

DESCRIPTION OF PERMANENT IMPROVEMENT PROJECT FOR CONSIDERATION

September 2, 2021

GREENVILLE TECHNICAL COLLEGE

PROJECT NAME: New Arts & Sciences Building Construction
 REQUESTED ACTION: Increase Budget (Phase II)
 REQUESTED ACTION AMOUNT: \$68,929,385
Internal Projected Cost: \$69,919,385
 INITIAL CHE APPROVAL DATE: 6/22/2020

<u>Project Budget</u>	<u>Previous</u>	<u>Change</u>	<u>Revised</u>
Professional Service Fees	\$ 990,000	\$ 4,952,764	\$ 5,942,764
New Construction	--	56,096,746	56,096,746
Contingency	--	7,879,875	7,879,875
<i>Total</i>	<i>\$ 990,000</i>	<i>\$ 68,929,385</i>	<i>\$ 69,919,385</i>

<u>Source of Funds</u>	<u>Previous</u>	<u>Change</u>	<u>Revised</u>
Other: College Plant Fund	\$ 990,000	\$ 4,429,385	\$ 5,419,385
Other: Greenville County Revenue Bond	--	59,500,000	59,500,000
Other: GTC Foundation Donation	--	5,000,000	5,000,000
<i>Total</i>	<i>\$ 990,000</i>	<i>\$ 68,929,385</i>	<i>\$ 69,919,385</i>

DESCRIPTION:

Greenville Technical College is seeking a recommendation from the Commission on Higher Education to begin the Phase II construction stage of a project to construct a three story, 125,000-square foot academic building, that will house the college's academic advancement, arts and sciences, health sciences, economic development, and corporate training programs. According to the college the facility will serve 10,000 students, visitors, faculty, and staff.

According to college officials, this new building is part of the college's long-term plan to address the need for program space and facilities deficiencies on the Barton Campus. The new facility will contain conference rooms, classrooms, labs, and office suites for faculties from Humanities & Behavioral Health, Physical Science, and Mathematics. Additionally, the facility will house the theater and music center for the college. Upon completion, all faculty and staff currently located in building 104 and certain faculty and staff from buildings 117 and 120 will relocate to the new facility to create a more centralized location for staff. The college is currently planning to renovate building 104 after it is vacated. There is a Charter High School on the campus that is using part of building 120 and it is expected to expand to the rest of the building, but no commitments have been made. According to the college, areas moving from 117 will not have a significant impact on that building. The college plans to also address the landscape outside of the new facility by adding several outdoor terrace areas that will feature hardscape and landscape elements to encourage outdoor gathering.

* The college is including a higher than typical contingency, or 20 percent, because the site was a formal landfill and there may be unexpected costs.

This project was included in Greenville Technical College's 2020 CPIP.

SOURCE OF FUNDS:

The following outlines the funding sources for Phase II of the project:

- \$5,419,385 from college plant funds
- \$59,500,000 from Greenville County Revenue Bonds
- \$5,000,000 from the Greenville Technical College Foundation

College plant funds are sourced from appropriations by Greenville County that the college uses to fund maintenance and renovation projects of its physical facilities. Excluding this project, Greenville Technical College staff stated the fund has an uncommitted balance of \$16.8 million.

The Greenville Technical College Area Commission approved a resolution to issue Installment Purchase Revenue Bonds of \$59.5 million for the construction of the facility on June 16, 2021. The source of the payment is the tax revenues that Greenville County levies each year for the college. Through multiple agreements, the revenues will be used to repay the bond debt service, and the excess will go back to the college for use in its general budget.

The college explored issuing state institution bonds in lieu of revenue bonds. However, the college decided to move forward with an Installment Revenue Purchase Bond issuance after determining it was more cost effective.

E&G MAINTENANCE NEEDS:

According to the college, ongoing maintenance is funded through the college's annual budget, which is funded from Greenville County appropriations

ANNUAL OPERATING COSTS/SAVINGS:

Greenville Technical College anticipates additional operating costs of \$121,384 per year related to utilities and grounds maintenance.

A-1

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CHE _____
 JI:3RC _____
 SFJA _____
 JI3RC Staff _____
 ADMIN Staff _____
 A-I Form Mailed _____
 SPIRS Date _____
 Summary _____

(For Department Use Only)

SUMMARY NUMBER

FORM NUMBER

PERMANENT IMPROVEMENT PROJECT REQUEST

1. AGENCY Code H59 Name Greenville Technical College
 Contact Person Jacqueline DiMaggio Phone (864)250-8179
2. PROJECT Project# 6166 Name Greenville - New Arts and Sciences Building Construction
 Facility# 100 Facility Name Barton Campus

County Code	<u>23 - Greenville</u>	Project Type	<u>2 - Construct Addition/Alterations</u>
New/Revised Budget	<u>\$69,919,385.00</u>	Facility Type	<u>2 - Program/Activity</u>

3. CPIP PROJECT APPROVAL FOR CURRENT FISCAL YEAR
 CPIP priority number 3 of 3 for FY 20 - 21

4. PROJECT ACTION PROPOSED (Indicate all requested actions by checking the appropriate boxes.)

Establish Project	<input type="checkbox"/>	Decrease Budget	<input type="checkbox"/>	Close Project	<input type="checkbox"/>
Establish Project - CPIP	<input type="checkbox"/>	Change Source of Funds	<input type="checkbox"/>	Change Project Name	<input type="checkbox"/>
Increase Budget	<input checked="" type="checkbox"/>	Revise Scope	<input type="checkbox"/>	Cancel Project	<input type="checkbox"/>

5. PROJECT DESCRIPTION AND JUSTIFICATION
 (Explain and justify the project or revision, including what it is, why it is needed, and any alternatives considered.
 Attach supporting documentation/maps to fully convey the need for the request.)

Increase budget by \$68,929,385 plus Phase I budget of \$990,000 for a total project budget of \$69,919,385 and move 11110 Phase II for development and construction of the new Herlth Sciences, Arts and Sciences building on the Barton Campus at Greenville Technical College

This project consists of construction of a new, energy efficient, Green Globes sustainable, multi-story academic classroom building of approximately 125,000 sq ft, for Health Sciences, Arts and Sciences. This new facility will contain multiple science labs with state-of-the-art safety features and didactic instructional technology. The facility will house science labs for college curricula of biology, biochemistry, biotechnology, chemistry, and physics. The college's Imaging Technology programs and labs will also be housed in this facility. Collaborative and engagement spaces for students and faculty will be included in the building space as will classrooms, faculty offices, and faculty support spaces. Math and language computer labs will be included as well as a "Black Box" theater for the drama department and a music room.

Programs moving into this new building will relocate from Ouddins 104, 117, and 120. Building 104 is an outdated, non-code compliant structure. Relocating existing minor renovation Building 117 has outdated science labs and needs extensive renovation to labs and the HVAC system. Building 120 classrooms are small, and the electrical system is at capacity, prohibiting new Imaging Technology. The structural foundation of Bldg 120 is not sufficient to support sustained growth and modernization.

No other alternative sites were considered as this is the site identified in the 2012 Academic Master Plan for the college. This site is centrally located on campus and is the most utilized area and buildings on campus, i.e., the Campus Bookstore, Student Center, Engineering Technology, and University Transfer buildings.

6. OPERATING COSTS IMPLICATIONS
 Attach Form A-49 if any additional operating costs or savings will result from this request. This includes costs to be absorbed with current funding.

7. ESTIMATED PROJECT SCHEDULE AND EXPENDITURES
 Estimated Start Date: May 2020 Estimated Completion Date: April 2024
 Estimated Expenditures: Thru Current FY: \$990,000.00 After Current FY: \$68,929,385.00

8. ESTIMATES OF NEW/REVISED PROJECT COSTS

PROJECT# 6166

- | | | | |
|-----|--|------------------------|------------------------------------|
| 1. | Land Purchase ---- > | Land: | _____ Acres |
| 2. | Building Purchase ----> | Floor Space: | _____ Gross Square Feet |
| 3. | <u>5,942,764.00</u> Professional Services Fees | | |
| 4. | Equipment and/or Materials -----> | Information Technology | _____ |
| 5. | Site Development | | |
| 6. | <u>56,096,746.00</u> New Construction ---- > | Floor Space: | <u>125,000</u> (Gross Square Feet) |
| 7. | Renovations - Building Interior ----> | Floor Space: | _____ Gross Square Feet |
| 8. | Renovations - Utilities | | |
| 9. | Roofing - _____ Roof Age | | |
| 10. | Renovations - Building Exterior | | |
| 11. | Other Permanent Improvements | | |
| 12. | Landscaping | | |
| 13. | Builders Risk Insurance | | |
| 14. | Other Capital Outlay | | |
| 15. | Labor Costs | | |
| 16. | Bond Issue Costs | | |
| 17. | Other: | | |
| 18. | <u>7,879,875.00</u> Contingency | | |

\$69,919,385.00 TOTAL PROJECT BUDGET

ENVIRONMENTAL HAZARDS

Identify all types of significant environmental hazards (including asbestos, PCB's, etc.) present in the project and the financial impact they will have on the project.

Type: none

Cost Breakdown

Design Services	\$	0.00
Monitoring	\$	0.00
Abatement	\$	(1.00)
Total Costs	\$	0.00

9. PROPOSED SOURCE OF FUNDING

Source	Previously Approved Amount	Increase/Decrease	Original/Revised Budget	Transfer to/from Proj. 11	Rev Object Code	Treasurer's ID Number	Rev Sub Fund	Exp Sub Fund
(0) CIB, Group			0.00 0.00		8115		3043	3043
(1) Dept. CIB, Group			0.00 0.00		8115		3143	3143
(2) Institution Bonds			0.00 0.00					3235
(3) Revenue Bonds			0.00 0.00					3393
(4) Excess Debt Service			0.00 0.00					3497
(5) Capital Reserve Fund			0.00 0.00		8895		3603	3603
(6) Appropriated State			0.00 0.00		8895	68800100	1001	3600
(7) Federal			0.00 0.00			78800100		5787
(8) Athletic			0.00 0.00			88800100		3807
(9) Other (Specify)								
Local - college plant fund	990,000.00	4,429,385.00	5,419,385.00		7201	98800100	3907	3907
Gov. Co. Revenue Bond		59,500,000.00	59,500,000.00		7201	98800100	3907	3907
Local - GTC Foundation		5,000,000.00	5,000,000.00		7201	98800100	3907	3907
TOTAL BUDGET	\$990,000.00	\$68,929,385.00	\$69,919,385.00					

10. SUBMITTED BY: J. J. Di Maggio June 16, 2021
 (nature of Authorized Official Title) Date

11. APPROVED BY: _____ Date
 (For Department Use Only) Authorized Signature and Title

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Section 5

Continued

Architectural Narrative

PROJECT OVERVIEW

The new Arts+ Health Sciences Building will be an asset for teaching, learning, collaboration, and the community. The project, originally defined and envisioned in the 2012 Academic Master Plan, will bring together the Arts & Sciences and Health Sciences Divisions. This strategic move will support Greenville Technical College's goals to meet the needs of faculty and staff, provide state-of-the-art instructional facilities, foster student engagement, and enhance the college's reputation.

The new building is part of the college's long-range plan to address critical program space and facilities deficiencies on the Barton Campus. Building 104 (University Transfer Building), which currently houses the Arts & Sciences Division is dated and aging. The building requires extensive building component and system upgrades, as well as complete renovation of instructional and support spaces. In addition, many programs have outgrown their space and the facility is "bursting at the seams". Building 120 (Health Sciences Building), home of the Health Sciences Division, is in poor condition and has an inflexible structural system, making renovation and enlargement of the building's outdated science labs impractical. Additional labs are also needed to accommodate academic program and enrollment growth.

The 125,000 square foot Arts+ Health Sciences building will be constructed on the site identified in the Master Plan; south of Building 104 (UT Building) on a portion of parking lot H. This area will be redesigned to create a new campus green space that will link to the existing quad between Building 104 and Building 103 (Engineering Technologies Building) and a future pedestrian bridge that will link to the newly renovated Dreisbach/Anderson Student Success Center on the other side of the ravine. In the future, this connection will strengthen the campus' north-south pedestrian spine and provide a pleasant pedestrian-focused alternative to driving between buildings.



1 Aerial View - 2012 Academic Master Plan



Site Plan

2 Proposed Site Plan

PROJECT GOALS

- Reinforce the campus plan, set the stage for future projects
- Create a welcoming building that inspires pride, excitement, and a sense of "wow"
- State-of-the-art, high-tech environment
- Support student engagement and success
- Encourage collaboration
- Build campus community
- Foster connections to the larger community
- Design for Sustainability

PROPOSED SPACE PROGRAM

The design team worked with the College to refine the physical space requirements and program space needs identified in the 2019 Feasibility Study prepared by DP3 Architects. At the start of concept phase, the team reviewed and analyzed staffing and instructional space utilization data to determine program needs for classrooms, class labs, departmental offices, meeting space, and support space. Additional information was gathered through programming questionnaires and a series of interviews with administration, departmental leadership, and faculty. Space need assumptions were reviewed with the campus and refined, resulting in a space program totaling 70,012 net square feet as outlined on the following pages:

Architectural Narrative

SPACEPROGRAM

School/Group	Department	Space Type	Space Title	Unit	NASF/Unit	Total	
Deans' Suite	Arts & Sciences	Office	Assistant Dean	2	120	240	
			Dean's Office	1	140	140	
							380
	Arts & Sciences Total						380
	Health Sciences	Office	Assistant Dean		1	110	110
			Dean's Office			140	140
		Office Support	Health Sciences Records Storage			80	80
			Health Sciences Secure Storage		1	80	80
	Health Sciences Total						660
	Deans' Suite	Office	Administrative Support Waiting			200	200
Private Work Space					300	300	
Office Support		Workroom			60	60	
					120	120	
Deans' Suite Total						680	
Deans' Suite Total						1,720	
Arts & Sciences	Honors	Honors Open Lab	Resource Room		600	600	
			Resource Room Storage		15	15	
		Honors Board Room	Admin Assistant/Reception		1	140	140
			Assistant Director's Office			80	80
		Office Support	Director's Office			120	120
			Storage			30	30
	Honors Total						1,145
	Physical Science	Class Lab	General Chemist lab		2	1440	2,880
			Physics Lab			1440	2,880
		Class Lab Support	Balance/Instrumentation Room			400	400
			Chemical Storage Room			240	240
		Office	General Chemist Lab Pre		1	580	580
			Hazardous Materials Storage			100	100
		Office Support	Physics Lab Pre		1	580	580
Office		Academic Program Director			80	80	
		Adjunct Office		4	30	120	
Office Support	Department Head		1	110	110		
	Physical Sciences Administrative Assistant			120	120		
Office Support	Physical Sciences Faculty			80	560		
	Storage			30	30		
Physical Science Total						1,030	
Physical Science Total						8,690	
Biological Sciences	Class Lab	A&P Lab		4	1440	5,760	
		Biology 1 Lab		2	1440	2,880	
		Biology 2 Lab			1440	1440	
		Medical Terminology Lab			1440	1440	
		Microbiology Lab			1440	2,880	
	Class Lab Support	General Biology Lab Support			870	870	
		Microbiology Lab Support			580	580	
	Office	Academic Program Director		4	80	320	
		Adjunct Office		8	30	240	
		Administrative Specialist		1	140	140	
Biology Faculty			14	80	1,120		
Biology Lab Tech Offices			2	35	70		
Department Head			1	120	120		
Office Support	Lab Manager		1	80	80		
	Meeting Room		1	2	80		
Office Support	File (Archive) Storage			11	100		
	Secure File Storage			1	60		
Biological Sciences Total						15,550	

Architectural Narrative

Speech, Communication & Theater	Office	Academic Program Director	1	80	80	
		Communications/Theater Adjunct Faculty	4	19	76	
		Communications/Theater Faculty	6	80	480	
		Department Head	1	120	120	
Speech, Communication & Theater Total					800	
English/Speech, Communication & Theater	Office	Admin Assistant (Shared)	1	140	140	
	Office Support	Storage (Shared)	1	40	40	
English/Speech, Communication & Theater Total					180	
English	Office	Academic Program Director	2	80	160	
		Department Head	1	120	120	
		Faculty Offices	11	80	880	
English Total					1,160	
Humanities	Office	Academic Program Director	2	80	160	
		Department Head	1	120	120	
		Humanities Faculty	8	80	640	
Humanities Total					920	
Humanities/Behavioral & Social Sciences	Office	Admin Assistant (Shared)	1	140	140	
	Office Support	Storage	1	40	40	
Humanities/Behavioral & Social Sciences Total					180	
Mathematics	Office	Academic Program Director	2	80	160	
		Department Head	1	120	120	
		Mathematics Admin Assistant	1	120	120	
		Mathematics Faculty	11	80	880	
Mathematics Total					1,310	
Behavioral & Social Sciences	Office	Academic Program Director	3	80	240	
		Behavioral & Social Sciences Faculty	8	80	640	
		Department Head	1	120	120	
Behavioral & Social Sciences Total					1,000	
Arts&Sciences Advisin Center	Office	Division Advisin. Center	1	320	320	
Arts&Sciences Advisin center Total					320	
Arts & Sciences Total					33,965	
Health Sciences	Medical Imaging	Open Lab	1	560	560	
		Open Computer Lab	1	80	80	
	Office	Academic Program Director	1	80	80	
		Administrative Assistant	1	120	120	
		Dea ad - Medical Imaging	1	120	120	
		Faculty Offices	5	80	400	
	Office Support	Storage	1	20	20	
	Student Lounge	Health Sciences Study Lounge	1	240	240	
	Medical Imaging Total					1,700
	Medical Imaging - RadTech	Class Lab	Energized X-Ray Rooms	2	540	1,080
			X-Ray Teaching Area	2	300	600
			X-Ray Viewing Room	1	320	320
			X-Ray Storage	1	60	60
	Medical Imaging - RadTech Total					1,670
Medical Imaging - DSM	Class Lab Support	Ultrasound Lab	1	740	740	
		Faculty/Student Work Area	1	80	80	
		Laund	1	60	60	
		Linen Storage	1	40	40	
		Storage	1	60	60	
		Student Cubbies	1	20	20	
Medical Imaging - DSM Total					1,000	
Office Support	Office Support	Patient Check-In - Medical Imaging	1	10	10	
		Patient Waiting Area	1	180	180	
		Unisex Toilet	1	60	60	
Medical Imaging - DSM Total					1,250	
Health Sciences Total					4,620	

Architectural Narrative

Shared Spaces	Classroom	Classroom	Large Classroom	4	1056	4,224			
			Medium Classroom	6	792	4,792			
			Seminar Room	2	220	1,040			
			Small Classroom	9	720	6,480			
			Computer Classroom	4	1120	4,480			
			Classroom Total					20,976	
Conference Room	Conference Room	Conference Rooms		1	260	260			
				1	400	400			
				1	720	720			
Conference Room Total						1,380			
Workrooms	Office Support	Workrooms		3	140	420			
						420			
Workrooms Total						420			
Shared Spaces Total						22,116			
Common Spaces	Adjunct Offices	Office	Adjunct Faculty, Cubicle Workstations	12	30	360			
	Adjunct Offices Total						360		
	Student lounge	Student lounge	Student Break Areas		3	240	720		
				Student Collaborative Areas		3	200	600	
								1,320	
	Student Lounge Total						1,320		
	Faculty Lounge	Faculty lounge	Faculty Break Areas		3	240	720		
							720		
	Faculty Lounge Total						720		
	Micro Market	Merchandise	Micro Market		1	300	300		
						300			
MicroMarket Total						300			
Conversation Rooms	Open lab Support	Conversation Rooms		3	BO	240			
						240			
Conversation Rooms Total						240			
Common Spaces Total						2,940			
Building Services	Building Services	Storage	Storage		6	100	600		
							600		
Building Services Total						600			
Building Services Total						600			
Multipurpose Room	Multipurpose Room	Event Space	Event Space		1	1800	1,800		
				Event Support	Presentation Area		1	300	300
						CaterinR	Pre-Function Area		3
				Multipurpose Room Support	Multiourose Room Chair and Table Storage				1
									1
				Multipurpose Room Total					
Multipurpose Room Total						3,400			

Architectural Narrative

DESIGN

One of the guiding principles for the building is to create an environment that encourages collaboration and builds campus community. To achieve this goal, the design arranges circulation, classrooms, teachings labs, departmental offices, meeting rooms, and open collaborative spaces around a light-filled three-story atrium space. This space, named "The Wedge" is envisioned as a vibrant, engaging space that will unite academic divisions and departments, provide informal meeting and collaboration space, and connect the building's interior to campus green space.

The first floor features two main entries. To the east, a three-story glassed-enclosed lobby connects to the expanded campus green; to the west, a two-story glass-enclosed lobby connects to Building 105 (Campus Commons Building) and existing campus walkways that lead past the Administration Building to parking lot D. This level contains the following program spaces:

- Multi-Purpose Meeting Space, planned to be a flexible event space for use by the campus and community
- "Micro Market" self-checkout, vending service area
- Four (4) Computer Classrooms
- Six (6) Classrooms
- Seminar Room
- Medical Imaging Teaching Labs
 - o Radiation Technology
 - o Ultrasound
- Medical Imaging Faculty Office Suite
- Arts & Sciences Advising
- Honors Program Office Suite



3 First Floor Plan

Architectural Narrative

The second floor houses the following:

- Medical Imaging Lab & Support Space
- Four (4) Anatomy and Physiology Labs & Support Space
- Two (2) Physics Labs & Support Space
- Nine (9) Classrooms
- Office Suites
 - Deans' Office
 - English, Speech, Communications & Theater
- Shared Seminar/Conference Rooms
- Faculty Break Room



4 Second Floor Plan

Architectural Narrative

The third floor contains the following:

- Three (3) Biology Labs & Support Space
- Two (2) Microbiology Labs & Support Space
- Two (2) Chemistry Labs & Support Spaces
- Four (4) Classrooms
- Office Suites
 - Humanities & Behavioral Health
 - Physical Sciences Faculty
 - Mathematics Faculty Office
- Shared Seminar/Conference Rooms
- Faculty Break Room



5 Third Floor Plan

ADDITIONAL PROJECT FEATURES

In addition to addressing the expanded campus green space that lies to the east, the site immediately surrounding the new Arts and Health Sciences Building will be enhanced with several outdoor terrace areas that feature hardscape and landscape elements to encourage outdoor gathering. Pathways made from pervious materials will also encircle the site to facilitate pedestrian activity and building access. What remains of existing parking lot H will be renovated and enhanced to provide new tree planter islands and an additional right-in, right-out entrance directly onto South Pleasantburg Drive.

Noted as project goals, the building will foster connections with the larger community and promote an image of Greenville Tech as a state-of-the-art, high tech environment. To support this objective, the building will use multi-media projection systems and lighting features in the east entry lobby that will be visible from the building's exterior. The content of the multi-media display can be images of Greenville Tech's upcoming programs and achievements.

EXECUTIVE SUMMARY

Harper thanks you for the opportunity to provide Greenville Technical College with this Schematic Budget for the new Arts and Health Sciences Building. Over the last three weeks we have worked to develop this Schematic Budget in accordance with the Schematic Design package provided by McMillan Pazdan Smith Architects, dated May 7, 2021 detailed in this deliverable which included preliminary architectural documents, and narratives for structural, site, and MEP systems.

BUDGET

Harper developed this budget engaging with a limited number of subcontractors., performing a thorough quantity survey using the Schematic design information and Revit Model, and by incorporating recent historical costs from similar projects. We also visited the site to gain a better understanding of existing conditions. There has been a number of design coordination meetings over the past month that we have been a part of in an effort to better understand the scope of work and design intent. We believe the budget we are presenting today reflects a reasonable expectation for the cost of this Project based on our understanding of the design intent. The budget costs are as follows:

Site	\$3,607,344
Building	\$ 39,163,371

HIGHLIGHTS

GENERAL

- General conditions for the Project are based upon an 18-month construction schedule.
- Finalizing a plan for Site Logistics including laydown, temp fencing, construction parking, student/staff parking etc. will be very important as we move forward with the Design. We have created a preliminary site logistics plan for each project.
- We have not included any costs for hazardous material removal.
- We did receive current budget proposals from Trade Partners for the majority of the scopes of work. In most cases, we received more than one proposal.
- Renovations to the UT Building have been discussed during this preconstruction process. In particular, we provided preliminary cost information to study new

Chilled Water and Hot Water Service Piping vs. a new Chiller to serve the UT Building. We have not included those costs in our budget. We only include Chilled and Hot Water Piping from the Central Energy Plant to the new Arts+ Health Sciences Building. The cost for this work included in our budget is **\$899,740.**

- Steel pricing right now is extremely volatile. Joist pricing is extremely inflated, and the lead times are currently very challenging to predict. We will need to work closely with MPS and the structural engineer MMSA to determine if an early structural package will be necessary to ensure timely delivery of steel.
- We have included a 2.5% **Design** contingency to help account for design maturation.
- We have included a 2.5% **Construction** contingency, and this **will** be carried through to the Construction project and will be included in the GMP. This Construction Contingency is used to pay for items such as:
 - o Subcontractor Coordination Issues
 - o Scope Gaps
 - o Premium Time costs incurred to accelerate schedule
 - o Costs incurred due to Weather delays
 - o Design/Construction Coordination issues
 - o Subcontractor Defaults
 - o Unanticipated General Condition expenses

This contingency is available to the CMAR to deliver the documented scope of the project within the GMP and within the Schedule for completion.

- The current Budget includes the work associated with the parking lot rework and the new entrance to Pleasantburg Drive. Associated costs:
 - o Parking Lot **\$468,930.**
 - o Pleasantburg Entry **\$35,000.**

EXCLUSIONS

See Specific Exclusions listed at the end of the Outline Guide Specification Document

SCHEDULE

We have included an updated Master Schedule in this deliverable.

During the Design Development phase, we will be working with Trade Partners to firm up the Construction schedule for the project.

MOVING FORWARD

- Greenville Technical College to provide feedback on SD Budget.
- GTC to seek budget approval from OSE
- GTC to confirm current schedule meets their expectations.

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**ADDITIONAL ANNUAL OPERATING COSTS /SAVINGS
RESULTING FROM PERMANENT IMPROVEMENT PROJECT**

1. AGENCY
Code H_5_9_ Name G_r_e_e_n_v_i_l_l_e_T_e_c_h_n_i_c_a_l_C_o_l_l_e_g_e

2. PROJECT
Project# 6166 Name Greenville - New Arts & Sciences Building Construction

3. ADDITIONAL ANNUAL OPERATING COSTS/ SAVINGS. (Check whether reporting costs or savings.)

@_c_o_s_T_s SAVINGS NO CHANGE

4.

TOTAL ADDITIONAL OPERATING COSTS /SAVINGS				
Projected Financing Sources				
(1)	(2)	(3)	(4)	(5)
Fiscal Year	General Funds	Federal	Other	Total
1) 2024-25	\$	\$	\$ 121,384.00	\$ 121,384.00
2) 2025-26	\$	\$	\$ 123,412.00	\$ 123,412.00
3) 2026-27	\$	\$	\$ 125,480.00	\$ 125,480.00

5. If "Other" sources are reported in Column 4 above, itemize and specify what the other sources are (revenues, fees, etc.).
Greenville County operating millage

6. Will the additional costs be absorbed into your existing budget? YES NO
If no, how will additional funds be provided?
Greenville County funds are provided on a millage basis and they will increase enough to cover the additional cost

7. Itemize below the cost factors that contribute to the total costs or savings reported above in Column 5 for the first fiscal year.

<u>COST FACTORS</u>	<u>AMOUNT</u>
1. <u>Utilities</u>	\$101,384.00
2. <u>Ground maintenance</u>	20,000.00
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
TOTAL	\$121,384.00

8. If personal services costs or savings are reported in 7 above, please indicate the number of additional positions required or positions saved. 0.5

9. 7/7/2021 by: Jaqueline R. DeMaggio
Signature of Authorized Official and Title

Date

JBRC
QUESTIONNAIRE

I. Provide the total projected cost of the project. Attach a summary of the costs prepared during the A&E pre-design phase to support the total cost.

Total projected cost is \$69,919,385 (Phase 1 - \$990,000 previously approved)+ \$68,929,385 estimated cost by architect (McMillan Pazdan Smith) and construction manager at risk (Harper Contractors). See enclosed.

2. Identify the source(s) of funds for construction. If any private or federal funds are included, attach a letter guaranteeing the availability of the funds.

Installment purchase revenue bonds, Greenville Technical College Foundation, and Greenville Technical College's plant fund.

3. Describe and define each fund source to be used for construction. Cite any statutory authority, including the code section or other provision of law for use of the funds for permanent improvement projects. If the source includes any fee, provide the name of the fee, the fee amount, the frequency of collection and when the fee was first implemented.

Installment purchase revenue bonds \$59,500,000, Greenville Technical College Foundation \$5,000,000 and Greenville Technical College's plant fund \$4,429,385. The source of funds to repay the bonds is property taxes levied by Greenville County for Greenville Technical College. The County has been levying this tax millage pursuant to Ordinance No. 1004 enacted by County Council on September 15, 1982. The repayment source does not include any fee.

4. Provide the current uncommitted balance of funds for each source described above.

Installment Purchase revenue bonds will be \$59.5 million when issued, Greenville Tech Foundation \$14.3 million, Greenville Technical College \$16.8 million.

5. If institution or revenue bonds are included as a source, provide when the bonds were issued. If not issued yet, provide when the bond resolution is expected to be brought for State Fiscal Accountability Authority approval.

Installment purchase revenue bonds will be used to fund the majority of the project. Approval is requested with this project.

6. If a student fee is used to fund debt service, provide the current amount of the fee collected annually or by semester. Specify which. _____

NIA _____

7. Indicate whether or not the use of any funds for construction will require an increase in any student fee or tuition. Describe any increase in student fees effected in prior years that has contributed to the availability of these funds.

No

8. If the project qualifies for the JBRC policy requirement to meet the LEED certification/Green Globes certification as the conservation measure, please attach the findings of a cost-benefit analysis showing the anticipated energy savings over the life of the project. Additionally, attach the checklist of items to be included to achieve LEED points or a description of the energy measures to achieve LEED.

This facility will be certified to Two Green Globes for new construction. See enclosed report from Merrick & Company Engineering, Decatur, GA.

9. If the project does not qualify for the JBRC policy requirement to meet the LEED certification/Green Globes certification as the construction measure, provide what savings/conservation measures will be implemented within the project. Explain the energy savings measures to be implemented as part of this project. If there are no energy savings measures included, state that and explain why.

NIA

10. Provide the projected date (month and year) for execution of the construction contract.
March 2022

11. Provide the projected date (month and year) for completion of construction.
April 2024

12. Describe the programs that will use the constructed or renovated space.
Health Sciences (including labs), Arts & Sciences, and Economic Development and Corporate Training.

13. Provide the total square footage of the building to be renovated or constructed.

125,000 square feet - 3 story building - new construction

14. If a portion of the building is to be renovated, provide the square footage of the portion that will be included in the renovation.

NIA



15. Provide the current age of the building and building systems to be renovated or replaced.

NIA - new construction.

16. If any new space is being added to the facility, provide demand and usage data to support the need.

NIA

17. Provide an estimate of the numbers of students, faculty, staff and clients that are expected to utilize the space associated with the project or building.

10,000 students, visitors, faculty and staff based on three-year average enrollment.

18. If the construction cost increased significantly from the internal estimate and/or from the total estimated cost provided on the **CPIP** (30% or more), provide what factors caused the cost to increase.

NIA

19. If the contingency is more than 10%, explain why.

A 20% contingency is included to allow for additional site work because the building is being constructed on a former landfill and to allow for possible price escalations.

20. If funds are being transferred from another project, provide the current status of the project from which funds are being transferred.

NIA

21. Indicate whether or not the project has been included in a previous year's CPTP. If so, provide the last year the project was included and year for which it was proposed.

Yes - 2020 project 3 of 3

22. Provide the economic impact of the project or project request, including job creation and retention. If there is no economic impact, provide an explanation.

No job loss or gain is anticipated. Faculty and staff currently located in buildings 104, 117 and 120 will relocate upon completion of construction.

23. Discuss how maintenance of this facility construction/renovation will be addressed and funded.

Within the fiscal maintenance budget for the college.

24. Provide the name of any account from which costs of deferred maintenance are addressed and its current uncommitted balance. Indicate the sources used to fund the account.

Within the maintenance budget for the college, This account is funded from Greenville County appropriations.

25. If funding for maintenance of this facility construction/renovation has not yet been determined, discuss the steps that have been taken to address and fund maintenance of this and other facilities owned or managed by the agency or institution.

Within maintenance budget for the college.

TO BE PROVIDED FOR HIGHER EDUCATION PROPOSALS

1. Indicate whether or not the use of any funds for construction will require an increase in any student fee or tuition. Describe any increase in student fees effected in prior years that has contributed to the availability of these funds.

NIA

2. If the use of any funds for construction includes any student fee, provide the name of the fee, the fee amount, the frequency of collection and when the fee was first implemented.

NIA

3. Provide a five-year history of each component within the institution's tuition and fee structure designated or utilized for permanent improvements. Identify the tuition or fee component per student, per semester; the total revenue collected during the academic year; and the fund balance at fiscal year end, all delineated by academic year. Include a projection for the ensuing academic year, and any future academic years in which the fee is projected to increase. Use the following format in responding to this question and provide as many tables as are necessary to promote a clear understanding of the relationship of tuition and fee revenue designated by the institution for permanent improvements, maintenance and other facility-related expense, including debt service.

Academic Year	Amount per student per semester	Total Revenue Collected During Academic Year	Amount Expended for Permanent Improvements	Fund Balance at Year End
2014-15	0	0	0	N/A
2015-16	0	0	0	N/A
2016-17	0	0	0	N/A
2017-18	0	0	0	N/A
2018-19	0	0	0	N/A
2019-20*	0	0	0	N/A

*Projection

See next page.

PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR
PHASE II CONSTRUCTION BUDGET

Academk Year/FY	Total Tuition and Required Fees per semester	Capital fees charged to students (included in total)	Total Tuition and Fee Revenue	Capital Fees Collected	Expended for Permanent Improvements (Debt)	Fund Balance
2014-15	2,047	J00	50,365,046	2,068,244	2,068,244	0
2015-16	2,112	100	49,787,427	1,961,977	1,961,977	0
2016-17	2,163	100	51,405,561	1,799,918	1,799,918	0
2017-18	2,211	100	51,431,256	1,704,511	1,704,511	0
2018-19	2,264	100	49,692,242	1,575,692	1,575,692	0
2019-20	2,314	100	52,226,634	1,600,736	1,600,736	0

Identify any other funds not specifically designated that may be utilized or redirected for permanent improvements, maintenance and other facility-related expense, including debt service. Provide a five-year history of total collections, by fund; amounts applied to or for permanent improvements, maintenance and other facility-related expense, including debt service; and the fund balance at fiscal year end, delineated by academic year. Include a projection for the ensuing academic year, and any future academic years in which the revenue is projected to increase. Describe any portion of the source that originates from any tuition or fee component. Include all permanent improvements without regard to Joint Bond Review Committee or State Fiscal Accountability approval requirements. Use the following format in responding to this question and provide as many tables as are necessary to provide a complete and comprehensive response for each fund.

Fund Source or Name:

Description:

Academic Year	Total Revenue Collected During Academic Year	Portion Collected From Tuition or Fee Revenues	Amount Expended for Permanent Improvements	Fund Balance at Year End
2014-15	0	0	0	N/A
2015-16	0	0	0	N/A
2016-17	0	0	0	N/A
2017-18	0	0	0	N/A
2018-19	0	0	0	N/A
2019-20*	0	0	0	N/A

*Projection

- Describe the fund sources reflected above that will be utilized to support the project that is the subject of this Phase I proposal.

Operating Reserve	\$14,005,561
Operating Contingency	1,500,000
Encumbrances	552,721
Inventories	2,192,429
Other Const. Projected Cost	20,740,096
Total	\$38,990,807

The funds for this project come from the \$20,740,096. The remainder for the funds are designated for other construction and maintenance projects.

PERMANENT IMPROVEMENT PROJECTS

REQUIRED INFORMATION FOR
PHASE II CONSTRUCTION BUDGET

Academic Year/FY	Total Revenue Collected	Funds from Greenville County Bonds	Portion Collected from Tuition and Fees	Expended for Permanent Improvements	Expended for debt		
					Expended for debt	Fund Balance without GASB 68 & 75	Fund Balance including GASB 68 & 75
2014-15	2,781,050	3,102,283	0	4,777,808	1,995,270	30,218,671	-42,961,625
2015-16	2,935,264	17,203,720	0	18,756,823	2,098,626	37,209,626	-42,854,582
2016-17	2,951,802	1,977,609	0	7,526,457	2,261,102	50,883,139	-114,115,005
2017-18	3,106,509	180,937	0	1,217,023	2,351,618	49,263,018	-112,773,142
2018-19	3,238,257	0	0	1,535,916	2,036,722	45,133,064	-118,870,527
2019-20	3,347,325	0	0	8,601,484	2,073,188	38,990,807	-122,367,118

Greenville Tech Foundation

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*Greenville Technical College
Area Commission*

Dr. Keith I. Miller, President
Greenville Technical College

Ann M. Wright
*Vice President For Advancement
Greenvme Tech Foundation*

June 16, 2021

Jacqui DiMaggio

Vice President of Finance

Greenville Technical College

P.O. Box 5616

Greenville, SC 29606

Dear Ms. DiMaggio:

Please accept this letter of support for the Arts and Health Sciences facility on the Barton Campus. The Greenville Tech Foundation is a non-profit and was established to ensure that the college is able to provide a high-quality college education at modest costs and to help ensure student success. The Foundation will conduct a capital campaign in 2022 and will commit to providing \$5,000,000 toward the new facility. These funds will be provided regardless of the results of the capital campaign, guaranteeing a \$5 million dollar investment in the Arts and Health Sciences facility. Please feel free to contact me if any additional information is needed.

Sincerely,

/Jui_rq u4-t

Ann M, Wright

Vice President for Advancement

Greenville Tech Foundation

Have you considered the Greenville Tech Foundation in your estoie plan ?

P.O. Box 5616, MS6002, Greenville. S.C. 29606-5616
(864) 250-B835 • www.greerwilletechfoundotion.org • foundolion@gvltec.edu

ENERGY
MODELLING
ANALYSIS

GREEN GLOBES

SUMMARY STATEMENT

Energy Performance

MERRICK
 160 Clairemont Avenue, Suite
 600
 Decatur, GA 30030
 skimsey@merrick.com

**GTC BUILDING ARTS & SCIENCE
 BUILDING - PRELIMINARY
 PRICING PACKAGE**

SECTION 1.1A - GENERAL INFORMATION		
Simulation Program	eQuest 3.65I DOE2.2	ASHRAE addenda used: <i>NIA</i> Narrative: Azimuth= -19 Deg. (Angle of Building North from True North)
Principal Heating Source	Natural Gas	
Energy Code Used	ASHRAE90.1 2010 Appendix G	
Building Type	Technical College Building	
Stories above grade	3	
Stories belowgrade	0	
Project Address	Greenville, SC	
Weather File	TMY\GREENVLSC.bin	
Climate Zone	3A	
New Construction Sq.Ft.	123,417	
Existing renovated Sq.Ft.	0	
Total Gross Sq.Ft.	[23,417	
New Construction Percent	100%	
!Existing Renovation Percent	0%	

SECTION 1.2 - SPACE SUMMARY							
Space Name	Space Usage Type	Space size	Hours	Tenant	Lease Type	OCP. Sq.Ft.	UC. Sq.Ft.
Technical Colledge Building	Technical Colledge Buildin	123,41	1	N	<i>NIA</i>	123,41	
		123,41				123,41	

SECTION 1.3 - ADVISORY MESSAGES				
Advisory Messages	Proposed Bldg	Baseline Bldg	Difference	Unmet Load Hours
No. Hrs Htg Loads Not Med	0	0	0	OK
No. Hrs Clg Loads Not Med	0	0	0	OK
No. Warning Messages	0	0	0	<i>NIA</i>
No. of Error Messages	0	0	0	<i>NIA</i>
No. of Defaults Overridden	0	0	0	<i>NIA</i>

SECTION 1.4 - COMPARISON OF ENERGY MODEL INPUTS		
I. BUILDING ENVELOPE		
Model Input Parameter	Proposed Design Input	Baseline Design Input (ASHRAE 90.1 2010)
Exterior Wall Construction	1. Panel, Air Space, R3.8, Sheathing, R13 in Studs, 5/8 Gyp (U=.08). 2. Brick, Air Space, R3.8, Sheathing, R21 in Studs, 5/8" Gyp (U=.068).	Per ASHRAE New Wall Steel Framed (U=.084)
Roof Construction	Single Ply PVC -TBD (ASHRAE USED U=.048)	Per ASHRAE New Roof Insulation Above Deck (U=.048)
Floor/Slab Construction	6" Concrete Slab	Per ASHRAE New 6" (F=.73)
Window-to-gross wall ratio	23%	Per ASHRAE Same as Proposed Design (<40% ASHRAE Max Allowance for Vertical Fenestration)
Roof Reflectivity	0.45	Per ASHRAE .3
II. FENESTRATION		
Fenestration SHGC	1. Viracon VRE 4725SHGC = .25 (SC= .29), 2. With Frit SHGC = TBD	Per ASHRAE SHGC = .25 (SC = .29)
Visual Light Transmittance	0.47	Per ASHRAE Existing Double Pane (.5)
Shading Devices	Per Design	None
Fenestration Type	Viracon High Performance Low-E	Per ASHRAE Existing Insulating
Fenestration U-factor	Glass U=.29, Window System Estimated .4	Per ASHRAE Existing U=.6
III. LIGHTING		
Interior Power Lighting Density (W/ sf)	Design Target .6 wsf	Per ASHRAE School University .99 wsf
Daylighting Controls	TBD	Sidelighted Areas >= 250 sf?
Other Lighting Control Credits	PerASHRAE	Assumed in Conference, Break, Classroom
Exterior Lighting Power (kW)	TBD (2.5 KW PLUG)	Per ASHRAE TBD (5 KW PLUG)
ASHRAE Lighting Compliance	Building Method (Space by Space TBD)	Building Method (Space by Space TBD)
IV. PROCESS LOAD		
Receptacle Equipment Power Density {W/sf}	1.00 Office, Conference, Classroom, 0-.25 Other	Same as proposed design
Elevators & Escalators	TBD	Same as proposed design

V. HVAC SYSTEM		
Exhaust Heat Recovery	None	None
Primary HVAC System Type	VAV with Reheat (Campus CHW and HW (Default CHW COP 4.4, Default HW Eff. 70%), Summer Boiler)	I. Per ASHRAE System 7 VAV with Reheat Campus CHW and HW (Default CHW COP 4.4, Default HW Eff. 70%), Summer Boiler)
other HVAC System Type	VRF in some locations (tbd)	Same as proposed design
Economizer Control	Yes	Per ASHRAE Not Required for Region 3A (G3.L2.7)
Demand Control Ventilation	NA	Per ASHRAE Not Required (Large Meeting Rooms and Dining NA)
Unitary Equip. Cooling Efficiency	NA	NA
Unitary Equip. Heating Efficiency	NA	NA
Chiller Parameters	Campus CHW (\$.089/Ton-Hr including plant COP and losses)	Campus CHW (\$.089/Ton-Hr including plant COP and losses)
CHW Loop & Pump Parameters	OnSite VSD	Secondary Onsite VSD
Boiler Efficiency	-	-
Boiler Parameters	Campus HW (\$1.46/Therm including plant eff. and losses)	Campus HW (\$1.46/Therm including plant eff. and losses)
HW Loop & Pump Parameters	OnSiteVSD	Pump Rides Curve, 22 w/gpm
Cooling Tower Parameters	Campus CHW (\$.089/Ton-Hr including plant COP and losses)	Same as proposed design
CondWL & Pump Parameters	Campus CHW (\$.089/Ton-Hr including plant COP and losses)	Same as proposed design

VI. DOMESTIC HOT WATER		
DHWType	Natural Gas	Same as proposed design
DHW Efficiency	92.0%	80.0%
DHW Storage Tank Volume	120 Gal.	Same as proposed design
Solar Hot Water	None	None
VII. GENERAL SCHEDULE INFORMATION		
Operating Hours per Week or Operating Schedule	11 Hrs. Day/6 Days Week	Same as proposed design

SECTION 1.5 - ENERGY TYPE SUMMARY				
Energy Type	Company Name	Energy Rate	Units of Energy	Units of Demand
Electricity	SCEIA	\$ 0.106700	kWh	kW
Natural Gas	SCEIA	\$ 0.009300	kBtu	MBH
District Chilled Water	GTC DES rates	\$ 0.007400	kBtu	MBH
District Hot Water Rate	GTC DES rates	\$ 0.014600	kBtu	MBH

SECTION 1.6 - PERFORMANCE RATING METHOD COMPLIANCE REPORT

End-Use	Process?	Type	Units	Baseline 0°	Baseline 90°	180°	Baseline 270°	Average
Interior Lighting	NO	Electricity	Use	425,999	425,999	425,999	425,999	425,999
			Demand	109	109	109	109	109
Exterior Lighting	NO	Electricity	Use	16,199	16,199	16,199	16,199	16,199
			Demand	0	0	0	0	0
Space Heating	NO	CampusHW (kBtu)	Use	445,800	445,800	445,800	445,800	445,800
			Demand	0	0	0	0	0
Space Cooling	NO	Electricity	Use	0	0	0	0	0
			Demand	0	0	0	0	0
Space Cooling	NO	CampusCHW (kBtu)	Use	3,266,400	3,266,400	3,266,400	3,266,400	3,266,400
			Demand	0	0	0	0	0
Pumps	NO	Electricity	Use	27,582	27,582	27,582	27,582	27,582
			Demand	2	2	2	2	2
Fans-Interior	NO	Electricity	Use	72,311	72,311	72,311	72,311	72,311
			Demand	42	42	42	42	42
Domestic Hot Water Heating	NO	Electricity	Use	0	0	0	0	0
			Demand	0	0	0	0	0
Receptacle Equipment	YES	Electricity	Use	314,066	314,066	314,066	314,066	314,066
			Demand	70	70	70	70	70
Elev & Escalators	YES	Electricity	Use	26,568	26,568	26,568	26,568	26,568
			Demand	10	10	10	10	10

Baseline Energy Costs	0degree	90 degree	180degree	270 degree	Baseline Building Performance (Average)
Electricity	\$93,304	\$93,304	\$93,304	\$93,304	\$93,304
Natural Gas	\$3,153	\$3,153	\$3,153	\$3,153	\$3,153
District Chilled Water	\$24,171	\$24,171	\$24,171	\$24,171	\$24,171
District Hot Water Rate	\$6,509	\$6,509	\$6,509	\$6,509	\$6,509
Total	\$127,137	\$127,137	\$127,137	\$127,137	\$127,137

End-Use	Process?	Energy Type	Units	Proposed Building Results		Baseline Building Results		Percent Savings
				Use	Demand	Use	Demand	
Interior Lighting	NO	Electricity	Use	258,181		425,999		39.4%
			Demand	66		109		39.9%
Exterior Lighting	NO	Electricity	Use	8,099		16,199		50.0%
			Demand	0		0		0.0%
Space Heating	NO	Electricity	Use	0		0		0.0%
			Demand	0		0		0.0%
Space Heating	NO	Natural Gas (kBtu)	Use	0		0		0.0%
			Demand	01		0		0.0%
Space Heating	NO	CampusHW (kBtu)	Use	427,400		445,800		4.1%
			Demand	0		0		0.0%
Space Cooling	NO	Electricity	Use	0		0		0.0%
			Demand	0		0		0.0%
Space Cooling	NO	CampusCHW (kBtu)	Use	2,846,200		3,266,400		12.9%
			Demand	0		0		0.0%
Pumps	NO	Electricity	Use	26,035		27,582		5.6%
			Demand	4		4		-5.1%
Heat Rejection	NO	Electricity	Use	0		0		0.0%
			Demand	0		0		0.0%
Fans-Interior	NO	Electricity	Use	46,667		72,311		35.5%
			Demand	28		42		33.2%
Domestic Hot Water Heating	NO	Electricity	Use	0		0		0.0%
			Demand	0		0		0.0%
Domestic Hot Water Heating	NO	Natural Gas (kBtu)	Use	241,530		339,052		28.8%
			Demand	665		946		29.7%
Domestic Hot Water Heating	NO	Steam (kBtu)	Use	0		0		0.0%
			Demand	0		0		0.0%
Receptacle Equipment	YES	Electricity	Use	314,066		314,066		0.0%
			Demand	70		70		0.0%
Elev & Escalators	YES	Electricity	Use	26,568		26,568		0.0%
			Demand	10		10		0.0%

	Proposed Design		Baseline Design		% Savings	
	Energy Use	Cost	Energy Use	Cost	Energy Use	Cost
Electricity (kWh)	679,61	\$71,835	882,725	\$93,304	23.01%	23.01%
Natural Gas (kBtu)	241,53	\$2,240	339,052	\$3,153	28.76%	28.76%
District CHW (kBtu)1	2,846,20	\$21,062	3,266,400	\$24,171	12.86%	12.86%
District Hot Water (kBtu)2	427,40	\$6,240	445,800	\$6,509	4.13%	4.13%
Total (MBtu) adj. for Plant	3,91	\$101,384	4,831	\$127,137	19.04%	20.26%
Exceptional Calculation	0.0	\$0.00	-	-	-	-
Renewable Energy (kBtu)	0.0	\$0.00	-	-	-	-
Total including Renewables (MBTU) adj. for Plant	3,91	\$101,384	4,831	\$127,137	19.04%	IG.21%
Process Load Ratio				\$36,005	28.3%	

GREEN GLOBES DESCRIPTION

1. Overview

Greenville Technical College plans to build a new approximately 125,000 square foot Arts and Health Sciences building in Greenville, SC on their existing campus. The team will be pursuing Two Green Globes under Green Globes New Construction 2013. All credits that will be attempted at this time are listed in the below sections. A scorecard is also provided.

2. Project Management

- a. Meeting agendas and minutes will be kept by the Architect and Green Globes Consultant.
- b. Environmental Management Plan developed by General Contractor showing environmental policies and checklists, including notes on protecting materials against mold.
- c. Commissioning (Cx) - OPR (by Owner), BOD (by MEP design team), CxA hired for whole building systems review and inspections for mechanical, lighting, and BAS. CxA to use ASHRAE 2005 and shall also provide training for the operations team and development of an O&M manual.

3. Site

- a. Erosion Control Plan developed by Civil Engineer.
- b. Architect to spec a high SRI roof.
- c. Stormwater Management Report with watershed targets, quantities, rainfall values, stormwater discharge and percolation test results.
- d. Landscape Plan with native and drought tolerant plants.
- e. Site lighting plan showing no lighting above 90 degrees, fixtures meeting glare and BUG limits.

4.

- a. Energy model using ASHRAE 90.1-2010 to show percent reduction in total energy usage versus a baseline.
- b. Insulation above roof deck R20, attic R38, walls R13, slab on grade R7.5 for 12".
- c. Lighting power density calculations done by Electrical Engineer.
- d. Sensors or time devices on electrical plans for at least 10% of spaces.
- e. Lighting controls to reduce lighting loads by at least 50%.
- f. Exterior luminaires with efficacy of at least 60 lumens/watt, LED, low/no mercury, photo sensors.
- g. BAS for energy, thermal comfort and lighting.
- h. Heating equipment exceeds ASHRAE 90.1-2007/2010 by x% (3-4% minimum).
- i. Hot water heaters meet ASHRAE 90.1 2007/2010, equipped with electrical igniters, low Nox burners.
- j. 75% or more of connected hydronic pumping power has variable speed control.
- k. Air economizers with outdoor air for cooling, controls to shut system down during down times, low leakage.

Green Globes Narrative

- I. Ducts with noise criteria of 35 or less, pressure drop no more than 0.1" of water column/100 lineal feet, flex duct restrictions.
 - m. Occupancy sensors, maintain calibration within 2% for 1 year.
 - n. Elevators use regenerative drive systems.
5.
 - a. Use of Watersense plumbing fixtures for toilets, urinals, lavatories.
 - b. Systems with makeup meters, condensate return systems, and conductivity controllers.
 - c. For lab and medical equipment, use of mechanical vacuum systems for sterilizers, water tempering devices, dry vacuum systems, imaging equip with digital tech, and wet scrubbers with water recirculation.
 - d. Drain system with a rain sensor, drip or low volume lines/heads, EPA Watersense technology, and flex piping for heads.
6. Waste and Resources
 - a. 75% minimum of construction waste recycled.
 - b. Green program for operations phase of the building.
 - c. Third party inspections for roof membrane, flashing, roof and wall openings, foundation systems, exterior wall cladding and air barriers.
7.
 - a. Systems with low global warming potential GWP<=100 to 1500
 - b. Dedicated storage areas for janitorial supplies, full height walls, ventilation, doors and walls.
8. Indoor Environment
 - a. Load calculations showing compliance with ASHRAE 62.1-2007 or 2010, ventilation schedule included on plans for occupied spaces.
 - b. Humidity monitors dewpoint, materials resistant to mold in high humidity areas, floor drains in equipment areas.
 - c. Radon mitigation through slab ventilation system.
 - d. Bird pest management controls in place including outdoor air inlets with screens 18x14, screens/sealants at openings, location of the signs on the building will reduce bird habitation, and ledges are <1" to prevent bird roosting.
 - e. Negative ventilation for laundry, labs, printing areas with a negative pressure of 5.0 pascals on average.
 - f. Solar gain devices on south, east, and west facing walls and photosensors.
 - g. Engineer does calculations showing compliance with ASHRAE 55-2010.

