

WORK AUTHORIZATION No. 09CMD

Under Broward County Board of County Commissioners' Award Authority For Professional Services Or Agreement Threshold For Board Action

Project Title: West Regional Courthouse (WRCH) Phase II Clerk of Courts Civil and Marriage

This Work Authorization is between Broward County, (County) and CPZ Architects, Inc., (Consultant) as required pursuant to an Agreement for: Comprehensive Professional Architectural and Engineering Consultant Services, RFP No. R1362601P1_1, approved by the Broward County Board of County Commissioners on November 8, 2016.

This Authorization provides for professional services pursuant to said Agreement and as specifically described in the attached proposal and Project Specific Scope of Work, dated November 30, 2018.

Payment for such services shall be paid in accordance with Article 6, with compensation for Lump Sum Compensation in the amount of \$ 200,632.52, Not-To-Exceed Compensation in the amount of \$ 39,468.28 and Reimbursables in the amount of \$ 3,500.00 for a total possible maximum payment of \$ 243,600.80 to be charged against the following Chartfield:

Fund	Program	Dept.	Account	Business Unit	Project No.	Activity	Budget Period	Budget Ref. (Amount)
30205	30205	61301000	560110	BRW01	100624	DESIGN_BASIC	2019	\$240,100.80
30205	30205	61301000	560110	BRW01	100624	DESIGN_REIMB	2019	\$3,500.00

The time period for this Work Authorization will consist of 776 calendar days.

Requisition Number
CMD0000333

Work Authorization No. 09CMD \$243,600.80
Total \$243,600.80

Nothing contained in this Work Authorization shall alter, modify or change in any way the terms and conditions of the Agreement with the County.

County

ATTEST:

BROWARD COUNTY, through its BOARD OF COUNTY COMMISSIONERS

Broward County Administrator, as
Ex-officio Clerk of the Broward
County Board of County Commissioners

By: _____, Mayor

This _____ Day of _____, 20____

Recommended By: N/A

Division Director Signature, (if applicable)

Approved as to form by
Andrew J. Meyers
Broward County Attorney
Governmental Center, Suite 423
115 S. Andrews Avenue
Fort Lauderdale, Florida 33301
Telephone: (954) 357-7600
Telecopier: (954) 357-7641

(Print Name)

By: Ariadna Musarra 12.20.18

Ariadna Musarra (Date)
Contract Administrator

By: Michael Kerr 12/21/18

Michael Kerr (Date)
Deputy County Attorney

Work Authorization No. 09CMD between Broward County, and CPZ Architects, Inc., as required pursuant to an Agreement for: Comprehensive Professional Architectural and Engineering Consultant Services, RFP No. R1362601P1_1.

Consultant

FOR CORPORATION:

ATTEST:



Secretary
Kim Zimmerman *Kim Zimmerman*

(Print Name)

CPZ Architects, Inc.

By:



President / Vice President
Chris P. Zimmerman, AIA

(Print Name)

This 18 Day of December, 20 18





November 30, 2018

Broward County
 Attn.: Ms. Martha Bauer, Project Manager III, LEED AP
 Construction Management Division
 115 South Andrews (Rm A550)
 Fort Lauderdale Florida 33301

RE: West Regional Courthouse Phase II Clerk of Courts Civil & Marriage

Dear Ms. Bauer:

The following is our proposal for the renovations to the first floor, Clerk of Courts Offices for Phase II. As outlined in the attached Detailed Description of the Work, Exhibit A Basic Scope of Services and our Master Agreement with Broward County.

The following is a summary of our fees as shown in the attached spreadsheet and consultant proposal.

Phase	CPZ	Osborn	MUEngineers	CMS Cost Est	Printing	Sub-Total
Pre-design	\$ 12,972.62					\$ 12,972.62
Schematic Design	\$ 23,836.18	\$ 2,981.70	\$ 3,566.55			\$ 30,384.43
Design Development	\$ 22,578.03	\$ 3,926.34	\$ 3,566.55			\$ 30,070.92
Construction Drawings	\$ 57,832.46	\$ 13,596.04	\$ 7,133.10			\$ 78,561.60
Permitting	\$ 4,130.66	\$ 3,029.30	\$ 950.64			\$ 8,110.60
Bidding	\$ 5,096.68	\$ 1,388.90	\$ 950.64			\$ 7,436.22
Construction Admin - <i>Hourly NTE</i>	\$ 22,135.40	\$ 11,350.06	\$ 2,896.20			\$ 36,381.66
	\$ 148,582.03	\$ 36,272.34	\$ 19,063.68	\$ -		\$ 203,918.05
ADD Services						
Detailed Cost Estimate				\$ 14,263.56		\$ 14,263.56
Interior Design	\$ 18,832.57					\$ 18,832.57
LEED Certification						\$ -
Second Floor Plumbing <i>NTE</i> *	\$ 1,883.42	\$ 1,203.20				\$ 3,086.62
	\$ 20,715.99	\$ 1,203.20		\$ 14,263.56		\$ 36,182.75
TOTAL	\$ 169,298.02	\$ 37,475.54	\$ 19,063.68	\$ 14,263.56		\$ 240,100.80
				Reimbursable Allowance		\$ 3,500.00
				LEED Reimbursable Allowance		
				TOTAL		\$ 243,600.80

* At the request of the County

Our anticipated project schedule for this project, in calendar days, is as follows.

Pre-Design Services	60 days (County Staff Availability)
County Review	14 days
SD	60 days
County Review	14 days
DD	90 days
County Review	14 days
Construction Drawings	120 days
County Review	14 days

CPZ ARCHITECTS, INC.

4316 WEST BROWARD BOULEVARD, PLANTATION, FLORIDA 33317

200 N EL MAR DRIVE, SUITE 200, JENSEN BEACH, FLORIDA 34957

(954) 792-8525, FAX (954) 337-0359

AA# 26000685

WWW.CPZARCHITECTS.COM



“Designing Quality Architecture that Builds Lasting Relationships”

Permitting	90 days (estimated)
Bidding	90 days (estimated)
Construction Administration	210 days (estimated)

We thank you for the opportunity to offer you these services. If you have any questions, please contact me at 954-792-8525.

Respectfully,
CPZ ARCHITECTS, INC.

A handwritten signature in blue ink, appearing to read 'Chris P. Zimmerman', written over a light blue horizontal line.

Chris P. Zimmerman, AIA
President

CPZ ARCHITECTS, INC.

4316 WEST BROWARD BOULEVARD, PLANTATION, FLORIDA 33317

200 N EL MAR DRIVE, SUITE 200, JENSEN BEACH, FLORIDA 34957

(954) 792-8525, FAX (954) 337-0359

AA# 26000685

WWW.CPZARCHITECTS.COM

Project 1606E



**West Regional Courthouse Phase II Civil & Marriage
Detailed Description of the Work:**

First Floor Clerks Office

1. This area will be demolished down to the building shell. Therefore, creating as-built, BIM Model of the existing interior will be used as provided by the County and verified by CPZ.
2. No bullet resistant design elements are included.
3. One single use ADA restroom inside the office area.
4. Modifications to the existing public restrooms is not included.
5. Renovation concept and are as shown in the attached sketches provided by the county.
6. Include the built-in cashier stations and the lobby furniture in the Contractor’s scope of work.
7. The scope will include a combination of new furniture and the breakdown of the existing furniture and reinstalling based on the new layout, relocation of existing furniture by the contractor.

Staff Relocation

1. All staff relocation is not included in this proposal.
 - o Half the staff will be relocated to another facility during construction CMD will coordinate with the assistance of FMD and Clerk’s office.
 - o The other half of the staff will be relocated to other offices within the existing building during construction CMD will coordinate with the assistance of FMD and the Clerk’s Office.
2. The Clerk of Court is in the process of purchasing new workstations for the open area. The County has provided drawings from Clerk’s office.
3. The Clerk of Courts Office will be removing the mobile filing unit from the space.

Security Check Point Relocation

1. Design for the rearrangement of the existing security check point to allow a larger queuing area and better flow by visitors.
2. Structural engineering to allow for new openings in the main masonry walls.
3. The exterior will receive a new canopy system.
4. The existing lobby will be modified. The equipment will be relocated.
5. Temporary entrance may be required on the east side and the existing equipment relocated.

Sustainability

1. Sustainable practices will be utilized where appropriate in the project.
2. The indoor air quality will be previewed and will follow the current LEED for Indoor Air Quality credits IEQ plan before and during construction.

Interior Design

1. Interior Design is included as defined in Exhibit “A”.

CPZ ARCHITECTS, INC.

4316 WEST BROWARD BOULEVARD, PLANTATION, FLORIDA 33317

200 N EL MAR DRIVE, SUITE 200, JENSEN BEACH, FLORIDA 34957

(954) 792-8525, FAX (954) 337-0359

AA# 26000685

WWW.CPZARCHITECTS.COM



2. All selections will be selected based on one manufacture as the basis of design. Alternates will be reviewed, if submitted and accepted during the Bid Phase.

Future Second Floor Coordination

1. The plumbing locations and rough-in's will be provided by the County.
2. We will coordinate the new lines from the floor above with our new design.

General Design Items:

1. It is assumed in this proposal that the existing air-conditioning system is adequate for the proposed renovation and a new system and/or any roof work will not be required.
2. It is assumed that the existing electrical service and panels are adequate for this renovation. enlarging the electrical service and coordination with FPL is not included.
3. Exterior building shell modifications are not included, expect as required for the new entrance.
4. Empty junction boxes and conduits to above the ceiling will be provided for IT requirements. No other low voltage system design is included. Data/VOIP will be shown and the cabling requirements indicated.
5. Construction administration is based on a 7-month (32 weeks) construction period. Site visits are limited to bi-weekly for a total of 16 visits.
6. Survey work has not been included in this proposal.
7. Submittal to Building Department for courtesy review.

BIM Model

1. A Level 300 BIM Model will be provided for the scope of this project only.
2. The overall BIM Model for the building will be provided by the County and serve as the base models for the building and the shell.
3. The BIM standard of care and BIM level matrix as prepared by the county will be followed. Cobie data will not be required.

Phases Description of work 10/12/2018	<i>CPZ Architects</i>			
	Principal	Project Mngr	Arch Intern	Admin
	Chris	Claudia	Sebastian	Pamela
	\$ 238.50	\$ 88.66	\$ 77.97	\$ 71.25

PRE-DESIGN SERVICES					
SUB-TOTAL	10	86	38	0	
	\$ 2,385.00	\$ 7,624.76	\$ 2,962.86	\$ -	\$ 12,972.62

SCHEMATIC DESIGN					
SUB-TOTAL	13	109	142	0	
	\$ 3,100.50	\$ 9,663.94	\$ 11,071.74	\$ -	\$ 23,836.18

Design Development					
SUB-TOTAL	10	102	143	0	
	\$ 2,385.00	\$ 9,043.32	\$ 11,149.71	\$ -	\$ 22,578.03

Construction Documents					
SUB-TOTAL	28	281	300	40	
	\$ 6,678.00	\$ 24,913.46	\$ 23,391.00	\$ 2,850.00	\$ 57,832.46

Permitting					
SUB-TOTAL	4	20	18	0	
	\$ 954.00	\$ 1,773.20	\$ 1,403.46	\$ -	\$ 4,130.66

Bidding					
SUB-TOTAL	5	37	8	0	
	\$ 1,192.50	\$ 3,280.42	\$ 623.76	\$ -	\$ 5,096.68

Construction Admin - Based on 8 months, 34 weeks					
SUB-TOTAL	0	167	94	0	
	\$ -	\$ 14,806.22	\$ 7,329.18	\$ -	\$ 22,135.40

ADD SERVICES

Interior Design Services					
	8	88	117	0	
	\$ 1,908.00	\$ 7,802.08	\$ 9,122.49	\$ -	\$ 18,832.57

Second Floor Plumbing Coordination					
---	--	--	--	--	--

SUB-TOTAL		1	8	12	0					
	\$	238.50	\$	709.28	\$	935.64	\$	-	\$	1,883.42

TOTAL **\$ 169,298.02**

MUEngineers, Inc.
3440 NE 12th Avenue
Oakland Park, FL 33334
Phone: (954) 324-4730
CA#: 29348
www.MUEngineers.com



Proposal

November 29, 2018

CPZ Architects, Inc.
4316 W Broward Blvd
Plantation, FL 33317
Attention: Mr. Chris P. Zimmerman

Via E-Mail: chris@cpzarchitects.com

Reference Project Name: 1606E WRC Clerk
 Project Address: N. Pine Island Road and W. Broward Boulevard
 MUE PN: MUE17052402

Dear Chris,

We are pleased to propose the following agreement for providing structural engineering services on this project. This proposal will remain open for acceptance for 30 days from the date above.

