe or wrap base at inside corner.

G. Outside Corners: Wrap base around outside corners. Shave a strip approximately 1/4" wide and 1/4 the thickness from the back of the wall base where the corner will be positioned.

3.5 RESILIENT ACCESSORY INSTALLATION

A. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor coverings that would otherwise be exposed.

3.6 CLEANING AND PROTECTION

A. Perform the following operations immediately after completing resilient product installation:

1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

a. Do not wash surfaces until after time period recommended by manufacturer.

B. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods recommended in writing by manufacturer.

1. Apply protective floor polish to all horizontal surfaces once they are free from soil, visible adhesive, and surface blemishes as recommended in writing by manufacturer.

   a. Coordinate selection of floor polish with the Owner's maintenance service.

2. Cover products installed on horizontal surfaces with undyed, untreated building paper until Substantial Completion.
3. Do not move heavy and sharp objects directly over surfaces. Place hardboard or plywood panels over flooring and under objects while they are being moved. Slide or roll objects over panels without moving panels.

C. Provide owner or owner's representative with in-service training seminar on manufacturer recommended application and maintenance of new resilient flooring surfaces at or prior to Substantial Completion.

END OF SECTION

SECTION 09900 PAINTING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Field painting of exposed interior items and surfaces.
2. Field painting of exposed exterior items and surfaces.
3. Surface preparation for painting.

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 09260 - GYPSUM BOARD ASSEMBLIES for surface preparation of gypsum board.
2. Existing interior and exterior Doors, walls and Frames.

1.2 DEFINITIONS AND EXTENT

A. General: Standard coating terms defined in ASTM D 16 apply to this Section.

1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
3. Semigloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
4. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.

B. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.

1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

C. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.

1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.

D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels – unless noted otherwise.

1. Prefinished items include the following factory-finished components:

a. Architectural woodwork.
b. Acoustical wall panels.
c. Metal toilet enclosures.
d. Metal lockers.
e. Kitchen appliances.
f. Finished mechanical and electrical equipment.
g. Light fixtures.
h. Ceiling grid.

2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:

a. Foundation spaces.
b. Furred areas.
c. Ceiling plenums.
d. Utility tunnels.
e. Pipe spaces.
f. Duct shafts.
g. Elevator shafts.

3. Finished metal surfaces include the following:

a. Anodized aluminum.
b. Stainless steel.
c. Chromium plate.
d. Copper and copper alloys.
e. Bronze and brass.

4. Operating parts include moving parts of operating equipment and the following:

a. Valve and damper operators.
b. Linkages.
c. Sensing devices.
d. Motor and fan shafts.

5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.3 SUBMITTALS

A. Product Data: For each paint system indicated. Include block fillers and primers.

1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
3. Manufacturers' product data for paints, including printed statement of VOC content and chemical components.

B. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.

1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
3. Submit two eight inch by 12 inch Samples for each type of finish coating for Architect's review of color and texture only.

C. Qualification Data: For Applicator.

1.4 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.6 PROJECT CONDITIONS

A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.

B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F.

C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, manufacturers and products listed in this Section or approved equal.

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.

1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and re-prime.
2. Cementitious Materials: Prepare concrete, concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.

    a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
    b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
    c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.

3. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

    a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
    b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
    c. If transparent finish is required, backprime with spar varnish.
    d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
    e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.
    f. Prep existing shade shelters, pergola and pavilions to accept stain and sealer per manufacturer's requirements.

4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.

    a. Blast steel surfaces clean as recommended by paint system manufacturer and according to [SSPC-SP 6/NACE No. 3] [SSPC-SP 10/NACE No. 2].
    b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.

5. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners approved by paint manufacturer and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the finish schedule.
2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
9. Sand lightly between each succeeding enamel or varnish coat.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
2. Omit primer over metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.

2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:

1. Uninsulated metal piping.
2. Uninsulated plastic piping.
3. Pipe hangers and supports..

G. Electrical items to be painted include, but are not limited to, the following:

1. Switchgear.
2. Panelboards.
3. Electrical equipment that is indicated to have a factory-primed finish for field painting.

H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

I. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

K. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.

1. Provide satin finish for final coats.

L. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

A. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:

1. The Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.

2. Testing agency will perform appropriate tests for the following characteristics as required by the Owner.
3. The Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.5 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.

1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 PAINT SCHEDULE

A. Schedule: Provide products and number of coats specified. Use of manufacturer's proprietary product names to designate colors, materials, generic class, standard of quality and performance criteria and is not intended to imply that products named are required to be used to the exclusion of equivalent performing products of other manufacturers.

1. Paint Type P-1: Interior Gypsum Wallboard and Plaster for Latex Eggshell Finish for All Rooms:

a. One Coat
   1) Moore Eco Spec Interior Latex Primer Sealer (231)
   2) DE Proseal Latex Primer Sealer (W102)

b. Two Coats
   1) Moore Pristine Eco Spec Interior Latex Eggshell Enamel (223)
   2) DE Spartashell Latex Eggshell (W7400)

2. Paint Type P-2: Interior Unprimed Metals, for Latex Semi-Gloss Finish:
   a. One Coat
      1) Moore Acrylic Metal Primer (M04)
      2) DE Syn-Lustro Acrylic Metal Primer (W8)

b. Two Coats
   1) Moore Pristine Eco Spec Interior Latex Semi-Gloss (224)
   2) DE Syn-Lustro Acrylic Semi-Gloss (W9)

3. Paint Type P-3: Interior Architectural Woodwork and Finish Carpentry for Opaque Finish (exposed framing, adjustable shelving, and miscellaneous backboards):

   a. One Coat

      1) Moore Fresh Start Interior Latex Primer (023)
      2) DE Unikote Latex Primer (W707)

   b. Two Coats

      1) Moore Pristine Eco Spec Interior Latex Semi-Gloss (224)
      2) DE Spartaglo Latex Semi-Gloss (W7500)

4. Paint Type P-4: Interior Architectural Woodwork and Finish Carpentry for Satin Transparent Finish (coat rack, trim reception and waiting room and lounge chair rails):

   a. One Coat

      1) Penetrating stain to match interior door finish (custom mix may be required to achieve proper color match)

         a) Gemini Gem Tone Lacquer Wiping Stain
         b) Bartley Gel Stain

      2) Note: Two coats may be required depending on the density of the wood being stained.

   b. Two Coats

      1) Clear Polyurethane Finish - sand between coats with 220 grit sandpaper

5. Paint Type P-5: Exposed Concrete Floor Sealer:

   a. One Coat

      1) Sonneborn Kure-N-Seal, two coats
      2) Ashford Formula by Curecrete Chemical Chem Probe CT Densifyer
      3) Degussa R41 Sealer
      4) Anvil by Glidden

6. Paint Type P-6: Exposed Wood (Pergola, Shade Shelters, Pavilions)

   a. Two Coats
   b. 1. Behr Semi-transparent stain / sealer

7. Mechanical and Electrical Work (Paint all exposed items throughout the project except factory finished items with factory-applied baked enamel finishes which occur in mechanical rooms or areas, and excepting chrome or nickel plating, stainless steel, and aluminum other than mill finished. Paint all exposed ductwork and inner portion of all ductwork: Same as specified for other interior metals, here-in-above.

8. Paint all existing interior and exterior surfaces (except for Roofing) throughout project.

END OF SECTION

SECTION 16010 SPECIAL PROVISIONS FOR ELECTRICAL WORK

PART 1- GENERAL

1.01 RELATED DOCUMENTS

A. All work in this section shall confirm to the general Documents and General requirements and with all other contract documents including, but not limited to:
   1. Section Division 1 – General Requirements
   2. Section 03300 – Concrete
   3. Section 07920 – Joint Sealants
   4. Section 09260 – Gypsum Board Assemblies
   5. Section 09900 – Painting

1.02 DESCRIPTION

A. **Work Included**: Furnish all labor, materials, equipment, tools and services in connection with, or properly incidental to the furnishing of equipment, installing equipment and the construction of electrical systems as described in this Division of the Specifications and/or shown on the accompanying Drawings, or reasonable implied there from, except as hereinafter specifically excluded.

B. **Related Work:** Furnish all additional details or special construction as required for work indicated or specified in the division or work specified in other divisions. Furnish and install all material and equipment usually furnished with systems or required to complete and make operative the installation, whether specifically mentioned or not.

1.03 REFERENCE DOCUMENTS

A. **The Electrical Drawings** are a combination of scale and symbolic representation of the electrical systems required to be installed. The drawings and specifications are based on qualified skilled craftsmen procuring and installing the work. The drawings include symbolic indication of branch circuit conductors, connections to devices, hook-up of electrical powered equipment, etc.

B. **Division 16 Work** includes proper routing or raceways, grouping of conductors, wiring to and hook-up of devices and equipment in accord with the total provisions of the specifications. Refer to the symbol schedule for the basis of the drawing representation. Symbols other than those in the schedule are explained elsewhere or are those commonly used in the industry. Listing of a symbol in the schedule does not imply that the symbol is used on the final contract documents. The electrical drawings indicate general locations of devices and equipment, but final locations shall be determined in reference to the Architectural, Structural, Mechanical and Electrical Drawings.

C. **The Architectural, Structural and Mechanical Drawings** and Specifications including all Supplements issued thereto, are a part of these Specifications and the accompanying Electrical Drawings, and shall be complied with in every respect.

1.04 REGULATIONS, PERMITS AND APPROVALS

A. **The installation including** all materials and equipment shall conform to NFPA No. 70-2005 Edition; the applicable requirements of the utility companies supplying energy, communications and other services to the project; the laws of the City and/or Town pertaining to electrical installation; and with all national, state and local codes and laws relating to construction, building and public safety.

B. **Each of the above regulations** are minimum standards. Where the requirements of these minimum standards are less than or do not conflict with the requirements of the Contract Documents, the Contract Documents shall be followed.

C. **Obtain all permits and arrange** for all inspections and approvals for the work including construction document review and site observations by the authorities having jurisdiction. Obtain certificates of inspection and acceptance and transmit these to the Architect as a condition of acceptance. Assume and pay all fees and other costs involved in obtaining the permits, inspection, certificates and approvals as a part of Division 16 Work.

1.05 SHOP DRAWINGS AND OTHER SUBMITTALS

A. **Submit show drawings** or fully descriptive catalog data for all items of materials and equipment proposed to be furnished and/or installed. Submit sufficient copies to provide reviewed copies as needed to be returned plus three (3) copies for retention by the Architect.

B. **Submit on all Electrical Distribution Equipment**, wiring materials, lighting fixtures and all components of communication, signal, protection and alarm systems. The submittal of freestanding electrical equipment shall include scale drawings indicating the proposed layout of this equipment within the space allocated and the proximity of existing work, other electrical work, and work installed under their divisions of work.

C. **Submit sufficiently early** to allow ample time for checking without delaying delivery of the materials to job site. A review of any submittal that results in a requirement to resubmit shall not be justified basis of work delay or extra cost.

D. **The review of Shop Drawings** or catalog data by the Architect shall not negate the Contractor's responsibility for deviations from the Drawings and Specifications unless, in writing, attention is specifically noted for such deviations at the time of submission and acceptance of the Architect is noted thereon. When attention is called to deviations from the Drawings and Specifications, state in letter of transmittal whether or not such deviations involve any change in Contract time and cost. Errors of any kind associated with submittal shall be the responsibility of the installer of Division 16 Work.

1.06 STANDARDS FOR ELECTRICAL MATERIALS

A. **Materials shall be new and free from defects** and shall conform to the standards of the Underwriters' Laboratories, Inc., in every case where such standards have been established. Evidence of such conformance shall be the UL label or "listing" by Underwriters' Lab oratories, Inc. under Re-examination Service.

B. **The Specifications indicate a standard of quality for materials**. Manufacturer's names and catalog numbers are used to designate materials or equipment to establish grade and quality. Where several manufacturers are named, the bid shall be based on those named manufacturer's products. Where only one manufacturer is named, unless stated otherwise, manufacturers of equal quality products will, however, be considered as substitutions only after the award of the Contract.

1.07 SUBSTITUTIONS

A. **In the event substitutions** are to be submitted for Owner review, furnish descriptive catalog material, test data, samples, etc., of both the specified material and the proposed substitute, as well as any other pertinent data necessary to demonstrate that the proposed substitutions are acceptable equals to the specified products.

B. **Substitutions shall not be made without written acceptance** and the lack of acceptance shall not be a basis of change in work.

PART 2- PRODUCTS

2.01 PAINTS AND PROTECTIVE COATINGS

A. **For exposed hangers and supports**: not provided with factory-protected finish: Sherwin-Williams Kromik primer and Metalatex semi-gloss enamel.

B. **Materials and Equipment:** Sherwin-Williams Kromik primer and Metalatex semi-gloss enamel.

2.02 NAMEPLATES

A. **Nameplates shall be laminate** plastic phonelic nameplates with one-fourth inch (1/4") high letters engraved thereon, which give contract identification, electric service characteristics and source of power on each of the items of equipment. Nameplates for items of equipment, **on Life Safety System including transfer switches shall be red with white letters and all others shall be black with white letters unless specifically noted otherwise.**

B. **Nameplates** shall be fastened on with cadmium or plated screws.

PART 3- EXECUTION

3.01 EXAMINATION OF SITE

A. **Visit the site of the proposed** work and carefully examine the existing conditions and limitations thereof, and **include in the bid all costs of any kind whatsoever which are incurred through limitations of the existing conditions.**

3.02 SERVICE, CONNECTIONS AND PERMITS

A. **Obtain all permits**, inspections and approvals for the work including construction document review and site observations by the authorities having jurisdiction. Obtain certificates of inspection and acceptance and transmit there to the Architect as a condition of acceptance. All fees and other costs involved in obtaining these permits, inspections and approvals shall be assumed and paid under the Division of the Work.

B. **Arrange for all services** and pay all costs whatsoever to completely install and place in operation these electrical systems.

3.03 COORDINATION

A. **Coordinate work** with that of other trades and adjacent projects to make proper connections at appropriate locations and times. Review the construction of other trades and adjacent projects to determine the physical needs and time requirements imposed in providing connections to them as shown on the drawings and in accordance with the project schedule.

B. Coordinate work with that of the other trades so work may be installed in the most direct and workmanlike manner without hindering or handicapping the other trades. **Give precedence to lines that require a stated grade for proper operation. Where space requirements conflict, the electric conduit shall, in general, yield to all other trades.**

C. **When electrical equipment** is operable and it is to the advantage of the project, the equipment may be operated providing that prior approval of the Owner is received and proper supervision of the equipment operation performed. **The warranty period shall, however, not commence until such time as the equipment is operated for the beneficial use of the Owner.** Regardless of whether the equipment has

or has not been operated, properly maintain the equipment; and at the completion of the work, properly clean, adjust, and complete all items before final acceptance is requested.

D. **The Architect** or others may, during the execution of the work, desire to make connections to or modifications of work installed in this Division of Work. Permission for the Architect or others to make these connections or modifications shall be granted without relieving responsibility for work installed under this Division of Work.

3.04 RECORD DRAWINGS AND BROCHURES

A. **During the execution of work**, maintain a complete set of reproducible drawings upon which all dimensional locations of equipment, deviations and changes in the work shall be recorded. These Record Drawings shall be in good condition and shall be marked "Record Drawings", signed, dated and transmitted with two sets of prints under a transmittal letter to the Architect upon completion and acceptance of the work and before final payment is made.

B. **The following data as applicable** to the work shall be included in items furnished for use by the Owner:

1. **Record Drawings** as specified above and elsewhere.

2. **ONE (1) brochures** of lighting fixtures with copies of data of each installed luminaire. Index each brochure indicating fixture type, manufacturer and catalog number, voltage, and lamping.

3. **ONE (1) brochures** of Electrical Distribution Equipment with final drawings, operating instructions and maintenance instructions.

4. **ONE (1) brochures** each for communication, signal protection and alarm systems installed with final installation and connection diagrams; and equipment operating, test and maintenance instructions.

3.05 CARE AND CLEAN UP OF EQUIPMENT AND MATERIALS

A. **Protect each item and component** of electrical equipment from moisture, concrete, mortar, paint, dust and other foreign materials from the time it arrives on the job site until installed, placed in service and accepted by the Owner, using signs, barriers and other means whereby others are made fully aware of the importance of protection equipment from damage.

B. **Keep all-electrical construction** materials clean of all foreign materials from the time of arrival on the site until their installation. Time the installation of each item to avoid unnecessary exposure of the materials to destructive elements or destructive environment. Clean all installed materials of all foreign materials including concrete, mortar, spilled paint, and dust prior to final inspection. All unused electrical construction materials shall be removed from the site.

C. **After the installation** is complete and before equipment is energized, thoroughly clean the interior and exterior of all equipment and materials. After the building is completed and cleaned, arrange for a power outage on each item of equipment and repeat the cleaning. This cleaning shall be performed just before final inspection. Each component shall be cleaned with air pressure, vacuumed and wiped clean of all dust and other foreign material. Components shall be cleaned of all oxidation. Any portion needing touch-up finishing and/or protective coating shall be so finished to equal the specified finish on the product. The entire inside and outside of all equipment shall be wiped with a lemon-oiled rag after all other cleaning and touch-up is complete.

D. **Provide for the removal of all unused**, scrap, material containers and other rubbish or trash resulting from Division 16 Work from within and around all work and work areas on a basis that it will not interfere with other trades, other work or the completion of any work.

3.06 PAINTING AND PROTECTION

A. **Electrical equipment** such as primary switches, switchboards, panel board fronts, motor control centers and transformers shall be delivered to the job with suitable factory finish. Finishes marred in transit or during installation shall be refinished under this Division of Work to present a neat, workmanlike appearance equal to the factory finish.

B. **Except as elsewhere required**, painting of equipment, boxes, conduit, etc., furnished under this Contract will be performed under another division of work. Clean electrical work of all trash, dirt, marks, and other foreign materials under this Division of Work prior to the application of finishes.

C. **Electric work** in areas of the construction to remain unpainted shall be protective finished under this Division of Work as follows unless indicated otherwise:

1. **Paint all exposed and on-rust inhibited hangers** and supports not provided with a factory finish with primer and two (2) coats of enamel.

2. **Material and equipment** with suitable factory-applied finishes may be left unpainted provided the Architects' approval to do so is obtained. Prime and paint material and equipment that does not obtain such approval with two (2) coats of semi-gloss enamel.

D. **Painting in finished areas** of the construction where finished coatings are applied under other divisions of work shall be performed under other Division of Work and shall include:

1. **All exposed hangers and supports and all exposed conduits and boxes** with a coat of primer, and two (2) coats of semi-gloss enamel and all panel boards and other cabinets with two (2) coats of semi-gloss enamel.

2. **Concrete foundations** with one (1) coat of masonry pain and one (1) coat of enamel.

3. **Equipment with suitable factory-applied finishes** left unpainted **provided Architect approval is obtained prior to beginning of painting** in the area. Material and equipment that does not obtain such approval shall be primed and painted two (2) coats of enamel.