END OF GREEN GLOBES NARRATIVE

GBI Project Checklist for Green Globes for New Construction



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GBI 2022-2011 PROJECT NAME: Green Globes Technical Office Area and Health Services Building					
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COST ESTIMATION

Total Project Cost Summary

I.	Total Estimated Construction Cost		\$45,865,834
A.	Construction Cost		
	a.	Building Cost	\$41,997,360
	b.	Site Cost	\$3,868,474
II.	FF&E Allowances (all items include 10% contingency)		\$10,230,912
B.1		Classroom/Office/General Furniture	\$3,007,060
B.2		Lab Furnishings/Equipment	\$1,540,000
B.3		Signage and Wayfinding Allowance	\$100,000
B.4		Telecommunications/Data/Security/Audio Video Equipment	\$4,083,852
B.5		Medical Imaging Equipment	\$1,500,000
IV.	Proposed/ Estimated Professional Compensation		\$4,792,000
C.1		Design Team Stage I Total Proposed Fee	\$804,236
C.2		Design Team Stage II Total Proposed Fee	\$3,862,764
C.3		CM at Risk Stage I Fee	\$125,000
V.	Owner Allowances		\$8,040,639
D.1	Owner Expense Allowances		
	a.	Site Survey	\$24,764
	b.	Geotechnical Testing	\$18,000
	c.	Environmental Studies	\$18,000
	d.	Other Permits & Fees	\$100,000
D.2	Contingencies and Escalation		
	a.	Construction Contingency	\$3,210,608
			7.00%
	b.	Construction Cost Escalation	\$3,669,267
			8.00%
		6% annual inflation for 16 months (Construction start Sept. 2022)	
	c.	Owner Project Reserve/Design Contingency	\$1,000,000
VI.	Total Project Cost		\$68,929,385

HARPER! GENERAL CONTRACTORS

GTC Arts & Sciences
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Number	Description	Total Amount	Cost/SF
00 7000	General Conditions	\$ 147,328	\$ 1.19
26 00 00	Site Lighting Allowance	\$ 120,000	\$ 0.97
312000	Earth Moving	\$ 938,439	\$ 7.60
3130 00	Termite Treatment	\$ 4,400	\$ 0.04
3160 00	Aggregate Piers	\$ 370,000	\$ 3.00
3210 00	Asphalt Paving and Landscape Pavers	\$ 797,564	\$ 6.46
3211 00	Site Concrete	\$ 362,471	\$ 2.94
32 90 00	Landscaping	\$ 178,959	\$ 1.45
3310 00	Water Utilities	\$ 86,714	\$ 0.70
33 30 00	Sanitary Sewerage	\$ 29,012	\$ 0.24
33 40 00	Storm water Utilities	\$ 286,896	\$ 2.32
Subtotal		\$ 3,321,783	\$ 26.92
Bond		\$ 16,503	\$ 0.13
Procure		\$ 2,886	\$ 0.02
AGC		\$ 361	\$ 0.00
Business License		\$ 3,247	\$ 0.03
Fee		\$ 95,326	\$ 0.77
Contingency		\$ 167,239	\$ 1.36
Total		\$ 3,607,344	\$ 29.23

HARPERI GENERAL CONTRACTORS

GTC Arts & Sciences
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 S/28/21

Number	Description	Total Amount	Cost/SF
00 70 00	General Conditions	\$ 2,504,568	\$ 20.29
03 30 00	Cast-in-Place Concrete	\$ 1,397,130	\$ 11.32
04 20 00	Unit Masonry	\$ 339,824	\$ 2.75
05 10 00	Structural Metal Framing	\$ 5,505,003	\$ 44.60
06 10 00	Rough Carpentry	\$ 31,659	\$ 0.26
06 20 00	Finish Carpenby	\$ 363,272	\$ 2.94
07 10 00	Dampproofing and Waterproofing	\$ 203,552	\$ 1.65
07 40 00	Roofing and Siding Panels	\$ 1,381,750	\$ 11.20
07 50 00	Membrane Roofing	\$ 410,001	\$ 3.32
07 80 00	Fire and Smoke Protection	\$ 98,175	\$ 0.80
08 10 00	Doors and Frames	\$ 429,719	\$ 3.48
08 30 00	Specialty Doors and Frames	\$ 230,927	\$ 1.87
08 40 00	Entrances, Storefronts, and Cmtain Walls	\$ 2,700,006	\$ 21.88
09 20 00	Plaster and Gypsum Board	\$ 4,429,814	\$ 35.89
09 30 00	Tiling	\$ 179,098	\$ 1.45
09 60 00	Flooring	\$ 1,512,787	\$ 12.26
09 90 00	Painting and Coating	\$ 217,601	\$ 1.76
10 10 00	Information Specialties	\$ 41,310	\$ 0.33
10 20 00	Interior Specialties	\$ 188,857	\$ 1.53
10 70 00	Exterior Specialties	\$ 87,036	\$ 0.71
12 20 00	Window Treatments	\$ 113,993	\$ 0.92
12 30 00	Casework	\$ 964,658	\$ 7.82
12 90 00	Other Furnishings	\$ 50,000	\$ 0.41
14 20 00	Elevators	\$ 217,166	\$ 1.76
21 10 00	Water-Based Fire-Suppression Systems	\$ 524,528	\$ 4.25
22 00 00	Plumbing	\$ 1,699,286	\$ 13.77
23 00 00	HVAC	\$ 5,583,765	\$ 45.24
23 50 00	Central Heating Equipment	\$ 899,740	\$ 7.29
26 00 00	Electrical	\$ 3,757,935	\$ 30.45
	Subtotal	\$ 36,063,161	\$ 292.21
	Bond	\$ 179,161	\$ 1.45
	Procure	\$ 31,331	\$ 0.25
	AGC	\$ 3,916	\$ 0.03
	Business License	\$ 35,247	\$ 0.29
	Fee	\$ 1,034,915	\$ 8.39
	Contingency	\$ 1,815,641	\$ 14.71
	Total	\$ 39,163,371	\$ 317.33

Schematic Design: *Collstruction Cost Estimate*
 PROJECT: (TC -Arts & Health Sciences Building
 LOCATION: Greenville, SC
 OWNER: Greenville Technical College
 ARCHITECT: McKMillan Pazzan Smith

COST PLUS
 ++++++
 864 / 653-6320
 Cpctimatingrll@ATT.net
 www.Costplus-e-tiltall.com

27 - May - 2021
 Estimator: R. Roark
 Project No: 21-21

Project Area:

+ First Floor	45,913 SF
+ First Floor	38,752 SF
+ Second Floor	38,752 SF
Total Project Area	123,417 SF

Probable Construction Cost Summary	TOTAL COST	COST / SF	% OF COST
01 GENERAL CONDITIONS	\$2,500,000	\$20.26	5.07%
03 CONCRETE	\$1,856,775	\$15.04	3.77%
04 MASONRY	\$446,354	\$3.62	0.91%
05 METALS	\$4,536,540	\$36.76	9.20%
06 WOOD, PLASTICS & COMPOSITES	\$155,009	\$1.26	0.31%
07 THERMAL & MOISTURE PROTECTION	\$1,775,396	\$14.39	3.60%
08 DOORS & WINDOWS	\$4,403,935	\$35.68	8.93%
09 FINISHES	\$6,550,664	\$53.08	13.28%
10 SPECIALTIES	\$208,365	\$1.69	0.42%
11 EQUIPMENT	\$0	\$0.00	0.00%
12 FURNISHINGS	\$1,832,626	\$14.85	3.72%
14 CONVEYING SYSTEMS	\$321,500	\$2.60	0.65%
21 FIRE PROTECTION	\$497,596	\$4.03	1.01%
22 PLUMBING	\$1,454,376	\$11.78	2.95%
23 HVAC	\$5,020,588	\$40.68	10.18%
26 ELECTRICAL	\$5,760,000	\$46.67	11.68%
27 COMMUNICATIONS	\$0	\$0.00	0.00%
28 ELECTRONIC SAFETY & SECURITY	\$0	\$0.00	0.00%
31 EARTHWORK	\$1,356,271	\$10.99	2.75%
32 EXTERIOR IMPROVEMENTS	\$1,694,320	\$13.73	3.44%
33 UTILITIES	\$487,508	\$3.95	0.99%
Subtotal	\$40,857,823	\$331.06	82.86%
MARK-UPS			
• Design / Estimating Contingency 10.00%	\$4,085,782	\$33.11	8.29%
• Escalation to Midpoint 5.00%	\$2,042,891	\$16.55	4.14%
Total Estimated Probable Construction Cost	\$46,986,496	\$380.71	95.28%
• Bonding & Insurance 2.10%	\$986,716	\$7.99	73.68%
- CM Fee 2.85%	\$1,339,115	\$10.85	2.72%
TOTAL ESTIMATED PROBABLE CONSTRUCTION COST:	\$49,312,328	\$399.56	100.00%

Notes:

- Above Cost Includes Design / Estimate (10%) / Escalation (5%) / Contingencies
- Above Cost Do Not Include "Soft Cost" (Permits / Testing / A/E / Design Fees / CM Fees / Furniture)

01 GENERAL CONDITIONS

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	General Conditions of the Contract	1	LS		0		0	2,500,000	2,500,000	2,500,000
	<u>Includes:</u>									
	• Management & Coordinator									
	• Field Personnel									
	• Documentation									
	• Regulations / Quality Control									
	• Testing / Reports									
	• Temporary Services									
	• Office / Storage / Staging									
	• Construction Aids									
!!SUBTOTAL - GENERAL CONDITIONS					0		al	\$2,500,000	11	\$2,500,000

03 CONCRETE

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	Column <u>Footings:</u>	290	CY		0		0	895	259,550	259,550
	• Including: Excavation/ Backfill									
	Formwork									
	Rebar									
	Concrete									
	Anchor Bolts / Base Plates									
	Wall <u>Footings</u>	0	CY		0		0	850	0	0
	• Including: Excavation/ Backfill									
	Formwork									
	Rebar									
	Concrete									
	Elevator Pits:	2	EA		0		0	12,210	24,420	24,420
	Building Retaining Walls:									
	- footings	113	CY		0		0	850	96,050	96,050
	- excavation / backfill	607	CY		0		0	25	15,185	15,185
	- formwork	6,560	SF		0		0	10	65,600	65,600
	- rebar	8.61	TN		0		0	1,600	13,776	13,776
	- concrete	128	CY		0		0	625	79,722	79,722
	Slab on Grade:									
	- 4" thick / wwr / vapor barrier / stone	44,686	SF		0		0	10.15	453,563	453,563
	- 6" thick / wwr / vapor barrier / stone	3,350	SF		0		0	15.35	51,423	51,423
	- Integrated Turndowns @ Perimeter	60	CY		0		0	825	49,500	49,500
	Elevated Concrete Slab(s) (2 1/2" LW)	75,820	SF		0		0	9.80	743,036	743,036
	Concrete Fill @ Treads / Landing	6	CY		0		0	825	4,950	4,950
!!SUBTOTAL - CONCRETE					0		0	\$1,856,775		\$1,856,775

04 MASONRY

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	Brick Veneer	19,198	SF		0		0	23.25	446,354	446,354
!!SUBTOTAL-MASONRY					0		0	\$446,354	1	\$446,354

05 METALS

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
Structural Steel:										
	- floor structure / columns	425.86	TN		0		0	4,600	1,958,938	1,958,938
	- roof structure / column	168.09	TN		0		0	4,675	785,809	785,809
	- exposed structural tube framing	44.78	TN		0		0	5,200	232,830	232,830
	- miscellaneous steel	1	LS		0		0	329,370	329,370	329,370
Metal Decking:										
	- 3" metal deck, 2Dga	79,612	SF		0		0	3.98	316,856	316,856
	- 11/2" roof decking	34,332	SF		0		0	3.05	104,713	104,713
	- acoustical roof decking, 3", 20 ga	10,200	SF		0		0	5.56	56,712	56,712
	Canopy System @ West Plaza	1	LS		0		0	36,550	36,550	36,550
Stair Structures:										
	- egress stair w/ railings, #014	1	LS		0		0	40,157	40,157	40,157
	- egress stair w/ railings, #015	1	LS		0		0	24,395	24,395	24,395
	- egress stair w/ railings, #132 / 240	1	LS		0		0	63,240	63,240	63,240
	- egress stair w/ railings, #112/217	1	LS		0		0	63,240	63,240	63,240
	- egress stair w/ railings, #232/329	1	LS		0		0	63,240	63,240	63,240
	- monumental stair #100A w/glass railing:	1	LS		0		0	155,900	155,900	155,900
	- monumental stair #200A w/glass railing:	1	LS		0		0	112,300	112,300	112,300
	- pit ladder	2	EA		0		0	625	1,250	1,250
	Glass Railing System @ Overlooks	398	LF		0		0	480	191,040	191,040
11suBTOTAL. METALS					01		01	\$4,536,540.11		\$4,536,540.11

06 WOOD, PLASTICS & COMPOSITES

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	Blocking / Nailers	6,683	BF		0		0	3.25	21,719	21,719
General Casework:										
	- @ MP Service Area	1	LS		0		0	12,500	12,500	12,500
	- @ Workroom (base & wall)	1	LS		0		0	14,000	14,000	14,000
	- @ X-ray (base & counters & wall)	1	LS		0		0	18,700	18,700	18,700
	- @ ultrasound (base)	1	LS		0		0	9,900	9,900	9,900
	- @ Laundry (base & wall)	1	LS		0		0	7,900	7,900	7,900
	- Cubbie Units	1	LS		0		0	2,290	2,290	2,290
	- @ Lactation (base & wall)	1	LS		0		0	10,800	10,800	10,800
	- @ Workroom (counter & shelving)	1	LS		0		0	4,100	4,100	4,100
	- @ Breakroom (base)	1	LS		0		0	11,600	11,600	11,600
	- Storage Units	1	LS		0		0	5,400	5,400	5,400
Finish Carpentry:										
	- wood chair rail	3,355	LF		0		0	5	16,775	16,775
	- window stools	805	LF		0		0	24	19,325	19,325
11suBTOTAL. -WOOD, PLASTICS & COMPOSITES					01		01	\$155,009.11		\$155,009.11

07 THERMAL & MOISTURE PROTECTION

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	Standing Seam Metal Roofing System	45	SQ		0		0	2,800	126,000	126,000
	PVC Roofing System w/ Tapered Insul.	390	SQ		0		0	1,725	672,750	672,750
	Wall Coping	1,128	LF		0		0	20	22,560	22,560
	Metal Panel Rainscreen	18,163	SF		0		0	46	835,498	835,498
	Waterproofing @ Bldg. Below Grade Wa/11	5,205	SF		0		0	5	26,025	26,025
	Caulking & Sealants & Firestopping	1	LS		0		0	92,563	92,563	92,563
IISUBTOTAL. THERMAL & MOISTURE PROTECTION					0		0	\$1,775,396.11		\$1,775,396.11

08 DOORS & WINDOWS

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST
				u/c	Total	u/c	Total	u/c	Total	
	Doors I Frames:	298								
	- AL, Full Glass	8	EA	0	0	0	0	2,825	22,600	22,600
	- AL, Full Glass (Pair)	5	PR	0	0	0	0	5,650	28,250	28,250
	- HM, Insulated, Flush	1	EA	0	0	0	0	1,190	1,190	1,190
	- HM, Insulated, Flush (Pair)	2	PR	0	0	0	0	2,380	4,760	4,760
	- SF, Full Glass	3	EA	0	0	0	0	2,250	6,750	6,750
	- SF, Full Glass (Pair)	5	PR	0	0	0	0	4,500	22,500	22,500
	- SCWD - Fire Rated	24	EA	0	0	0	0	2,690	64,560	64,560
	- SF, Full Glass - Rated	32	EA	0	0	0	0	4,855	155,360	155,360
	- SCWD, "Lead Lined"	3	EA	0	0	0	0	10,150	30,450	30,450
	- SCWD, flush	74	EA	0	0	0	0	1,185	87,690	87,690
	- SCWD, Oush (Pair)	2	PR	0	0	0	0	2,370	4,740	4,740
	- SCWD, w/ view glass	139	EA	0	0	0	0	1,335	185,565	185,565
	Door Hardware	1	LS	0	0	0	0	327,600	327,600	327,600
	Automatic Operators	1	LS	0	0	0	0	46,500	46,500	46,500
	Deployable Fire Door(s)	100	LF	0	0	0	0	1,425	142,500	142,500
	Glass Systems:									
	- Interior Storefront	3,530	SF	0	0	0	0	50	176,500	176,500
	- Interior Storefront (@open circulation are.	8,400	SF	0	0	0	0	90	756,000	756,000
	- Exterior Storefront	3,660	SF	0	0	0	0	80	292,800	292,800
	- Exterior Curtainwall	19,622	SF	0	0	0	0	95	1,864,090	1,864,090
	- Exterior Curtainwall w/ Laminated Pnls	1,298	SF	0	0	0	0	100	129,800	129,800
	Sunshade@ 2'-6w"	75	LF	0	0	0	0	150	11,250	11,250
	SunShade@ 3'-0" w	236	LF	0	0	0	0	180	42,480	42,480
	ISUBTOTAL -DOORS & WINDOWS			0	0	0	0		\$4,403,935	\$4,403,935

09 FINISHES

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST
				u/c	Total	u/c	Total	u/c	Total	
	Floors:									
	- terrazzo epoxy resin	21,223	SF	0	0	0	0	30	636,690	636,690
	- pored epoxy	2,227	SF	0	0	0	0	24	53,448	53,448
	-LVT	2,447	SF	0	0	0	0	8.25	20,188	20,188
	- Resilient Sheet	27,215	SF	0	0	0	0	10.25	278,954	278,954
	- Walk-off Carpet Tile	2,532	SF	0	0	0	0	6.10	15,445	15,445
	- Carpet Tile	5,311	SF	0	0	0	0	5.50	29,211	29,211
	-Cpl. Tile	44,465	SF	0	0	0	0	5.00	222,325	222,325
	- Resilient , flocked	4,470	SF	0	0	0	0	6.50	29,055	29,055
	- Sealer	4,456	SF	0	0	0	0	0.75	3,342	3,342
	Walkoff System w/ Integ Drainage	815	SF	0	0	0	0	25.00	20,375	20,375
	Walk-off Grate System	790	SF	0	0	0	0	30.00	23,700	23,700
	Stair Finishes:									
	- rubber treads/ landings	1	LS	0	0	0	0	64,100	64,100	64,100
	- terrauo treads / landings	1	LS	0	0	0	0	90,995	90,995	90,995
	Base:									
	-6" precast terrazzo	2,655	LF	0	0	0	0	24.25	64,384	64,384
	-6" hpoured	608	LF	0	0	0	0	12.50	7,600	7,600
	-4" rubber	12,818	LF	0	0	0	0	3.25	41,659	41,659
	-6" resilient	3,805	LF	0	0	0	0	3.90	14,840	14,840
	-6" thermaplactic "millwork"	2,390	LF	0	0	0	0	7.50	17,925	17,925

09 FINISHES. Continued

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTALCOST/II
				u/c	Total	u/c	Total	u/c	Total	
<u>Wall Systems:</u>										
	- standard interior wallpartitions	8,700	SF		0		0	8.65	75,255	75,255
	- moisture resistant interior wall partition	7,708	SF		0		0	8.80	67,830	67,830
	- high STC interior wallpartitions	96,655	SF		0		0	9.60	927,888	927,888
	- "lead-lined" interior wall partitions	3,696	SF		0		0	23.80	87,965	87,965
	-walls w/ (1) gwb layer	674	SF		0		0	6.15	4,145	4,145
	- steel beam enclosures	11,942	SF		0		0	7.65	91,356	91,356
	- mechanical shaft walls	4,087	SF		0		0	12.70	51,905	51,905
	- elevator shaft walls	4,256	SF		0		0	14.20	60,435	60,435
	- fire rated	30,317	SF		0		0	11.45	347,130	347,130
	- Exterior Walls (Complete System)	49,100	SF		0		0	15.35	753,685	753,685
<u>Ceilings:</u>										
	- type 1 2'x2' ACT	33,191	SF		0		0	5.35	177,572	177,572
	- type 2: suspended GWB	3,078	SF		0		0	8.65	26,625	26,625
	- type 4: ACT 2'x2'	23,438	SF		0		0	5.90	138,284	138,284
	- type 5: 2'x6' act clouds	11,577	SF		0		0	12.50	144,713	144,713
	- type 6: 2'x6' perf wood veneer	19,885	SF		0		0	35.00	695,975	695,975
	Soffit / Bulkhead	23,500	SF		0		0	9.75	229,125	229,125
<u>Painting / Wall Covering:</u>										
	- paint walls	178,615	SF		0		0	0.85	151,823	151,823
	- epoxy	44,127	SF		0		0	1.05	46,333	46,333
	- wall covering	2,836	SF		0		0	15.00	42,p40	42,540
	- wood panel system (feature wall)	10,850	SF		0		0	31.75	344,488	344,488
	- wall protection @ labs (acrovyn)	14,736	SF		0		0	8.35	123,046	123,046
	- porcelain tile	3,940	SF		0		0	20.00	78,800	78,800
	- doors / frames	281	EA		0		0	75	21,075	21,075
	- acoustical panels	4,140	SF		0		0	45	186,300	186,300
	- exposed structure (paint)	12,060	SF		0		0	2.25	27,135	27,135
	- miscellaneous	1	LS		0		0	15,000	15,000	15,000
SubTOTAL - FINISHES					a		a		\$6,550,664	\$6,550,664

10 SPECIALTIES

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST/II
				u/c	Total	u/c	Total	u/c	Total	
<u>Toilet Partitions :</u>										
	- standard	28	EA		0		0	2050	57,400	57,400
	- handicap	6	EA		0		0	2275	13,650	13,650
	Urinal Screen	6	EA		0		0	990	5,940	5,940
<u>Accessories :</u>										
	-GB18	9	EA		0		0	85	765	765
	-GB36	9	EA		0		0	100	900	900
	-GB42	9	EA		0		0	115	1,035	1,035
	-TTD	37	EA		0		0	75	2,775	2,775
	-SD	39	EA		0		0	60	2,340	2,340
	-CH	34	EA		0		0	5	170	170
	-SNV	3	EA		0		0	325	975	975
	-SND	22	EA		0		0	75	1,650	1,650
	-MR (Framed)	3	EA		0		0	200	600	600
	*MR (Vanity)	460	SF		0		0	15	6,900	6,900
	-EHD	12	EA		0		0	475	5,700	5,700

12 FURNISHINGS - Continued

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST!!
				u/c	Total	u/c	Total	u/c	Total	
	<ul style="list-style-type: none"> • drying racks • cubbies • coat hooks • biosafety cabinet • 1/flammable cabinets - safety shower - UV cabinet - microscope storage - refrigerator (NIC) 	1	LS		0		0	186,335	186,335	186,335
	Micro-Bio Lab: • Includes: - base - wall - instructor station - student station w/ seats - shelving for plants • drying racks - cubbies - coat hooks - fume hoods - flammable cabinets - safety shower - UV cabinet - microscope storage - refrigerator (NIC)	1	LS		0		0	282,455	282,455	282,455
	Chemistry Lab: • Includes: - base - wall - instructor station - student station w/ seats • storage cabinets • drying racks • cubbies • coat hooks • fume hoods • flammable cabinets • safety shower • UV cabinet • dishwasher (NIC) • ice machine (NIC) • refrigerator (NIC)	1	LS		0		0	300,000	300,000	300,000
	Window Shades:									
	• manual	1	LS		0		0	150,000	150,000	150,000
	- motorized	1	LS		0		0	0	0	0
	Loose Furniture				0		0			0
					0		0			0
	By Owner				0		0			0
IIsuBTOTAL. FURNISHINGS					0		0	\$1,832,626	\$1,832,626	\$1,832,626

14 CONVEYING SYSTEMS

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	West Elevator (4 stops)	1	LS		0		0	175,000	175,000	175,000
	East Elevator (3 stops)	1	LS		0		0	146,500	146,500	146,500
II SUBTOTAL. CONVEYING SYSTEMS					0		0		\$321,500	\$321,500

21	FIREPROTECTION		LS		0		0	497,596	497,596	\$497,596
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22	PLUMBING		LS		0		0	1,454,376	1,454,376	\$1,454,376
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23	H.V.A.C.		LS		0		0	5,020,588	5,020,588	\$5,020,588
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26 ELECTRICAL

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
	Panelboards /Distribution/ Generators	1	LS		0		0	1,250,000	1,250,000	1,250,000
	Branch & Wiring Devices	1	LS		0		0	1,025,000	1,025,000	1,025,000
	Lighting Equipment/ Controls/ Devices	1	LS		0		0	2,410,000	2,410,000	2,410,000
	Grounding I Lightning Protection System	1	LS		0		0	175,000	175,000	175,000
	Audio/ Visual (Rough In- ONLY)	1	LS		0		0	475,000	475,000	475,000
	Fire Alarm System	1	LS		0		0	425,000	425,000	425,000
II SUBTOTAL. ELECTRICAL									\$5,760,000	\$5,760,000

27 COMMUNICATIONS

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST II
				u/c	Total	u/c	Total	u/c	Total	
<i>(Audio Visual) - N.I.C. - FF&E Budget</i>										
	- Multi Purpose Room (#001)		FF&E		0		0		0	0
	- Seminar Room, type A		FF&E		0		0		0	0
	- Seminar Room, type B		FF&E		0		0		0	0
	- Conference Room (#219J)		FF&E		0		0		0	0
	- Small Conference Rooms (# 121, #319)		FF&E		0		0		0	0
	- Conversation Rooms		FF&E		0		0		0	0
	- Large Classrooms		FF&E		0		0		0	0
	- Medium Classrooms		FF&E		0		0		0	0
	- Small Classrooms		FF&E		0		0		0	0
	- Ultra-Sound Suite		FF&E		0		0		0	0
	. Assist. Listening Devices for Classrms		FF&E		0		0		0	0
	* Digital Signage		FF&E		0		0		0	0
II SUBTOTAL. COMMUNICATIONS					0		0		\$a	\$0

28ELECTRONIC SAFETY & SECURITY

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COSTII
				u/c	Total	u/c	Total	u/c	Total	
(Telecom & Security Systems)										
	•SiteFiber	FF&E		0		0		0		0
	•Data Drop (1cable)	FF&E		0		0		0		0
	- MDF Room	FF&E		0		0		0		0
	- IDF Room	FF&E		0		0		0		0
	•VMS Server	FF&E		0		0		0		0
	-Fixed Camera	FF&E		0		0		0		0
	- Multi-Sensor Camera	FF&E		0		0		0		0
	• Card Reader• Single Door	FF&E		0		0		0		0
	- Card Reader - Double Door	FF&E		0		0		0		0
	Wireless Card Reader	FF&E		0		0		0		0
	-DPS & Sounder	FF&E		0		0		0		0
	-Emergency Call Tower	FF&E		0		0		0		0
	-Emergency Call Wall	FF&E		0		0		0		0
IsuBTOTAL. ELECTRONIC SAFETY & SECURITY					al		ol		\$a 11	\$011

31 EARTHWORK

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COSTII
				u/c	Total	u/c	Total	ulc	Total	
	Mobilization & Staking	1	LS		0		0	75,000	75,000	75,000
	Construction Fencing	3,650	LF		0		0	18	65,700	65,700
	Construction Gates	4	PR		0		0	1,200	4,800	4,800
	Tree Barricade	350	LF		0		0	6	2,100	2,100
	Signage / Barriers	1	LS		0		0	8,500	8,500	8,500
	Construction Entrance	75	TN		0		0	34	2,550	2,550
<u>Demolition: (Incl. Haul & Dump)</u>										
	-CBDI	3	EA		0		0	1,250	3,750	3,750
	- 12" cmp	197	LF		0		0	15	2,955	2,955
	- sewer line	523	LF		0		0	10	5,230	5,230
	- manhole	2	EA		0		0	750	1,500	1,500
	- water line	490	LF		0		0	8	3,920	3,920
	- utility pit	4	EA		0		0	500	2,000	2,000
	- UG electric	<i>By Others</i>			0		0		0	0
	- light pole	3	EA		0		0	1,450	4,350	4,350
	- fire hydrant	1	EA		0		0	435	435	435
	- trees	19	EA		0		0	315	5,985	5,985
	- sign	5	EA		0		0	125	625	625
	- asphalt pavement	145,294	SF		0		0	0.84	122,047	122,047
	. concrete curb & gutter	3,644	LF		0		0	5	18,220	18,220
	- concrete walks	7,329	SF		0		0	1.35	9,894	9,894
	. miscellaneous items	1	LS		0		0	14,473	14,473	14,473
	Erosion Control Measures:	1	LS		0		0	35,000	35,000	35,000
	<u>Aggregate Piers: (Allowance)</u>	1	LS		0		0	275,000	275,000	275,000
<u>Grading:</u>										
	• Replace Unsuitable Soils (Allowance)	5,500	CY		0		0	40	220,000	220,000
	• rough grading	1	LS		0		0	204,225	204,225	204,225
	- structural fill (off-site)	7,704	CY		0		a	32	246,512	246,512
	. final gradina	1	LS		a		0	21,500	21,500	21,500
IsusTOTAL. EARTHWORK					al		al		\$1,356.211 11	\$1,356.211 11

33 UTILITIES

II	Item Description	Quantity	u/m	MATERIAL		LABOR		SUBCONTRACT		TOTAL COST
				u/c	Total	u/c	Total	u/c	Total	
Site Utilities:										
	- water distribution	1	LS		0		0	62,215	62,215	62,215
	- Sanitary Sewer	1	LS		0		0	21,543	21,543	21,543
Storm Drainage:										
	- catch basin	12	EA		0		0	3,725	44,700	44,700
	- manhole	5	EA		0		0	4,250	21,250	21,250
	- water quality unit	1	EA		0		0	7,500	7,500	7,500
	- headwall section	1	EA		0		0	3,000	3,000	3,000
	-storm pipe	1,280	LF		0		0	50	64,000	64,000
	- roof drain piping	1,220	LF		0		0	15	18,300	18,300
	- Stormwater Detention Systems	NIA			0		0		0	0
Site Electrical:										
	- main service		<i>By Utility</i>		0		0		0	0
	- UG Ducts / MH / Conduit	1	LS		0		0	45,000	45,000	45,000
	- UG Telecom Ducts / MH / Conduit	1	LS		0		0	75,000	75,000	75,000
	- Site Lighting / Drives / Parking / Walks	1	LS		0		0	125,000	125,000	125,000
!!SUBTOTAL - UTILITIES					0		0		\$487,50811	\$487,50811
<u>SubTOTAL</u>					\$0		\$0		\$40,857,823	\$40,857,823
	- Design / Estimating Contingency	10.00%								\$4,085,782
	- Escalation to Midpoint	5.00%								\$2,042,891
<u>Sub-TOTAL</u>										\$46,986,496
	- Bonding & Insurance	2.10%								\$986,716
	- CM Fee	2.85%								\$1,339,115
TOTAL ESTIMATED PROBABLE CONSTRUCTION COST:										\$49,312,328

Unit Cost: \$399.56 /SF



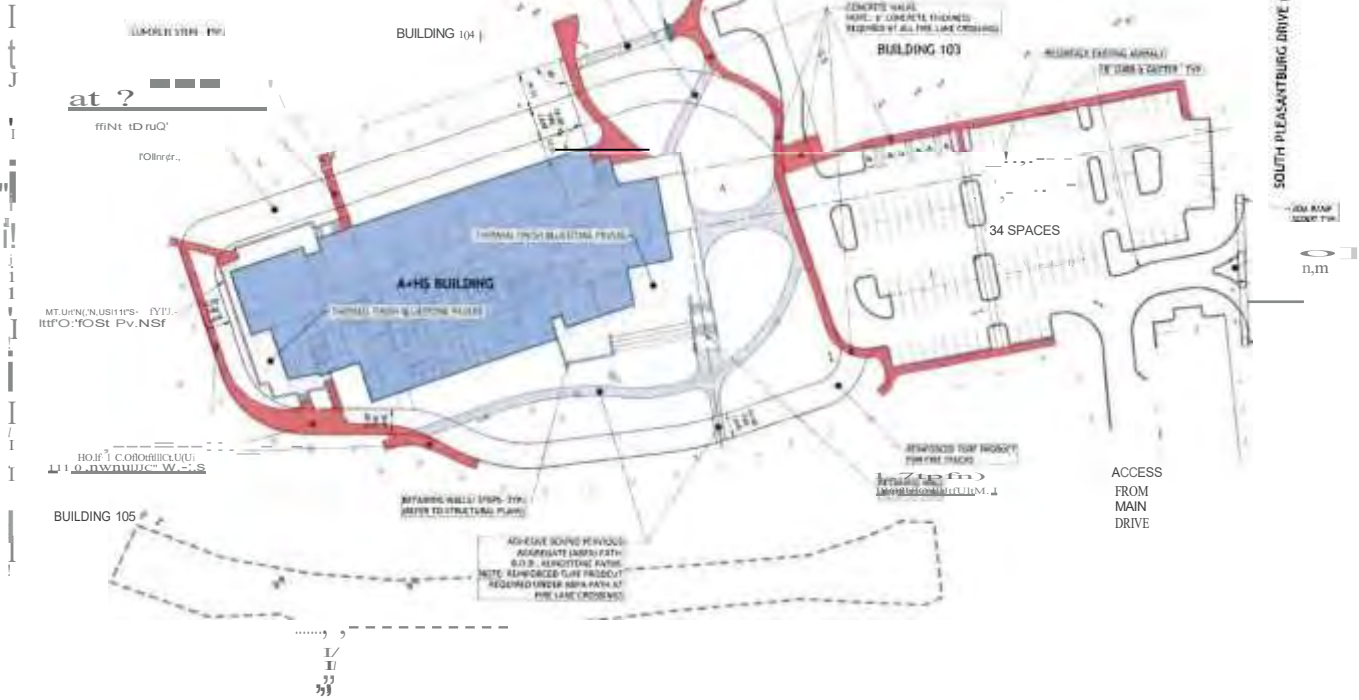
SITE DATA

PROJECT NO: 12998.9 SQ FT
 SHEET NO: 1 OF 10
 DATE: 08/14/2014

LIQ



mcmillan
pudan
lmith



Q6" Sidewalk
 QCIP Stairs

12998.9 SQ FT
 48.0SQFT



C101



mcmillan
p/zdan
smith

blue WATER
CYCLE



ETC - AREAS AND SERVICES BUILDINGS



GRADING NOTES

1. All elevations are in feet above mean sea level unless otherwise noted.

2. All elevations are rounded to the nearest 0.1 foot.

3. All elevations are subject to change without notice.

4. All elevations are subject to change without notice.

5. All elevations are subject to change without notice.

6. All elevations are subject to change without notice.

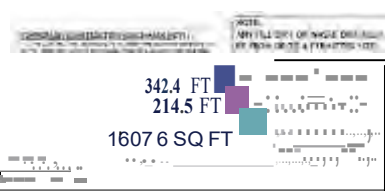
7. All elevations are subject to change without notice.

8. All elevations are subject to change without notice.

9. All elevations are subject to change without notice.

10. All elevations are subject to change without notice.

b 4' Retaining Wall
b 8' Retaining Wall
 (;JCI Stairs



GRA...D
DRAI...E P...1

C201

ID	Task Name	Start	End	Duration	Start	End	Duration
1	DESIGN & PRECONSTRUCTION	TueU/1/10	Tue9/6/1				
1	Pr-J11h11idh&ShlhwMCg1tor,	44diVli	Tl,1r,U/100	fr 129/U			
1	9! Co tOelka Ub PlInnon,	20dYli	Mon1/1/21	rr12126m			
1	Hlplfa your CM@R	1.fy	Mon1/15/21	MonUIS/21			
3	50 DocumntU		Mon1/1/21	fr11/1On1			
6	ir. bImod... SOaudgr		Mm1/3/21	Thu6/3/21			
1	PlpluPh... 1 Pldrail'		fr6/7/21	fr16/11/11			
1	OS SOSsfrYIIIH	tday	Monr/11/U	Monh/21/21			
11	OSE#frjw... d5Cao,all	5. diVl	Tur6/22/21	fr19/3/21			
10	OOOa,emall	HdiVl	MonJ/6/11	W 1/5/22			
11	OOS...bmital	Idly	Thu1/6/U	Thu1/7/11			
12	&PHND...OOI	2Ddays	MIn/22	Thu1/1/22			
12	OSElfrjewIndSCBo,mb	10diV5	fr1m/22	Thu1/3/22			
1	co Ooutunlenb	101days	M2/4/U	Tut1/5/22			
15	Sold11ethd1forGMP	today	Mon4/18/21	fr1.ngn1			
1	Po51bidInteMewi/ ScoleRt,jew	8 day	MonS/1/12	w s111n2			
11	PijMIGMP	5days	ThuS/12/21	wds11sn1			
14	UC/1101/GMT	tday	ThuS/19/22	ThuS/19/U			
19	COS-0bminl	1 day	Wed1/6/22	Wed1/6/22			
10	OSIndSCSCReview	Ud1y1	Th,17/1/U	Tue9/6/12			
21	PROCUJMHHT & SUJMITTALS	9Sd1f'	Mon6/6/12	10/14/22			
21	foundat11Dn0n.&S11bnf1tal		Mon6/6/22	10/14/22			
21	foundat11Dn0n.&S11bnf1tal		Mon6/20/U	Fr17/8/21			
21	Concr'1SobolL11J	10 days	Mon6/10/22	fr17/101			
H	HVACSubmitL1b	1.5 days	Mon6/20/22	Fr17/8/U			
Z	Curils Wal, Glau SubmlL115	15 days	Monh/20/22	fr17/8JU			
H	StulSubminah		Monr/20/U	rn111sm			
ZE	Door IncFdmMSubf1lital,	10 da.s	W.01'16/1.0/21	rt/1/21			
19	UbCu''''11'diqu1pSubml''1s	15d1y1	W.cn6/10/22	Jy7/1/22			
10	FilblateOoorf1mes	30diV5	W.on7/1B/U	rr1S/1/22			
11	W11'idowM1trch11HdTime1td11bration40da.s		Mon7/1.S/11	Fr11/U/22			
n	fubr111HVAC Equipment	60diVt	Mon7/1S/22	rr90/17/22			
11	9j hbncattUb(ajf...ork	60d1y1	Mol17/2S/22	fr1 10/14/22			
14	filbouteSttl	SOd s	N11n8/1/22	rr10/7/22			
U	a,CONSTRUCTION	J90di'YS	TueJ/6/22	Tue3/S/Z'			
n	ire. core& Shll	121 diV'YS	T'J/6/22	Fr17/21/U			
11	5ml Coam.ct011	Oday1	Tue9/6/22	fue9/6/22			
n	SiteS'1g Lug SIfery, 1oun	5da'f1	w,d9ntu	Tue9/13/22			
li	Cr,1lf A.lldlnaf llanc1lap Parlo.lfg	5d1f1	WCJ/1/22	Tue9/10/22			
0	R tIQleU1, IU	10d yl	WedJ/14/22	Tue9/27/22			
11	freslonControlMchUIH	10d1f1	WedJ/17/22	Tue9/21/22			
Cl	5iltfnd1 li	5days	WCJ/17/22	Tue11/20/22			
o	tr. Stewon, Plsep811dd111Pti	20day5	WecJ/28/22	Tue 102.5/22			
"	Insu.11AQ0ffilche Pen g 818-10	8 days	Wed10/26/22	Fr111/4/22			
*	R1Inll&W-1bd1P17S.OO	2Dd1y1	Mon11V7/12	Fr112/2/22			
h	fl.VolueNWI:1018.00	1Dd-Yr	Mi,all/7/22	Fr111/18/22			
-7	P. Con-secfounhd1D11s@B711.00	10d1y5	1'at111/21/U	fr112/2/12			
9	back1111-1111111 Wsh 11 811.00	5 day1	Mon112/S/12	Fr1n/9n2			
O	ak_ Uca,11115 UI111111; 878.00	1Sdayf1	Man 1 n2	fr112/1/22			
M	51abanGread 1)711.00		MonU/26/12	Tuet3/U			
ii	Y. In.11111 r1gattP tsflH1S..00		MO-11/7/22	rr111/15/22			
52	(trv110P11Eut 888..00	10 d1'f	MO(U/5/22	fr112/16/22			
U	21. tWnEngWalls/ 18.11.00	10 daj	Mon11S/21	Fr1U/16/21			
5	COMH111 foundat01111 H11.00	15days	MO-11/5/11	Fr11/6/11			
s	1KkH11'tnalJ'111w,11,(P 318.00	5 diV5	Mon 12/19/21	Fr112/23/22			
s	21. 8ad-fil Relains-n1 W111h@aaa.oo	5 clays	M01111/19/2	fr112/21/22			
U	Undmh.bU111111,us.oo	10day1	1',O(11/26/U	fr11/r,U			

Task Name	Start	End	Frequency	Start	End
11	SLabonGodf@E&OO	10d1y1	onF9Z1	frJ/20/11	
W ir.	Erfd Sm.chr.118td,Jo1 u, DI-k	-od1y1	Wollf/1,3/23	Fr3/17n3	
WI	ainc:ulean Dell 3-dRoor	Sd1YJ	Mo*1/10/23	Fr3,Z4/23	
'1	COI enll'onDf2ndFODD'	.Sday	MonJ/27/23	Fr1W/D	
2	COna-ett'onOtdLU floor	Sd1y1	oll.on4/0/U	Fr4n/21	
U	lri,UII I11Sain	20d1y1	Mon4/1/23	Fr1*21/23	
IM	f.im19U11KsrWalh	10day1	Mon4/1/21	Fr5/U/21	
0,1..	1LH11HffQRW.ill	10d1y1	Wim4/17/21	Fr15/2/21	
67..	WateporoolUlteriDrWalh	2od1y1	MonS/1/23	Fr1S/n/11	
6,1-:	600(F dfl)	1lday,1	onS/1/21	Fr1E/9/23	
K	Inst.illuollhft,	1Sday1	MonS/1S/11	Fr16/2/U	
10	InstallHydrof,lc RHHS	15day1	.Y.onS/15/23	Fr16/2/21	
71	Terwo1t1	25day1	MonSa9/123	Frn.a0n1	
11	W11Kawg&Calt11y111/11/11/11	2Sd,-s	Wons29/23	Fr1&/30/23	
11	15days	W.onS/11/13	Fr1&/16/13		
H	SNRooftop.AIU4,5,fi,1,8,9	10days	Mon&/19/21	fr16/30/U	
f	s...Atriiimbhaun Fan.J	Sday1	Mon6/19/13	Fr16(13/23	
f	set UibeINUI Fans	5days	MonE/19/23	Fr16/23/13	
11	inml'-tru""Win @	10days	...on6/19/21	fr16/30/2	
71	Gla1n1	15d-Yt	Won7/1/2J	Fr17/21/2	
71	Oriedna	Odayt	fr17/21/21	Fr17/21/1,3	
110	lo-LevelK(127SSF)	91day1	Mon.S/15/21	Monf/11/U	
11	fr,1.n,Intbric<Wall,	Sdays	MonS/15/23	Fr1S/19/23	
11	S1tAHU1,2,3	15day1	MonS/1,2/21	fr1&/9/23	
11	in-wallRotiich	10d1y,1	MonS/1,7/23	fr16/2/23	
11	0,1111d11ough-1,	15d1y1	MonS/ZU/11	Fr1&/9/21	
11	91,1fdOutM1n1K1n(1 Moo,n	-S0day,	MonS/M/U	fr17/11/21	
86	Bull1 outMtd1toom	6001v1	ManS/29/23	fr18/11/21	
17	lnw,1 Insp1ct1ou	lday	MQR&/5/U	Mon61S/1,1	
M	H1nal-1yw,1H	10dayt	Mon&/1,1/11	fr16/10/21	
151	TeHand m'1u1,11e OHMP S,1em,	5days	Mon16/19/U	fr16/17/11	
111	fn,neind 1,1,inasof1u	10day1	Mo11/1/23	Fr1T/14/23	
91	T,peand Rn1th Orwall	10d,-,1	Mo11/1/21	Fr11/1/21	
17	Pr1m1h1at	lday,	Mon1/1/23	Wed1/19/23	
U	CdflJG1rd	Sdays	Thu7/20/U	Wed1/26/23	
11	Ughe1P1U1S	1day	Thu7/27/23	Mon7/11/21	
11	OperableS1f1foldur1ton	Sdays	Thu7/21/23	Wed8/2/21	
1	S7r1nderH1ds	lday1	Thu7/21/21	Fr17/11/21	
97	M fln1Oe,1us	Sday,	TUel/1/21	Mon8/1/21	
11	11,1c&/8/21	Jd1y	Tue1/1/U	T1,1c&/8/21	
11	11,1c&/9/21	lday	WedR/9/21	W1d8/9/21	
100,	Cd1ngT14	JdPfi	W1N1c/9/23	fr18/11/23	
HA	Polnkap	SdayJ	Thu1/10/21	Wed8/16/23	
11	1d1,y-	Thu1/17/13	fr11/18/23		
11	1d1v1	MM/21/21	TV@1/U/23		
11	10day,1	Mon11/1/21	Fr19/1/21		
11	2d1,y1	on9,(11	Tue1/5/H		
106-	011'WD"	5days	We<-1/6/H	Tue9/U/U	
11	BathroomFin,1hH	10dayh	T11ulnon1	Wed1/2/2J	
108	Bathroomf,1ures	Sdays	Thu8/3/U	W1d1/9/11,1	
11	To1etPar111ort1	Sdays	Thu1/10/23	W1C1/16/23	
11	Accessw1r1es	4d1y5	Th111/1/7n1	ru...anun	
11	Floor1naw1base	Sdays	W1d8/2J/U	Tue2/1/23	
11	Ooo,s and turdw1te	2da	W1C1/1/Dn1	Thu8/11/21	
11	ner(q,1,1pmer11ndTechnoloC'P	Sday5	Fr19/1/2J	Thu9n1	
11	11,1c&/8/21	Sd1ys	Fr19/23	Thu9/1/21	

ID	Task Name	Duration	Start	End	Notes
116	Ph11dl11	Sd1vs	Tu19/12/11	Mon9/18/21	
117	h1Floor:Offit&HullhSdt1cltU.SIG	L1,Sd1P1	Tu19/12/11	Fri11/25/11	
118	frim"lml"rDrW.1h	10d1ys	Mon4/10/21	Fri5/1/11	
119	0_rhNdrDIIIPI+ln	40dr,1	Mon4/11/11	Fri5/1/6/21	
120	Bul011E)ctriat' loom	111days	Mon4/11/11	Fri5/1/1/21	
121	Mem mintadSt1rifactufi	1SDq1	Mon1/2/11	Fri5/19/21	
122	lrr- 1 h	15d1(1	Mon5/1/11	Fri5/26/21	
123	lnwd L r a s	1d1y:5	Mon5/29/11	Tue-5/30/11	
124	H111Cryw.11	15d,ys	Mon6/19/11	Fri7/1/11	
125	Tst1ad1nS1ld1"OH MIP Systfl	Ud1y1	Mon11/6/11	Fri7/7/11	
126	Mem1ment11S11r flabds	20d1ys	Mon7/10/11	Fri7/4/11	
127	Tapetodf111h1rs,Y111	10d1ys	Mon7/10/11	Fri7/4/11	
128	PrimPPrnt	1Cd1 s	Mon1/7/21	Fri8/18/11	
129	C..1im1 Grid	1Sd *	Mon1/21/21	Fri9/8/11	
130	lightFklrns	1Sdr,-s	Monans1u	Fri9/18/21	
131	M/fCellmt O eh	1 Sdr,-s	Mon1/28/21	Fri9/15/21	
132	Sprinkler Hnds	1Pd- s	Mon18/21/21	Tue-9/11/11	
133	rhHdlosp1"1:dDn	tdav	Mon9/11/23	Tue-10/9/11/11	
134	lghUOn	11 11	Mon9/18/21	Mon9/18/21	
135	Pointlp	S d 1y*	Tu19/9/21	Mon11/25/11	
136	ee.Ur,1n1*	Ud,v1	Tu1/10/11	Mon10/9/21	
137	r.,1Coat 1'2a	10d,r:1	Tu111/26/23	Mon10/9/11	
138	T,ruru,o	1S days	Fri10/10/11	Mon10/30/21	
139	Pointlp	Jd1v,-	Fri10/11/11	Tu11/1/11	
140	10d,ys	Fri11/3/21	Th11/1/11	Th11/1/11	
141	Cueworic	1Sd,r,s	Tu110/31/21	Mon12/01/13	
142	AcsS08H	10d,r:1	Fri11/17/11	Th11/1/01/11	
143	floor1<"11w/b.ae	11d1v1	Fri11/21/11	MonU/18/11	
144	Doon.ind H1dWU11	Tu111/19/11	Mon1/1n4		
145	10d,r,s	10d,r,s	Th11/11/11	Mon1/12/21	
146	T1S1nd 81nact	10 d r, 1	Th11/2/14	Mon1/5/13	
147	r.,1C1nn	Sd1y *	Tu, 1/22*	Mon1/8/21	
148	14d,ys	Tu,19/2A	Fri11/26/2*		
149	Ind Room:810/Phys labs1 O1aroom (1LnSS1)	195days	Mon1/1/11	Fri1/26/44	
150	hSUI1M0nKuff1n1S11rS1C1ure	10dr,s	Mon5/1/11	Fri5/12/23	
151	frn,cln1r1orW11s	1Sd...s	Mon5/8/11	Fri5/26/21	
152	Onrt,1d Roogh-h	ACd,ays	Mon5/8/121	Fri6/10n1	
153	Build Out flc-1mul 110011	10d,r:s	Mon5/15/21	Fri6/7Jm	
154	111111111111	1Sd s	Mon5/9/11	M6/16/23	
155	lnwaf1...po,c1OM	1d,ys	Mon6/11/11	Tue6/10/11	
156	H1f,1"wall	1d,ay1	Wed6/11/21	Th.,7/6/21	
157	Te111nd1nS1.r,1eOHM/P 1cm1	1Sd1y1	Mon7/1/11	Fri7/1/11	
158	Monum1 1nralS11r1n1shn	1Ddr,-s	Fri7/7/21	Th.,18/1/11	
159	T1p11nd fln1sOryw1H	10d,r:1	Fri7/7/11	Tu.,1/1/23	
160	Mnl Paint	1Cd,r:1	Fri11/4/23	Th11/17/21	
161	Bathroom Fil11fla	1Ddr,-fl	Fri11/4/23	Th11/17/21	
162	Cdml Grd	1Sd,ys	Fri11/7/11	Th11/9/7/11	
163	U1h1fl1or1N	1Sd,act	Fri11/11/11	Th11/14/21	
164	M(C..1ln1O1N1us	1D,ay1	Fri11/11/21	MD11/11/11	
165	Spr1nfler1d1d1	Ud,ys	Fri11/25/21	Mon11/1/11	
166	BH1,oom 11tur1s	S,d1ys	Fri9/1/11	Tue-7/m21	
167	To111n1toru	S,d,ys	Fri9/8/23	Th11/14/23	
168	AcChW111ns	1d,ys	Fri11/15/23	Wed11/10/11	
169	0..111e,aidM1spett10n	1d,ly	Fri11/15/23	Fri9/15/11	
170	U1n110n	1,d,ay	Fri11/15/23	Fri9/15/11	

Full name					
in	Pointup	5diYl	Mon9/18M	fr9/22/3	
in	CeilinT11	12day,	Mon1/18/2	T11eton1u	
OU	CntCoat Pml	10day	Wedto-1/2	TuelO/1/2	
11'	Termuo	ISd,iyl	WedO/11/21	Tu 11{1/n	
I ..	Pointup	3diyl	Wed11/8/23	Fdl10/23	
11...	SKondCD.11Pain1	10dat"	Mont1/1/23	Fn11/2-4/23	
m ..	floo<111w/bai.e	17dfil.	Mont1/20/21	Tu.12/12/23	
17	LibCuework.Indlapi	10day.1.	Mont1/21/1	F.11/2/11/2	
17	LibCuework.Indlapi	10dfIS	MontV-Jn	fr12/29/2	
110	Canuari.	8dafl	WedU/11/13	fr12/21/21	
11	OwnerEquipmentIndTcdmolor,	10diyl	WedU/11/21	TuU/26/1	
11	Decor.fidHt Ident	10days	WedU/11/23	T..at.26/21	
1&3	TstfPdLililfue	dlr	WHH11/11/21	Tue:12/19/14	
UM-	*111110nn	Sdlv1	Moll1/1/24	fr1/5/24	
1U ..	Punchbt	15day	Mon1/1/24	fr 1/26/24	
1A1	IndFloor:81a/Ch1'mlib.&Cbisuooms 1U,nss,1	20days	MoF5/H/21	MDH1/4/24	
111	friml'frlfrn0f' Walb	15diyl	MonS/29/U	fr6/16/2.]	
ca	o. 1-1c.drouf,ln	30days	MO115/29/1	fr1a/4n.]	
119	In-will Aough	20dl.,.	Mon6/11/1.1	Fr11/1/13	
111	8uId Out.E.le:trical R00m		Mon5/19/21	fr7/14/2.1	
191	lrwalilpecllil	2 0 d a y	Mon7/17/21	Tu11/1/21	
FR	H*IDFWllR	15diyl	Wed7/19/21	fota/8/23	
191 ..	T1S1Hodkaut.UOH.M/PS.-1:tm;	15diyl	MonB/7/23	fr1/25/2	
1U	Tapt Ind fonhhDJW-U	20dlys	Widp./9/21	foe/5/23	
13	Primr P1Int	10diys	WedJ/6/2	Tue/1/13	
196	Bithroom F1rx1	10day	WedJ/20/23	T1111M/23	
197	Cello.11Gid	15days	WedJ/20/23	Tu10/10/2	
1911	UihflidMIS	15d.yd	Wed9/27/23	Tre:10/11/23	
111	M.E lilaONICH	15days	WHH1/7/23	111do/1/21	
200.	SprinkletfieldS	15diyl	Wed9/17/21	Tue10/17/11	
111	Bathoom b.ares	5diys	Wed10/4/23	Tue0/10/21	
212	TOilidPurdions	5diys	Wed10/11/11	T11110/17/1	
10)	0. tflid Inspection	15dy	WHH0/11/23	Wed10/11/2	
10/	dltr10f	15df	Wed10/18/11	Wed10/18/23	
215	Accusorltt	5diys	Wpd10/11/1/1	11110/24/23	
206	Pointup	Sdl.,s	Thu 10/19/21	Wed10/11/23	
201	CeilinT11e	15diyl	Thu 10/19/23	WHH10/8/n	
114	1,ntCOi P1Int	10dzvs	Thu 10/26/23	Wed11/6/n1	
201	EyeWashandShowr.s	Sd.in	Thu U/9/21	Wed11/15/2	
1K	TerkUO	15d.,ys	Th111/1/23	Wed11/6/21	
m	Point09	15diys	Thu12/7/21	MIX1U/11/2	
212	5-KondQilP1Int	10diyl	Tue11/1/23	Mon11/1/21	
2091		15diYS	Tue1/2/26&n1	Mon11an4	
1,1	floor11w/blu.	10diys	Tue1/2/26/21	M 1/22/24	
21	Q..nerEquipmet11ind TKMok:1D	15d.rv	fr1/9/24	Mon1/2/14	
116	LabC.utwork and Tops	25dr.,	fr1/9/24	MonV12/2.4	
211.	fimmetoock	10di1S	Tue 1/13/24	MonV5/24	
218	Cnl wort	15d.YS	Tu1/23/1.4	Th1,ol/1/24	
21	Qoor' ind Hldw.tre	10diyl	TL1r/1/21/24	MIX1U5n4	
u	11f110en	10day.	Tue 2/6/2	MonU/19n.	
11	Te.stand 111na	10days	lut UH/1.4	Mon1/1.6/24	
.w	Punchlist	10dr.-1	TueU/20/24	Mon1/4n4	
U1	TUIAdSyst1P11/P1NOSP1ctoAf	10dr.s	lut/2/20/21.	MIX11/4/24	
zz	1n111nspe-ton	1 d y	Tue1/5/24	hel',/2A	

GTC Estimates for State Institution Bond Debt Service for A&HS Building

Period Ending	Total Bond Value	Interest	Total Payment	Interest paid	Principal paid	Annual required payment
6/30/2022	60,000,000	2.10%	20 3,704,909	1,260,000	2,444,909	4,075,400
6/30/2023	57,555,091	2.10%	3,704,909	1,208,657	2,496,252	4,075,400
6/30/2024	55,058,839	2.10%	3,704,909	1,156,236	2,548,673	4,075,400
6/30/2025	52,510,165	2.10%	3,704,909	1,102,713	2,602,196	4,075,400
6/30/2026	49,907,970	2.10%	3,704,909	1,048,067	2,656,842	4,075,400
6/30/2027	47,251,128	2.10%	3,704,909	992,274	2,712,635	4,075,400
6/30/2028	44,538,493	2.10%	3,704,909	935,308	2,769,601	4,075,400
6/30/2029	41,768,892	2.10%	3,704,909	877,147	2,827,762	4,075,400
6/30/2030	38,941,130	2.10%	3,704,909	817,764	2,887,145	4,075,400
6/30/2031	36,053,984	2.10%	3,704,909	757,134	2,947,775	4,075,400
6/30/2032	33,106,209	2.10%	3,704,909	695,230	3,009,679	4,075,400
6/30/2033	30,096,530	2.10%	3,704,909	632,027	3,072,882	4,075,400
6/30/2034	27,023,648	2.10%	3,704,909	567,497	3,137,412	4,075,400
6/30/2035	23,886,236	2.10%	3,704,909	501,611	3,203,298	4,075,400
6/30/2036	20,682,938	2.10%	3,704,909	434,342	3,270,567	4,075,400
6/30/2037	17,412,370	2.10%	3,704,909	365,660	3,339,249	4,075,400
6/30/2038	14,073,121	2.10%	3,704,909	295,536	3,409,374	4,075,400
6/30/2039	10,663,747	2.10%	3,704,909	223,939	3,480,970	4,075,400
6/30/2040	7,182,777	2.10%	3,704,909	150,838	3,554,071	4,075,400
6/30/2041	3,628,706	2.10%	3,704,909	76,203	3,628,706	4,075,400
Total				14,098,181	60,000,000	81,508,000

Estimates for IPRB Debt Service for GTC A&HS Building - preliminary and subject to change with SIB payment for comparison