Description of Project: Our scope and involvement in this project will be limited to the following structural consulting service items:

1. Structural design and detailing of a new double door opening in an exterior load bearing split face CMU wall.
2. Structural design of a new canopy and it's connections to the existing building structure above the new double entrance door.
3. Evaluate the existing building structure and design new framing (beams, columns and foundations) as necessary to replace a section of an existing interior load bearing CMU wall on the ground floor north west entrance to create a new wall opening within that load bearing CMU wall which is currently supporting the existing 2nd floor and roof structure above.
4. Structural design of a new interior non-load bearing CMU wall and foundation below.
5. Permitting
6. Construction Administration

Engineering Compensation: The fee for these services will be broken down as follows:

• Schematic Design	Fixed fee of \$3,566.55
• Design Development	Fixed fee of \$3,566.55
• 50% CDs	Fixed fee of \$3,566.55
• 100% CDs	Fixed fee of \$3,566.55
• Permitting	Fixed fee of \$950.64
• Bidding	Fixed fee of \$950.64
• Construction Administration including 6 Special Inspections during construction	On an hourly rate basis with a maximum not to exceed amount of \$2,896.20

Total	19,063.68
--------------	------------------

Specifications, documents and deliverables:

- Two sets of signed and sealed structural permit sets, structural calculations and CSI Specifications

We are looking forward to working with you on this project.

Sincerely,

MUEngineers, Inc.

Marcus Unterweger, P.E., S.I., LEED AP
President

The terms and conditions of this proposal including the terms on the attached General Conditions are accepted:

By: _____ Date: _____
Signature

Printed Name Title

PLEASE SIGN AND RETURN THE ACCEPTED PROPOSAL



Project:
Date:

1606E WRC Cleark
5/24/2017

Scope Item #	Task	Principal	Sr. Project Manager	Project Engineer	HOUS CAD Technician	Structural Special Inspector	Total:
		\$	\$	\$	\$	\$	\$
1	Schematic Design						
	Sub Fee:	1	2	20	40	40	3,566.55
		155 \$	238 \$	1,510 \$	1,663 \$	1,663 \$	-
2	Design Development						
	Sub Fee:	1	2	20	40	40	3,566.55
		155 \$	238 \$	1,510 \$	1,663 \$	1,663 \$	-
3	50% CDs						
	Sub Fee:	1	2	20	40	40	3,566.55
		155 \$	238 \$	1,510 \$	1,663 \$	1,663 \$	-
4	100% CDS						
	Sub Fee:	1	2	20	40	40	3,566.55
		155 \$	238 \$	1,510 \$	1,663 \$	1,663 \$	-
5	1. Permitting						
	Sub Fee:	8	8	-	-	-	950.64
		- \$	951 \$	- \$	- \$	- \$	-
6	Bidding						
	Sub Fee:	8	8	-	-	-	950.64
		- \$	951 \$	- \$	- \$	- \$	-
7	Construction Administration and Inspections						
	Sub Fee:	24	24	20	-	-	2,896.20
		- \$	- \$	20 \$	- \$	- \$	24
		- \$	- \$	1,510 \$	- \$	- \$	1,386
		621.96 \$	2,851.92 \$	7,551.00 \$	6,652.80 \$	1,386.00 \$	19,063.68 \$
	Total:						19,063.68 \$



P20170365.000

October 10, 2018

Chris Zimmerman
CPZ Architects, Inc.
4316 W. Broward Blvd.
Plantation, FL 33317

**Re: West Regional Courthouse First Floor Renovation
Professional Engineering Services Proposal #PC17096 – Revision 12**

Dear Chris:

Osborn Engineering is delighted to submit the following revised fee proposal to provide Mechanical, Plumbing, Fire Protection and Electrical engineering services for the above-referenced project. We look forward to and appreciate the opportunity to work with you and your design team on this project.

PROJECT SCOPE

We understand the project is to consist of the MEP engineering design for an approximately 10,000 sf renovation to the existing Courthouse in Plantation, Florida. Our proposal is based on the following:

- The project will be in BIM.
- The existing AHU's will be re-used. New ductwork, grilles and diffusers will be provided.
- The existing electrical service and panelboards will be utilized. New branch circuit wiring will be provided. Empty conduit and back boxes will be provided for voice/data outlets.
- New Plumbing will be provided for the breakroom & restroom.
- No modifications will be made to the main existing MEP systems.
- Specifications will be provided.
- Site lighting will not be required.
- New canopy lighting will be provided.
- Our design will include FA devices connected to the existing FA System.
- Revised electrical service to the front entrance security system.
- A microphone – speaker paging system for the window areas will be provided.
- Low voltage coordination and camera locations will be provided.
- Sanitary Plumbing will be coordinated with the future second floor offices modifications.

1100 Superior Avenue, Suite 300
Cleveland, OH 44114
t 216 861 2020

1201 E. Market Street, Suite 200
Akron, OH 44305
t 330 535 3132

990 West Third Avenue, Suite 200
Columbus, OH 43212
t 614 556 4272

1948 E. Sunset Blvd., Suite 1
Ft. Lauderdale, FL 33304
t 954 767 8886

osbor

BASIC SCOPE OF SERVICES

Basic Scope of Services shall be as outlined in the Continuing Contract with Broward County. Osborn Engineering shall provide professional engineering and design services for:

- a. Mechanical Engineering
- b. Electrical Engineering
- c. Plumbing Engineering
- d. Fire Alarm Engineering

Osborn Engineering anticipates design drawing submittals at the following design stages:

- Schematic Design Documents
- Design Development Documents
- 100% Construction Documents

Review meetings and site visit as required are included in Osborn Engineering's proposed work scope.

PROPOSED CONSTRUCTION PHASE SERVICES

Construction Phase Services are as outlined in AIA Document C401 – 2007 Edition – Standard Form of Agreement Between Architect and Consultant. Construction Phase Services provided for this project shall include:

1. Response to bidder questions.
2. Response to local permitting official's comments.
3. Response to Contractor's Request for Information (RFI) during the construction period.
4. Shop drawing review
5. A total of 2 single person site visits to become generally familiar with the progress and quality of the construction work in order to determine if the work is being performed in general accordance with the construction documents. Substantial completion and final inspection, if requested, would each constitute a site visit.
6. A total of 10 single person site meetings during construction.

FEE

We propose to provide the above-described basic scope of services for:

Basic MEP Scope of services Fee: \$36,272.34

ADD Services:

Second Floor Plumbing, Not to Exceed: \$ 1,203.20

Fee Breakdown – See attached spreadsheet and table below:

Basic Scope of Services	
Schematic Design	\$ 2,981.70
Design Development Documents	\$ 3,926.34
100% Construction Documents	\$ 13,596.04
Permitting	\$ 3,029.30
Bidding Documents	\$ 1,388.90
Construction Administration	\$ 11,350.06
Total Basic Scope	\$ 36,272.34
ADD Services	
Second Floor Plumbing (NTE)	\$ 1,203.20
Total MEP Basic Scope + ADD Services	\$ 37,475.54

We look forward to the opportunity to assist your team for this and future projects. Please give me a call with any questions or comments.

Yours truly,

CPZ ARCHITECTS , INC.



Nevena Parsons, PE, CxA
Manager of Mechanical Engineering, Fort
Lauderdale Office

By: _____

Print Name and Title

Date: October 10,2018

Date:

Project: West Regional Courthouse First Floor Renovation

Date: 10/10/2018

HOURS

Bob Caine	Nevena Parsons	Maria Diaz	Nevena Parsons	Dan Mulvey	Nadia Gargum	Joao Fachini	Leng Caine
Principal	Project Manager	Sr. Elec. Engineer	Sr. Mech. Engineer	Sr Tech	Jr Tech	Drafter	Secretary
\$ 161.70	\$ 94.40	\$ 94.40	\$ 94.40	\$ 94.40	\$ 61.08	\$ 34.65	\$ 36.96

Schematic Design

Mechanical Narrative	1	1	6						
Electrical Narrative	1		6						
Plumbing Narrative				2					
Specifications									
Site Visit		4	4						
Meetings	1	2	2						
Sub Total:	1	2	10	8	0	0	0	0	
Sub Fee:	\$ 161.70	\$ 188.80	\$ 1,132.80	\$ 944.00	\$ 554.40	\$ -	\$ -	\$ -	Professional En \$ 2,981.70

Design Development Documents

Mechanical Plans	1	1	8		8				
Electrical Plans	1		8						
Plumbing Plans	1	1		8		8			
Specifications									
Site Visit									
Meetings	3	1	2	2					
Sub Total:	3	3	10	10	8	8	0	50.0	
Sub Fee:	\$ 485.10	\$ 283.20	\$ 944.00	\$ 755.20	\$ 693.00	\$ 488.64	\$ 277.20	\$ -	\$ 3,926.34

100% Construction Documents

Mechanical Plans	2		26		40				
Electrical Plans	2		22			40			
Plumbing Plans	2			32					
Specifications	2		8	4					
Meetings			4	2					
Sub Total Hours:	0	8	34	38	40	40	4	196.0	
Sub Fee:	\$ -	\$ 755.20	\$ 3,209.60	\$ 3,020.80	\$ 2,633.40	\$ 2,443.20	\$ 1,386.00	\$ 147.84	\$ 13,596.04

Bidding

Bidding	1		4						
Prebid Meeting			4						
Sub Total Hours:	1	1	8	4	0	0	0	14.0	
Sub Fee:	\$ 161.70	\$ 94.40	\$ 755.20	\$ 377.60	\$ -	\$ -	\$ -	\$ -	\$ 1,388.90

Permitting												
Permitting	1		8	8	8	8	8	8	8	8	1	
Sub Total Hours:	1	0	8	8	8	8	8	8	8	1	1	42.0
Sub Fee:	\$ 161.70	\$ -	\$ 755.20	\$ 755.20	\$ 554.40	\$ 488.64	\$ 277.20	\$ 36.96	\$ 3,029.30			

Construction Administration												
Shop Drawings	2	1	6	6	6	6	6	1	1	28.0		
Site visits			8	8	4					20.0		
Site Meetings			36	36	8					80.0		
Sub Total Hours:	2	1	50	50	18	0	6	1	36.96	128.0		
Sub Fee:	\$ 323.40	\$ 94.40	\$ 4,720.00	\$ 4,720.00	\$ 1,247.40	\$ -	\$ 207.90	\$ 36.96	\$ 11,350.06			

Post Occupancy Evaluation												
Sub Total Hours:	0		0	0								
Sub Fee:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Total Base Design Hours	430.0											
Total Base Design Fee:	\$ 36,272.34											

Second Floor Plumbing												
Design		1		16								
Sub Total Hours:	0	1	0	0	0	0	0	0	0	17.0		
Sub Fee:	\$ -	\$ 94	\$ -	\$ 1,109	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,203.20		

Total project MEP Hours	430.0											
Total Project MEP Fee:	\$ 37,475.54											

CIVIS

CONSTRUCTION MANAGEMENT SERVICES, INC.

10 Fairway Drive • Suite 301 • Deerfield Beach, Florida 33441 • 954-481-1611 • FAX 954-427-3142

October 3, 2018

Chris Zimmerman
CPZ Architects, Inc.
4316 W. Broward Boulevard
Plantation, Florida 33317

Re: West Regional Courthouse Renovation

REVISED PROPOSAL

Dear Chris:

Pursuant to your request, CMS, Inc. will provide ONLY ONE Cost Estimate on the above captioned project as indicated below:

50% Construction Documents:

The 50% Construction Documents Cost Estimate services are outlined below:

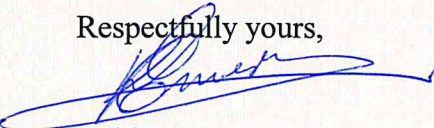
Principal:	8 Hrs. @ \$150.52	\$ 1,204.16
Project Manager:	45 Hrs. @ \$100.62	\$ 4,527.90
Senior Estimator:	60 Hrs. @ \$ 87.50	\$ 5,250.00
Estimator:	50 Hrs. @ \$ 65.63	<u>\$ 3,281.50</u>
Total:		\$14,263.56

Total Fees for this project are as follows:

50% Construction Documents Estimate:	<u>\$14,263.56</u>
Total Fees:	\$14,263.56

Should you agree to the above, kindly sign in the space provided below and return a copy to this office.

Respectfully yours,


Keith Emery
President

By: _____
CPZ Architects, Inc.

Date: _____

KE/em

Quantity Surveyors / Cost Consultants / Construction Managers

Exhibit A – Attachment 1
Work Authorization
SCOPE OF WORK

Consultant: CPZ ARCHITECTS, INC.
Project No: 100624
Project Title: West Regional Courthouse Phase II Clerk of Courts Civil & Marriage
Facility Name: West Regional Courthouse

1.01 Description of Professional Services

1.01.01 Remodel of approximately 10,000 SF of the West Regional Courthouse for the Clerk of Courts Office County Civil, Traffic & Misdemeanor Imaging, Passport, Marriage and Domestic Violence. Included in this project is the remodel of building's entrance and security checkpoint area.

1.01.02 Consultant shall provide:

- A) Predesign - Site Investigation & Programming
- B) Schematic Design
- C) Design Development
- D) Construction Documents
- E) Permitting
- F) Bidding
- G) Construction Administration Services

1.02 Deliverables

1.02.01 Consultant shall submit 3 copies of all documents required by this Work Authorization (except where otherwise specified), without additional charge, for approval or use by the Contract Administrator. The Contract Administrator may review submitted documents and provide written review comments to Consultant following each deliverable submission. Consultant shall modify and resubmit documents, without additional charge, to Contract Administrator until approved (if not initially satisfactory to the Contract Administrator) within 14 consecutive calendar days from the receipt of Contract Administrator's review comments such documents as required to fulfill the submittal requirements for this Work Authorization.