E. **Painting done** shall be in colors designated by the Architect. Successive coats of paint shall be different shades.

3.07 CUTTING AND PATCHING

A. **Do all cutting necessary** for the installation of Division 16 Work. Cutting shall be carefully and neatly done so as not to damage or cut away more than necessary.

B. **Where Division 16 workmen damage** or cut away work excessively, patching will be performed as a part of Division 16 Work. Patching will be by craftsman experienced in performing this type of work.

3.08 NAMEPLATES

A. **Install nameplates, which** give contract drawing identification and electric service characteristics on equipment unless specifically indicated otherwise including switchgear, switchboards, transformers, panel boards, and main control cabinets for alarm systems. Typed directories shall be provided for branch panel boards.

B. **In each case where compartments**, equipment, etc., are required to be "labeled" or "identified", it shall be construed that nameplates are to be installed.

C. **Locate nameplates** on the exterior face of the equipment so as to be clearly visible when the equipment is in place.

D. **Fasten nameplates** on with screws except contact-type permanent adhesive shall be used where screws cannot or should not penetrate enclosure or substrate.

3.09 ELECTRICAL SERVICE CONNECTIONS

A. **All provisions for electrical power service**, installation at service gutter, service feeders, current transformers and metering, and main service switches will be furnished and installed under Section 16410.

B. **Service for telephone** will be extended to the main telephone board installed under the base contract and terminated in an empty conduit strapped to the telephone board.

C. **All other electrical work** illustrated on the accompanying drawings and specified herein shall be included under the base contract.

3.2 TESTS

A. **On completion of the work**, make voltage, resistance and ground tests of all wiring installed under this Contract.

B. **Such tests shall show results in accordance** with the requirements of the Code. See specific items for other specific test requirements.

C. **Any defect** found shall be repaired under this Contract to the satisfaction of the Architect.

3.3 GUARANTEE

A. **Warranty** all works done and all materials and equipment furnished to be free from defects.

B. **Promptly repair or replace defective work**, material and equipment without charge to the Owner at a schedule suitable to the Owner.

C. **The warranty** shall be for a period of one year after acceptance for beneficial use by the Owner unless otherwise indicated elsewhere.

END OF SECTION

SECTION 16110 RACEWAYS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. **Furnish and install complete systems** of raceways for the installation of electrical conductors and other materials as specifically indicated.

B. **Provide complete raceway systems** for each conductor of electric power, to be installed in this division of the work and for other work where so indicated except as specifically indicated otherwise.

1.02 REFERENCE DOCUMENTS

A. **The Special Provisions for Electrical Works** are hereby made a part of this section of the work. Refer to Section 16010.

B. **See Section 16190 for Supporting Devices.**

1.03 SUBMITTALS

A. **Submit complete information including manufacturer**, material, and finish on each type of raceway to be installed.

B. **Submit complete information on methods and materials** for support of each type of raceway.

1.04 QUALITY ASSURANCE

A. **Each raceway shall bear the UL Label** where UL Standards have been established for the type of raceway being provided.

B. **Each raceway shall be suitably protective coated** for the installation and each portion of the protective coating that is damaged during receiving, handling and installation shall be refinished equal to factory protection.

PART 2 - PRODUCTS

2.01 MATERIALS

A. **Raceways include** conduits, ducts, wireways, gutters, cable trays, boxes, fittings, and similar items as indicated in other sections of the work.

B. **Raceways fabricated** for special pull boxes, junction boxes, gutters, and similar connections shall be code-gauge steel fully rust inhibited and finish painted to match adjacent switch-gear. Interiors shall be accessible through screw covers. Supports and interior protection shall be provided for conductors.

2.02 SLEEVES

A. **Sleeves shall be galvanized steel**, formed to meet the size and shape of the raceway to pass through the sleeve.

B. **Sleeves for conduits** through exterior walls shall be galvanized steel Schedule 40 pipe or conduit.

C. **Sleeves for conduits** through interior walls that are not subject to moisture may be non-metallic conduit.

D. **Sleeves through waterproof walls, floors and roofs** shall be provided with water-stop flanges at the point of waterproofing membrane.

E. **Sleeves through waterproof floors** shall be as specified for exterior walls below grade except that the collar shall be located at the level of the waterproofing membrane.

F. **Sleeves through the roof** shall be as specified for waterproof floors, plus a galvanized iron pitch pan around the sleeve.

G. **Sleeves through fire-rated construction** shall be non-combustible.

2.03 PITCH PANS

A. **Pitch pans** shall be galvanized steel pans of the shape of the raceway passing through the waterproofing membranes, of the size to provide 1" to 2" space between the outside of the raceway and the vertical side of the pan and of a depth to be set on the waterproofing membrane and extend 1" above the finished roof.

2.04 SMOKE AND FIRE STOP SEALANT

A. **Smoke and fire stop sealant caulk** shall be 3M Company Type CP-25 and putt shall be 3M Company Type 303. Larger openings shall be stuffed with 3M Company fire barrier composite sheet No. CS195 in accordance with the manufacturer's directions. Silicone foam penetration sealant shall be General Electric PENSIL 851 or Dow-Corning RTV as approved for the installation.

PART 3 - EXECUTION

3.01 INSTALLATION

A. **Each raceway** shall be suitable supported from, installed and aligned with the main structural components of the building.

B. **Raceways** shall be installed to avoid interference with work of other trades.

3.02 PROTECTION AND CLEANING

A. **Raceways will be cleaned both internally and externally** of all dirt, debris, and other foreign materials. Raceways in areas to be finish-painted shall be cleaned properly prior to the painting. Raceways not indicated to be finish-painted on the job shall be protected from foreign objects and materials during construction and cleaned and touch-up coated before completion of the work.

END OF SECTION

SECTION 16111 CONDUIT AND FITTINGS

PART 1- GENERAL

1.01 WORK INCLUDED

A. **Furnishing and installing** of complete systems of electrical conduits as part of the raceway systems for installation of conductors for electrical systems.

1.02 REFERENCE DOCUMENTS

A. **The Special Provisions** for electrical work are hereby made a part of this section of the work. Refer to Section 16010.

B. **See Section 16190** for Supporting Devices.

1.03 SUBMITTALS

A. **Submit complete manufacturers'** specifications data on each type and manufacture of conduit and fitting proposed to be furnished and/or installed on the project.

1.04 QUALITY ASSURANCE

A. **Conduits** shall be accord with ANSI Standard C 80.

B. **Each length of conduit** shall bear the UL Label.

1.05 DETAILS IN APPENDIX

A. **It is the responsibility of the Contractor to review all details in Appendices (A, AD, M, E, P)** for relevance to contract documents.

PART 2- PRODUCTS

2.01 RIGID METALLIC CONDUITS AND FITTINGS

A. **Rigid metallic conduit** shall be standard hot-dipped galvanized mild rigid steel. Conduit shall have galvanized threads. Each length shall be provided with a coupling and ends without couplings shall be furnished protected with a suitable covering. All bends in conduit one and one-quarter inch (1-1/4") in size and larger shall be made with factory-manufactured elbows. Rigid metallic conduit shall be equal to Republic Galvite Rigid Steel Conduit.

B. **Locknuts and bushing** shall be galvanized steel except O. Z. Manufacturing Company Type "A", or approved equal molded canvas bakelite bushings may be used for 2" trade size and O. Z. Type "B" bakelite insulated, lined steel bushings may be used for conduits two and one-half inches (2-1/2") and larger.

2.02 INTERMEDIATE METALLIC CONDUIT (IMC.)

A. **Intermediate metal conduit** shall be hot-dipped galvanized steel tubing with galvanized threads equal to IMC manufactured by Allied Tube and Conduit Corporation.

B. **Fittings and accessories** shall be the same as set forth for rigid metallic conduit.

2.03 ELECTRICAL METALLIC TUBING AND FITTINGS

A. **Electrical metallic tubing** shall be standard galvanized E.M.T. equal to Republic Electrinite E.M.T.

B. **Couplings and connectors** for EMT shall be T & B or equal, steel set screw type with steel gland nuts. Connectors shall be uninsulated throat type. Indentor fittings are prohibited.

C. **Painting of conduit** inside dialysis counter.

D. **Shall be** hospital grade throughout.

2.04 FLEXIBLE METAL CONDUIT AND FITTINGS

A. **Flexible metal conduit** shall be Triangle Conduit and Cable Company or equal, spirally wound galvanized steel.

B. **Terminators of flexible** steel conduit shall be T & B or equal "Tite-Bite" insulated connectors and T & B or equal, "Tite-Bite" combination couplings.

2.05 LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT AND FITTINGS

A. **Liquidtight flexible metal conduit** shall be equal to American Brass "Sealtite" Type UA, light gray color.

B. **Terminators shall** be T & B or equal, insulated throat screw-in ground cone connectors.

2.06 SPECIAL FITTINGS

A. **Split couplings** shall be O.Z. or equal, Manufacturing Company Type SP.

B. **Expansion joints** shall be O.Z. or equal, Manufacturing Company Type AX expansion joints with Type AJ bonding jumpers.

C. **Pull rope** shall be 3/16" polyester stranded JET LINE rope.

2.07 RIGID PVC CONDUITS AND FITTINGS

A. **Codes and standards** shall conform to U.L.-651 and NEMA TC-2 and shall be listed and labeled by the Underwriters Laboratories Inc.

B. **PVC conduit and fittings** shall be equal to Carlon "Plus 40" systems. They shall be designed for use underground, shall be non-conductive and shall assure a safe system. Conduits and fittings shall be non-corrosive, impervious to most chemicals, provide lower expansion and contraction features, and shall be suitable for direct earth burial or encasement in concrete.

C. **PVC conduit and fittings** shall be rated for 90 degree centigrade conductors or cable, and for use in direct sunlight.

2.08 RIGID PVC FITTINGS

A. **Codes applicable to PVC** conduit shall also apply to PVC Fittings.

1. **Expansion couplings** equal to Carlon E945 or E955 as required.

2. **Bell ends equal** to Plus 80 or 40 plain bell for use with non-metallic solvent welds.

3. **Standard couplings** socket type for solvent cement attachment.

4. **PVC rigid adapters** E942 or E943 threaded to metallic systems and socket attachment by solvent cement.

PART 3- EXECUTION

3.01 MATERIAL SELECTION

A. **Raceways** shall be standard galvanized steel rigid metal conduit unless otherwise indicated.

B. **Intermediate metal conduit** (IMC) may be used wherever rigid conduit is required except for raceways embedded in concrete slabs, in contact with the earth, underground not encased in concrete and in corrosive locations.

C. **Aluminum rigid metal** conduit may be used wherever rigid conduit is required except embedded in concrete slabs or underground.

D. **Electrical Metallic Tubing** (EMT) my be used for raceways above furred ceilings, within dry wall partitions, exposed in rooms with exposed construction and in mechanical and electrical rooms for sizes of four inches (4") and smaller except that feeder conduits of EMT of three inch (3") and larger shall contain a green grounding conductor.

E. **Wiring connections** to motors, transformers, or other devices that are subject to vibration or require adjustment shall be flexible metallic conduit. The flexible conduit shall be more than 12 diameters but less than 18 diameters in length. Where these connections are outdoors, or in damp locations, or are connections to any kitchen or water treatment equipment, liquid-tight flexible conduit shall be used.

F. **Wiring to each recessed lighting fixture** shall be run in an independent length of flexible conduit extended from an accessible junction box located above the ceiling. The flexible conduit shall be of sufficient length to allow the connection point to the fixture to drop at least 12" below the finished ceiling, and shall be at least 48" long but not more that 72" long. Recessed lighting fixtures that have UL approved prewired circuit junction boxes and fixture wire extensions may be used and wired directly to the branch circuit runs without the added flexible conduit connections.

G. **Elbows shall be of the same materials** as the conduit. Elbows in EMT and small rigid conduits three-quarters (3/4") and under may be job-fabricated with a bender made specifically for the purpose.

H. **Conduits** shall be sized as indicated on the drawings and as required to accommodate the wires to be pulled into the conduit. Conduit shall not be less than three-quarters inch (3/4") in size except EMT for branch circuit runs may be one-half inch (1/2") and three-eighths inch (3/8") flexible metallic conduit may be used for individual connections to recessed lighting fixtures.

3.02 CONDUIT

A. **Run conduits concealed** from view in all areas except in electrical and mechanical equipment rooms. Run at levels and locations to avoid interference with the structure finished ceilings, walls and all lines of other trades requiring grading of runs. Coordinate with other trades to allow available spaces to be used in the most efficient and workmanlike manner. In general, space and routing requirements of all other trades shall take precedence over the conduit installation.

B. **Route exposed conduits** parallel with or at right angles to building walls and neatly rack. Carefully lay out conduit proposed to be run within the structure such as floors, beams, roof, or walls to avoid building

up the density of conduits too excessive for the construction. Relocate conduits when excessive build-up occurs.

C. **Install conduits** out of close proximity to any potentially hot device, any steam pipe, hot water pipe or other heating duct or appliance. Conduit shall not be run within three inches (3") of the exterior insulation of such device, pipe or duct, except in crossing, and such crossing shall be at least one inch (1") from the cover of the device, pipe or duct crossed.

D. **Place conduits through** the roof or exterior walls in time to allow the trade to seal around the raceways as work is installed. Conduits through roof shall run through galvanized pitch pans.

E. **Cover each** end of each conduit with an approved capped busing as soon as the conduit is installed to prevent entry of foreign material. Conduits shall be dry and clean before wires are pulled.

F. **Locate junction boxes and raceways** above accessible ceilings such as lay-in ceiling to provide adequate space for recessed fluorescent fixtures of the type specified elsewhere to be installed, in any place in the ceiling without relocating the installed raceways, boxes or support now or in the future.

G. **Arrange conduit runs** within building interiors to be no longer than 80 feet between pull or junction boxes, cabinets, or circuit interrupting device enclosures unless there is no direction change and only a straight-in-line pull of wire is involved. In such straight-in-line runs between boxes, cabinets or devices, runs not exceeding 100 feet in length may be made.

H. **Non-Metallic** conduit installed outdoors under concrete slabs or walkways shall have 24 inches cover and may be in contact with the earth. Conduit service laterals installed under driveways, or roadways shall be concrete encased. Support runs on PVC spacers 5'-0" center-to-center and encase in reinforced concrete duck banks. Reinforcing shall be #4 deformed longitudinal bars, one each corner, with #3 stirrups tied at 1'-0" reinforcing concrete shall cover bar minimum 2 inches around each corner face. Non-metallic conduit installed indoors shall have 12 inches cover.

3.03 FITTINGS

A. **Install double locknuts** and a bushing at each rigid conduit termination except for terminations into threaded hubs.

B. **Wherever standard threaded couplings** cannot be used, split couplings can be used.

C. **Provide expansion joints** in conduits at all building expansions joins and wherever else the length of run requires.

D. **Coat all threaded connections** subject to moisture or under ground with cold galvanizing before making connection up.

3.04 PULL ROPE

A. **Install a pull rope** with each end properly marked for use and termination of the other end in each conduit installed and in which no conductors are installed under this Division of Work.

END OF SECTION

SECTION 16120 WIRE AND CABLE - 600 VOLTS AND UNDER

PART 1- GENERAL

1.01 WORK INCLUDED:

A. **Furnish and install electrical wires** and cables for the distribution of electric power, controls, grounding and signals for the electrical systems.

1.02 REFERENCE DOCUMENTS:

A. **The Special Provisions for Electrical Works** are hereby made a part of this section of the work. Refer to Section 16010.

1.03 SUBMITTALS:

A. **Submit complete manufacturers'** specification data on each type of conductor to be supplied to the job.

B. **Include proposed colors**, color markings and other identification as a part of the submittal.

1.04 QUALITY ASSURANCE:

A. **Electrical conductors** shall be UL listed and bear the UL label

PART 2- PRODUCTS

2.01 CONDUCTORS:

A. **Wires and cables** shall have conductors of soft-drawn annealed copper having a conductivity of not less than 98% of that of pure copper. Wire and cable shall be equal to that manufactured by Anaconda.

B. **As a minimum standard**, all conductors shall comply with 2005 National Electrical Code.

C. **Where not specifically indicated otherwise**, wire and cable insulation type shall be as follows:

1. **For general use** - Type THHN or THWN-2, 600 volt.
2. **For branch circuits** of No. 12 and No. 10 AWG - Type THHN, 600 volt.
3. **For control wiring** - Type THHN 600 volts, No. 14 AWG minimum size.
4. **Wiring run underground** - Type THHN/THWN-2 600 Volt.
5. **For fixture wiring** - Type AF, 300 volts, No. 12 AWG minimum size.
6. **For branch circuit wiring** run in fluorescent fixture channels - Type THHN, 600 volts, No. 12 AWG minimum size.
7. **See other sections** of work for alarm communications and other low-energy systems wiring.
8. **All communication**, and low voltage control wire run in plenum above ceilings and not protected by conduit shall be teflon coated plenum cable as required by code.

9. **Service and/or feeder wiring** to panel boards shall be THHN or THWN-2.

D. **Wire shall be solid** for No. 10 and smaller and stranded for No. 8 AWG and larger.

E. **All wire and cable** shall be factory-color coded. Colors for each phase and neutral shall be used consistently throughout each system. The following color codes shall be used and maintained throughout the system:

	208/120 V SYSTEMS	480/277V SYSTEMS
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	Gray
Ground	Green	Green w/ Tracer
Switch Legs	Purple	

On wires No. 6 and larger and where factory color is not available, wires and cables shall be color-coded by a one inch (1") wide band of colored Scotch tape on ends of each conductor, or by coating a 3" band at the end of the cable and in each pull box with brilliant waterproof lacquer.

2.02 TERMINATIONS, SPLICES AND TAPS

A. **Cable terminations**, splices and taps for copper conductors shall be:

1. **For terminations** - O. Z. Manufacturing Company or equal, Type XLH.

2. **Splices and Taps** - O. Z. Manufacturing Company or equal, clamp-type solderless connectors except splices and taps for No. 8 AWG and smaller conductors may be Scotchlock Spring Connectors, Buchanan "B" cap, Ideal Wing Nuts or T & B "Piggy" connectors.

2.03 SUPPORTS:

A. **Supports for wiring in cabinets**, panels, pull boxes, wireway and junction boxes shall be T& B Ty-Rap cable clamps and cable ties.

B. **Supports in vertical feeders** shall be two-piece conduit type equal to O. Z. Company Style "S"

PART 3- INSTALLATION

3.01 CONDUCTOR SELECTION:

A. **The minimum size of wire** shall be No. 12 AWG except as noted otherwise on the Drawings or specified herein. All branch circuit home runs over 70 feet from panel, measured along the length of the raceway, shall be wired with No. 10 AWG minimum.

B. **The Drawings** generally indicated the number of wires in a conduit. Provide the proper number of wires in each conduit to complete the entire electrical system.