Period	Bond Total				Bond	Total	IPRB	SIB
Ending	Principal	Coupon	Interest	Debt Service	Balance	Bond Value	Payment	Payment
6/30/2022			874,652		49,975,000	49,975,000	874,652	4,075,400
6/30/2023	310,000	4%	2,031,450	2,341,450	49,665,000	49,665,000	2,341,450	4,075,400
6/30/2024	325,000	4%	2,019,050	2,344,050	49,340,000	49,340,000	2,344,050	4,075,400
6/30/2025	745,000	4%	2,006,050	2,751,050	48,595,000	48,595,000	2,751,050	4,075,400
6/30/2026	775,000	4%	1,976,250	2,751,250	47,820,000	47,820,000	2,751,250	4,075,400
6/30/2027	1,635,000	5%	1,945,250	3,580,250	46,185,000	46,185,000	3,580,250	4,075,400
6/30/2028	1,715,000	5%	1,863,500	3,578,500	44,470,000	44,470,000	3,578,500	4,075,400
6/30/2029	2,110,000	5%	1,777,750	3,887,750	42,360,000	42,360,000	3,887,750	4,075,400
6/30/2030	2,215,000	5%	1,672,250	3,887,250	40,145,000	40,145,000	3,887,250	4,075,400
6/30/2031	2,325,000	5%	1,561,500	3,886,500	37,820,000	37,820,000	3,886,500	4,075,400
6/30/2032	2,440,000	5%	1,445,250	3,885,250	35,380,000	35,380,000	3,885,250	4,075,400
6/30/2033	2,950,000	4%	1,323,250	4,273,250	32,430,000	32,430,000	4,273,250	4,075,400
6/30/2034	3,070,000	4%	1,205,250	4,275,250	29,360,000	29,360,000	4,275,250	4,075,400
6/30/2035	3,725,000	4%	1,082,450	4,807,450	25,635,000	25,635,000	4,807,450	4,075,400
6/30/2036	3,870,000	4%	933,450	4,803,450	21,765,000	21,765,000	4,803,450	4,075,400
6/30/2037	4,025,000	4%	778,650	4,803,650	17,740,000	17,740,000	4,803,650	4,075,400
6/30/2038	4,190,000	4%	617,650	4,807,650	13,550,000	13,550,000	4,807,650	4,075,400
6/30/2039	4,355,000	4%	450,050	4,805,050	9,195,000	9,195,000	4,805,050	4,075,400
6/30/2040	4,530,000	3%	275,850	4,805,850	4,665,000	4,665,000	4,805,850	4,075,400
6/30/2041	4,665,000	3%	139,950	4,804,950	0	0	4,804,950	4,075,400
Total	49,975,000		25,979,502	75,079,850			75,954,502	81,508,000

Comparisom of Debt Service payments for SIB and IPRB - IPRB Scenario

Period Ending	Current Debt Service			IPRB Proposed Debt Service			Total Debt Service with IPRB		
	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total
6/30/2022	2,981,242	1,213,287	4,194,528		874,652	874,652	2,981,242	2,087,939	5,069,180
6/30/2023	3,081,246	1,105,699	4,186,945	310,000	2,031,450	2,341,450	3,391,246	3,137,149	6,528,395
6/30/2024	3,172,453	1,000,391	4,172,845	325,000	2,019,050	2,344,050	3,497,453	3,019,441	6,516,895
6/30/2025	2,870,000	894,138	3,764,138	745,000	2,006,050	2,751,050	3,615,000	2,900,188	6,515,188
6/30/2026	2,975,000	784,738	3,759,738	775,000	1,976,250	2,751,250	3,750,000	2,760,988	6,510,988
6/30/2027	2,225,000	687,488	2,912,488	1,635,000	1,945,250	3,580,250	3,860,000	2,632,738	6,492,738
6/30/2028	2,310,000	615,888	2,925,888	1,715,000	1,863,500	3,578,500	4,025,000	2,479,388	6,504,388
6/30/2029	2,065,000	538,788	2,603,788	2,110,000	1,777,750	3,887,750	4,175,000	2,316,538	6,491,538
6/30/2030	2,140,000	474,300	2,614,300	2,215,000	1,672,250	3,887,250	4,355,000	2,146,550	6,501,550
6/30/2031	2,215,000	407,388	2,622,388	2,325,000	1,561,500	3,886,500	4,540,000	1,968,888	6,508,888
6/30/2032	2,290,000	338,050	2,628,050	2,440,000	1,445,250	3,885,250	4,730,000	1,783,300	6,513,300
6/30/2033	1,995,000	266,300	2,261,300	2,950,000	1,323,250	4,273,250	4,945,000	1,589,550	6,534,550
6/30/2034	2,075,000	203,225	2,278,225	3,070,000	1,205,250	4,275,250	5,145,000	1,408,475	6,553,475
6/30/2035	405,000	137,500	542,500	3,725,000	1,082,450	4,807,450	4,130,000	1,219,950	5,349,950
6/30/2036	420,000	117,250	537,250	3,870,000	933,450	4,803,450	4,290,000	1,050,700	5,340,700
6/30/2037	445,000	96,250	541,250	4,025,000	778,650	4,803,650	4,470,000	874,900	5,344,900
6/30/2038	465,000	74,000	539,000	4,190,000	617,650	4,807,650	4,655,000	691,650	5,346,650
6/30/2039	485,000	50,750	535,750	4,355,000	450,050	4,805,050	4,840,000	500,800	5,340,800
6/30/2040	530,000	26,500	556,500	4,530,000	275,850	4,805,850	5,060,000	302,350	5,362,350
6/30/2041			-	4,665,000	139,950	4,804,950	4,665,000	139,950	4,804,950
Total				49,975,000	25,979,502	75,954,502	49,975,000	25,979,502	75,954,502

Comparisom of Debt Service payments for SIB and IPRB - SIB Scenario

Period Ending	Current Debt Service			SIB Debt Service			SIB Required Deposit	Total Debt Service with SIB			Required Payment
	Principal	Interest	Total	Principal	Interest	Total	Principal	Interest	Total		
6/30/2022	2,981,242	1,213,287	4,194,528	2,444,909	1,260,000	3,704,909	4,075,400	5,426,151	2,473,287	7,899,437	8,269,928
6/30/2023	3,081,246	1,105,699	4,186,945	2,496,252	1,208,657	3,704,909	4,075,400	5,577,498	2,314,356	7,891,854	8,262,345
6/30/2024	3,172,453	1,000,391	4,172,845	2,548,673	1,156,236	3,704,909	4,075,400	5,721,127	2,156,627	7,877,754	8,248,245
6/30/2025	2,870,000	894,138	3,764,138	2,602,196	1,102,713	3,704,909	4,075,400	5,472,196	1,996,851	7,469,047	7,839,537
6/30/2026	2,975,000	784,738	3,759,738	2,656,842	1,048,067	3,704,909	4,075,400	5,631,842	1,832,805	7,464,647	7,835,137
6/30/2027	2,225,000	687,488	2,912,488	2,712,635	992,274	3,704,909	4,075,400	4,937,635	1,679,761	6,617,397	6,987,887
6/30/2028	2,310,000	615,888	2,925,888	2,769,601	935,308	3,704,909	4,075,400	5,079,601	1,551,196	6,630,797	7,001,287
6/30/2029	2,065,000	538,788	2,603,788	2,827,762	877,147	3,704,909	4,075,400	4,892,762	1,415,934	6,308,697	6,679,187
6/30/2030	2,140,000	474,300	2,614,300	2,887,145	817,764	3,704,909	4,075,400	5,027,145	1,292,064	6,319,209	6,689,700
6/30/2031	2,215,000	407,388	2,622,388	2,947,775	757,134	3,704,909	4,075,400	5,162,775	1,164,521	6,327,297	6,697,787
6/30/2032	2,290,000	338,050	2,628,050	3,009,679	695,230	3,704,909	4,075,400	5,299,679	1,033,280	6,332,959	6,703,450
6/30/2033	1,995,000	266,300	2,261,300	3,072,882	632,027	3,704,909	4,075,400	5,067,882	898,327	5,966,209	6,336,700
6/30/2034	2,075,000	203,225	2,278,225	3,137,412	567,497	3,704,909	4,075,400	5,212,412	770,722	5,983,134	6,353,625
6/30/2035	405,000	137,500	542,500	3,203,298	501,611	3,704,909	4,075,400	3,608,298	639,111	4,247,409	4,617,900
6/30/2036	420,000	117,250	537,250	3,270,567	434,342	3,704,909	4,075,400	3,690,567	551,592	4,242,159	4,612,650
6/30/2037	445,000	96,250	541,250	3,339,249	365,660	3,704,909	4,075,400	3,784,249	461,910	4,246,159	4,616,650
6/30/2038	465,000	74,000	539,000	3,409,374	295,536	3,704,909	4,075,400	3,874,374	369,536	4,243,909	4,614,400
6/30/2039	485,000	50,750	535,750	3,480,970	223,939	3,704,909	4,075,400	3,965,970	274,689	4,240,659	4,611,150
6/30/2040	530,000	26,500	556,500	3,554,071	150,838	3,704,909	4,075,400	4,084,071	177,338	4,261,409	4,631,900
6/30/2041			-	3,628,706	76,203	3,704,909	4,075,400	3,628,706	76,203	3,704,909	4,075,400
Total	35,144,941	9,031,927	44,176,868	60,000,000	14,098,181	74,098,181	81,508,000	95,144,941	23,130,108	118,275,049	125,684,867

Period Ending	Greenville County	Other Greenville County	Greenville Tech	Rental fees associated from new building	Funds from Brashier Middle College (5)	Total Available	Unused revenues	Actual and Estimated debt service with IPRB	Debt Coverage ratio with IPRB	Actual and Estimated debt service with SIB	Debt Coverage ratio with SIB
	Capital Millage (1)	Millage available to service debt (2)	Capital Fee (3)	service debt (4)							
6/30/2020	3,347,325	1,036,000	1,600,736		411,750	6,395,811	2,173,173	4,222,638	1.515	4,222,638	1.515
6/30/2021	3,484,235	1,036,000	1,600,736		411,750	6,532,721	2,310,283	4,222,438	1.547	4,222,438	1.547
6/30/2022	3,571,341	1,036,000	1,600,736		411,750	6,619,827	1,550,646	5,069,180	1.306	8,269,928	0.800
6/30/2023	3,660,624	1,036,000	1,600,736		411,750	6,709,110	180,716	6,528,395	1.028	8,262,345	0.812
6/30/2024	3,752,140	1,036,000	1,600,736		411,750	6,800,626	283,731	6,516,895	1.044	8,248,245	0.824
6/30/2025	3,845,944	1,036,000	1,600,736	200,000	411,750	7,094,430	579,242	6,515,188	1.089	7,839,537	0.905
6/30/2026	3,942,092	1,036,000	1,600,736	204,000	411,750	7,194,578	683,591	6,510,988	1.105	7,835,137	0.918
6/30/2027	4,040,644	1,036,000	1,600,736	208,080	411,750	7,297,210	804,473	6,492,738	1.124	6,987,887	1.044
6/30/2028	4,141,661	1,036,000	1,600,736	212,242	411,750	7,402,388	898,001	6,504,388	1.138	7,001,287	1.057
6/30/2029	4,245,202	1,036,000	1,600,736	216,486	411,750	7,510,174	1,018,637	6,491,538	1.157	6,679,187	1.124
6/30/2030	4,351,332	1,036,000	1,600,736	220,816	411,750	7,620,634	1,119,084	6,501,550	1.172	6,689,700	1.139
6/30/2031	4,460,115	1,036,000	1,600,736	225,232	411,750	7,733,834	1,224,946	6,508,888	1.188	6,697,787	1.155
6/30/2032	4,571,618	1,036,000	1,600,736	229,737	411,750	7,849,841	1,336,541	6,513,300	1.205	6,703,450	1.171
6/30/2033	4,685,909	1,036,000	1,600,736	234,332	411,750	7,968,727	1,434,177	6,534,550	1.219	6,336,700	1.258
6/30/2034	4,803,056	1,036,000	1,600,736	239,019	411,750	8,090,561	1,537,086	6,553,475	1.235	6,353,625	1.273
6/30/2035	4,923,133	1,036,000	1,600,736	243,799	411,750	8,215,418	2,865,468	5,349,950	1.536	4,617,900	1.779
6/30/2036	5,046,211	1,036,000	1,600,736	248,675	411,750	8,343,372	3,002,672	5,340,700	1.562	4,612,650	1.809
6/30/2037	5,172,366	1,036,000	1,600,736	253,648	411,750	8,474,501	3,129,601	5,344,900	1.586	4,616,650	1.836
6/30/2038	5,301,676	1,036,000	1,600,736	258,721	411,750	8,608,883	3,262,233	5,346,650	1.610	4,614,400	1.866
6/30/2039	5,434,217	1,036,000	1,600,736	263,896	411,750	8,746,599	3,405,799	5,340,800	1.638	4,611,150	1.897
6/30/2040	5,570,073	1,036,000	1,600,736	269,174	411,750	8,887,733	3,525,383	5,362,350	1.657	4,631,900	1.919
6/30/2041	5,709,325	1,036,000	1,600,736	274,557	411,750	9,032,368	4,227,418	4,804,950	1.880	4,075,400	2.216

(1) Tax levied for College's capital needs - in existence for 40 years

(2) Tax levied for Greenville Technical College used for debt service for Certificates of Participation for over 10 years, certificates have been retired.

(3) Capital fees charged to students, no increase anticipated. Flat fee has been in existence over 15 years.

(4) Revenue from community rental of facility,

(5) Rental payments from Brashier Middle College

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Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
Installment Purchase Revenue Bonds, Series 2021
(Greenville Technical College Project) - 20 Year Final
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SOURCES AND USES OF FUNDS

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
Installment Purchase Revenue Bonds, Series 2021
(Greenville Technical College Project) - 20 Year Final
Rates as of June 7, 2021
Preliminary and Subject to Change

Dated Date 10/26/2021
Delivery Date 10/26/2021

Sources:

Bond Proceeds:	
Par Amount	49,975,000.00
Premium	10,025,184.90
	<hr/>
	60,000,184.90
	<hr/>

Uses:

Project Fund Deposits:	
Project Fund	59,250,000.00
Delivery Date Expenses:	
Cost of Issuance	750,000.00
Other Uses of Funds:	
Additional Proceeds	184.90
	<hr/>
	60,000,184.90
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BOND PRICING

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
 Installment Purchase Revenue Bonds, Series 2021
 (Greenville Technical College Project) - 20 Year Final
 Rates as of June 7, 2021
 Preliminary and Subject to Change

Bond Component	Maturity Date	Amount	Rate	Yield	Price	Yield to Maturity	Call Date	Call Price	Premium (-Discount)
2041 Serials:									
	04/01/2023	310,000	4.000%	0.260%	105.336				16,541.60
	04/01/2024	325,000	4.000%	0.380%	108.749				28,434.25
	04/01/2025	745,000	4.000%	0.540%	111.744				87,492.80
	04/01/2026	775,000	4.000%	0.670%	114.512				112,468.00
	04/01/2027	1,635,000	5.000%	0.810%	122.216				363,231.60
	04/01/2028	1,715,000	5.000%	0.960%	125.134				431,048.10
	04/01/2029	2,110,000	5.000%	1.090%	127.834				587,297.40
	04/01/2030	2,215,000	5.000%	1.220%	130.195				668,819.25
	04/01/2031	2,325,000	5.000%	1.300%	132.738				761,158.50
	04/01/2032	2,440,000	5.000%	1.340%	132.321 C	1.620%	04/01/2031	100.000	788,632.40
	04/01/2033	2,950,000	4.000%	1.530%	121.613 C	1.889%	04/01/2031	100.000	637,583.50
	04/01/2034	3,070,000	4.000%	1.560%	121.319 C	2.049%	04/01/2031	100.000	654,493.30
	04/01/2035	3,725,000	4.000%	1.590%	121.027 C	2.185%	04/01/2031	100.000	783,255.75
	04/01/2036	3,870,000	4.000%	1.620%	120.735 C	2.303%	04/01/2031	100.000	802,444.50
	04/01/2037	4,025,000	4.000%	1.650%	120.444 C	2.406%	04/01/2031	100.000	822,871.00
	04/01/2038	4,190,000	4.000%	1.680%	120.154 C	2.497%	04/01/2031	100.000	844,452.60
	04/01/2039	4,355,000	4.000%	1.710%	119.865 C	2.578%	04/01/2031	100.000	865,120.75
	04/01/2040	4,530,000	3.000%	2.000%	108.554 C	2.422%	04/01/2031	100.000	387,496.20
	04/01/2041	4,665,000	3.000%	2.040%	108.196 C	2.466%	04/01/2031	100.000	382,343.40
		49,975,000							10,025,184.90

Dated Date 10/26/2021
 Delivery Date 10/26/2021
 First Coupon 04/01/2022

Par Amount 49,975,000.00
 Premium 10,025,184.90

Production 60,000,184.90 120.060400%
 Underwriter's Discount

Purchase Price 60,000,184.90 120.060400%
 Accrued Interest

Net Proceeds 60,000,184.90

BOND SUMMARY STATISTICS

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
 Installment Purchase Revenue Bonds, Series 2021
 (Greenville Technical College Project) - 20 Year Final
 Rates as of June 7, 2021
 Preliminary and Subject to Change

Dated Date	10/26/2021
Delivery Date	10/26/2021
First Coupon	04/01/2022
Last Maturity	04/01/2041
Arbitrage Yield	1.576849%
True Interest Cost (TIC)	2.151183%
Net Interest Cost (NIC)	2.389759%
All-In TIC	2.270183%
Average Coupon	3.891407%
Average Life (years)	13.359
Duration of Issue (years)	10.705
Par Amount	49,975,000.00
Bond Proceeds	60,000,184.90
Total Interest	25,979,502.08
Net Interest	15,954,317.18
Total Debt Service	75,954,502.08
Maximum Annual Debt Service	4,807,650.00
Average Annual Debt Service	3,909,023.70
Underwriter's Fees (per \$1000)	
Average Takedown	
Other Fee	
Total Underwriter's Discount	
Bid Price	120.060400

Bond Component	Par Value	Price	Average Coupon	Average Life	PV of 1 bp change
2041 Serials	49,975,000.00	120.060	3.891%	13.359	45,214.65
	49,975,000.00			13.359	45,214.65

	TIC	All-In TIC	Arbitrage Yield
Par Value	49,975,000.00	49,975,000.00	49,975,000.00
+ Accrued Interest			
+ Premium (Discount)	10,025,184.90	10,025,184.90	10,025,184.90
- Underwriter's Discount			
- Cost of Issuance Expense		(750,000.00)	
- Other Amounts			
Target Value	60,000,184.90	59,250,184.90	60,000,184.90
Target Date	10/26/2021	10/26/2021	10/26/2021
Yield	2.151183%	2.270183%	1.576849%

BOND DEBT SERVICE

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
 Installment Purchase Revenue Bonds, Series 2021
 (Greenville Technical College Project) - 20 Year Final
 Rates as of June 7, 2021
 Preliminary and Subject to Change

Dated Date 10/26/2021
 Delivery Date 10/26/2021

Period Ending	Principal	Coupon	Interest	Debt Service	Bond Balance	Total Bond Value
06/30/2022			874,652.08	874,652.08	49,975,000	49,975,000
06/30/2023	310,000	4.000%	2,031,450.00	2,341,450.00	49,665,000	49,665,000
06/30/2024	325,000	4.000%	2,019,050.00	2,344,050.00	49,340,000	49,340,000
06/30/2025	745,000	4.000%	2,006,050.00	2,751,050.00	48,595,000	48,595,000
06/30/2026	775,000	4.000%	1,976,250.00	2,751,250.00	47,820,000	47,820,000
06/30/2027	1,635,000	5.000%	1,945,250.00	3,580,250.00	46,185,000	46,185,000
06/30/2028	1,715,000	5.000%	1,863,500.00	3,578,500.00	44,470,000	44,470,000
06/30/2029	2,110,000	5.000%	1,777,750.00	3,887,750.00	42,360,000	42,360,000
06/30/2030	2,215,000	5.000%	1,672,250.00	3,887,250.00	40,145,000	40,145,000
06/30/2031	2,325,000	5.000%	1,561,500.00	3,886,500.00	37,820,000	37,820,000
06/30/2032	2,440,000	5.000%	1,445,250.00	3,885,250.00	35,380,000	35,380,000
06/30/2033	2,950,000	4.000%	1,323,250.00	4,273,250.00	32,430,000	32,430,000
06/30/2034	3,070,000	4.000%	1,205,250.00	4,275,250.00	29,360,000	29,360,000
06/30/2035	3,725,000	4.000%	1,082,450.00	4,807,450.00	25,635,000	25,635,000
06/30/2036	3,870,000	4.000%	933,450.00	4,803,450.00	21,765,000	21,765,000
06/30/2037	4,025,000	4.000%	778,650.00	4,803,650.00	17,740,000	17,740,000
06/30/2038	4,190,000	4.000%	617,650.00	4,807,650.00	13,550,000	13,550,000
06/30/2039	4,355,000	4.000%	450,050.00	4,805,050.00	9,195,000	9,195,000
06/30/2040	4,530,000	3.000%	275,850.00	4,805,850.00	4,665,000	4,665,000
06/30/2041	4,665,000	3.000%	139,950.00	4,804,950.00		
	49,975,000		25,979,502.08	75,954,502.08		

BOND DEBT SERVICE

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
 Installment Purchase Revenue Bonds, Series 2021
 (Greenville Technical College Project) - 20 Year Final
 Rates as of June 7, 2021
 Preliminary and Subject to Change

Dated Date 10/26/2021
 Delivery Date 10/26/2021

Period Ending	Principal	Coupon	Interest	Debt Service	Annual Debt Service	Bond Balance	Total Bond Value
10/26/2021						49,975,000	49,975,000
04/01/2022			874,652.08	874,652.08		49,975,000	49,975,000
06/30/2022					874,652.08	49,975,000	49,975,000
10/01/2022			1,015,725.00	1,015,725.00		49,975,000	49,975,000
04/01/2023	310,000	4.000%	1,015,725.00	1,325,725.00		49,665,000	49,665,000
06/30/2023					2,341,450.00	49,665,000	49,665,000
10/01/2023			1,009,525.00	1,009,525.00		49,665,000	49,665,000
04/01/2024	325,000	4.000%	1,009,525.00	1,334,525.00		49,340,000	49,340,000
06/30/2024					2,344,050.00	49,340,000	49,340,000
10/01/2024			1,003,025.00	1,003,025.00		49,340,000	49,340,000
04/01/2025	745,000	4.000%	1,003,025.00	1,748,025.00		48,595,000	48,595,000
06/30/2025					2,751,050.00	48,595,000	48,595,000
10/01/2025			988,125.00	988,125.00		48,595,000	48,595,000
04/01/2026	775,000	4.000%	988,125.00	1,763,125.00		47,820,000	47,820,000
06/30/2026					2,751,250.00	47,820,000	47,820,000
10/01/2026			972,625.00	972,625.00		47,820,000	47,820,000
04/01/2027	1,635,000	5.000%	972,625.00	2,607,625.00		46,185,000	46,185,000
06/30/2027					3,580,250.00	46,185,000	46,185,000
10/01/2027			931,750.00	931,750.00		46,185,000	46,185,000
04/01/2028	1,715,000	5.000%	931,750.00	2,646,750.00		44,470,000	44,470,000
06/30/2028					3,578,500.00	44,470,000	44,470,000
10/01/2028			888,875.00	888,875.00		44,470,000	44,470,000
04/01/2029	2,110,000	5.000%	888,875.00	2,998,875.00		42,360,000	42,360,000
06/30/2029					3,887,750.00	42,360,000	42,360,000
10/01/2029			836,125.00	836,125.00		42,360,000	42,360,000
04/01/2030	2,215,000	5.000%	836,125.00	3,051,125.00		40,145,000	40,145,000
06/30/2030					3,887,250.00	40,145,000	40,145,000
10/01/2030			780,750.00	780,750.00		40,145,000	40,145,000
04/01/2031	2,325,000	5.000%	780,750.00	3,105,750.00		37,820,000	37,820,000
06/30/2031					3,886,500.00	37,820,000	37,820,000
10/01/2031			722,625.00	722,625.00		37,820,000	37,820,000
04/01/2032	2,440,000	5.000%	722,625.00	3,162,625.00		35,380,000	35,380,000
06/30/2032					3,885,250.00	35,380,000	35,380,000
10/01/2032			661,625.00	661,625.00		35,380,000	35,380,000
04/01/2033	2,950,000	4.000%	661,625.00	3,611,625.00		32,430,000	32,430,000
06/30/2033					4,273,250.00	32,430,000	32,430,000
10/01/2033			602,625.00	602,625.00		32,430,000	32,430,000
04/01/2034	3,070,000	4.000%	602,625.00	3,672,625.00		29,360,000	29,360,000
06/30/2034					4,275,250.00	29,360,000	29,360,000
10/01/2034			541,225.00	541,225.00		29,360,000	29,360,000
04/01/2035	3,725,000	4.000%	541,225.00	4,266,225.00		25,635,000	25,635,000
06/30/2035					4,807,450.00	25,635,000	25,635,000
10/01/2035			466,725.00	466,725.00		25,635,000	25,635,000
04/01/2036	3,870,000	4.000%	466,725.00	4,336,725.00		21,765,000	21,765,000
06/30/2036					4,803,450.00	21,765,000	21,765,000
10/01/2036			389,325.00	389,325.00		21,765,000	21,765,000
04/01/2037	4,025,000	4.000%	389,325.00	4,414,325.00		17,740,000	17,740,000
06/30/2037					4,803,650.00	17,740,000	17,740,000
10/01/2037			308,825.00	308,825.00		17,740,000	17,740,000
04/01/2038	4,190,000	4.000%	308,825.00	4,498,825.00		13,550,000	13,550,000
06/30/2038					4,807,650.00	13,550,000	13,550,000
10/01/2038			225,025.00	225,025.00		13,550,000	13,550,000
04/01/2039	4,355,000	4.000%	225,025.00	4,580,025.00		9,195,000	9,195,000
06/30/2039					4,805,050.00	9,195,000	9,195,000
10/01/2039			137,925.00	137,925.00		9,195,000	9,195,000
04/01/2040	4,530,000	3.000%	137,925.00	4,667,925.00		4,665,000	4,665,000
06/30/2040					4,805,850.00	4,665,000	4,665,000
10/01/2040			69,975.00	69,975.00		4,665,000	4,665,000
04/01/2041	4,665,000	3.000%	69,975.00	4,734,975.00			
06/30/2041					4,804,950.00		
	49,975,000		25,979,502.08	75,954,502.08	75,954,502.08		

BOND SOLUTION

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
 Installment Purchase Revenue Bonds, Series 2021
 (Greenville Technical College Project) - 20 Year Final
 Rates as of June 7, 2021
 Preliminary and Subject to Change

Period Ending	Proposed Principal	Proposed Debt Service	Total Adj Debt Service	Revenue Constraints	Unused Revenues	Debt Serv Coverage
06/30/2022		874,652	874,652	2,347,450	1,472,798	268.38672%
06/30/2023	310,000	2,341,450	2,341,450	2,347,450	6,000	100.25625%
06/30/2024	325,000	2,344,050	2,344,050	2,347,450	3,400	100.14505%
06/30/2025	745,000	2,751,050	2,751,050	2,755,482	4,432	100.16110%
06/30/2026	775,000	2,751,250	2,751,250	2,755,482	4,232	100.15382%
06/30/2027	1,635,000	3,580,250	3,580,250	3,581,482	1,232	100.03441%
06/30/2028	1,715,000	3,578,500	3,578,500	3,581,482	2,982	100.08333%
06/30/2029	2,110,000	3,887,750	3,887,750	3,888,232	482	100.01240%
06/30/2030	2,215,000	3,887,250	3,887,250	3,888,232	982	100.02526%
06/30/2031	2,325,000	3,886,500	3,886,500	3,888,232	1,732	100.04456%
06/30/2032	2,440,000	3,885,250	3,885,250	3,888,232	2,982	100.07675%
06/30/2033	2,950,000	4,273,250	4,273,250	4,276,070	2,820	100.06599%
06/30/2034	3,070,000	4,275,250	4,275,250	4,276,070	820	100.01918%
06/30/2035	3,725,000	4,807,450	4,807,450	6,012,545	1,205,095	125.06724%
06/30/2036	3,870,000	4,803,450	4,803,450	6,012,545	1,209,095	125.17139%
06/30/2037	4,025,000	4,803,650	4,803,650	6,012,545	1,208,895	125.16618%
06/30/2038	4,190,000	4,807,650	4,807,650	6,012,545	1,204,895	125.06204%
06/30/2039	4,355,000	4,805,050	4,805,050	6,012,545	1,207,495	125.12971%
06/30/2040	4,530,000	4,805,850	4,805,850	6,012,545	1,206,695	125.10888%
06/30/2041	4,665,000	4,804,950	4,804,950	6,012,545	1,207,595	125.13231%
	49,975,000	75,954,502	75,954,502	85,909,161	9,954,659	

PROJECT FUND

Center for Arts and Health Sciences Public Facilities Corporation, South Carolina
Installment Purchase Revenue Bonds, Series 2021
(Greenville Technical College Project) - 20 Year Final
Rates as of June 7, 2021
Preliminary and Subject to Change

Project Fund (PROJ)

Date	Deposit	Interest @ 1.5768489%	Principal	Scheduled Draws	Balance
10/26/2021	59,250,000		59,250,000	54,250,000	
	59,250,000	0	59,250,000	54,250,000	

Arbitrage Yield: 1.5768489%

BASIS OF DESIGN
HVAC
EQUIPMENT

- **TRANE™**

Product Catalog

Performance Climate Changer™ CSAA Air Handlers

Application and Performance Information



AHU 1 THROUGH 9

CATALOG

VFR Parallel Flow, Fan-Powered, VAV Terminals





INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

ATRIUM EXHAUST FANS

UPBLAST & HOODED TUBEAXIAL ROOF VENTILATORS

TUB | TUD | TUBSH | THB | THD | THBF | THDF



ATRIUM SMOKE REMOVAL FANS

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TUB/TUD/TUBSH/THB/THBF/THD/THDF Upblast & Hooded Tubeaxial Roof Ventilators

Twin City Fan & Blower Tubeaxial Roof Ventilators provide cost effective, general-purpose ventilation of commercial buildings. Belt and direct drive models are available with adjustable pitch, cast aluminum or fixed pitch, fabricated steel propellers to meet specific application requirements.

- Direct drive sizes 14" to 48"
- Belt drive sizes 14" to 60"
- Capacities from 730 CFM to 72,200 CFM
- Static pressure to 1½" w.g.

Type TUB and TUD (Upblast)

Upblast models TUB and TUD include a heavy-duty, galvanized steel stack cap with butterfly dampers to discharge air upward and prevent recirculation into the building. A splash guard located over the damper pivot area protects against rain entry.

Type TUBSH (Smoke & Heat Removal)

Smoke and heat removal model TUBSH is designed to remove smoke from buildings in the event of a fire. The unit features fusible link damper springs which force dampers to open when the fusible links melt at 165°F.

The TUBSH is designed to meet the time/temperature standards (500°F for 4 hours, 1000°F for 15 minutes) and snow load test for dampers set forth by UL, IRI, and SBCCI.

Type THB and THO (Hooded)

Hooded models THB and THD feature a removable galvanized steel hood for cleaning purposes and are available in exhaust or supply configurations. Hoods on fan sizes 48, 54 and 60 ship knocked down and require field assembly.

Type THBF and THDF (Hooded Filtered Supply)

Hooded filtered supply models THDF (direct drive) and THBF (belt driven) feature a removable galvanized steel hood for cleaning and servicing the fan as well



Model/THO

as 2" washable aluminum mesh filters. Hoods on fan sizes 42, 48, 54 and 60 ship knocked down and require field assembly.

Construction Features

- Painted steel windband on stack cap.
- Aluminum (sizes 14" to 36") and galvanized steel (sizes 42" to 60") butterfly dampers on stack cap.
- Hooded design construction of galvanized steel.
- Heavy-duty, painted steel curb base includes venturi inlet for efficient airflow and prepunched mounting holes for easy installation.
- Structural, galvanized steel frame provides strong support and mounting base for motor and drive.
- Motors are ball bearing type, available in ODP, TE and EXP with a variety of standard voltages.
- Motor cover standard on models TUB, TUBSH, THB and THBF.
- Extended lube lines are standard on belt driven fans.



All models are cULus 705 listed, for electrical, File No. E158680.

Model TUBSH is UL listed for Smoke Control Systems, 500°F for 4 hours and 1000°F for 15 minutes.

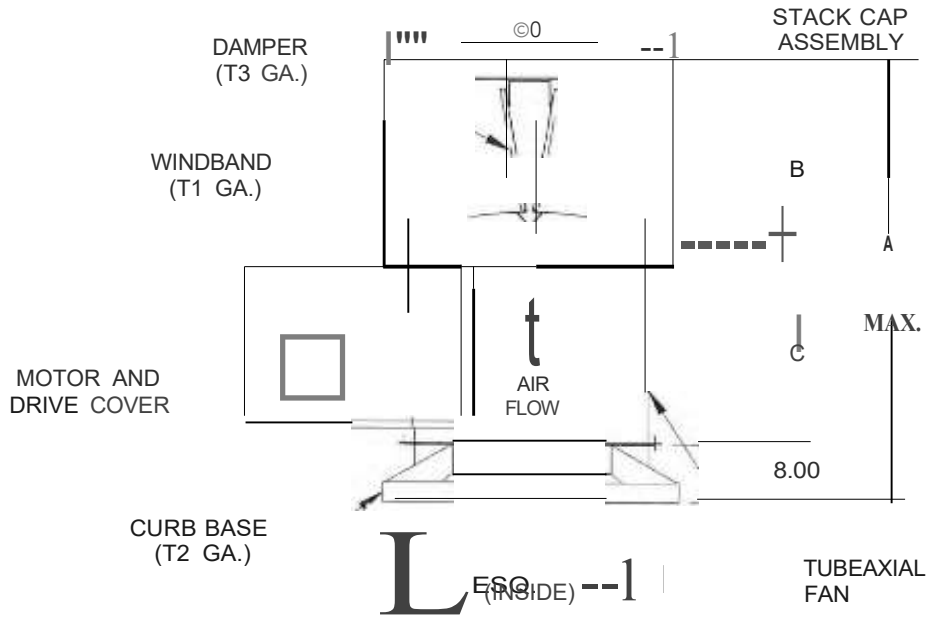


Twin City Fan & Blower, a Twin City Fan Company, certifies that the TUB/TUD/TUBSH Series shown herein is licensed to bear the AMCA Seal. The Ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the AMCA Certified Ratings Program.

Fan Efficiency Grade (FEG) certification applies to Model TUB Sizes 24E4, 24E8, 24Z5, 30E4, 30E8, 30Z5, 36E4, 36E8, 36Z5, 42E4, 42E8, 42Z5, 48E4, 48E8, 48Z5, 54C3, 54C6, 54Z5, 60C3, 60C6 and 60Z5, Model TUBSH Sizes 24Z5, 30Z5, 36Z5, 42Z5, 48Z5, 54Z5 and 60Z5 and Model TUD sizes 21E4, 24E4, 24E8, 30E4, 30E8, 36E4, 36E8, 42E4, 42E8, 48E4 and 48E8.

Dimensional Data - Upblast

Belt Driven - TUB/TUBSH



SIZE	A MAX.	B	C	D	E	T1	T2	T3	SHAFT SIZE	MAX. FRAME
14	43 $\frac{3}{4}$	16 $\frac{3}{4}$	19	20 $\frac{1}{4}$	23 $\frac{3}{4}$	20	16	24	$\frac{3}{4}$	56
16	44 $\frac{3}{4}$	17 $\frac{3}{4}$	19	22 $\frac{1}{4}$	23 $\frac{3}{8}$	20	16	24	$\frac{3}{4}$	143T
18	45 $\frac{3}{4}$	18 $\frac{3}{4}$	19	24 $\frac{7}{10}$	27 $\frac{1}{4}$	20	16	24	$\frac{3}{4}$	145T
21	49 $\frac{1}{4}$	20 $\frac{1}{4}$	21	27 $\frac{1}{2}$	31 $\frac{3}{4}$	20	16	24	1	145T
24	51	22	21	31	35 $\frac{3}{4}$	20	16	24	1	184T
30	59 $\frac{1}{4}$		26	37 $\frac{1}{8}$	42 $\frac{1}{4}$	20	16	20		213T
36			27	43 $\frac{1}{2}$		20	16	20	1 $\frac{3}{10}$	215T
42	71	32	31	49 $\frac{1}{2}$			16	20	1 $\frac{1}{2}$	215T
48	78	35	35	55 $\frac{1}{2}$	60 $\frac{1}{4}$	20	14	20	1 $\frac{1}{2}$	254T
54	86 $\frac{1}{2}$	38 $\frac{1}{2}$	40	62 $\frac{1}{4}$	74 $\frac{1}{4}$	18	14	20	1 $\frac{1}{2}$	284T
60	90	42	40	68 $\frac{1}{4}$		18	14	20	1 $\frac{1}{2}$	284T

Dimensions are not to be used for construction.

D-4850-18

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HIGH EFFICIENCY
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12 MODELS FROM 750,000 TO
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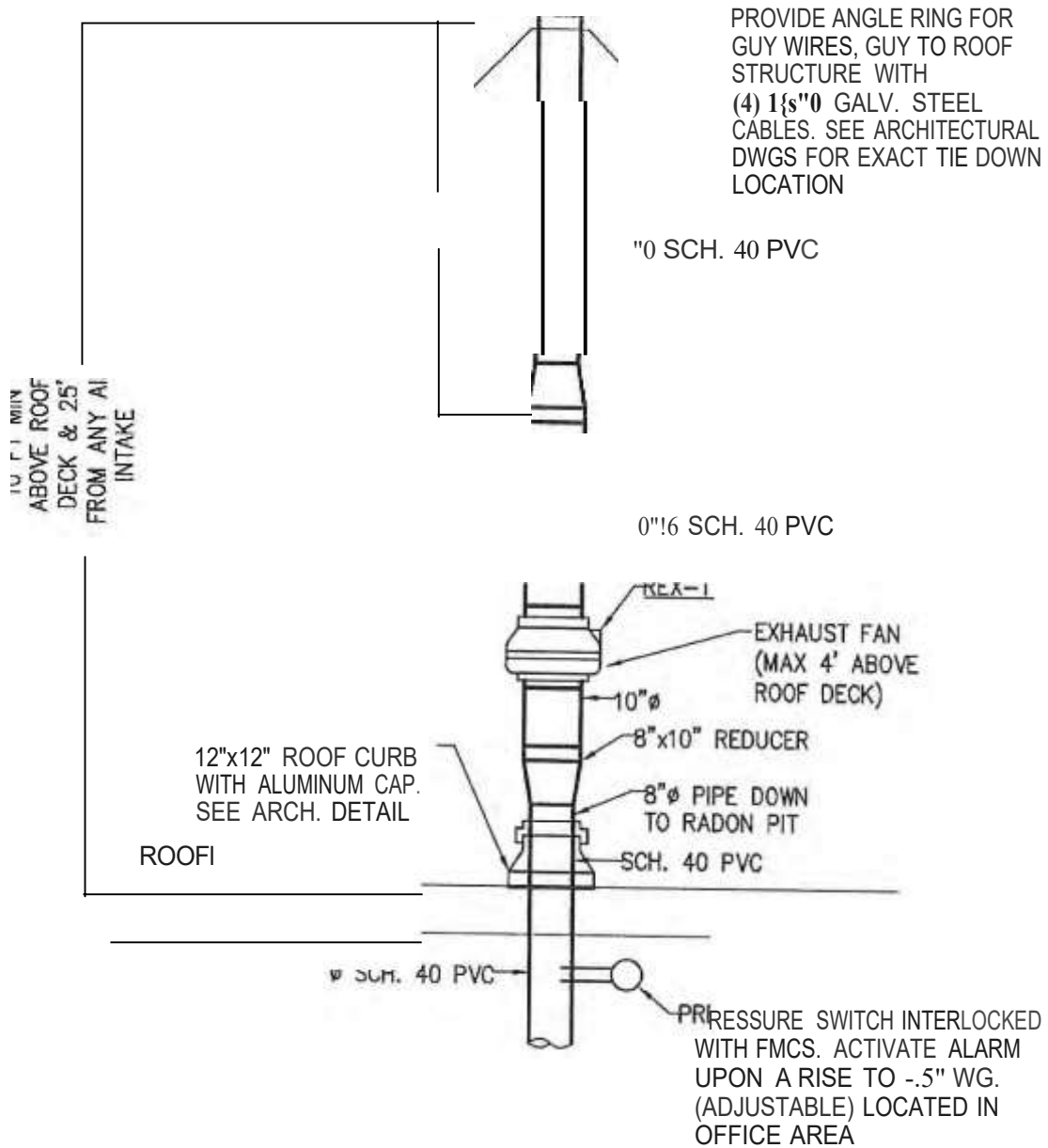
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USA

SUMMER TIME BOILER FOR VAV AND LAB REHEAT

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RADON EXHAUST FAN DETAIL

NO SCALE

Plumbing Narrative

I. Plumbing Systems

- A. New indoor plumbing systems are required for new fixtures shown on the architectural schematic plans.
1. New plumbing is to be included for gang toilets located throughout the building along with individual toilet rooms, along with janitor's closet on each floor. Water Closets are to be equipped with 1.28 gpf flush valves, sensor activated, and hard-wired electric power (no battery). Urinals are to be equipped with 0.125 gpf flush valves, sensor activated, and hard-wired electric power (no battery). Lavatories in gang toilets to include new hard wired electric metering type faucets.
 2. Floor drains shall be included for the new gang toilets with lavatory wastewater trap primers.
 3. Kitchen sinks are anticipated to be located in each break room area, and possible large conference rooms.
 4. Water coolers shall be ADA compliant, bi-level, and shall feature integral bottle fillers.
 5. Plumbing requirements for micro-market is to be determined.
 6. Laboratories shall feature acid resistance sinks as well as be connected to "FuseSeal" acid waste and vent piping - all directed to acid neutralization tanks prior to discharge into building sewer system. This requirement extends to the exhaust fume hoods. Lab tables shall feature domestic hot/cold water supply and gas outlets as located on the architectural equipment plans. Emergency showers and eye washes shall be plumbed and equipped with ASSE compliant emergency fixture tepid water valve.
 7. Elevators throughout the building shall each feature an oil-minding sump pump with remote alarm panel. Pump shall be piped to discharge outside the building.
 8. Roof Drains and overflow drains shall gravity type, shall be minimum 4" in size and shall be piped through chases within the building and connected to site storm drainage system. Overflow drains shall terminate and be visible above grade on the building exterior to a "lamb's tongue" termination outlet. Roof drain piping shall be Cast Iron construction and shall feature minimum 1" fiberglass insulation.
- B. Plumbing materials and fixture requirements
1. Conventional Waste and Vent Piping Systems

Plumbing Narrative

Building Sanitary Sewer waste and vent piping above grade, including piping located in return air plenums, shall be service weight no-hub cast iron with 4-bolt couplings. Vent piping below 2" may be schedule 40 galvanized steel. Below grade piping shall be gasketed hub & spigot cast iron.

2. Domestic cold Water supply

A new domestic water supply service will be required based upon the number and types of fixtures in the building. New domestic cold water and hot water supply (and recirc) piping shall be hard temper type "L" copper. Fittings and valves shall be all bronze construction, and valves shall be certified "No Lead". All domestic water piping (hot, cold, recirc) shall be insulated with R values and thicknesses as specified in 2009 IECC energy code.

3. Domestic Hot Water heating

New plumbing fixtures requiring domestic hot water shall be supplied through a new domestic water heating system consisting of a new condensing gas fired tank type water heater. All domestic water piping (hot, cold, recirc) shall be insulated with R values and thicknesses as specified in 2009 IECC energy code. Hot water shall be stored at 140 F and shall feature ASSE compliant master mixing valve. In addition, lavatories, and other fixtures requiring scald protection shall be supplied with tempered hot water from an ASSE certified point of use mixing valve to protect occupants from elevated water temperatures. Hot water system shall be recirculating type with inline bronze or stainless-steel construction recirculation pumps.

4. Plumbing Fixtures:

Flush valve fixtures such as water closets and urinals shall feature "low flow" flushing. 1.28 gpf for water closets and 1/8 gpf for urinals. Flow fixtures such as lavatories and showers shall feature "low flow" aerators and/or faucets as well.

II. Fire Protection Systems

- A. The building shall be fully protected by a wet-pipe fire sprinkler system. New fire protection service line is required for the building and is anticipated to be 8" in size. Water riser room is targeted to be located in stairwell adjacent to front vestibule on the upper level of the 1st floor. Existing campus fire lines are to be extended to the building by Civil engineer as part of site utility work.
- 8. The building will feature numerous hazard classifications including Light hazard, Ordinary Hazard 1, and Ordinary Hazard 2.
- C. Standpipe systems are anticipated to be required in all stairwells.

END OF NARRATIVE

ARTS AND SCIENCES BUILDING - ELECTRICAL NARRATIVE

ELECTRICAL SYSTEM DESCRIPTION

1. Project Description

This document describes the electrical systems for the Greenville Technical College Arts and Sciences Building Project located on the main Barton Campus in Greenville, SC and shall serve as the Basis of Design. The building has been reviewed, and meetings held with the Owner to discern the Owner's requirements for the project to develop this narrative along with supporting preliminary drawings. This package will serve as a guideline for concept construction costs for this part of the work to be developed.

The electrical distribution systems shown on the plans are developed from information available at the time of issue and will necessarily be modified as the design progresses and more information is available.

The new building is approximately 125,000 sf, and consists of three (3) main levels, a partial lower level and a roof penthouse, with an atrium extending through all three main levels. The project will be pursuing two (2) Green Globes.

2. Codes and Standards

The following shall apply to the project Electrical Design:

2018 International Building Codes (IBC)
2018 International Fire Codes (IFC)
2009 International Energy Conservation Code (IECC)
2017 National Electrical Code (NFPA 70)
ICC/ANSI A1
Americans with Disabilities Act (ADA)
National Fire Protection Association Life Safety Code (NFPA 72)

3. Scope of the Work

A. Power Distribution:

New building will be fed from a pad-mounted transformer to a new switchboard in the Electrical Room. This switchboard will be a 3000A, 480V/277V, three phase switchboard with distribution to branch panels throughout the building as indicated in the proposed power riser. The main electrical room is located on the lower level for the main switchboard. Two electrical rooms will be located on each floor. One "Electrical Room" on Plan East of the building and one "Satellite Electrical Room" on plan West of the building. Refer to Architectural floor plans for specific locations. In addition to the panels indicated on the included power riser, provide and install one 60 amp, 208/120 volt, three phase panel in each IDF and MDF closet from 208/120 volt panel in nearby electrical room.

Electrical Narrative

The Gear shall be designed around Schneider equipment with equals allowed by Eaton and General Electric. All feeders and branch circuits shall be copper conductors in metallic conduits. No MC cable will be allowed. All flexible conduit to vibrating equipment shall be made in sealtite flexible conduits.

No MCCs are anticipated.

Stepdown transformers shall be utilized to reduce the 480/277V, 3ph incoming service to 208/120V, 3ph power for general receptacles, etc.

Panels shall be provided with surge suppression devices.

Voltage drop will be limited to 2% for feeder and 3% for branch circuits to provide a maximum 5% overall voltage drop.

Mechanical loads shall be furnished at 480v, 3-phase with lighting and VAV's provided as 277volt.

B. Receptacles and Equipment Connections

General purpose, specification grade receptacles shall be provided in the following areas:

Offices, one quadruplex at desk location and at least one duplex per wall.

Classrooms, 12ft. on center at least two per wall. See typical room layouts included.

Storage rooms.

Electrical and mechanical rooms.

Lobbies and wide corridors, 20 ft. on center.

Corridors, 25 ft. on center for cleaning.

Restrooms, GFCI type. Minimum one per counter

Conference rooms and other meeting rooms (less than 1000ft²), one floorbox per every 215ft² and outlets every 12ft on center per NEC 210.71.

Communications Room 8 ft. on center, at least one per wall. Two NEMA 6-30R twist lock receptacles per room for owner provided UPS.

Roof, GFCI type within 25 ft of all mechanical equipment.

Floor boxes shall be flush mounted with round cover and recessed wiring devices, Wiremold Evolution series or equivalent. Boxes to be on-grade rated type, where required.

Receptacles with USB chargers shall be located in commons areas.

Electrical Narrative

C. Power Metering and Monitoring

The secondary main electrical service feeder shall be provided with solid-state digital metering, Square D Power Logic Model METSEPM5563 mounted in the main switchboard with communications card ECC-21. The meter will be connected to the building IT Ethernet system for monitoring.

No Sub-metering of lighting, plug loads and HVAC is to be included.

D. Emergency Generator

An Emergency Generator will be provided to supply power to egress lighting, fire alarm system, smoke evacuation equipment and other life safety or emergency systems. Refer to included site plan for potential location for this equipment and power riser for size and additional information. Generator shall be a 700 kW, 480/277 volt, three phase generator with sub-base fuel tank to supply 24 hours of operation at full load. Generator shall be equipped with sound attenuated, skin tight type enclosure (70 dB at 10 ft), critical silencer, with battery charger, block heater and receptacle.

E. Surge Protection

Surge protection Device (SPD) equipment shall be provided on the incoming 480/277 volt service equipment and all 120/208V, 3ph panels and select IT distribution equipment. The service entrance device shall be installed in the main distribution board at the factory and shall be rated for 200KA.

F. Elevators

Two elevators will be provided, one on each side of the building. Elevators will have all machinery located in the hoistway. Power connections, fire alarm connections to each elevator controller will be provided from a Bussman Power Module elevator disconnect or equal. Emergency call system will be provided per IBC, with call stations at every elevator lobby to communicate with central occupied location, and with the ability to call out to emergency responders.

G. Lighting

Illumination levels will be per the Illuminating Engineering Society Illumination Guidelines and recommendations. Lighting fixtures will be LED throughout and shall conform to ASHRAE Standard 90.1-2007.

Daylighting sensors will be used throughout the atriums on each floor, and it is anticipated dimming systems responding to daylight illumination will be used to control artificial lighting in those spaces. Occupancy sensors and dimming switches will be used in most other spaces.

Electrical Narrative

Lighting in common areas and exterior lighting will be controlled via a digital lighting control panel (LCP) on each level, and local switching will be via digital switches connecting back to the LCP. All the lighting panels will be networked together and programmed to operate as one system. All LCPs will be capable of 0-10V dimming and will be equipped with hardware to accept inputs from the building management system in order to control lighting.

Provide auxiliary contacts for all dedicated ceiling or corner-mount occupancy sensors for use by HVAC system.

In computer classrooms, direct and indirect lighting will be provided by linear LED pendants. Direct and indirect lighting will be independently dimmable.

In laboratories, recessed linear lighting will be used for general illumination.

In all other classrooms, offices and other areas with finished ceilings, it is anticipated lighting generally will be provided by 2 x 4 LED type troffers with deep center baskets.

Decorative lighting is anticipated in entry lobbies, central circulation areas and multipurpose room. Multipurpose room will be provided with digital lighting control and RS232 connections for integration into AV system. See separate AV narrative.

Exterior lighting will consist of emergency egress sconces at all entries, decorative sconces for accent lighting around the building, step lighting, and pedestrian pole-mounted lighting for pathways. Exterior lighting will comply with IES Model Lighting Ordinance.

The following table lists the various areas along with the associated lighting levels and lighting systems:

<u>AREA</u>	<u>FOOTCANDLES</u>	<u>DESCRIPTION</u>
Reception and atrium	30-50	Narrow recessed LED with lens
Private Offices, Conference Rooms & General Classrooms	30-50	2' x 4' recessed high performance LED troffer with architectural lens and occupancy (vacancy) sensor
Breakroom, Toilets & Storage	20-30	2' x 4' recessed high performance LED troffer with standard lens and Occupancy (vacancy) sensor. Vanity fixture in toilets.
Corridor - General Circulation	5-20	Narrow Recessed LED with lens, and 4" recessed downlights.
Mechanical, Electrical & Telecommunication	40	1' x 4' industrial LED strip

Electrical Narrative

Emergency egress lighting will be powered from the emergency generator. Provide UL924 transfer devices with dimming override for emergency fixtures.

Emergency lighting will be provided for all building exterior doors.

H. Telecommunications and Security

Telecommunications and IT Systems shall be designed by separate consultants. The electrical contractor shall install all required conduit and cable required to provide pathways for the low voltage contractor. Refer to low voltage systems designer's narrative. Electrical contractor shall initiate and manage a specific preconstruction meeting for low voltage systems integration and coordination.

Service entrance conduits from exterior to the demarcation point in the main telephone closet and to other intermediate data closets will be provided by the electrical contractor.

A basket type cable tray system is to be installed throughout the building in the corridor, on all floors for all low voltage, horizontal distribution cabling. Conduits will be routed to the tray from the devices.

I. Fire Alarm System

An addressable, voice evacuation type, manual fire alarm system will be provided throughout the building as determined by IBC requirements for the building occupancy and located per NFPA 72. The system shall include manual pull stations, speakers, strobes, speaker/strobes, smoke and/or heat detectors, flow and tamper switch monitoring for sprinkler system, and duct detectors in all HVAC units above 2000 CFM. All fire alarm cabling shall be installed in red conduit and identified as fire alarm system raceway. System shall have remote monitoring capabilities with all pieces, parts and appurtenances as required for a complete and operational system. The system shall be specified as Firelite and monitored. All wiring shall be installed in conduit. Provide for elevator recall function.

J. Smoke Evacuation System

Controls and power for Smoke evacuation fans (refer to Mechanical Systems narrative for fans and equipment operation) are part of this scope. Emergency power shall be provided to exhaust fans and all equipment required to supply air for the operation. A smoke control panel with local overrides to allow Fire Department individual control of fans, and provide a graphic annunciation of all equipment and their status will be provided. Smoke evacuation panel and system shall be UL listed for the purpose and shall be monitored by the Fire Alarm system. Refer to the included Smoke Evacuation Control diagram for a sample of what the smoke control system may be like.

Electrical Narrative

K. Intrusion/Card Access

Intrusion/card access systems will be designed by separate consultants. Boxes for Card Access Keypads will be provided per low voltage drawings. Provide power for control box where required. See separate narrative.

L. Audio Visual System

Audio visual systems are to be anticipated for areas in the building. These systems will be specified by separate AV System designer. Raceways, conduits and backboxes will be provided to support the scope for these systems. Raceways shall allow for Cable TV into each classroom. See separate narrative.

M. Power Services

Arc Flash and Coordination Study will be specified to be performed for all new panels, with warning labels applied.

N. Lighting Protection Systems

Provide an alternate price for a lighting protection system complying with NFPA 780, UL-96 and LPI-175. Lightning protection system shall connect to grounding loop surrounding the perimeter of the building. Refer to included grounding details and diagram.

O. Grounding

Provide new ground loop around entire building and bond to building steel and rebars, cold water and grounding tripods at building corners consisting of three (3) 3/4" x 10' copper ground rods, 12' on centers. All connections to be exothermically welded. Provide 24" x 2" x 1/4" copper ground bus in the main electrical and all communications rooms. Route insulated equipment grounding conductor with all power feeders and branch circuits. All grounding to be copper with irreversible connections. See grounding riser diagram attached.