1.02.02 Consultant shall be required to submit the various documents required by this Work Authorization in both hardcopy and electronic media formats. Requirements for electronic media submittals are contained in the Agreement (Attachment 1, Electronic Media Submittal Requirements and Attachment 1a, BIM/CADD Standard of Care). Requests for deviations from those electronic media submittal requirements shall be submitted in advance by Consultant in writing for the consideration of the Contract Administrator.

1.02.03 Documents, electronic media and other materials submitted to Contract Administrator by Consultant shall be retained by the Contract Administrator except as otherwise noted herein and are subject to the ownership provisions of this Agreement.

1.02.04 Detailed Architectural Program

A detailed architectural program is available from the Contract Administrator and is attached to this document.

A detailed architectural program is not available from the Contract Administrator and shall be developed by Consultant as further described below.

A preliminary/generic architectural program is attached to this document. Requirements for Consultant's use and modification of that generic program follow below.

The Preliminary Final architectural program for this project will be provided by the Contract Administrator with Consultant's Notice to Proceed. Consultant's use of this program is described below.

2.01 Basic Services

2.01.01 The services listed below, in addition to those specified by Consultant's agreement with County, are related to the specific project or other professional services as necessary to meet the needs of County.

2.01.02 The listed services below shall not limit those activities or services which may be requested by County.

3.01 Basic Services by Project Phase

3.01.01 Consultant agrees to: (A) Provide complete professional architectural, engineering and/or other professional design services set forth in the Phases enumerated hereinafter and all necessary personnel, equipment and materials to perform services; (B) Complete those design services in accordance with the schedule developed by County and Consultant and (C) Participate in County's programs of Value Engineering at the end of Phases I and II (Schematic Design and Design Development), Constructability Reviews at the end of Phase III (Contract Documents).

Consultant shall also participate in Building Commissioning programs, Partnering programs, and other additional basic services as provided elsewhere in this document.

- 3.01.02 If requested by County, Consultant shall attend a monthly project review meeting with representatives of County throughout Phases I through IV of the Project. At each of these meetings, Consultant and County shall review the Project's budget, schedule, and scope along with Consultant's development and progress to date on the respective phases of the Project and any special problems related to the continuing progress of the project. For each project review meeting, and as may be otherwise appropriate during any project phase, Consultant shall provide progress sketches and other documents sufficient to illustrate progress and the issues at hand for County's review, which will be made so as to cause no delay to the Project Schedule. Consultant shall provide minutes of all meetings with County.
- 3.01.03 Consultant's services shall conform to County's specifications (as they may be made available to Consultant), including but not limited to, County's Design and Materials Standards Manuals, and County's Guidelines and Procedures Manual and Forms for capital projects, provided, however, that in the event of conflict the provisions of this agreement shall govern.
- 3.01.04 Consultant shall keep County informed of any proposed changes in requirements or in construction materials, systems or equipment as the drawings and specifications are developed. Proposed changes must be reviewed in writing by County prior to incorporation into the design or construction documents.
- 3.01.05 Consultant shall cooperate with County by participating in, reviewing and commenting on Constructability and Value Engineering studies performed by County, and attending meetings, where the content of design and construction contract documents will be coordinated and reconciled, scheduled during any phase of the project. In the event County accepts recommendations from Value Engineering and Constructability studies, Consultant shall, upon review and agreement, implement same, including providing revised drawings and specifications or other documents, as a part of Basic Services. If bids or cost estimates indicate the project is at or below the construction budget, Consultant shall be compensated for implementing Value Engineering and Constructability changes.

3.02 Predesign Phase:

- 3.02.01 Consultant shall confer with representatives of County to verify and confirm the scope of Programming and other Predesign Services required for the Project; which shall include:
- (A) Establishing a listing of County, Using Agency and other representatives who will be providing information or feedback to Consultant during the programming process. Include in this listing the Representative's name,

title, organization, address, phone, fax and e-mail.

(B) Establishing and verifying a chain of responsibility or decision making in County's project and functional organizations for use in later decision making during the programming process and subsequent design phases.

(C) Determining whether County will provide a partial program for tenant occupied spaces and obtaining such program(s) for Consultant's use and integration into a single programming document for the entire project.

(D) NOT USED

(E) Developing and implement information gathering techniques and up to four (4) meetings as necessary to establish and verify functional and spatial relationships, work flow and other related criteria.

(F) Obtaining, verifying and further developing County's preliminary list of building functions and spaces.

(G) Obtaining, verifying and further developing County's preliminary list of equipment and furnishings including any special equipment, special furnishings or equipment/furnishings that require custom fabrication or unique installation.

(H) Obtaining, verifying and further developing County's preliminary list of "Owner supplied materials", construction or related work to be performed by the Owner, and any salvage items projected to be retained by the Owner.

(I) Obtaining County's applicable space standards for use on subsequent programming tasks.

(J) NOT USED

(K) Providing a recommendations report describing the extent of work to be accomplished.

3.02.02 Consultant shall develop space requirements and program to establish the following detailed requirements for the Project: design objectives, limitations and criteria; spatial and functional relationships; functional responsibilities of personnel; flexibility and expandability; and special equipment and systems.

3.02.03 Consultant shall develop the program's description of occupancy needs and spatial allocation by coordinating with County Staff (including building user groups and others as necessary) and:

- (A) Creating a Spatial Interaction Matrix (list of departments, divisions or offices or other suitable subdivision that shows their relationship to others).
 - (B) Creating room by room spatial interaction diagrams showing all room relationships.
 - (C) NOT USED
 - (D) Making link and node diagrams to show departmental and room relationships identified in the interaction matrices.
 - (E) Making bubble diagrams indicating spaces with relationships and their importance rankings.
- 3.02.04 Consultant shall provide and submit space and flow diagrams consisting of diagrammatic studies and pertinent descriptive text for: internal functions; human, vehicular and material flow patterns; site requirements; general space allocations; adjacency and material handling
- 3.02.05 Consultant shall develop the program's description of, building configuration, construction, and material standards by:
- 3.02.06 NOT USED
- 3.02.07 NOT USED
- 3.02.08 Consultant shall provide written opinion of cost as a cost per square foot for the Project and budgeting services based on the programming tasks listed above and consisting of: conversion of programmed requirements to net area requirements; development of initial approximate gross facility areas; evaluation of current construction market conditions; application of unit cost data to gross area; estimates of related costs such as phasing and other services. Additionally, Consultant shall:
- (A) Reconcile the building design program with the Owner's budget.
 - (B) Advise the Owner if budget and program are not compatible.
- 3.02.09 Consultant shall submit copies of all deliverables in accordance with Section 1.02.01.
- 3.02.10 Consultant shall not proceed with the next Phase until the acceptance of all required presentations and reports, reconciliation or correction of all outstanding County review comments, and receipt of a written Notice to

Proceed with the next phase.

- 3.02.11 Consultant shall provide presentations of the project's Program to County's staff, using agencies or groups, and to County Commission as required.

3.03 PHASE I - Schematic Design:

- 3.03.01 Consultant shall confer with representatives of County to verify and confirm the Program (as appropriate to the type of project), consisting of a detailed listing of all functions and spaces together with the square footage of each assignable space, gross square footage, and a description of the relationships between and among the principal programmatic elements.

- 3.03.02 Consultant shall prior to commencing Phase I design activities, visit and inspect the site to determine if existing conditions conform to those portrayed on information as may have been provided by County:

(A) Take photographs and make written documentation, sketches, notes or reports to confirm and record the general condition of the existing site with particular attention to the following building/site elements as appropriate to the Project:

1. All above ceiling areas.
2. Power supplies, switch gear, breaker panels, and transformers.
3. Major components of existing HVAC systems including chillers, cooling towers, air handling units, and primary ductwork runs.
4. Roofing, waterproofing and building envelope systems as it relates to the approved scope of work.
5. NOT USED

(B) Site investigations and inspections and access to concealed areas should be non-destructive except where destructive investigations, tests or means of access are authorized in advance by County.

- 3.03.03 In the event that Consultant believes that the project scope, schedule or budget is not achievable, Consultant shall immediately notify County in writing as to the reasons one or all of them are unreasonable or not achievable immediately upon discovery.

- 3.03.04 Consultant shall review with County alternative approaches to design and construction of the project; site use and improvements; selections of materials, building systems and equipment; potential construction methods and methods

of project delivery; and, if requested, shall make a recommendation among such alternatives.

3.03.05 Consultant shall prepare, submit and present for approval by County a Design Concept and Schematics Report, comprised of the Schematic Design Documents listed below including an identification of any special requirement(s) affecting the Project:

(A) "Project Transmittal Form" as required by County's Construction Management Division. In the absence of a proprietary form issued by County's Construction Management Division, Consultant shall utilize its own office standard transmittal form (or an equivalent document such as that published by the American Institute of Architects). The Project Transmittal Form must accurately delineate the date of submittal and list each component document of the submittal.

(B) "Space Chart Form" formatted to list all spaces within the project by room number, room title and net square foot area. The Space Chart Form must also include a listing of the project's total net square foot area, total gross square foot area, and an efficiency percentage derived from the ratio of total net to total gross square foot areas. Note any deviations from County approved programmatic documents for the Project.

(C) NOT USED

(D) Concept Drawings. These documents shall be schematic drawings responding to the predesign documentation and building program requirements illustrating the general scope, scale, and relationship of project components. Documents shall include, as a minimum, the following in addition to other graphic or descriptive materials Consultant may deem necessary to adequately communicate the project:

1. NOT USED

2. Floor plans showing points of the compass, over-all dimensions, identity of each space, proposed door locations, accessibility for the disabled, room numbers, occupant load of each space, proposed passive design and low energy usage features, mechanical and electrical rooms, any existing buildings and use, future additions, and phased construction. Provide a life-safety plan delineating the necessity for and initial decisions concerning exits, accessibility for the disabled, fire walls, protected corridors, smoke partitions, fire alarm systems, fire sprinkler systems, room names and numbers, and any other life-safety features relevant to the facility. Indicate those facilities, or portions thereof, that will serve as emergency shelters or which have been designed to incorporate special emergency preparedness features or equipment

including a brief notation of those design features and/or equipment.

3. Provide elevations and sections of the proposed work area to fully illustrate and indicate the mass and character of the facility including fenestration, openings, walkways, , preliminary material selections, and other building features and spatial relationships.
- (E) A Preliminary Project Description comprised of a narrative discussion of preliminary material selections, components, assemblies, and systems (including proposed structural, mechanical, and electrical design elements, components and systems) to be used in the project. Format Preliminary Project Descriptions to match that specified by the latest edition of the Construction Specifications Institute's "Manual of Practice" latest edition.
- (F) Mechanical Requirements Specific to Remodeling and Addition Projects: Provide a listing of capacities for existing HVAC equipment and the available tonnage for the new connected load. Provide a survey of the condition of the existing mechanical equipment.
- (G) Electrical Requirements Specific to Remodeling and Addition Projects: Provide an electrical load analysis for the existing facility for existing and new loads. Provide a survey of the condition of the existing electrical equipment.
- (H) A Project Development Schedule: Consultant shall prepare a schedule of services (Project Development Schedule) in compliance with Project Schedule and for approval by County. Such schedule shall show activities including but not limited to Consultant efforts and County (and other municipal/agency) reviews and approvals required to complete the design services. This schedule shall initially be submitted to County for approval within fifteen (15) days of execution of the project agreement.
1. Include all activities known at this stage of the project's development for the entire project. Illustrate all project activities including any projected or preliminary requirements for creating temporary facilities, , removing and storing furniture, equipment and/or other appurtenances, , work by County, work by separate Contractors, and any other activities that relate to or may impact construction of the project (including offsite work and related site reviews, permitting, etc.).
 2. Prepare in a bar chart format, or other format as required by County, which may be further developed and updated for submittal during subsequent phases of the Basic Services.
 3. Consultant shall not be permitted to deviate from the milestones indicated on the Project Schedule for Consultant's work without specific

written authorization from County.

4. Consultant shall notify County in writing of any circumstances which impact Consultant's ability to meet designated milestones in the Project Schedule.

(l) The Statement of Probable Construction Cost: Consultant shall submit to County for review and approval a schematic design phase opinion of probable construction cost based on square footage.

3.03.06 Consultant shall coordinate with County to determine the municipal, county and other jurisdictional agency (such as the South Florida Water Management District, HRS, etc.) coordination required for the Project and, through County, make applications for site plan and other review as appropriate to this phase of the project. Consultant shall attend and provide representation at all review meetings, workshops, hearings and Commission/Council meetings concerning the project as conducted by any and all other agencies having jurisdiction over the project.

3.03.07 Consultant shall submit copies of all deliverables in accordance with Section 1.02.01.

3.03.08 Consultant shall not proceed with the next Phase until the acceptance of all required presentations and reports, reconciliation or correction of all outstanding County review comments, and receipt of a written Notice to Proceed with the next phase.

3.03.09 Consultant shall provide presentations of the Schematic Design to County's staff and to the County Commission as required.

3.04 Phase II - Design Development:

3.04.01 After written Notice to Proceed from County and based on the approved Schematic Design Documents and any adjustments authorized by County in the Project Scope or Project Budget, Consultant shall prepare, submit and present for approval by County, Design Development Phase documents, comprised of the following:

(A) "Project Transmittal Form" as required by County's Construction Management Division.