3.02 INSTALLATION:

A. **Route each conductor** through an approved Electrical Raceway. Pull conductors into conduit only after all conduits and outlet boxes are permanently in place. Pull wires or strings shall be inserted only after the raceway installation is complete.

B. **Run feeders and mains continuously** without splice from line to load terminals and identify phases each pull box and in the gutters of each switchboard and panel board in which they connect. Splices in feeders

may be made only where designated on the Drawings or where specific prior approval is given.

C. **Neatly train,** control and circuit wiring in cabinets, panels, pull boxes, wireways, and junction boxes and tie with T & B Ty-Rap nylon cable ties. Clamp or fasten control or circuit cabling in cabinets or other equipment with non-metallic nylon T & T Ty-Rap cable clamps and mounting brackets.

D. **Install cable supports** per N.E.C. in all vertical feeders and in boxes provided for the feeders where not terminated in electrical panels or equipment within code distances. Supports shall be of the two-piece conduit type, which clamp each individual conductor firmly and tightens due to weight of cable.

3.03 TERMINATIONS, SPLICES AND TAPS:

A. **Connections of conductors** to terminals shall be made by pressure connections. Solder joints will be permitted only for low voltage controls. Joints and splices shall be made with clamp type solderless connectors and insulated with rubber and friction tape or Scotch No. 33 plastic tape. Spring connectors may be used for splicing No. 8 AWG or smaller conductors.

3.04 SUPPORTS:

A. **Install supports** to hold conductors in place in each panel board, cabinet, pull box, junction box and wire-way.

B. **Install cable supports** in vertical runs of conductors in cabinets and pull boxes.

END OF SECTION

SECTION 16131 JUNCTION AND PULL BOXES

PART 1- GENERAL

1.01 WORK INCLUDED

A. **Furnish and install junction** and pull boxes where indicated or where necessary for installation of the wiring systems.

B. **Secure prior approval** of the Architects for locations of all boxes not specifically located on the drawings.

1.02 REFERENCE DOCUMENTS

A. **The Special Provisions** for Electrical Work are hereby made a part of this Section of the work. Refer to Section 16010.

B. **See Section 16190** for Supporting Devices.

1.03 SUBMITTALS

A. **Shop Drawings** shall be submitted on each specifically fabricated junction or pull box.

PART 2- PRODUCTS

2.01 MATERIALS

A. **Junction and pull boxes** shall be flush or surface type as indicated on the drawings or as required to fit into the building construction. Junction and pull boxes shall have screw covers. Small junction boxes, 100 cubic inches and smaller, for control or branch circuit wiring, shall be as specified for outlet boxes and with blank covers.

B. **Junction and pull boxes** installed in walls and ceiling spaces shall be code-gauge galvanized steel with galvanized steel covers.

C. **Junction and pull boxes** installed in floors shall be galvanized malleable cast iron with gasketed covers.

D. **Junction and pull boxes** installed out doors shall be weatherproof with watertight gasketed covers fastened with corrosion resistant screws.

E. **Except as otherwise indicated**, boxes shall be not less than code requirements and their size shall be determined as follows:

1. **For straight pulls involving** conductors of No. 6 or larger and for raceways of 1-1/4" and larger, the length shall be a minimum of 8 times the diameter of the largest raceway, and the width shall be three (3) times the diameter of the largest raceway plus the sum of the diameters of all other raceways in the same side of the box or cabinet.

2. **For angle pulls or direction changes**, the distance between any entering raceway and the opposite side of box shall be a minimum distance of six (6) times the diameter of the largest raceway and the minimum distance between raceway entries enclosing the same conductor shall not be less than 6 times the diameter of the larger raceway. Additional raceways in the same wall of the box shall require increase of these dimensions by the sum of the diameters of the added raceways. In no event shall any cabinet or box contain more than 20% of its' cross sectional area in conductors. Where

conductors cross a box, a maximum of nine (9) conductors may be laid parallel without the use of a barrier or compartment. Where junction or pull boxes involve dimensions over 36 inches on any side, conductors crossing such distances must be supported on approved racks or clamps in such a manner as to avoid greater unsupported spans of more than 36 inches. Where such boxes exceed 60 inches in any dimension, all conductors shall be so supported regardless of direction of travel.

PART 3- EXECUTION

3.01 INSTALLATION

A. **Install junction** and pull boxes in a neat workmanlike manner and support in accord with the provisions set forth elsewhere for panel boards and for hangers and supports.

B. **Arrange for raceways** to enter boxes only in places specifically planned for raceways in the sizing and construction of the cabinets.

C. **Provide auxiliary conductor** supports in large boxes per N.E.C. 314 where conductors must be supported.

D. **Conductors passing through** the boxes shall be marked as to phase.

END OF SECTION

SECTION 16134 OUTLET BOXES

PART 1 - GENERAL

1.01 WORK INCLUDED

A. **Furnish and install** suitable outlet boxes for lighting fixtures, devices, empty raceway devices, small junction boxes, and other locations as required by the installation.

1.02 REFERENCE DOCUMENTS

A. **The Special Provisions for Electrical Works** are hereby made a part of this Section of the Work. Refer to Section 16010.

1.03 SUBMITTALS

A. **Submit Manufacturers' specification data** on each type of box and trim to be furnished to the job.

PART 2 - PRODUCTS

2.01 MATERIALS

A. **Outlet boxes**, except where otherwise specifically indicated or required, shall be of one-piece or welded assembly construction. Outlet boxes shall be with covers of the same manufacture as the box and selected to meet the conditions of the installation.

B. **Outlet boxes shall be equal to the following;** Appleton, Steel City or RACO types, except that where more conduits enter the boxes, structural conditions interfere, or wiring requires more space, larger boxes of similar construction shall be used. Multi-gang boxes for switches of different voltages shall be provided with interior barriers.

1. **In Gypsum Board Walls**, for single and two-gang outlets, Type 4S and 4SD with No. 846 and 847 covers not more than 1" thick. Where boxes serve one wiring device, a single gang handy box may be used. All Gypsum Board Wall boxes shall receive far-side box supports and shall be Caddy J-1A.

2. **In concrete block or similar masonry walls**, No. MI-250, M2-250 or M3-250 for 1, 2, and 3 gang outlets in 4" thick walls, No. MI-350 for 1, 2, and 3 gang outlets in thicker walls and the same series for more gangs in common boxes in similar walls.

3. **In poured concrete, plaster and similar masonry walls,** No. 4S and 4SD boxes with No. 846 covers for single gang outlets, No. 2G-5075 boxes with No. 2GC-75 covers for 2 gang outlets and corresponding G-5075 boxes and G C-75 covers for 3, 4, 5, and 6 gang outlets. Covers shall be maximum of 1" high.

4. **In concrete ceilings,** Type O C R boxes and O C P covers.

5. **In other ceilings,** Type 4/0 and 4/0D boxes. Outlet boxes for surface or pendant lighting fixtures shall have 3/8" fixture studs.

6. **In poured concrete floors,** Steel City 600 Series cast iron, watertight full adjustable with threaded conduit openings, expendable cap to prevent ingress of concrete during pour, carpet or tile plate and P-60 DR duplex lift lid with steel seating plate for receptacle.

C. **Exposed outlet boxes mounted in protected areas** shall be a solid gang switch box with flat covers. Boxes shall be of size and number or gang for device requirements except no box shall be smaller than 4" square.

D. **Outlet boxes exposed on exteriors of buildings**, flush in non-waterproofed walls below grade or in wet locations shall be Type FS or FD threaded outlet cast boxes with suitable gasketed cast covers.

E. **Small junction boxes shall be the same, as device boxes** except shall be provided with blank plates.

PART 3 - EXECUTION

3.01 MATERIAL SELECTION

A. **Outlet boxes shall be of the standard stamped galvanized steel** type except for exterior use where they shall be hot-dipped galvanized cast iron with gaskets. Boxes shall be of the proper size to accommodate the wiring and device for which they are provided.

B. **Ceiling outlet boxes shall generally be four inches (4") octagon**, and wall outlet boxes shall switch boxes or be 4" square with covers to suit device to be mounted thereon, except that in masonry walls without applied finish, boxes shall be rectangular masonry boxes.

C. **Through-the-wall type boxes** shall not be used.

3.02 INSTALLATION

A. **Install and leave boxes in a neat**, clean and workmanlike manner. Set plaster covers to within 1/8" of the finished surface.

B. **Determine exact locations** of all outlets from the Architectural Scale Drawings in the Appendices of specifications and verify the site by the Owner. Modify outlet locations from those shown on the Drawings to accommodate door swings or to fit other construction details without cost to the Owner. Set wall boxes in advance of wall construction and move where required for any outlets, which are displaced during the operation of other trades without expense to the Owner.

C. **Unless noted otherwise on the Drawings**, indicated on Architect's Drawings in the Appendices of specifications and/ or directed by the Architect at time of installation, place outlet boxes at the locations shown on the floor plans and at the following heights the center of box above the finished floor level:

1. **Wall Switches:** 48" and immediately adjacent to strike side of door.

2. **Convenience Receptacles:** 18" vertically oriented except 23" for E W C's and above counters are present.

3. **Telephone Data/ Outlets:** Unless indicated otherwise 18" vertically oriented except they shall be 54" for wall phones and 8" above counters when indicated above counters.

4. **Receptacles in the water treatment area** and at dialysis counters shall be mounted at heights noted on Drawings or Appendices.

D. **Each recessed lighting fixture shall be independently** connected from an above ceiling junction box, which is readily accessible through the lighting fixture opening.

E. **Provide Appropriate** outlet box assemblies in all Fire Walls or Floor/Ceiling Assemblies as per Authority having Jurisdiction.

END OF SECTION

SECTION 16140 WIRING DEVICES

PART 1- GENERAL

1.01 WORK INCLUDED

A. **Furnish and install** wiring devices and coverplates of the type and kind as hereinafter indicated on the drawings.

1.02 REFERENCE DOCUMENTS

A. **The Special Provisions** for Electrical Work are hereby made a part of this section of the work. Refer to Section 16010.

1.03 SUBMITTALS

A. **Submit complete manufacturer's specification** data on each wiring device proposed to be furnished to the job.

1.04 QUALITY ASSURANCE

A. **Each wiring device** shall be of design, type and configuration established by NEMA Standards for the application used.

PART 2- PRODUCTS

2.01 MATERIALS

A. **Devices shall be Specification grade**, UL and CSA certified, listed NEMA Standard, and suitable for the service required in the intended use of the device in this installation.

B. **Where devices manufactured** by Arrow - H&H, Bryant, Hubbell, P&S or Sierra are named, only equivalent devices by the other of these manufacturers will be acceptable. Unless otherwise indicated, devices shall be as follows:

1. **Wall Switches**: 20 ampere, 120 and 277 volt AC, P&S No. CSB-20 AC1 I, CSB-20 AC2 I, CSB-20 AC3 I and CSB-20 AC4 I for single pole, double pole, three-way and four-way respectively.

2. **Switch Sensors** – Adaptive dual technology, 120/ 277V Occupancy sensor to be as follows:
   a. Single circuit sensor (rooms not greater than 1000SF) Hubbell LHMTS1 Ultrasonic and PIR-WALL sensor with intelliDAPT and automatic manual control.
   b. Dual circuit sensor (rooms not greater than 1000SF) – Hubbell LHMTD2 Ultrasonic and PIR dual circuit wall switch sensor with IntelliDAPT and automatic/ manual control.
   c. Single circuit sensor (rooms 1000 SF to 2000 SF) – Hubbell OMNIDT2000 RP. Attach to standard 20 AMP/ 120 and 277 Volt AC wall switch then relay for disconnecting means.

3. **Convenience Outlets**: Duplex receptacles P&S 5362-I or 5361-I 20 ampere, 125 volts with pair of NEMA 5-20R Standard 3 contact grounded parallel slot contacts Ivory finish.

4. **Disconnect Switches**: Provide as appropriate at HVAC equipment, electric hot water heaters, etc.

5. **Manual motor starter Square D** class 2510 with overload heater sized to the motor.

6. **Flush floor outlets** shall be Hubbell or equal, B2537 shallow floor box semi-adjustable with S-3725 brass duplex screw cover and NEMA 5020R receptacle.

7. **Other receptacles**: Other receptacles shall be of type and characteristics and NEMA configuration to provide service as indicated for the special service as indicated elsewhere.

C. **COVERPLATES**

1. **General:** Opening in Plates properly fit the wiring Devices associated with the outlets. Plates shall overlap outlet box edges for installation over finished room surfaces and shall be the non-over hanging type to fit condulet boxes used with exposed conduit runs. All plates shall be smooth.

2. **Future or Abandoned Outlet**: Blank Plate.

3. **All Finished Spaces:** Sierra Type RP smooth plastic.

4. **On the outside face,** on each coverplate, record corresponding panel board and circuit number with label maker (12pt. Helvetica).

PART 3- EXECUTION

3.01 INSTALLATION

A. **Each device** shall be suitable for type of service for which it is installed. Device shall be of NEMA configuration and of Specification Grade and/or Hospital Grade for those services to which the device is installed where those standards are established. Devices indicated adjacent to each other shall be in the same box and set under a common plate. Suitable barriers shall be provided in the box for separation of each device from adjacent devices where required by code.

B. **Install suitable coverplates** on all wiring devices.

C. **Device colors** shall be Ivory unless selected and installed to match the decor of the occupancy and other standard colors as set forth elsewhere in these contract documents or as selected by the Owner. Other colors shall be provided when so directed by the Owner.

D. **Provide Appropriate** assemblies in all Fire Walls or Floor/Ceiling Assemblies as per Authority having Jurisdiction.

E. **Mount all switches** and/or devices as directed on Architectural Standards Mounting heights detail.

F. **Wire all devices** with proper polarity and suitably grounded. Provide Appleton or equal SCR 1032 PTL1 green head grounds screw and 6 inch pigtail in every box.

G. **Each cover plate** shall be marked with the panel and circuit number with 12pt lettering on the face of the cover plate with clear label maker label tape.

END OF SECTION

SECTION 16190 SUPPORTING DEVICES

PART 1- GENERAL

1.01 WORK INCLUDED

A. **Furnish and install** all necessary hangers, supports, bases and connections for properly installing all electrical equipment and materials.

1.02 REFERENCE DOCUMENTS

A. **The Special Provisions** for Electrical Work are hereby made a part of this Section of the Work. Refer to Section 16010.

PART 2- PRODUCTS

2.01 MATERIALS

A. **Provide hot-dipped galvanized malleable iron** one-hole pipe straps, beam clamps, or hand-on-steel rod hangers for single runs of conduit to be fastened to the structure. Rod hangers shall be selected for weight supported but shall not be smaller than No. 8.

B. **Rod hangers and adjustable** "J" pipe hangers shall be equal to Kindorf Type C-149 for conduits. Conduits two inches (2") and smaller may be fastened with pipe hangers equal to Kindorf Type 6H.

C. **Caddy spring steel clamps** and hangers and steel one-hole snap straps may be used in lieu of above to fasten single runs of conduit up to on inch (1") size to steel structures and support rods where this conduit is run within the ceiling space.

D. **Continuous channel inserts** or trapeze hangers made of steel framing channel and fastened with single bolt channel pipe straps shall be provided to support multiple runs of conduit and other raceways.

E. **Galvanized U-bolts** or Kindorf C-210 riser pipe clamps on channel iron bearing plates at intervals of at least one clamp per joint shall be provided for support of vertical runs of conduits of more than twelve feet (12').

F. **Suitable angle iron** or framing channel supports shall be used to support all panel boards, cabinets, junction and pull boxes. Where indicated as not mounted to the building structure.

PART 3- EXECUTION

3.01 INSTALLATION

A. **Securely fasten and support** conduits and raceways of all types and all electrical boxes, devices, and equipment from the main building structure except as specifically indicated otherwise. Support conduits within three feet (3') of each end of each bend, of each termination and at intervals along the run that will maintain true raceway alignment, without sag or deformation either during pull-in of conductors or after conductors are in place. On exposed raceways, provide supports at a minimum of six feet (6') on centers and on each side of each bend. Vertical conduits shall be supported at not more than 10' on center in addition to the above.

B. **Maintain horizontal and vertical alignment** of raceways so as not to adversely affect the building structure in strength or appearance. Cable, strap, or wire hangers or fasteners shall not be used

C. **Place conduits running exposed** on and adjacent to walls after wall surface in installed and on spacers to allow wall to be painted after conduit is installed.

D. **Support cabinets and boxes** to the floor and to the structure above independent of all raceways entering the boxes. Structural walls or columns may be used to support these cabinets or boxes only after specific approval is given.

E. **Fasten cabinets, boxes, panel boards**, disconnects, motor controls and similar devices indicated other than at walls on channel iron racks mounted to floor and structure above. Three-fourths inch (3/4") thick plywood backboards painted to match the equipment finish may be used as part of the rack.

F. **Support outlet boxes and junction boxes** 100 cubic inches and smaller as specified for raceways. Locate outlet and junction boxes above accessible ceilings so they will not interfere with the installation of a lay-in type lighting fixture in any space in the ceiling.

G. **Rust inhibit all supports by galvanizing or other approved means**. Supports shall be job rust inhibited at all cuts, breaks, welds, or other points where rust inhibitor coating is broken.

END OF SECTION

SECTION 16450 GROUNDING

PART 1 - GENERAL

1.01 WORK INCLUDED

A. **Furnish and install proper grounding systems** for the entire electrical installation.

1.02 REFERENCE DOCUMENTS

A. The Special Provisions for Electrical Work are hereby made a part of this Section of the Work. Refer to Section 16010.

1.03 REQUIREMENTS OF REGULATORY AGENCIES

A. **Special attention is directed to Article 250 National Electrical Code** (NFPA-70) for sizing and connecting of the grounding systems.

PART 2 - PRODUCTS

2.01 MATERIALS

A. **Grounding conductors shall be green colored insulated annealed copper** sized, unless specifically indicated otherwise, with an ampacity of at least 50 percent of feeder supplying the equipment to be grounded and no ground wire shall be smaller than No. 6 except, where the feeder supplying the equipment is smaller than No. 6, the grounding conductor in that case shall be the same size as the feeder conductor.

B. **System Ground connections** shall be Burndy Type GAR or equal.

C. **Cable connections** shall be solderless, bolted pressure connectors.

D. **A grounding conductor shall be installed in every conduit**. All conduit, boxes, fixtures, etc. shall be bonded to the common grounding bus. At boxes provide Appleton or equal, green head, grounding screws. All fluorescent fixture ballast housings shall be securely bonded to the ground system.

PART 3 - EXECUTION

3.01 INSTALLATION

A. **The common Ground Bus is defined as the main Ground Bus located within the Building Service Entrance Switchgear. This shall be the common Ground point for all ground connections.** Stray grounds to the Building frame and/or structural members will not be permitted. A separate color coded insulated grounding conductor shall be run in each and every Raceway as noted on the accompanying drawings and shown in the panel Schedules. The Grounding conductor shall be of the same insulation as the circuit conductors sized in accordance with Article 250 NEC and as illustrated on the drawings.