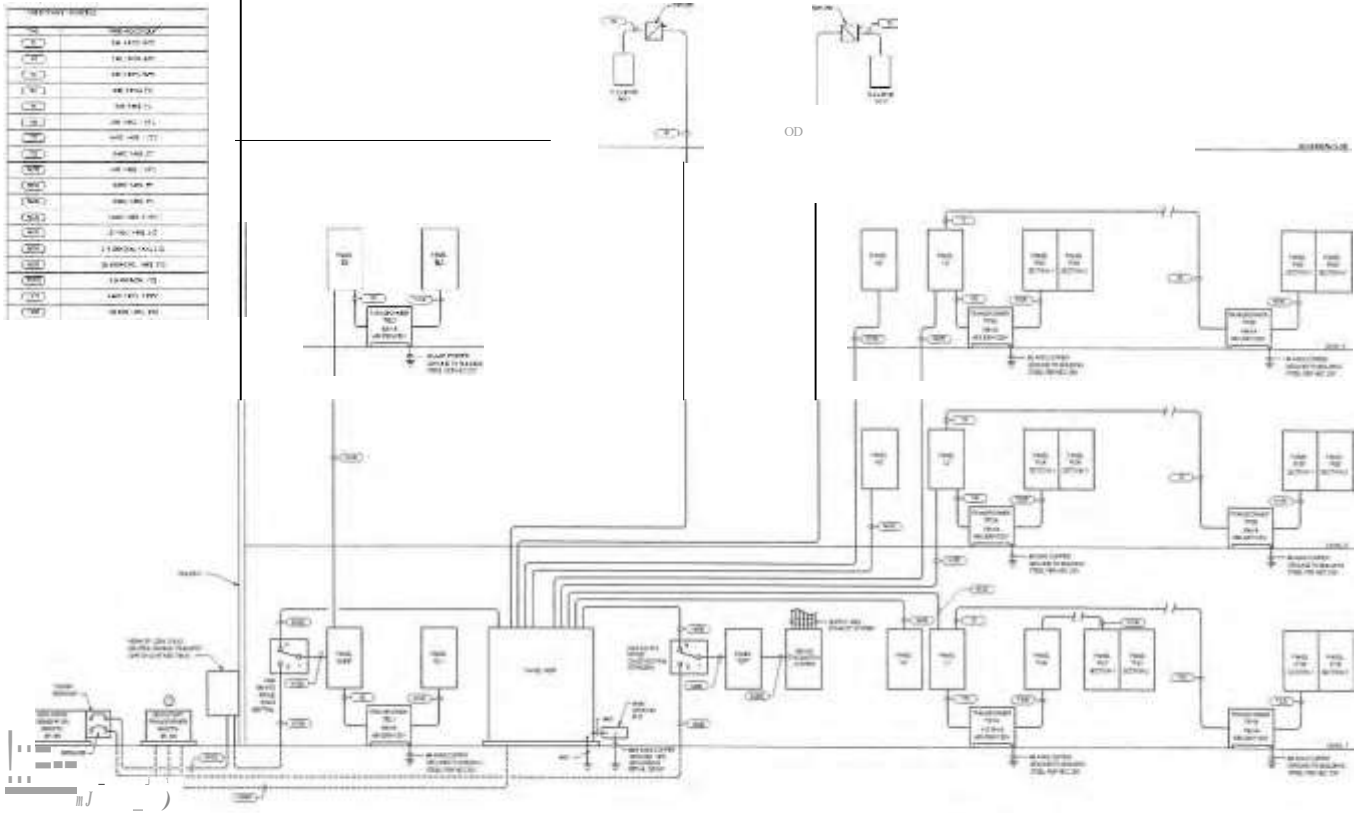
P. Commissioning

Provide all support required for third party commissioning.

END OF ELECTRICAL NARRATIVE

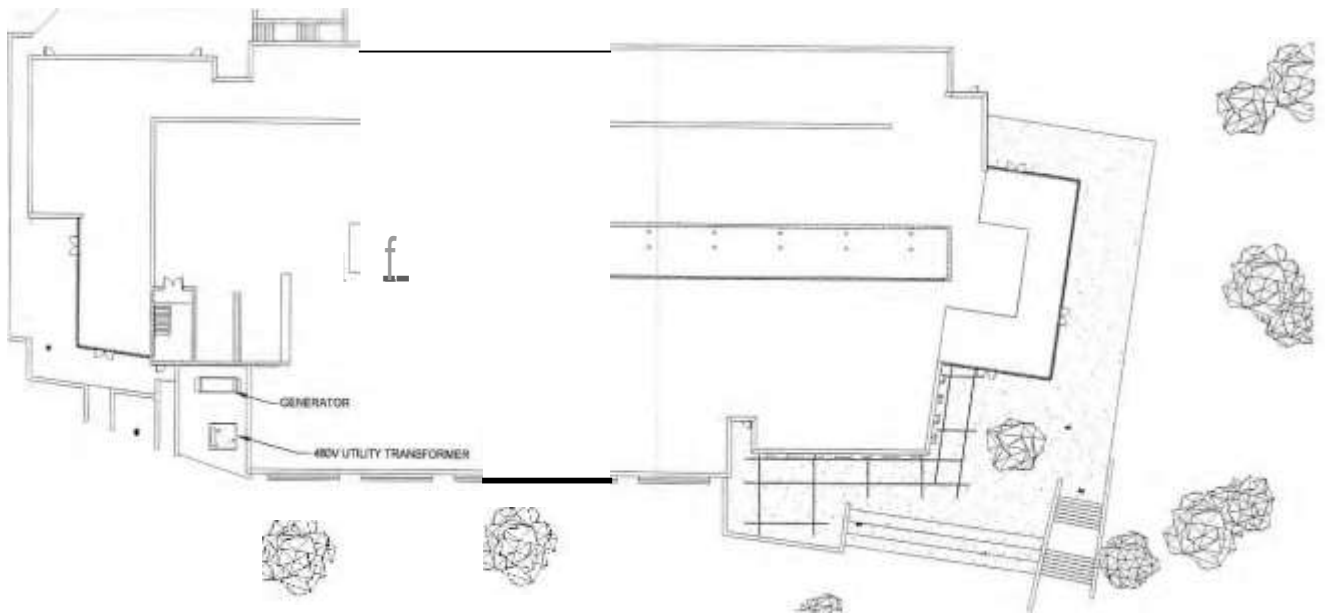
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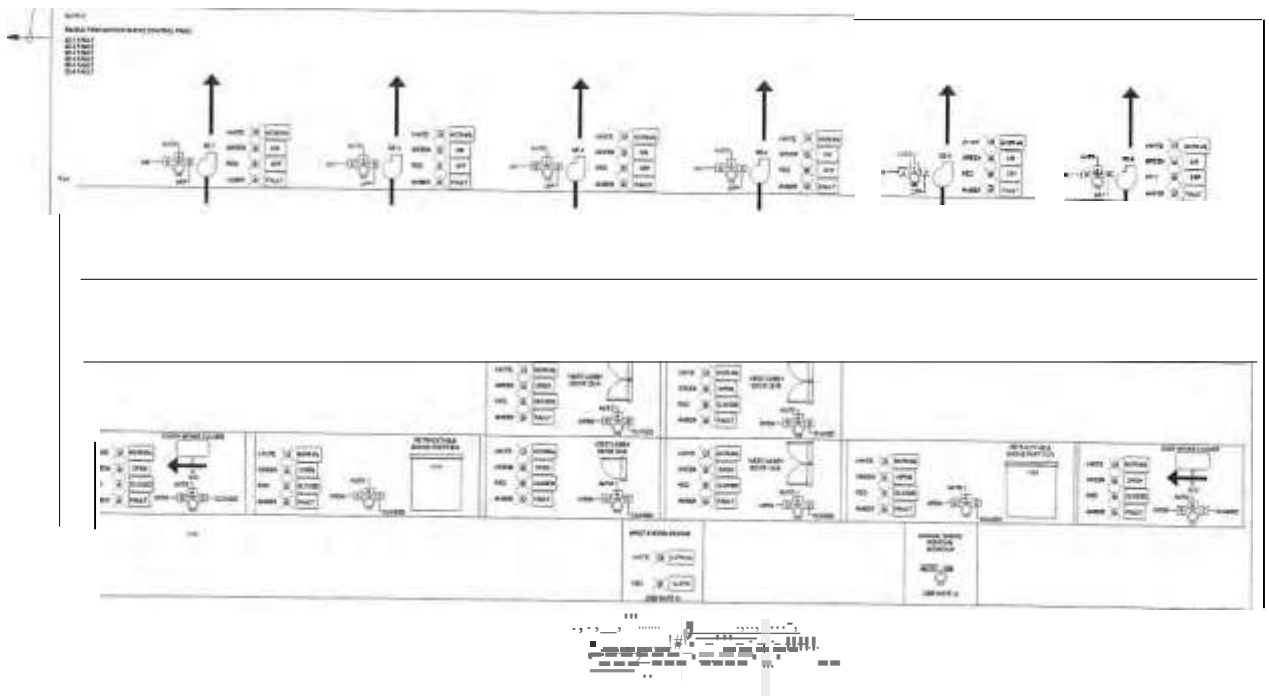


REMARKS:
 1. ALL THE CIRCUITS ARE TO BE PROVIDED WITH 100% EARTHING.
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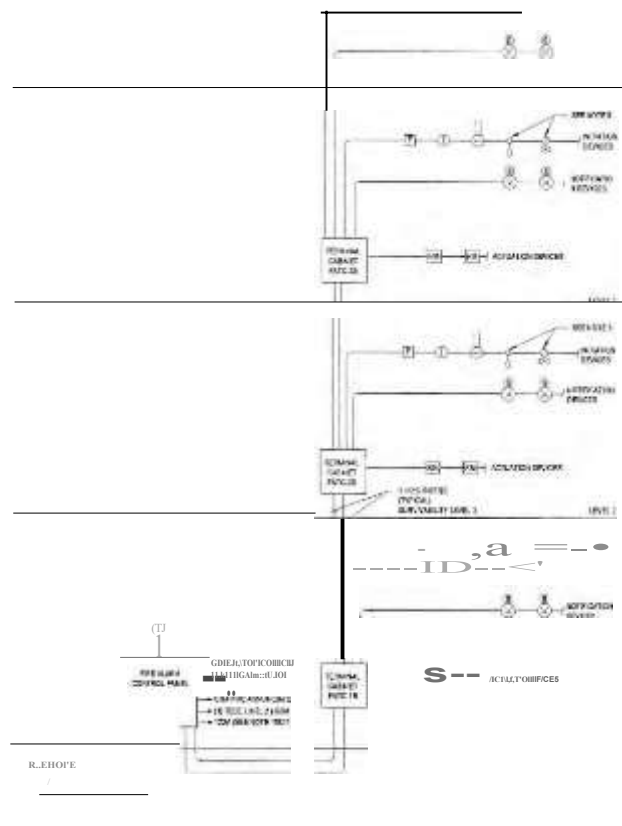
(1) ELECTRICAL RISER DIAGRAM



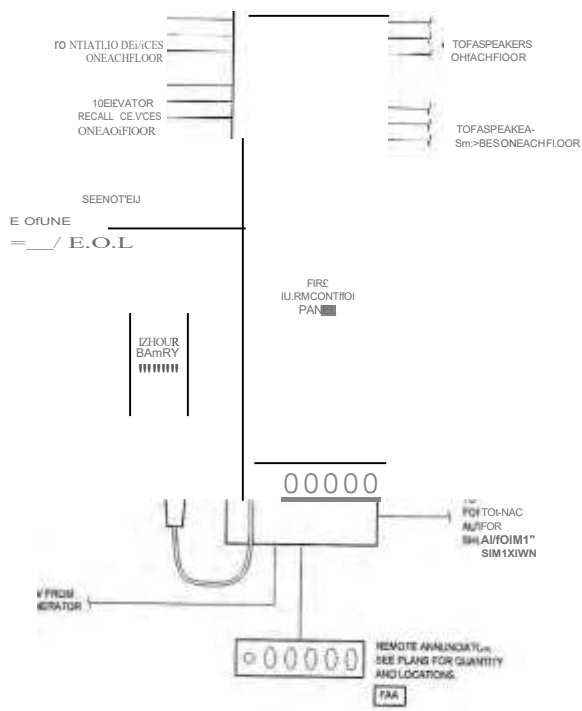
() : TRICAL SITE PLAN



SAMPLE ONLY NOT FOR CONSTRUCTION
 PROVIDED FOR INFORMATION TO BE
 UTILIZED IN SCHEMATIC PRICING



(1) FIRE ALARM MASS NOTIFICATION SYSTEM RISER



NOTES

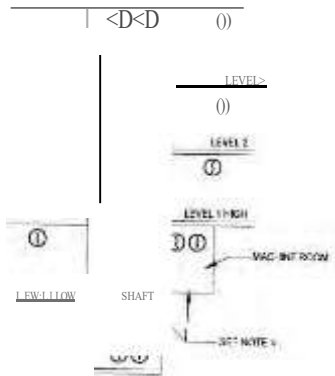
1. ALL CONDUIT SHALL BE MINIATH WIRING A.SREUROE&Y M/M/J.C.TYPER. PAINT" I.I.AINCTIONBOXES COYEAS NII cotm EVERY 10 WITHREO P.MIT
2. CLCTMOUNTED SMOKE DETECTORSTO BE PROVIDED N> V.V.RE.O TOPN.RBY ELECTRICAL CONTRACTOR. MOUNTED IN RETURN DUCT OF EACH HVAC UNIT BY MECHANICAL CONTRACTOR. REFERENCE TO ELECTRICAL DRAWINGS FOR EXACT LOCATIONS. PROVIDE A UL LISTED CONTACT FORMEDIANC. CO. CONTRACTOR USE
3. ELECTRICAL CONTRACTOR SHALL WIRE FROM FACILITY TO EACH VOLUME AIR CONTROL UNIT TO INSTALL SHUT DOWN CONTACT AS A CLASS B BY NFPA.
4. ALL WIRE SHALL BE CLASS B 118MHMIJ MORS. L.W. - 118MHMIJ MORS. L.W. SEE SPECIFICATIONS FOR FORMAT 10H
5. PROTECT SURFACE MODULES TO MONITOR FLOW AND NOT AMPER SWITCHES
6. FLOW SHALL BE CLASS A 1.YNC>PERIMENTAL LABEL E.O.Y. 4/4/KYPE 0/PANE INC>ORCMM.MBER
7. CIRCUIT BREAKER EDIN OF ACP 51-WL BE INSTALLED WITH AUSTO LOCKING 06/MC/ PROVIDE A PERIMENT NPE O LABB.(WHITE LETTERS OHREOBAQCROH.H.>N>A.CENT TO BREAKER HEADNG."RAEA1.AAM"
8. HI NOTIFICATION DEVICES SHALL BE INSTALLED.

(7) FIRE ALARM VOICE SYSTEM DETAIL

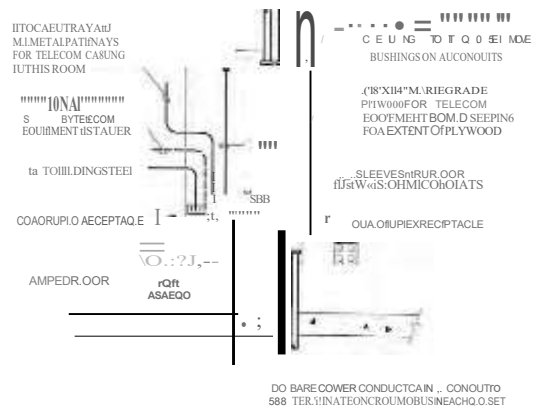
ELEVATOR RECALL SYSTEM NOTES

OPERATION:

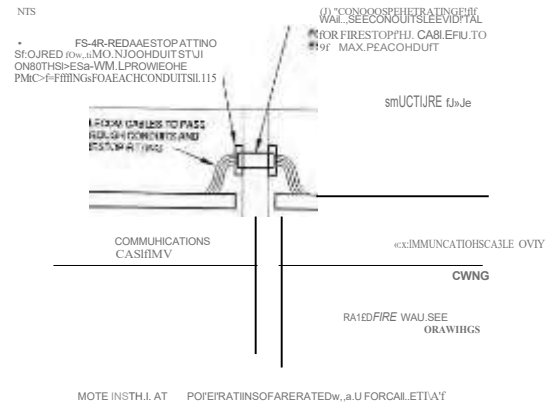
1. IN THE EVENT OF A FIRE ALARM, THE ELEVATOR SHALL BE STOPPED AT THE NEAREST FLOOR AND THE ELEVATOR SHALL BE RECALLED TO THE MAIN FLOOR. THE ELEVATOR SHALL BE RECALLED TO THE MAIN FLOOR WITHIN 30 SECONDS OF THE FIRE ALARM SIGNAL.
2. IN THE EVENT OF A FIRE ALARM, THE ELEVATOR SHALL BE STOPPED AT THE NEAREST FLOOR AND THE ELEVATOR SHALL BE RECALLED TO THE MAIN FLOOR. THE ELEVATOR SHALL BE RECALLED TO THE MAIN FLOOR WITHIN 30 SECONDS OF THE FIRE ALARM SIGNAL.
3. PROVIDE A FIRE ALARM SIGNAL TO THE ELEVATOR RECALL SYSTEM. ALL DETECTORS SHALL HAVE AUXILIARY CONTACTS.
4. THE ELECTRICAL CIRCUIT FOR THE ELEVATOR RECALL SYSTEM SHALL BE INSTALLED IN THE ELEVATOR MACHINE ROOM.



(i) ELEVATOR RECALL SYSTEM

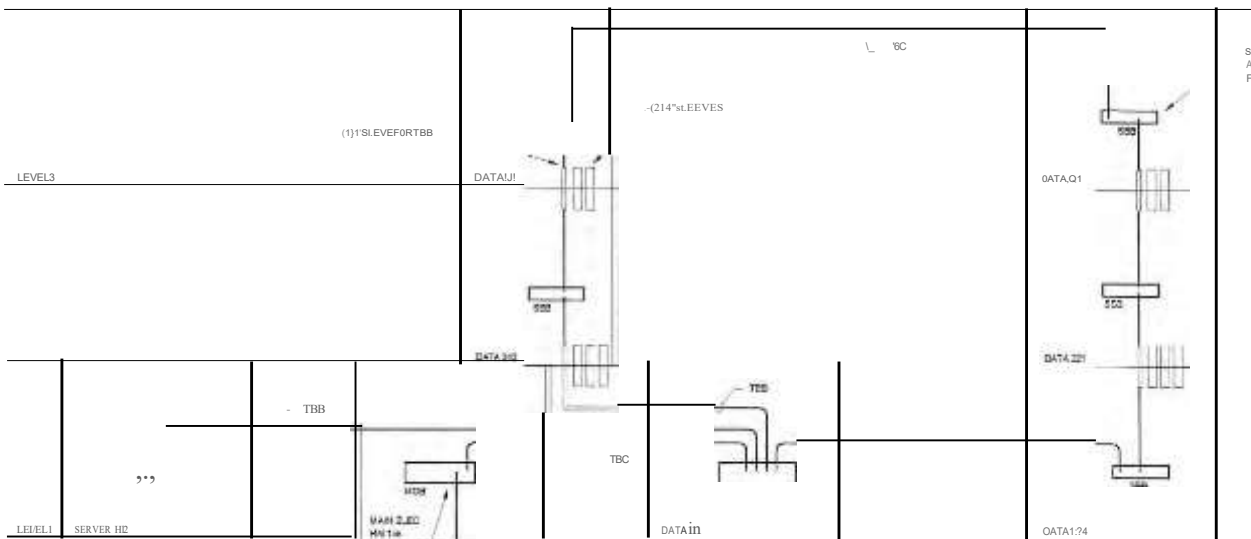


(?) TYPICAL TELE/COM BOARD INSTALLATION DETAIL



(i) TYPICAL CABLE TRAY CONVERSION AT FIREWALLS

KTS



SEE A.I.L. 311007 FOR
ACCOMMODATION REQUIREMENTS
FOR ALL DATA ROOMS

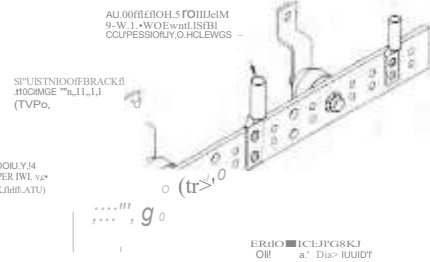
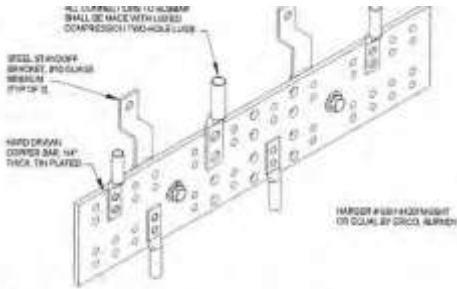
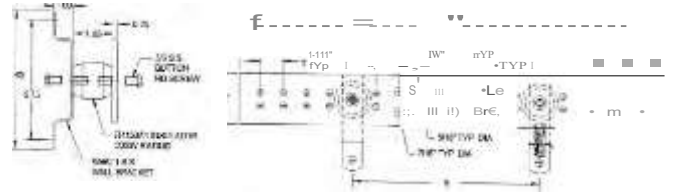
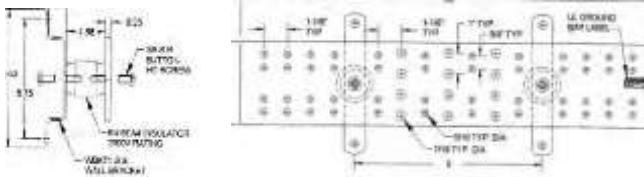
SEE DETAIL 11E007
FOR ELECTRICAL
SYSTEM CONTROL RISE

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 - MGB- MA#GnOUMJNGSJS&RSE.EIEE007
 - 1*98 - PRIMRYBONOING WS8ARF TELECOM SYSTEM S; JIEU07
 - S58 - SECOILIARY 50NOIIC BUSBAA FOR SYSTEM SE: 518X17
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 - TBC* TRECOM8ONOINGCONDUCTOR*MC.JI'1FI,4GmENJ.&CKT 11 1'CBEIV,EE? P6SANOMGB

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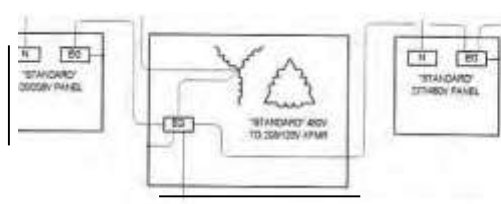
(1j) LECOM SYSTEM GROUNDING RISER



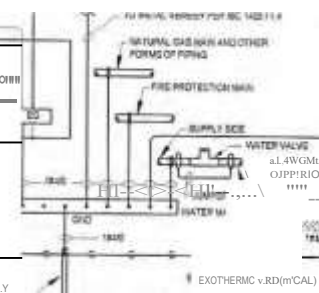
1 PRIMARY BONDING BUSBAR (PBB) DETAIL

(?) PRIMARY BONDING BUSBAR (SBB) DETAIL

SEE REFER TEXT



FACILITY GROUP HOWS MOST TECHNICAL ELECTRICAL ROOMS TO BE BUILT WITH ATTENTION TO...



USE OF BATTERY PACKS FOR...
 THROUGH LOOP BACK TO...
 EXTERIOR BUILDING SEE 10.
 USE OF BATTERY PACKS FOR...
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USE OF BATTERY PACKS FOR...
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NOTES

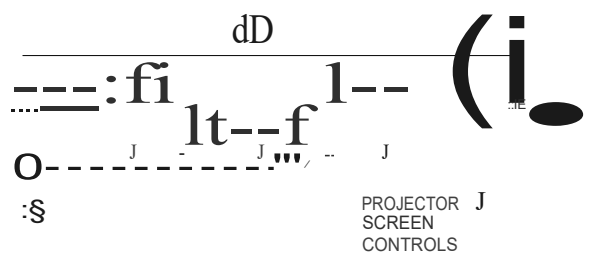
- 1 THIS IS A REFERENCE TO SHOW ONLY THE POINTS TO BE MOUNTED. IT IS NOT TO SHOW THE CONNECTIONS. CHECK THE SCHEMATIC ETC.
- 2 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATION.

GROUNDING SYMBOLS

EXOTHERMIC v. RD (m/CAL)

EXOTHERMIC v. RD (m/CAL)

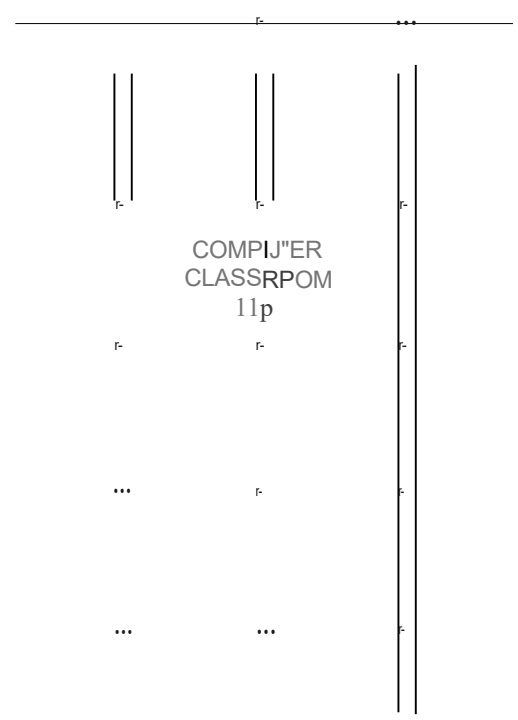
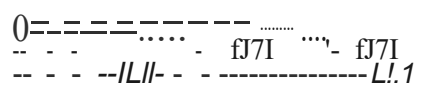
TYPICAL CONNECTIONS FOR FACILITY'S GROUND SYSTEM



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CLASSROOM
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PROJECTOR
SCREEN
CONTROLS

PROJECTOR
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COMPIJ"ER
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LINEAR DIRECT/INDIRECT
PENDANTS FOR COMPUTER LABS
TO REDUCE GLARE ON SCREENS



GREENVILLETECHNICAL COLLEGE
NEW ARTS AND SCIENCES BUILDING

TYPICAL COMPUTER ROOM

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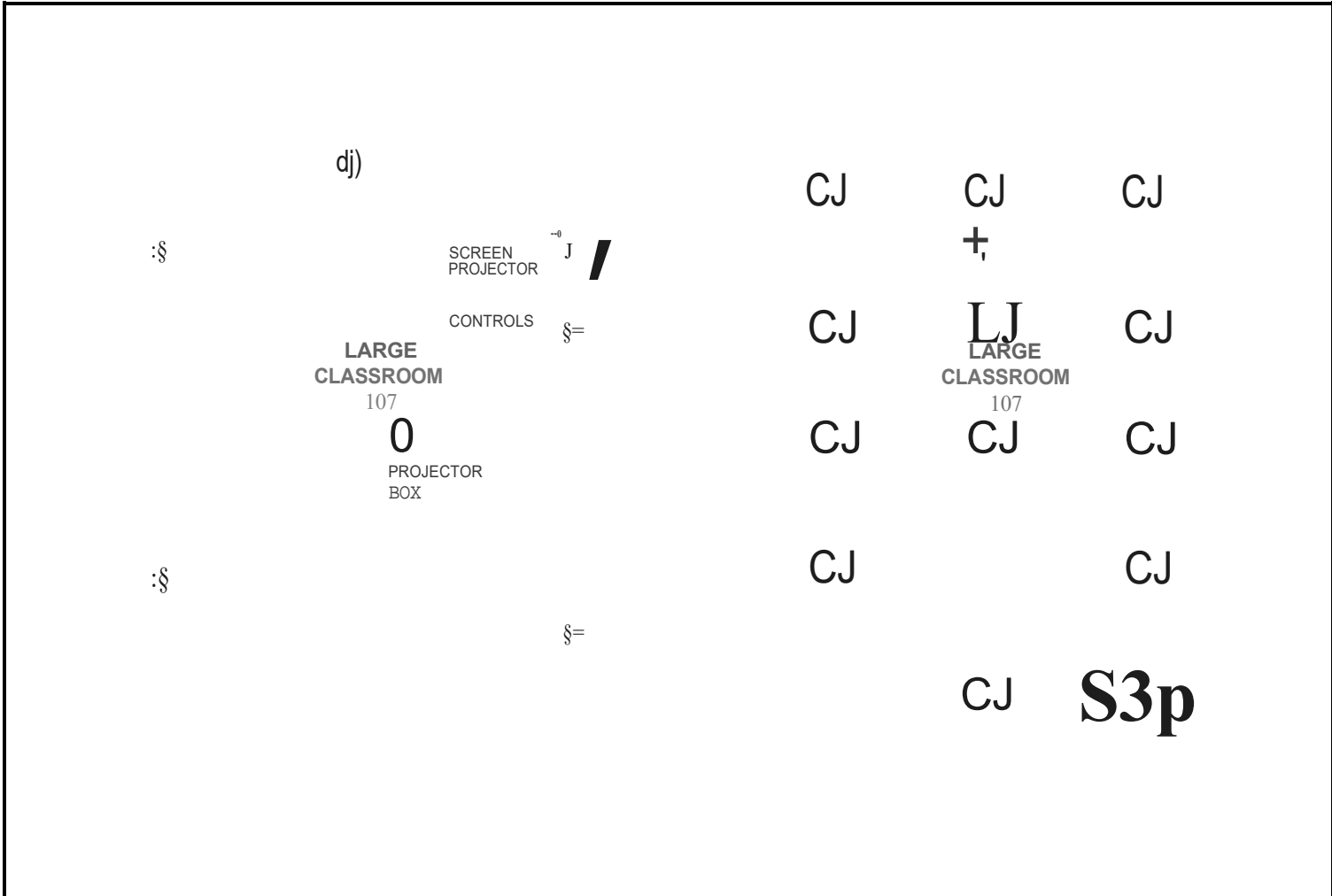
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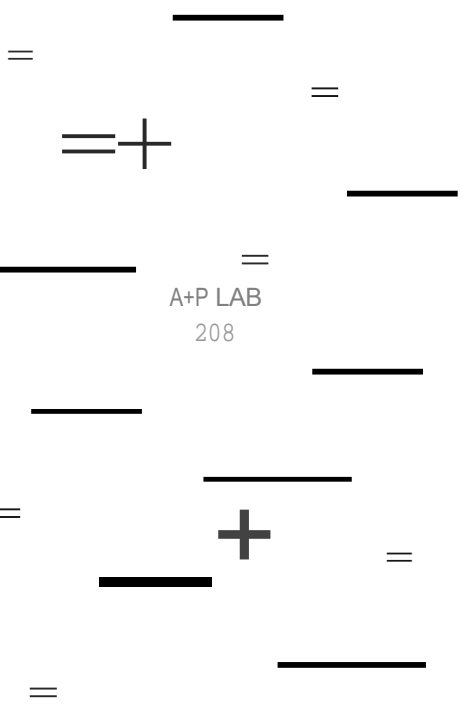
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GREENVILLE TECHNICAL COLLEGE
NEW ARTS AND SCIENCES BUILDING

TYPICAL A+P LAB

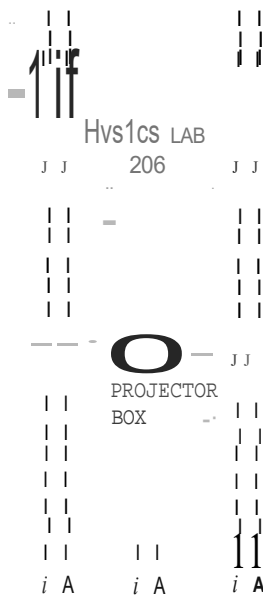
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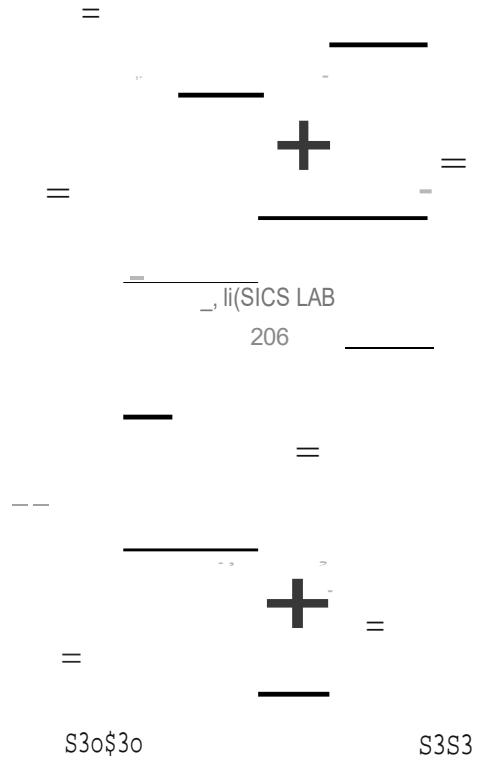
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FACULTY BREAK
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FACULTY BREAK
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rescolite

LTR-4RD

LITEISTRY 4" ROUND DOWNLIGHT

DATE: LOCATION:
TYPE: PROJECT:
CATALOG#:

LITEISTRY.

FEATURES

- 4" architectural LED downlight delivering 600 - 4000 lm
- Five beam distributions from 0.3 to 1.2 Spacing Criteria
- Quiet reflector appearance with superior 50° optical cutoff
- 2700K - 5000K, 80+ and 90+ CRI options
- Available for New Construction (non-IC), IC and Chicago Plenum applications
- Variety of dimming protocol options including 0-10V, DALI, DMX, Lutron Forward Phase and Ecosystem
- NX Distributed IntelligenceN wired and wireless controls capability available



RELATED PRODUCTS

- 8 [LTR-4RD-REF Retrofit](#)
- 8 [LTR-4RD SpectraSync](#)
- 8 [LTR-4RDPH PowerHUBB](#)
- 8 [3" LITEISTRY Family](#)
- 8 [4" LITEISTRY Family](#)
- 8 [6" LITEISTRY Family](#)

CONTROL TECHNOLOGY

NX DISTRIBUTED INTELLIGENCE

SPECIFICATIONS

CONSTRUCTION

- Standard Non-IC, Chicago Plenum and IC options
- Painted black durable steel platform with pre-installed bar hangers
- Pre-wired junction box with snap-on covers for easy access
- Snap-in connection from driver compartment allows easy installation
- Light Engine connections use plenum rated (CMP) cable

OPTICS

- Visually pleasing 50° cutoff to source and source image
- The light distribution is free of distracting bright spots or pixelation and the perimeter has a smooth transition
- Optical grade silicone lens integral to light engine
- High purity spun aluminum reflector, self-flanged
- Flush Mount flange option with mud-in ring available
- Large selection of anodized finishes and colors
- Painted cones and flange options available

ELECTRICAL

- Chip-on-board LED with 2 SDCM
- Multiple CCTs, 80+ or 90+ CRI
- Long LED life: L90 at >55,000 hours (TM-21)
- Universal voltage 120V-277V driver, 347V optional
- UL Class 2, inherent short circuit and overload protection, RoHS compliant
- Flicker free 0-10V dimming with 1% or <1% performance
- DALI, OMX, and Lutron Forward Phase and Ecosystem options
- Integral and remote emergency controller and battery pack options available
- NX or Lutron Vive control options available
- Refer to additional spec sheets for information on [SpectraSync™ Tunable White](#) or [Dim-to-Warm](#) or [PowerHUBB™ PoE enabled solutions](#)

INSTALLATION

- Accommodates ceiling thickness up to 2'
- Universal adjustable mounting brackets also accept 0.5" EMT conduit or 1.5" or 0.75" lathing channel (by others) or Prescolite accessory bar hangers (B24 or 86)
- Light Engine/Driver fully serviceable from above or below the ceiling

CERTIFICATIONS

- cCSAus certified to UL 1598
- Suitable for wet locations, covered ceiling, EM/ EMR: Suitable for damp locations.
- EM/EMR: Certified under UL 924 standard for emergency lighting and power equipment
- Approved for 8 (4 In/4 out) No. 12AWG conductors rated for 90°C through wiring
- ENERGY STAR certified models available (See list and additional information on page 7)
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction. Materials under Trade Agreements effective 6/6/2020. See [Buy American Solutions](#).

WARRANTY

- 5 year warranty
- See HU Standard Warranty for additional information

KEY DATA	
Lumen Range	600-4000
Wattage Range	8-52
Efficacy Range (LPW)	90-99'
Reported Life (Hours)	L90 / >55,000
Input Current (mA)	65-433 (120V)

-Based on Specular, 35K, 80 CRI

resealite

LTR-4RD

LITEISTRY 4" ROUND DOWNLIGHT

DATE: LOCATION:
 TYPE: PROJECT:
 CATALOG#:

ORDERING GUIDE

Example: LTR-4RD-H-SL10L-DM1-LTR-4RD-T-SL35K8MD-S

CATALOG# _____

HOUSING

LTR-4RD-H

Aperture/Shape/Function	Lumen Package	Lumen Output	Driver Options	Control Options	Voltage	Housing Options
LTR-4RD-H 4" Round Downlight New Construction Housing	SL Standard Lumen	06L 600 10L 1000 15L 1500	DM1 0-10V Dimming to 1% DM01 0-10V Dimming to < 1% DMX DMX with RDM dimming to < 0.1% ² DALI DALI Dimming to 1% 2DM Lutron Hi-Lume 2-wire Dimming to 1% (120V Forward Phase only) ² EDM Lutron Hi-Lume Ecosystem Dimming to 1% ²	NXE NX Enabled, Dual SmartPorts ³ NXWE NX Wireless Enabled ³ NXWD NX Wireless Enabled, Dual SmartPorts ³ LV LutronVive Enabled, 0-10V (requires 0-10V driver) LVE LutronVive Enabled, Ecosystem, (requires EDM)	Standard 120-27N 34 347V ⁶	CP Chicago Plenum ^{7,9} IC IC rated** EM Emergency Battery Pack with integral test switch and indicator light ⁹ EMR Emergency Battery Pack with remote test switch and indicator light ⁹ DTS Device Transfer Switch with Dimming Bypass ^{9,11} GTD Generator Transfer Device ⁹ F Fuse
	ML Medium Lumen	20L 2000 2SL 2500 30L 3000				
	HL High Lumen	35L 3500 40L 4000				

TRIM

LTR-4RD-T

Aperture/Shape/Function	Lumen Package	Lumen Output	Color	CRI	Trim Options
LTR-4RD-T 4" Round Downlight Light Engine/Trim Assembly	SL Standard Lumen	27K 2700K	8	80+CRI	VNR Very Narrow (0.3 SC/20) ¹³
	ML Medium Lumen	30K 3000K	9	90+CRI	NR Narrow (0.4 SC/29)
	HL High Lumen	35K 3500K			MD Medium (0.7 SC/44)
		40K 4000K			WD Wide (0.9 SC/61")
	SOK 5000K ¹			XW Extra Wide (1.2 SC/78")	

TRIM CONTINUED

Reflector Finis	Reflector Color	Flange Color Options	Lower Trim Options	Reflector Options
Rn/sh not applcoble with painted reflectors (WC or BC)	Standard Clear	Standard matches reflector color	EM Pre-punched reflector for EM integral test switch and indicator	AM Antimicrobial Coating ⁵
S Specular	CG Champagne Gold	WT White Flange ⁴	FM Flush Mount Mud-in Ring ¹⁰	
SS Semi-Specular	BL Black	BT Black Flange ⁴	WF Wide Flange	
MFC American Mane	LW Light Wheat			
VS Softglow	PW Pewter			
VSS SoftSheen	WC Painted White Cone and Flange			
	BC Painted Black Cone and Flange			

Accessories

- 824 Set of two (2) 24" bar hangers for T-bar ceilings
- 86 Set of two bar hangers for ceiling joist up to 24" centers
- FMR4-R Flush Mount Mud-In Ring Accessory, 4" Round
- LiteGear LiteGear Inverter, 125VA-250VA
- LPS Series LightPower Micro-Inverter, 20VA-55VA
- MOR4-R-WH Metal Oversized Ring, 4" Round, White (8.25" outside diameter)
- MOR4-R-BL Metal Oversized Ring, 4" Round, Black (8.25" outside diameter)
- LTR-SCA4 Sloped Ceiling Adapter, 4", White¹²

Notes:

- 1 5000K available in 80+ CRI only
- 2 DM, EDM, DMX available in 10L-35L
- 3 NX requires DM1 driver option.
- 4 WT not needed for WC. BT not needed for BC.
- 5 AM available with WC or Specular Clear, IS or SWN. Consult factory for other colors.
- 6 347V requires DM1 driver option; not available in 06L or with Controls F, DTS, GTD, EM, EMR. CP available up to 20L; not available with OMX, Controls, or EMR options.
- 8 IC available up to 20L; not available with Controls options. Housing options (except Fuse) not available in combination.
- 10 Flush Mount Flange (FM) requires FMR accessory (sold separately). OTS available with DM1, DM01, DAU, or EOM; not available with LVE.
- 12 Specify slope angle 5"-35" in s-increments. Not available with EM, WF, or FM options
- 13 VNR available up to 30L

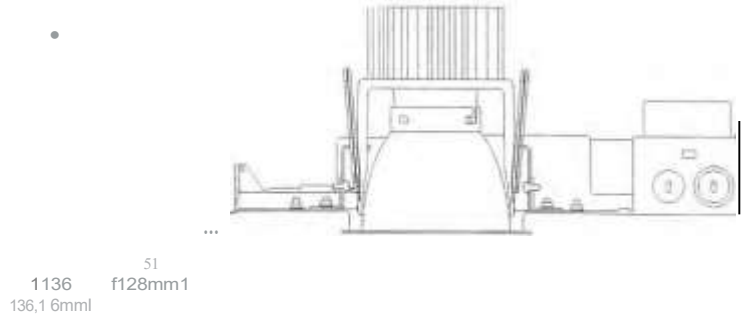
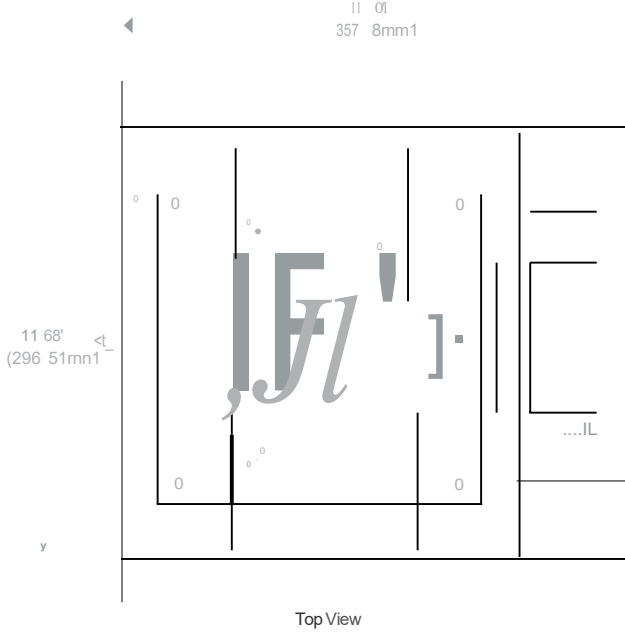
resealite

LTR-4RD

LITEISTRY 4" ROUND DOWNLIGHT

DATE: LOCATION:
 TYPE: PROJECT:
 CATALOG #:

DIMENSIONS

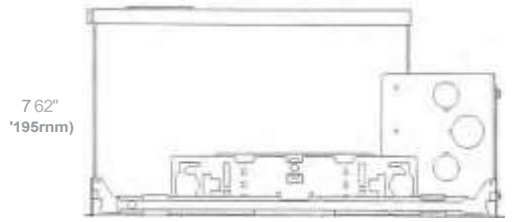
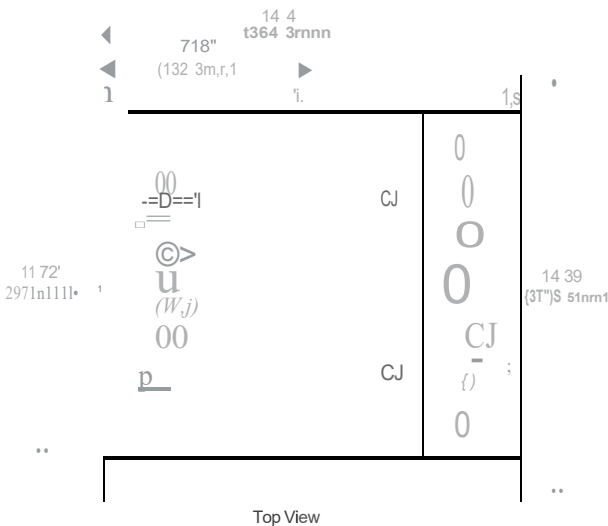


Dimensional Data		
Aperture		4.00" (101.6mm)
Flange:	Standard	5.25" (133.4mm)
	Flush Mount	4.50" (114.3mm)
Ceiling Cutout	Standard	5.00" (127.0mm)
	Flush Mount	5.12" (130.0mm)
Ceiling Thickness:	Standard or w/ SCA s-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)

Lumen Package	"A"
06L-15L	4.97" (126.2mm)
20L-30L	6.15" (156.2mm)
35L-40L	7.33" (186.2mm)

SCA Sloped Ceiling Adapter accessory available, see LT -S:A for dimensional data and other details.

LTR-4RD-H New Construction



Dimensional Data		
Aperture		4.00" (101.6mm)
Flange:	Standard	5.25" (133.4mm)
	Flush Mount	4.50" (114.3mm)
Ceiling Cutout	Standard	5.00" (127.0mm)
	Flush Mount	5.12" (130.0mm)
Ceiling Thickness:	Standard or w/ SCA 5-20° slope	0.50" to 2.00" (12.7mm to 50.8mm)
	With SCA 25-35° slope	0.50" to 1.75" (12.7mm to 44.6mm)

SCA Sloped Ceiling Adapter accessory available, see LTR-SCA for dimensional data and other details.

LTR-4RD-H IC/CP

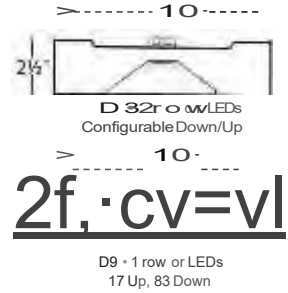


Pru15 Linear



Type:

Job:



11 row 06w,w

00-...S,,,.....,.....@...e e

	LO	MO	so	HO
ln,ft	725	975	1300	1700#
w,ft	7	9.3	13	17

	D1-Downonly	D9-17Up, 83Down
ln/ft	340	465
Witt	3.5	4.6
ln/ft	365	500
w,ft	3.5	4.6

PruIS-SQ

PruIS-R



PRUIS-LED4-LO-SAL-D3
3202
34.1
94

Control down and uplight separately,

Control the amount of Down vs. Up light separately by specifying different outputs (eg.LODown/HO Up) and/or Dual Circuit (DC) dimming controls; 20down/80 up, 80down/20 up or anywhere in between is easily attained. Control down and uplight separately with DC, turning off the Down and leaving the Up dimmed for projector usage, It's all about control.



PRU15

SQ Square LED3 3000K LED35 3500K LED4 4(11)OK LED3-90 90CRI LED35-90 90CRI LED4-90 CJ0CRI	LED27 LO Low MO Medium PROG 4(11)OK LED3-90 90CRI LED35-90 90CRI LED4-90 CJ0CRI	LO Low MO High HO High Liq11t	4-8 Standard HO High NOTES: OT mable Liq11t Output Hr 90CRI NOTE for 03 t:m:m	SAL Satin Ao lic Lens White Auylii: Lens WA,OS LLF,Vhim using SAL IE<	TMW Te tured Matte White Jrt.lv t YSW Seashell White 11 i Mic' y P mun, Color CC Custo,n Color NOTE, I	D3 Direct/ Indirect NOTE: DI Direct Solid Top NOTE: nl, 1 D9 Senll Direlt NOTE li::	SC Single Circuit DC Dual Ckcutt	UNV 1120- P J"N-v D-ll-t, -1 Dow,	CA48", 96"or 144" Aircraft Cable A;u I lb...	XI T-Bar Or Exposed 5'c, q... (-11:ldi fl... r... e'lul,i X3 Hard i_t-ting X6 Slot Grrl / Interlude	ND 011-Di11m11ng DM0f 0-1,r,v, l *, Dimming Strard,,tf LDE5 Lutro,1 5-Senes EcoSy tern LED LDEI Lut1on H1-lume I., EcoSy;ten, LED ECO I', 0-1 ,v, EldoLi:D ECDA I''' DALI, EldoLED	EMHE CAT20 Emtorgen:y Batter-; l1:for"n...M,i lwn"4', - Till 7- rrch-118 PRUBIN Met1..u lou,Bir1ning and Labeling every LED Board ,within a 2-Step iv1acAd- ms Ellipse SENSORS: 205-ON/OFF Wattstoppr PIROc:upanc, 205-STEP: w 205-DM: ,st LUX Ph111ps DLH
--	--	---	--	---	---	---	---	---	--	--	---	---

Pru15 Linear



HA.TEL

MediumDown/ Medium Up:
PRU15-LED4-MO-MO-SAL-03

3940
37
106
4000
Test



Zonal Lumen Summary:

0-90(Down)=51%
90-180(UP)= 49%

688

Vertical Angle	0°	25°	45°	65°	90°
0°	688	688	688	688	688
5°	682	683	685	684	684
15°	648	649	652	651	651
25°	586	588	590	591	589
35°	SOS	SOS	508	508	508
45°	408	411	414	415	416
55°	307	311	315	317	318
65°	211	216	223	227	229
75°	113	120	130	138	141
85°	38	43	58	68	73
90°	13	25	46	53	52
95°	22	57	247	298	176
105°	66	109	267	623	841
115°	119	169	258	497	653
125°	176	233	316	493	605
135°	231	284	359	483	567
145°	275	314	376	444	492
155°	318	338	377	412	429
165°	351	359	374	388	397
175°	370	371	374	374	376
180°	373	373	373	373	373

Standard Output:
PRU15-LED4-SO-SAL-01

2434
26
94
4000
Test



Zonal Lumen Summary:
0-90(Down) = 100%

901

Vertical Angle	0°	25°	45°	65°	90°
0°	901	901	901	901	901
5°	894	895	897	897	896
15°	849	850	854	856	852
25°	768	771	773	774	772
35°	661	662	666	666	666
45°	535	538	542	543	545
55°	402	408	412	415	416
65°	277	283	291	297	299
75°	148	157	167	180	185
85°	42	56	75	90	95
90°	17	33	60	69	69

Luminance Chart:

Angle	0°	45°	90°
45°	6368	5136	4817
55°	5833	4388	4052
65°	5341	3664	3357
75°	4446	2712	2530
85°	3107	1716	1746

IRJN

High Up/ LowDown:

PRU15-LE04-M0-04-WA-D9

1626
17.2
94
4000
Test



Zonal Lumen Summary:

0-90(Down)= 84%
90-180(Up)= 16%

518

Vertical Angle	0°	25°	45°	65°	90°
0°	518	518	518	518	518
5°	514	514	515	514	514
15°	490	490	490	489	488
25°	447	447	445	442	440
35°	389	388	384	379	376
45°	321	319	313	308	306
55°	246	243	238	233	231
65°	168	166	162	158	157
75°	87	85	83	81	80
85°	22	22	20	19	18
90°	0	0	0	0	0
95°	9	10	9	8	7
105°	21	25	29	28	13
115°	34	33	39	44	46
125°	46	44	47	50	52
135°	58	55	56	57	58
145°	67	61	65	65	65
155°	75	74	73	73	72
165°	81	80	80	79	79
175°	83	84	84	84	84
180°	84	84	84	84	84

UPT094 0W

03 DistributionOptions - DOWN and UP

	LO,LO	LO/MO	LO/SO	LO/HO
11 ft	340/385	340/520	340/690	340/850
11 ft	7	8.2	10	12
11 ft	52/48	45/55	39/61	34/66
	MO,LO	MO,MO	MO,SO	MO,HO
11 ft	460/385	460/520	690/460	460/850
	8.2	9.3	11.2	13.2
	60/40	53/47	46/54	41/59
	SO,LO	SO,MO	SO,SO	SO,HO
	610/385	615/520	610/690	610/850
	10	11.2	13	15
	67/33	60/40	53/47	48/52
	HO,LO	HO,MO	HO,SO	HO,HO
	750/385	750/520	750/690	750/850
11 ft	12	13.2	15	17
11 ft	71/29	58/42	58/42	53/47

	LO	MO	SO	HO
11 ft	360	465	600	750
11 ft	3.25	4.6	6.5	8.25

Pru15 Linear



DESCRIPTION

Designed to last with cool running mid-power LEDs projected to maintain 90% (L90) of their initial output for 100,000 hours (at HO), and L70 exceeding 150,000 hours.

REPLACEABLE LED modules and drivers are field replaceable.

PROGRAMMABLE Programmable light output. Specify desired lumens or watts per linear foot. Min: 2 1/2 w/ft, consult factory for requests above 12 w/ft.

PRECISION Standard binning (all Prudential LED boards) includes testing at the chip level and board integration to provide consistent color temperature within a 3-step MacAdams ellipse, with +/- 5% lumen output range and +/- .004 Duv.

PRECISION BINNING Prudential Ltg's exclusive 'job binning' method that ensures color temperature consistency across all luminaires on a project. Meticulously testing and labeling EVERY LED BOARD to +/- 25 lumens, +/- 50k CCT and +/- .004 Duv - while also separating positive from negative - allows us to match color, hue and intensity throughout a project and provides a consistent color temperature within a 2-step MacAdams ellipse.

LISTED CSA and ETL damp labeled and I.B.E.W. manufactured.

DIMMING Must specify LED dimming controls. LED fixtures have constant current driver(s) with less than 20% THD when loaded to a minimum of 60%. Drivers sink a maximum of 6mA per driver. DM01 LED drivers are 0-10V dimmable and are compatible with most 0-10V wall slide dimmers and direct 0-10V analog signal dimmers. Max driver size 1 1/4" w x 1" h.

FEATURES

Power cord is White except for fixtures painted Black. (YBB, YBK) have Black power cords.

Housing 20-gauge steel, >20% PC recycled, 100% recyclable, PAF, Painted After Fabrication

Lens Acrylic, 100% recyclable.

Weight 6lbs/ft.

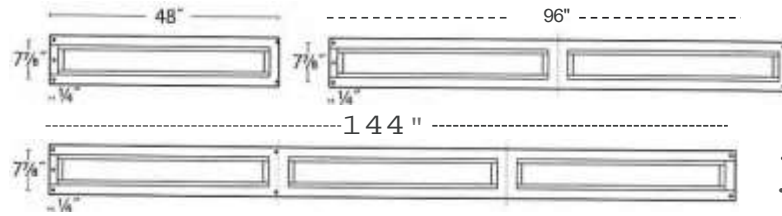
INSTALLATION Suspended by adjustable cable.

WARRANTY Single-source, 5 year limited warranty covers standard components and construction.

Pru15 Linear



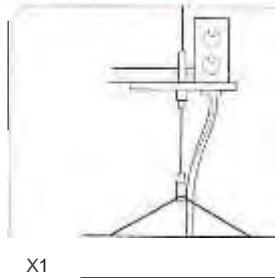
MOUNTING DIMENSIONS



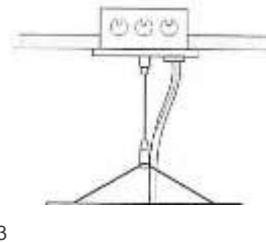
- Cable Mount
- 1/2" Wiring K.O.

NOTE: When connecting two or more, only one mounting assembly required from each additional fixture.

ARMING SYSTEMS



X1



X3

CONTROLS

r

0

1205: WattStopper PIR Occupancy

LUX: Phillips LuxSense Daylight Harvesting, used with Phillips HFR Driver

Choose from one of our Premium Colors with no set-up fee.

For paint chip samples, please email: info@prulite.com

BATTERY UNITS

RP Series

Recessed architectural battery unit



Construction

- Thermoplastic rectangular fixture with additional round trim-plate, white finish
- All-metal backbox enclosure
- Optional black finish
- Fixed optics, optimized light distribution for ceiling heights upto 12ft
- Four high-intensity LEDs with redundant connections; 140 lm/W, CCT 5000K

Options

- Standard unit 680 lumens
- Square distribution unit 717 lumens
- Plenum-rated enclosure
- Fixed, square light distribution pattern up to 12 ft. ceilings

Mounting

- Easily spring mounted in sheetrock ceilings
- Recessed installation in T-bar suspended ceilings

Electronics

- Infrared remote test control (up to 30ft)
- Self-test and diagnostic functions operated by micro-controller
- Two-wire universal AC input: 120 - 277VAC 50-60 Hz
- Battery full recharge in 24 hours
- 90 minutes of emergency lighting
- Optional time delay: 15 minutes
- Optional Nexus®Pro IOT emergency lighting central monitoring system
- Optional Power over Ethernet (requires a dedicated PoE switch supplied by an unswitched AC line)

Battery

- High-temperature rated lithium battery

Approvals

- Listed UL-924 for damp locations: 50° to 104°F {10° to 40°C}
- NSF-certified for splash non food zones
- Listed CEC Title 20
- BC - California Energy Commission Title 20

Warranty (subject to proper installation and maintenance)

Unit has a five-year limited warranty

Detailed warranty terms located online at: www.lightalarms.com

Remote test control

Nexus®Pro O@G@

Photometric performance

The RP Series has a fixed lighting distribution, optimized by design for ceiling heights up to 12 ft. The RP Series delivers a stable and optimal illumination easy to specify. Along an office corridor the space coverage ranges from 68 to 80 feet. The square distribution pattern covers a surface of more than 700 square feet.