(B) Documents: Including, in addition to Phase I requirements, the following:

1. NOT USED

2. NOT USED

3. NOT USED
4. Floor plan(s) including, but not be limited to, the following:
 - a) A floor plan drawn at an architectural scale that will allow the entire facility to be shown on one sheet, without breaklines and which indicates project phasing as applicable to the Project.
 - b) Floor plans drawn at 1/8 inch or larger scale showing occupied spaces or special rooms with dimensions, equipment and furnishing layouts, sanitary facilities, stairs, elevators, and identification of accessible areas for the disabled.
 - c) Floor plans for additions to an existing facility: Indicate the connections and tie-ins to the existing facilities, including all existing spaces, exits, plumbing fixtures and locations, and any proposed changes thereto. Distinguish between new and existing areas for renovation, remodeling, or an addition.
5. Life-safety plans to show exit strategy, rated doors, emergency wall openings, ramps, and other life-safety equipment applicable to the project
 - a) By symbol, indicate fire extinguishers, fire alarm equipment, annunciator panels, smoke vents, master valves and emergency disconnects, emergency lighting, emergency power equipment, fire sprinklers, exit signs, smoke and fire dampers, and other life-safety equipment relevant to the facility.
 - b) By symbol, indicate connections and tie-ins to existing equipment.
 - c) NOT USED
6. When planning open space office or administrative spaces, submit a floor plan showing the methods used to permanently define the means of egress, such as surface finish or color.
7. Plumbing fixture locations and fixture unit calculations.
8. Building elevations as needed and sufficient building sections as necessary to fully illustrate and indicate the scale, massing and spatial relationships of the proposed work.
9. Typical space and sections to show dimensions, proposed construction materials, and relationship of finished floor to finished grades for the

proposed work.

10. Preliminary Structural Drawings including plans and sections indicating systems., connections and foundations for the proposed work. These drawings may be structural roughs.
11. Mechanical Drawings including reflected ceiling plans and a single line diagram of the duct layout, natural gas pipe lay out, tie in to existing utilities. Enhance systems description to include a description of proposed HVAC system equipment including the chiller, pumps, AHU's, cooling tower, electric duct heaters, etc.
12. Electrical Drawings including reflected ceiling plans, lighting layouts for and interior spaces, and a one line diagram of the electrical distribution showing electrical outlets for all systems in all spaces. Location of all the main components of the electrical system such as transformers, panels, and main switch board, and emergency generator, location of fire alarm panel. Include principal equipment and rack locations for computer networking systems. Show locations of all primary building mechanical equipment such as chillers, air handler units, etc. and their respective electrical connections.
13. Fire Sprinkler System Drawings including reflected ceiling plans and a single line diagram of the piping layout, tie in to existing utilities. Enhance systems description to include a description of proposed pumps, valves, etc.
14. Equipment and Furnishing Schedules: Indicating equipment and furnishing items that will be provided by the Contractor and those that will be provided by County or others.
15. Outline specifications:
 - a) A table of contents listing all sections to be included in the final specification. An outline of each section is not required.

(C) NOT USED

(D) NOT USED

(E) Consultant shall advise County of any adjustments to the Schematic Design Phase opinion of probable construction cost and shall submit to County a Design Development Phase opinion of probable construction cost based on a square footage.

(F) An updated Project Development Schedule reflecting development and anticipated schedules for all subsequent project activities.

(G) A letter from Consultant and each of the major technical disciplines and any necessary subconsultants explaining how each previous review comment (as generated by County and/or other reviewing agencies) concerning the project have been addressed and/or corrected.

(H) NOT USED

(I) NOT USED

(J) Preliminary color boards to review the color selections for all finish materials with County.

3.04.02 Staff from each of Consultant's major technical disciplines, and subconsultants as necessary shall attend coordination, review and presentation meetings with County to explain the design concept and technical resolution of their respective building or site systems.

3.04.03 Consultant shall submit copies of all deliverables in accordance with Section 1.02.01.

3.04.04 Consultant shall not proceed with the next Phase until the acceptance of all required presentations and reports, reconciliation or correction of all outstanding County review comments, and receipt of a written Notice to Proceed with the next phase.

3.05 Phase III – 50% and 100% Construction Documents Development:

3.05.01 After written Notice to Proceed from County and based on the approved Design Development Phase documents and any adjustments in the scope or quality of the project or in the Fixed Limit of Construction Cost authorized by County, Consultant shall prepare for approval by County and in accordance with County's requirements for format and organization, Final Construction Documents setting forth in detail the requirements for the construction of the Project. Consultant is responsible for the full compliance of the design with all applicable codes.

3.05.02 Intermediate Construction Documents Submittal: Consultant shall make a 50% Construction Documents submittal, for approval by County, which shall include three (3) sets of the following:

(A) "Project Transmittal Form" as required by County's Construction Management Division.

(B) Updated Florida Energy Code (FEC) compliance forms. Submit three (3) copies signed and sealed by a State of Florida registered design professional with 50% Contract Documents submittal.

(C) Drawings:

1. Cover sheet/table of contents including:
 - a) Project title.
 - b) Sheet index including sheet identification and title.
 - c) List of current Broward County Board of County Commissioners.
 - d) Location plan.
2. NOT USED
3. A phasing plan to delineate the order of the construction and delineating staging and storage areas, temporary buildings or structures, temporary utilities, other temporary constructions, construction access (including parking and delivery locations), haul routes, site barriers, traffic control devices, and other area designations and protective measures to control and separate staff and the public from construction activities and traffic.
4. NOT USED
5. NOT USED
6. Full floor plans including:
 - a) All dimensions and any target notes explaining the extent of Work, wall types, or other component, assembly or direction regarding the Construction.
 - b) Note all chases and delineate all rainwater leaders for the proposed work area.
 - c) Show structural tie columns and coordinate with the floor plan as as they related to the proposed work.
 - d) Target interior elevations.
 - e) Delineate and note all built-in cabinetry or equipment.
 - f) Identify room and door numbers with all spaces and doors having

individual numbers.

7. Demolition Plans: Indicate required demolition activities.
 - a) Provide separate demolition plan(s) and other drawings (elevations, sections, etc.) if the scope of work includes demolition which is too excessive to indicate drawings depicting new construction.
 - b) Indicate notes on the extent of the demolition: address dimensions at locations where partial walls are being removed or altered, existing room names and numbers, existing partitions, equipment, plumbing, HVAC or electrical elements.
 - c) Include notes dealing with repair of existing areas as a result of demolition.
 - d) Delineate any modifications to existing buildings involving structural elements within the structural documents rather than on the architectural.
 - e) Provide detailing for protective barriers and safeguards (indoor and outdoor) to provide separation of construction activities and protection of County's existing facilities.
8. Building elevations developed further than at Phase II and including delineation of building joints (including dimensionally located stucco control joints), material locations, elevation heights, color scheme, special finishes, and other building features as it relates to the new entry.
9. Building and Slab to slab wall sections to establish vertical controls and construction types for the Project. Include clear graphics, and notes on construction assemblies and systems to be used, dimensions, heights. Provide associated detailing to delineate solutions for difficult connections.
10. Reflected ceiling plans indicating ceiling types, heights, light fixture types, mechanical diffuser locations, and sprinkler heads if area is sprinklered. Delineate and detail any dropped soffits or joint conditions between different materials. Ensure coordination with architectural, electrical, mechanical and plumbing disciplines and work of any applicable subconsultants.
11. Roof plans:
 - a) Provide roof plans of the new entry area indicating drains, scuppers, gutter, lighting etc.

12. NOT USED

13. Interior elevations of room designs (where those rooms house casework, built-in furniture, variations in material finishes, wall mounted equipment or specialty items, graphics, artworks, plumbing, mechanical or electrical fittings, fixtures or equipment, or other improvement that cannot be shown as a standard detail for several similar rooms) including detail targets referencing cabinetry details, dimensions and heights, notes indicating type of equipment (and whether equipment is in or out of contract), wall materials, finishes, and accessories.
14. Details of casework as necessary to appropriately delineate custom or pre-manufactured casework. Provide appropriate schedules referencing manufacturer's numbers or catalogs, finishes, hardware and other construction characteristics.
15. Details of the following:
- a. Door jamb, head and sill conditions including delineation of required fire ratings for assemblies and components, electrical power requirements and connections to fire alarm, security and other building automation systems within the project or the existing facility.
 - b. Wall and partition types including identification of rated assemblies and product limitations and tolerances relative to those ratings.
 - c. Window head, sill and jamb conditions, and anchorage methods shown, in lieu of referencing to manufacturer's standards.
 - d. Interior signage to include room and building identification, directional signage, directories, emergency exiting and equipment signs, occupancy and other code mandated signage, and any other items pertinent to the identification of the project. Coordinate and delineate electrical connections and power requirements.
 - e. Interior or exterior expansion control connections and related flashings, cover plates, applied sealants, etc.
 - f. Any other specialized items necessary to clearly express the intent of the project design.
16. Room finish, door and window schedules coordinated with the floor plans.
17. Structural details, foundations and framing as required for the new

entrance canopy.

18. Mechanical Drawings:

- a) Provide double line duct work layout and HVAC equipment layout drawings with related diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.
- b) Provide plumbing equipment and fixture layout drawings with related diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.
- c) Provide 1/2 inch scale plans, elevations and sections of the mechanical rooms showing service clearance, room openings, nominal equipment size, ceiling height, duct clearance between bottom of joist and top of ceiling and any ceiling mounted lighting fixtures, electrical equipment or other building assembly or component, etc.

19. Fire Sprinkler Drawings:

- a) Provide piping layout and equipment layout drawings with related diagrams, schedules, notes, detailing and section drawings completed sufficiently to communicate the design intent and coordination with other disciplines.

20. Electrical: Provide drawings for the following systems:

- a) Lighting including circuiting and luminaire identification and switching. Also provide illuminance diagrams for all typical indoor spaces and parking lots.
- b) Convenience outlets and circuiting, special outlets and circuiting, television outlets, and power systems and equipment. Provide riser diagrams for all electrical systems including master clock, intercom, fire alarm, cable television, computer networking/telephone. Also, provide for emergency and normal power distribution. Provide luminaire schedule.
- c) Panel schedule may be in preliminary form but circuitry must be included.
- d) Applicable installation details.

- e) General legend and list of abbreviations.
- f) Voltage drop computation for all main feeders.
- g) Short circuit analysis
- h) Provide 1/2" scale floor plan and wall elevations for all electrical rooms.
- i) Indicate surge protector for main switchboard and electrical panels.

(D) Progress specifications:

1. Provide preliminary Project Manual excluding Bidding documents and other Division 00 documents.
2. Provide a preliminary Division 01 based upon the standard documents to be provided by County and edited by Consultant after consultation with County to establish project specific requirements.
3. Include progress set of all other Sections in remaining Divisions or detailed notes on drawings with each section developed to demonstrate to County an understanding of the project and an appropriate level of developmental progress comparable to that of the drawings.
4. Specification sections shall be organized to follow the Construction Specification Institute's (CSI) 2012 or later edition of MasterFormat or AIA MasterSpec format with each section developed to include CSI's standard 3-part section and page formats with full paragraph numbering.

(E) An updated Project Development Schedule, formatted as a preliminary construction schedule reflecting continued Project development and illustrating anticipated schedules for all subsequent project activities including permitting and submittal coordination with all agencies having jurisdiction on the Project, project phasing, site mobilization, temporary facilities, general construction sequencing, anticipated substantial completion dates, County occupancy, and all other significant Project events. Format updated schedule as a Bar Chart (Gantt Chart) type schedule with milestones.

(F) Color boards illustrating color selections, finishes, textures and aesthetic qualities for all finish materials for final review and approval by County and to establish a final palette of material selections for development of subsequent specifications, schedules and other requirements for incorporation into the Contract Documents.

(G) A letter from Consultant and each of the major technical disciplines and any necessary subconsultants explaining how each previous comment concerning the project have been addressed and/or corrected.

(H) Consultant shall advise County of any adjustments to the Design Development Phase opinion of probable construction cost and shall submit to County a 50% Construction Document estimate of probable construction cost.

3.05.03 Consultant shall make all changes to the documents as required by County's review of the documents and resolve all questions of constructability, code compliance, compliance with County standards, or other issues raised by County during its review of the documents. County will retain the documents submitted at this phase.

3.05.04 Consultant shall not proceed with the completion of 100% Construction Documents until the acceptance of all required presentations and reports, County approval of all required submittals, and receipt of a written Notice to Proceed with the next phase.

3.06 100% Construction Documents Submittal:

3.06.01 Upon 100% completion of the Construction Documents, Consultant shall submit to County three (3) copies of check sets of the Drawings, Specifications, reports, programs, a final up-dated Project Development Schedule, a final up-dated Statement of Probable Construction Cost and such other documents as reasonably required by County. The 100% construction documents shall conform to County's requirements, all mandatory requirements cited by County's Construction Management Division (or its designated reviewers). Consultant shall, through the Construction Management Division, coordinate project specific requirements with other participating County review agencies (Office of Economic and Small Business Development OESBD, Risk Management Division, County Attorney, etc.) and others listed below or having jurisdiction or special interest in the Project.