B. **In the Lighting System**, BX pigtails or Aluminum grounds will not be permitted. As such six foot fixture pigtails shall be installed in flexible Steel conduit "Greenfield" utilizing green coded copper grounding conductors. Fluorescent fixture ballasts shall be grounded by bonding jumper from the fixture frame to the ballast retaining bolt.

C. Testing

1. **At the completion of the Grounding System,** Meggar test all grounding to the satisfaction of the Architect and Engineer. The Ground System shall be Meggar 5 OHMS or less

END OF SECTION

SECTION 16501 LIGHTING FIXTURES

PART 1 - GENERAL

1.01 WORK INCLUDED

A. **Furnish and install lighting fixtures**, lamps, and accessories for lighting outlets in accordance with the drawings. Furnish and install a lighting fixture of the same type as indicated for areas of similar usage wherever the type designation is omitted on the drawings.

B. **Furnish and install** a plaster frame for each recessed fixture as required by the type of building construction. Furnish and install hangers, bolts, or other devices required to properly and adequately support each lighting fixture from the structure. Fixtures may be supported from the suspended ceiling where specifically permitted by the construction specified in other Divisions of Work. Suspended pendent fixtures shall be supported as recommended by fixture manufacturer.

1.02 REFERENCE SUSPENDED DOCUMENTS

A. **The Special Provisions** for Electrical Work are hereby made a part of this Section of the Work. Refer to Section 16010.

B. **Each lighting fixture shall be** constructed in accordance with the applicable provisions of the Electrical Code as suitable for the location where they are indicated to be installed.

C. **Each lighting fixture shall bear** the Underwriters' Label indicating the fixture is suitable for the application and installation location.

1.03 SUBMITTAL

A. **Submit adequately descriptive data** including published catalog data or shop drawings for each type listing of lighting fixture for review prior to purchases or installation.

B. **SUBSTITUTIONS**

1. In the event substitutions are to be submitted for owner review, furnish descriptive catalog material, test data, samples, etc., of both the specified material and the proposed substitute, as well as any other pertinent data necessary to demonstrate that the proposed substitutions are acceptable equals to the specified products.
2. Substitutions shall not be made without written acceptance and lack of acceptance shall not be a basis of change in work.
3. The review of Shop Drawings or catalog data by Architect shall not negate the Contractors responsibility for deviations from the Drawings and Specifications unless, in writing, attention is specifically noted for such deviations at the time of submission and acceptance of the Architect is noted thereon. When attention is called to deviate from the Drawings and Specifications, state in letter of transmittal whether or not such deviations involve any change in Contract time and cost. Errors of any kind associated with submittal shall be the responsibility of the installer of division 16 works.

PART 2 - PRODUCTS

2.01 LIGHTING FIXTURES

A. **Lighting fixtures shall be** of the type, manufacturer, and construction as indicated in the Lighting Fixture Schedule.

B. **Each fixture shall be** complete with all proper components and accessories.

C. **Recessed incandescent fixtures** for ceiling that have insulation shall be Type IC.

D. **Surface mounted fluorescent fixtures** shall have spacers to achieve required separation from low-density ceilings construction.

E. **Fixture housing shall be** reinforced steel, 90% reflective white enamel finish.

F. **Provide 0.125 thick** prismatic virgin acrylic refractor lenses.

2.02 LAMPS

A. **Lamps shall be** energy saving and suitable for the lighting fixture installed and in accordance with the schedules and shall be manufactured by General Electric, Sylvania, or North American Phillips Corporation.

B. **Incandescent lamps shall be** general service inside frosted type except as listed for specific application.

C. **Fluorescent lamps shall be** standard (T-8) 3500K except as listed for color, energy savings, or special duty.

D. **Other lamps shall be** as specifically listed and be for the duty, lighting quality and application selected.

2.03 BALLASTS

A. **Each lighting fixture shall be** equipped with a proper energy saving electronic ballast in accordance with the operating requirements of the lighting fixture. Every ballast shall be UL listed and carry a UL label for the lighting fixture and installation specified. Ballasts shall be manufactured by Advance, GE, Jefferson or Universal.

B. **Fluorescent ballasts shall be** CBM certified, high power factor type and sound rated for the lowest rating available for the application. Ballasts for lamps rated 430 ma and below shall be sound rating "A". Each ballast shall have the sound rating listed thereon. Ballasts shall be Premium Class P for those types where the requirements have been established. Other ballasts, where indicated, shall be energy saving type and shall be equal to Advance Mark III.

C. **Other gaseous discharge lamp** ballasts shall be high power factor constant wattage type. These ballasts for fixtures on building interior mounting shall be fully enclosed in a metal housing which if filled with thermo-setting sound absorbing and encapsulating material. The interior ballast shall, on recessed fixtures, be mounted separate from the reflector and socket but shall be removable without tools through the fixture ceiling opening. Each ballast shall be provided with a line disconnecting device and thermal protection.

2.04 ACCESSORIES

A. **Recessed lighting fixtures** for mounting in lay-in type ceilings shall be provided with tee clamp lock-in supports when it is acceptable to support the fixtures from the tees. Recessed fixtures will have all required plaster frames, concrete inserts, gaskets, sight shields and similar accessory components required for the particular installations in this project.

B. **Lighting fixtures indicated** to have integral battery, charger and inverter for emergency light shall have equipment specially designed for and installed in the fixture. Units shall meet or exceed life safety 101, 90-minute illumination capability. Units for fluorescent fixtures shall be Siltron Unit-Pak.

C. **Pendant fixtures shall be** provided with supports and all other accessories for proper suspension as recommended by the manufacturer and to provide a complete installation.

PART 3 - EXECUTION

3.01 FIXTURES

A. **Each lighting fixture shall be** carefully installed in accordance with the manufacturer's directions and to fit the general construction of the walls, ceilings or other areas where the fixture is indicated. Refer to reflect ceiling plans, elevations and other details for the exact locations of fixtures. Where those details or other instructions do not indicate lighting fixture locations, position the fixtures proportionally in spaces using the arrangement indicated on the electrical drawings plus center, parallel and space the lighting fixtures and rows of fixtures on and with general construction lines.

B. **Install suspended and recessed lighting fixtures** in accordance with the lighting fixture manufacturer's instructions for the application. Install above ceiling junction boxes to provide ready access through the ceiling opening. Install hangers to support fixtures independent of suspended ceilings unless the ceiling is specifically designed to support the fixture. Any above-ceiling insulation materials are prohibited to be within 3" of recessed lighting fixtures.

C. **Mount surface lighting fixtures** to the ceiling in accordance with the lighting fixture manufacturer's instructions. Provide through-ceiling-to-structure-above supports for each lighting fixture mounted on suspended ceiling unless the ceiling is specifically designed to support the lighting fixture.

Narrow channel or box-mounted lighting fixtures on tee-bar type ceilings shall be connected through outlet boxes centered above the fixture and supported squarely on the tees. Provide auxiliary above-ceiling supports for the ceiling where tees must be cut.

D. **Securely anchor bracket mounted** fixtures to maintain vertical and horizontal alignment. Provide that all mounting devices are concealed.

E. **Where new Fixtures are installed on existing poles, install in accordance of lighting fixture manufacturer's instructions and** adjusting to provide maximum overall fc throughout the court playing surfaces as intended by manufacturers fc calculations.

3.02 LAMPS

A. **Each fixture shall be** equipped with a set of new lamps of the size and type specified, and left in a condition such that there is a new lamp in each receptacle in each fixture upon completion and acceptance of the work. Low-energy or energy-saving type lamps shall be furnished and installed where indicated and shall specifically match the fixture, socket and ballast selection.

B. **Use permanent fixtures** with final lamps to allow final touch-up painting to be performed under completed building light. Permanent fixtures used for other temporary lighting shall have the used lamps removed and not reused for final lamping of the job. Specific approval by the Owner shall be obtained for installation of the final lamps.

C. **Replace all lamps** that fail or have blackened ends during the period of touch-up painting, replacing all lamps that have been used more than 1/4 of their rated life. The use time will be determined by the Owner's records.

D. Where existing lamps in court light remain in working condition, box and hand over to owner for reuse at later date

3.03 TESTING, CLEANING AIMING AND ADJUSTING

A. **Each fixture shall be** replaced in proper operating condition, equipped with the proper lamps and properly fitted and adjusted to aim, focus, and physically work in the spaces and construction where installed. Fixtures shall be left clean of all dust, dirt, grease and other foreign materials. Reflectors and lenses shall be clean and undamaged. Trims, finishes, and housings shall fit together and to the building construction and show no evidence of damage, handling, and misalignment.

END OF SECTION

EXHIBIT 3: PLANS

Jonesville Park Tennis Improvements and Restorations
for
Alachua County Parks and Recreation

14080 NW 32nd
Gainesville, FL 32606
RSC Project #: 19148

GENERAL NOTES

1. THESE PLANS ARE THE PROPERTY OF RSC & ASSOCIATES, INC. OR CERTAIN PARTIES BY CONTRACT. ALL RIGHTS RESERVED. ANY REPRODUCTION OR USE OF THESE PLANS WITHOUT THE EXPRESSED WRITTEN CONSENT OF RSC & ASSOCIATES, INC. IS PROHIBITED.
2. CONTRACTOR AND SUBCONTRACTORS SHALL CONFIRM AND VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK.
4. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LAWS, CODES, ORDINANCES, RULES AND REGULATIONS.
5. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY LOCATIONS AND SERVICES PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS, UTILITIES, AND ADJACENT PROPERTY FROM DAMAGE DURING CONSTRUCTION.
7. CONTRACTOR SHALL MAINTAIN A CLEAN AND SAFE WORK SITE AND REMOVE ALL DEBRIS AND WASTE MATERIALS REGULARLY.
8. CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE BARRICADES, WARNING SIGNS, AND LIGHTS AS REQUIRED FOR PUBLIC SAFETY.
9. ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE, UNLESS OTHERWISE NOTED.
10. CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE PROJECT.

INDEX OF DRAWINGS

SITE LOCATION MAP

CHW
Professional Consultants
1100 Research Drive,
Alachua, FL 32615
Tel: (352) 331-1976
W: www.chw-inc.com

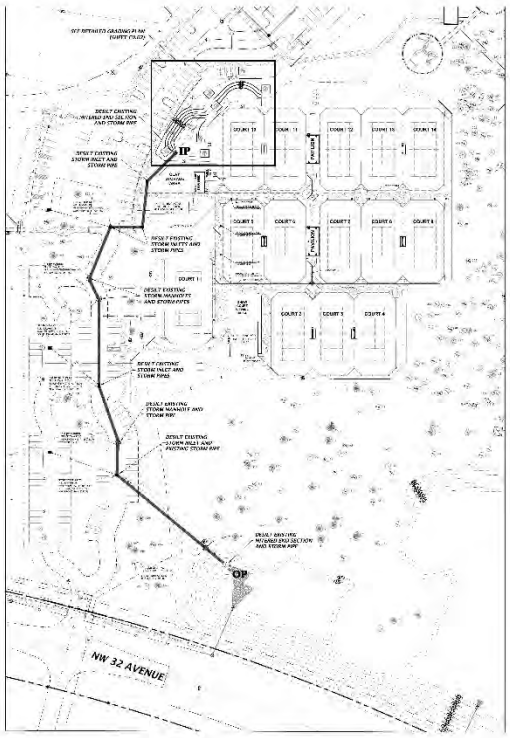
RSC
& Assoc. Inc.
A Professional Corporation
ARCHITECTS
&
PLANNERS
5200 NW 43rd St
Suite 102-376
Gainesville, FL.
32606
(352) 376-4642
FAX (352) 377-3402
Roy@RSCArchitecture.com
CA# 001995

RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS

Jonesville Park Tennis Improvements and Restorations
for
Alachua County Parks and Recreation
14080 NW 32nd Ave
Gainesville, FL 32606

T0.01

FOR BIDDING



GRAPHIC SCALE

N

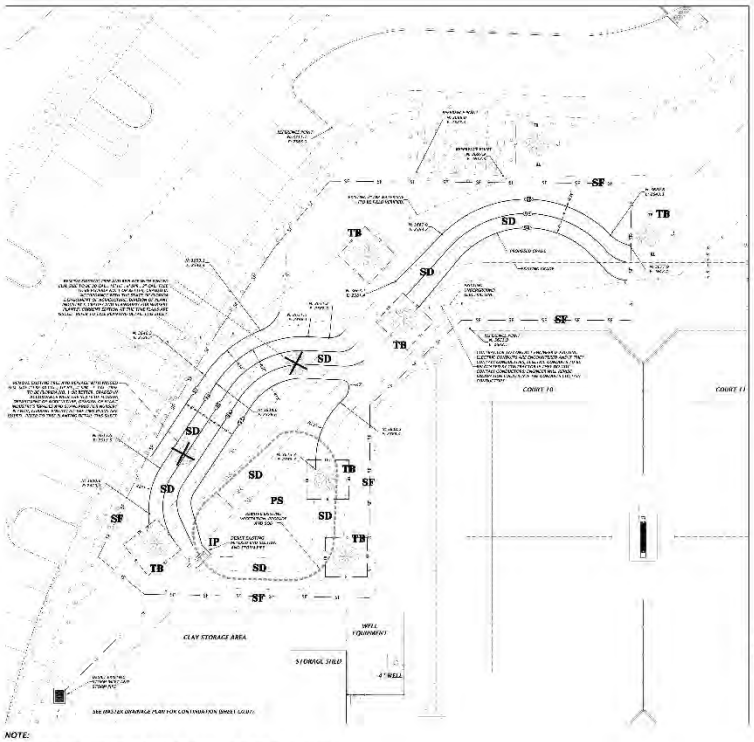
RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS

Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
3041 NW 143rd Street
Gainesville, FL 32606

MASTER
DRAINAGE PLAN

C0.01

FOR BIDDING



NOTE:
CONTRACTOR SHALL PROVIDE WATER TO PLANT MATERIAL UNTIL ESTABLISHMENT.

STORMWATER POLLUTION
PREVENTION LEGEND

PS
SD
SF
TB
IP
OP

GRAPHIC SCALE

N

TYPE III SILT FENCE DETAIL

TREE PROTECTION DETAIL

TREE PLANTING DETAIL

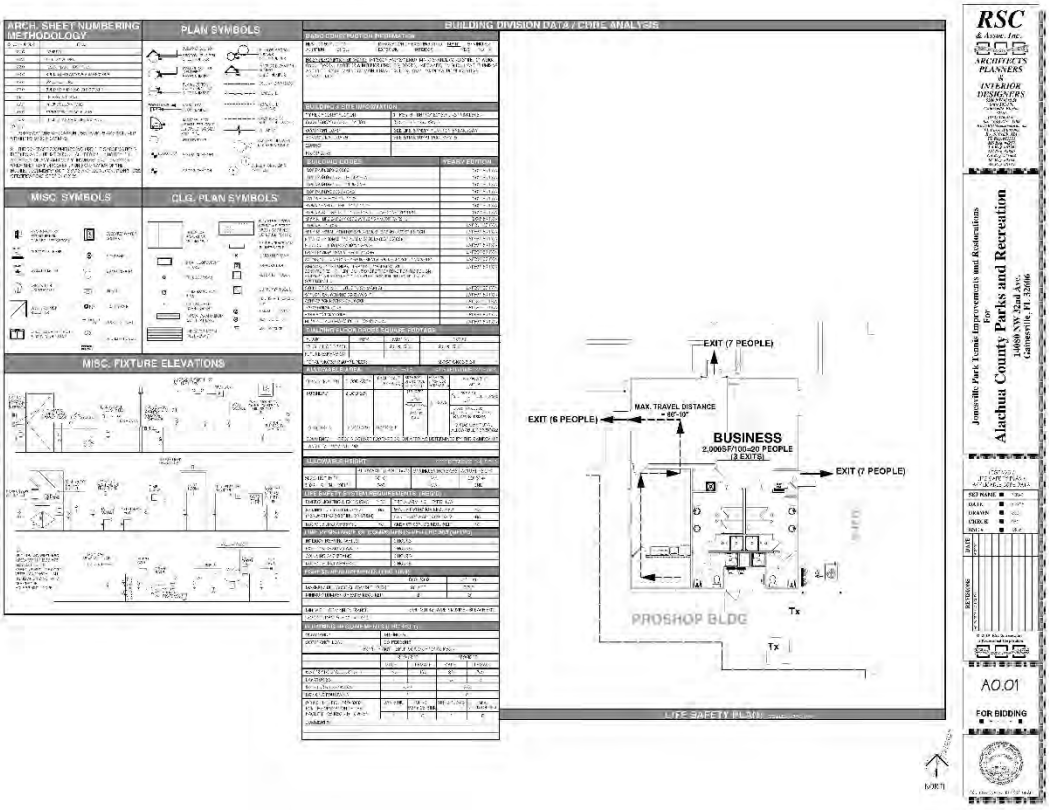
RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS

Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
3041 NW 143rd Street
Gainesville, FL 32606