Table A: Standard unit 6-ft wide corridor'

Mounting height	Lumens	Spacing center-to-center
9 ft	680	68 ft
10ft		80 ft
12 ft		72 ft

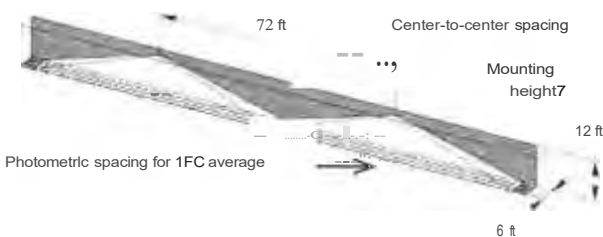


Table B: Option "square distribution pattern" - single unit coverage'

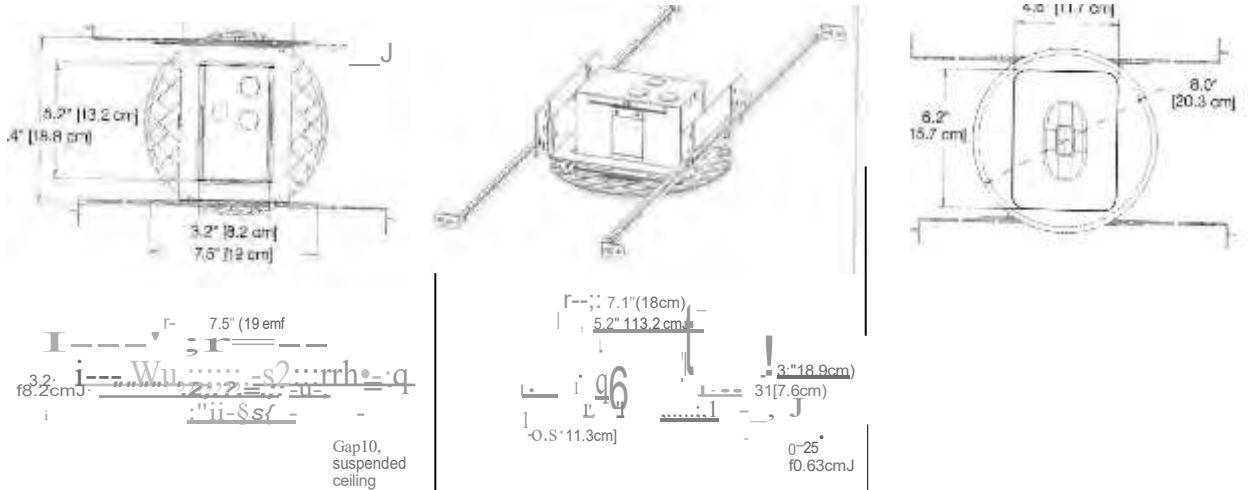
Mounting height	Lumens	Room size	Room surface
10 ft	717	27 ft x 27 ft	729 square feet

*Note: Illumination levels as per the Ufa Safety Code (NFPA 101): Average 1 fc, Minimum 0.1 fc, Max-to-min ratio 40:1. Typical reflectance levels of walls/ceiling/floor: 80/50/20.

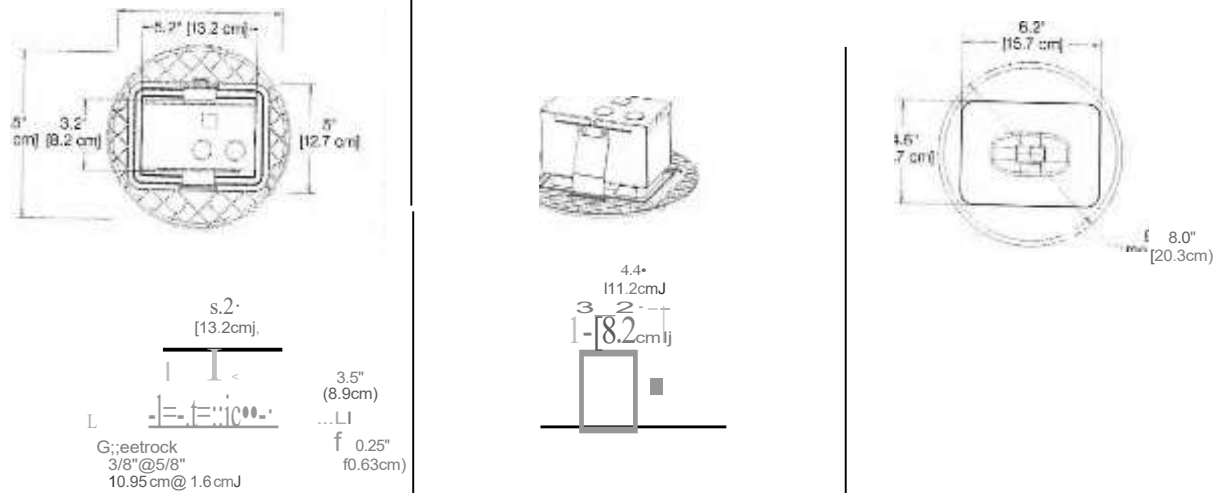


Dimensions (Dimensions are approximate and subject to change)

Recessed suspended ceiling mount



Recessed sheetrock ceiling mount



Power consumption and unit rating

Output (VAC)	Current (A)	Power (W)	Power factor	Stand-by power (W)
120	0.03	2.8	0.6	0.5
277	0.02		0.5	

Input supply (V)	Current (A)	Power (W)
44 - 57	0.08	3

Ordering format

Series	Color	Input	Unit type	Options
RP= Recessed plastic architectural	B= Black W= Factory white	Blank= 120 to 277VAC, 50/60Hz POE= Power over ethernet cable	Blank= standard charger D= Advanced diagnostics, non-audible NEXP= Nexus+Pro wireless bluetooth	Blank= No options D3= 15 minute time delay P= Plenum/Type IC rated SQ= Square distribution pattern

Example: RPWPOEDD3

Simplicity™ Universal Edge-Lit Series

Single and double face, surface and recessed mount edge-lit exit sign

EXIT SIGNS



Construction

- High grade acrylic panel
- 6 inch EXIT lettering legend, available in red or green
- Field-selectable chevrons
- Satin aluminum housing
- Optional Improved Diagnostics

Mounting

- Universal mount model
- Double face acrylic panel with mirror background, field adaptable for single face
- Pivoting panel design allows for recessed, surface, wall or ceiling mount installation
- A ratcheting mechanism allows the panel to be set in place from 0° to 180° for wall or sloped ceiling mounting
- Canopy included for surface wall, end or ceiling mount application
- Easy snap in backbox with securing trim plate allow for sheet rock ceiling installation
- Trim plate, 27 inch adjustable T-bar hangers and a junction box included for recessed application

Approvals

- UL 924 listed
- Damp location 50°F to 104°F (10°C to 40°C)
- Meets, NFPA101, (life Safety Code) NFPA 70 NEC and OSHA illumination Standards

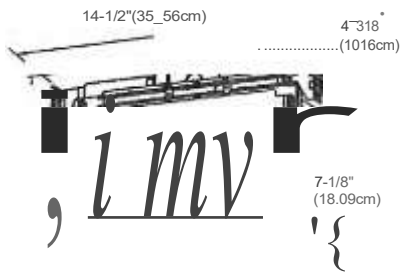
Warranty (subject to proper installation and maintenance)

Three-year full warranty

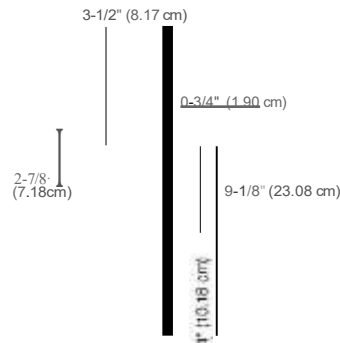
Detailed warranty terms located on page 182 of the catalog or online at www.lghtalarms.com



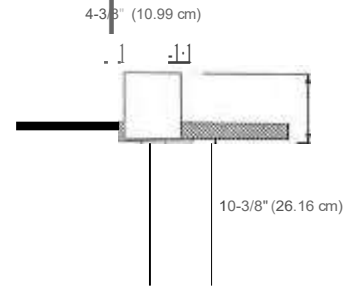
Dimensions (Dimensions are approximate and subject to change):



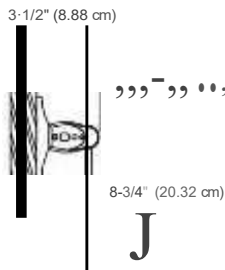
Recessed T-Bar ceiling mount



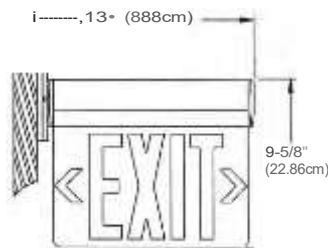
Recessed sheet rock wall mount (side view)



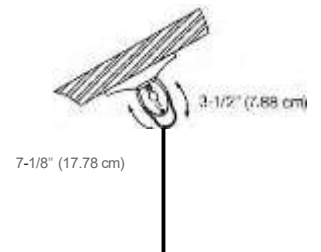
Recessed sheet rock ceiling mount (side view)



Surface wall mount



Surface end mount



Surface sloped ceiling mount

Power consumption chart

Model		AC Specs	DC Specs
Red	AC-Only	120VAC, 60Hz (2.0-2.6W)	
		277VAC, 60Hz (2.6-3.1W)	
	Self-powered	120VAC, 60Hz (2.0-2.6W)	Ni-Cd battery (Min. 90 Minutes)
		277VAC, 60Hz (2.6-3.1W)	Ni-Cd battery (Min. 90 Minutes)
Green	AC-Only	120VAC, 60Hz (2.8-3.3W)	
		277VAC, 60Hz (3.5-4W)	
	Self-powered	120VAC, 60Hz (2.8-3.3W)	Ni-Cd battery (Min. 90 Minutes)
		277VAC, 60Hz (3.5-4W)	Ni-Cd battery (Min. 90 Minutes)

Ordering format

Legend	Series	Legend color	Options
6= 6" EXIT single and double face with universal chevrons and mounting for surface or recessed	UEA=AConly UEN= Self-powered	RM= Red on mirror GM= Green on mirror	ID= Improved Diagnostics'

Example: 6UEARM

* Available on self-powered models only



DATE: LOCATION:
 TYPE: PROJECT:
 CATALOG#:

LCS

LIGHT COLUMN

FEATURES

- Light column with sophisticated design enhances public space
- Pedestrian scale
- Designed to provide uniform glare free direct lighting
- Energy-efficient LED light engine and tube technology



RELATED PRODUCTS

- 8 Slide
- 8 Urban
- 8 Seti

SPECIFICATIONS

CONSTRUCTION

Each LC5 Light Column is a .125 x 5' diameter aluminum shaft with a 5' diameter translucent white acrylic upper tube with a LED heat sink with either a 2' or 4' LED engine module containing high powered direct LEDs

The LED engine is concealed in the shaft to eliminate glare. The optics are designed to provide uniform glare free direct lighting

The top cap is removable cast aluminum and secures the 5' diameter acrylic tube to the lower 5' diameter aluminum tube. It is removable for servicing without the use of tools

The lens is translucent white, impact resistant, UV Stabilized, acrylic with a .125' wall, and a nominal length of 2' or 4'.

- The lower body is .125' wall 6063-T5 extruded 5' diameter aluminum tube that is welded to a round cast aluminum vandal resistant base.

The length of the lower tube will result in a light column with nominal lengths of 8', 10', 12' or 14'

CONSTRUCTION (CONTINUED)

All fasteners are stainless steel. When tamper resistant fasteners are required, spanner HD (snake eye) style is provided (special tool required, consult factory)

Four 1/2" x 24" high strength steel anchor bolts, hot-dip galvanized after fabrication on a 7 1/2" bolt circle. System can be provided for direct burial (consult factory)

EPA 1.5 sq. ft.

ELECTRICAL

Luminaires are equipped with LED driver(s) that accept 120 through 277 VAC, 50 Hz to 60 Hz (UNIV). Power factor is .92 at full load

Dimming drivers are standard, but must contact factory to request wiring leads for purpose of external dimming controls

All driver components supplied are component-to-component wiring within the luminaire. will carry no more than 80% of rated current and is listed by UL for use at 600VAC at 50°C or higher. Plug disconnects are listed by UL for use at 600 VAC, 15A or higher

ELECTRICAL (CONTINUED)

The on-board surge protector is a UL recognized component for the United States and Canada and have a surge current rating of 20,000 Amps using the Industry standard 8/20 µSec wave. The LSP has a clamping voltage of 825V and surge rating of 540J. The case is a high-temperature, flame resistant plastic enclosure

CERTIFICATIONS

This luminaire bears an NRTL label and is marked suitable for wet locations

UL Listed

WARRANTY

5 year warranty

See HU Standard Warranty for additional information



LCS

LIGHT COLUMN

DATE: LOCATION:
 TYPE: PROJECT:
 CATALOG#:

ORDERING GUIDE

Example: LC5-6-AW-24L-13-3K7-UNV-AB-PEC-120-BLT

CATALOG# _____

LCS	Height	AW Lens Type	Engine-Watts	CCT/CR	UNV Voltage	Mounting Options
Series LCS 5' Lightcolumn	6 6feet 8 8feet 10 10 feet 12 12 feet 14 14 feet'	AW Acrylic white	24L-13 24' lens, symmetric distribution, 13W 24L-25 24' lens, symmetric distribution, 25W 48L-25 48' lens, symmetric distribution, 25W 48L-50 48' lens, symmetric distribution, 50W	3K7 3000K, 70 CRI 4K7 4000K, 70 CRI 5K7 5000K, 70 CRI	UNV 120-277V	AB Anchor base DBE Direct burial extension WM Wall mount'

Notes.

- 1 14' height not available in Canada
- 2 WM available for 6', 8' and 10' height only
Not available on WM (Wall Mount)

Optics	Color
PCU Universal Button Photocontrol	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured WHS White Gloss Smooth VGT Verde Green Textured
	CC Custom color

DELIVERED LUMENS

LENS LENGTH	SYSTEM WATTS (120-277V)	3K (3000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					5K (5000K nominal, 70 CRI)				
		LUMENS	LPW'	B	U	G	LUMENS	LPW'	B	U	G	LUMENS	LPW'	B	U	G
24	13W	964	74	0	3	1	945	73	0	3	1	839	65	0	3	1
	25W	2080	84	1	4	2	1891	76	1	4	2	1803	73	1	4	2
48	25W	2138	86	1	4	2	2096	84	1	4	2	1860	74	1	4	2
	SOW	4234	85	1	5	3	4192	84	1	5	3	3684	74	1	5	2

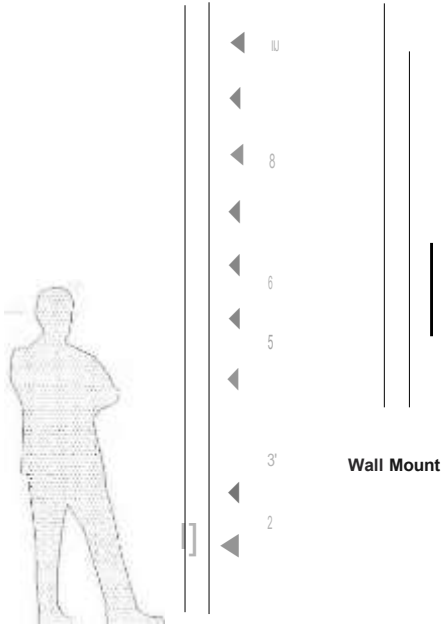


LC5

LIGHT COLUMN

DATE: LOCATION:
 TYPE: PROJECT:
 CATALOG#:

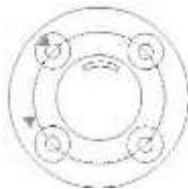
DIMENSIONS



Ground Mount

Anchor Bolt Pattern

7 7S B



Anchor Bolt Pattern

Wall Mount Bracket

Wall Mount Bracket



USE OF TRADEMARKS AND TRADE NAMES

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DATE: LOCATION:
 TYPE: PROJECT:
 CATALOG#:

SETI SERIES

ARCHITECTURAL AREA LUMINAIRE

FEATURES

A wide range of top shade options offers the architect a design solution to complement its setting while energy efficiency is achieved to meet the requirements of a LEED certified design

Energy efficiency of LED lighting with high performance luminaire

No Glare Indirect LED lighting fixture

5 Unique shade options

Shade can be tilted 0 to 30 degrees for an asymmetrical light distribution



RELATED PRODUCTS

8 Silde

8 Matrix MAA

8Urban

CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

All cast aluminum parts shall be ASTM 356 marine grade alloy. The housing shall be cast aluminum and designed to conceal all electronic equipment (including the LED drivers) and shall be sealed for weather tight operation

The shade assembly shall consist of a one piece aluminum plate fastened to aluminum brackets; all visible surfaces of the aluminum plate shall be painted in a white finish regardless of and independent of the configured fixture finish

Slips over a 4" OD x 5" high tenon.

The locking clamp design ensures a consistent tilt angle on all fixtures

The indirect narrow beam optic focuses the light beam onto the center of the shade. This improves efficiency and minimizes any stray light beyond the shade

ELECTRICAL

The LED array shall be enclosed in a cast aluminum housing. The top cover is secured with four screws for service access. The front glass element is clear, tempered glass. The optical system shall be designed to illuminate the shade with minimal stray light beyond the reflector

The input voltage range shall be 120-277 VAC, 50 to 60 Hz with a 90% power factor at full load

ELECTRICAL (CONTINUED)

An integral step-down transformer shall be provided when a 347V or 480V Input voltage is required

The driver shall have output over-voltage and over-current protection and output short circuit protection with auto recovery. The case shall be a high-temperature, flame resistant plastic enclosure

Operating temperature shall be -30°C to 40°C. The LED source shall be rated for a minimum of 50K hours (70% lumen maintenance @ 25°C ambient temperature). The LED array shall be mounted to a cast aluminum optical housing which functions as a heat sink

The on-board surge protector shall be a UL recognized component for the United States and Canada and have a surge current rating of 20,000 Amps using the industry standard 8/20 uSec wave

CONTROLS

Available with Energeni for optional set dimming, timed dimming with simple delay, or timed dimming by time of night (see www.beaconproducts.com/products/energeni)

FINISH

IFS polyester powder-coat electrostatically applied and thermocured

FINISH (CONTINUED)

IFS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super TGIC polyester powder coat finish.

The finish meets the AAMA 2604 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 Inch-pounds

The entire shade shall be painted white when the other colors are specified.

CERTIFICATIONS

CSA certified to UL 1598, UL 8750. CSA C22.2 No. 250.0-08, and CSA C22.2 No. 250.13-14.

WARRANTY

5 year warranty

See HU Standard Warranty; 1nty for additional information

KEY DATA	
Input Voltage (M)	120-277, 347, 480
Wattage Range	55
Reported Life (Hours)	SOK



SETI SERIES

ARCHITECTURAL AREA LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG#:

ORDERING GUIDE

Example: SETI-24L-55-30RD-3K-UNV-PEC-208-BLT

CATALOG#

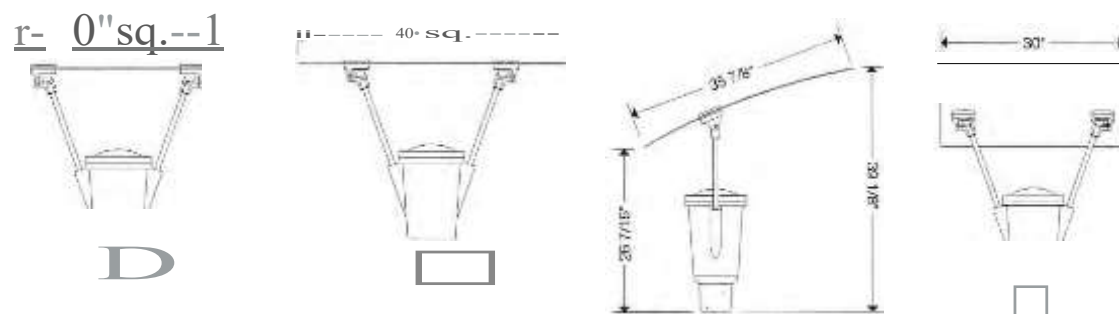
Model	Engine-Watts	Shade	CCT/Cg	Voltage	Electrical Options
SETI Seti	24L-55 SSW,LEDarray	30RD 30" round 40RD 40" round 30SQ 30" square 40SQ 40" square CRS Curved Rectangle Shade	3K 3000K 4K 4000K 5K 5000K	UNV 120-27N 347V 347V 480V 480V 12VDC 12VDC	PEC Photocell,button

Control Options	Finish
GENI-XX Energeni!	BLT Black Matte Textured BLS Black Gloss Smooth DBT Dark Bronze Matte Textured DBS Dark Bronze Gloss Smooth GTT Graphite Matte Textured LGS Light Grey Gloss Smooth PSS Platinum Silver Smooth WHT White Matte Textured VGT Verde Green Textured WHS White Gloss Smooth CC Custom Color

Notes:

When ordering Energeni, specify the routine sensing code(Example GENI-04). See [Energeni](#) [Info](#) [http://www.hubbell.com](#) and [Energeni](#) [Installation Instructions](#) for setting table and options. Not available with sensor options. **NOTE:** The Entire shade of the fixture will be painted white for better light reflection. Other portions of the fixture will be painted as specified in color portion of catalog number.

DIMENSIONS



ADDITIONAL INFORMATION

SHADES



30" Round Shade (30RD)
40" Round Shade (40RD)



30" Square Shade (30SQ)
40" Square Shade (40SQ)



30" x 36" Curved Shade (CRS)

USE OF TRADEMARKS AND TRADE NAMES

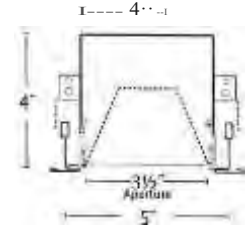
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BionicPro4™ Recessed Linear



Type:

Job:



127MW®

Technical Questions



[CLICK HERE](#)

UPTO

	LO	MO	SO	HO	IC (I)
BTW Lm Ft	490	720	1000	1250	HE-E
SAL Lm/Ft	460	685	945	1185	
WWF Lm/Fr	500	750	1025	1325	
WWG LmtFt	500	750	1000	1275	
W/Ft	4	6	8	10.5	

LUMEN CHART AT 3500K-BO CRI

Lumen output may vary +/- 5%
 Light Loss Factor (LLF) for CCTs other than 3500K:
 4000K +2%, 3000K-5%, 2700K-20%
 90CRI -15% (3K, 3500K, 4K & SK)
 See LED Details PDF for more info

What distinguishes BionicPro? 2"- 3"- 4" - 5" luminaires with a seamless lens for clean lines of light and no light leaks, anywhere. Fantastic optical performance via our TruBeam™ technology delivering the industry's best batwing with remarkably soft, even illumination and low glare (UGR <19), a vastly improved Ceiling Wash, two wall washes to fit your design intent, our Perimeter Fill to wash corridors with light from one side, all with just a lens change.



8Pro4-REC	FLSH	LED	LO	MO	SO	HO	IC (I)	HE-E
FLSH Flush Lens	LED27 27001K	LOIN	2	3	4	5	6	7
	LED3 3000K	MO	4	5	6	7	8	9
	LED35 3500K	STANDARD	6	7	8	9	10	11
	LED4 4000K	HIGH	8	9	10	11	12	13
	LED3-90	PROG	9	10	11	12	13	14
	90CRI LED35-90	Light Output	10	11	12	13	14	15
	LED4-90	Light Output	11	12	13	14	15	16
	90CRI LED3-90	Light Output	12	13	14	15	16	17

Prudential Ltg. reserves the right to change design specifications or materials without notice. Please visit prudential.com for most current data.
 IC 2014 All rights reserved - All products manufactured at: Prudential Ltg. 1774E.21st Street, Los Angeles, CA 90058

BionicPro4™ Recessed Linear



DISTRIBUTIONS:

Medium Output:

BPR04-REC-FLSH-LED35-MO-SAL
 2740
 23
 120
 3500
 1.22
 Test
 101014 1311A

Zonal Lumen Summary:

0-90= 100%

986

Vertical Angle	0°	25°	45°	65°	90°
0°	986	986	986	986	986
5°	980	980	977	982	982
15°	934	935	934	942	943
25°	852	852	854	865	869
35°	742	742	746	760	463
45°	613	612	617	630	639
55°	472	471	477	488	497
65°	323	323	329	339	348
75°	175	175	181	190	198
85°	37	37	42	49	56
90°	0	0	0	0	0

P.J.1WIN1

Medium Output:

8PR04-REC-FLSH-LED35-MO-BTW
 2886
 23
 127
 3500
 1.90
 Test
 11311A

Zonal Lumen Summary:

0-90= 100%

721

Vertical Angle	0°	25°	45°	65°	90°
0°	721	721	721	721	721
5°	773	765	742	724	714
15°	996	961	854	724	655
25°	1110	1074	933	698	561
35°	1084	1057	925	634	463
45°	906	907	824	533	378
55°	612	640	635	411	306
65°	360	381	402	287	235
75°	183	192	204	170	154
85°	48	49	55	55	55
90°	0	0	0	0	0

Standard Output:

BPR04-FLSH-LE035-L0-4-WWF
 2056
 15.37
 134
 3500
 Test
 104 1111A

Zonal Lumen Summary:

0-90= 100%

1321

Vertical Angle	0°	25°	45°	65°	90°
0°	0	0	0	0	0
5°	22	23	25	27	28
15°	75	82	91	96	93
25°	135	159	181	201	185
35°	224	274	316	393	346
45°	372	457	526	668	533
55°	625	736	821	944	670
65°	967	1070	1140	1095	763
75°	1321	1297	1257	1058	828
85°	1065	1027	992	930	862
90°	863	863	863	863	863
5°	740	757	766	804	862
15°	646	655	661	704	828
25°	567	583	591	622	763
35°	456	482	497	533	670
45°	344	369	384	419	533
55°	496	506	531	570	690
65°	173	167	165	164	185
75°	109	96	89	85	93
85°	33	30	27	26	28
90°	0	0	0	0	0

Vertical Angle	180°	202.5°	225°	247.5°	270°
180°	180°	202.5°	225°	247.5°	270°

Low Output:

BPR04-FLSH-LED35-L0-4-WWG
 1989
 15
 132
 3500
 Test
 1114 1111A

Zonal Lumen Summary:

0-90= 100%

1059

Vertical Angle	0°	25°	45°	65°	90°
0°	0	0	0	0	0
5°	23	24	28	30	30
15°	77	81	103	108	96
25°	153	165	225	224	166
35°	278	309	437	416	256
45°	513	574	756	629	370
55°	946	998	1014	746	487
65°	1205	1165	1006	794	600
75°	1022	997	910	810	693
85°	844	836	810	779	739
90°	747	747	747	747	747
5°	644	658	810	779	739
15°	518	525	543	595	693
25°	458	461	468	497	600
35°	408	409	411	417	475
45°	403	403	405	416	487
55°	291	284	262	244	256
65°	222	210	183	160	166
75°	137	130	104	92	96
85°	42	42	33	29	30
90°	0	0	0	0	0

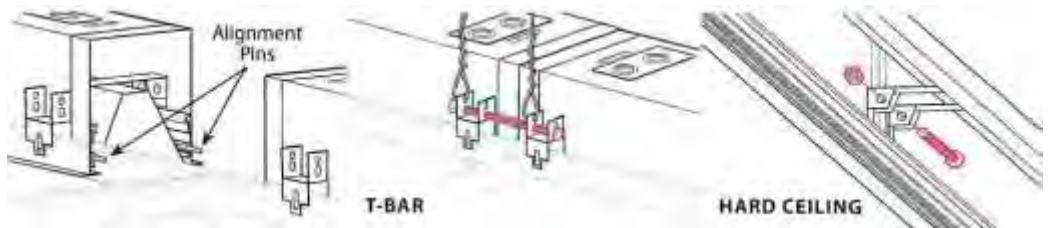
Vertical Angle	180°	202.5°	225°	247.5°	270°
180°	180°	202.5°	225°	247.5°	270°



BionicPro4™ Recessed Linear



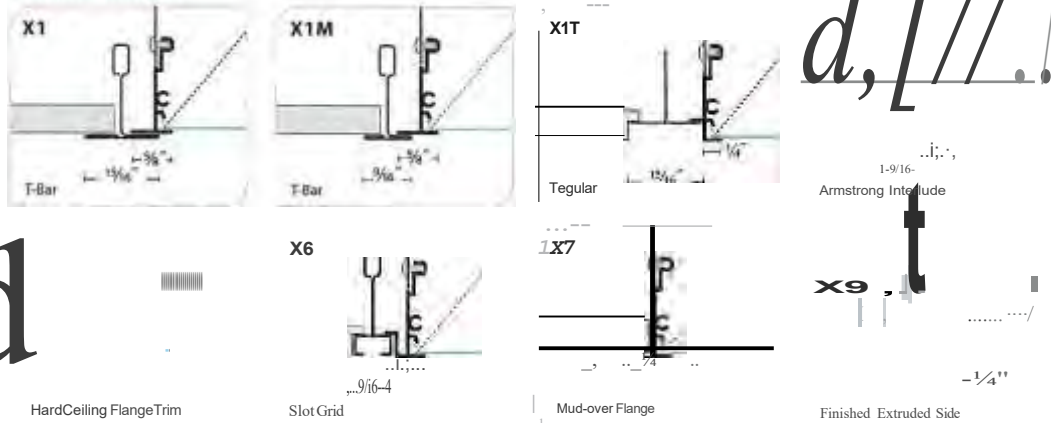
APJ111111, DETAILS



Choose from one of our Premium Colors with no set-up fee.

For paint chip samples, please email: info@prulite.com

FIXING SYSTEMS



(AS [ALIIMINUTU TND LAPS

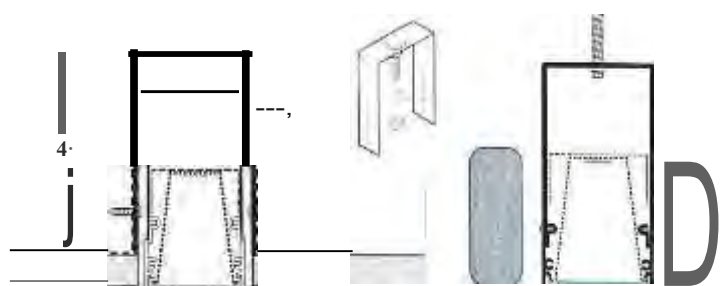
OVERHEAD MOU !ING BRAI ILEFS 1()1\,B

x,J MUUM I INL,

Jb



1/4" Lens Overlap = NO LIGHT LEAKS

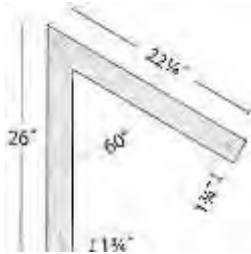


BionicPro4™ | Recessed Linear

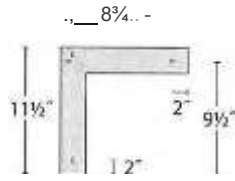


Corners

C2-60:

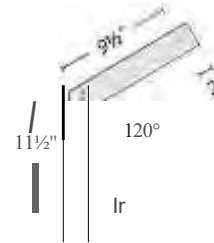


(2-90):

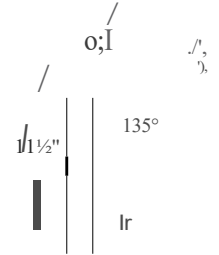


C2-90 Dimensions vary by ceiling type, consult factory

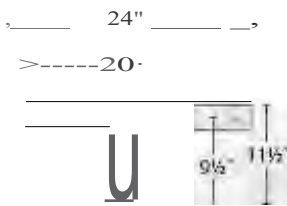
(2-120):



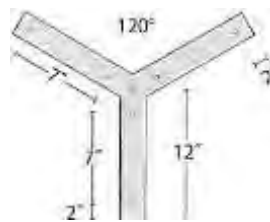
(2-135):



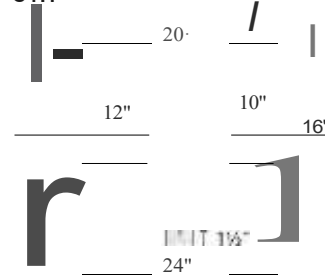
C3T:



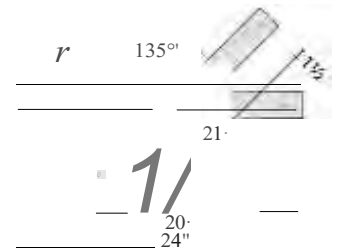
C3Y:



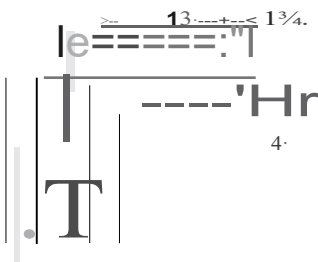
C4T:



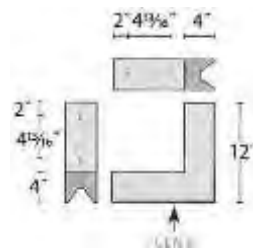
C4X:



(81):

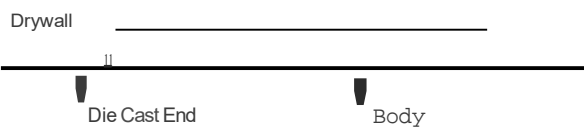


C80:

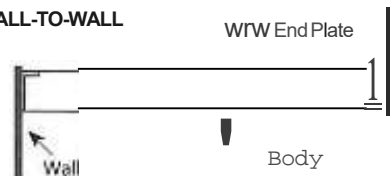


10 UNIT IN (

LIGHT POCKET



WALL-TO-WALL



ENSUR PLAf

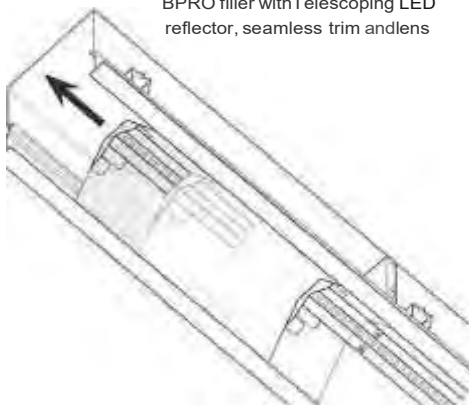


BionicPro4™ I Recessed Linear

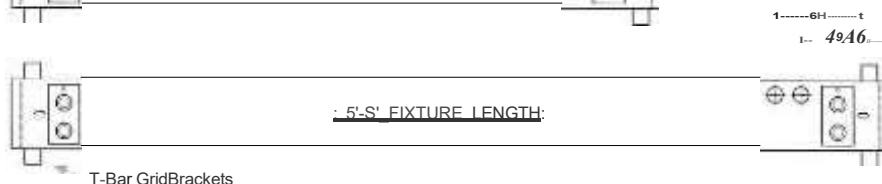
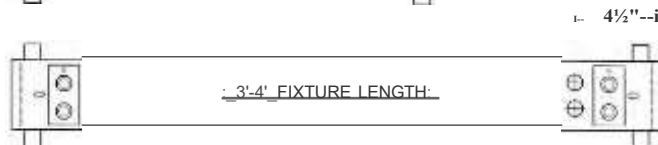
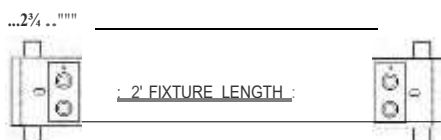


11-1 of 11, FILEK

BPRO filler with Telescoping LED reflector, seamless trim and lens



MOUNTING LUG ATTACH

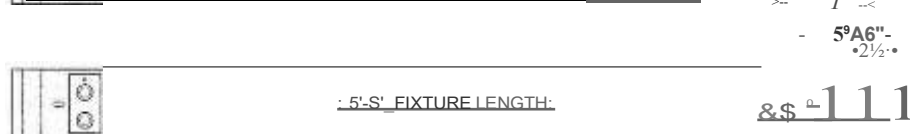
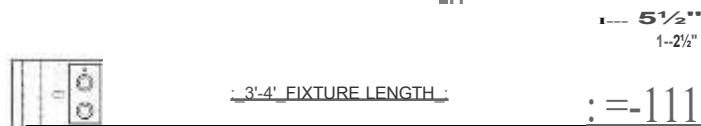


T-Bar Grid Brackets

(Q) Coaxial 7/8" K.O / 1/2" K.O

-\$ 3/K.O

o Mounting Hole for 1/4"-20 Rod (By Others)



ROUGH-IN DIMENSIONS:

2'	25 1/4"	
3'	37 1/4"	
4'	49 1/4"	
5'	61 1/4"	4 1/4"
6'	73 1/4"	
7'	85 1/4"	
8'	97 1/4"	

createchange_



FEATURES

Enclosed high efficiency lens features linear prism acrylic and provides visual comfort and high performance without pixelation. Appropriate for schools, medical facilities, dining areas, locker rooms, and public spaces. Enclosed lens protects against intrusion of contaminants. High performance matte white paint standard. Optional Antimicrobial* paint (AM option) resists bacterial growth on exposed painted surfaces. Lens gasket option and wet location listing available. 60,000 hour LEDs at L80 for reduced lifecycle maintenance costs. Four LED color choices with excellent color consistency and 82 CRI. Controls compatible for code compliance and energy savings. Low W/f¹ ratio typically meets most restrictive lighting power density codes. Fixed output, step dimming or 0-10V dimming drivers. Electrical components accessible from below the ceiling with modular replaceability. DLC* (Designlights Consortium) Qualified - see www.designlights.org. Five year warranty.

PROJECT INFORMATION

Project Name _____

Type _____

Catalog No. _____

Date _____

CONSTRUCTION

Luminaire housing and end caps are die formed code gauge cold rolled steel. Reflector is stiffened with linear forms, profiled to a precision curve. High transmission extruded acrylic enclosed lens features linear prisms custom frosted for high efficacy without pixelation.

SHIELDING

Thermoplastic light seals snap into the housing at both ends of the lens to prevent light leaks. Lens hinges down for easy access to LED module and electrical components. Optional gasketing available to surround the lamp cavity (standard when Wet Location option is ordered; see footnotes).

FINISH

All reflective surfaces are finished after fabrication with unique formula high reflectivity matte white paint for soft, uniform indirect illumination. Optional Antimicrobial* paint (AM option) resists bacterial growth on exposed painted surfaces.

INSTALLATION

An access plate is furnished with each luminaire for fast wiring access without the necessity to open the fixture or wireway.

CEILING COMPATIBILITY

Luminaire fits recessed exposed Grid ceilings (G); four integral NEC compliant T-bar clips are standard. Can be placed in Slot Grid (SG) style ceiling with recess W above ceiling plane. A flange Kit (FK) accessory is available for recessed hard ceiling applications. Surface Mount (SM) option allows placement below ceiling plane. Cable Mount (CM) optional allows suspension below ceiling plane.

CERTIFICATION

All luminaires are built to UL 1598 and 2108 standards, and bear appropriate CSA labels. ICLabel standard. Damp location is standard. Void when using ELL14 and through wiring. Wet location listing available on grid lay-in ceiling type. Emergency-equipped fixtures are Dry Location unless specified. CSA certified to UL 924 standards with battery pack or DTS (Dimming Bypass Module) options. Adheres to LM70, LM80, and TM21 industry standards. Olea (Designlights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at www.designlights.org. The DTS, Dimming Bypass Module, is for emergency circuit control loads including sensors and wireless systems CSA certified to UL 924. See page 4 for wiring diagram. [Link to Dimming Bypass Module Specifications sheet.](#)

WARRANTY

Five year warranty (Terms and Conditions apply).

ORDERING INFORMATION

EXAMPLE LTRE24-3SMLG-RFA-ESDU

LTRE	24	RFA	U	OPTIONS
MODEL	IM·lllllMI	IO·lllllMI	@MI	
LTRE Transition® Enclosed LED Deep Architectural Center Lens	30 JOOOK 35 3500K 40 4000K SO 5000K	G Grid Lay-In SM Surface Mount CM Cable Mount	u 120v-mv	ELL14 Emergency Battery Pack Installed, 1400 lumens ¹ GLR fast Blow Fuse GTD General Transfer Device' DTS Dimming Bypass Module' 088 3-Wire Flex (488 4-Wire flex CS88 5-Wire Flex AM Antimicrobial* Paint' GI Lens Gasketing WL Wet Locations EOR End of Row (SM and CM only. Provides end wiring access for continuous row mounting.) INT Intermediate (SM and CM only. Provides ends with wiring access for continuous row mounting.) CP Chicago Plenum
SIZE	LUMEN OUTPUT	DRIVER		
24 2' x 4'	LW Low Watt ML Medium Lumen HL High Lumen VL Very High Lumen XL Extra High Lumen ¹	E Fixed Output ED 0-10V Dimming EDI 0-10V Dimming up to 1% ESD Step Dimming LUTS 5-Series Eco System LED driver		

PRODUCT AVAILABILITY

SIZE	LUMEN PACKAGE	NOMINAL LUMENS	NOMINAL WATTS	LUMENS PER WATT
24	LW	4275-4875	38	114-130
24	MI	4650-5324	41	112-129
24	HL	5575-6475	52	108-126
24	VL	7225-8250	67	109-124
24	XL	8350-9650	81	103-119

Nominal lumen range represents 1000K through 5000K. Lumeos vary according to color, temperature and other factors. See [lpe-ific photometric test\(s\)](#)

¹XLoor available with ELL14

²fordry wall, der fK/4 accm or sseparaiely

³Order hanger acm so, les separately

⁴for compatibility with Dual-Lite Line Gear* inverters to lieu of

Installed battery pack com-act Hubbell Lightlog Reprocessoratie

⁵Not available on Surface Mount or Cable Mount ceiling ryp,s

⁶GT available for E (fixed output) driver only

⁷for emergency circuit control loads including sensors and

wireless systems CSA certified to UL 924. Only available with

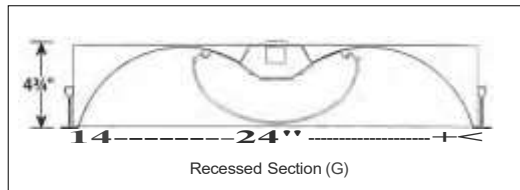
0-10V drivers. Not available with all lumen packages. See page 4

forw, iogdiagr-am

⁸Optional Antimicrobial* paint (AM option) resists bacterial

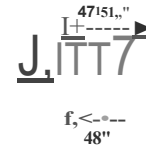
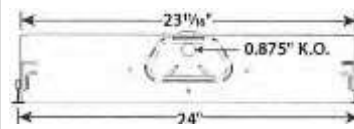
growth on exposed painted surfaces

DIMENSIONAL DATA- GRID



CEILING COMPATIBILITY

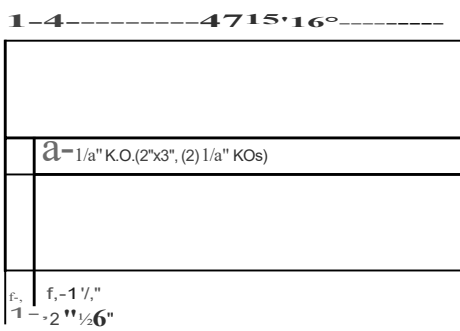
Ceiling Type G placed in flat T-Bar Grid Ceiling



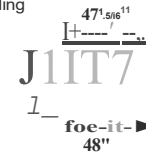
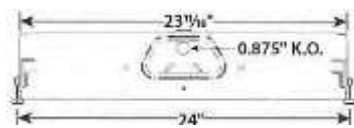
Type G Ceiling Mounting

For lay-in installation in exposed grid ceilings. Maximum tee widths of 1" and maximum heights of 1 1/2" allowed.

Back of Housing, Grid



Ceiling Type G placed in Slot Grid or Screw Slot Ceiling



Type SG Ceiling Mounting

For 1/2" slot grid type ceilings. Luminaire will be recessed 1/4" from the horizontal surface of the tee.

FK Flange Kit

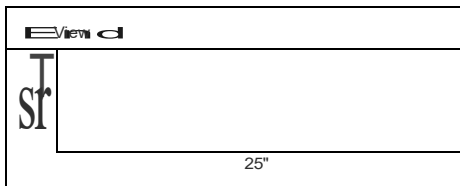


For hard ceiling applications, fixtures must be ordered with a flange kit that wires directly into the concealed ceiling opening for a clean finished appearance. For row configurations contact your local Columbia Representative.

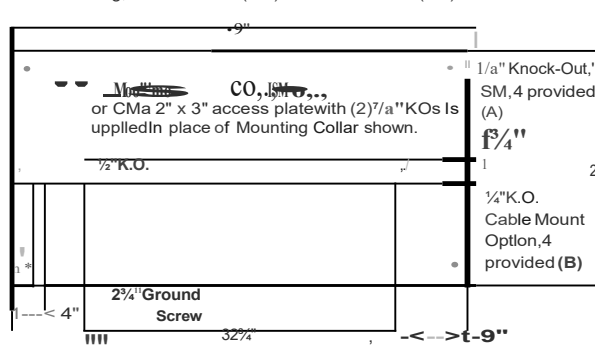
Flange kit cut out dimension for single FK24: 24 3/4" x 48 3/4"

DIMENSIONAL DATA - SURFACE MOUNT

Surface Section (SM)



Back of Housing, Surface Mount (SM) and Cable Mount (CM)



Surface Mount:

Order SM ceiling type. Mounting collar required for surface mounting. (4) Mounting knock-outs, 3/4", provided in center channel as indicated at left, marked "A".

Cable Mount:

Order CM ceiling type. Use CM48Y2SC3F-KIT 48" Cable Mount Kit for 2' wide SM trim fixtures. Mounting holes are provided in diagonal straps shown at left, marked "B".

NOTE: All dimensions are in inches; dimensions and specifications are subject to change without notice. Please consult factory or check sample for verification.

Type:
Job:
Fixture Catalog number:

Approvals:

Fixture Mode Finish

Date:
Page: 1 of 2

Specifications

Housing: Die-cast low copper alloy (<0.6% Cu) aluminum with clear anodized finish. Two 1/2" NPT in sides. Housing mounts into concrete, brick, or masonry (non-combustible materials). Internal splice area provided behind lamp plate.

Lens Frame: Die-cast aluminum, with silicone gasket, attaches to housing with two captive 10-32 stainless steel, hex socket cap screws.

Lens: Tempered prismatic glass with silicone gasket, concealed above lens frame opening.

Finish: On lens frame only, each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidyl isocyanurate (TGIC) polyester powdercoat finish. Standard colors are Black (BL), Dark Bronze (DB), and Verde Green (GR).

Optical System: A total of 3 or 9 LED emitters are configured together as a module. Available in 3000K, 4200K, and 5100K.

Driver: Universal Voltage from 120 to 277V with a ±10% tolerance. -40° F. starting temperature. All drivers are Underwriters Laboratories recognized.

ORDERING INFORMATION

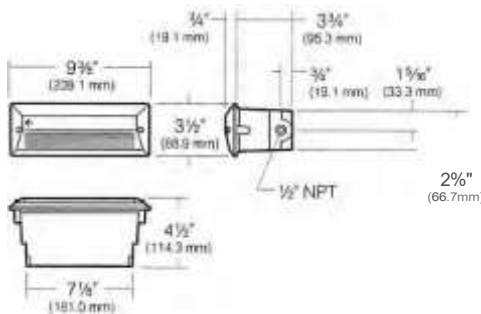
Fixture	Source
<input type="checkbox"/> EL807 / 3L3KUV ¹	3.6W, 3 LED's, 3000K
<input type="checkbox"/> EL807 / 3L4KUV ¹	3.6W, 3 LED's, 4200K
<input type="checkbox"/> EL807 / 3L5KUV ¹	3.6W, 3 LED's, 5100K

Fixture	Source
<input type="checkbox"/> EL807 / 9L3KUV ¹	10.8W, 9 LED's, 3000K
<input type="checkbox"/> EL807 / 9L4KUV ¹	10.8W, 9 LED's, 4200K
<input type="checkbox"/> EL807 / 9L5KUV ¹	10.8W, 9 LED's, 5100K

¹ Universal Voltage from 120 to 277V with ± 10% tolerance.
For 5.3W, Max Amps. are .13 for 120V, .080 for 208V, .080 for 240V, .060 for 277V. For 10.8W, Max Amps. are .090 for 120V, .050 for 208V, .040 for 240V, .040 for 277V..

Finish

- BL - Black
- DB - Dark Bronze
- GR - Verde Green



Listings and Ratings

UL cUL 1598¹ | 25C Ambient

¹Suitable for wet locations



Kim Lighting reserves the right to change specifications without notice.

© 2021 KIMLIGHTING | 17760 Rowland Street | City of Industry | CA 91748
P 626.968.5666 | F 626.369.2695 | www.kimlighting.com |

January 8, 2021 7:47 AM

HUBBELL
Lighting

Type:

Job:

Page: 2 of 2

Lumen Data

Spectroradiometric			
	3000K	4200K	5100K
Correlated Color Temp. CCT (K)	2800 to 3175K	3800 to 4600K	4600 to 5600K
Color Rendering Index (CRI)	>75	>70	>65

ELECTRICAL • Drive Current @350mA (3 LEDs)		
Volts -AC	Amps -AC	System Watts
120	0.13	5.3
208	0.08	5.3
240	0.08	5.3
277	0.06	5.3

ELECTRICAL • Drive Current @350mA (9 LEDs)		
Volts -AC	Amps -AC	System Watts
120	0.09	10.5
208	0.05	10.5
240	0.04	10.5
277	0.04	10.5

Absolute Lumens (3 LEDs)	
Temperature	EL807/3L*K
3000K	61
4200K	71
5100K	78

Absolute Lumens (9 LEDs)	
Temperature	EL807/9L*K
3000K	167
4200K	188
5100K	211

Lumens Per Watt (3 LEDs)	
Temperature	EL807/3L*K
3000K	11.5
4200K	13.4
5100K	14.7

Lumens Per Watt (9 LEDs)	
Temperature	EL807/9L*K
3000K	15.9
4200K	17.9
5100K	20.1

Kim Lighting reserves the right to change specifications without notice.

Total Project Cost Summary

I.	Total Estimated Construction Cost		\$45,865,834
A.	Construction Cost		
	a.	Building Cost	\$41,997,360
	b.	Site Cost	\$3,868,474
II.	FF&E Allowances (all items include 10% contingency)		\$10,230,912
B.1		Classroom/Office/General Furniture	\$3,007,060
B.2		Lab Furnishings/Equipment	\$1,540,000
B.3		Signage and Wayfinding Allowance	\$100,000
B.4		Telecommunications/Data/Security/Audio Video Equipment	\$4,083,852
B.5		Medical Imaging Equipment	\$1,500,000
IV.	Proposed/ Estimated Professional Compensation		\$4,792,000
C.1		Design Team Stage I Total Proposed Fee	\$804,236
C.2		Design Team Stage II Total Proposed Fee	\$3,862,764
C.3		CM at Risk Stage I Fee	\$125,000
V.	Owner Allowances		\$8,040,639
D.1	Owner Expense Allowances		
	a.	Site Survey	\$24,764
	b.	Geotechnical Testing	\$18,000
	c.	Environmental Studies	\$18,000
	d.	Other Permits & Fees	\$100,000
D.2	Contingencies and Escalation		
	a.	Construction Contingency	\$3,210,608
		7.00%	
	b.	Construction Cost Escalation	\$3,669,267
		8.00%	
		6% annual inflation for 16 months (Construction start Sept. 2022)	
	c.	Owner Project Reserve/Design Contingency	\$1,000,000
VI.	Total Project Cost		\$68,929,385

Construction Cost Estimate

	Construction Cost b) CSI	Harper	Cost Consult.	Aggregate	
	Division	(H)	(C+)	Cost	
01	General Conditions	\$2,651,896	\$2,500,000	\$2,651,896	H
03	Concrete	\$1,397,130	\$1,856,775	\$1,856,775	C+
04	Unit Mason	\$339,824	\$446,354	\$446,354	C+
05	Metals	\$5,505,003	\$4,536,540	\$5,505,003	H
06	Wood, Plastics & Composites	\$394,931	\$155,009	\$394,931	H
07	Thermal & Moisture Protection	\$2,093,478	\$1,775,396	\$2,093,478	H
08	Openings	\$3,360,652	\$4,403,935	\$4,403,935	C+
09	Finishes	\$6,339,300	\$6,550,664	\$6,550,664	C+
10	Specialties	\$317,203	\$208,365	\$317,203	H
12	Furnishings	\$1,128,651	\$1,832,626	\$1,832,626	C+
14	Conveying Equipment	\$217,166	\$321,500	\$321,500	C+
21	Fire Suppression	\$524,528	\$497,596	\$524,528	H
22	Plumbing	\$1,699,286	\$1,454,376	\$1,699,286	H
23	HVAC	\$6,483,505	\$5,020,588	\$6,483,505	H
26	Electrical	\$3,877,935	\$5,710,000	\$5,710,000	C+
31	Earthwork	\$1,312,839	\$1,356,271	\$1,356,271	C+
32	Exterior Improvements	\$1,338,994	\$1,694,320	\$1,694,320	C+
33	Utilities	\$402,622	\$487,508	\$487,508	C+
	Subtotal	\$39,384,944	\$40,807,823	\$44,329,783	*
	Bond			\$195,664	
	Procure			\$34,217	
	AGC			\$4,277	
	Business License			\$38,494	
	GC Fee 2.85%			\$1,263,399	
	Total			\$45,865,834	*

* Construction Costs were estimated by the CM@R General Contractor (Harper) and the design team's Cost Consultant (CostPlus). The Aggregate Cost in this column represents the greater of the two costs reported.

Laboratory Exhaust Systems

Vektor[®]-MH and Vektor[®]-MD

Mixed Flow High Plume and High Plume Dilution Blower



VEKTOR[®]

 **GREENHECK**
Building Value in Air.

June
2020

Protector®XStream®Laboratory Fume Hoods

Unsurpassed safety.

No hood is safer than the patented¹ Protector XStream Laboratory Hood. Testing proves it.

During independent ASHRAE 110 testing², the Protector XStream Hood was challenged well beyond the SEFA 1t standards. With a face velocity of 40 fpm and sash fully open, the Protector XStream was subjected to 50 fpm cross drafts, NIHT protocol, and tracer gas measurements in the chest of the mannequin. In all scenarios, the Protector XStream allowed **0.00 ppm** average level of tracer gas outside the fume hood. Although your safety officer or industrial hygienist will determine the actual face velocity setting for your lab, the ability of the Protector Hood to contain under these adverse conditions sets a new standard of safety.

Save energy and money.

Energy savings is equally impressive. Although face velocity is a factor, it's the **volumetric rate (CFM)** that determines the

energy consumption of a fume hood. Operating a 6' Protector XStream Hood at 60 fpm face velocity, with the sash in its fully open position, requires only **690 CFM**. Regardless of your desired operating face velocity, the Protector XStream yields the **lowest required CFM**.

Energy savings translates to dollar savings. The Protector XStream Hood provides an excellent economic payback when compared to traditional by-pass hoods operated at 80 or 100 fpm with sash fully open. For example, a 6' Protector XStream Hood operated at 60 fpm face velocity consumes a mere 690 CFM. Compare that to a traditional by-pass hood operated at 100 fpm that consumes 1250 CFM. You achieve annual dollar savings per year of \$3920.³

For even greater savings, the Protector XStream may be factory-prepared to accommodate a VAV system without the need for by-pass modifications.

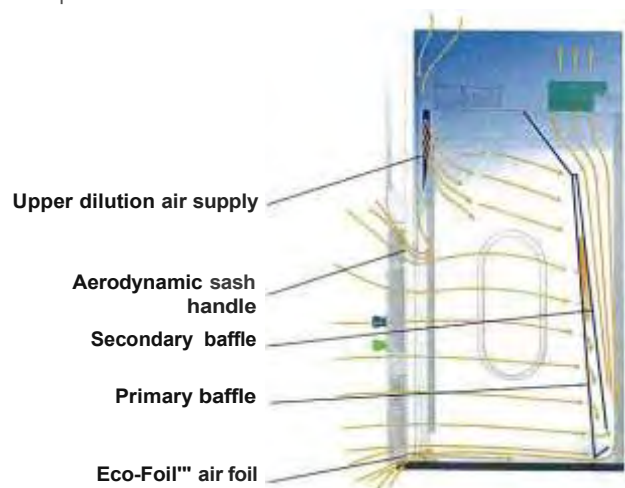
Traditional By-Pass Hood Design

Smoke tests on traditional hoods demonstrate the tendency for contaminants generated in the interior to roll forward producing high concentrations of contaminants behind the sash in close proximity to the user's breathing zone.