3.06.02 All documents for this phase shall be provided in both hard copy and in electronic media. County will approve Phase III documents prior to submittal for permitting or bidding. Phase III contract documents shall be included with the Phase III submittal:

(A) "Project Transmittal Form" as required by County's Construction Management Division.

(B) General Requirements:

1. Record Set. This submittal is the official record set and shall be the bid documents.
 2. Signed and Sealed/Statements of Compliance: Only complete documents, properly signed and sealed by Consultant and respective subconsultants, will be accepted for review; in addition, these documents shall contain a statement of compliance by the architect or engineer of record that "To the best of my knowledge these drawings and the project manual are complete, and comply with the current edition of the Florida Building Code".
 3. When requested by County, engineering calculations for mechanical, electrical, and structural systems shall be submitted separately from drawings and the project manual.
 4. Changes to the contract documents may be made by addenda or resubmittal of documents graphically indicating the changes. Addenda shall be signed and sealed by the design professionals and submitted to County in duplicate as they occur during the bidding process. Documents resubmitted shall bear the appropriate signatures and seals.
- (C) Drawings: The drawings shall include, in addition to the Phase III 50% document requirements specified above, the following:
1. Site plan showing existing conditions, area location map, legal description of property, and enlarged site plan area at canopy entrance.
 2. Plans and details including, but not limited to:
 - a) Title sheet utilizing County's Construction Management Division's standard cover sheet format including a table of contents and statement of compliance by the architect or engineer of record.
 - b) Abbreviations and Symbols: Each discipline shall have a list of abbreviations, schedule of material indications, and schedule of notations and symbols at the beginning of their section of the plans. (Alternatively, Consultant may provide a complete, fully coordinated set of abbreviations, material indications, notations and symbols for the entire project following the cover sheet.)
 - c) Information Available to Bidders: Drawing sheets such as surveys, "as-built" drawings, and other graphic material provided and clearly marked as "Information Available to Bidders" shall be provided within the drawing set after coordination with County's Construction Management Division.

- d) Architectural sheets including floor plans, door, window and finish schedules, roof plans, elevations, sections, and details.
- e) Structural sheets including paving; drainage; foundation plans; floor plans; roof plans; structural plans; sections; details; and, beam and column schedules for the proposed work area.
- f) Mechanical sheets including floor plans; elevations, sections; details; riser and other diagrams; equipment, fan, fixture.
- g) Fire sprinkler sheets including reflected ceiling plans, sections, details, riser and other diagrams, fixture, equipment and other necessary schedules and drawing information.
- h) Electrical sheets including floor plans; sections; elevations; details; riser and other diagrams; fixture, panel and other schedules;
- i) Interior Design, and other subconsultant prepared sheets including plans, sections, elevations, details, diagram, schedules and other drawing information necessary to communicate the complete and integrated scope of work related to that discipline.

(D) Project Manual. Consultant shall review and coordinate with County regarding the preparation of the following:

1. Any supplemental information required from Consultant to assist in County's completion of Division 00 procurement and contracting requirements with respect to the foregoing documents and regarding any other agreements necessary for construction of the project. Include documents made necessary by the Bidding Method chosen by County. However, in no case will Consultant amend or delete items from these documents without prior written approval from County.
2. A project specific set of Division 01 specifications based upon guide documents provided by County (or, in the absence of County guide specification documents, from Consultant's own specifications as previously coordinated with County), including all schedules, lists and inventories as required to complete County's guide documents including Contractor's Submittal schedules, warranty schedules, salvage schedules, etc.
3. Final specification sections for remaining Divisions or detailed notes on drawings organized and formatted as required for the set of Phase III 100% progress specifications.
4. Approved alternate bid items, if required and authorized by County, to

bring the project within the Fixed Limit of Construction Cost (FLCC) which would permit County in its sole discretion to accept or reject portions of the construction of the project.

- (E) An Updated opinion of Probable Construction Cost based on square footage and review of the previous 50% estimate as indicated by time factor, changes in requirements, or general market conditions.
- (F) A letter from Consultant and each of the major technical disciplines and any necessary subconsultants explaining how each previous review comment (as generated by County and/or other reviewing agencies) concerning the project have been addressed and/or corrected.

3.06.03 If the Latest Statement of Probable Construction Cost exceeds the Fixed Limit of Construction Cost for construction, Consultant shall review the materials, equipment, component systems and types of construction included in the Contract Documents and may recommend changes in such items and/or reasonable adjustments in the scope of the Project (to be made at no additional cost to County).

3.06.04 Consultant shall make all required changes or additions and resolve all questions on the documents. The 100% complete Check Set shall be returned to County. Upon final approval by County, Consultant shall furnish record copies, duly signed and sealed by the Florida registered design professionals responsible for their preparation, of all Drawings, Specifications and other documents required during this project phase to County without additional charge.

3.06.05 Consultant shall, with County's assistance, file the required documents for approval by governmental authorities having jurisdiction over the Project (including Broward County and municipalities and their constituent departments and other state, local or federal agency with jurisdictional authority over some aspect of the Project) and obtain certifications of "permit approval" by reviewing authorities prior to the commencement of Phase IV and early enough to ensure that the eventual Contractor is not delayed by permit processing by Broward County, a municipality or other jurisdictional agency.

Consultant shall provide the original documents or reproducible copies as may be required for submittal to any and all governmental authorities. Permit, review, and similar fees shall be paid by County.

- A. Consultant shall provide services or licensed subconsultants to apply for all jurisdictional approvals.
- B. Consultant shall attend and provide representation at all review meetings, workshops, hearings and Commission/Council meetings concerning the

project as conducted by other jurisdictional agencies. Consultant shall submit documents, attend meetings and provide other support as necessary to fully participate in any submittals, resubmittals, review meetings, presentations or negotiations required to obtain jurisdictional approval for the project.

- C. Any changes to the project drawings or project manual or other supporting document made necessary by jurisdictional reviews shall be made by Consultant at no additional cost to County. Consultant shall be compensated for any revisions to the contract documents made necessary by such jurisdictional reviews if the requisite compliance requirement or interpretation was not available to Consultant in written form prior to the review.
- D. County will notify Consultant when permits shall be transferred to the responsibility of the Contractor for the project.

3.06.06 Staff from each of Consultant's major technical disciplines and subconsultants as necessary shall attend coordination, review and presentation meetings with County to explain the development of the design concept and technical resolution of their respective building or site systems for both the Phase III (50%) and Phase III (100%) Submittals.

3.06.07 County's review and approval of the drawings, specifications, calculations and other construction documents shall not relieve Consultant of any responsibility for their accuracy, adequacy and completeness.

3.07 Phase IV - Bidding and Award of Contract

3.07.01 Bid Documents Approvals and Printing: Upon obtaining all necessary approvals of the Construction Documents, approval by County of the latest Statement of Probable Construction Cost, and a specific Notice to Proceed with the Bidding and Award phase of the project, Consultant shall assist County in obtaining bids and awarding construction contracts.

3.07.02 Consultant shall assist County in the preparation of bidding information. Consultant will utilize County's Standard Form Construction Documents for this project and agrees to verify and utilize the latest edition of those documents at the time of Bidding. Any deviation from the Standard Form Construction Documents must be approved in advance by County's Office of the County Attorney.

3.07.03 NOT USED.

3.07.04 Consultant shall provide to County's Contract Administrator two (2) reproducible copies of the bidding documents, including all drawings and

specifications. County will be responsible for printing the bidding documents. County reserves the right to instruct Consultant to have the bidding documents (including drawings and specifications) printed for bidding purposes, either through its open agreements with printing firms or as a reimbursable service through Consultant.

- 3.07.05 County will issue the Bid Documents to prospective bidders and keep a complete "List of Bidders."
- 3.07.06 Consultant shall render interpretations and clarifications of the drawings and specifications in a written format, supplemented by appropriate graphics, acceptable to County.
- 3.07.07 Consultant shall attend pre-bid conferences as scheduled by County.
- 3.07.08 Consultant shall prepare addenda, if any are required, for County to issue to all prospective bidders. No addenda shall be issued without County's approval and if dimensional changes or extensive graphic changes are required the drawing sheets shall be revised and issued as addendum drawings as directed by County.
- 3.07.09 Consultant shall be present at the bid opening, with County's staff.
- 3.07.10 Consultant shall participate with County in evaluating the bids and investigating the qualifications of bidders and shall provide a written recommendation for bid award.
- 3.07.11 Consultant shall advise and consult with County in awarding and assisting in the preparation of any agreements necessary for the construction of the project, including, without limitation, that form of agreement between County and Contractor.
- 3.07.12 If the lowest responsive Base Bid received exceeds County's funds available for the Project, County will either: (A) approve the increase in Project cost and award a contract or, (B) reject all bids and rebid the Project within a reasonable time with no change in the Project, (C) direct Consultant to revise the Project scope or quality, or both, as approved by County, and rebid the Project, or (D) suspend or abandon the Project.
- 3.07.13 Under Article 3.07.12(C) above Consultant shall, without additional compensation, modify the Construction Documents as necessary to bring the Probable Construction Cost within the Fixed Limit of Construction Cost. The providing of such service shall be the limit of Consultant's responsibility in this regard and having done so, Consultant shall be compensated in accordance with this Agreement. County may recognize exceptional construction market cost fluctuations before exercising the option provided in Article 3.07.12(C)

above. County agrees to discuss this issue with Consultant prior to exercising this option.

- 3.07.14 If an estimate or cost analysis is required by County for this phase, Consultant shall utilize Consultant's cost estimator, or a replacement acceptable to County, to analyze bids and to assist in the preparation of any modified bidding documents or re-bid documents that may be required to ensure successful bidding within the Fixed Limit of Construction Cost.

3.08 Phase V - Administration of the Construction Contract:

- 3.08.01 The Construction Phase will begin with the award of the Construction Contract and will end when the Contractor's final Payment Certificate is approved by County. During this period, Consultant shall provide Administration of the Construction Contract as set forth in the construction contract documents (hereafter referred to and defined as the "Contract Documents") between County and the Contractor.

- 3.08.02 Consultant, as the representative of County during the Construction Phase, shall advise and consult with County and shall have authority to act on behalf of County within the limits established by this agreement and the Contract Documents. Consultant shall contemporaneously provide County with copies of all communications between Consultant and Contractor and others concerning matters material to the cost, time, sequence, scope, performance or requirements of the project.

- 3.08.03 Consultant and Consultant's respective subconsultants shall attend all key construction events as necessary to ascertain the progress of the Project and to determine in general if the Work is proceeding in accordance with the Contract Documents and the Project Schedule. A minimum of at least one site visit per week will be required by Consultant. The subconsultant will be required to visit the site at least once a week when their respective portion of the work is in progress.

- (A) Consultant shall visit the site bi-weekly from the time construction begins until substantial completion on an ongoing periodic basis to become familiar with the progress and quality of the Work and to determine if the Work is proceeding in accordance with the Contract Documents and Project Schedule. Consultant shall coordinate the timing of these visits with County's Representative so as to permit joint observations of the progress of the Work and discussions about project issues. On the basis of on-site observations as a Consultant, Consultant shall keep County informed of the progress and quality of the Work. Consultant shall promptly submit to County a detailed written report of the results of each visit to the site, and copies of all field reports and notes of meetings with Contractor, Subcontractors of any tier or suppliers.

- (B) Consultant shall, based upon its on-site visits, promptly report to County any defects and deficiencies in the Work coming to the attention of Consultant and shall endeavor to guard County against defects and deficiencies in the Work. This obligation is not reduced or limited by the fact that others, such as County's staff, are undertaking inspection for or on behalf of County. Consultant shall make on-site observations utilizing the same personnel over the course of the Work and shall, if requested by County, replace personnel whom County has proven to be incompetent or unacceptable.
- (C) Consultant shall not have control over or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work.

3.08.04 Consultant shall at all times have access to the Work where ever it is in preparation or progress. Consultant and the subconsultants shall review and advise County as to whether the Contractor is making timely, accurate, and complete notations on the "Project Record Documents" and maintaining various other administrative records as required by the Contract Documents. In addition, County may at its discretion require Consultant and all subconsultants to regularly submit additional written materials or forms to County relating to or regarding the Project or its progress.

3.08.05 Consultant shall assist County in determining the amounts owing to Contractor based on observations at the site and on evaluations of Contractor's Applications for Payment and shall certify Certificates for Payment in such amounts as provided in the Contract Documents and in such form as County may request. The certification of a Certificate for Payment shall constitute a representation by Consultant to County, based on Consultant's observations at the site and on the data comprising Contractor's Application for Payment, that the Work has progressed to the point indicated; that the quality of the Work is in substantial accordance with the contract documents (subject to an evaluation of the Work for substantial conformance with the Contract Documents upon substantial completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate for Payment); and that Contractor is entitled to payment in the amount certified. However, the certification of a Certificate for Payment shall not be a representation that Consultant has made any examination, other than information which has come to Consultant's attention, to ascertain how and for what purpose Contractor has used the moneys paid by County.

3.08.06 Consultant shall initially interpret matters and provide recommendations

concerning performance of County and Contractor under the requirements of the Contract Documents on written request of either County or Contractor. Consultant's response to such requests shall be made with reasonable promptness and within any time limits agreed upon. Consultant shall render written advisory decisions, within a reasonable time, on all claims, disputes and other matters in question between County and Contractor relating to the execution or progress of the Work or the interpretation of the Contract Documents.