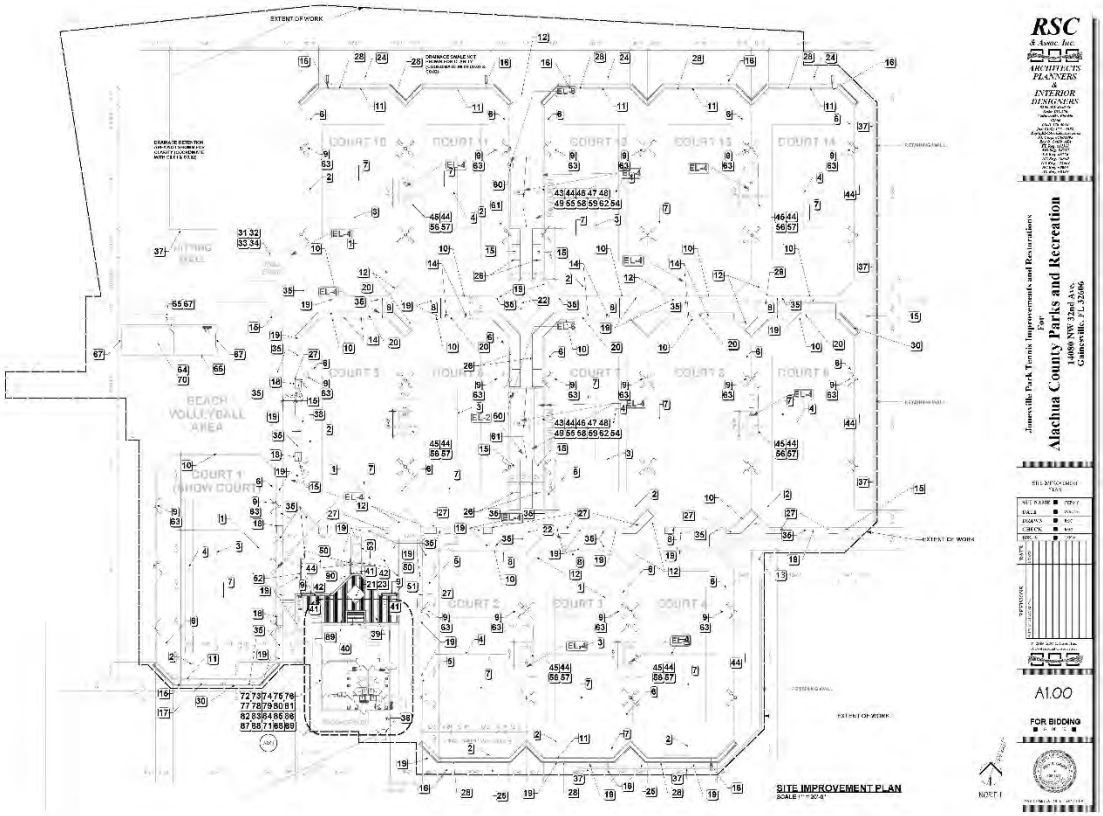
DETAILED
DRAINAGE PLAN

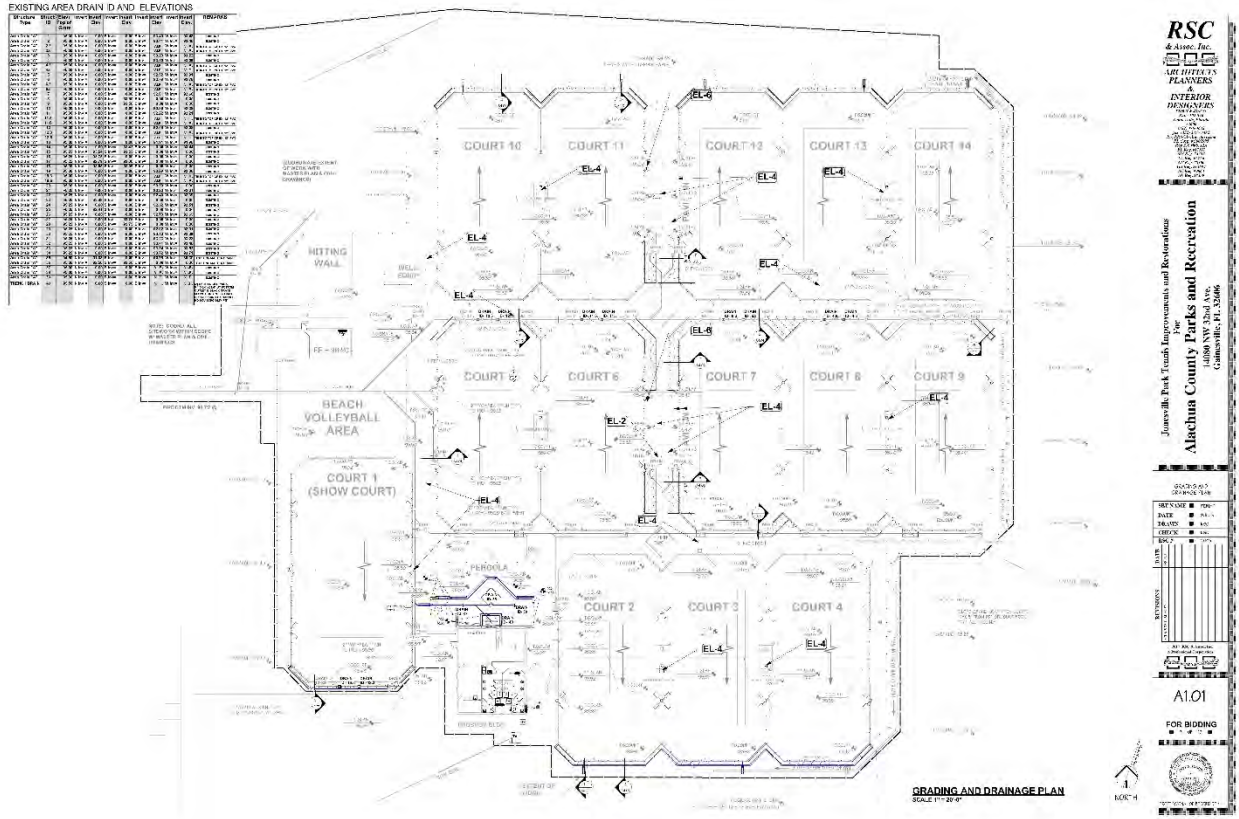
C0.02

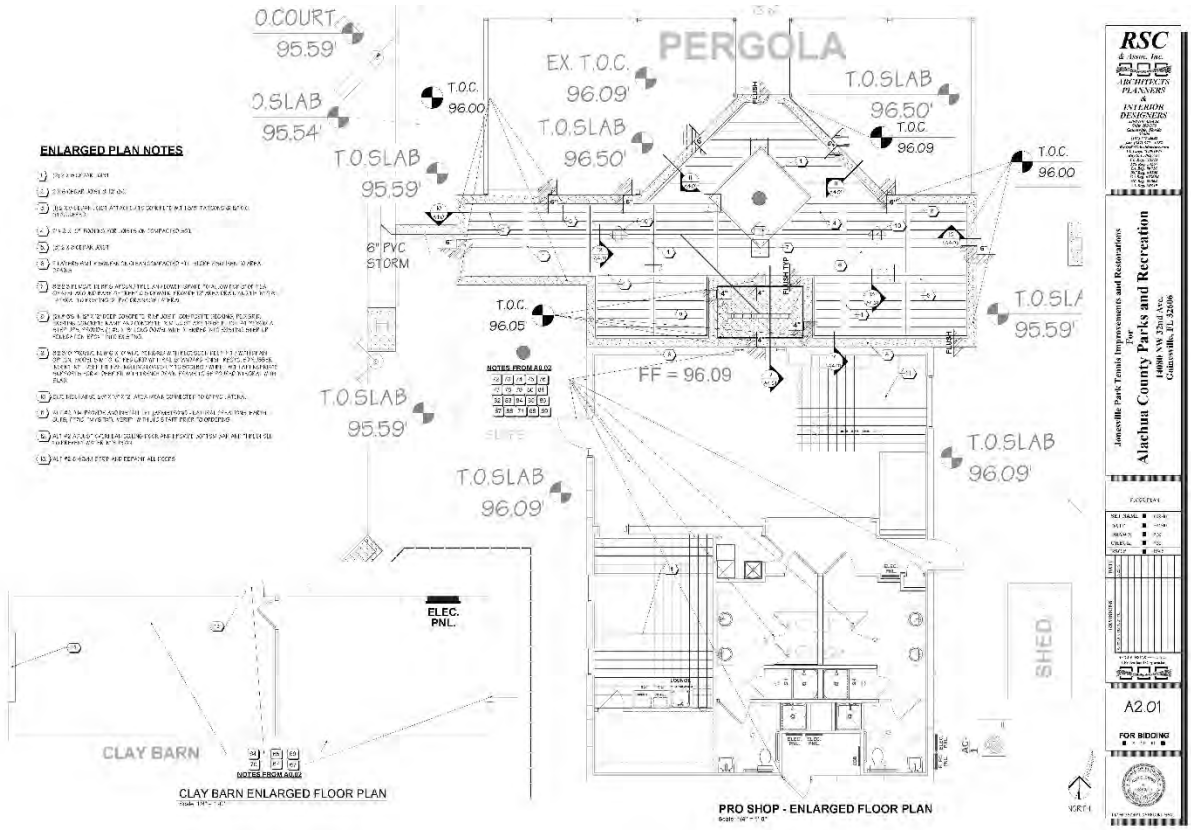
FOR BIDDING

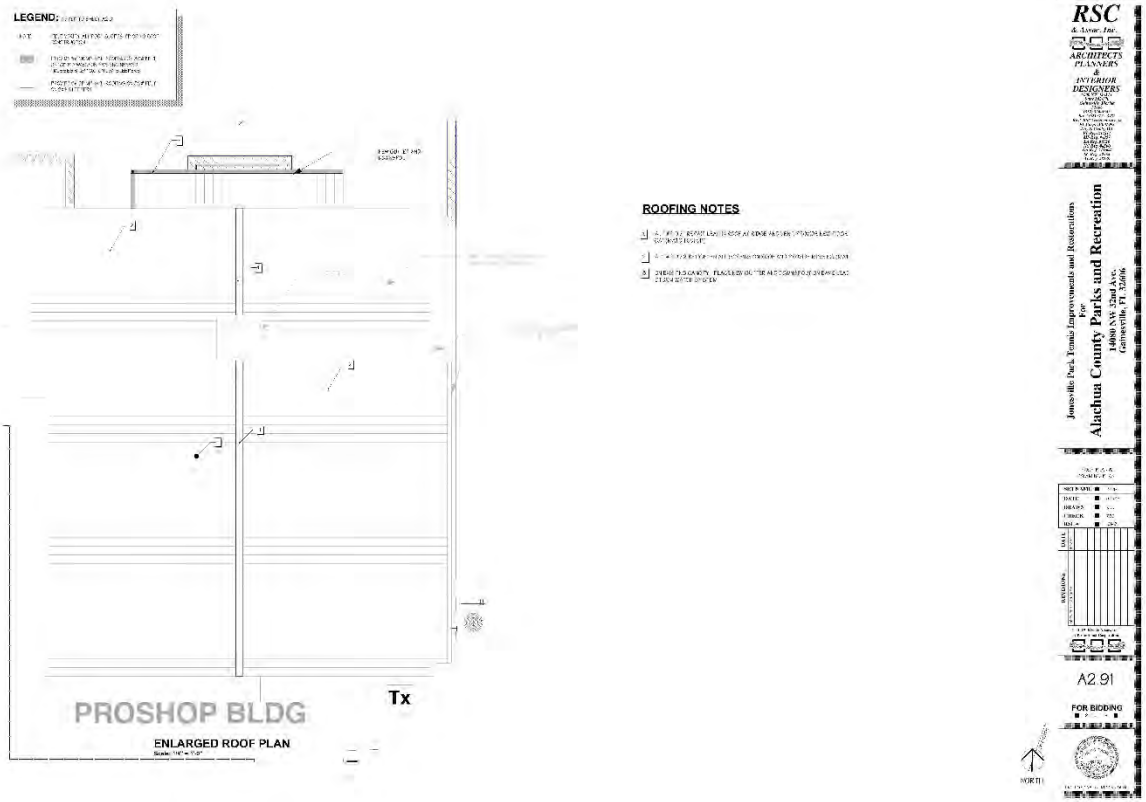

ARCH. SHEET NUMBERING METHODOLOGY
PLAN SYMBOLS
MISC. SYMBOLS
CLG. PLAN SYMBOLS
MISC. FIXTURE ELEVATIONS
BUILDING DIVISION DATA / CODE ANALYSIS
EXIT (7 PEOPLE)
EXIT (6 PEOPLE)
MAX. TRAVEL DISTANCE = 85'-10"
BUSINESS
2,000SF/100=20 PEOPLE
(3 EXITS)
EXIT (7 PEOPLE)
PROSHOP BLDG
LIFE SAFETY PLAN
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS
Jonesville Park Tennis Improvements and Restorations For
Alachua County Parks and Recreation
14069 NW 32nd Ave.
Gainesville, FL 32606
A0.01
FOR BIDDING

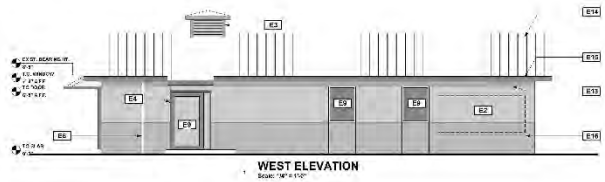

TENNIS COMPLEX IMPROVEMENTS / ALT #1 LED LIGHTING / ALT #2 RESTORATION OF CLAY BARN AND PROSHOP BID NOTES
TENNIS COURTS IMPROVEMENTS
DRAINAGE IMPROVEMENTS
SHADE STRUCTURE IMPROVEMENTS
LIGHTING IMPROVEMENTS
CLAY BARN AND PROSHOP RESTORATIONS
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS
Jonesville Park Tennis Improvements and Restorations for
Alachua County Parks and Recreation
14069 NW 32nd Ave.
Gainesville, FL 32606
A0.02
FOR BIDDING

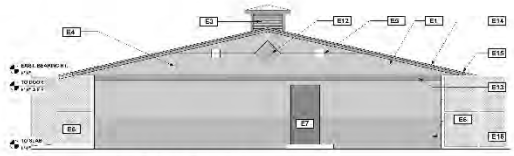

RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14080 NW 32nd Ave.
Gainesville, FL 32606
A1.00
FOR BIDDING
SITE IMPROVEMENT PLAN
COURT 1
(SHOW COURT)
BEACH
VOLLEYBALL
AREA
HITTING
WALL

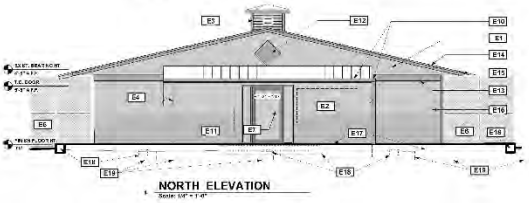

EXISTING AREA DRAIN ID AND ELEVATIONS
RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14080 NW 32nd Ave.
Gainesville, FL 32606
A1.01
FOR BIDDING
GRADING AND DRAINAGE PLAN
COURT 1
(SHOW COURT)
BEACH
VOLLEYBALL
AREA
HITTING
WALL
PERGOLA


ENLARGED PLAN NOTES
O.COURT
95.59'
O.SLAB
95.54'
T.O.C.
96.00
T.O.SLAB
95.59'
6" PVC
STORM
T.O.C.
96.05
NOTES FROM A0.02
T.O.SLAB
95.59'
T.O.SLAB
96.09'
EX. T.O.C.
96.09'
PERGOLA
T.O.SLAB
96.50'
T.O.C.
96.09
T.O.SLAB
96.50'
T.O.C.
96.00
T.O.SLA
95.59'
FF = 96.09
T.O.SLAB
96.09'
SHED
ELEC.
PNL.
CLAY BARN
NOTES FROM A0.02
CLAY BARN ENLARGED FLOOR PLAN
PRO SHOP - ENLARGED FLOOR PLAN
RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14900 NW 32nd Ave.
Gainesville, FL 32606
A2.01
FOR BIDDING


LEGEND:
ROOFING NOTES
PROSHOP BLDG
Tx
ENLARGED ROOF PLAN
RSC
& Assoc. Inc.
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14900 NW 32nd Ave.
Gainesville, FL 32606
A2.91
FOR BIDDING







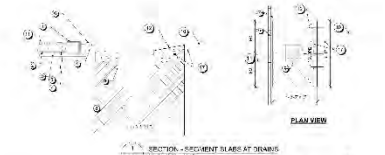
ELEVATION NOTES:

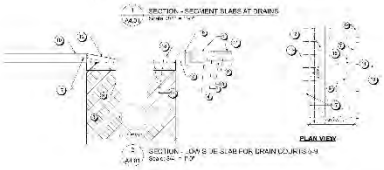
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS

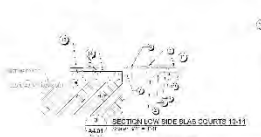
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14000 NW 32nd Ave.
Gainesville, FL 32606

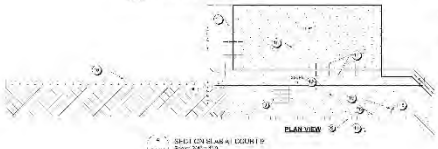
A3.01

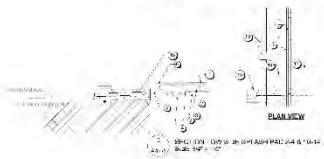
FOR BIDDING



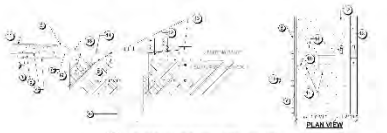


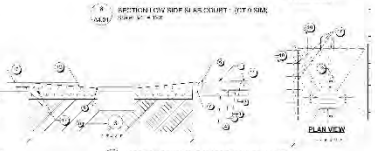


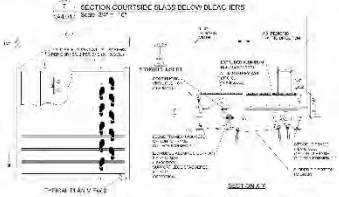


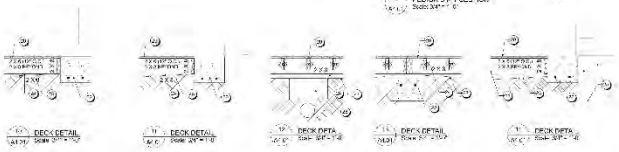


DETAIL NOTES







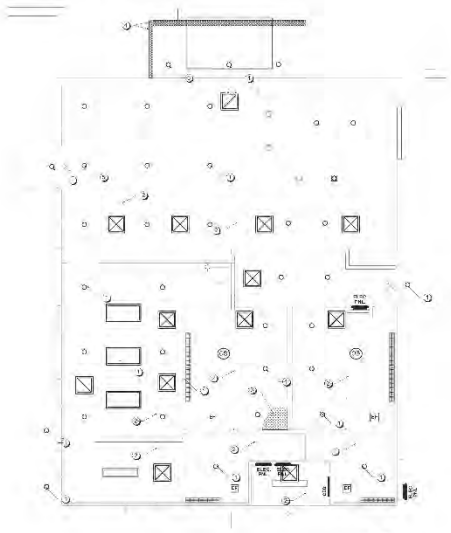


RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS

Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14000 NW 32nd Ave.
Gainesville, FL 32606

A4.01

FOR BIDDING



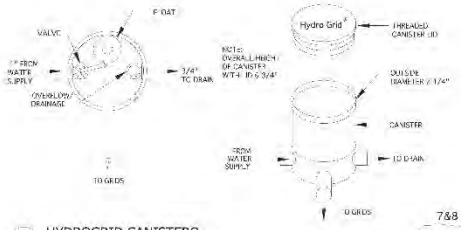
REFLECTED CEILING PLAN

REFLECTED CEILING NOTES

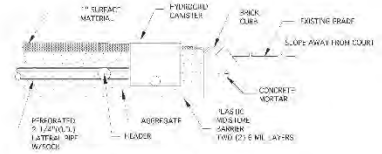
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS

Jonesville Park Tennis Improvements and Restorations For
Alachua County Parks and Recreation
14900 NW 32nd Ave.
Gainesville, FL 32606

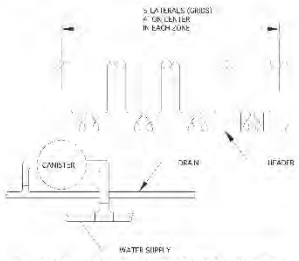
A8.01
FOR BIDDING



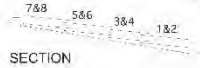
6 HYDROGRID CANISTERS
SCALE: N.T.S.