Protector XStream Hood Design

In contrast, smoke tests on the Protector XStream show contaminants removed in a single pass and a lack of turbulence. Horizontal air flowing toward the baffle forces contaminants to the rear interior, away from the user. The upper dilution air supply sweeps the upper interior to eliminate stagnant pockets of air and to prevent contaminants from concentrating behind the sash. This airflow pattern is accomplished without additional blower(s) or moving components.



¹U.S. Patent No. 6,461,233 ²independent testing by AccuTec Services, Inc., Lee's Summit, MO, National Environmental Balancing Bureau (NEBB)-Certified, Professional Engineer
³See page 21 for a list of regulations, standards and registered trademarks. ⁴See page 8 for energy savings details.

Protector®XStream™ Laboratory Fume Hoods

Specifications



All models feature:

- By-pass airflow design with variable air volume compatibility
- * Eco-Foil™ air foil with aerodynamic Clean-Sweep™ airflow openings
- * Cord-Keeper™ slots on left and right side of air foil
- * Upper dilution air supply'
- Glacier white powder-coated steel exterior
- * Rear downflow dual baffle system•
- Chemical-resistant, fiberglass-reinforced, composite panel liner and baffles with flame spread index less than 25 per ASTM E84**. Baffles removable for cleaning
- * Opti-Zone™ baffle with tapered slots'
- Tempered safety glass vertical-rising sash with cable and pulley
- * Powder-coated aluminum sash handle with aerodynamic Clean-Sweep™ openings•
- 37.5" (95.3 cm) high sightline from the work surface to the header panel
- Removable front and side panels, and front and interior service access panels
- Pre-wired LED lighting with vapor-proof design and ADA-compliant light and blower switches. Lighting is rated for 50,000 hours
- Sash stop located at 18" (45.7 cm) sash opening position
- Powder-coated stainless steel, 12.8" (32.5 cm) ID exhaust connection(s)

Standards conformance & regulations:

- ADA
- CFR 29, Part 1910..
- SEFA 1..
- NFPA 45..
- ASTM E84-09C..
- ASHRAE 110.,
- ANSI Z9.5*
- * Labconco exclusive feature

- UL61010-1*
- CAN/CSA C22.2 No. 61010-1*
- UL 1805
- CE Conformity Marking (230V models)*
- SEFA 8..

&WARNING: Cancer - P65Warnings.ca.gov (California only)

Fixtured models feature:

- Two pre-plumbed service fixtures with forged brass valves, lower right side with brass tubing for gas and lower left side with copper tubing for cold water. Components for converting either or both fixtures to air and vacuum are provided. **Inlet tubing is not provided**
- One pre-wired GFCI electrical duplex receptacle on lower right side and, on 8' models only, one additional pre-wired GFCI electrical duplex receptacle on lower left side

Required accessories (not included):

- Remote blower. Contact Labconco
- Ductwork. Contact Labconco
- Work surface. See pages 17-18
- Base cabinet or stand. Contact Labconco

Optional accessories for on-site installation include:

- Service Fixture Kits. See page 19
- Electrical Duplex Kits. See page 20
- Guardian Airflow Monitor Kits. See page 20
- Ceiling Enclosure, Rear Finish Panel Kits and Distillation Grid Kits. Contact Labconco



*u.S. Patent No. 6.461.233

use page 21 for list of regulations, standards and registered trademarks.

6.Heights of switches and electrical receptacles meet requirements of Americans with Disabilities Act (ADA) when work surface is set to ADA height.

Protector®XStream®Laboratory Fume Hoods

Ordering Information, Airflow Data & Energy Savings

Catalog Number Configurator:

Use this key to configure the nine digit catalog number to order your Protector XStream Laboratory Hood.

1 1 0 D 1 0 0 D

Select the **WIDTH** of your fume hood. This is the fourth digit of your catalog number. Shipping weight is also noted. Add 10 lbs. (5 kg) for fixtured models.

- 4** = 4' (122 cm), 440 lbs. (200 kg)
- 5** = 5' (152 cm), 525 lbs. (238 kg)
- 6** = 6' (183 cm), 600 lbs. (272 kg)
- 8** = 8' (244 cm), 770 lbs. (349 kg)

Select the **ELECTRICAL REQUIREMENTS, SERVICE FIXTURES** and **GFCI ELECTRICAL DUPLEX RECEPTACLE** of your fume hood. These are the eighth and ninth digits of your catalog number.

Electrical Requirements	No Service Fixtures	Two Service Fixtures	Two Service Fixtures & GFCI Duplex*
100-115V, 50/60 Hz, 10A	00		02
208-230V, 50/60 Hz, 5 A	20	21	

Total Exhaust CFM and Static Pressure @ 28" Sash Opening (100% Open)

Face Velocity (fpm)	Airflow Volumetric Rate (CFM) @ Static Pressure (inches of water)							
	4' Hood		5' Hood		6' Hood		8' Hood	
	CFM	s.p.	CFM	s.p.	CFM	s.p.	CFM	s.p.
100	705	0.26	930	0.32	1150	0.41	1600	0.29
80	565	0.17	745	0.20	920	0.26	1280	0.19
60	425	0.09	560	0.12	690	0.15	960	0.10

Total Exhaust CFM and Static Pressure @ 18" Sash Opening (62.5% Open)

Face Velocity (fpm)	Airflow Volumetric Rate (CFM) @ Static Pressure (inches of water)							
	4' Hood		5' Hood		6' Hood		8' Hood	
	CFM	s.p.	CFM	s.p.	CFM	s.p.	CFM	s.p.
100	440	0.10	580	0.12	720	0.16	1000	0.11
80	350	0.06	465	0.08	575	0.10	800	0.07
60	265	0.04	350	0.05	430	0.06	600	0.04

Energy Savings Dollars Compared to a Typical Fume Hood

Protector XStream shows significant savings over its lifetime when compared to a typical fume hood. Maximum savings are achieved using the Protector XStream operating at 60 fpm with a VAV

system. Please contact Labconco for ordering information on factory preparing Protector XStream Hoods to a specific VAV controller cutout.

	CFM	Dollars/Year	Dollars/Lifetime	Lifetime Dollar Savings Compared to Typical Hood
6' Typical Hood @ 100 fpm, full open sash (28"), constant volume ¹	1250	\$8,750	\$131,250	0
6' XStream Hood @ 100 fpm, full open sash (28"), constant volume ¹	1150	\$8,050	\$120,750	\$10,500
6' XStream Hood @ 60 fpm, full open sash (28"), constant volume ¹	690	\$4,830	\$72,450	\$58,800
6' XStream Hood @ 60 fpm, 62.5% open sash (18"), constant volume ¹	430	\$3,010	\$45,150	\$86,100
6' XStream Hood @ 60 fpm, variable air volume ¹¹	250	\$1,750	\$26,250	\$105,000
6' XStream Hood @ 60 fpm, variable air volume, sash intelligenceltt	190	\$1,330	\$19,950	\$111,300

¹Hoods with GFCI electrical duplex are rated at 20 amps. 8' hoods have two GFCI electrical duplex receptacles, one mounted on each side, rated at 20amps each.

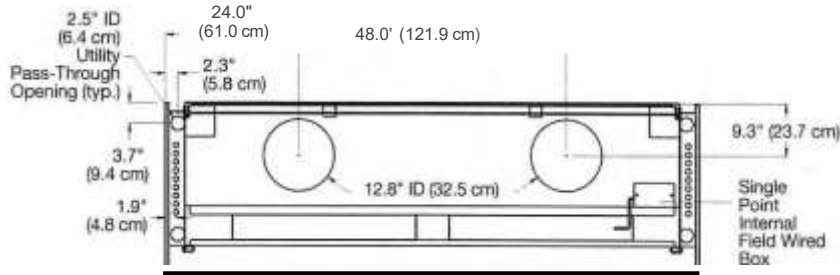
¹Based on average annual dollars per CFM of \$7.00, fume hood operating 24 hours a day and 5 days per week (6240 hours per year). Average annual dollar per CFM cost ranges from \$5.00 to \$12.00 depending on geographic location. Lifetime calculations are based on 15 years.

¹¹Based on 8 hours per day with 16 sash opening and 60 fpm face velocity, and remaining time with sash closed. Closed sash air volume is based on ANSI 29.5 minimum of 200 Air Changes per hour (ACH), and \$0.0000187/ft³ air.

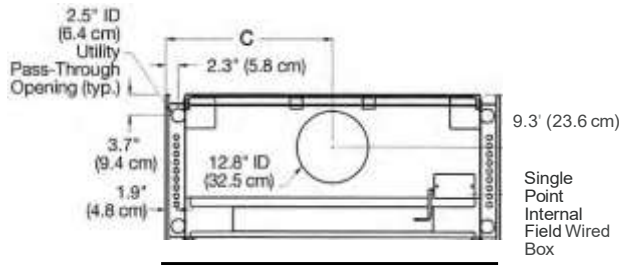
ms based on 3 hours per day with 1 sash opening and 60 fpm face velocity and remaining time with sash closed. Closed sash air volume is based on ANSI 29.5 minimum of 200 ACH and \$0.0000187/ft³ air.

Protector^oXStream[®]Laboratory Fume Hoods

Dimensional Data

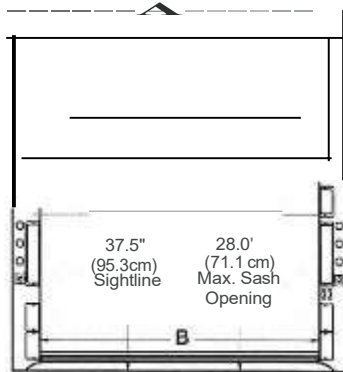


TOP
(8' Hoods)

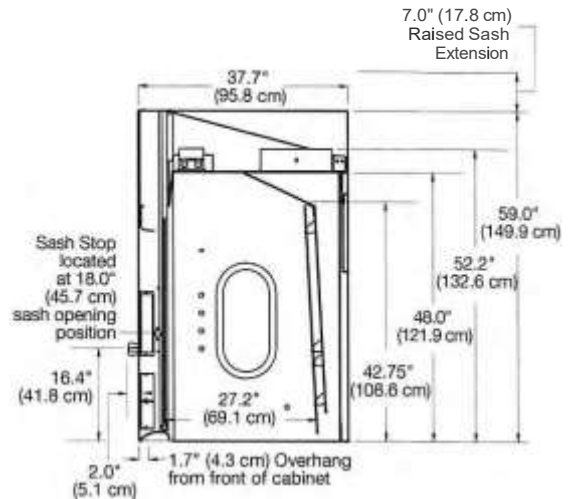


TOP
(4', 5' & 6' Hoods)

	A	B	C
4' Hood	48.0" (121.9 cm)	38.1" (96.8 cm)	24.0" (61.0 cm)
5' Hood	60.0" (152.4 cm)	50.1" (127.3 cm)	30.0" (76.2 cm)
6' Hood	72.0" (182.9 cm)	62.1" (157.7 cm)	36.0" (91.4 cm)
8' Hood	96.0" (243.8 cm)	86.1" (218.7 cm)	



FRONT



SIDE

Contact Labconco at (BOO) 821-5525 or (816) 333-8811 or visit labconco.com for BIM Revit[®] and detailed AutoCAD[®] drawings. See page 21 for trademark information.

xylem
Let's Solve Water

BUILDING DISTRIBUTION PUMPS



Series e-1510 Centrifugal Pumps



CHILLED WATER AND HEATING HOT WATER
DISTRIBUTION PUMPS

leell & Gossett
a xylem brand

B-313F R2

CLARIFICATIONS BY DIVISION

The intent of the following Outline Specifications is to provide an expedient summary of the major scopes of work and assumptions associated with the proposed project for estimating purposes. All scopes are to be provided complete in accordance with applicable codes and manufacturer's guidelines as can be surmised from the project information received prior to proposal submission & referenced in this proposal. It shall be the reader's responsibility to inquire as to the inclusion of any scopes not specifically discussed.

DIVISION 1 - GENERAL REQUIREMENTS

Supervision

- Harper supervisory personnel including Project Manager, Field Superintendent, Foreman, and allocated costs for Safety Director and General Superintendent
- The anticipated Construction period is approximately 18 months. A preliminary schedule showing more detail is enclosed.

QC & Testing

- Geotechnical Investigation, Materials Testing and Special Inspections, Hazardous material testing and monitoring provided by the owner.

Temporary Facilities & Construction

- Portable toilets
- Jobsite office to be located within building footprint
- Temporary power and water distribution.
- Proposal assumes use of the permanent mechanical systems, electrical systems, lighting, etc. in order to provide the appropriate conditions for the installation of our work in accordance with their respective manufacturer's recommendations

Equipment

- Jobsite technology, phones, and office equipment
- Pickup Truck
- Fuel and Oil

Waste Management and Cleanup

- Clean up of construction area and construction waste management services.
- Dumpster Costs

Design Fees and Misc. Expenses

- Field office supplies, safety supplies, printing, and shipping/postage
- Design for Permitting & Construction for all disciplines shall be provided by the owner.
- Unless otherwise noted, Design is provided for compliance with applicable codes only. Provisions for compliance with Owner/ Tenant's specific design requirements imposed by insurance carriers (e.g., Factory Mutual), corporate guidelines, and industry requirements; LEED, etc. are provided only if specifically mentioned.
- A Good Faith Effort has been made to provide a Scope of Work that anticipates existing conditions, city requirements, Energy Envelope, Seismic, A.D.A, etc. However, some cost adjustments should be anticipated as these variables are finalized.
- Future Cost adjustments should be anticipated for scopes that could not reasonably be identified with time allotted for cross discipline design coordination.
- Safety provisions to ensure full OSHA Compliance. Safety requirements beyond OSHA are not provided for at this time unless specifically noted.
- One-year construction Warranty on labor and materials from date of substantial completion. Extended warranties for specific materials and equipment as noted.
- Free hand, red line as-builts and maintenance manuals provided upon project closeout

Permits, Licenses and Fees

- Business license and AGC Fees included.
- Performance Bond included.
- Builders Risk, General Liability and Automobile insurance is included.
- Utility tap, meter, impact, user fees, encroachment permits, etc. are excluded.

DIVISION 2 - EXISTING CONDITIONS

Demolition

- We have attempted to capture all costs required for site demolition. We are assuming the entire existing parking lot will be removed and replaced in lieu of resurfacing as noted.

DIVISION 3 - CONCRETE

- Provided in general accordance with the Structural Narrative provided by MMSA Inc.
- A complete foundation design was not available, so we used assumptions based typical details from similar projects.
- Please review the attached drawings at the end of this document for details of our assumptions.

DIVISION 4 - MASONRY

- Lump Sum Allowance of \$1,500.00 for Sample Panel/Mock-Up Panel
- Material Only Allowance of \$400.00/M for Modular Face Brick
- Colored Mortar for Face Brick
- Brick Soldier Courses as shown on Building Elevations
- Brick Rowlock Course as shown on Building Elevations
- Stacked Brick Pattern Feature as shown on Building Elevations
- 2-Piece Wall Ties
- 7oz Copper Thru-Wall Flashing
- SS Termination Bar
- SS Metal Drip Edge
- Mortar Net
- Prefab Weeps
- Excludes any exterior water repellent

DIVISION 5 - METALS

- Material costs and delivery dates are currently extremely volatile. We will need to manage the design and procurement schedule as a team in order to avoid project delays.
- 36 Tons of Joist and Accessories included
- 1245 SQS of Deck included
- 620 Tons of Structural and Miscellaneous Steel Which Includes:
- AISC QUALITY CERTIFICATION
- Roof Pop-Up Ornamental Trusses
- Beams
- Columns

- Bearing Plates
- Perimeter Angles
- Bent Plate Pour Stops
- Galvanized Mechanical Screen Wall Supports
 - Lintels
 - Floor & Roof Frames
- 2 - Monumental Stairs & Glass Rails
- Balcony Glass Rails
- 3 - Standard Concrete Filled Stairs and Rails
- 2 - Elevator Pit Ladders
- AESS Canopy frames
 - AESS at clerestory

DIVISION 6 - WOOD, PLASTICS, & COMPOSITES

Rough Carpentry

- Wood blocking and nailers as required.

Casework

- Wood base and chair rail is paint grade pine.
- Solid surface included as Corian Group 4

DIVISION 7 - THERMAL & MOISTURE PROTECTION

Waterproofing

- Polyguard 650 sheet waterproofing with Polyguard 15-drainage board at elevator pits and below grade walls.
- Excludes underslab membrane waterproofing.

Caulking

- Dow 790 silicone sealant at the following locations:
 - Brick to metal panel joints
 - Brick "cj" shown on elevation plans
 - Masonry control joints both sides of wall
 - Sidewalk to building joint.

- Exterior Hollow metal doors both sides
- Caulking at windows included in the glass/glazing scope of work.

Fluid Applied Air Barrier

- Install air barrier on exterior sheathing in locations as follows:
- Exterior sheathing walls behind brick or siding
- Install from ground to top face of parapet (exclude top and back side of parapet)
- Materials W.R. Meadows Air-shield LMP Permeable air barrier
- Applied 1 coat at a rate of 60 mils wet/ 30mils dry.
- Install W.R. Meadows Air-shield liquid flashing (for a liquid flashing) at window and door openings. Install "2 inches on either side of corners at openings and inside and outside corners. Apply at a rate of 15 mils wet/9 dry

Roofing

- Install R-20 polyisocyanurate insulation in two layers
- Mechanically attach 1/2" Densdeck
- Mechanically attach 50 mil PVC membrane system
- Fabricate and install 24 ga prefinished Kynar 500 coping and counterflashing
- Flash stanchion penetrations at glass wall
- Install roof hatch
- Install a 24 ga Kynar 500 prefinished Snap Lock standing seam roof at penthouse
- Provide a 20-year NDL material and labor warranty

Waif Panels

- Terra Cotta Rainscreen System: (Based on Avanere NeaCera System)
- Terra-Cotta units, primarily 12" x 60" units, vertically or horizontally applied panels.
- Panels to be standard color/finish/texture.
- Included is back-up support grid, furring and polyisocyanurate rigid insulation (R-3.8) as part of the system assembly.
- Profiled Panel Rainscreen System: (Based on Centria's MR3-36 painted 22 ga steel panels)
- Horizontally applied profiled panels, plus related trim, and closures. Panels to be standard 2-coat color.
- Panels to be installed over cold formed Zee furring, also by SECO, along with R-3.8 rigid, polyisocyanurate insulation.

- Profiled, Perforated Rooftop Metal Panel Screen: (Based on Centria's .050 MR3-36 painted aluminum, perforated panels)
- Horizontally applied profiled, perforated aluminum panels plus trim, closures, and preformed panel corners.
- Panels to be standard 2-coat color, finish on both sides of the panels.

Firestopping

- We have included firestopping at the following locations:
 - Top of rated walls
- Slab edges
 - Curtainwall insulation at spandrel glass edges

DIVISION 8 - OPENINGS

Doors & Frames

- We are providing the following allowances until the design matures enough to solicit pricing from our vendors:
 - Wood Doors \$350/ea.
 - Lead Lined Wood Doors \$750/ea.
 - Hollow Metal Doors \$250/ea.
 - Lead Lined Hollow Metal Frames \$450/ea.
 - Single Hollow Metal Frames \$200/ea.
 - Double Hollow Metal Frames \$250/ea.
 - Door Hardware \$1,000/leaf.

Fire Doors

- One (1) FireGuard (FGMFWI) (Single Parting) at 30'-0" X 10'-0".
 - Features: Heavy Duty Unitized Track System (HDUTS)
 - One (1) Key Switch
 - Standard #55 Platinum Color
- One (1) FireGuard (FGMFWI) (Single Parting) at 9'-0" X 10'-0".
 - Features: Heavy Duty Unitized Track System (HDUTS)
 - One (1) Key Switch
 - Standard #55 Platinum Color
- One (1) FireGuard (FGMFWI) (Single Parting) at 16'-0" X 10'-0"

- o Features: Heavy Duty Unitized Track System (HOUTS)
 - o One (1) Key Switch
 - o Standard #55 Platinum Color
- One (1) FireGuard (FGMFWI) (Single Parting} at 9'-0" X 10'-0"
 - o Features: Heavy Duty Unitized Track System (HDUTS)
 - o One (1) Key Switch
 - o Standard #55 Platinum Color
- One (1) FireGuard (FGMFWI) (Single Parting) at 16'-0" X 10'-0"
 - o Features: Heavy Duty Unitized Track System (HDUTS)
 - o One (1) Key Switch
 - o Standard #55 Platinum Color
- One (1) FireGuard {FGMFWI) (Single Parting) at 9'-0" X 10'-0"
 - o Features: Heavy Duty Unitized Track System {HDUTS)
 - o One (1) Key Switch
 - o Standard #55 Platinum Color
- All doors requiring more than 0.05 Water Column Pressure (WC) require additional air pressure equipment not included
- All doors requiring more than 88 inches of egress width will require additional high-speed equipment not included

Aluminum Storefront & Curtainwall

- 21,564 SQFT of Kawneer 1600 2 ½" x 7 ½" Front Set Curtain Wall System
- Finish Quoted as Manufacturer's Standard 2 Coat Paint Finish with 20 Year Finish Warranty
- Frames Included: (5) Type A, (1) Type 8, (1) Type C, (8) Type D Left, (3) Type D Right, (1) Type E, (7) Type F, (1) Type G, (1) Type H, (2) Type I, (1) Type J, (1) Type K, (1) Type L, (1) Type M, (1) Type **N**, (2) Per CI/A302 Bottom, & (2) Per CI/A302 Top
- (5) Pair & (6) Single Kawneer 500 Wide Stile Tuffline Entrance Doors with 10" Bottom Rails
- Custom Vertical and Horizontal Mullions Included Per Notes on A310
- Engineering/Wind-Load/Dead-Load Clips Included in Quote
- 877 LNFT of Custom Kawneer Sunshades Included in Quote. Additional Information on Sunshades Will Be Needed for Final Pricing.

- Glazing Quoted as 11/16" Viracon "Pure Mid-Iron" Glass with VRE 4725 Low-E Coating on #2 Surface, (With Spandrel Coating and 20%, 40%, or 60% Ceramic Frit Line Pattern Per Drawing Notes) Tempered Per Code
- All Glazing@ Curtain Wall Parapet is Quoted as 9/16" "Pure Mid-Iron" Glass with VS-20 Low-E Coating on #2 Surface and 20%, 40%, or 60% Ceramic Frit Line Pattern
- 3,856 SQFT of Kawneer TriFab 451T Thermally Broken 2" x 4 ½" Front Set Storefront System
- Finish Quoted as Manufacturer's Standard 2 Coat Paint Finish with 20Year Finish Warranty
- Frames Included: All 8.11 Elevations (Frames are Not Individually Labeled)
- Glazing Quoted as 11/16" Viracon "Pure Mid-Iron" Glass with VRE 4725 Low-E Coating on #2 Surface, Tempered Per Code
- 4,241SQFT of Kawneer 1600 2 ½" x 7 ½" Front Set Curtain Wall System
- Finish Quoted as Manufacturer's Standard 2 Coat Paint Finish with 20 Year Finish Warranty
- Frames Included: Interior Framing@ Vestibule 001, Vestibule 1008, Seminar 218, & Student Lounge 318
- (5) Pair & (2) Single Standard, 1 ¾" Thick, Kawneer 500 Wide Stile Doors with 10" Bottom Rails
- Glazing Quoted as 1" Clear Glass, Tempered Per Code
- 7,618 SQFT of Kawneer TriFab 450 Interior 1 ¾" X 4 ½" Center Set Storefront System
- Finish Quoted as Manufacturer's Standard 2 Coat Paint Finish with 20Year Finish Warranty
- Frames Included: Interior Framing @ Vestibule 001, Vestibule 1008, Seminar 218, & Student Lounge 318
- (41) Single Standard, 1 ¾" Thick, Kawneer 500 Wide Stile Doors with 10" Bottom Rails
- Glazing Quoted as ¼" Clear Tempered Glass
- Borrowed Lites
- (27) Half Door Lites and Sidelites for Hollow Metal Frames Glazed with ¼" Clear Tempered Glass
- (6) Pieces of Lead Lined Glass in the X-Ray Lab Areas Glazed with 5/16" Clear Lead Lined Glass with 1/16" Lead Equivalent Based @ 150KVP
- No Fire Rated Storefront or Glazing is Included.
- A Hardware Allowance is included in these doors in the amount of \$1,000/leaf.

DIVISION 9 - FINISHES

Drywall & Ceilings

- Exterior & Interior metal stud framing
- Batt insulation per wall types
- Rigid insulation per wall types
- Drywall ready for paint
- Acoustical Ceilings per plans including Woodworks
- Rulon Wood Veneer Wall Panels - Maple stained 4' x 8'
- Includes an allowance of \$50,000 for Acoustical Wall Panels
- Includes sheet wall protection and corner guards

Tile

- Allowances per the Interior Finish Matrix

Flooring

- Allowances per the Interior Finish Matrix
- Included the following at Terrazzo locations:
- Full coverage moisture vapor treatment
- Ramboard floor protection
- Full coverage crack isolation membrane

Painting

- Excludes Custom Wallcoverings.
- Includes the following:
- GWB walls w/ typical acrylic paint
- GWB walls w/ WB precatylized epoxy
- Stair steel & railing
- Sealed concrete w/ wet look roll on clear sealer (excludes grinding)
- GWB ceilings w/ typical acrylic
- Exposed non passivated decking, structure, MEP (all 1 color)
- HM door frames & side lites
- Exterior canopy steel structure & columns

DIVISION 10 - SPECIALITIES

Visual Display Boards

- 32 EA. 4'X 24' Porcelain enamel marker board
- 3 EA. 4'X 20' Porcelain enamel marker board
- 6 EA. 4'X 16' Porcelain enamel marker board
- 2 EA. 4'X 12' Porcelain enamel marker board
- 1 EA. 4'X 10' Porcelain enamel marker board
- 1 EA. 3'X 8' Porcelain enamel marker board

Signage

- We have excluded all signage.
- We exclude all custom graphics

Toilet Partitions

- 34 EA. Floor mounted overhead braced compartments.
- 7 EA. Urinal screens.

Toilet Accessories

- 39 EA. 8165 24"X 36" Channel framed mirror
- 37 EA. B2888 Roll in reserve toilet paper dispenser
- 39 EA. B2112 Surface mounted soap dispenser
- 13 EA. B6806 1 ½"X 18" Concealed mount grab bar
- 9 EA. B6806 1 ½"X 36" Concealed mount grab bar
- 13 EA. B6806 1 ½"X 42" Concealed mount grab bar
- 9 EA. 83644 Recessed waste receptacles
- 3 EA. B239 34" Mop & broom holder with shelf
- 15 EA. XL-SB XLERATOR high volume hand dryers

Fire Extinguishers

- 7 EA. Recessed fire extinguisher cabinets

Lockers

- A \$7,500 Allowance has been provided for lockers

Vertically Retracting Partition

- (1) HUF COR #645V SUMMIT Electrically Operated Vertical Lift Operable Panel Partition, 37' wide x 16' high
- Utilizing HUF COR'S standard vinyl wall covering material

Canopy

- A \$87,036 Allowance has been provided.
- The specified manufacturer has not provided pricing despite multiple requests.

DIVISION 12 - FURNISHINGS

Window Treatments

- Hunter Douglas Architectural - Draper, Inc Equal
- (8) HDA- RBS00+ Motorized Window Shades @ Exterior Windows in Meeting Room.
 - Fabric: Sheerweave 2000 5%
 - Includes: Front Fascia
- (180) HDA - RBS00+ Manually Operated Window Shades @ Exterior Windows in Offices and Classrooms.
 - Fabric: Sheerweave 2000 5%
 - Includes: Front Fascia
- (56) HDA - RBS00+ Manually Operated Dual Window Shades @ Exterior Windows in 2nd and 3rd Floor Labs.
 - Fabric: Sheerweave 2000 5% / Sheerweave 7000 0%
 - Includes: Front Fascia

Lab Casework

- Kewaunee Scientific Spektrum Plastic Laminate Casework, Basis of Design
 - Fixed perimeter base cabinets and Wall Cases
 - Fixed standing height Instructor Benches with (1) kneespace and (3) Door/drawer cabinets
 - Cubbies and open wall shelves
- Student tables (all materials as manufactured by Kewaunee Scientific):
 - Powder coat metal adjustable height movable tables, 30"d x 60"w
 - Fixed height wood laboratory tables with leg shoes and hold down brackets, 30"d x 60"w

- Biology and Physics tables with storage (back-to-back cabinets in center, knee spaces/rails/supports on each end), dimensions as detailed on architectural drawings.
- Pentagon shaped, fixed height table assemblies in Chemistry with storage cabinets below.
- Free-standing Metal Flammable Storage Cabinet, 43"w x 18"d x 65"h (drawings scale 48" x 18" x 80", however we have checked with multiple manufacturers and a flammable cabinet this size is not offered).
- Countertops: 1" thick Black TopLab Plus Phenolic Resin with 4"h applied splash, as specified.
- Sinks: Black epoxy resin drop-in style with threaded outlet
- Pegboards: Black Phenolic Resin with Stainless steel drip tray, where indicated.
- Polished Chrome H/CW mixing faucets at sinks, and G/A/V deck-mount service fittings in Chemistry labs.
- Recessed Safety Shower/Eyewash Stations, where indicated.
- Kewaunee Scientific Venturi Bench-top Fume Hoods, where indicated.
 - Pre-piped with CW, Gas, Air and Vacuum
 - Pre-wired to a single junction box
 - Digital Air Flow Monitor
 - 2 ea. 120V GFI Duplexes per post
 - LED Light/Switch
 - Blower switch
- Metal Ceiling Enclosure Panel (in lieu of laminate) to match hood superstructure
- Dished black epoxy resin work surface with cup sink
- General purpose base cabinets and knee spaces (plastic laminate), as detailed.
- ADA height fixtures and hood configurations, where ADA height cabinets/kneespaces are shown.
- ASHRAE 110 Field Testing of All Fume Hoods
- 7 Safety Shower & Eyewash stations.
- Excludes:
 - Lab Equipment: Plant Storage, Biosafety cabinets, refrigerators, etc. (by owner)
 - Installation of owner furnished equipment
 - Locks or Label holders at casework
 - Vandal resistant fixtures or Pure water faucets
 - Plastic laminate shroud at fume hoods

Site Furnishings

- A \$50,000 Allowance has been provided.

DIVISION 14 - CONVEYING EQUIPMENT

- Elevators included per design narrative.

DIVISION 21 - FIRE SUPPRESSION

- Design and installation to meet code requirements in accordance with NFPA 13.
- Based on adequate water pressure to meet the fire protection demand.
- We have included a manual wet standpipe as required per NFPA 14 for buildings greater than 30'-0" of inhabitable space above fire department vehicle access.
- We have also included in the budget price a dry pipe fire sprinkler system for the penthouse exterior canopy.
- Excludes fire pump.
- Includes window sprinklers on both side of the glass along rated corridors.

DIVISION 22 - PLUMBING

- Provide and install Schd 40 PVC pipe, fittings for underground sanitary waste, vent, and roof drain piping.
- Provide and install hub less cast-iron pipe and fittings with heavy duty bands for above ground sanitary waste, drain, and vent.
- Provide and install L hard copper pipe and fittings for the domestic water piping.
- Provide and install Fiberglass insulation on the domestic water piping.
- Provide and install No Hub cast iron pipe and fittings with heavy duty bands for the above slab roof drain and overflow drain piping.
- Provide and install fiberglass insulation on the horizontal portions of the roof drain and overflow roof drain piping.
- Provide hot and cold water and acid waste to every lab table, sink, and fume hood.
- Includes a \$20,000 Allowance for Acid Dilution Tank.
- CWS/HWS from the Central Energy Plant on Campus as follows:
 - New 12" Pre-insulated, schedule 40 Carbon steel pipe, Chilled Water Piping.

- o 8" Pre-insulated, Hot Water Piping.
- o Piping will be bedded in sand screenings.
- o We will need to work as a team to plan the routing of the piping in order to have minimal impact on campus activities.
- o Includes one creek crossing.

DIVISION 23 - HEATING, VENTILATING, & AIR CONDITIONING

- We have included costs based on historical data to include the following:
 - o Building HVAC at \$35.50 per Sq Ft - \$4,320,000
 - o Laboratory Exhaust Systems with Eight (8) Hoods - \$970,000
 - o Atrium Exhaust Systems - \$260,000

DIVISION 26 - ELECTRICAL

- Per Electrical Narrative and Burdette's layout.
- Includes Fire Alarm systems with smoke Evac.
- Includes Raceways and back boxes only for AV systems
- Includes Raceways and backboxes only data/telecom systems
- Includes Raceways only for security /cameras systems
- Includes 700 kw gen set and ATS per the single line and narrative
- Includes an Allowance of \$35,000 for Lightning Protection System
- Includes an Allowance of \$175,000 for BOA System
- Includes an Allowance of \$120,000 for site lighting
- New service from power company transformer located with-in 20 feet of building.
- 3000-amp 480-volt service and distribution
- Excludes:
 - o Access Control & Security System
 - o Telecommunications and data systems
 - o Audio/Visual Equipment

DIVISION 31 - EARTHWORK

Site Demolition

- Trees
- Sawcutting
- 21,006 SY Asphalt
- 6,785 SF Concrete/Sidewalk
- 3,700 LF Curb & Gutter
- 200 LF Storm Drainpipe
- 3 EA Storm Drain Structure
- 8 EA Light Poles

Grading

- 446 CY Strip Topsoil & Respread on Site
- 3,671 CY Cut/Fill
- 4,093 CY Import Fill
- Grade for Site/Building Walls
- Backfill Retaining Walls
- 24,381SY Fine Grading
- \$200,000 Allowance for Unsuitable Soils

Storm Drainage

- 1,275 LF Pipe
- 17 EA Storm Structures
- 1 EA Water Quality Structure Allowance
- \$100,000 Allowance for storm drainage rework the new parking lot

Termite Control

- Includes treatment of the soil prior to foundations/slab

Aggregate Piers

- A \$350,000 Allowance has been provided.
- We have also provided monies for pier layout, working surface, and cleanup of spoils.

DIVISION 32 - EXTERIOR IMPROVEMENTS

Asphalt Paving

- 2,769 SY of Heavy-Duty Asphalt
- 40 SY of DOT Asphalt
- Pavement Markings
- 2,532 LF of Concrete Curb

Hardscape

- 9,873 sf of concrete block pavers@ \$27.78/sf
- 22,670 sf of Reinforced Turf Paving @\$8.86/sf
- 7,017 sf of Klingstone Pathway@ \$12.89/sf

Site Concrete

- Includes the following:
 - 6" Walks
 - Stairs
 - Walls
 - Seating Area

Landscaping

- 1,250 LF 4" Irrigation Sleeving
- Irrigation system
- 40 EA 4" Caliper canopy trees
- 20 EA 15 Gallon shrubs
- 250 EA 3 Gallon shrubs
- 75 CY Hardwood mulch
- 85,000 SF Bermuda sod

DIVISION 33 - UTILITIES

Water

- 8" Fire Vault
- 150' 8" DIP Waterline
- 8" Fire riser
- 3" Meter vault

- 300' 3" PE Waterline
- Relocate one hydrant

Sewer

- Core existing manhole
- 350' 6" PVC SDR35
- 7 EA 6" Cleanout

ALLOWANCES

- \$1,000/leaf Door Hardware
- \$350/leaf Wood Doors
- \$750/leaf Lead Lined Wood Doors
- \$50,000 Acoustical Wall Panels
- Flooring Materials Per Design Narrative
- \$7,500 Lockers
- \$87,036 Canopies
- \$50,000 Site Furnishings
- \$20,000 Acid Dilution Tank
- \$120,000 Site Lighting
- \$200,000 Unsuitable Soil/Subgrade
- \$274,252 Bluestone Pavers
- \$200,902 Reinforced Turf
- \$100,000 Storm Drain Rework
- \$35,000 Lightning Protection System
- \$175,000 BDA System
- \$350,000 Aggregate Piers

EXCLUSIONS

- Scopes of work, which may or may not be required, to integrate this project with or improve surrounding existing construction and grounds.
- Improvements to the Central Energy Plant.

- Chilled Water, Hot Water Piping to the UT Building.
- Chiller at the UT Building.
- LEED
- Utility, tap, meter, impact fees.
- Building permit costs.
 - Encroachment permit.
- Rock excavation or removal.
 - Hazardous material investigation or removal.
 - Unsuitable soil removal or replacement.
 - Existing utility relocation.
- A/V, IT, Security, CCTV, Access Control Systems.
 - Signage.
 - Custom Graphics.
- Laboratory Equipment.

UTILITY PROVIDER DISCLAIMER

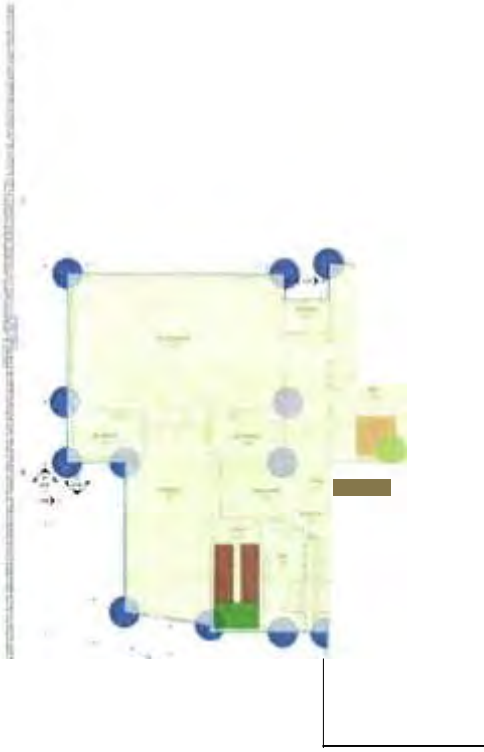
The Harper Corporation includes only the coordination and monitoring of utility services with the different providers of electricity, telephone, cable, natural gas, sanitary sewer, domestic water, fire lines and storm drainage. We cannot predict or guarantee the costs that the utility companies may charge for providing these services. Nor can we predict or guarantee that the utility provider will meet the schedule to deliver the service to the site.

This disclaimer includes existing services that need to be discontinued, relocated, or upgraded as well as new services that may be required.

In many cases the utility provider will require design information and usage contracts to be signed by the end user before they will commit to provide service or begin pre-planning for construction of the new infrastructure. In many cases, there is an unspecified cost for the design and construction of these services.

KEYNOTE LEGEND

1.00 2024.04.10 10:00 AM



- b**Assumed Ret Wall 11' & footing**
- b** 2'6"x1' Strip Ftg
- QElevator Pit Foundation
- sump
- b** Elevator Pit Walls
- 7'x7'x1'6"
- t'.J4" SOG 6x6 2.1/2.1 15 mil 4" #57
- b** 1'4"x1'4" Turndown
- QPan Stair Treads
- QPan Stair Landing

	297.5 FT	
	229.4FT	
	124.1 SQFT	
	1.0 EA	
	34.5 FT	
	16.0 EA.	
	12919.4 SQ FT	
	229.4 FT	
	308.4SQFT	
	144.1 SQ FT	

PLAHEGHO

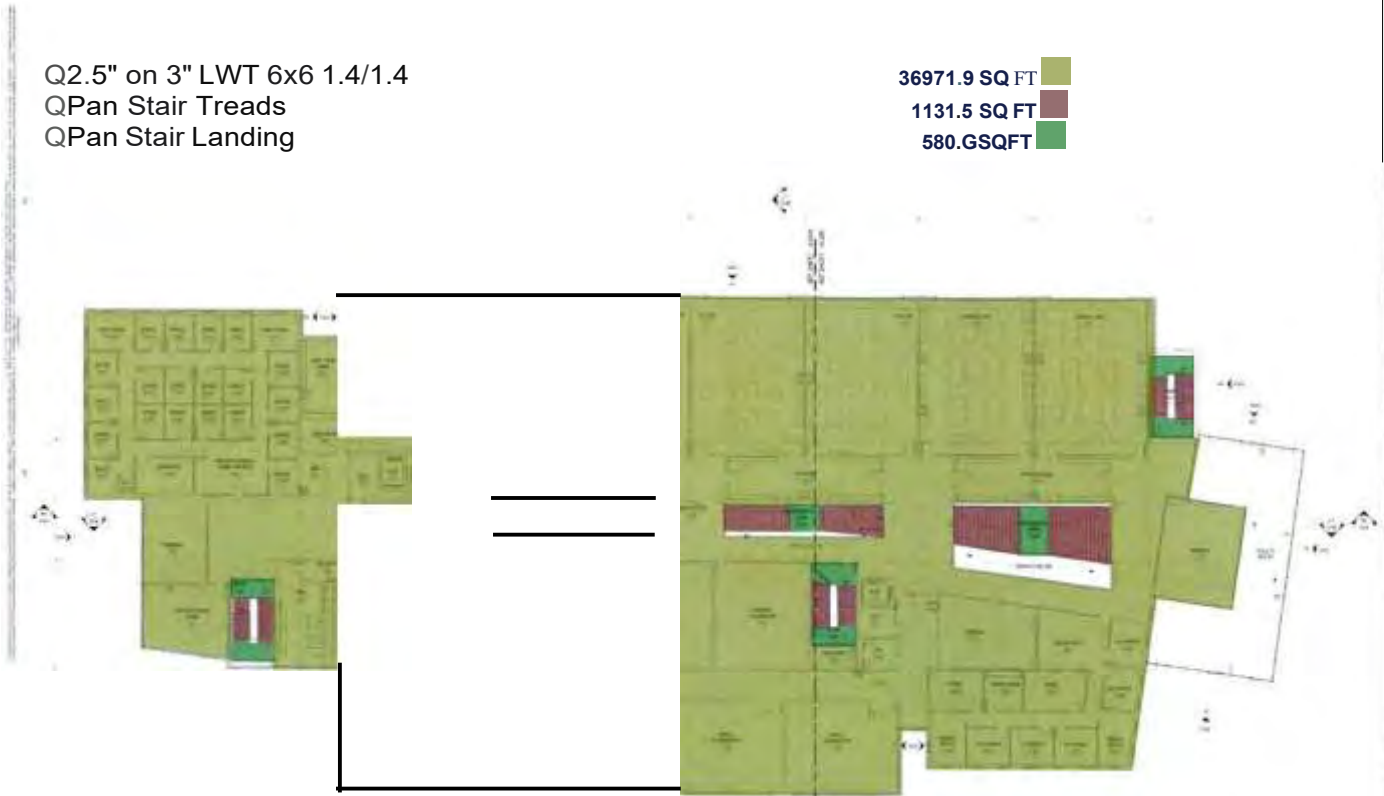
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KEYNOTE LEGEND

1.01 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 25.00 26.00 27.00 28.00 29.00 30.00 31.00 32.00 33.00 34.00 35.00 36.00 37.00 38.00 39.00 40.00 41.00 42.00 43.00 44.00 45.00 46.00 47.00 48.00 49.00 50.00 51.00 52.00 53.00 54.00 55.00 56.00 57.00 58.00 59.00 60.00 61.00 62.00 63.00 64.00 65.00 66.00 67.00 68.00 69.00 70.00 71.00 72.00 73.00 74.00 75.00 76.00 77.00 78.00 79.00 80.00 81.00 82.00 83.00 84.00 85.00 86.00 87.00 88.00 89.00 90.00 91.00 92.00 93.00 94.00 95.00 96.00 97.00 98.00 99.00 100.00

Q2.5" on 3" LWT 6x6 1.4/1.4
QPan Stair Treads
QPan Stair Landing

36971.9 SQ FT
1131.5 SQ FT
580.GSQFT



OVERALL TECHNICAL COLLEGE - NORTH CAMPUS
GTU - ARTS AND HEALTH SCIENCES BUILDING

OVERALL PLAN -
SECOND FLOOR

OVERALL PLAN - SECOND FLOOR

A102

PLANLEGEHO

mcmillan
pooden
smith

KEYNOTELEGEND

37077.7 SQ FT
 658.55SOFT
 500.05SOFT

1/2)2.5" on 3" LWT 6x6 1.4/1.4
 c;JPan Stair Treads
 CJPan Stair Landing



2000VILLE TECHNICAL COLLEGE - SMITH CAMPUS
DTC - ARTS AND HEALTH SCIENCES BUILDING

OVERALL PLAN
THIRDFLOOR

A103

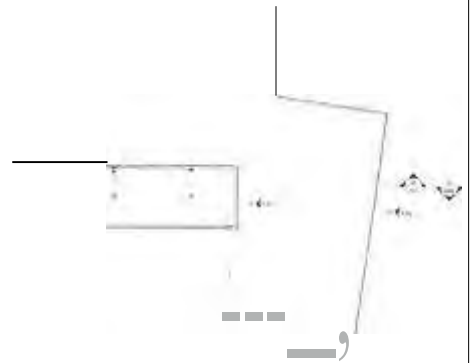
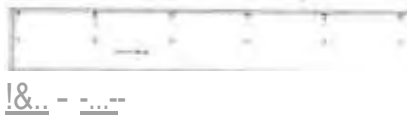
OVERALL PLAN THIRD FLOOR

PIANIEGHO

mcraillan
pazdan
tmith

KEYNOTE LEGEND

1. 100% DEVELOPMENT (100% OF THE TOTAL AREA OF THE PROJECT)
2. 75% DEVELOPMENT (75% OF THE TOTAL AREA OF THE PROJECT)
3. 50% DEVELOPMENT (50% OF THE TOTAL AREA OF THE PROJECT)
4. 25% DEVELOPMENT (25% OF THE TOTAL AREA OF THE PROJECT)



Pan Stair Treads
Pan Stair Landing

OVUW.LPNI-PIKTHOU

132.1 SQ FT
148.4SQFT

DEWITT COLLEGE - WASH - CAMPUS
ARTS AND HEALTH SCIENCES BUILDING

OVERALL PLAN,
PENTHOUSE

A104

EXECUTIVE SUMMARY FOR ISSUANCE OF INSTALLMENT PURCHASE REVENUE BONDS FOR GREENVILLE TECHNICAL COLLEGE ARTS AND HEALTH SCIENCES BUILDING

Greenville Technical College seeks approval to issue Installment Purchase Revenue Bonds for the Construction of the College's Arts and Health Sciences Building. Previously, for capital projects of Greenville Technical College Area Commission (the "**Commission**"), Greenville County (the "**County**") has issued general obligation bonds payable from a tax levy that the County has levied for the Commission for more than 40 years. Currently, however, the County is reserving its general obligation debt capacity for its own projects, which means the Commission has to use other financing structures for its Arts and Health Sciences Building project (the "**Project**"). Initially, the County intended to have issued on its behalf installment purchase revenue bonds by a nonprofit corporation created by the County for this purpose. The source of payment would remain the taxes levied by the County for the Commission. However, this structure which is authorized by IRS Rev. Rul. 63-20 requires the governmental unit on whose behalf the bonds are issued (the County) to have exclusive beneficial possession and use of the property financed by the obligations for the life of the obligations. Since the Commission, not the County would have possession and use of the Project, the County could not be the local government.

As a result of the above, the Commission determined that it could have a nonprofit corporation issue installment purchase revenue bonds on its behalf and comply with the federal rule since the Commission would have exclusive possession and use of the Project during the life of the bonds. The installment purchase revenue bond structure would consist of the following:

1. The Commission authorized the creation of the Center for Arts and Health Sciences Public Facilities Corporation (the "**Corporation**"), a South Carolina nonprofit corporation, which was organized and shall be operated exclusively for the exercise of essential governmental functions (within the meaning of Section 115 of the Internal Revenue Code of 1986, as amended) for the benefit of, to perform the functions of, and to carry out the purposes of the Commission. The board of directors of the Corporation consists of four individuals appointed by the Commission for a three-year term. The Corporation, which was incorporated on May 26, 2020, will be the issuer of the installment purchase revenue bonds (the "**Bonds**") on behalf of the Commission.

2. The Commission will enter into a Base Lease Agreement with the Corporation whereby the Commission will lease the land (the "**Land**") to the Corporation where the Project will be constructed. At the end of the lease term all improvements on the Land will be owned by the Commission.

3. The Corporation will enter into a Public Facilities Purchase and Occupancy Agreement (the "**Facilities Agreement**") with the Commission whereby the Corporation will (i) construct the Project and (ii) sell the Project to the Commission. The Commission agrees to make acquisition payments to the Corporation to purchase the Project. The obligation of the Commission to make these acquisition payments is subject to annual appropriation of the Commission. Acquisition payments, in addition to giving the Commission the ability to occupy and use the Project, also result in the Commission acquiring a property interest in the Building with each payment.

4. The Corporation will enter into a Trust Agreement with U.S. Bank National Association, as trustee, whereby the Corporation will issue the Bonds to pay for the construction of the Project. The Bonds will be secured by the Trust Estate which includes revenues paid by the Commission to the Corporation and a leasehold interest in the Land.

5. The revenue source for the Commission's acquisition payments will be a portion of the tax that is levied by the County for the Commission. The County will enter into an escrow agreement with the Commission and U.S. Bank National Association, as escrow agent (the "*Escrow Agent*"), whereby the County agrees to annually deposit tax revenues, upon receipt, into an escrow fund held by the Escrow Agent until the amount in the escrow fund equals the upcoming annual acquisition payments due from the Commission to the Corporation (which equal the annual debt service payments on the Bonds). The Escrow Agent will then transfer the money in the escrow fund to the debt service fund to pay the annual debt service on the Bonds.

The following documents are required for the issuance of the debt and were approved by the Commission on June 17, 2021:

1. Resolution approving bond transaction and the following documents:
 - a. Base Lease Agreement – see 2 above
 - b. Public Facilities Purchase and Occupancy Agreement – see 3 above
 - c. Trust Agreement – see 4 above
 - d. Escrow Agreement – see 5 above
2. Reimbursement Resolution - The Commission declared its official intent pursuant to Regulation Section 1.150-2 to be reimbursed from the proceeds of the obligations for expenditures with respect to the project which may occur prior to the issuance of the obligations.

Comparison of alternative financing considered by the agency or institution, and the rationale and justification for selection presented for Committee review.

As previously mentioned, the County has levied a tax for the Commission for more than 40 years. This tax is levied automatically and is not part of the budget process of the County. The millage levied by the County, however, can be changed through the enactment of an ordinance amending the County's most recent millage ordinance for the Commission which was adopted in 1991. The Commission received more than \$13.7 million from this revenue source in 2020 and has used such revenue to pay debt service on certificates of participation issued by the County for Commission projects which have recently matured, to pay debt service on general obligation bonds issued by the County for Commission projects and to fund various capital projects on a pay-as-you-go basis and to fund the operation and maintenance of the College's buildings and grounds.

The preliminary projection for annual debt service for the Bonds ranges from approximately \$2.8 million in the early years to over \$4.8 million in the later years and is structured to increase as the County's general obligation bonds issued for the Commission are paid down in order to have overall level annual debt service payments when aggregated with all bonds and obligations issued for the Commission and payable from the taxes levied by the County. Actual debt service is subject to market conditions at the time of the bond sale.

The Commission determined to use this structure for several reasons. First, the source of payment is a dedicated millage levied by the County for the Commission that has been in existence for more than 40 years. Second, the Commission does not have to use or increase its tuition or other student fees for this project. Third, the ability to exercise its right to non-appropriate protects the Commission's finances if for whatever reason the County does not levy such millage. Fourth, the debt service is being wrapped around existing debt issued by the County payable from this tax levy in such a manner as to have overall level debt service for the Commission without any increase in taxes, student tuition or student fees.

A State institution bond would require repayment from a specific fee and debt payments submitted must be 110% of the maximum annual debt service and 110% of the maximum annual debt service would have had to be on deposit with the Treasurer's office by June 30, 2021 to have the bonds issued in fiscal year 2022.

As a result of these constraints, the college would have to increase student fees by approximately \$200 per semester. The requirement for this extreme increase in student fees eliminated the State Institution Bonds from consideration. The proposed financing allows the debt service to be increased as other obligations are satisfied and use an existing non-student funding source.

This bond structure is not a vehicle that is normally used by 4 year State institutions. Technical Colleges have a unique funding structure where the counties served by the Colleges appropriate millage intended to fund the operation and maintenance of plant and some capital projects. When the Technical Colleges were created, it was envisioned that 3 sources of revenues would fund the colleges, The State appropriations were intended to fund salaries and benefits of State employees, the counties would fund operations and maintenance of plant and tuition and fees from students would fund other costs. The financial support from Greenville County has allowed the College to construct several buildings and create branch campuses.

Appendix A Contains a financial comparison of the estimated debt service and required payments for the Installment Purchase Revenue Bonds (IPRB) and the State Institution Bonds (SIB) Page 1 is the estimated debt service for a 20 year issue assuming 2.1% interest and level debt service. 110% of level debt service is estimated at \$4,075,400. Page 2 is the estimated debt service for a 20 year issue assuming a par value of \$49,975,000 and a premium of \$10,025,185 with a rate ranging from 3% to 5% and a yield ranging from 0.26% to 2.04%. The payment is interest only in year one and payments range from \$874,652 to \$4,804,950. This information comes from a analysis from Raymond James that will be included as Appendix B.

Pages 3 and 4 compare total debt service including the new issues and the cost of each. The college's total annual debt service using the IPRB hits a maximum of \$6.5 million in 2034 and the debt service over the next 20 years ranges from \$5.1 million to \$6.5 million and can be covered with existing revenue streams. The college's total annual debt payments using the SIB starts at \$8.3 million in 2022 and decreases to \$4.1 million in 2041 million. This debt cannot be covered with current revenue streams and would require an increase in student fees.

Page 5 shows revenues currently pledged to debt and the debt coverage ratio for the IPRB and SIB scenarios. The college requests permission to issue an IPRB for the following reasons:

- Debt service for the IPRB will can be increase as other issues roll off allowing level debt service for the institution,
- Existing revenues pledged to debt can service the debt.
- Student tuition or fees are not required to be pledged to issue the debt.
- The college will not be required to deposit the additional 10% of maximum debt service (totaling \$5.5 million), which is required to be used for other capital projects and limits the opportunity to use those funds for operating expenses.

Principals to the transactions

Greenville Technical College Area Commission, a public body corporate and politic organized and existing pursuant to the laws of the State and is authorized under the provisions of Title 59, Chapter 53, Code of Laws of South Carolina, 1976,

The Center for Arts and Health Sciences Public Facilities Corporation, a South Carolina nonprofit corporation, which was organized and shall be operated exclusively for the exercise of essential governmental functions (within the meaning of Section 115 of the Internal Revenue Code of 1986, as amended) for the benefit of, to perform the functions of, and to carry out the purposes of the Commission.

Greenville County has issued general obligation bonds payable from a tax levy that the County has levied for the Commission.

U.S. Bank National Association, or any successor Trustee that may become the Trustee pursuant to the applicable provisions of this Trust Agreement.

Consultants and Advisors

The consultants and advisors that have worked on this project are the Haynsworth Sinkler Boyd P.A., this firm is authorized to serve as bond counsel by the State. Southern Municipal Advisors, acts as Greenville County's Financial Advisors and is familiar with the College's current debt.

Financial Obligations of the Parties

The revenue source for the Commission's acquisition payments will be a portion of the tax that is levied by Greenville County for the Commission. The County will enter into an escrow agreement with the Commission and U.S. Bank National Association, as escrow agent whereby the County agrees to annually deposit tax revenues, upon receipt, into an escrow fund held by the Escrow Agent until the amount in the escrow fund equals the upcoming annual acquisition payments due from the Commission to the Corporation (which equal the annual debt service payments on the Bonds). The Escrow Agent will then transfer the money in the escrow fund to the debt service fund to pay the annual debt service on the Bonds.

The Corporation and the Trustee intend for this Trust Agreement to be a collateral assignment of all rents, leases, issues and profits created by, or arising out of any right, title or interest of the Corporation in the Trust Estate, including without limitation, all leases, rents, issues, and profits arising out of the Base Lease, the Facilities Agreement, and any future lease or leases now or hereinafter entered into by the Corporation, all as more particularly authorized by Section 29-3-100 of the Code of Laws of South Carolina 1976, as amended.

The full faith and credit of the state is not being pledged to the payment of the bond.

The Trust agreement does not create a mortgage. Pursuant to the Base Lease Agreement, the Commission is ground leasing the land to the nonprofit corporation upon which the new building will be built. Under the Trust Agreement, the nonprofit corporation is pledging its rights under the Base Lease Agreement to the Trustee for the benefit of the bondholders.