- 3.08.07 All interpretations and advisory decisions of Consultant shall be consistent with the intent of, and reasonably inferable from, the Contract Documents and shall be in writing or in the form of drawings. In the capacity of interpreter Consultant shall endeavor to secure faithful performance by both County and Contractor, and shall not show partiality to either.
- 3.08.08 Consultant shall have authority to recommend rejection of Work which does not conform to the Contract Documents. Consultant shall not have authority to stop the Work without approval of County. Whenever, in Consultant's reasonable opinion, it is necessary or advisable for the implementation of the intent of the Contract Documents, Consultant may recommend special inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work be then fabricated, installed or completed, but Consultant shall take such action only after consultation with County. Consultant's monitoring of such additional special testing or inspections is a part of the Basic Services. County shall furnish all such tests inspections and reports that are required by law or by the Contract Documents or that it has previously approved in writing, without waiving its right to reimbursement from Contractor. However, neither this authority of Consultant nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty of responsibility of Consultant to Contractor or other third parties performing portions of the Work.
- 3.08.09 Consultant shall promptly review, and take other appropriate action upon Contractor's submittals such as shop drawings, product data and samples, but only for conformance with the design concept of the Contract Documents. Such action shall be taken within fourteen (14) days of receipt by Consultant unless County and Consultant otherwise mutually agree. Consultant's review shall not constitute review or approval of safety precautions or of construction means, methods, techniques, sequences or procedures. Consultant shall maintain a log of all submittals made and shall compare the submittals with Contractor's progress schedule. Consultant shall not approve changes to the contract or substitutions through the regular submittal process but will utilize those respective methods specified in the Contract Documents. Consultant shall be compensated for reviewing re-submittals after the first re-submittal of a respective submittal as a reimbursable expense with County reimbursed by the Contractor under provisions of the Contract Documents.

3.08.10 Consultant shall coordinate with County concerning County's required review of Change Orders for Code Compliance. Consultant shall:

- (A) Meet with County prior to the preparation of change order items to ensure that proposed changes comply with applicable codes.
- (B) Reconcile Consultant's analysis of proposed Change Order amounts with an analysis provided by Consultant's cost estimator and provide County with a recommendation concerning the respective cost studies.
- (C) Submit written and graphic information documenting proposed changes for formal review by County for code compliance.
- (D) Consultant shall review and indicate concurrence through signing change orders for County's authorization in accordance with the Contract Documents, shall have authority to order minor changes in the Work not involving an adjustment in the contract sum or an extension of the contract time and which are not inconsistent with the intent of the Contract Documents. Such minor changes shall be effected by written order issued through County. The Basic Services shall include providing recommendations concerning proposed change orders and minor changes, and the preparation and processing of change orders and construction change directives.
- (E) Consultant shall process, prepare and issue contract modification documents in a timely manner and not allow the period required for evaluation, preparation or to issue such documents to exceed 21 days. Consultant shall provide written notification to County concerning those modification documents requiring more than 21 days processing time with an attached explanation of the circumstances requiring longer processing time.
- (F) All final decisions with respect to substitutions, change orders, and other contract modifications shall be at the sole determination of County.

3.08.11 Consultant shall conduct thorough site observations, make recommendations and otherwise assist County in determining the dates of substantial completion and final completion, shall review, approve and forward to County for County's review, written warranties and related documents required by the Contract Documents and assembled by Contractor, and shall certify a final certificate for payment. At substantial completion, Consultant shall prepare a punch list of observed items requiring correction, completion or replacement by Contractor. Consultant shall administer the Contractor's submittal of various closeout submittals including warranty documents, operations and maintenance materials, extra materials, and other closeout submittals as required by the

Contract Documents. Consultant and the subconsultants shall verify and confirm the Contractor's successful demonstration of equipment and systems and the training of County's personnel as required by the Contract Documents. Consultant shall inspect the Project upon final completion to determine compliance with the Contract Documents and, upon so determining, prepare and execute the required forms and other documents indicating that the Work is completed in compliance with the Contract Documents.

3.08.12 Consultant shall within sixty (60) days of receipt of Consultant approved as-built submittal from Contractor provide County with prints and electronic media copies of the original drawings, which Consultant has revised to conditions based on information furnished by the Contractor as Project Record Documents. These prints and electronic media copies shall become the property of County. Submittal of these documents to County is a condition of final payment to Consultant.

3.08.13 **NOT USED**

3.09 Phase VI - Warranty Administration and Post-Occupancy Services: Not Used

3.10 Other Consulting Services:

3.10.01 The Contract Administrator may authorize Consultant to provide other consulting services which may include but not be limited to the following:

(A) Interior Design Services which may include:

1) Schematic Design: Preliminary color boards and interior design single line isometric sketches to communicate spatial relationships, preliminary furniture selections, with the Contract Administrator. Provide single copies of preliminary color boards.

2) Phase II: Design Development:

a. Provide detailed Equipment and Furnishing Schedules: The County will provide a listing of at least three sources for each furniture type from vendors listed on state and local contracts or purchasing agreements. Provide documentation for each furniture finishes available, furniture features, pricing and furniture lead times.

b. Provide Detailed Equipment and Furnishing Drawings: Provide layouts elevations, indicating the locations, scale and proposed arrangement of all furniture and equipment items including those that will be provided by the Contractor and those that will be

provided by the Contract Administrator or others. Provide a symbols legend and unique identifiers for each piece of furniture or equipment corresponding to those established in the Equipment and Furnishing Schedules described above. Coordinate with Contract Administrator concerning standardized color coding of Equipment and Furnishing drawings necessary to facilitate internal Contract Administrator review and coordination of equipment and furnishings. Ensure that all illustrated furniture items are drawn to manufacturer's dimensions and are not generic templates or blocks which may not accurately reflect the size and configuration of proposed furniture or equipment items.

3) Phase III: Construction Contract Documents Development

- a. Provide Updated Detailed Equipment and Furnishing Drawings and detailed Equipment and Furnishing Schedules indicating "In Contract" and "Not in Contract" furniture and equipment items, loose furniture and systems furniture.
- b. Systems Furniture: Provide systems furniture workstation template drawings including a Panel Plan (showing panel widths, heights and finishes), a Component Plan and Isometric (indicating all components to be provided within the project with a written description of each component by size, type and quantity and with an isometric drawing of workstations) and an Electrical Panel Plan (indicating electrical outlets, locations of system power entry, computer data and telephone receptacles).
- c. Loose Furniture and Equipment: Provide updated furniture floor plans indicating loose furniture and equipment items with symbols, legends, notes and indicators required for earlier submittals. Supplement with drawing notations concerning installation.
- d. Color boards illustrating furniture selections and the selection of colors, finishes, textures and aesthetic qualities of all finish materials for final review and approval by the Contract Administrator and to establish a final palette of material selections for development of subsequent specifications, schedules and other requirements for incorporation into the Contract Documents.
- e. Loose furniture detailed specifications and descriptive data coordinated through County's Purchasing Division (via the Contract Administrator) in sufficient detail to allow procurement through the Purchasing Division:

1. Manufacturer's Information

2. NOT USED
 3. Vendor Information
 4. Quantities
 5. Item numbers keying specifications to Furniture Floor Plans
 6. Manufacturer's Model Numbers
 7. Description, size, finishes and other information required to order furniture.
 8. Installation General Notes
- f. Systems furniture detailed specifications and descriptive data coordinated through County's Purchasing Division (via the Contract Administrator) in sufficient detail to allow procurement through the Purchasing Division:
1. Manufacturer's Information
 2. Vendor State and Local Contract Listings
 3. Vendor Information
 4. Quantities
 5. Item numbers keying specifications to Furniture Floor Plans
 6. Manufacturer's Model Numbers
 7. Description, size, finishes and other information required to order furniture.
 8. Installation General Notes
- 4) Phase IV: Bidding and Award of Contracts
- 5) Phase V: Administration of the Construction Contract
- a. Provide assistance to the Contract Administrator by providing on-site observation of installation of substrate materials, anchorages and other construction items that impact the subsequent placement/installation of furniture/fixtures and equipment.
- 6) Phase VI: NOT USED
- (B) NOT USED
- (C) NOT USED
- (D) NOT USED

**End of Attachment 1: Work Authorization
SCOPE OF WORK**

Comprehensive Professional Architectural and Engineering Consulting Services Agreement
ATTACHMENT 1a:
BIM/CADD Standards of Care

General Provisions.

The Model shall be developed to include the systems described below as they would be built, the processes of installing them, and to reflect final as-built construction conditions. The deliverable Model at all phases shall be developed to include as many of the systems described below as are necessary and appropriate to the design stage. The BIM Model shall be provided in an editable form and from its inception shall include automatic model positioning using a common reference point (Point of Origin), based on “Florida State Plane Coordinates” derived from the project survey.

The Model shall be developed using Building Information Modeling (“BIM”) supplemented with Computer Aided Drafting Design (“CADD”) content as necessary to produce a complete set of Construction Documents. “Section 1 - Definitions and Identifications” as presented in Attachment 1 – Electronic Media Submittal Requirements, are incorporated herein. BIM Product information shall be organized in accordance with the OmniClass (OCCS) Table 23 National Standard.

The following Level of Development (LOD) descriptions are summaries of Level of Development Specification for Building Information Models as developed by BIMForum. (<http://bimforum.org/lof>), current edition (2014 or later). The LOD identifies the specific content requirements and associated authorized uses for each Model Element at six progressively detailed levels of completeness. Each subsequent LOD builds on the previous level and includes all the characteristics of previous levels.

The parties shall utilize the appropriate Levels of Development (LOD) described below in completing the Model, which establishes the required LOD for each Model Element at each phase of the Project. The following list is a simplified summary of the adopted Levels of Development:

- 100 – Conceptual symbols
- 200 - Approximate geometry, Generic systems
- 300 - Precise geometry with clearances
- 350 - Precise geometry interfaces, clash detection with subcontractor input.
- 400 – Fabrication/Installation Detail (shop drawings)
- 500 - As-built field verification

LEVEL OF DEVELOPMENT (LOD) – EXPANDED DESCRIPTIONS

LOD 100: Schematic Phase (Basic Service)

Model Content Requirements: Overall building massing indicative of area, height, volume, location, and orientation may be modeled in three dimensions or represented by other data.

Potential Uses

- a. Analysis: The Model may be analyzed based on volume, all spaces, area and orientation

Attachment 1a – BIM/CADD Standards of Care to:

Comprehensive Professional Architectural and Engineering Consulting Services

04/22/16

Page 1 of 8

by application of generalized performance criteria assigned to the representative Model Elements.

- b. Cost Estimating: The Model may be used to develop a cost estimate based on current area, volume or similar conceptual estimating techniques (e.g., square feet of floor area, etc.).
- c. Schedule. The Model may be used for project phasing and overall duration.

LOD 200: Design Development Phase (Basic Service)

Model Content Requirements: Model Elements are modeled as generalized systems or assemblies with approximate quantities, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements. Partitions and simple furniture models shall be included at this phase.

Potential Uses

- a. Analysis. The Model may be analyzed for performance of selected systems by application of generalized performance criteria assigned to the representative Model Elements.
- b. Cost Estimating. The Model may be used to develop cost estimates based on the approximate data provided and conceptual estimating techniques (e.g., volume and quantity of elements or type of system selected).
- c. Schedule. The Model may be used to show ordered, time-scaled appearance of major elements and selected systems.

LOD 300: Construction Document Phase 75% & 100% (Basic Service)

Model Content Requirements: Model Elements are modeled as specific assemblies accurate in terms of quantity, size, shape, location, and orientation. Non-geometric information may also be attached to Model Elements.

Facility Management information: Consultant will be required to input all new products installed under the scope of work for this project in conformance with an agreed upon list in OmniClass Construction Classification System Table 23 format as presented in Table 1 herein. County and Consultant to meet to refine the scope of the COBie information following issuance of the Schematic Phase NTP.

Potential Uses

Suitable for the generation of traditional construction documents and shop drawings.

- a. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
- b. Cost Estimating. The Model may be used to develop cost estimates based on the specific data provided and industry estimating techniques.
- c. Schedule. The Model may be used to show ordered, time-scaled appearance of

detailed elements and systems.

- d. Clash Detection. The Model may be used to identify architectural and engineering conflicts for primary systems and elements. Areas of study include HVAC ductwork and equipment, structural elements, above ground plumbing and drainage piping, fire sprinklers and risers,

LOD 350: Construction Phase (Contractor to provide this LOD using Consultants model unless County elects Consultant to provide as Optional Service)

Model Content Requirements: Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Clearances and access requirements to be included in model elements where applicable, (e.g. VAV access, HVAC access panels, equipment door swings, maintenance panel access, etc.). Non-geometric information may also be attached to modeled elements.

Facilities Management information: Consultant to provide complete BIM model(s) to Contractor for its use containing Construction Operations Building Information Exchange (COBie) standards in conformance with Table 1 herein. Contractor to complete COBie information in accordance with LOD 500.