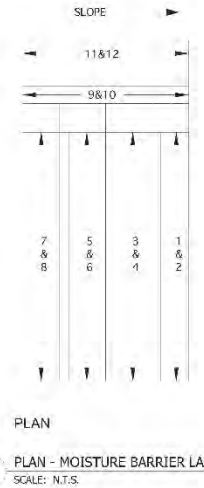
5 SECTION - HYDROGRID CANISTERS
SCALE: N.T.S.



3 PLAN - WATER DISTRIBUTION SYSTEM
SCALE: N.T.S.

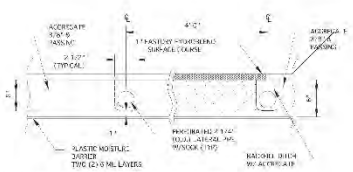


SECTION

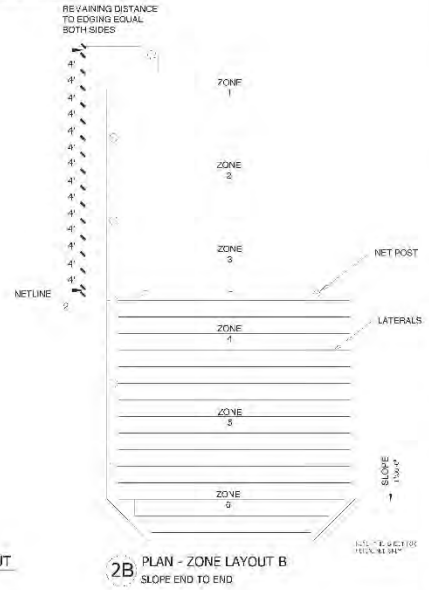


PLAN

1 PLAN - MOISTURE BARRIER LAYOUT
SCALE: N.T.S.



4 SECTION - DISTRIBUTION DITCH
SCALE: N.T.S.

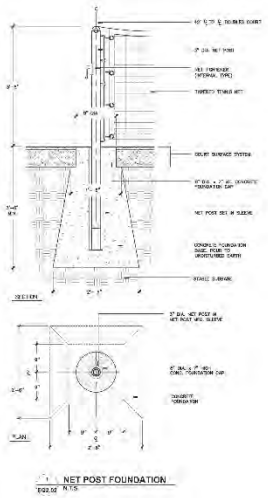


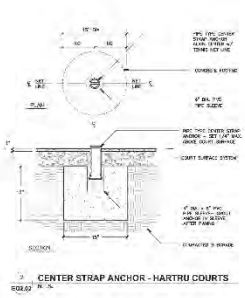
2B PLAN - ZONE LAYOUT B
SLOPE END TO END

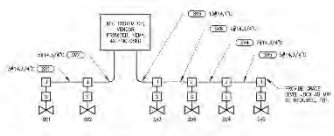
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS

Jonesville Park Tennis Improvements and Restorations For
Alachua County Parks and Recreation
14900 NW 32nd Ave.
Gainesville, FL 32606

EQ2.01
FOR BIDDING



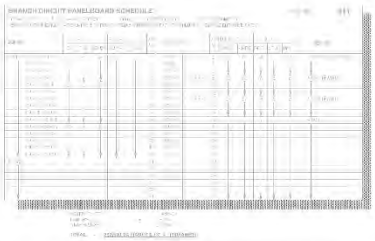


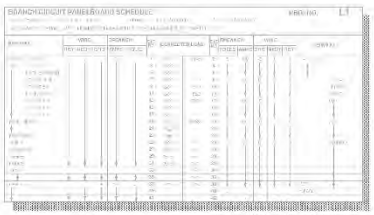


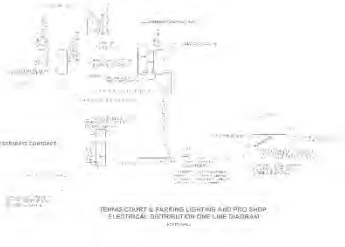
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS

Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14900 NW 32nd Ave.
Gainesville, FL 32606

EQ2.02
FOR BIDDING





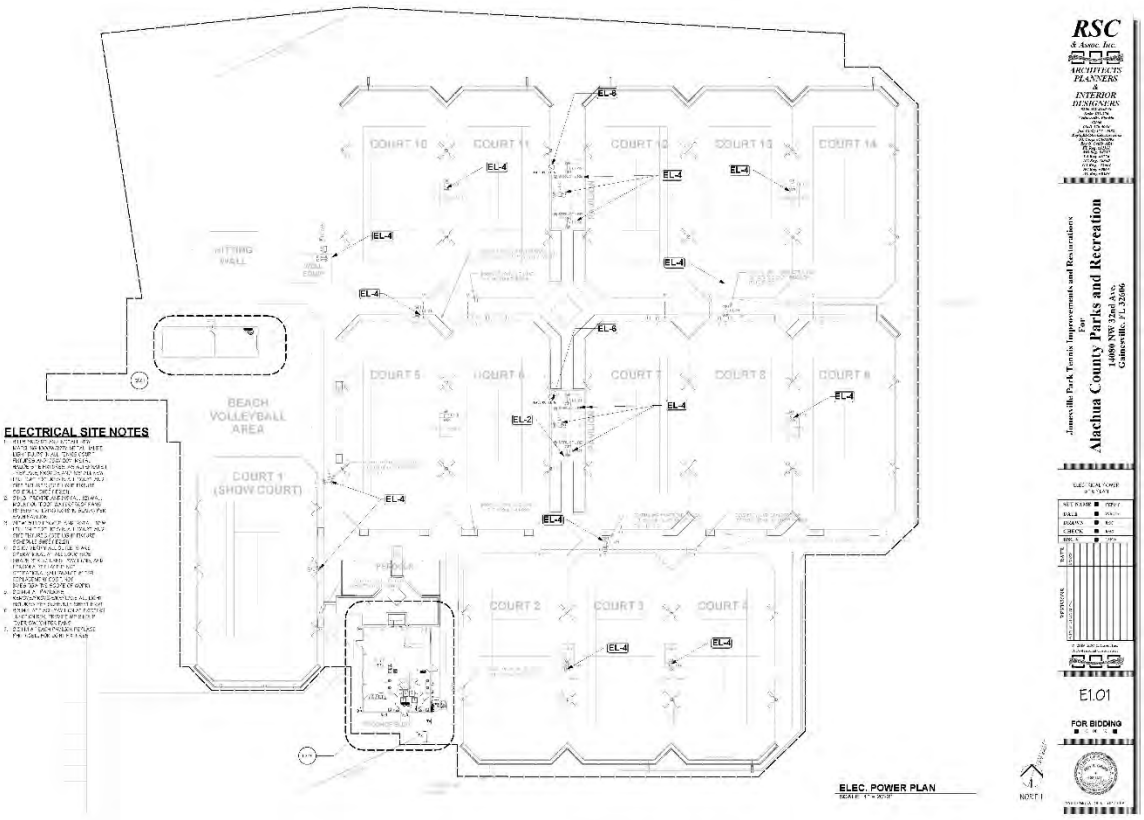


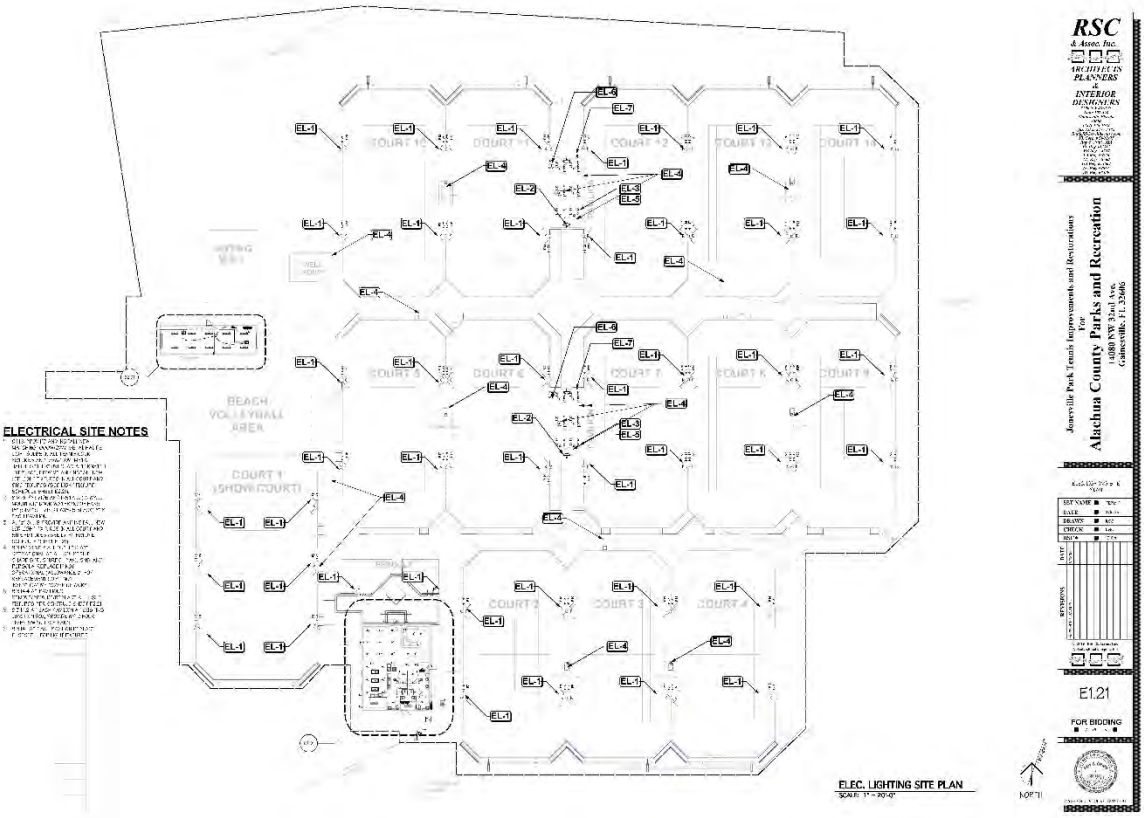
NOTE: THIS PAGE IS FOR REFERENCE ONLY. ADDING ONE CIRCUIT IN PANEL L3

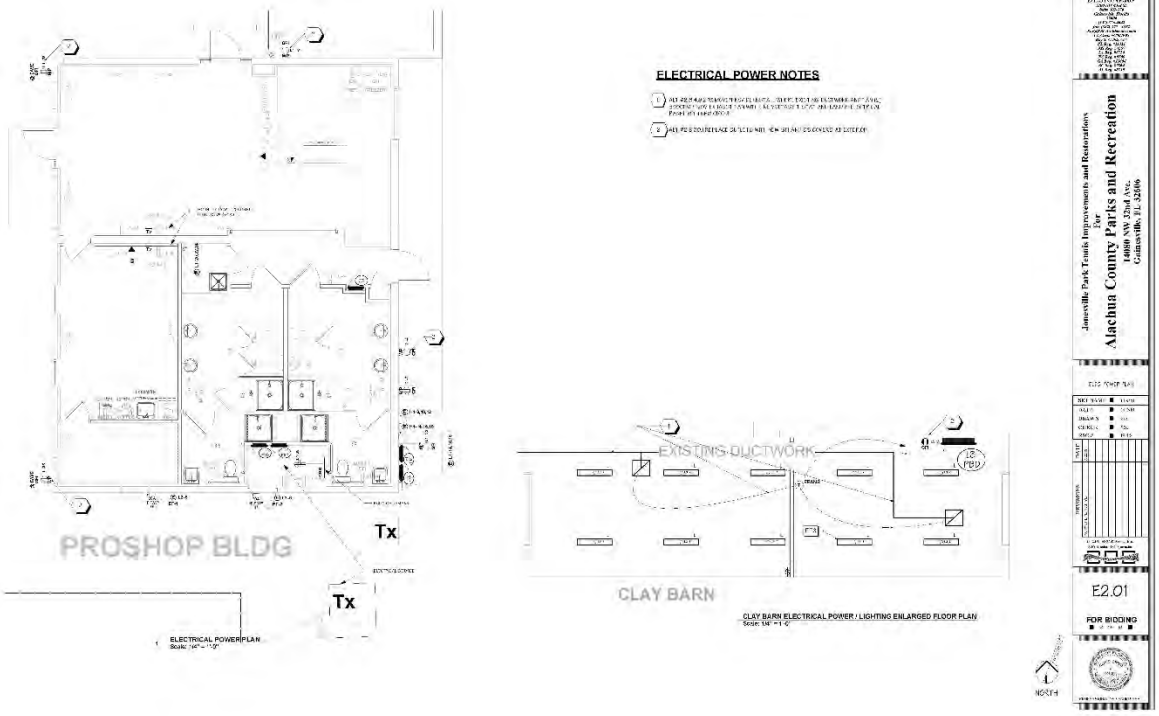
RSC & Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS

Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14900 NW 32nd Ave.
Gainesville, FL 32606

E0.01
FOR BIDDING


ELECTRICAL SITE NOTES
COURT 10
COURT 11
COURT 12
COURT 13
COURT 14
COURT 5
COURT 6
COURT 7
COURT 8
COURT 9
COURT 1
(SHOW COURT)
COURT 2
COURT 3
COURT 4
BEACH VOLLEYBALL AREA
ELEC. POWER PLAN
RSC
& Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14080 NW 32nd Ave.
Gainesville, FL 32606
E1.01
FOR BIDDING


ELECTRICAL SITE NOTES
COURT 10
COURT 11
COURT 12
COURT 13
COURT 14
COURT 5
COURT 6
COURT 7
COURT 8
COURT 9
COURT 1
(SHOW COURT)
COURT 2
COURT 3
COURT 4
BEACH VOLLEYBALL AREA
ELEC. LIGHTING SITE PLAN
RSC
& Assoc. Inc.
ARCHITECTS PLANNERS & INTERIOR DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14080 NW 32nd Ave.
Gainesville, FL 32606
E1.21
FOR BIDDING


RSC
& Assoc. Inc
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14600 SW 32nd Ave.
Gainesville, FL 32606
ELECTRICAL POWER NOTES
PROSHOP BLDG
Tx
Tx
ELECTRICAL POWER PLAN
EXISTING DUCTWORK
CLAY BARN
CLAY BARN ELECTRICAL POWER / LIGHTING ENLARGED FLOOR PLAN
NORTH
E2.01
FOR BIDDING

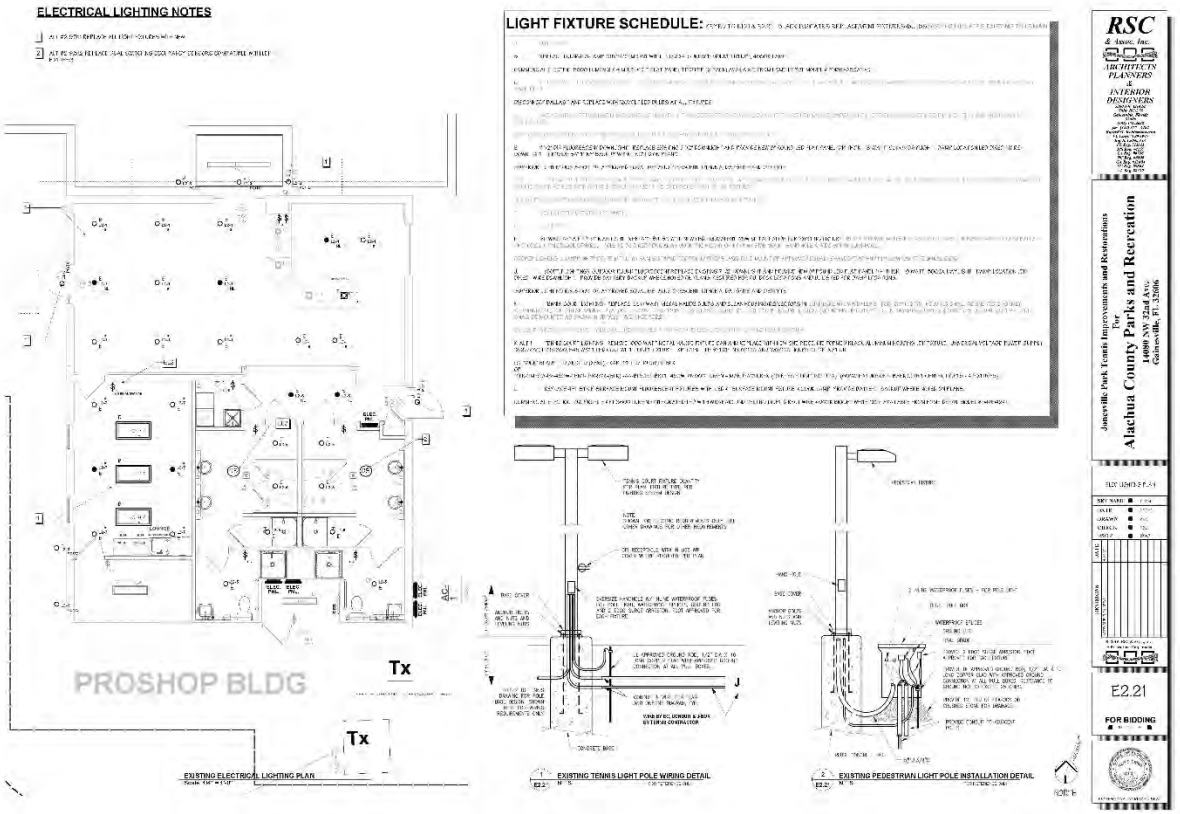

ELECTRICAL LIGHTING NOTES
LIGHT FIXTURE SCHEDULE:
PROSHOP BLDG
Tx
Tx
EXISTING ELECTRICAL LIGHTING PLAN
EXISTING TENNIS LIGHT POLE WIRING DETAIL
EXISTING PEDESTRIAN LIGHT POLE INSTALLATION DETAIL
RSC
& Assoc. Inc
ARCHITECTS
PLANNERS
&
INTERIOR
DESIGNERS
Jonesville Park Tennis Improvements and Restorations
For
Alachua County Parks and Recreation
14600 SW 32nd Ave.
Gainesville, FL 32606
NORTH
E2.21
FOR BIDDING

EXHIBIT 4: BID FORM

Bid Form/Schedule of Values

Bid 20-936 Jonesville Park Tennis Improvements and Restorations

Description	Amount Bid
BASE BID – 1 LUMP SUM (LS)	$ 458,587.00
ALT 1: LIGHTING IMPROVEMENTS – 1 LS	$ 143,046.00
ALT 2: CLAY BARN AND PROSHOP RESTORATIONS – 1 LS	$ 75,665.00
Total Bid (add all rows above)	$ 677,298.00

NOTE: This bid is a unit price bid based on estimated quantities. Final payment shall be based upon actual field measurement of quantities.