Provisions for enforcement, recourse and remedy in the event of non-performance or noncompliance

Given the fact that the tax millage collected for the Commission by Greenville County will be transferred directly to the trustee, the non-performance or non-compliance is highly unlikely. In the event of a breach of the Public Facilities Purchase and Occupancy Agreement by the Commission, the Corporation shall have the right to possession of portions of the Real Property, if any, relating to the Corporation Facilities as the result of a partition as provided for in the Facilities Agreement for the remainder of the Base Lease Term and shall have the right to sublease the Corporation Facilities or transfer its leasehold interest in the Corporation Real Property and in this Base Lease upon whatever terms and conditions it deems prudent; provided that the Corporation Facilities shall always be operated for a civic or public purpose and in compliance with all applicable governmental rules, regulations and orders. In the event that the Corporation shall receive a payment for the transfer of its leasehold interest or total rental payments for subleasing that are, after the payment of the Corporation's expenses in connection therewith, including fees, costs and expenses of the Trustee, in excess of the principal amount of the Outstanding Bonds at the time of termination or default and the interest and premium, if any, due and to become due thereon (with amounts

so received to be credited first to such interest and then to principal), then such excess shall be paid to the Commission by the Corporation, its assigns or its lessee.

In the event of a default by the Corporation, the Commission shall not have the right to exclude the Corporation from the Real Property or the Project Facilities or to take possession of the Real Property or the Project Facilities (except pursuant to the Facilities Agreement) or to terminate this Base Lease prior to the termination of the Base Lease Term notwithstanding any default by the Corporation hereunder; except that if upon exercise of the option to purchase the Corporation's entire interest in the Project Facilities granted to the Commission in Article IX of the Facilities Agreement and after the payment of the purchase price specified therein and the other sums payable under the Facilities Agreement, the Corporation fails to convey its interest in the Project Facilities to the Commission pursuant to said option, then the Commission shall have the right to terminate this Base Lease, such termination to be effective 30 days after delivery of written notice of such termination to the Corporation. However, in the event of any default by the Corporation hereunder, the Commission may maintain an action, if permitted in equity, for specific performance.

Specific action or review requested of the Committee

By policy adopted October 7, 2014, the agency is requesting permission for the issuance of Installment Purchase Revenue Bonds, and the associated leases and agreements as well as Phase II approval of the Greenville Technical College Arts and Health Sciences Building.

A RESOLUTION

CONSENTING TO AND APPROVING THE ISSUANCE BY CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION (THE “CORPORATION”) OF ITS NOT EXCEEDING \$60,000,000 INSTALLMENT PURCHASE REVENUE BONDS AND THE ISSUANCE IN ONE OR MORE SERIES FROM TIME TO TIME OF BOND ANTICIPATION NOTES, TO PROVIDE FUNDING TO FINANCE THE COSTS OF ACQUIRING, CONSTRUCTING, EQUIPPING, AND INSTALLING PUBLIC FACILITIES FOR GREENVILLE TECHNICAL COLLEGE AREA COMMISSION; AUTHORIZING AND APPROVING THE EXECUTION OF AN ESCROW AGREEMENT, A BASE LEASE AGREEMENT AND A PUBLIC FACILITIES PURCHASE AND OCCUPANCY AGREEMENT RELATING THERETO; CONSENTING TO THE FORM OF A TRUST AGREEMENT TO BE ENTERED INTO BY THE CORPORATION AND THE TRUSTEE FOR THE BONDS; AND MAKING PROVISION FOR ALL OTHER MATTERS RELATING TO THE FOREGOING.

June 16, 2021

BE IT RESOLVED BY THE GREENVILLE TECHNICAL COLLEGE AREA COMMISSION IN MEETING DULY ASSEMBLED:

ARTICLE I

FINDINGS OF FACT

SECTION 1.01. *Findings of Fact.* As an incident to the adoption of this Resolution, the Greenville Technical College Area Commission (the “*Commission*”), the governing body of Greenville Technical College (the “*College*”), finds that the facts set forth in this Article exist, and the statements made with respect thereto are true and correct.

(a) Center for Arts and Health Sciences Public Facilities Corporation, a South Carolina nonprofit corporation (the “*Corporation*”), has been incorporated for the purpose of supporting certain activities of the Commission.

(b) It is proposed that the Corporation will acquire, construct, renovate, install, furnish and equip an arts and health sciences facility for the Commission (the “*Project Facilities*”) on real property owned by the Commission (the “*Real Property*”).

(c) In order to effectuate the financing of the Project Facilities, the Commission will enter into a Base Lease Agreement with the Corporation (the “*Base Lease*”), pursuant to which the Corporation will lease from the Commission the Real Property upon which the Project Facilities will be constructed. The Corporation will enter into a Public Facilities Purchase and Occupancy Agreement with the Commission (the “*Facilities Agreement*”), pursuant to which the Corporation will agree to cause the Project Facilities to be acquired, constructed, installed, furnished and equipped, and, further, pursuant to which the Commission will purchase from the Corporation the Project Facilities and pending such purposes will be entitled to occupy and use the Project Facilities pending completion of the payment therefor.

(d) In order to provide funds for the payment of costs of the Project Facilities, it is proposed that the Corporation arrange for the issuance of not exceeding \$60,000,000 Center for Arts and Health Sciences Public Facilities Corporation Installment Purchase Revenue Bonds (the “*Bonds*”) under and by the terms of a Trust Agreement by and between the Corporation and U.S. Bank National Association, as trustee, as may be amended or supplemented from time to time (the “*Trust Agreement*”).

(e) The Commission also authorizes the Corporation at its discretion to issue one or more series of notes (the “*Notes*”) from time to time in anticipation of the issuance of the Bonds or to retire or refund any Notes as further described below through the issuance of Notes or Bonds; provided, however, that the amount of Notes outstanding at any one time shall not exceed the principal amount authorized for the issuance of the Bonds herein.

(f) The Commission intends to use the ad valorem taxes levied and collected by Greenville County, South Carolina (the “*County*”) for the Commission as the payment source for the payments due by the Commission to the Corporation under the Facilities Agreement. The Commission and the County desire to enter into an Escrow Agreement (the “*Escrow Agreement*”) with U.S. Bank National Association, as escrow agent, whereby the County will agree to the extent it has levied and collected ad valorem taxes for the Commission, to deposit all or a portion of such revenues received by the County into an escrow fund held by the escrow agent to be used by the Commission to pay its obligations under the Facilities Agreement.

ARTICLE II

AUTHORIZATION OF AND CONSENT TO FINANCING DOCUMENTS

SECTION 2.01. *Base Lease, Facilities Agreement and Escrow Agreement.* The forms, terms and provisions of the Base Lease, the Facilities Agreement and the Escrow Agreement presented at this meeting are hereby approved and all of the terms and provisions thereof are hereby incorporated herein by reference as if the Base Lease, the Facilities Agreement and the Escrow Agreement were set out in this Resolution in their entirety. The Commission Chairman, the Commission Vice Chairman and the President of the College, acting jointly or individually, are each hereby authorized, empowered and directed to execute, acknowledge and deliver and the Commission Secretary is hereby authorized, empowered and directed to attest the Base Lease, the Facilities Agreement and the Escrow Agreement. The Base Lease, the Facilities Agreement and the Escrow Agreement are to be in substantially the forms now before this meeting and hereby approved, or with such changes therein as may be deemed necessary by the persons executing the same, upon advice of counsel, to accomplish the purposes of the transactions contemplated therein and in this Resolution and as shall not be inconsistent with or contrary to such purposes. The execution of the Base Lease, the Facilities Agreement and the Escrow Agreement shall constitute conclusive evidence of the persons executing the same of their approval of any and all such changes.

SECTION 2.02. *Consent to the Trust Agreement.* The Commission hereby consents to and approves the Trust Agreement in the form now before this meeting with such changes as may be hereafter made as shall be in furtherance of the transactions contemplated therein and in this Resolution and as shall not be inconsistent with or contrary to the matters contemplated herein. The Commission hereby further consents to the execution and delivery of the Trust Agreement by the parties thereto. In the event it is determined to be necessary to execute and deliver an assignment in a document separate from the Trust Agreement, the Commission hereby consents to and approves the execution and delivery of such assignment by the Corporation.

SECTION 2.03. *Consent to and Approval of Actions of the Corporation and the Bonds.* The Commission hereby consents to and approves (i) the Corporation; (ii) the undertakings by the Corporation respecting the Project Facilities and the issuance of the Bonds; and (iii) the issuance of the Bonds. The Commission hereby consents to and approves the issuance, sale, execution and delivery of the Bonds in the aggregate principal amount of not exceeding \$60,000,000, to provide for the payment of (i) the costs of the Project Facilities and (ii) the costs of issuance of the Bonds and all expenses in connection therewith. The Commission also agrees to accept the Project Facilities at such time as the Bonds are retired. The Bonds may also be issued to retire or refund any Notes issued by the Corporation as contemplated therein.

SECTION 2.04. *Consent to the Issuance of the Notes.* The Commission hereby consents to and approves (i) the undertakings of the Corporation respecting the issuance of the Notes and (ii) the issuance of the Notes. At the discretion and direction of the Corporation, the Corporation will issue Notes, in one or more series from time to time, in anticipation of the issuance of the Bonds, or to retire or refund any Notes, provided that no Note shall be expressed to mature more than one year after its date of issue. So much of the principal proceeds of the Bonds when issued shall and are hereby directed to be applied, to the extent necessary, to the payment of the Notes, both principal and interest; and, further the Corporation will covenant and irrevocably pledge to effect the issuance of the Bonds, or in the alternative, to retire, refund or renew outstanding Notes, in order that the proceeds thereof will be sufficient to

provide for the retirement of any Notes issued pursuant thereto. The proceeds derived from the sale of the Notes shall be expended and made use of by the Corporation to provide the funds to pay costs of the Project Facilities, to pay costs of issuance associated with the Notes or to retire or refund any Notes. Any Note shall be issued in form approved by the Corporation, consistent with the provisions of the Base Lease, Facilities Agreement and the Trust Agreement; provided, however, that the principal amount of Notes outstanding at any one time shall not exceed the principal amount authorized for the issuance of the Bonds herein.

SECTION 2.04. *Use of Proceeds of the Bonds and the Notes.* The proceeds of the Bonds and the Notes, net of underwriter's discount, shall be applied, as provided in the Trust Agreement, to provide the amounts necessary to (i) pay the costs of the Project Facilities, including funding a debt service reserve fund, and (ii) pay costs of issuance of the Bonds, including any premium for a municipal bond insurance policy or a surety bond for a debt service reserve fund. The Project Facilities are described generally in the Trust Agreement and the Facilities Agreement, as each may be amended and supplemented from time to time. The proceeds of the Bonds and the Notes can also be used to retire or refund any Notes issued by the Corporation as contemplated herein.

ARTICLE III

CONSENT TO SALE OF THE BONDS AND THE NOTES

SECTION 3.01. *Bond Purchase Agreement.* The Commission hereby delegates to the President of the College the authority to select an underwriter or underwriters to arrange for the placement and sale of the Bonds and/or the Notes, upon the recommendation of the financial advisor to the Commission. The Commission hereby authorizes each of the Commission Chairman, the Commission Vice Chairman and the President of the College, acting jointly or individually, upon advice of the its counsel, to execute one or more Bond Purchase Agreements (the "***Bond Purchase Agreement***") among the Commission (if the Commission is a party), the Corporation and the underwriter or underwriters related to the sale of the Bonds and/or the Notes.

SECTION 3.02. *Official Statement.* The Commission hereby approves the use by the Corporation of one or more Preliminary Official Statements in connection with the offer and sale of the Bonds and/or the Notes, provided that prior to distribution of such Preliminary Official Statement, the President of the College shall receive the advice of counsel in connection therewith. After the acceptance of an offer to purchase the Bonds and/or the Notes from the underwriter or underwriters, the Commission hereby approves the use and distribution by the Corporation of one or more final Official Statements.

SECTION 3.03. *Sale and Award of the Bonds and the Notes.* The Commission Chairman, the Commission Vice Chairman and the President of the College, acting jointly or individually, are each hereby authorized, empowered and directed to accomplish the purposes of the transactions contemplated herein and as shall not be inconsistent with or contrary to such purposes. The Commission hereby authorizes, approves and ratifies the actions of the Corporation, in conjunction with the Commission Chairman, the Commission Vice Chairman and/or the President of the College, in negotiating the terms of the Bonds and/or the Notes from time to time in one or more series.

ARTICLE IV

GENERAL AUTHORIZATION

SECTION 4.01. *General Authorization.* The Commission Chairman, the Commission Vice Chairman, the Commission Secretary, the President of the College, the Vice President of Finance for the College and the officials of the Commission and the College, acting jointly or individually, are hereby authorized to execute and deliver such documents, agreements and certificates and take such actions as are required or contemplated hereunder or under the Bond Purchase Agreement, the Base Lease, the Facilities Agreement, the Escrow Agreement, the Trust Agreement and other documents related hereto as are required to comply with the terms hereof or thereof, including any agreements related to municipal bond insurance policies or surety bonds for debt service reserve funds.

SECTION 4.02. *Effective Date.* This Resolution shall take effect immediately upon its adoption and no further authorization is required to execute and deliver all documents, agreements and certificates required to effect the sale, issuance and delivery of the Bonds and/or the Notes. This Resolution shall be construed liberally to effect the intent of the Commission.

ADOPTED this 16th day of June, 2021.

**GREENVILLE TECHNICAL COLLEGE
AREA COMMISSION**

Chairman

ATTEST:

Secretary

STATE OF SOUTH CAROLINA)
)
COUNTY OF GREENVILLE)

CERTIFICATE OF RESOLUTION

I, the undersigned, Secretary of the Greenville Technical College Area Commission (the "*Commission*"), **DO HEREBY CERTIFY:**

That the foregoing constitutes a true, correct and verbatim copy of a Resolution which was duly adopted by the Commission at a meeting thereof duly held on June 16, 2021. The original of this Resolution is duly entered in the permanent records of minutes of meetings of the Commission, in my custody as Secretary of the Commission.

That said meeting was duly called, and all members of the Commission were notified of the same; that a quorum of the membership remained throughout the proceedings incident to the adoption of this Resolution.

IN WITNESS WHEREOF, I have hereunto set my Hand this 16th day of June, 2021.

**GREENVILLE TECHNICAL COLLEGE
AREA COMMISSION**

Secretary

BASE LEASE AGREEMENT

between

**GREENVILLE TECHNICAL COLLEGE AREA COMMISSION
as Lessor**

and

**CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION
as Lessee**

DATED AS OF [DATE]

● **ALL RIGHTS, TITLE AND INTEREST OF CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION IN THIS BASE LEASE AGREEMENT HAVE BEEN ASSIGNED TO U.S. BANK NATIONAL ASSOCIATION, AS TRUSTEE (“TRUSTEE”), UNDER A TRUST AGREEMENT DATED OF EVEN DATE HERewith, AND ARE SUBJECT TO THE SECURITY INTEREST OF THE TRUSTEE.**

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EXHIBIT A - Description of the Real Property A-1

BASE LEASE AGREEMENT

THIS BASE LEASE AGREEMENT dated as of [DATE] (the “*Base Lease*”) made and entered into by and between GREENVILLE TECHNICAL COLLEGE AREA COMMISSION (the “*Commission*”), a body corporate and politic of the State of South Carolina (the “*State*”), as lessor, and CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION (the “*Corporation*”), a nonprofit corporation duly organized under the laws of the State, as lessee,

WITNESSETH

WHEREAS, the Corporation is a nonprofit corporation formed under the provisions of Title 33, Chapter 31, Code of Laws of South Carolina, 1976, as amended; and

WHEREAS, the Commission is a public body corporate and politic organized and existing pursuant to the laws of the State and is authorized under the provisions of Title 59, Chapter 53, Code of Laws of South Carolina, 1976, as amended, to enter into this Base Lease; and

WHEREAS, the Commission desires to lease certain parcels of real property (the “*Real Property*”) as more particularly set forth on *Exhibit A* attached hereto, to the Corporation so that the Corporation may (i) provide funds for the acquisition, construction, renovation, installation, furnishing and equipping of a new arts and health sciences building for the Commission (the “*Project Facilities*”) and (ii) sell and convey the Project Facilities to the Commission; and

WHEREAS, the Project Facilities are to be sold by the Corporation to the Commission under the terms of a Public Facilities Purchase and Occupancy Agreement dated as of [DATE] (the “*Facilities Agreement*”) between the Corporation and the Commission; and

WHEREAS, the payments to be made under the Facilities Agreement and the rights of the Corporation thereto (except for certain reserved rights as provided therein) are to be assigned to U.S. Bank National Association (the “*Trustee*”) pursuant to the terms of a Trust Agreement dated as of [DATE] (the “*Trust Agreement*”) between the Corporation and the Trustee in order to secure and provide a source of payment for and to issue the Bonds authorized under the Trust Agreement; and

WHEREAS, the Commission desires to enter into this Base Lease in order to achieve the foregoing purposes;

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements, including the payments of the Base Lease Rent herein set forth, the Commission and the Corporation do hereby covenant and agree as follows:

ARTICLE I DEFINITIONS AND RULES OF CONSTRUCTION

SECTION 1.1. *Definitions of Words and Terms.* Capitalized terms not otherwise defined herein are used with the meanings provided therefor in the Trust Agreement or the Facilities Agreement or shall have the following meanings, unless some other meaning is plainly intended:

“*Acquisition Payments*” means those payments required to be made by the Commission by Sections 4.1 and 4.2 of the Facilities Agreement.

“*Base Lease Rent*” means those items referred to as such in Section 3.4 hereof.

“Base Lease Term” means the term of this Base Lease which ends on June 30, 2051.

“Commission” means Greenville Technical College Area Commission, a body politic and corporate of the State and the governing body of Greenville Technical College.

“Commission Agreements” means, collectively, this Base Lease and the Facilities Agreement.

“Corporation” means the Center for Arts and Health Sciences Public Facilities Corporation, a nonprofit corporation formed under the laws of the State, and its successors and assigns.

“Corporation Agreements” means, collectively, this Base Lease, the Facilities Agreement and the Trust Agreement.

“Counsel” means an attorney duly admitted to practice law before the highest court of any state and, without limitation, may include legal counsel for either the Commission or the Corporation.

“Event of Default” means (a) with respect to the Facilities Agreement, any Event of Default as defined in Section 8.1 of the Facilities Agreement, and (b) with respect to the Trust Agreement, any Event of Default as defined in Section 7.1 of the Trust Agreement.

“Project Facilities” means those items referred to in the third whereas clause hereof and includes improvements located on or hereinafter renovated or constructed on the Real Property and hereby designated by the Commission to be part of the Project Facilities.

“Real Property” means property leased to the Corporation from the Commission, all as described on *Exhibit A*, as such may be amended from time to time as provided herein.

“Resolution” means the Resolution adopted by the Commission on June 16, 2021 authorizing this Base Lease and the Facilities Agreement and consenting to the Trust Agreement.

“State” means the State of South Carolina.

“Trustee” means U.S. Bank National Association, a national banking association organized and existing under the laws of the United States of America, and its successors and assigns, and any other trustee which at any time may be substituted in its place pursuant to and at the time serving as trustee under the Trust Agreement.

“Trust Estate” means the Trust Estate described in the granting clauses of the Trust Agreement.

SECTION 1.2. Rules of Construction. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, words importing the singular number shall include the plural and vice versa, and words importing person shall include firms, associations and corporations, including public bodies, as well as natural persons.

SECTION 1.3. Accounting Terms. Accounting terms used herein and not otherwise specifically defined shall have the meaning ascribed to such terms by accounting principles generally accepted in the United States as from time to time in effect.

ARTICLE II REPRESENTATIONS

SECTION 2.1. *Representations by the Commission.* The Commission represents and warrants as follows:

(a) The Commission is a duly constituted body politic and corporate under the provisions of Title 59, Chapter 53 of the Code of Laws of South Carolina, 1976, as amended, and a political subdivision of the State pursuant to the provisions of Section 103(c)(1) of the Internal Revenue Code of 1986, as amended.

(b) The demise and lease of the Real Property to the Corporation, as provided in this Base Lease, in order to allow the Corporation to provide for the acquisition, construction, renovation and equipping of all or a portion of the Project Facilities and the sale of the Project Facilities by the Corporation to the Commission pursuant to the Facilities Agreement has been undertaken to enable the Commission to provide public facilities and improvements.

(c) The Commission has full power and authority to adopt the Resolution, and the Commission has full power and authority to enter into the transactions contemplated by the Commission Agreements and to carry out its obligations hereunder.

(d) Neither the execution and delivery of the Commission Agreements, nor the fulfillment of or compliance with the terms and conditions hereof, nor the consummation of the transactions contemplated hereby, conflicts with or results in a breach of the terms, conditions or provisions of any restriction or any agreement or instrument to which the Commission is now a party or by which the Commission is bound.

(e) The Commission has not made, done, executed or suffered, and warrants that it will not make, do, execute or suffer, any act or thing whereby the Commission's interests in the Real Property shall be or may be impaired, changed or encumbered in any manner whatsoever except as permitted by the Commission Agreements.

(f) The Real Property is free and clear of all liens, encumbrances and restrictions (including, without limitation, leases) other than Permitted Encumbrances.

SECTION 2.2. *Representations by the Corporation.* The Corporation represents and warrants as follows:

(a) The Corporation is a nonprofit corporation duly incorporated under the laws of the State and has corporate power to enter into the Corporation Agreements. By proper corporate action the officers of the Corporation have been duly authorized to execute and deliver the Corporation Agreements.

(b) The execution and delivery of the Corporation Agreements and the consummation of the transactions herein and therein contemplated will not conflict with or constitute a breach of or default under the Corporation's articles of incorporation or bylaws or any bond, debenture, note or other evidence of indebtedness of the Corporation, or any contract, agreement, or instrument to which the Corporation is a party or by which it is bound.

(c) To provide funds to finance all or a portion of the Project Facilities, the Corporation will enter into the Trust Agreement pursuant to which it will issue one or more series of Bonds payable from and secured by the Acquisition Payments under the Facilities Agreement.

(d) The Corporation has made certain representations and covenants in Section 2.6 of the Trust Agreement that are for the benefit of the Holders and also to protect the interests of the Commission in the property subject to this Base Lease. The Corporation hereby affirms that such covenants are intended to benefit the Commission and may be enforced by it upon the failure of the Trustee to do so.

**ARTICLE III
LEASE OF THE REAL PROPERTY,
ACQUISITION OF THE PROJECT FACILITIES; RENT**

SECTION 3.1. *Lease of the Real Property.* For and in consideration of the agreement of the Corporation to provide funds to construct the Project Facilities, through the acquisition, renovations, expansions, construction, furnishing and equipping of new facilities, the Commission hereby leases to the Corporation and the Corporation hereby leases from the Commission the Real Property for the Base Lease Term for the rentals and other consideration set forth in **Section 3.4** hereof and in accordance with the provisions of this Base Lease.

SECTION 3.2. *Purchase of the Project Facilities.* Pursuant to the terms of the Facilities Agreement, the Corporation will acquire, construct, renovate and equip the Project Facilities and will convey title to the Project Facilities to the Commission, but subject to the terms of the Trust Agreement and the reservation of certain rights under this Base Lease.

SECTION 3.3. *Assignments, Subleases and Mortgages.* Except as contemplated by the Trust Agreement or permitted by the Facilities Agreement, the Corporation may not (i) mortgage or otherwise encumber or assign its rights under this Base Lease, (ii) mortgage or otherwise encumber, or lease, assign, transfer or otherwise dispose of its interest in the Real Property or the Project Facilities or any portion thereof or (iii) remove, modify or alter the Real Property or the Project Facilities, without the consent of the Commission.

Pursuant to the Facilities Agreement, the Commission, at its discretion, may lease or sublease less than a substantial portion of the Real Property to third parties. In any case, if the Facilities Agreement terminates prior to the termination of such lease or sublease, the Corporation hereby agrees to assume the role of lessor in the place of the Commission until the termination of this Base Lease, at which point the Commission will again resume the role of lessor under such lease or sublease.

SECTION 3.4. *Rent and Other Consideration.* In consideration for the leasing of the Real Property to the Corporation hereunder, the Corporation agrees (i) to pay to the Commission the sum of Thirty Dollars and 00/100 (\$30.00) on the closing date of the Series 2021 Bonds as a prepayment of the Base Lease Rent for the term of this Base Lease and (ii) to fulfill its obligations with respect to the Project Facilities as provided in the Facilities Agreement.

SECTION 3.5. *Taxes and Insurance.* The Commission shall pay and have responsibility for all taxes on and insurance of the Real Property and the Project Facilities for so long as this Base Lease shall remain in force, except as provided in **Section 4.1(b)** herein. All insurance shall provide that the proceeds shall be payable to the Commission, the Corporation or the Trustee as their interests may appear.

SECTION 3.6. *Granting of Easements and Rights of Way, Release and Substitutions of Property.* From time to time during the term hereof and so long as there is not an existing Event of Default under the Facilities Agreement and there has not occurred an Event of Nonappropriation that has not been waived by the Trustee, the Corporation, at the request of the Commission, may execute such instruments as are necessary to provide for the granting of easements or rights-of-way for road

construction, utilities or in such other instances as the Commission certifies are not inconsistent or incompatible with the continued use of the balance of the Real Property for its intended purposes. Such instruments may include a termination of this Base Lease with respect to such portion of the Real Property as is affected thereby or an acceptance or acknowledgment of the right of the grantee of any such easement or right-of-way to continue to use such property notwithstanding the exercise of any rights or remedies afforded to the Corporation hereunder or under the Facilities Agreement. Any request from the Commission hereunder shall be accompanied by copies of any instruments proposed to be executed together with a certificate from the Commission to the effect that (i) the continued use of the Real Property affected thereby will not be impaired or hampered thereby and (ii) access to the Real Property for ingress and egress will be adequate.

The Corporation may also terminate this Base Lease with respect to any portion of the Real Property deemed excessive or unneeded for the continued operation of the Project Facilities and the related facilities for the purposes for which they were designed or are then being used, and release its interest in such portion to the Commission, upon receipt by the Corporation of the following: (a) a plat showing the location of the Project Facilities and related facilities and the portion of the Real Property deemed excessive or unneeded; (b) an amendment to *Exhibit A* hereto revising the description of the affected parcel of property; (c) a certificate from an engineer or architect stating that the remaining Real Property will be adequate for the continued operation of the Project Facilities and related facilities for the purposes for which they were designed or are then being used, including a certification that there will be adequate access to the remaining Real Property for ingress and egress; and (d) a certification from the Commission that the portion of the Real Property being released from the provisions hereof is in excess to or unneeded for the continued operation of the Project Facilities and related facilities for the purposes for which they were designed or are then being used.

The Commission and the Corporation agree to amend *Exhibit A* to this Base Lease to substitute or release parcels of Real Property or portions thereof in accordance with the provisions of this **Section 3.6**. With respect to any particular item of Real Property, the Commission may substitute another item of Real Property under the conditions set forth in Section 5.1(c) of the Facilities Agreement. The Commission shall timely notify the Trustee of any substitution or release pursuant to this **Section 3.6**.

The Commission shall not be obligated to compensate the Corporation for the removal of any property or for any conveyance or grant of an easement or right-of-way under the provisions hereof and any consideration paid in connection therewith shall be transferred to the Commission so long as there is not an existing Event of Default under the Facilities Agreement and no Event of Nonappropriation has occurred that has not been waived by the Trustee. The Corporation shall have no obligation or responsibility to prepare or record any instrument authorized hereunder.

ARTICLE IV TERMINATION

SECTION 4.1. *Termination.*

(a) This Base Lease shall terminate upon the completion of the Base Lease Term; provided, however, in the event the Commission exercises the option to purchase the Project Facilities as provided in Section 9.1(a) of the Facilities Agreement and satisfies the conditions thereof, then this Base Lease shall be considered terminated through merger of the leasehold interest with the interest of the Commission and, provided further, that upon any partition of the Project Facilities pursuant to Section 2.4 of the Facilities Agreement, this Base Lease shall be terminated with respect to that portion of the Real Property (the “*Commission Real Property*”) relating to any Commission Facilities and the Commission Real Property, if any, shall no longer be subject to this Base Lease and the Corporation shall have no interest therein. Notwithstanding the termination of the Facilities Agreement as a consequence of an Event of Default or Event of Nonappropriation, the Commission may thereafter purchase the Project Facilities not previously purchased by it upon payment of the applicable Purchase Option Price and the satisfaction of all other terms and conditions set forth in Section 9.1(a) of the Facilities Agreement.

(b) The Corporation agrees, upon any termination or completion of the Base Lease Term or the exercise by the Commission of its option to purchase as provided in Section 9.1(a) of the Facilities Agreement, to quit and surrender the Real Property and that all title and interest in the Project Facilities and the Real Property shall vest in the Commission free and clear of the encumbrance of this Base Lease and any other encumbrances except those permitted by Section 9.2(a) of the Facilities Agreement. The Corporation agrees, upon any partition of the Project Facilities provided for in Section 2.4 of the Facilities Agreement, to quit and surrender the Commission Real Property, if any, and that in those circumstances all title and interest in the Commission Facilities and the Commission Real Property, if any, shall vest in the Commission free and clear of the encumbrance of this Base Lease and any other encumbrances except those permitted by Section 9.2(a) of the Facilities Agreement.

If an Event of Default under the Facilities Agreement occurs or if the Commission fails to continue the Facilities Agreement for the entire term thereof for any reason, the Corporation shall have the right to possession of portions of the Real Property, if any, (the “*Corporation Real Property*”) relating to the Corporation Facilities as the result of a partition as provided for in Section 2.4 of the Facilities Agreement for the remainder of the Base Lease Term and shall have the right to sublease the Corporation Facilities or transfer its leasehold interest in the Corporation Real Property and in this Base Lease upon whatever terms and conditions it deems prudent; provided that the Corporation Facilities shall always be operated for a civic or public purpose and in compliance with all applicable governmental rules, regulations and orders. Both parties acknowledge that the Commission has an insurable interest in the Corporation Facilities but not in any additions, alterations, furnishings and fixtures provided in connection with use of the Corporation Facilities by the Corporation or any person to whom the Corporation enters into a lease, license or other such agreement providing for occupancy, temporary or long-term. Therefore, the Commission’s obligation to provide insurance and pay taxes under the provisions of **Section 3.5** hereof shall be limited to the portions of the Real Property and the Project Facilities and related property as they existed as of the Division Date. As to any additions, alterations, furnishings and fixtures provided in connection with use of the Corporation Facilities by the Corporation or any person to whom the Corporation enters into a lease, license or other such agreement providing for occupancy temporary or long-term, the Corporation shall provide the Commission with adequate public liability and comprehensive risk insurance covering such additions, alterations, furnishings and fixtures and the use thereof by the Corporation or such person, and shall pay all taxes relating thereto for the remainder of the Base Lease Term and will furnish the Commission with evidence thereof promptly upon written request from the Commission. In the event that the Corporation shall receive a payment for the

transfer of its leasehold interest or total rental payments for subleasing that are, after the payment of the Corporation's expenses in connection therewith, including fees, costs and expenses of the Trustee, in excess of the principal amount of the Outstanding Bonds at the time of termination or default and the interest and premium, if any, due and to become due thereon (with amounts so received to be credited first to such interest and then to principal), then such excess shall be paid to the Commission by the Corporation, its assigns or its lessee.

SECTION 4.2. *Default by the Corporation.* The Commission shall not have the right to exclude the Corporation from the Real Property or the Project Facilities or to take possession of the Real Property or the Project Facilities (except pursuant to the Facilities Agreement) or to terminate this Base Lease prior to the termination of the Base Lease Term notwithstanding any default by the Corporation hereunder; except that if upon exercise of the option to purchase the Corporation's entire interest in the Project Facilities granted to the Commission in Article IX of the Facilities Agreement and after the payment of the purchase price specified therein and the other sums payable under the Facilities Agreement, the Corporation fails to convey its interest in the Project Facilities to the Commission pursuant to said option, then the Commission shall have the right to terminate this Base Lease, such termination to be effective 30 days after delivery of written notice of such termination to the Corporation. However, in the event of any default by the Corporation hereunder, the Commission may maintain an action, if permitted in equity, for specific performance.

SECTION 4.3. *Quiet Enjoyment.* Subject to the Facilities Agreement, the Corporation at all times during the term of this Base Lease shall peaceably and quietly have and enjoy the Real Property and the Project Facilities.

SECTION 4.4. *No Merger.* Except as expressly provided herein, no union of the interests of the Commission and the Corporation herein or in the Facilities Agreement shall result in a merger of this Base Lease and the title to the Project Facilities. The Corporation and the Commission confirm that the Project Facilities shall be property of the Corporation and title thereto shall remain vested in the Corporation as the Project Facilities are constructed and shall not merge into the leasehold estate of the Corporation in the Real Property subject to the provisions of this Base Lease and the Facilities Agreement; except that title to the Project Facilities shall revert to and be vested in the Commission upon termination of this Base Lease, irrespective of any Event of Nonappropriation or Event of Default under the Facilities Agreement. The Corporation shall have the power to convey undivided interests in the Project Facilities to the Commission from time to time as Base Payments are made as contemplated by the Facilities Agreement.

SECTION 4.5. *Waiver of Personal Liability.* All liabilities under this Base Lease on the part of the Corporation are strictly and exclusively liabilities of the Corporation as a corporation. To that end and for that purpose to the extent permitted by law, the Commission hereby releases each and every incorporator, member, director and officer of the Corporation of and from any personal or individual liability under this Base Lease, including without limitation the obligation to make payment of the Base Lease Rent. No incorporator, member, director or officer of the Corporation shall at any time or under any circumstances be individually or personally liable under this Base Lease for anything done or omitted to be done by the Corporation hereunder.

SECTION 4.6. *Maintenance of Premises.* Subject to the provisions of the Facilities Agreement, the Corporation covenants that it will maintain or cause to be maintained the Real Property, and will not cause, permit or suffer to be caused or permitted waste thereto. At the conclusion of the term hereof, the Real Property shall be returned to the Commission, together with the Project Facilities and any other improvements thereto, in substantially the condition thereof as of the date hereof or the date the Real Property is added hereto, subject to normal wear and tear. Except as contemplated under the

Facilities Agreement, the Corporation shall not make or consent to any other improvements, modifications or alterations to the Real Property or the Project Facilities or any portion thereof, or remove any part thereof without the written consent of the Commission. Prior to an Event of Nonappropriation that has not been waived by the Trustee, in the event of any damage, destruction or condemnation of any of the Real Property, the provisions of Article VII of the Facilities Agreement shall be deemed to apply with respect to the Real Property in like manner as provided therein with respect to the Project Facilities, and the net proceeds from any insurance policies, performance bonds or condemnation awards shall be applied in the same manner for the benefit of the Real Property as are Net Proceeds under Section 7.2 of the Facilities Agreement. After an Event of Nonappropriation that has not been waived by the Trustee, in the event of any damage, destruction or condemnation of any of the Real Property, the proceeds of any insurance, performance bonds, or condemnation awards allocable to the Corporation's interest in the Real Property shall be applied either in the manner provided in Section 7.2 of the Facilities Agreement or to the retirement of any Bonds and the balance, if any, remaining thereafter to such use as the Commission may direct.

ARTICLE V
CONTROL OF REAL PROPERTY AND PROJECT FACILITIES
DURING BASE LEASE TERM

SECTION 5.1. *Control of Real Property and Project Facilities During Base Lease Term.* Subject to the Facilities Agreement, during the Base Lease Term the Corporation shall have complete control over the Real Property and the Project Facilities and its operation, provided however, that the Corporation shall not create any encumbrance against the Real Property or the Project Facilities, except pursuant to the Trust Agreement, during the Base Lease Term without the written consent of the Commission.

ARTICLE VI
MISCELLANEOUS

SECTION 6.1. *Binding Effect.* This Base Lease shall inure to the benefit of and shall be binding upon the Commission, the Corporation and their respective successors and assigns.

SECTION 6.2. *Severability.* In the event any provision hereof shall be determined to be invalid or unenforceable, the validity and effect of the other provisions hereof shall not be affected thereby.

SECTION 6.3. *Amendment, Changes and Modifications.* This Base Lease may not be effectively amended, changed, modified, altered or terminated without the prior written consent of the Trustee as provided in the Trust Agreement, except to the extent anticipated (i) herein in connection with the amendment of *Exhibit A* hereto to include additional parcels of Real Property herein, and (ii) in **Section 3.6** hereof in connection with the granting of easements, releases and substitutions.

SECTION 6.4. *Execution in Counterparts.* This Base Lease may be executed simultaneously in two or more counterparts, each of which shall be deemed to be an original and all of which together shall constitute but one and the same instrument.

SECTION 6.5. *Applicable Law.* This Base Lease shall be governed by and construed in accordance with the laws of the State.

SECTION 6.6. *Captions.* The Section and Article headings herein are for convenience only and in no way define, limit or describe the scope or intent of any of the provisions hereof.

SECTION 6.7. Notices. It shall be sufficient service of any notice, request, complaint, demand or other paper required by this Base Lease to be given to or filed with the Commission, the Corporation or the Trustee if the same is given or filed in the manner and at the addresses specified in the Trust Agreement.

[Signature pages follow]

LESSEE:

**CENTER FOR ARTS AND HEALTH SCIENCES
PUBLIC FACILITIES CORPORATION**

WITNESS:

By: _____
President, Board of Directors

ATTEST:

By: _____
Secretary/Treasurer, Board of Directors

STATE OF SOUTH CAROLINA)
)
COUNTY OF GREENVILLE)

ACKNOWLEDGEMENT

The foregoing instrument was acknowledged before me this ____ day of ____, 20__ by the within named _____ as the President of the Board of Directors of the **CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION** (the "*Corporation*") and _____ as the Secretary/Treasurer of the Board of Directors of the Corporation as the act and deed of the Corporation.

Notary Public for South Carolina
Print Name: _____
My Commission Expires: _____

EXHIBIT A

DESCRIPTION OF THE REAL PROPERTY

PUBLIC FACILITIES PURCHASE AND OCCUPANCY AGREEMENT

between

CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION
as Seller

and

GREENVILLE TECHNICAL COLLEGE AREA COMMISSION
as Buyer

DATED AS OF [DATE]

ALL RIGHT, TITLE AND INTEREST OF CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION (THE “CORPORATION”) IN THE REVENUES DERIVED UNDER THIS PUBLIC FACILITIES PURCHASE AND OCCUPANCY AGREEMENT (EXCEPT FOR CERTAIN RESERVED RIGHTS) HAVE BEEN ASSIGNED TO U.S. BANK NATIONAL ASSOCIATION, AS TRUSTEE, (THE “TRUSTEE”) UNDER A TRUST AGREEMENT DATED AS OF [DATE], BETWEEN THE CORPORATION AND THE TRUSTEE.

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PUBLIC FACILITIES PURCHASE AND OCCUPANCY AGREEMENT

THIS PUBLIC FACILITIES PURCHASE AND OCCUPANCY AGREEMENT dated as of [DATE] (the “*Facilities Agreement*”) is made and entered into by and between **CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION** (together with its successors and assigns, the “*Corporation*”), a nonprofit corporation formed under the laws of the State of South Carolina (the “*State*”), as seller, and **GREENVILLE TECHNICAL COLLEGE AREA COMMISSION** (the “*Commission*”), a body corporate and politic of the State, as buyer.

WITNESSETH

WHEREAS, the Corporation is a nonprofit corporation formed under the provisions of Title 33, Chapter 31, Code of Laws of South Carolina, 1976, as amended; and

WHEREAS, the Commission is a body corporate and politic organized and existing pursuant to the laws of the State and is authorized under the provisions of Title 59, Chapter 53, Code of Laws of South Carolina, 1976, as amended, to enter into this Facilities Agreement; and

WHEREAS, the Commission is the owner of certain parcels of real property (the “*Real Property*”) as more particularly described in *Exhibit A* hereto, upon which will be constructed and renovated the Project Facilities (as defined below); and

WHEREAS, the Commission desires to lease the Real Property to the Corporation, pursuant to a Base Lease Agreement dated [DATE] between the Commission and the Corporation (the “*Base Lease*”), so that the Corporation may (i) provide funds for the acquisition, construction, renovation, installation, furnishing and equipping of a new arts and health sciences building of the Commission (the “*Project Facilities*”) and (ii) sell and convey the Project Facilities to the Commission; and

WHEREAS, in order to provide funds for the payment of the costs of financing the Project Facilities, the Corporation intends to issue its \$_____ Installment Purchase Revenue Bonds, Series 2021, dated the date of their delivery (the “*Series 2021 Bonds*”), under and by the terms of a Trust Agreement dated as of [DATE] (the “*Trust Agreement*”) by and between the Corporation and U.S. Bank National Association, as trustee (the “*Trustee*”); and

WHEREAS, the Commission has agreed to make certain payments (the “*Acquisition Payments*”) for its acquisition of the Project Facilities on an installment basis and, in accordance with the terms hereof, shall be entitled to the use and occupancy of the Real Property and the Project Facilities and certain other matters; and

WHEREAS, the right to receive Acquisition Payments is being assigned to the Trustee under the Trust Agreement as security and the source of payment for the Series 2021 Bonds;

NOW, THEREFORE, in consideration of the undertaking of the Corporation to acquire, construct, renovate and equip the Project Facilities, the undertaking of the Commission to pay the Acquisition Payments hereunder, the mutual covenants and agreements of the parties hereto, and other good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, the Corporation and the Commission, intending to be legally bound, do hereby agree as follows:

ARTICLE I

DEFINITIONS

Section 1.1. Definitions. Capitalized terms not otherwise defined herein shall have the meanings provided therefor in the Base Lease or the Trust Agreement or as set forth below:

“Acquisition Payments” means the payments to be paid by the Commission pursuant to **Sections 4.1** and **4.2** hereof, including Base Payments and Additional Payments, subject to an Event of Nonappropriation as provided in **Section 4.7** hereof.

“Acquisition Price” shall mean the sum of all Base Payments to be made hereunder on a semi-annual basis, on such dates as shown on **Exhibit C** hereto, in order for the Commission to acquire the Project Facilities; subject, however, at all times to **Sections 2.2** and **2.3** hereof, which Acquisition Price may be recalculated in the event of any prepayment of Base Payments provided for in **Section 9.1** hereof.

“Additional Payments” means that portion of the Acquisition Payments specified in **Sections 4.1** and **4.2** hereof as Additional Payments.

“Additional Project Facilities” means any facilities, other than the Project Facilities, proposed to be acquired or renovated by the Corporation and sold to the Commission under the provisions hereof. Such Additional Project Facilities may be made subject to this Facilities Agreement.

“Additional Real Property” means any real property that is or will become the site of Additional Project Facilities.

“Base Payments” means that portion of the Acquisition Payments specified in **Section 4.1** hereof as Base Payments.

“Bond Counsel” means a firm of nationally recognized bond counsel experienced in matters of tax-exempt finance that shall be acceptable to the Trustee.

“Bond Fund” means the fund of such name established pursuant to Section 5.5 of the Trust Agreement.

“Bonds” means collectively, the Series 2021 Bonds and any additional series of bonds issued pursuant to the provisions of the Trust Agreement, as supplemented or amended.

“Bond Proceeds” means the gross proceeds received from the issuance and sale of the Series 2021 Bonds.

“Certificate of Acceptance” means the Direction to Make Final Disbursement and Certificate of Acceptance filed with the Trustee in accordance with **Section 3.4** hereof.

“Commission” means Greenville Technical College Area Commission, a body politic and corporate of the State and the governing body of Greenville Technical College.

“Commission Agreements” means, collectively, the Base Lease and this Facilities Agreement.

“Commission Facilities” means that portion of the Project Facilities allocated to the Commission as the result of a partition under the provisions of **Section 2.4** hereof.

“Completion Date” means the date on which the Commission provides a Certificate of Acceptance.

“Corporation Agreements” means, collectively, the Base Lease, this Facilities Agreement and the Trust Agreement.

“Corporation Facilities” means that portion of the Project Facilities allocated to the Corporation as the result of a partition under the provisions of **Section 2.4** hereof.

“Environmental Regulations” means any federal, state or local law, statute, code, ordinance, regulation, requirement or rule relating to dangerous, toxic or hazardous pollutants, Hazardous Substances, chemical waste, materials or substances.

“Event of Default” means the events set forth in **Section 8.1** hereof.

“Event of Nonappropriation” means a termination of this Facilities Agreement pursuant to **Section 4.7** herein.

“Facilities Component” means an entire building, or a portion thereof, including any related auxiliary buildings and other structures, together with the Real Property associated therewith, or portion thereof, on which such building is located.

“Fiscal Year” means the fiscal year of the Commission, currently beginning on each July 1 and ending on the succeeding June 30.

“Force Majeure” means, without limitation, the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States of America or of the State or any of their departments, agencies or officials or any civil or military authority; insurrection; riots; landslides; earthquakes; flood; fire; storms, droughts; pandemic; explosion; breakage or accidents to machinery, transmission pipes or canals; or any other cause or event not within the control of the party seeking the benefit of force majeure and not due to its own negligence.

“Hazardous Substances” means (a) any oil, flammable substance, explosives, radioactive materials, hazardous wastes or substances, toxic wastes or substances or any other wastes, materials or pollutants which (i) pose a hazard to the Project Facilities or to persons on or about the Project Facilities or (ii) cause the Project Facilities to be in violation of any Environmental Regulation; (b) asbestos in any form which is or could become friable, urea formaldehyde foam insulation, transformers or other equipment which contain dielectric fluid containing levels of polychlorinated biphenyls, or radon gas; (c) any chemical, material or substance defined as or included in the definition of “waste,” “hazardous substances,” “hazardous wastes,” “hazardous materials,” “extremely hazardous waste,” “restricted hazardous waste,” or “toxic substances” or words of similar import under any Environmental Regulation including, but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act, 42 USC §§ 9601 et seq.; the Resource Conservation and Recovery Act, 42 USC §§ 6901 et seq.; the Hazardous Materials Transportation Act, 49 USC §§ 1801 et seq.; the Federal Water Pollution Control Act, 33 USC §§ 1251 et seq.; (d) any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any governmental authority or agency or may or could pose a hazard to the health and safety of the occupants of the Project Facilities or the owners and/or occupants of property adjacent to or surrounding the Project Facilities, or any other person coming upon the Project Facilities or adjacent property; or (e) any other chemical, material or substance which may or could pose a hazard to the environment.

“Net Proceeds” when used with respect to any proceeds from policies of insurance required hereby or any condemnation award, or proceeds from damages, refunds, adjustments or otherwise in connection with claims against any suppliers, vendors, contractors or subcontractors and/or materialmen or similar persons, including payments from sureties or on performance bonds with respect thereto, or from any liquidation of any part of the Project Facilities, means the amount remaining after deducting from the gross proceeds thereof all expenses (including, without limitation, reasonable attorney’s fees and costs) incurred in the collection of such proceeds or award.

“Owner” means the registered owner of any Bond as shown in the registration books of the Corporation maintained by the Trustee or any registrar or paying agent.

“Permitted Encumbrances” means, as of any particular time, (i) liens for taxes and assessments not then delinquent, or liens which may remain unpaid pursuant to the provisions of **Sections 4.1 and 4.2** respectively hereof; (ii) the Security Documents; (iii) utility, access and other easements and other rights-of-way, restrictions and exceptions which an officer of the Commission certifies will not interfere with or impair the use of the Real Property or Project Facilities by the Corporation or the Commission as contemplated hereby, including rights or privileges in the nature of easements; (iv) any financing statements filed to notice security interests pursuant to this Facilities Agreement or the Trust Agreement; and (v) the matters described on **Exhibit B** hereto.

“Project Facilities” means the projects designated as such by the Corporation and the Commission to be acquired, constructed or renovated and includes the assets and improvements, the cost of acquisition, construction, renovation or equipping for which is or has been paid from amounts disbursed from the Project Fund and includes any Additional Project Facilities.

“Project Facilities Contracts” means those contracts entered into by or on behalf of the Corporation in connection with the Project Facilities.

“Project Fund” means the fund of such name established pursuant to Section 5.2 of the Trust Agreement.

“Purchase Option Price” means an amount equal to the amount required to defease or otherwise discharge the Bonds under the Trust Agreement plus the amount of any Additional Payments which are due or accrued hereunder at the time which any purchase option hereunder is exercised.

“Real Property” means that certain real property leased to the Corporation under the Base Lease, as more particularly described on **Exhibit A** attached hereto, as may be amended in accordance with **Section 10.6** herein.

“Resolution” means that certain resolution adopted by the Commission on June 16, 2021, which, inter alia, authorizes the financing of the Project Facilities and expresses the intent of the Commission to enter into this Facilities Agreement.

“Security Documents” means this Facilities Agreement, the Base Lease, the Trust Agreement, financing statements, if any, and any other instruments or documents providing security for the Owners of the Bonds.

“State” means the State of South Carolina.

“Waiver Period” means the period of time commencing on the date notice is received by the Commission pursuant to **Section 4.7(b)** hereof of the occurrence of an Event of Nonappropriation and ending on and including the July 31 following the commencement of a Fiscal Year affected by an Event of Nonappropriation.

Section 1.2. Rules of Construction. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Unless the context shall otherwise indicate, words importing the singular number shall include the plural and vice versa, and words importing person shall include firms, associations and corporations, including public bodies, as well as natural persons.

Section 1.3. Terms Defined in the Trust Agreement: Rights of the Trustee. Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Trust Agreement unless the context clearly indicates to the contrary. The parties hereto acknowledge that the rights of the Corporation hereunder have been assigned to the Trustee to the extent and in the manner provided in the Trust Agreement. Accordingly, wherever in this Facilities Agreement reference is made to the Corporation for enforcement of any right or remedy, the parties agree that the Trustee may enforce such right or remedy regardless of whether so stated. The parties acknowledge that the Trustee is a third-party beneficiary of the obligations of the Commission hereunder and may act directly, in its own name, in enforcing such obligations.

Section 1.4. Commission Representations, Warranties and Covenants. The Commission makes the following representations, warranties and covenants:

(a) The Commission is a body corporate and politic organized and existing under the laws of the State and has full power and legal right to enter into the Commission Agreements and to perform its obligations hereunder and thereunder. The Commission’s actions in making and performing the Commission Agreements have been duly authorized by all necessary governmental action and do not and will not violate or conflict with any law or governmental rule or regulation, or any mortgage, agreement, instrument or other document by which the Commission or its properties are bound.

(b) The Commission is a political subdivision within the meaning of Section 103(c)(1) of the Code.

(c) The Commission will take such action as is necessary to assure that the Project Facilities are completed, furnished and occupied by the Commission. In the event the amounts available from the Bond Proceeds appear to be insufficient for such purpose, the Commission shall cooperate with the Corporation to make such modifications or changes in the Project Facilities as will assure the completion, provided that under no circumstances shall the Commission be required to expend any monies for Project Facilities other than monies in the Project Fund. Nothing herein shall prohibit the payment by the Commission of costs of Project Facilities from other sources available to it.

(d) The Commission will take such action as is necessary to ensure that the Bond Proceeds, other than amounts set aside in the Trust Agreement for payment of costs of issuance, funding of reserves or payment of interest, are applied solely for the payment of the costs of acquiring and constructing the Project Facilities.

(e) No portion of the Project Facilities will be used in the trade or business of a person who is not the State, the Commission or an agency or instrumentality of either the State or the Commission or a “political subdivision” within the meaning of Section 103(c)(1) of the Code, without the written approval of Bond Counsel.

(f) The amounts, if any, spent by the Commission from its own funds to pay costs of the acquisition, construction, renovation and equipping of the Project Facilities, including site preparation or similar costs incident to the commencement of construction were not expended more than 60 days prior to the date the Commission adopted a reimbursement resolution signifying its intention to be reimbursed from tax-exempt bond proceeds for prior expenditures paid, except with respect to certain preliminary expenditures for architectural, engineering, surveying, soil testing and similar costs.

(g) To the knowledge of the Commission, there is no fact that is not disclosed in the Preliminary Official Statement or the Official Statement for the Series 2021 Bonds which will materially and adversely affect the properties, activities, operations, revenues, prospects or condition (financial or otherwise) of the Commission, its status as a political subdivision of the State within the meaning of Section 103(c)(1) of the Code, its ability to own and operate its property in the manner such property is currently operated or its ability to perform its obligations under the Commission Agreements.

(h) There are no proceedings pending or, to the knowledge of the Commission, threatened against or affecting the Commission, except as disclosed in the Preliminary Official Statement or the Official Statement for the Series 2021 Bonds, in any court or before any governmental authority or arbitration board or tribunal that, if adversely determined, would materially and adversely affect the properties, operations, prospects or condition (financial or otherwise) of the Commission, or the corporate existence or powers or ability of the Commission to enter into and perform its obligations under the Commission Agreements.

(i) The execution and delivery of the Commission Agreements and the consummation of the transactions provided for herein and therein, and compliance by the Commission with the provisions of the Commission Agreements:

(i) are within the governmental powers and have been duly and validly authorized by all necessary governmental and other action on the part of the Commission;

(ii) do not and will not conflict with or result in any material breach of any of the terms, conditions or provisions of, or constitute a default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Commission pursuant to any indenture, loan agreement or other agreement or instrument (other than this Facilities Agreement) or any governmental restriction to which the Commission is a party or by which the Commission, its properties or operations may be bound or with the giving of notice or the passage of time or both would constitute such a breach or default or result in the creation or imposition of any such lien, charge or encumbrance, which breach, default, lien, charge or encumbrance could materially and adversely affect the validity or the enforceability of the Commission Agreements or the Commission's ability to perform fully its obligations under the Commission Agreements; nor will such action result in any violation of any laws, ordinances, governmental rules or regulations or court or other governmental orders to which the Commission, its properties or operations are subject.

(j) No event has occurred and no condition exists that constitutes an Event of Default or which, upon the execution and delivery of this Facilities Agreement, and/or the passage of time or giving of notice or both, would constitute an Event of Default. The Commission is not in violation in any material respect, and has not received notice of any claimed material violation (except such violations as do not, and shall not, have any material adverse effect on the transactions herein contemplated and the compliance by the Commission with the terms hereof, or the Security Documents), of any terms of any

court order, statute, regulation, ordinance, agreement, or other instrument to which it is a party or by which it, its properties or its operations may be bound.

(k) This Facilities Agreement is a legal, valid and binding obligation and agreement of the Commission, enforceable against the Commission in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency or similar laws affecting the enforcement of creditors' rights generally and by general principles of equity; anything herein to the contrary notwithstanding, this Facilities Agreement is subject in its entirety to the right of the Commission to terminate this Facilities Agreement and all the terms and provisions hereof by failing to budget and appropriate moneys specifically to pay Acquisition Payments, as provided in **Sections 2.2, 4.6 and 4.7** hereof.

(l) The operation of the Real Property and the Project Facilities in the manner contemplated will not conflict in any material respect with any zoning, water or air pollution or other ordinance, order, law, rule, or regulation applicable to the Real Property and the Project Facilities including, without limitation, Environmental Regulations. The Commission has caused or will cause the Project Facilities to be designed in accordance with all applicable federal, state and local laws or ordinances (including rules and regulations) relating to zoning, planning, building, safety and environmental quality. The Commission will operate or will cause the Real Property and the Project Facilities to be operated in compliance with the requirements of all such laws, ordinances, rules and regulations, including, without limitation, Environmental Regulations. The Commission further covenants and agrees to comply in all material respects with and materially conform to, and to use its reasonable efforts to cause other persons whose obligations it is to so comply, by contract or pursuant to law, to comply in all material respects with and materially conform to, all present and future laws, statutes, codes, ordinances, orders, judgments, decrees, injunctions, rules, regulations and every applicable governmental authority, including Environmental Regulations, applicable to the Real Property and the Project Facilities, and all covenants, restrictions and conditions now or hereafter of record which may be applicable to the use, manner of use, occupancy, possession, operation, maintenance, alteration, repair or reconstruction of the Real Property and the Project Facilities, including building and zoning codes and ordinances (collectively, the "**Legal Requirements**"), provided that the Commission shall not be in default hereunder so long as the Commission promptly after receiving an actual written notice of any noncompliance, files a copy thereof with the Trustee and the Commission commences and uses its diligent efforts to cause compliance with such Legal Requirements, as long as the failure to comply does not subject the Real Property or the Project Facilities to any material danger of being forfeited or lost as a result thereof. The Commission possesses or will possess, and the Commission hereby agrees to maintain and obtain in the future, all necessary licenses and permits, or rights thereto, to operate the Real Property and the Project Facilities as proposed to be operated, and all such licenses, permits or other approvals required in connection with the operation of the Real Property and the Project Facilities have been duly obtained and are in full force and effect except for any such licenses, permits or other approvals that are not yet required and that will be duly obtained not later than the time required or the failure to obtain which will not materially and adversely affect the operation of the Real Property and the Project Facilities. The Commission covenants and agrees to do all things necessary to preserve and keep in full force and effect its franchises, rights, powers and privileges as the same relate to the Real Property and the Project Facilities.