Potential Uses

- a. Clash Detection. The model may be used to coordinate the configuration, installation and positioning of all building elements.
- b. Facility Management. The Model may be utilized for maintaining, altering, and adding to the Project. Update and confirm preliminary COBie data.
- c. Analysis. The Model may be analyzed for performance of selected systems by application of specific performance criteria assigned to the representative Model Elements.
- d. Cost Estimating. The Model may be used to develop cost estimates due to change in project scope based on the specific data provided and estimating techniques.
- e. Schedule. The Model may be used to show ordered, time-scaled appearance of detailed elements and systems.

Detailed BIM Delivery Breakdown for Level 300 and 350:

1. **Architectural/Interior Design**. The Architectural systems Model may vary in level of detail for individual building elements, but at a minimum the model must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:
 - a. **Spaces**. The Model shall include spaces defining actual net square footage and net volume, and holding data to develop the room finish schedule including room names

- and numbers. Include program information to verify design space against programmed space, using this information to validate area quantities.
- b. **Walls and Curtain Walls.** Each wall shall be depicted to the exact height, length, width, materiality and ratings (thermal, acoustic, fire) to properly reflect wall types. The Model shall include all walls, both interior and exterior, and the necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
 - c. **Doors, Windows and Louvers.** Doors, windows and louvers shall be depicted to represent their actual size, type and location. Doors and windows shall be modeled with the necessary intelligence to produce accurate window and door schedules.
 - d. **Roof.** The Model shall include the roof configuration, drainage system, penetrations, specialties, and the necessary intelligence to produce accurate plans, building sections and wall sections where roof design elements are depicted.
 - e. **Floors.** The floor slab(s) shall be developed in the Structural Model and then referenced by the Architectural Model.
 - f. **Ceilings.** All heights and other dimensions of ceilings, including soffits, ceiling materials, or other special conditions shall be depicted in the Model with the necessary intelligence to produce accurate plans, building sections and wall sections where ceiling design elements are depicted.
 - g. **Vertical Circulation.** All continuous vertical components (i.e., non-structural shafts, architectural stairs, handrails and guardrails) shall be accurately depicted and shall include the necessary intelligence to produce accurate plans, elevations and sections in which such design elements are referenced.
 - h. **Architectural Specialties.** All architectural specialties (i.e., toilet room accessories, toilet partitions, grab bars, lockers, and display cases) and millwork (i.e., cabinetry and counters) shall be accurately depicted with the necessary intelligence to produce accurate plans, elevations, sections and schedules in which such design elements are referenced.
 - i. **Signage.** The Model shall include all signage and the necessary intelligence to produce accurate plans and schedules.
 - j. **Schedules.** Provide door, window, hardware sets using Builders Hardware Manufacturers Association (BHMA) designations, flooring, wall finish, and signage schedules from the Model, indicating the type, materials and finishes used in the design.
2. **Furniture.** The furniture Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing, and have necessary intelligence to produce accurate plans. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Representation of furniture elements is to be 3D. Examples of furniture include, but are not limited to, desks, furniture systems, seating, tables, and office storage.
- a. **Furniture Coordination.** Furniture that makes use of electrical, data or other features

shall include the necessary intelligence to produce coordinated documents and data. Models shall be sufficient to enable their use to demonstrate complete furniture mounted electrical and data installation locations.

3. **Equipment**. The Model may vary in level of detail for individual elements. Equipment shall be depicted to meet layout and clearance requirements with the necessary intelligence to produce accurate plans and schedules, indicating the configuration, materials, finishes, mechanical, electrical requirements and all other related utilities. Examples of equipment include but are not limited to copiers, printers, refrigerators, ice machines, microwaves, and equipment specifically related to the operations and functions of the facility.
 - a. **Schedules**. Provide furniture and equipment schedules from the model indicating the materials, finishes, mechanical, and electrical requirements.

4. **Structural** The Structural systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Additional minimum Model requirements include:
 - a. **Floor Slabs**. Structural floor slabs shall be depicted with all necessary recesses, curbs, pads, closure pours, and major penetrations accurately depicted. Major penetrations shall include A/C duct chases and pipes larger than 6" dia. only.
 - b. **Structural Steel**. All steel columns, primary and secondary framing members, and steel bracing for the roof and floor systems (including decks), including all necessary intelligence to produce accurate structural steel framing plans, related building/wall sections, and schedules.
 - c. **Cast-in-Place Concrete**. All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting cast-in-place concrete elements.
 - d. **Precast/Tilt up/CMU**. All walls, columns, beams, including necessary intelligence to produce accurate plans and building/wall sections, depicting such elements.
 - e. **Expansion Joints**. Joints shall be accurately depicted.
 - f. **Shafts**. All shafts, including necessary intelligence to produce accurate plans and building/wall sections depicting these design elements.
 - g. **Openings and Penetrations**. All major openings and penetrations that would be included on a quarter inch (1/4"=1'0") scaled drawing.

5. **Mechanical**. The Mechanical systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" NPS) field-routed piping is not

required to be depicted in the Model. Additional minimum Model requirements include:

- a. HVAC. All necessary heating, ventilating, air-conditioning and specialty equipment, including air distribution for supply, return, ventilation and exhaust ducts, control systems, chillers, registers, diffusers, grills, and hydronic baseboards with necessary intelligence to produce accurate plans, elevations, building/wall sections and schedules.
 - b. Mechanical Piping. All necessary piping and fixture layouts, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, and schedules.
6. **Plumbing**. All necessary plumbing piping and fixture layouts, floor and area drains, and related equipment, including necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules.
- a. Equipment Clearances. All Mechanical equipment clearances shall be modeled for use in interference management and maintenance access requirements.
 - b. Elevator Equipment. All necessary equipment and control systems, including necessary intelligence to produce accurate plans, sections and elevations depicting these design elements.
7. **Electrical/Telecommunications/Data**. The Electrical and Telecommunications systems Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2"Ø) field-routed conduit is not required to be depicted in the Model. Additional *minimum* Model requirements include:
- a. Interior Electrical Power and Lighting. All necessary interior electrical components (i.e., lighting, receptacles, special and general purpose power receptacles, lighting fixtures, panel boards, cable trays and control systems), including necessary intelligence to produce accurate plans, details and schedules. Lighting and power built into furniture/equipment shall be modeled.
 - b. Special Electrical. All necessary special electrical components (i.e., security, mass notification, public address, nurse call and other special electrical occupancy sensors, and control systems), including necessary intelligence to produce accurate plans, details and schedules.
 - c. Grounding. All necessary grounding components (i.e., lightning protection systems, communications, static grounding systems, and bonding), including necessary intelligence to produce accurate plans, details and schedules.
 - d. Telecommunications/Data. All existing and new telecommunications service controls and connections, both above ground and underground, with necessary intelligence to

produce accurate plans, details and schedules. Cable tray routing shall be modeled without detail of cable contents.

- e. Equipment Clearances. All Electrical equipment clearances shall be modeled for use in interference management and maintenance access requirements.

8. **Fire Protection**. The fire protection system Model may vary in level of detail for individual elements, but at a minimum must include all features that would be included on a quarter inch (1/4"=1'0") scaled drawing. Where applicable and as required for construction documents, the model, or host platform will include additional scales as required to show necessary details. Small diameter (less than 1-1/2" NPS) field-routed piping is not required to be depicted in the Model. Additional minimum Model requirements include:

- a. Fire Alarms. Fire alarm/mass notification devices and detection system shall be indicated with necessary intelligence to produce accurate plans depicting them.
- b. Fire Protection System. All relevant fire protection components (i.e., branch piping, sprinkler heads, fittings, drains, pumps, tanks, sensors, control panels) with necessary intelligence to produce accurate plans, elevations, building/wall sections, riser diagrams, and schedules. All fire protection piping shall be modeled.

LOD 400: BIM for Construction Administration (Optional Service).

LOD 500: BIM for Facility Management (Contractor agreements only).

LOD 500 BIM shall be provided by Contractor or Managing General Contractor (MGC). Contractor or MGC shall submit a fully complete LOD 500 BIM model to the A/E Consultant for the extraction of COBie in Excel format.

Model Content Requirements: Model Elements are modeled as constructed assemblies actual and accurate in terms of size, shape, location, quantity, and orientation. Non-geometric information may also be attached to modeled elements. Facilities Management information completed with all requested information developed to Construction Operations Building Information Exchange (COBie) and LOD 500 standards.

Potential Uses

- a. Facility Management. The Model may be utilized for maintaining, altering, and adding to the Project.
- b. Project Record Documents. As-built data accurately portrayed in the BIM model for future reference and reuse.

COBie Data

Within 30 days from the issuance of NTP, during PHASE I - Schematic Design, Testing & Analysis Phase, the County and Consultant shall finalize and select items from the following OmniClass Construction Classification System Table 23 excerpts to establish the basis of COBie elements to be tracked and delivered in the completed model.

Attachment 1a – BIM/CADD Standards of Care to:
Comprehensive Professional Architectural and Engineering Consulting Services
04/22/16

23-11	Products
23-13	Structural and Exterior Enclosure Products
23-15	Interior and Finish Products
23-17	Openings, Passages, and Protection Products
23-21	Furnishings, Fixtures and Equipment Products
23-23	Conveying Systems and Material Handling Products
23-27	General Facility Services Products
23-29	Facility and Occupant Protection Products
23-31	Plumbing Specific Products and Equipment
23-33	HVAC Specific Products and Equipment
23-35	Electrical and Lighting Specific Products and Equipment
23-37	Information and Communication Specific Products and Equipment

Table 1.0 – Selected Excerpts from OmniClass Table 23

End of Attachment 1a: BIM/CADD Standards of Care

Comprehensive Professional Architectural and Engineering Consulting Services Agreement
ATTACHMENT 1:
Electronic Media Submittal Requirements

Preamble

The Contract Administrator will be utilizing electronic media as the principal way it develops, communicates and archives information concerning its various construction programs. To that end, County's standard Professional Services Agreements for consultant services require submittal of documents produced on electronic media. The County encourages Building Information Model (BIM) based design and documentation to the maximum extent possible, especially for all major projects including all new construction. For projects utilizing BIM delivery, Consultant will include native format and IFC BIM deliverables at all project milestones, with any supplementary two-dimensional (2D) deliverables to be derived from the model. Further it is the intent of the County to require open-standard facility management data as a project deliverable at all milestones. Requirements for that media are presented below.

Section 1 Definitions and Identifications

The following definitions and identifications set forth below apply unless the context in which the word or phrase is used requires a different definition:

- 1.1 **BIM:** Building Information Model(ing). BIM is not a specific product or technology, instead it's a collection of software applications designed to facilitate coordination and project collaboration. BIM is also a process for developing design and construction documentation by virtually constructing a building, bridge or other form of infrastructure – before anything is built.
- 1.2 **CADD:** Computer Aided Design and Drafting. Interpreted as 2D, (Two Dimensional) representations in electronic format.
- 1.3 **COBie:** Construction Operations Building Information Exchange specifications as administered through the buildingSMART alliance, National Institute of building Sciences, Washington, DC. http://www.nibs.org/?page=bsa_cobie.
- 1.4 **Compatible Data:** Data that can be accessed directly by the target BIM or CADD system upon delivery to the County, without further translation or post-processing of the electronic digital data files. It is the responsibility of Consultant to ensure this level of compatibility.
- 1.5 **IFC:** Interoperability Foundation Classes, open sharable standards for building information as defined by the buildingSMART alliance, National Institute of building Sciences, Washington, DC. <http://www.buildingsmart.org/compliance/certified-software>

- 1.6 **LOD:** Level Of Development Specification for Building Information Models. See Attachment 1a – BIM/CADD Standards of Care and the current edition (2014 or later), of the BIMForum LOD Specification for additional information. <http://bimforum.org/lod>
- 1.7 **OmniClass:** OmniClass Construction Classification System (OCCS), is a means of organizing and retrieving information specifically designed for the construction industry. This agreement incorporates Table 23 establishing National Standards for the classification of construction products. Most recent release date May 16, 2012. OmniClass uses MasterFormat and UniFormat as the basis of its Tables wherever possible. <http://www.omniclass.org/about>

Section 2 Electronic Media

2.1 General Requirements:

2.1.1 All Work, including drawings, surveying work, maps, details or other drawing information to be provided in electronic media by Consultant shall be accomplished and developed using Computer-Aided Design and Drafting (CADD), or Building Information Modeling (BIM), or a coordinated combination of both as determined by the Contract Administrator in a compatible data format and may also include other software and procedures conforming to the following criteria.

2.2 BIM and CADD Graphic Formats:

2.2.1 Provide all BIM and CADD data in any of the following software formats:

- a. Autodesk, Inc. Revit 2014 or higher.
- b. Autodesk, Inc. AutoCAD release 2014 or higher.
- c. Alternative, compatible BIM software formats that conform to the requirements of Section 2.2 of this Attachment 1 if accepted in writing by the County's Contract Administrator.
- d. Alternative, compatible CADD software formats that conform to the requirements of Section 2.2 of this Attachment 1 if accepted in writing by the County's Contract Administrator.

2.2.2 BIM data required for Contract submittals shall be provided in native .rvt format as well as .ifc format in conformance with IFC (Industry Foundation Classes) IFC2x3 V.2.0 or higher, as established by the buildingSMART International Alliance for Interoperability. Use of BIM vendor's or systems that incorporate the International Alliance for Interoperability IFC standard above must be approved in writing in advance by the County's Contract Administrator and comply with this Attachment.