List of Unit Abbreviations:

SY Square Yards	GL Gallons	SD Side Drain
LS Lump Sum	MG Thousand Gallons	ED Each Day
CY Cubic Yards	GM Gross Miles	CD Cross Drain
EA Each	LF Linear Feet	AC Acre
TN Tons	NM Net Miles	RCP Reinforced Concrete Pipe
HR Hour	AS Assembly	PI Per Intersection

Acknowledge Receipt of Addendum(s) (if applicable circle):

#1 (Yes) No #2 (Yes) No #3 Yes No #4 Yes No

Bidder: John Sixbey Company: Joyner Construction Partners, LLC

Address: 7545 W. University Ave, Suite B, Gainesville, FL. 32607

Authorized Signature: _____ Title: Managing Partner/President

Clearly Print Name: John Sixbey

Phone: 352-332-8171 Fax: 352-332-9777 Date: 12/4/19

Email Address: info@joyner-construction.net ; johns@joyner-construction.net

18

EXHIBIT 5: GENERAL CONSTRUCTION NOTICE TO PROCEED

NTP No.: _____ Agreement No.: 11395

Invoice/Billing Reference No.: _____

Project Description: Jonesville Park Tennis Improvements and Restorations - Renovation, maintenance, and repair to the tennis courts and associated buildings and shelters (interior and exterior), via laser grading, lighting, drainage, irrigation, sidewalks and fencing
County: Alachua County, a Charter County and political subdivision of the State of Florida

Date Issued: _____

County Project Manager: John Morris

Contractor: Joyner Construction Partners, LLC

Contractor's Address: 7545 W. University Avenue Suite B, Gainesville, Florida 32607

Architect/Engineer: Roy S. Cribb, AIA - RSC & Associates, Inc.

Execution of the Notice to Proceed (NTP) by County shall serve as authorization for the Contractor to perform the Work for the above project as set forth in that certain General Construction Agreement No. 11395 between the County and the Contractor and further delineated in the specifications, conditions and requirements stated in the following listed documents which are attached hereto and made a part hereof.

ATTACHMENTS:

[ ] DRAWINGS/PLANS/SPECIFICATIONS
[ ] SCOPE OF SERVICES
[ ] SPECIAL CONDITIONS
[ ] _____

The Contractor shall provide said services pursuant to this Notice to Proceed, its attachments and the above-referenced Contract, which is incorporated herein by reference as if it had been set out in its entirety. Whenever the Notice to Proceed conflicts with said Contract, the Contract shall prevail.

TIME FOR COMPLETION: The Work authorized by this Notice to Proceed shall be commenced upon the date written above or upon issuance of and shall substantially complete within Sixty (60) calendar days of this NTP with Final Completion occurring 84 calendar days after Substantial Completion.

METHOD OF COMPENSATION:

This Notice to Proceed is issued in accordance with the terms of the General Construction Agreement No. 11395, dated _____.

The amount paid for this job shall be:

$ ____.

The County shall make payment to the Contractor in strict accordance with the payment terms of the above-referenced Agreement and in accordance with the Bid Form.

It is expressly understood by the Contractor that this and Notice to Proceed, until executed by the County, does not authorize the performance of any services by the Contractor and that the County, prior to its execution of the Notice to Proceed, reserves the right to authorize a party other than the Contractor to perform the services called for under this document if it is determined that to do so is in the best interest of the County.

THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the parties hereto have made and executed this Work Order on this _____ day of _____, 20_____, for the purposes stated herein.

CONTRACTOR

By: _____

Date: _____

Title: _____

Print Name and Title

ARCHITECT/ENGINEER/COUNTY (as applicable)

By: _____

Date: _____

Title: _____

Print Name and Title

ALACHUA COUNTY, FLORIDA

By: _____

Alachua County

Date: _____

EXHIBIT 6: PAYMENT BOND FORM

CONTRACTOR (PRINCIPAL)

COMPANY (LEGAL NAME):

PRINCIPAL BUSINESS ADDRESS (No PO Box):

TELEPHONE NUMBER:

SURETY

COMPANY (LEGAL NAME):

PRINCIPAL BUSINESS ADDRESS (No PO Box):

TELEPHONE NUMBER:

OWNER (OBLIGEE)

NAME: Alachua County Board of County Commissioners

PRINCIPAL BUSINESS ADDRESS: 12 S.E. First Street, Gainesville, Florida 32601

TELEPHONE NUMBER: 352-374-5204

AGREEMENT DETAILS

DATE EXECUTED:

AMOUNT:

GENERAL DESCRIPTION:

STREET ADDRESS OF PROJECT:

PO NO. , RFP, OR BID NO. :

BOND

BOND NUMBER:

DATE:

AMOUNT:

KNOW ALL MEN BY THESE PRESENTS:

That Principal, hereinafter called Contractor, and Surety, as identified above, are bound to Alachua County, Florida, as Obligee, and hereinafter called the County, in the amount identified above, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

This payment bond is executed pursuant to §255.05, Florida Statutes, and claimants must comply with the notice and time limitations of §255.05(2). Florida Statutes.

WHEREAS, Contractor has by written Agreement entered into a Agreement, identified above, with Alachua County, which Contract Documents are by reference made part hereof, and for the purposes of this Bond are hereafter referred to as the "Agreement."

THE CONDITION OF THIS BOND is that if Contractor promptly makes payments to all persons defined in §713.01, Florida Statutes, who furnish labor, materials and supplies used directly or indirectly by Contractor in the performance of the Agreement; then CONTRACTOR'S OBLIGATION SHALL BE VOID; OTHERWISE, IT SHALL REMAIN IN FULL FORCE AND EFFECT.

The surety hereby waives notice of and agrees that any changes in or under the Agreement and compliance or noncompliance with any formalities connected with the Agreement or the changes do not affect surety's obligation under this bond.

The provisions of this bond are subject to the time limitations of §255.05(2). In no event will the Surety be liable in the aggregate to claimants for more than the penal sum of this Payment Bond, regardless of the number of suits that may be filed by claimants.

SIGNATURES NEXT PAGE

Signed and sealed this_____day of_____, 20_____.

CONTRACTOR (PRINCIPAL)

Signed, sealed and delivered

in the presence of:

_____ _____

_____ By:_____

Witnesses as to Contractor

Name:_____

Title:_____

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ day of _____, 20___, by _____, as _____ of _____, a _____ corporation, on behalf of the corporation. He/she is personally known to me **OR** has produced _____ as identification.

Notary Public (Signature) :_____ Printed Name: _____

My Commission Expires: _____ (AFFIX NOTARY SEAL)

SURETY

SIGNATURE:

_____

SEAL

PRINTED NAME AND TITLE: ATTORNEY IN FACT

EXHIBIT 7: PERFORMANCE BOND FORM

CONTRACTOR (PRINCIPAL)

COMPANY (LEGAL NAME):

PRINCIPAL BUSINESS ADDRESS (No PO Box):

TELEPHONE NUMBER:

SURETY

COMPANY (LEGAL NAME):

PRINCIPAL BUSINESS ADDRESS (No PO Box):

TELEPHONE NUMBER:

OWNER (OBLIGEE)

NAME: Alachua County

PRINCIPAL BUSINESS ADDRESS: 12 S.E. First Street, Gainesville, Florida 32601

TELEPHONE NUMBER: 352-374-5204

AGREEMENT DETAILS

DATE EXECUTED:

AMOUNT:

GENERAL DESCRIPTION:

STREET ADDRESS OF PROJECT:

PO NO. , RFP, OR BID NO. :

BOND

BOND NUMBER:

DATE:

AMOUNT:

KNOW ALL MEN BY THESE PRESENTS:

That Principal, hereinafter called Contractor, and Surety, as identified above, are bound to Alachua County, Florida, as Obligee, and hereinafter called the County, in the amount identified above, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, Contractor has by written Agreement entered into an Agreement, identified above, with County, which Contract Documents are by reference made a part hereof, and for the purposes of this Bond are hereafter referred to as the "Agreement";

THE CONDITION OF THIS BOND is that if Contractor:

1. performs the Agreement between Contractor and County, at the times and in the manner prescribed in the Agreement; and

2. pays County all losses, damages, including liquidated damages and damages caused by delay, expenses, costs and attorney's fees including appellate proceedings, that County sustains as a result of default by Contractor under the Agreement; and

3. performs the guarantee of all work and materials furnished under the Agreement for the time specified in the Agreement; then THIS BOND IS VOID, OTHERWISE IT REMAINS IN FULL FORCE AND EFFECT.

Whenever Contractor shall be, and is declared by County to be, in default under the Agreement, and County having performed County's obligations there under, the Surety may promptly remedy the default, or shall promptly:

1. complete the Agreement in accordance with its terms and conditions; or

2. obtain a bid or bids for completing the Agreement in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if County elects, upon determination by County and Surety jointly of the lowest responsible bidder, arrange for a Agreement between such Bidder and County, and make available as work progresses sufficient funds, paid to County, to pay the cost of completion and other costs and damages for which the Surety may be liable hereunder.

No right of action shall accrue on this bond to or for the use of any person of corporation other than County named herein.

The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Agreement or other Work to be performed hereunder, or the specifications referred to therein shall in any way affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Agreement or to Work or to the specifications.

This instrument shall be construed in all respects as a common law bond. It is expressly understood that the time provisions and statute of limitations under §255.05, Florida Statutes, shall not apply to this bond.

In no event will the Surety be liable in the aggregate to Obligee for more than the penal sum of this Performance Bond regardless of the number of suits that may be filed by Obligee.

Signed and sealed this_____day of_____, 20_____.

CONTRACTOR (PRINCIPAL)

Signed, sealed and delivered in the presence of:

_____ _____

_____ By:_____

Witnesses as to Contractor Name:_____ Title:_____

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ day of _____, 20___, by _____, as _____ of _____, a _____ corporation, on behalf of the corporation. He/she is personally known to me **OR** has produced _____ as identification.

Notary Public (Signature) _____

Printed Name: _____

My Commission Expires: _____

(AFFIX NOTARY SEAL)

SURETY

SIGNATURE:

_____

SEAL

PRINTED NAME AND TITLE:

_____

EXHIBIT 8: INSURANCE

TYPE "A" INSURANCE REQUIREMENTS

"ARTISAN CONTRACTORS / SERVICE CONTACTS"

The Contractor shall procure and maintain for the duration of this agreement insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the Work hereunder by the contractor/vendor, his agents, representatives, employees or subcontractors.

COMMERCIAL GENERAL LIABILITY

Coverage must be afforded under a per occurrence form policy for limits not less than $1,000,000 General Aggregate, $1,000,0000 Products / Completed Operations Aggregate, $1,000,000 Personal and Advertising Injury Liability, $1,000,000 each Occurrence, $50,000 Fire Damage Liability and $5,000 Medical Expense.

AUTOMOBILE LIABILITY

Coverage must be afforded including coverage for all Owned vehicles, Hired and Non-Owned vehicles for Bodily Injury and Property Damage of not less than $1,000,000 combined single limit each accident.

WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

Coverage to apply for all employees at STATUTORY Limits in compliance with applicable state and federal laws; if any operations are to be undertaken on or about navigable waters, coverage must be included for the USA Longshoremen & Harbor Workers Act.

Employer's Liability limits for not less than $100,000 each accident; $500,000 disease policy limit and $100,000 disease each employee must be included.

BUILDER'S RISK / INSTALLATION FLOATERS (when applicable)

When this contract or agreement includes the construction of and/or the addition to a permanent structure or building; including the installation of machinery and/or equipment, the following insurance coverage must be afforded:

Coverage Form: Completed Value, All Risk in an amount equal to 100% of the value upon completion or value of equipment to be installed.

When applicable: Waiver of Occupancy Clause or Cessation of Insurance clause. Flood Insurance as available under the National Flood Insurance Program.

EMPLOYEE FIDELITY COVERAGE (only applicable to vendors who's employees handle funds)

Employee Dishonesty coverage must be afforded for not less than $500,000 Blanket all employees ISO Form

OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

I Commercial General Liability and Automobile Liability Coverages

a. The Alachua County Board of County Commissioners, its officials, employees and volunteers are to be covered as an Additional Insured as respects: Liability arising out of activities performed by or on behalf of the Contractor/Vendor; to include Products and/or Completed Operations of the Contractor/Vendor; Automobiles owned, leased, hired or borrowed by the Contractor.

b. The Contractor's insurance coverage shall be considered primary insurance as respects the County, its officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officials, employees or volunteers shall be excess of Contractor/Vendor's insurance and shall be non-contributory.

II All Coverages

The Contractor/Vendor shall provide a Certificate of Insurance to the County with a thirty (30) day notice of cancellation. The certificate shall indicate if cover is provided under a "claims made" or "per occurrence" form. If any cover is provided under claims made from the certificate will show a retroactive date, which should be the same date of the agreement (original if contact is renewed) or prior.

SUBCONTRACTORS

The Contractor/Vendor shall be responsible for all subcontractors working on their behalf as a condition of this Agreement. All subcontractors of the Contractor/Vendor shall be subject to the same coverage requirements stated herein.

CERTIFICATE HOLDER: Alachua County Board of County Commissioners

MAIL, EMAIL or FAX CERTIFICATES

EXHIBIT 8-A: CERTIFICATE OF INSURANCE

Parks-Capital Project - also used by PW.
Parks dept contact: John Morris

JOYNCON-01 NERCHED

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 7/29/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Hub International Florida
2811 NW 41st Street
Gainesville, FL 32606

CONTACT NAME:
PHONE (A/C, No, Ext): (352) 377-2002 FAX (A/C, No): (352) 376-8393
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Southern-Owners Insurance Company	10190
INSURER B : Auto-Owners Insurance Company	18988
INSURER C : Bridgefield Employers Insurance Company	10701
INSURER D : Assurance Company of America	19305
INSURER E :	
INSURER F :	

INSURED
Joyner Construction Inc and Joyner Construction Partners, LLC
7545 W University Ave. Ste-B
Gainesville, FL 32607

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR	X		78556430	1/1/2020	1/1/2021	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 300,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER: General Aggregate						Non-owned auto	$ 1,000,000
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
B	X UMBRELLA LIAB X OCCUR						EACH OCCURRENCE	$ 3,000,000
	EXCESS LIAB CLAIMS-MADE			4130590800	1/1/2020	1/1/2021	AGGREGATE	$ 3,000,000
	DED X RETENTION $ 10,000							$ 3,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N	N / A		830-27084	3/1/2020	3/1/2021	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
A	Inland Marine			78556430	1/1/2020	1/1/2021	Rented/Leased Equip.	100,000
D	Builders Risk			BR67052094	12/15/2017	1/1/9999	incl installation	116,313

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The Alachua County Board of County Commissioners, its officials, employees and volunteers are additonal insureds with respect to liability arising out of activites performed by or on behalf of the Contractor/Vendor and includes Products and/or Completed Operations of the Contractor/Vendor and automobiles owned, leased, hired or borrowed by the Contractor. Coverage is written on a primary and non-contributory basis with respect to the County, its officials, employees and volunteers. Thirty(30) written notice of cancellation is required to certificate holder.

CERTIFICATE HOLDER
Alachua County Board of County Commissioners
12 SE 1st Street
Gainesville, FL 32601

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

EXHIBIT 9: CONTRACTOR'S FINAL PAYMENT AFFIDAVIT

STATE OF FLORIDA

COUNTY OF ___

Before me, the undersigned authority, personally appeared _____, who after being duly sworn, deposes and says:

(1) He or she is the (title) _____, of _____, which does business in the State of Florida, hereinafter referred to as the "Contractor."

(2) Contractor, pursuant to that certain General Construction Agreement No. _____ ("Agreement") with Alachua County, a charter county and political subdivision of the State of Florida, hereinafter referred to as the "Owner," has furnished or caused to be furnished labor, materials, and services for Bid or RFP No. 20-936; Jonesville Park Tennis Improvements and Restorations, as more particularly set forth in said Agreement.

(3) This affidavit is executed by the Contractor in accordance with §713.06 of the Florida Statutes for the purposes of obtaining final payment from the Owner in the amount of $_____.

(3) Contractor certifies, represents and warrants that it has paid all persons defined in §713.01, Florida Statutes, who furnished labor, services, or materials for the prosecution of the Work provided for in the Agreement ("Claimants"), all amounts owed them from any previous payments received by Contractor from the Owner and has not withheld any such amounts.

(4) Contractor certifies, represents and warrants that all Work to be performed under the Agreement has been fully completed, and all Claimants have been paid in full.

(5) In accordance with the Contract Documents and in consideration of $_____ paid, Contractor releases and waives for itself and all Claimants, including their successors and assigns, all claims demands, damages, costs and expenses, whether in agreement or in tort, against Owner relating in any way to the performance of the Agreement.(6)

Contractor certifies, represents and warrants for itself and its subcontractors, materialmen, successors and assigns, that all charges for labor, materials, supplies, lands, licenses and other expenses for which Owner might be sued or for which a lien or a demand against any payment bond might be filed, have been fully satisfied and paid.

(7) Contractor agrees to indemnify, defend and save harmless Owner from all demands or suits, actions, claims of liens or other charges filed or asserted against Owner arising out of the performance by Contractor of the Work covered by the Agreement.

Contractor:

By:_____

_____

Its:_____

_____ Date:_____

Witnesses

[Corporate Seal]

STATE OF _____

EXHIBIT 10: FINAL PAYMENT BOND WAIVER FORM

WAIVER OF RIGHT TO CLAIM AGAINST THE PAYMENT BOND
(FINAL PAYMENT)

OWNER: Alachua County, a charter county and political subdivision of the State of Florida

CONTRACTOR: Joyner Construction Partners, LLC

PROJECT: General Construction Agreement No. 11395 ("Agreement") for labor, materials, and services for Bid or RFP No. 20-936 Alachua County Jonesville Park Tennis Improvements and Restorations

The undersigned Claimant, for itself and its successors and assigns, and in consideration of the final payment made in the amount of $_____, hereby waives and releases its right to claim against the payment bond, and further waives, releases and discharges the Owner and Contractor from any and all claims, demands, obligations, damages, actions, and causes of action, direct or indirect, in law or in equity, for labor, services or materials furnished through _____(insert date) to_____, on the job of **Alachua County**, a charter county and political subdivision of the State of Florida, for improvements associated with the above referenced Project.

DATED ON _____.

Claimant:_____

By: _____
(Name)
Title:_____
(Print Title)

STATE OF FLORIDA

COUNTY OF ALACHUA

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____(name of person) as _____ (type of authority, e.g. officer, trustee, attorney in fact) for _____.

_____

(Signature of Notary Public -- State of Florida)

(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known OR Produced Identification

Type of Identification Produced: _____

EXHIBIT 11: CERTIFICATION OF MEETING ALACHUA COUNTY WAGE ORDINANCE

Bid 20-936: Jonesville Park Tennis Improvements and Restorations

The undersigned certifies that all employees, contracted and subcontracted, completing services as part of this Bid/RFP are paid, and will continue to be paid, in accordance with Chapter 22, Article III of the Alachua County Code of Ordinance ("Wage Ordinance").

Please mark the appropriate box below that applies to how you pay your employees:

☑ Employees involved with Alachua County projects are paid a minimum of **$14.00 hourly** and are provided health benefits?

☐ Employees involved with Alachua County projects are paid a minimum of **$16.17 hourly but are not provided** health benefits?

Company/Bidder: Joyner Construction Partners, LLC / John Sixbey

Address: 7545 W. University Ave, Suite B, Gainesville, FL. 32607

Phone: 352-332-8171 Fax: 352-332-9777 Date: December 4th, 2019

Email Address: johns@joyner-construction.net

Witness (By Corporate Officer)

Signature:

Print: Richard Wagner

Title: Managing Partner

Company/Bidder

Signature:

Print: John Sixbey

Title: Managing Partner/President

Date: 12-4-19

INCORPORATED OR ARE OTHERWISE NOT A NATURAL PERSON, PLEASE PROVIDE A CERTIFICATE OF INCUMBANCY AND AUTHORITY, OR A CORPORATE RESOLUTION, LISTING THOSE AUTHORIZED TO EXECUTE CONTRACTS. IF A NATURAL PERSON, THEN YOUR SIGNATURE SHOULD BE NOTARIZED.

EXHIBIT 12: ADDENDUM 1

Alachua County
Budget and Fiscal Services
Procurement

Larry M. Sapp, CPPB
Procurement Manager

Darryl R. Kight, CPPB
Procurement Supervisor

November 19, 2019

RE: Addendum #1
Bid 20-936 Jonesville Park Tennis Improvements and Restorations

Dear Sir/Madam:

Please be aware of the following clarifications regarding the above referenced Bid:

CLARIFICAITONS

DELETE: Bid Instruction, Section D, Exhibit A: "Bid Form/Schedule of Values"
ADD: Bid Instruction, Section D, Exhibit A: "Bid Form/Schedule of Values (Version 2)"
The "Bid Form/Schedule of Values (Version 2)" MUST be used and submitted with your bid to be considered responsive.
(See Attachment Below)

DELETE: Capital Construction Agreement No. 11395, Exhibit 3, Plans Pg. 229
ADD: Capital Construction Agreement No. 11395, Exhibit 3, Plans Pg. 229 Revised
(See attachment below)

DELETE: Capital Construction Agreement No. 11395, Exhibit 3, Plans Pg. 225
ADD: Capital Construction Agreement No. 11395, Exhibit 3, Plans Pg. 225 Revised
(See attachment below)

DELETE: 12.0 CONTRACT TIME FOR THE COMPLETION OF THE WORK

12.1 **Project Schedule**
Timeliness is of the essence for this project. The expected timeline for this project is as follows:

Bid Opening: December 4, 2019
Anticipated Contract Approval: Within 120 Days of Bid Opening Date.
Pre-construction Conference and Notice-to-Proceed: Two weeks after the award of the contract.

The actual dates may vary; however, the contractor should expect that a pre-construction conference will be held approximately two weeks after the award of the contract and that a notice-to-proceed shall be issued at that time.

12 SE 1st Street, 3rd floor ■ Gainesville, Florida 32601 ■ Tel. (352) 374-5202 ■ Fax (352) 491-4569
■ Home Page: www.alachuacounty.us

ADD: 12.0 CONTRACT TIME FOR THE COMPLETION OF THE WORK

12.1 Project Schedule

Timeliness is of the essence for this project. The expected timeline for this project is as follows:

Bid Opening: December 4, 2019
Anticipated Contract Approval: Within 120 Days of Bid Opening Date.
Pre-construction Conference and Notice-to-Proceed: Construction to Start on June 1st, 2020.

The actual dates may vary; however, the contractor should expect that a pre-construction conference will be held approximately two weeks after the award of the contract and that a notice-to-proceed shall be issued at that time.

QUESTIONS & ANSWERS

Please see the attached A & E "Pre-Bid Meeting Summary (Final)" that address all questions and answers during the Pre-Bid Meeting.
(See attached Document)

NOTE: You should acknowledge receipt of this addendum on your Bid Form.

End of Addendum # 1

Sincerely,

TJ White

Procurement Agent

TJW/bf

EXHIBIT A: BID FORM/SCHEDULE OF VALUES (VERSION 2)

BID 20-936 Jonesville Park Tennis Improvements and Restorations
Date: _____

Board of County Commissioners
Alachua County, Florida
Gainesville, Florida

Dear Commissioners:

The undersigned, as Bidder, hereby declares that he has examined the site of the Work and informed himself fully in regard to all conditions pertaining to the place where the Work is to be done, and that he has examined the plans and Specifications for the Work and comments hereto attached. The Bidder further declares that the only persons, company or parties interested in this Bid or the contract to be entered into, as principals, are named herein; that this Bid is made without connection with any other person, company or parties making a Bid; and it is in all respects fair and in good faith and without collusion or fraud.

The Bidder proposes and agrees, if this Bid is accepted, to contract with Alachua County, Florida, through the Board of County Commissioners, Gainesville, Florida, in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation, labor and service necessary to complete the work covered by the Bid and Contract Documents for: **BID: 20-936 Jonesville Park Tennis Improvements and Restorations** to furnish the prescribed Performance and Payment Bond for not less than one hundred ten percent (100%) of the bid price; and to furnish the required evidence of the specified insurance.

The undersigned further agrees that in case of failure on his part to execute said contract within thirty (30) consecutive calendar days after written notice being given of award of contract, the certified or cashier's check or bid bond accompanying this bid, and money payable thereon, shall be paid into funds of the Alachua County Board of County Commissioners, Gainesville, Florida, as liquidated damages for such failure; otherwise, the check or bid bond accompanying this proposal shall be returned to the undersigned.

The undersigned agrees to commence work as set forth in the Notice to Proceed and to reach substantial completion within **90** working days from the date on which work commences with final completion within **24** calendar days thereafter.. If the Contractor fails to complete the work within the specified time, the Contractor agrees to pay the County **$576.00** per calendar day as liquidated damages for substantial completion and **$144.00** per calendar day as liquidated damages for final completion.

1

Attached is a list of similar projects and a list of Subcontractors as covered in the Instructions to Bidders.

The Bidder agrees to accept in full compensation for each item the prices named in the schedule incorporated herein and attached as "Bid Schedule". The Bidder understands that the quantities shown on the "Bid Schedule" are approximate only and subject to increase or decrease. Should they be increased or decreased, work will be performed at the unit price bid herein. Actual quantities will be determined upon completion of the work.

BID: 20-936 Jonesville Park Tennis Improvements and Restorations

_____ **BIDDER**

ADDENDA

The Bidder hereby acknowledges that he has received Addenda Number(s): _____, _____, _____, _____, _____, Bidder shall insert Number of each Addendum received and agrees that all addenda issues are hereby made part of the Contract Documents, and the Bidder further agrees that his Bid(s) includes all impacts resulting from said Addenda.

Witness	**Bidder**
Signature:_____	Signature:_____
Print:_____	Print: _____
Title: _____	Title:_____

_____

Address

Bid Form/Schedule of Values

Bid 20-936 Jonesville Park Tennis Improvements and Restorations

Description	Amount Bid
BASE BID – 1 LUMP SUM (LS)	$
ALT 1: LIGHTING IMPROVEMENTS – 1 LS	$
ALT 2: CLAY BARN AND PROSHOP RESTORATIONS – 1 LS	$
Total Bid (add all rows above)	$

NOTE: This bid is a unit price bid based on estimated quantities. Final payment shall be based upon actual field measurement of quantities.

List of Unit Abbreviations:

SY Square Yards	GL Gallons	SD Side Drain
LS Lump Sum	MG Thousand Gallons	ED Each Day
CY Cubic Yards	GM Gross Miles	CD Cross Drain
EA Each	LF Linear Feet	AC Acre
TN Tons	NM Net Miles	RCP Reinforced Concrete Pipe
HR Hour	AS Assembly	PI Per Intersection

Acknowledge Receipt of Addendum(s) (if applicable circle):

#1 Yes No #2 Yes No #3 Yes No #4 Yes No

Bidder: _____ Company: _____

Address: _____

Authorized Signature: _____ Title: _____

Clearly Print Name: _____

Phone: _____ Fax: _____ Date: _____

Email Address: _____


Capital Construction Agreement No. 11395, Exhibit 3, Plans Pg. 229 Revised
TENNIS COMPLEX IMPROVEMENTS / ALT #1 LED LIGHTING / ALT #2 RESTORATION OF CLAY BARN AND PROSHOP BID NOTES
RSC
ARCHITECTS PLANNERS
INTERIOR DESIGNERS
Jonesville Park Tennis Improvements and Restorations for
Alachua County Parks and Recreation
13900 SW 32nd Ave.
Gainesville, FL 32606
A0.02
FOR BIDDING


Capital Construction Agreement No. 11395, Exhibit 3, Plans Pg. 225 Revised
TENNIS COMPLEX IMPROVEMENTS / ALT #1 LED LIGHTING / ALT #2 RESTORATION OF CLAY BARN AND PROSHOP BID NOTES
RSC
ARCHITECTS PLANNERS
INTERIOR DESIGNERS
Jonesville Park Tennis Improvements and Restorations for
Alachua County Parks and Recreation
13900 SW 32nd Ave.
Gainesville, FL 32606
A0.02
FOR BIDDING

PRE-BID MEETING SUMMARY (FINAL)

PROJECT: **Jonesville Tennis Improvements and Restoration**
For Alachua County Parks and Recreation
14080 NW 32nd Ave
Gainesville, FL 32606

RSC Project #19148

DATE: 11-12-19 10:00am-11:30am

I. Attendees: RSC & Assoc., Inc.
Roy Cribb
Phone: (352) 376-4642
Email: Roy@RSCArchitecture.com
See sign in sheet at end of summary

II. Invitation to Bid Review, Bid Form, and Bid Submission

A. Bid Due Date is December 4, 2019 at 2pm
ONE (1) ORIGINAL AND ONE (1) ELECTRONIC COPY (PDF Format) of the bid in a sealed envelope, clearly marked "**Bid 20-936 Jonesville Park Tennis Improvements and Restorations**", shall be delivered to the Alachua County Procurement, Third Floor County Administration Building 12 SE 1st Street Gainesville, Florida, 32601-6983, **for receipt no later than December 4, 2019 accompanied by a certified check, cashiers's check, or bid bond payable to the County for an amount equal to at least five percent (5%) of the amount of the Bid. LATE BIDS WILLNOT BE CONSIDERED. (Reminder, Farmer's Market will be in operation, so parking may be limited)**

B. Requests for Information (RFI) during Bid Process are:

1. To be submitted to TJ White and Forwarded to RSC & Assoc., Inc. by General (Prime) Contractors only. Subcontractors are not to submit RFIs directly to Alachua County Purchasing and RSC & Assoc., Inc.

2. Submissions are to be to Alachua County. This may be done by the methods described below (Alachua County Purchasing will forward to RSC & Assoc. for interpretation/clarifications)

a. e-mail to TWhite@alachuacounty.us.

3. Cut-off date for RFI's is 24th of November EOB.

4. Responses to RFI's effecting construction documents are will be addressed via addenda and published on Demandstar website on November 26th by TJ White.

C. Bid Submission
1. Bid Form: use form issued in Advertisement for bids.

RSC & Assoc. Inc.

ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS

A Professional Corporation
FL Corp #C001995

Roy S. Cribb, AIA
NCARB #67633
FL Reg #11311
LA Reg #6726
MS Reg #4257
NC Reg #8500
GA Reg # 13604
SC Reg # 9864
AL Reg #8339

5200 NW 43rd St
Suite 102-376
Gainesville, FL
32606
(352) 376 - 4642
fax (352) 377 - 3482
Roy@RSCArchitecture.com

2. Provide SOV as issued in Advertisement for bids

D. Any Bidder may withdraw his Bid, either personally, electronically, or written request, at any time prior to the scheduled closing time for receipt of Bids. No Bidder may withdraw their Bid for a period of one hundred and twenty (120) days after the date set for the receiving of bids.

III. Bid Evaluation

A. Alachua County Parks and Recreation and RSC & Assoc., Inc. reserves the right to accept eligible proposals based on a Lowest Qualified Bidder basis that will consider cost and project duration by the bidder and accepted by RSC & Assoc., Inc. and Alachua County Purchasing. RSC & Assoc., Inc. and Alachua County Purchasing reserves the right to waive informalities or irregularities or to reject any or all bids, as may be determined in its sole and absolute discretion.

B. A qualified bid that varies from the Bid Documents or fails to meet any requirements of the Bid Documents may be rejected.

C. Base bid and any alternates shall be as per the bid Documents.

D. Attach with your bid forms any clarifications to the construction documents.

E. Each Bid must be accompanied by a certified check, cashier's check, or bid bond payable to the County for an amount equal to at least five percent (5%) of the amount of the Bid. The County will, within ten (10) days after the opening of the Bids, return deposits of all Bidders except those posted by the three lowest Bidders, whose deposits will be returned upon final award and execution of the contract between the successful Bidder and the County, and after a satisfactory contract Bond has been executed.

If the successful Bidder, for any reason whatsoever, withdraws from competition after the opening of the Bids, or fails or refuses to execute the contract and Bond within ninety (90) days after the Bidder has received notice of acceptance of his Bid, the Bidder shall forfeit to the County their Bid security deposit as liquidated damages for such withdrawal, failure or refusal. In the aforementioned situation, the successful Bidder shall be responsible to the Board of County Commissioners for the additional cost of said project, if any.

IV. Project Specific Items, Schedule, & Logistics

A. Schedule

1. A Preliminary Gant Chart showing overall duration, phasing etc.... shall be submitted with bid for project.

B. Project Permitting and Permit Fees

1. Permitting is in progress. All sewer, water, meter fees, utility fees, impact fees and building permit fees will be paid by

RSC & Assoc. Inc.

ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS

A Professional Corporation
FL Corp #C001995

Roy S. Cribb, AIA
NCARB #67633
FL Reg #11311
LA Reg #6726
MS Reg #4257
NC Reg #8500
GA Reg # 13604
SC Reg # 9864
AL Reg #8339

5200 NW 43rd St
Suite 102-376
Gainesville, FL
32606
(352) 376 - 4642
fax (352) 377 - 3482
Roy@RSCArchitecture.com

Alachua County. Once Contractor has been selected, Contractor will transfer permit to their company.

C. Logistics to be finalized at General Contractors' preconstruction meeting, however the following items are to be taken into account during bidding:

1. Lay-Down Areas, Staging, and Warehousing – to be located near hitting wall
2. Waste Management – to be located outside southeast fence line on south side of retaining wall south of court 4. Do not encroach on the disc golf course.
3. Field Offices – Not required
4. Parking – North of Clay / Maintenance barn in parking lot
5. Access to Site – Facility is open and can be accessed at any time. Check in with the front desk prior to bid submissions
6. Temporary Facilities - As per specifications
7. Utilities – to be paid by facility directly.
8. Protection of Existing Facilities is to be adhered to per construction documents. Notification to tennis facility scheduled work is to be adhered to.

D. Scheduled Target Dates for Project:

1.) Contract Acceptance Offer Date: estimated 14 days after Bid Opening.

2.) Permit issuance: TBD

3.) Construction Start / NTP / Executed Contract date:

Contract within 120 Days of Bid Opening Date, Construction Start Date June 1, 2020.

4.) Construction End Date: Substantial completion 90 days, final completion 24 days thereafter.

a.) Liquidated Damages for substantial completion are $576/day plus and additional $144/day for days not completed after final completion.

E. Site Visits

1. Site Visits are to be coordinated with facility staff. It is the responsibility of each trade/subcontractor/contractor to verify in field prior to submission of bid all items necessary for a complete bid. Notify facility of site investigations with front desk when reviewing site.

V. Contract & Project Management procedures:

A. RSC & Assoc. Inc. has been charged with assisting letting out and providing Construction Administration Services for the construction of the entire facility. Alachua County and RSC will review the bids for

RSC & Assoc. Inc.

ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS

A Professional Corporation
FL Corp #C001995

Roy S. Cribb, AIA
NCARB #67633
FL Reg #11311
LA Reg #6726
MS Reg #4257
NC Reg #8500
GA Reg # 13604
SC Reg # 9864
AL Reg #8339

5200 NW 43rd St
Suite 102-376
Gainesville, FL
32606
(352) 376 - 4642
fax (352) 377 - 3482
Roy@RSCArchitecture.com

completeness and verification of costs. All documentation, Bids, bid reviews, contracts and pay applications, will be reviewed by both Alachua County and RSC and processed by Alachua County. Requests for Information shall be thru Alachua County Purchasing (TJ White) and forwarded to RSC & Assoc. Inc for response and forwarded back thru Alachua County purchasing.

B. Upon notification from TJ White, Alachua County purchasing, Final Contract will be drafted with lowest responsive and responsible bidder, executed, then forwarded to Alachua County board for approval. Insurance Certificates (Including Builders Risk, Performance and payment bond, etc…) are to be attached with Additionally insured as issued in Bid Instructions and listed in the construction documents. Contracts are per Bid Instructions, construction documents, addenda, any communications from Alachua County Purchasing department and pre-bid meeting Summary.

VI. Scope of Work

A. Reviewed scopes of work with all parties.

B. GC to review alternates as indicated in Project Documents and are to split General Conditions costs as deemed appropriate for scopes of work as if each alternate is either accepted or denied.

VII. Standard, project specific, contractor questions and comments:

A. Alternates:
Alternate #1 – Replacement of Court Lighting to LED
Alternate #2 – Tennis Complex Maintenance enhancements

B. Allowances per the project manual are:

a. ALLOWANCE NO. 1: ELIMINATED

VIII. RFI's, discussions and bid clarifications:

A. Sheet A0.02 – Notes 22, 23, 45, 46 were truncated during printing. See Addenda #1 Sheet A0.02. Substitute Notes 1 thru 90 on A0.02 Addenda #1 in notes in project manual section 01010 pages 2 thru 9.

B. Tennis court resurface scheduling shall occur in banks of 5 (Courts 10-14 and 5-9). Courts 1 thru 4 shall be resurfaced as a bank.

IX Addenda

A. Revised Drawings T0.01 and A0.02 re-issued due to truncated notes and removal of allowance.

END MEETING MINUTES

CC: Alachua County Representatives, General Contractors.

RSC & Assoc. Inc.

ARCHITECTS, PLANNERS AND INTERIOR DESIGNERS

A Professional Corporation
FL Corp #C001995

Roy S. Cribb, AIA
NCARB #67633
FL Reg #11311
LA Reg #6726
MS Reg #4257
NC Reg #8500
GA Reg # 13604
SC Reg # 9864
AL Reg #8339

5200 NW 43rd St
Suite 102-376
Gainesville, FL
32606
(352) 376 - 4642
fax (352) 377 - 3482
Roy@RSCArchitecture.com