2.2.3 Building Positioning to be accomplished for the intended project site by using “Auto – by Shared Coordinates” process or similar. Obtain State Plane Coordinates from Project survey information and utilize this same positioning process for all BIM files.

2.2.4 CADD data required for Contract submittals shall be provided in native .dwg format or be contained within the structure of the BIM data required in Section 2.2.2.

2.2.5 Copies of all BIM drawing sheets or other CADD submittals intended for hardcopy plotting or printing shall be provided by Consultant and subconsultants in portable document format (pdf). Final document submittals must also include drawing web format (.dwf) electronic media of above.

- a. Consultant must ensure that all digital files and data (e.g., constructs, elements, base files, prototype drawings, reference files and images, blocks, attribute links, pen settings and all other files external to the drawing itself) are compatible with the Contract Administrator's target BIM and/or CADD system (i.e., BIM and CADD software, platform, database software), and adhere to the standards and requirements specified herein.

2.2.6 Target platform: A personal computer with Windows 7 operating system that meets or exceeds the minimum manufacturer’s requirements to operate the version of software utilized for the project.

2.2.7 Any non-graphical database delivered with prepared drawings must be provided in relational database format compatible with Microsoft Access 2010 or higher, or other compatible SQL format database. All database tables must conform to the structure and field-naming guidance provided upon request by the Contract Administrator.

- a. Maintain all linkages of non-graphical data with graphic elements, relationships between database tables, and report formats.

2.2.8 BIM Content:

- a. Provide all Building Information Modeling (BIM) models in conformance to the General Service Administration’s (GSA) “Building Information Modeling Guide 02 -Spatial Program Validation,” dated May 21, 2015 or later. Provide space identification, charts and information in conformance with this Guide.
- b. See also Attachment – 1a, BIM/CADD Standards of Care.

2.2.9 CADD Standards:

- a. Standard plotted drawing size: 24 inch x 36 inch sheets.
- b. Coordinate with the Contract Administrator concerning the standard file naming protocol to be utilized.
- c. Drawing Set Organization and Sheet Identification per the United States National CAD Standard - V5. Provide dots in lieu of dashes at all uses.

2.2.10 CADD Layering:

- a. Conform to the guidelines defined by the American Institute of Architect's (AIA) standard document, "CAD Layer Guidelines", 2nd edition or later.
- b. Layering: The Contract Administrator may, from time to time, supplement the AIA CAD Layer Guidelines with the Contract Administrator's specific requirements for Facilities Management and other related information. Obtain latest Contract Administrator specific layering from Contract Administrator prior to production of documents and incorporate into drawings.

2.2.11 Attribute Definitions:

- a. Obtain latest guidance from the Contract Administrator concerning attribute definition, database linking and other information embedding requirements prior to production of documents.

2.2.12 Deviations from Standards:

- a. Submit a written request for approval of any deviations from the Contract Administrator's established electronic media standards. Pre-coordinate the development, use and submittal of 3-D modeling, Building Information Models (BIM), photo-realistic renderings, animations, presentations and other visualization/information tools utilized during the design and construction process to ensure compatibility of submittal with County's uses and information systems.
- b. No deviations from the Contract Administrator's established BIM/CADD standards will be permitted unless prior written approval of such deviation has been received from the Contract Administrator.

2.3 Non-BIM/CADD Graphic Format:

2.3.1 Provide digital photography files and other miscellaneous graphics in JPEG or PNG format.

2.4 Non-Graphic Format:

2.4.1 Provide word processing files in Microsoft Word 2013 or higher compatible file formats including all fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing.

2.4.2 Provide spreadsheet files in Microsoft Excel 2013 or higher for windows compatible file formats including all fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing.

2.4.3 Provide database files in relational database format compatible with Microsoft Access 2010 or higher, or other compatible SQL format database including all tables, form and report formats, fonts, typefaces, bit-map and vector graphics and other information necessary for remote printing. Ensure integrity of relational database structure.

2.5 Delivery Media and Format:

2.5.1 Submit copies of all BIM/CADD data and other electronic files developed under this contract on electronic digital media as required for project phase submittals.

2.5.2 Provide electronic digital data and files on labeled CD or DVD media. Flash drives are acceptable alternatives and shall contain identifying County project information in their disk name. Other media will not be accepted without Contract Administrators approval.

2.5.3 The electronic digital media shall be in the format which can be read and processed by the Contract Administrator's target CADD or BIM system.

2.5.4 The external label for each electronic digital media shall contain, as a minimum, the following information:

- a. The Project Number, Project Title and date.
- b. The Facility Name
- c. The format and version of operating system software.
- d. The name and version of utility software used for preparation (e.g., compression/decompression) and copying files to the media.
- e. A list of the filenames, (a separate sheet will be accepted).

2.5.5 Before a BIM/CADD file is placed on the delivery electronic digital media, the following procedures shall be performed:

- a. Ensure that drawing sheets, viewports, paperspace, line weights, fonts, and other drawing components are correctly configured for Contract Administrator's viewing and plotting.
- b. Make sure all reference files are attached without device or directory specifications.
- c. Compress and reduce all design files using PKZIP, WINZIP or other compatible file compression/decompression software approved by the Contract Administrator. If the file compression/decompression software is different from that specified above, then an electronic digital media copy of the file compression/decompression software shall be purchased for the Contract Administrator and provided to the Contract Administrator with the delivery media.
- d. Include all files, both graphic and non-graphic, required for the project (i.e., color tables, pen tables, font libraries, block libraries, user command files, plot files, and other elements of drawing definition). All blocks not provided as Contract

Administrator-furnished materials must be provided to the Contract Administrator as a part of the electronic digital deliverables.

- e. Make sure that all support files such as those listed above are in the same directory and that references to those files do not include device or directory specifications.
- f. Include any standard sheets (i.e., abbreviation sheets, standard symbol sheets, or other listing) necessary for a complete project.
- g. Document any fonts, tables, or other similar customized drawing element developed by Consultant or not provided among the Contract Administrator-furnished materials. The contractor shall obtain Contract Administrator approval before using anything other than the Contract Administrator's standard fonts, linetypes, tables, blocks, or other drawing elements available from the Contract Administrator.

2.6 Submittals:

2.6.1 Submit as Project Record Documents specified above and as required for project phase submittals and project record documents.

2.6.2 Submit electronic media with a transmittal letter containing, as a minimum, the following information:

- a. The information included on the external label of each media unit (e.g., CD, DVD, flash drive, etc.), along with the total number being delivered, and a list of the names and issue dates of all files on the media.
- b. Confirm that all delivery media are free of known computer viruses and malware. The release or version date of the virus-scanning software shall be the current version that has detected the latest known viruses at the time of delivery of the digital media.
- c. The following "Plot File Development and Project Documentation Information" as an enclosure or attachment to the transmittal letter provided with each electronic digital media submittal:
 - 1. List of all new figures, symbols, tables, schedules, details, and other blocks created for the project, which were not provided to Consultant with the Contract Administrator-furnished materials, and any associated properties.
 - 2. List of all database files associated with each drawing, as well as a description and documentation of the database format and schema design.
 - 3. Recommended modifications which will be necessary to make the data available for GIS use.

2.7 Ownership:

2.7.1 County will have unlimited rights under the Professional Services Agreement of which this document is a part to all information and materials developed under these and other contractual requirements and furnished to the Contract Administrator and documentation thereof, reports, and listings, and all other items pertaining to the work and services pursuant to this agreement including any copyright.

2.7.2 Unlimited rights under this contract are rights to use, duplicate, or disclose text, data, drawings, and information, in whole or in part in any manner and for any purpose whatsoever without compensation to or approval from Consultant except where otherwise limited within the Contract.

2.7.3 The Contract Administrator will at all reasonable times have the right to inspect the work and will have access to and the right to make copies of the above-mentioned items.

2.7.4 All text, electronic digital files, data, and other products generated under this contract shall become the property of County except where otherwise limited within the Contract.

2.8 Contract Administrator-Furnished Materials to the Construction Contractor:

2.8.1 The Contract Administrator and Consultant may make various electronic information available to the Contractor during the Pre-Construction and Construction phases of the Project. To this end, Consultant shall make the following information available to the Contractor in electronic format:

- a. Work-files: Selected work product files, copies of BIM and/or CADD files, reports, spreadsheets, databases, specifications, drawings and other documentation of Consultant's work in progress may be provided to the Contractor, Managing General Contractor, or other County consultant on an as required basis. Consultant shall cooperate and facilitate the exchange of these electronic media documents.
- b. Where electronic media submittals of final site surveys are required: Provide electronic copies of any existing site survey data already on electronic media conforming to Section 2.2 of this Attachment.
- c. Where Electronic Project Record Documents are required, Consultant will provide the Contractor one set of contract drawings in an electronic file format conforming to Section 2.2 of this Attachment, to be used for as-built drawings at the Contractor's option. Make electronic file drawings available on media in conformance with Section 2.5 of this Attachment.

2.9 Other Digital Information:

2.9.1 A variety of digital information may be generated by participants in the design process including the Contract Administrator, Consultant, Subconsultants, Contractor, subcontractors, the Contract Administrator's commissioning authority, local jurisdictional authorities and other project team members.

2.9.2 Consultant shall facilitate and participate in this digital exchange of information by conforming to the standards expressed above.

End of Attachment 1: Electronic Media Submittal Requirements

MODEL ELEMENTS	Preliminary Design		Schematic Design		Design Development		Construction Documents		Construction		Record Drawings	
	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party
A. Substructure	Foundations				200		300		300		300	
	Standard Foundations				200		300		300		300	
	Special Foundations				200		300		300		300	
	Slab on Grade		100		200		300		300		300	
Basement Construction	Basement Excavation											
	Basement Walls											
B. Shell	Superstructure				200		300		300		300	
	Floor Construction		100		200		300		300		300	
	Roof Construction		100		200		300		300		300	
	Exterior Enclosure				200		300		300		300	
	Exterior Walls				200		300		300		300	
	Exterior Windows				200		300		300		300	
	Exterior Doors				200		300		300		300	
	Exterior Doors Hardware				100		100		100		100	
	Roof Coverings				200		300		300		300	
	Roof Openings			100		200		300		300		300
C. Interiors	Interior Construction				200		300		300		300	
	Partitions				200		300		300		300	
	Interior Doors				200		300		300		300	
	Interior Door Hardware				100		100		100		100	
	Fittings											
	Stair Construction											
	Stair Finishes											
	Wall Finishes				200		300		300		300	
	Floor Finishes				200		300		300		300	
	Ceiling Finishes				200		300		300		300	
D. Services	Elevators and Lifts											
	Escalators / Moving Walks											
	Other Conveying Systems											
	Plumbing				200		300		300		300	
	Plumbing Fixtures			100			300		300		300	
	Domestic Water Distribution				200		300		300		300	
	Sanitary Waster				200		300		300		300	
	Rain Water Drainage				200		300		300		300	
	Other Plumbing Systems				200		300		300		300	
	HVAC				100		100		100		100	
Fire Protection	Energy Supply				100		100		100		100	
	Heat Generating Systems				100		100		100		100	
	Cooling Generating Systems				100		100		100		100	
	Distribution Systems				100		100		100		100	
	Thermal & Package Units				200		300		300		300	
	Controls and Instrumentation				100		100		100		100	
	Systems Testing and Balancing											
	Other HVAC Systems & Equipment				200		300		300		300	
	Sprinklers				100		100		100		100	
	Standpipes				100		100		100		100	
Fire Protection Specialties				100		100		100		100		
Other Fire Protection Systems				100		100		100		100		

MODEL ELEMENTS	Preliminary Design		Schematic Design		Design Development		Construction Documents		Construction		Record Drawings	
	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party	LOD	Responsible Party
Electrical					100		100		100		100	
		Electrical Service and Distribution			100		100		100		100	
		Lighting and Branch Wiring			100		100		100		100	
		Communications and Security			100		100		100		100	
		Other Electrical Systems			100		100		100		100	
E. Equipment & Furnishings		Commercial Equipment	100		200		200		200		200	
		Institutional Equipment			200		200		200		200	
		Vehicular Equipment										
		Other Equipment			100		100		100		100	
		Fixed Furnishings			100		200		300		300	
	Movable Furnishings			100		200		300		300		
Special Construction & Demolition		Special Structures - Canopy			200		200		200		200	
		Integrated Construction			200		200		200		200	
		Special Construction Systems			200		200		200		200	
		Special Facilities										
		Special Controls & Instrumentation										
		Building Elements Demolition										
		Hazardous Components Abatement										
		Site Preparation										
		Site Clearing										
		Site Demolition & Relocations										
G. Building Sitework		Site Earthwork										
		Hazardous Waste Remediation										
		Roadways										
		Parking Lots										
		Pedestrian Paving			100		100		100		100	
		Site Development										
		Landscaping										
		Water Supply and Distribution										
		Sanitary Sewer Systems										
		Storm Sewer Systems										
Site Civil / Mechanical Utilities		Heating Distribution										
		Cooling Distribution			200		200		200		200	
		Fuel Distribution										
		Other Civil / Mechanical Utilities										
		Electrical Distribution										
		Site Lighting - Canopy			100		100		100		100	
		Site Communications & Security										
		Other Electrical Utilities										
		Service Tunnels										
		Other Site Systems and Equipment										

Legend - Responsible Party

A - Architect