(m) The Commission has approved the Corporation and the issuance by the Corporation of the Series 2021 Bonds.

(n) The Commission has not as of the date hereof terminated any lease, lease-purchase agreement or installment purchase agreement to which it has been a party by nonappropriation.

Section 1.5. Corporation Representations, Warranties and Covenants. The Corporation makes the following representations, warranties and covenants:

(a) The Corporation is a duly organized and existing nonprofit corporation created under the laws of the State, has the requisite power to carry on its present and proposed activities, and has full power, right and authority to enter into the Corporation Agreements and to perform each and all of the obligations of the Corporation provided herein and therein.

(b) The Corporation has taken or caused to be taken all requisite corporate action to authorize the execution and delivery of, and the performance of its obligations under the Corporation Agreements and each of the Project Facilities Contracts to which it is or will be a party.

(c) By proper corporate action the officers of the Corporation have been duly authorized to execute and deliver the Corporation Agreements.

(d) The execution and delivery by the Corporation of the Corporation Agreements and the consummation by the Corporation of the transactions contemplated hereby and thereby have not and will not conflict with or constitute a breach of or default under the Corporation's articles of incorporation or bylaws or any bond, debenture, note or other evidence of indebtedness of the Corporation, or any contract, agreement, or instrument to which the Corporation is a party or by which it is bound.

(e) Each of the Corporation Agreements and each Project Facilities Contract to which the Corporation is or will be a party has been or will be duly executed and delivered by the Corporation and constitutes or will constitute a legal and valid obligation of the Corporation, enforceable against the Corporation in accordance with its terms, except as enforcement may be limited by laws affecting creditors' rights generally and except as equitable remedies may be limited by judicial discretion.

(f) To the knowledge of the Corporation, there is no litigation pending or threatened against the Corporation that challenges the Corporation's authority to execute, deliver or perform the Corporation Agreements or to issue the Series 2021 Bonds, and the Corporation has disclosed in the Preliminary Official Statement and the Official Statement any threatened litigation with respect to such matters of which the Corporation is aware.

(g) The Corporation is in material compliance with all applicable laws, regulations and ordinances, including but not limited to those applicable to the Corporation's activities in connection with this Facilities Agreement.

(h) The Corporation is a State nonprofit, public benefit corporation, no part of the net income of which inures to the benefit of any private individual or organization.

(i) In order to finance the Project Facilities, the Corporation will enter into the Trust Agreement pursuant to which it will issue the Series 2021 Bonds payable from and secured by the Acquisition Payments under this Facilities Agreement.

[End of Article I]

ARTICLE II

ACQUISITION AND USE OF PROJECT FACILITIES

Section 2.1. Acquisition and Use of Project Facilities: Term. The Corporation hereby agrees to sell the Project Facilities on an installment basis to the Commission in accordance with the provisions hereof. As of the date hereof, title to the Project Facilities is in the name of the Corporation. Upon each payment of Base Payments from funds other than amounts constituting Bond Proceeds (including any amounts deposited from the sale of Series 2021 Bonds or other Bonds as provided in Section 5.1 of the Trust Agreement and income from the investment of such amounts), title to an undivided interest in the Project Facilities equal to that percentage of the Acquisition Price represented by such payment will transfer from the Corporation to the Commission without further action by either party hereto.

In conjunction therewith, the Corporation hereby conveys and grants to the Commission an undivided interest in the Project Facilities which undivided interest shall increase pro rata based on the percentage of the Acquisition Price represented by each Base Payment. At the request of the Commission, the Corporation agrees to execute such quitclaim or special warranty deed(s) to the Commission indicating the undivided interest so acquired by the Commission.

Any prepayment of Base Payments will result in a recalculation of the Acquisition Price to take into account such prepayment and, upon the making of such prepayment, the Commission shall be credited with an undivided interest in the Project Facilities equal to that percentage of the total Acquisition Price, as adjusted, represented by the total of all Base Payments made, including the prepayment on such date.

Subject to the provisions of **Section 4.7** and **Article VIII** hereof, the Commission shall have the exclusive right to occupy and use the Real Property and the Project Facilities until this Facilities Agreement is terminated.

The Commission may permit agencies or instrumentalities of the State or any other political subdivision thereof to use portions of the Real Property and the Project Facilities subject to the following limitation: (i) the Real Property or Project Facilities shall not be used in any manner that interferes with the use of such property by the Commission for the purposes for which it was designed or is then being used; and (ii) except in the case of single event uses, the Commission shall have received an opinion from Bond Counsel stating that the proposed use will not adversely affect the federal income tax treatment of interest on the Series 2021 Bonds or other tax-exempt Bonds. The Commission shall monitor all such use to ensure continued compliance with the provisions of the Tax Regulatory Agreement and **Section 5.3** hereof.

Section 2.2. Termination. This Facilities Agreement shall terminate upon the earliest of any of the following events:

(a) The earlier of (i) the last day of the Fiscal Year during which there occurs an Event of Nonappropriation as provided in **Section 4.7(a)** hereof, or (ii) the July 31 following any July 1 on which the Commission shall fail to specifically budget and appropriate moneys sufficient to pay the Acquisition Payments due hereunder during the Fiscal Year beginning such July 1, pursuant to **Article IV** hereof (which Event of Nonappropriation is not thereafter duly waived);

(b) The purchase by the Commission of the Project Facilities as provided in **Article IX** hereof;

(c) The occurrence of an Event of Default under and termination of this Facilities Agreement by the Corporation or Trustee under **Article VIII** hereof; or

(d) April 1, 20__, or such later date as all Acquisition Payments due hereunder shall be paid.

Termination of this Facilities Agreement shall terminate all obligations of the Commission under this Facilities Agreement, including its obligations to pay any future Acquisition Payments (except as specifically provided herein), and, subject to identification as provided in **Section 2.4** hereof, shall terminate the Commission's rights of possession under this Facilities Agreement to the Corporation Facilities (except to the extent of any conveyance pursuant to **Article IX** hereof); but all other provisions of this Facilities Agreement, including all obligations of the Corporation with respect to the Owners of the Bonds and the receipt and disbursement of funds and all rights and remedies of the Corporation specifically provided herein, shall be continuing until the Trust Agreement is discharged as provided therein. Notwithstanding the foregoing, termination of this Facilities Agreement shall not impair the Commission's rights as landlord or the Corporation's rights as tenant under the Base Lease, except as provided in the Base Lease.

Section 2.3. Post-Termination Payments. In the event the Commission fails to deliver possession of the Corporation Facilities or any part thereof at the time required under **Section 2.4** hereof, the Commission shall be liable for the payment of Acquisition Payments, including Additional Payments, for successive six month periods commencing on the Bond Payment Date following the last due date of Base Payments hereunder until the Commission delivers possession of the Corporation Facilities to the Corporation.

Section 2.4. Surrender of Possession Upon Termination; Partition of Undivided Interests. Upon the occurrence of an Event of Default or an Event of Nonappropriation which results in termination hereof, the respective interests of the Commission and the Corporation in the Project Facilities and the Real Property shall be partitioned, so that the parties' respective undivided interests in the Project Facilities and the Real Property will be divided, to the extent feasible, into separate interests comprising the Facilities Components in accordance with the following provisions. The date upon which the Trustee gives notice of the occurrence of any such event under the provisions of **Section 4.7(b)** hereof or Section 7.2 of the Trust Agreement shall be the "**Division Date.**"

Appointment of Consultant; Report. As soon as practicable after the Division Date, the Trustee shall at the expense of the Commission appoint an advisor selected by the Commission and the Corporation (the "**Consultant**") experienced in the valuation of public facilities to propose a division of the respective interests in the Project Facilities and the Real Property. In preparing the proposed partition, the Consultant shall endeavor, as nearly as possible, to allocate Project Facilities so that entire Facilities Components are assigned to the Commission and the Corporation, respectively, and that the Project Facilities and Facilities Components assigned to the Corporation will be those which will protect the interests of the Owners.

Valuation of Facilities Components. In making the determinations of which portions of Project Facilities are to be allocated to the Corporation to protect the interests of the Owners, the Consultant may take into account the market value of Facilities Components, any Permitted Encumbrances that may affect the uses that may be made of such property and the relative importance of such Facilities Components to the Commission, all to determine which Facilities Components will best protect the interests of the Owners.

Partial Divisions. In the event that the Consultant is unable to devise a partition that results in a division of the Project Facilities solely into separate Facilities Components for the Commission and the

Corporation, then the Consultant shall endeavor to identify Facilities Components with the least residual interest in the Corporation, such being designated as the “***Partial Commission Facilities.***” With respect to Partial Commission Facilities, the Commission may (i) continue to occupy the Facilities Component which encompasses a Partial Commission Facility if it agrees to make payments in an amount to be determined by the Consultant as the proper charge for use of the Corporation’s interest in such Facilities Component; (ii) purchase the balance of the Corporation’s interest in such Facilities Component by the payment of the amount determined by the Consultant; or (iii) cede occupancy rights to the Corporation for the duration of the term of the Base Lease. In determining the purchase price, if the Commission elects to purchase the balance of the Corporation’s interest, the Consultant shall determine the prepayment amount that would be required under the third paragraph of **Section 2.1** hereof to result in the allocation of the Facilities Component to the Commission. In setting the payments to be made by the Commission if it chooses to continue to occupy the Facilities Component which includes a Partial Commission Facility, the Consultant shall set a payment that is not less than the amount of total Base Payments allocable to such Facilities Component that would have been payable from and after the date of partition if this Facilities Agreement or the rights of the Commission hereunder had not been terminated.

Proposal; Finality. The Consultant shall be required to make its proposal not later than 45 days after the date of its appointment. The Commission and the Corporation shall have seven business days from the receipt of the Consultant’s proposal to object to the partition recommended therein, and if there is no objection, the report shall be final. If there is any objection, the Consultant shall issue a final partition report not later than seven business days after the last date on which objection could be made and such report shall be conclusively binding upon all parties. The Trustee shall be fully protected in relying on any report of the Consultant which is accepted by both the Commission and the Corporation, and the Trustee has no duty or obligation to make any determination or evaluation with respect to such agreed to partitions.

Instruments of Conveyance. Not later than 10 business days after the Consultant’s report becomes final, the Commission and the Corporation shall exchange deeds, leases or other instruments conveying title to such of the Project Facilities as is required to effect such partition; provided, however, that any conveyance deed or other instrument made by the Corporation shall be made in the manner and subject to the conditions set forth in **Section 9.2** hereof. Immediately thereafter, the Commission shall deliver or cause to be delivered peaceable possession of the Corporation Facilities to the Corporation, together with the related portions of the Real Property, if any, upon which it is located, without delay, in good repair and operating condition, excepting reasonable wear and tear; provided, however, that in the event of a partial division, the terms relating to Partial Commission Facilities described above shall control and the Corporation shall deliver or cause to be delivered peaceable possession of the Commission Facilities to the Commission, together with the related portions of the Real Property, if any, upon which it is located, without delay, in good repair and operating condition, excepting reasonable wear and tear; provided, however, that in the event of a partial division, the terms relating to Partial Commission Facilities described above shall control. Any Facilities Component delivered to the Corporation in connection with such partition shall remain, at all times, subject to the terms of the Base Lease.

[End of Article II]

ARTICLE III

THE PROJECT FACILITIES; FINANCING

Section 3.1. Acquisition, Construction, Renovation and Equipping of the Project Facilities.

The Corporation and the Commission acknowledge that the Commission or its designee will be responsible for any and all contracts necessary or appropriate for the acquisition, construction, renovation and equipping to be performed in connection with the acquisition, construction and completion of the Project Facilities and the Commission shall be the agent of the Corporation for all such purposes. The Commission and the Corporation agree and acknowledge that all contracts relating to the Project Facilities shall be entered into in compliance with the procurement procedures of the Commission. The Commission or its designee may install machinery, equipment and other tangible property in the Project Facilities and all such machinery, equipment and other tangible property not acquired and financed from Bond Proceeds will remain the sole property of the Commission or its designee and will not be deemed a portion of the Project Facilities.

Section 3.2. Administration of Project Facilities Contracts. The Commission or its designee shall be responsible for preparing, administering, amending and enforcing the contracts to be entered into with respect to the Project Facilities and for litigating or settling all claims thereunder. The Commission and the Corporation, as their interests may appear, will be entitled to the benefit of all warranties, guaranties and indemnities provided under the Project Facilities Contracts and by State law.

Section 3.3. Notices and Permits. The Corporation shall cooperate in any request made by the Commission in order to give or cause to be given all notices and shall comply or cause compliance with all laws, ordinances, rules and regulations and requirements of public authorities applying to or affecting the conduct of any work relating to the Project Facilities.

Section 3.4. Disbursements from the Project Fund.

(a) The balance of the Bond Proceeds (net of any underwriter's discount retained by the underwriter of the Series 2021 Bonds) shall be deposited by the Trustee into the Project Fund. Thereafter, disbursements from the Project Fund shall be made for costs of the Project Facilities and costs of issuance in accordance with the procedures set forth in Section 5.3 of the Trust Agreement.

(b) As provided in Section 5.3(c) of the Trust Agreement, the final requisition from the Project Fund shall contain, among other things, a Certificate of Acceptance of the Commission stating that the Project Facilities have been substantially completed in accordance with the applicable Project Facilities Contracts and other terms and conditions of the Facilities Agreement and that the Project Facilities comply in all material respects with all applicable governmental regulations. Upon receipt of such Certificate of Acceptance, the Trustee shall apply any balance then remaining in the Project Fund in the manner provided in Section 5.4 of the Trust Agreement. As used in this paragraph, "substantial completion" of the Project Facilities shall mean completion such that a certificate of occupancy could be issued notwithstanding the fact that certain minor items of work remain to be done.

(c) Any amounts remaining in the Project Fund following the delivery of such Certificate of Acceptance by the Commission to the Trustee shall be paid to the Commission or as otherwise provided in Section 5.4 of the Trust Agreement. If any of such amounts are disbursed to the Commission, such amounts shall be expended only for the purpose of defraying the cost of Additional Project Facilities or other capital expenditures. The Commission by notice to the Corporation may direct that any of the amounts available to it under this **Section 3.4(c)** be applied as provided in Section 5.4 of the Trust Agreement.

Section 3.5. No Merger of Project Facilities. The Corporation and Commission confirm that the Project Facilities shall be property of the Corporation and title thereto shall remain vested in the Corporation and shall not merge into the respective leasehold estates of the Corporation in the Real Property and that title to the Project Facilities shall revert to and be vested in the Commission upon termination of the Base Lease. Undivided interests in the Project Facilities are automatically conveyed to the Commission from time to time as Acquisition Payments are made as contemplated hereby.

[End of Article III]

ARTICLE IV

ACQUISITION PAYMENTS; ASSIGNMENT TO TRUSTEE

Section 4.1. Acquisition Payments.

(a) *Acquisition Payments to Constitute a Current Expense of Commission.* The Corporation and the Commission understand and intend that the obligation of the Commission to pay Acquisition Payments hereunder shall constitute a current expense of the Commission and shall not in any way be construed to be a debt of the Commission in contravention of any applicable constitutional or statutory limitations or requirements concerning the creation of indebtedness by the Commission, nor shall anything contained herein constitute a pledge of the funds, moneys or credit of the Commission. The Commission does not have taxing power.

(b) *Payment of Base Payments.* Subject to an Event of Nonappropriation as described in **Section 4.7** hereof, on or before the 15th day of the month prior to each Bond Payment Date during the period this Facilities Agreement is in effect, the Commission shall pay to the Trustee, as assignee of the Corporation, Base Payments exclusively from moneys specifically budgeted and appropriated for such purpose as provided in **Section 4.1(b)(ii)** herein in lawful money of the United States of America, which payments shall be made to the Trustee as assignee of this Facilities Agreement, in the amounts and on the dates set forth on *Exhibit C* hereto.

(i) Each payment of Base Payments shall be in consideration for the conveyance of title to an undivided interest in the Project Facilities as and to the extent provided in **Section 2.1** hereof. As further consideration for the receipt of Base Payments, the Commission shall be entitled to the use and occupancy of all of the Real Property and the Project Facilities during the applicable Fiscal Year in which such payments are made, subject to the provisions of **Section 8.2** hereof.

(ii) Subject to the right of the Commission to terminate this Facilities Agreement pursuant to **Section 4.7** herein, the Commission covenants that it will enact by June 30 of each year a budget providing for the appropriation of funds sufficient to make Acquisition Payments coming due in the next succeeding Fiscal Year, and, subject to such **Section 4.7**, apply such funds to the payment of Acquisition Payments coming due in the then current Fiscal Year.

(c) *Payment of Additional Payments.* Subject to the provisions of **Section 4.7** hereof, the Commission agrees to pay the following amounts as Additional Payments together with such other sums as are provided for herein:

(i) The amounts provided for in **Sections 4.2** and **4.4** hereof to the parties referred to therein;

(ii) All reasonable costs and expenses (including reasonable attorneys' fees, costs and expenses, if any) incurred or to be paid by the Corporation or the Trustee, as the case may be, under the terms of this Facilities Agreement or the Trust Agreement, including without limitation the amounts specified in **Section 4.4** hereof; and

(iii) All reasonable costs and expenses incurred or to be paid by the Corporation from time to time in connection with its operation and existence as a nonprofit corporation, including its legal fees, costs of maintaining directors and officers insurance and payment of any taxes due, including the costs of preparation and filing of tax returns.

The Corporation may, but shall be under no obligation to, advance moneys (i) to pay taxes, assessments and other governmental charges with respect to the Real Property and the Project Facilities, (ii) for the discharge of mechanic's and other liens relating to the Real Property and the Project Facilities, (iii) to obtain and maintain insurance for the Real Property and the Project Facilities and pay premiums therefor, and (iv) generally, to make payments and incur expenses in the event that the Commission fails to do so as required by this Facilities Agreement or the Base Lease. As provided in Section 6.11 of the Trust Agreement, the Trustee may, but shall be under no obligation to, take any such action. Any such advances shall continue to be due as Additional Payments hereunder.

(d) *Credits.* The Commission shall be entitled to a credit against payments of Base Payments in the amount of any deposits in the Bond Fund provided for in Sections 5.6(d) and 5.6(e) of the Trust Agreement. In addition to the credit provided in the preceding sentence, the amount payable by the Commission as Base Payments will be reduced by the amount of money in the Bond Fund to be credited against those payments and representing Base Payments, including without limitation accrued interest on the Series 2021 Bonds or other Bonds.

(e) *Reserved.*

(f) *Acquisition Payments by Commission.* The Commission has no reason to believe, as of the date hereof, that it will not continue making Acquisition Payments through the entire duration of this Facilities Agreement, and reasonably believes that it will pay the Acquisition Payments due or coming due hereunder in order to continue to use the Project Facilities.

Section 4.2. Acquisition Payments Not Subject to Reduction, Offset or Other Credits.

(a) The Commission and the Corporation intend that this Facilities Agreement shall yield on a net basis the Base Payments specified in **Section 4.1** hereof during the duration of this Facilities Agreement, and that all costs, expenses, liabilities and obligations of any kind and nature whatsoever including, without limitation, any *ad valorem* taxes or other taxes levied against owners of real or personal property, insurance premiums, utility charges, fees and expenses of the Consultant, and assessments and all operation, maintenance, repair and upkeep expenses relating to the Project Facilities and Real Property and the use of the Project Facilities and Real Property which do not constitute Base Payments, or other obligations relating to the Project Facilities and Real Property which may arise or become due during the term of this Facilities Agreement and which the Corporation except for this Facilities Agreement or the provisions of the Base Lease would ordinarily be required to pay as owner of the Project Facilities and Real Property (regardless of whether the Commission as owner would be so required to pay) shall either be paid under the provisions of the Base Lease or be included in the Acquisition Payments and paid by the Commission as Additional Payments. The Commission acknowledges that, under the provisions of the Base Lease, it has retained sole responsibility for the payment of taxes and insurance on the Real Property and the Project Facilities and the property associated therewith and the obligations of the Commission under the Base Lease are not subject to the limitations of **Section 4.6** hereof, except as provided in **Section 4.1(b)** of the Base Lease.

(b) All payments of Additional Payments referred to in **Section 4.2(a)** above shall be made by the Commission in immediately available funds on a timely basis directly to the person or entity to which such payments are owed; provided, however, subject to the terms of the Security Documents, that the Commission shall not be required to pay, discharge or remove any tax, lien, or assessment or any mechanic's, laborer's or materialman's lien or encumbrance, or any other imposition or charge against the Real Property or the Project Facilities or any part thereof, or comply with any law, ordinance, order, rule, regulation or requirement, as long as the Commission shall, after written notice to the Corporation and the

Trustee, at the Commission's expense, contest the same or the validity thereof in good faith, by action or inaction which shall operate to prevent the collection of the tax, lien, assessment, encumbrance, imposition or charge so contested, or the enforcement of such law, ordinance, order, rule, regulation or requirement, as the case may be, and the sale of the Real Property or the Project Facilities or any part thereof to satisfy the same or to enforce such compliance; provided further, that the Commission shall have given reasonable security as may be demanded by the Corporation to insure such payment and prevent any sale or forfeiture of the Real Property or the Project Facilities or any part thereof by reason of such nonpayment or noncompliance.

Section 4.3. Prepayment of Acquisition Payments. The Commission may prepay Acquisition Payments in whole or in part as provided in, and under the conditions prescribed under, **Sections 7.3 and 9.1** hereof, or at any time that the Commission so determines for the purpose of providing for the redemption of Series 2021 Bonds as provided in Section 4.1(a) of the Trust Agreement or of other Bonds as provided in any supplement to the Trust Agreement. The Commission shall notify the Trustee in writing of the dates on which the Series 2021 Bonds or other Bonds corresponding to any prepayment hereunder are to be redeemed and the amount to be redeemed on each such date, all in accordance with the provisions of the Trust Agreement. The Trustee may request such reasonable information and reports as may be necessary to establish the sufficiency of the payments to be made at the time of such prepayment.

Section 4.4. Administrative Expenses. Subject to the provisions of **Section 4.7** hereof, the Commission shall pay as Additional Payments (i) the periodic fees and reasonable expenses from time to time of the Trustee and any paying agent or registrar incurred in administering the Trust Agreement and the Bonds, and (ii) any reasonable expenses (including reasonable attorneys' fees, costs and expenses) incurred by the Corporation or the Trustee to compel full and punctual performance of this Facilities Agreement in accordance with the terms hereof.

Section 4.5. Assignment of Facilities Agreement: Manner of Payment. As security for and the source of payment of the Bonds, pursuant to the Trust Agreement, the Corporation has assigned to the Trustee all of its right, title and interest in and to this Facilities Agreement, except for the right of the Corporation to receive payment of its fees and expenses pursuant to **Sections 4.2, 4.4 and 5.7** hereof. The Commission consents and agrees to the assignment of this Facilities Agreement as provided herein. The Commission covenants to fully perform, in timely fashion, all of its covenants, agreements and obligations under this Facilities Agreement, and to make all payments required by the Commission under this Facilities Agreement (other than payment for fees and expenses of the Corporation) directly to the Trustee, all without set-off, defense or counterclaim by reason of any dispute which the Commission may have with the Corporation or the Trustee.

Section 4.6. Limited and Special Obligation of Commission. UPON THE OCCURRENCE OF AN EVENT OF NONAPPROPRIATION, THE COMMISSION MAY TERMINATE THIS FACILITIES AGREEMENT AT THE END OF THE LAST FISCAL YEAR WHICH IS NOT AFFECTED BY SUCH EVENT OF NONAPPROPRIATION, AND THE COMMISSION SHALL NOT BE OBLIGATED TO MAKE PAYMENT OF THE ACQUISITION PAYMENTS PROVIDED FOR IN THIS FACILITIES AGREEMENT BEYOND THE END OF SUCH FISCAL YEAR. The Commission agrees to deliver notice to the Corporation and the Trustee of any such termination prior to July 1 of the Fiscal Year first affected by an Event of Nonappropriation. If this Facilities Agreement is terminated under this **Section 4.6** or as provided in **Section 4.7** or **Section 2.2**, the Commission agrees to peaceful delivery of that portion of the Project Facilities to be retained by the Corporation or its assigns as provided in **Section 2.4** hereof.

The obligations of the Commission to make Acquisition Payments required under this **Article IV** and other sections hereof, and to perform and observe the covenants and agreements contained herein, shall be absolute and unconditional in all events, except as expressly provided under this Facilities Agreement. Notwithstanding any dispute involving the Commission and any of the Corporation, any contractor, subcontractor, or supplier of materials or labor, or any other person, the Commission shall make all Acquisition Payments when due and shall not withhold any Acquisition Payments pending final resolution of such dispute, nor shall the Commission assert any defense or right of set-off, recoupment, or counterclaim against its obligation to make such payments required under this Facilities Agreement. The Commission's obligation to make Acquisition Payments during the duration of this Facilities Agreement shall not be abated through accident or unforeseen circumstances. The Commission agrees not to suspend, reduce, abrogate, diminish, postpone, modify, discontinue, withhold, or abate any portion of the payments required pursuant to this Facilities Agreement by reason of failure of consideration, the invalidity of any provision of this Facilities Agreement, any acts or circumstances that may constitute an eviction or constructive eviction, destruction of or damage to the Real Property or the Project Facilities, the taking by eminent domain of title to or the use of all or any part of the Real Property or the Project Facilities, failure of the Commission's title to the Real Property or any part thereof, commercial frustration of purpose, any change in the tax or other laws of the United States of America or of the State or any political subdivision of either thereof or in the rules or regulations of any governmental authority, or any failure of the Corporation to perform and observe any agreement, whether express or implied, or any duty, liability, or obligation arising out of or connected with this Facilities Agreement. Nothing contained in this paragraph shall be construed to release the Corporation from the performance of any of the agreements on its part herein contained. In the event the Corporation should fail to perform any such agreement on its part, the Commission may institute such action against the Corporation as the Commission may deem necessary to compel performance so long as such action does not abrogate the Commission's obligations under this Facilities Agreement. The Commission may, however, at its own cost and expense and in its own name or in the name of the Corporation, prosecute or defend any action or proceeding or take any other action involving third persons which the Commission deems reasonably necessary in order to secure or protect its right of possession, occupancy, and use under this Facilities Agreement, and in such event the Corporation hereby agrees to cooperate fully with the Commission and to take all action necessary to effect the substitution of the Commission for the Corporation in any such action or proceeding if the Commission shall so request. It is the intention of the parties that the payments required by this Facilities Agreement will be paid in full when due without any delay or diminution whatsoever, **SUBJECT ONLY TO THE SPECIAL AND LIMITED NATURE OF THE COMMISSION'S OBLIGATION TO PAY ACQUISITION PAYMENTS HEREUNDER AS SET FORTH ABOVE.**

THE OBLIGATIONS OF THE COMMISSION UNDER THIS FACILITIES AGREEMENT SHALL NOT CONSTITUTE A PLEDGE OF THE FULL FAITH OR CREDIT OF THE COMMISSION WITHIN THE MEANING OF ANY STATE CONSTITUTIONAL OR STATUTORY PROVISION. THE COMMISSION HAS NO TAXING POWER.

Section 4.7. Event of Nonappropriation. In the event the Commission shall not, on or before July 1 of each year, specifically budget and appropriate moneys which may be lawfully used to pay Acquisition Payments sufficient to pay all Acquisition Payments due hereunder in the Fiscal Year commencing on such July 1, an Event of Nonappropriation shall be deemed to have occurred; subject, however, to each of the following provisions:

(a) The Trustee shall declare an Event of Nonappropriation on any earlier date on which the Trustee receives official, specific written notice from the Commission that this Facilities Agreement will be terminated.

(b) As soon as practicable after receiving such specific written notice from the Commission or after an Event of Nonappropriation is deemed to have occurred as contemplated above and the Trustee has actual notice of such deemed occurrence, the Trustee shall give written notice to the Commission and the Corporation of an Event of Nonappropriation; but any failure of the Trustee to give such written notice shall not prevent the Trustee from declaring an Event of Nonappropriation or from taking any remedial action which would otherwise be available to the Trustee.

(c) [Reserved]

(d) The Trustee shall waive any Event of Nonappropriation which is cured prior to the expiration of the Waiver Period by the Commission's specifically budgeting and appropriating funds sufficient to pay all Acquisition Payments due hereunder in such Fiscal Year to which the Event of Nonappropriation applies.

If an Event of Nonappropriation occurs and is not waived, the Commission shall not be deemed to be in default under this Facilities Agreement and shall not be obligated to make payment of any future Acquisition Payments due hereunder or any other payments provided for herein which accrue after the beginning of the Fiscal Year with respect to which there has occurred an Event of Nonappropriation; provided, however, that, subject to the limitations of **Section 4.6** hereof and this **Section 4.7**, the Commission shall continue to be liable for Acquisition Payments, (a) accrued prior to the beginning of such Fiscal Year, and due hereunder, and (b) allocable to any period during which the Commission shall continue to occupy the Corporation Facilities.

The Commission, in all events, shall cooperate with the Corporation and the Trustee in making the partition required under **Section 2.4** hereof and, if requested by the Trustee, shall vacate and deliver over to the Trustee the Corporation Facilities by the expiration of the Fiscal Year during which an Event of Nonappropriation occurs if such occurs by notice, or not later than the July 31 following the July 1 on which the Commission shall have failed to specifically budget and appropriate sufficient moneys to pay Acquisition Payments hereunder.

The Trustee shall, upon receipt of notice of the occurrence of an Event of Nonappropriation, be entitled to all moneys then on hand and being held in all funds created under the Trust Agreement for the benefit of the Owners of the Series 2021 Bonds. After the expiration of the Fiscal Year during which an Event of Nonappropriation occurs, if such occurs by notice, or the July 31 following the July 1 on which the Commission has failed to specifically budget and appropriate sufficient moneys to pay the Acquisition Payments hereunder, the Trustee may or shall, as the case may be, proceed to exercise its remedies, liquidate its interest in this Facilities Agreement or to lease the Project Facilities as provided in **Section 8.2** hereof, provided, however, that the Project Facilities shall always be operated for a civic or a public purpose as provided in Section 4.1 of the Base Lease. All property, funds and rights acquired by the Trustee by reason of an Event of Nonappropriation as provided herein, less any moneys due and owing to the Trustee for services performed as Trustee, shall be held by the Trustee for the benefit of the Owners of the Series 2021 Bonds as set forth in the Trust Agreement.

Notwithstanding anything in this Facilities Agreement to the contrary, in the event that the Trustee shall receive a payment for the transfer of its interest in this Facilities Agreement, or total rental payments for leasing that are, after the payment of the Corporation's expenses in connection therewith, including attorneys' and other fees, costs and expenses of the Trustee, in excess of the principal amount of the Outstanding Bonds at the time of the Event of Nonappropriation and the interest due and to become due thereon (with amounts so received to be credited first to such interest and then to principal), then such excess shall be paid to the Commission by the Trustee, its assigns or its lessee.

[End of Article IV]

ARTICLE V

COVENANTS OF THE COMMISSION

Section 5.1. Maintenance and Operation of Real Property and Project Facilities.

(a) Subject to **Sections 4.6** and **4.7** herein, the Commission covenants and represents it will, at its own cost or expense, operate the Real Property and the Project Facilities in a sound and economical manner, in compliance with all present and future laws and governmental regulations applicable thereto, further that it will maintain, preserve and keep the Real Property and the Project Facilities in good repair, working order and condition, and that it shall from time to time make or cause to be made all necessary and proper repairs and renewals so that at all times the operation of the Real Property and the Project Facilities may be properly and advantageously conducted. This covenant shall not prevent the Commission from discontinuing operation of the Real Property and the Project Facilities at any time.

(b) Except as otherwise provided in this **Section 5.1**, prior to payment of the Series 2021 Bonds in full, the Commission shall not sell, transfer, lease, sublease or otherwise dispose of all or any substantial portion of the Real Property or the Project Facilities, or its interests under this Facilities Agreement, except to the State or another political subdivision, agency or instrumentality of the State which assumes in writing all obligations of the Commission under this Facilities Agreement. The Commission, at its discretion, may lease or sublease less than a substantial portion of the Real Property to third parties. If this Facilities Agreement terminates prior to the termination of such lease or sublease, the Corporation hereby agrees to assume the role of lessor in the place of the Commission until the termination of the Base Lease, at which point the Commission will again resume the role of lessor under such lease or sublease.

(c) Notwithstanding any other provision hereof to the contrary, the Commission may provide for the exchange of any asset comprising Real Property and Project Facilities (the “**Released Facility**”) for another building and the real estate on which such facility (the “**Exchange Facility**”) is located if: (i) the Commission provides the Trustee an appraisal from an appraiser selected by the Commission showing that the proposed Exchange Facility has a value equal to or greater than the proposed Released Facility; (ii) the Commission certifies to the Trustee that the Exchange Facility is necessary to the operations of the Commission and that the remaining useful life of the Exchange Facility is not less than the remaining useful life of the Released Facility; (iii) the Commission certifies to the Trustee that the exchange is necessary to facilitate either the sale or other disposition of the Released Facility or the conversion of its use to another purpose; and (iv) the Trustee receives an opinion of Bond Counsel to the effect that the proposed exchange will not adversely affect the federal income tax treatment of interest paid to the Holders of the Series 2021 Bonds. The Trustee shall be fully protected in relying on such appraisal and certifications in releasing the proposed Released Facility and has no duty or obligation to make any determination or evaluation as to such appraisal or certifications.

(d) The Base Lease may be amended from time to time as provided therein to provide for the lease by the Commission to the Corporation of Real Property and Additional Real Property acquired or made available by the Commission after the date of the Base Lease and this Facilities Agreement. Upon the lease of such Real Property or Additional Real Property by the Commission to the Corporation pursuant to the Base Lease, **Exhibit A** hereto shall be amended to include such Real Property or Additional Real Property.

Section 5.2. Liens on Project Facilities. The Commission shall not create, incur or suffer to exist any lien, charge or encumbrance on the Real Property or the Project Facilities or its rights under this Facilities Agreement other than any Permitted Encumbrance.

Section 5.3. Representations and Covenants Regarding Tax Exempt Status of Series 2021 Bonds.

(a) The Commission shall not take any action or permit any action to be taken on its behalf, or cause or permit any circumstance within its control to arise or continue, if such action or circumstance, or its expectation on the date of this Facilities Agreement would cause the interest paid on the Series 2021 Bonds to be includable in the gross income of the recipients thereof for federal income tax purposes.

(b) The Commission covenants to the Corporation, the Trustee and the Owners of the Series 2021 Bonds that, notwithstanding any other provision of this Facilities Agreement or any other instrument, it will neither make nor cause to be made any investment or other use of the Bond Proceeds or amounts on deposit in any of the funds or accounts held under the Trust Agreement or under any other document related to the Series 2021 Bonds which would cause the Series 2021 Bonds to be "arbitrage bonds" under Section 148 of the Code and the regulations thereunder or to be "Federally guaranteed" under Section 149(b) of the Code and the regulations thereunder, and that it will comply with the requirements of such Sections and regulations throughout the term of the Series 2021 Bonds.

(c) The Commission shall take all actions necessary on its part to enable compliance with the rebate provisions of Section 148(f) of the Code in order to preserve the federal income tax status of payments of interest with respect to the Series 2021 Bonds. The Commission shall ensure that the Corporation retains a consultant experienced in the calculation and determination of rebate payments and liability under Section 148(f) of the Code to provide the reports required under the Tax Regulatory Agreement.

(d) The Commission will accept title to the Project Facilities upon the discharge of all Bonds issued under the Trust Agreement.

Section 5.4. Reports and Opinions; Inspections.

(a) The Commission shall deliver to the Trustee and the Corporation, within 90 days after the end of each Fiscal Year, a certificate stating that no Event of Default under this Facilities Agreement has occurred and is continuing and that the Project Facilities are being used in accordance with the terms of this Facilities Agreement.

(b) The Commission shall permit the Corporation and the Trustee to examine, visit and inspect, at any reasonable time, the Project Facilities and any accounts, books and records, including its receipts, disbursements, contracts, investments and any other matters relating thereto and to its financial standing, and to supply such reports and information as the Trustee may reasonably require.

Section 5.5. Immunity of Corporation and Trustee. In the exercise of the powers of the Corporation and the Trustee and their members, directors, officers, employees and agents under the Trust Agreement, the Base Lease or this Facilities Agreement including (without limiting the foregoing) the application of moneys and the investment of funds, neither the Corporation nor the Trustee shall be accountable to the Commission for any action taken or omitted with respect to the Real Property, the Project Facilities or this Facilities Agreement by either of them or their members, directors, officers, employees and agents in good faith and believed by it or them to be authorized or within the discretion or rights or powers conferred under this Facilities Agreement. The Corporation and the Trustee and their members, officers, employees and agents shall be protected in its or their acting upon any paper or documents believed by it or them to be genuine, and it or they may conclusively rely upon the advice of counsel and may (but need not) require further evidence of any fact or matter before taking any action. No

recourse shall be had by the Commission for any claims based on the Trust Agreement or this Facilities Agreement against any member, director, officer, employee or agent of the Corporation or the Trustee alleging personal liability on the part of such person.

Section 5.6. Compliance with Laws. With respect to the Real Property and the Project Facilities and any additions, alterations, or improvements thereto, the Commission will at all times comply with all applicable requirements of federal and State laws and with all applicable lawful requirements of any agency, board, or commission created under the laws of the State or of any other duly constituted public authority; provided, however, that the Commission shall be deemed in compliance with this **Section 5.6** so long as it is contesting in good faith any such requirement by appropriate legal proceedings.

Section 5.7. Insurance and Condemnation Proceeds. The Commission shall make or direct any disposition of insurance or condemnation payments with respect to the Project Facilities as may be required by the terms of the Security Documents or of any Permitted Encumbrances existing on the date hereof.

Section 5.8. Filing of Budget with Trustee. For the duration of this Facilities Agreement, the Commission shall file with the Trustee, prior to the end of each Fiscal Year, a copy of the annual budget of the Commission for the following Fiscal Year. The Trustee shall have no duty to review or analyze such annual budget or verify the accuracy thereof and shall hold such annual budget solely as a repository for the benefit of the holders of the Series 2021 Bonds, nor shall the Trustee be deemed to have notice of any information contained therein or event of default which may be disclosed therein in any manner.

Section 5.9. Alterations of the Real Property and Project Facilities; Removals. The Commission, in its discretion and at its expense, may remodel or make such additions, modifications and improvements to the Real Property and the Project Facilities as it may deem to be desirable; provided that no such additions, modifications or improvements shall adversely affect the structural integrity or strength of, or materially interfere with the use and operations of, the Real Property and the Project Facilities. Subject to the right of the Commission to install its own machinery, equipment and other tangible personal property as provided in **Section 3.1** hereof, any such changes shall become and be deemed to constitute part of the Real Property or the Project Facilities, as the case may be.

In this connection, the Commission may remove any items of personal property constituting a part of the Project Facilities, provided that such removal of the personal property shall not materially diminish the value of the Project Facilities or the related Real Property.

In the case of any removal as provided above or any removal of Commission property not constituting the Project Facilities, the Commission shall repair any damage resulting from such removal

Section 5.10. Continuing Disclosure.

(a) The Commission covenants to provide the information required by Rule 15c2-12 promulgated under the Securities Exchange Act of 1934, as an Obligated Person (as defined in Rule 15c2-12) and to comply with the provisions of the Continuing Disclosure Undertaking (the “**Disclosure Undertaking**”) attached hereto as **Exhibit D**. In the event of a failure by the Commission to comply with any provisions of the Disclosure Undertaking, the rights of the Owners of the Series 2021 Bonds to enforce the provisions of the Disclosure Undertaking shall be limited solely to a right, by action in mandamus or specific performance, to compel performance of the Commission’s obligations under the Disclosure Undertaking. Any failure by the Commission to perform in accordance with the Disclosure Undertaking shall not constitute a default on the Series 2021 Bonds or under any other document relating

to the Series 2021 Bonds, and all rights and remedies shall be limited to those expressly stated in the Disclosure Undertaking.

(b) In accordance with Section 11-1-85, Code of Laws of South Carolina 1976, as amended (“**Section 11-1-85**”), the Commission hereby covenants to, as long as the provisions of said Section 11-1-85 remain in effect with respect to the Series 2021 Bonds, file with a central repository for availability in the secondary bond market when requested: (i) an annual independent audit, within thirty (30) days of the Commission’s receipt of such audit; and (ii) event specific information, within thirty (30) days of an event adversely affecting more than five percent of the Commission’s revenue or tax base. The only remedy for failure by the Commission to comply with the covenant in this **Section 5.10(b)** shall be an action for specific performance of the covenant. The Commission specifically reserves the right to amend or delete this covenant to reflect any change in (or repeal of) Section 11-1-85, without the consent of any Holders of the Series 2021 Bonds.

[End of Article V]

ARTICLE VI

INSURANCE

Section 6.1. Types of Insurance and Coverage Requirements. [TO BE UPDATED]

(a) The Commission or its designee shall maintain all-risk fire, extended coverage and vandalism insurance on the Project Facilities, with such deductible provisions as are standard for facilities similar to those of the Project Facilities. Such insurance shall name the Corporation and the Trustee as loss payees, as their interests may appear, be maintained for the duration of this Facilities Agreement and each policy shall be in an amount equal to the lesser of the cost of repair, replacement or 150% of scheduled value of the Project Facilities; provided that, at least once every three years in conjunction with the Commission's current insurance renewal schedule for other Commission-owned facilities, the Commission shall cause the preparation and pay for the expense of a certification of the insurable value of the Project Facilities by an independent insurance agent or a person or company knowledgeable in such matters.

(b) The Commission or its designee shall maintain workers' compensation coverage in amounts equal to the State statutory limits as well as employers' liability coverage in the amount of \$1,000,000.

(c) The Commission or its designee shall maintain, for the duration of this Facilities Agreement, general liability insurance against loss or losses from liabilities imposed by law or assumed in any written contract and arising from the death or bodily injury of persons or damage to the property of others caused by accident or occurrence (including contractual liability endorsement, if applicable), with limits of not less than \$300,000 for a loss arising from a single occurrence and not less than \$600,000 in the aggregate per occurrence regardless of the number of claims made, and \$300,000 for property damage per occurrence, excluding liability imposed upon the Commission by any applicable worker's compensation law. Such insurance shall name the Corporation and the Trustee as loss payees, if allowed by such insurance carrier, as their interests may appear.

(d) The Commission is currently partially self-insured for all hazards, including but not limited to worker's compensation, automobile and general liability, and vehicle and property, subject to self-insured retention ("**SIR**") limits. The worker's compensation SIR limit effective for the period beginning July 1, 20__ is \$____,000 per occurrence for all employees except sworn police officers and firefighters, who are subject to a \$____,000 per occurrence limit. Further, the Commission maintains stop loss coverage in an amount of \$____,000 per employee / \$____,000 per accident with respect to worker's compensation claims. Automobile and general liability claims are subject to a \$____,000 per occurrence SIR limit. Vehicle damage claims have a \$____,000 SIR limit, while property damage claims have a \$____,000 limit. The Commission purchases excess coverage from _____. The Project Facilities will be insured in a similar fashion.

(e) All policies of insurance required hereunder shall be either self-insurance of the Commission or written by the South Carolina Insurance Reserve Fund, companies rated not lower than A by A. M. Best Company or in one of the two highest rating categories by S&P Global Ratings and Moody's Investors Service, in each case qualified to do business in the State and each policy shall provide that the Commission shall endeavor to provide at least 30 days prior written notice to the Corporation and the Trustee before such policy is canceled. The Commission may provide any part or all of the insurance required hereby under the terms of a policy insuring other facilities or risks or any "blanket" policy. The Commission covenants that it will take all action, or cause the same to be taken, which may be necessary to enable recovery under the aforesaid insurance policies.

(f) All policies of insurance required hereby shall be open to inspection by the Corporation and the Trustee at all reasonable times. Certificates of insurance describing such policies shall be furnished by the Commission or the Commission shall cause the same to be furnished to the Corporation at or prior to the execution and delivery of this Facilities Agreement, and at least 10 days prior to the expiration of each of such policies. If any change shall be made in such insurance as to either amount or type of coverage, a description and notice of such change shall be furnished immediately to the Corporation by the Commission or it shall cause the same to be so furnished. In the event that the Commission fails to maintain any insurance as provided in this **Section 6.1**, the Trustee may, following written notice to the Commission, procure and maintain such insurance at the expense of the Commission (reimbursable as provided hereinbefore), but the Trustee shall not be under an obligation to do so.

(g) Notwithstanding the above, during the construction phase of the Project Facilities, the developer or the construction company constructing such facilities will obtain and maintain, or cause to be obtained and maintained, at all times one or more policies of insurance on the Project Facilities containing the following types of coverage on such terms as approved by the Commission: builders' risk, general liability, workers' compensation, motor vehicle, and contractor's pollution.

(h) The Commission agrees that it shall certify in writing to the Trustee on June 30 of each year that it is in compliance with this **Section 6.1**. The Trustee is not responsible for determining the sufficiency of such insurance requirements.

Section 6.2. Self-Insurance Approval. As set forth in **Section 6.1(d)** above, the Commission self-insures for certain types of claims. If, at the time of execution of this Facilities Agreement, the Commission self-insures or at any time hereafter desires to self-insure to the extent permitted by law other than as described in **Section 6.1(d)** above, the entry into such self-insurance program shall require the written approval of the Corporation.

[End of Article VI]

ARTICLE VII

DAMAGE, DESTRUCTION AND CONDEMNATION; USE OF NET PROCEEDS

Section 7.1. *Damage, Destruction and Condemnation.* If, during the duration of this Facilities Agreement, (i) the Project Facilities or any portion thereof shall be destroyed (in whole or in part), or damaged by fire or other casualty, or (ii) title to, or the temporary or permanent use of, the Project Facilities, the Real Property or any portion thereof or the estate of the Commission or the Corporation in the Project Facilities, the Real Property or any portion thereof shall be taken under the exercise of the power of eminent domain by any governmental body or by any person, firm or corporation acting under governmental authority, or (iii) a material defect in construction or installation of the Project Facilities, the Real Property or any portion thereof shall become apparent, or (iv) title to or the use of all or any portion of the Project Facilities, Real Property or any portion thereof shall be lost by reason of a defect in title thereto, then the Commission shall be obligated, subject to the option provided in **Section 7.3** hereof and the provisions of **Sections 4.6** and **4.7** hereof, to continue to pay the amounts specified as Acquisition Payments under this Facilities Agreement.

Section 7.2. *Obligation to Repair or Replace the Real Property and Project Facilities.* Subject to the provisions of **Section 7.3** hereof, the Commission, the Corporation and the Trustee shall cause the Net Proceeds of any insurance policies, performance bonds or condemnation awards, made available by reason of any occurrence described in **Section 7.1** hereof, to be deposited in a separate trust fund designated as the “***Net Proceeds Fund***” which the Trustee is hereby directed to establish in such event. Except as set forth in **Section 7.3** hereof, all Net Proceeds so deposited shall be applied to the prompt repair, restoration, modification, improvement or replacement of the Real Property or the Project Facilities, as are appropriate, by the Commission upon receipt of requisitions signed by an authorized official of the Commission stating with respect to each payment to be made: (i) the requisition number; (ii) the name and address of the person, firm or corporation to whom payment is due; (iii) the amount to be paid; and (iv) that each obligation mentioned therein has been properly incurred, is properly payable from the Net Proceeds held in the Net Proceeds Fund and has not been the basis of any previous withdrawal and specifying in reasonable detail the nature of the obligation, accompanied by a bill or a statement of account for such obligation. The Trustee shall cooperate with the Commission in the administration of such fund and shall disburse funds upon receipt of a properly presented requisition. The Trustee has no duty or obligation to determine whether or not such requested disbursements are for authorized or permitted uses and shall be fully protected in relying on all such requisitions received by it. The balance of any such Net Proceeds remaining after such repair, restoration, modification, improvement or replacement has been completed shall be applied to any lawful and authorized purpose of the Commission as directed in writing by the Commission. Any repair, restoration, modification, improvement or replacement paid for in whole or in part out of such Net Proceeds shall be included as part of the Real Property or Project Facilities, as appropriate, under this Facilities Agreement and the Trust Agreement.

If the Net Proceeds (plus any amounts withheld from such Net Proceeds by reason of any deductible clause) shall be insufficient to pay in full the cost of any repair, restoration, modification, improvement or replacement of the Real Property or the Project Facilities referred to above, the Commission shall be responsible, subject to the option contained in **Section 7.3** hereof, for the completion of the work and the payment of any cost in excess of the amount of the Net Proceeds. The Commission agrees that, if by reason of any such insufficiency of the Net Proceeds, the Commission shall make any payments pursuant to the provisions of this paragraph, the Commission shall not be entitled to any reimbursement therefor from the Trustee or the Owners of the Series 2021 Bonds, nor shall the Commission be entitled to any diminution of any Acquisition Payments payable under this Facilities Agreement.

Section 7.3. Discharge of Obligation to Repair or Replace the Real Property and Project Facilities. If, as a result of the occurrence of an event described in **Section 7.1** hereof, (a) any part of the Project Facilities or the Real Property is totally destroyed or is damaged to such an extent that the rebuilding or repairing of such part of the Project Facilities or the Real Property would be impracticable, (b) there is discovered a material defect in the construction of the Project Facilities, or any portion thereof that renders the Project Facilities or such portion unusable by the Commission for its intended purposes, (c) all or substantially all of the Project Facilities or the Real Property relating to a particular building is taken by eminent domain or (d) the Commission is deprived of the use of any part of the Project Facilities or the Real Property by reason of a defect in title thereto, the Commission may elect, subject to **Section 9.1** hereof and Section 4.1 of the Trust Agreement, to apply the Net Proceeds of applicable insurance policies, performance bonds or condemnation awards as a prepayment of Acquisition Payments and the discharge of its obligations with respect to **Sections 7.1** and **7.2** hereof. Such an election may be made by written notice to the Corporation and the Trustee within 90 days of the occurrence of an event described in (a) through (d) above. Upon any such prepayment, the amount thereof shall be applied to redeem Bonds at the earliest practicable date, the Acquisition Price shall be recalculated by the Corporation to take account of such prepayment, title to the affected part of the Project Facilities shall be deemed transferred to the Commission and in the event of any future partition under **Section 2.4** hereof, such affected part of the Project Facilities or the Real Property shall be automatically assigned to the Commission. If at any time the amount to be applied as a prepayment hereunder shall exceed the redemption price of all Bonds, all Bonds shall be redeemed, title to all the Project Facilities and the Real Property or portion thereof shall be transferred to the Commission and any amounts not required for the redemption of the Bonds and payment of other expenses under the Trust Agreement shall be paid to the Commission.

Section 7.4. Cooperation of the Parties. The Corporation, the Commission and the Trustee shall cooperate fully with each other in filing any proof of loss with respect to any insurance policy or performance bond covering the events described in **Section 7.1** hereof, in making the Net Proceeds available in accordance with **Section 7.2** or **7.3** hereof and in the prosecution or defense of any prospective or pending condemnation proceeding with respect to the Project Facilities or any portion thereof and in the enforcement of all warranties relating to the Project Facilities. The Corporation hereby designates the Commission as its agent for the purpose of making collections under such policies. In no event shall the Corporation voluntarily settle, or consent to the settlement of, any proceeding arising out of any insurance claim, performance or payment bond claim, prospective or pending condemnation proceeding with respect to the Project Facilities or any portion thereof without the written consent of the Commission and the Trustee.

[End of Article VII]

ARTICLE VIII

DEFAULTS AND REMEDIES

Section 8.1. *Events of Default.* Each of the following events is hereby defined as, and declared to be and shall constitute, an “*Event of Default*”:

(a) failure by the Commission to make any payment required to be made pursuant to **Section 4.1(b)** hereof by the first day of the calendar month after the same is due (provided, however, that an Event of Nonappropriation shall not result in an Event of Default under this provision); or

(b) failure by the Commission to timely comply with the provisions of **Section 2.4** hereof relating to partition and vacating of the Project Facilities at the times required; or

(c) failure by the Commission to make any payment required to be made pursuant to **Section 4.1(c), 4.2 or 4.4** hereof or under the provisions of the Base Lease within 10 days after the same is due; or

(d) failure by the Commission to observe and perform any other covenant, condition or agreement on its part to be observed or performed under this Facilities Agreement for a period of 30 days after written notice specifying such failure and requesting that it be remedied is given to the Commission by the Trustee; or

(e) if any of the representations and warranties of the Commission hereunder shall prove to be false or misleading in any material respect; or

(f) the failure by the Commission promptly to stay or lift any execution, garnishment or attachment of such consequence as will, in the reasonable judgment of the Trustee, materially impair its ability to carry out its obligations under this Facilities Agreement (provided that the Commission shall not be in default so long as it is diligently prosecuting a bona fide appeal from any such execution, garnishment or attachment); or

(g) if the Commission shall (i) apply for or consent to the appointment of a receiver, trustee, or the like of the Commission or of property of the Commission, or (ii) admit in writing the inability of the Commission to pay its debts generally as they become due, or (iii) make a general assignment for the benefit of creditors, or (iv) be adjudicated as bankrupt or insolvent, or (v) commence a voluntary case under the United States Bankruptcy Code or file a voluntary petition seeking reorganization, an arrangement with creditors or an order for relief or seeking to take advantage of any insolvency law or (vi) fail to controvert in a timely or appropriate manner, or acquiesce in writing to, any petition filed against it in an involuntary case under the United States Bankruptcy Code.

The foregoing provisions of this **Section 8.1** are subject to the following provision: If, by reason of Force Majeure, the Commission shall be unable in whole or in part to carry out any agreement on its part herein contained, other than the obligations on the part of the Commission contained in **Articles IV and VI** hereof, the Commission shall not be deemed in default during the continuance of such inability. The Commission agrees, however, to remedy, as promptly as legally and reasonably possible, the cause or causes preventing the Commission from carrying out its agreement, provided that the settlement of strikes, lockouts and other industrial disturbances shall be entirely within the discretion of the Commission.

Section 8.2. *Remedies.* Subject at all times to the rights of the Commission under **Section 2.1** hereof as to portions of the Project Facilities it has so acquired, whenever any Event of Default referred to

in **Section 8.1** hereof shall have happened and be continuing, or if an Event of Nonappropriation shall have happened, the Corporation and the Trustee may terminate this Facilities Agreement and shall give notice to the Commission to vacate the Corporation Facilities within 31 days from the date of such notice; provided that if an Event of Nonappropriation shall occur by reason of the failure of the Commission to specifically budget and appropriate for Acquisition Payments on or before July 1 of any year, the Commission shall, if requested, vacate or deliver possession of the Corporation Facilities not later than the immediately following July 31 or such later date as may be determined under **Section 2.4** hereof.

Subject at all times to the rights of the Commission under **Section 2.1** hereof as to portions of the Project Facilities it has so acquired, the Trustee, in its discretion, may also (i) take whatever action at law or in equity which may appear necessary or desirable to enforce its rights in and to the Project Facilities under this Facilities Agreement, the Security Documents and the Trust Agreement, subject, however, to the limitations set forth herein, and (ii) exercise all applicable rights and remedies of a secured party under Title 36, Chapter 9, Code of Laws of South Carolina, 1976, as amended.

In addition, the Trustee may, or at the written direction of the Owners of the majority in aggregate principal amount of the Outstanding Bonds and upon being provided satisfactory indemnity by such Owners shall, without any further demand or notice, and subject to the terms of the Base Lease, including without limitation, the provisions in Section 4.1 of the Base Lease which provide that the Corporation Facilities shall always be operated for a civic or public purpose, take one or both of the following additional remedial steps:

- (i) sell or assign its interest in the Base Lease upon five days prior written notice to the Commission; or
- (ii) temporarily assign its rights to the Corporation Facilities for the benefit of the Owners of the Bonds.

Notwithstanding anything in this Facilities Agreement to the contrary, in the event of a termination of the Commission's interest in any portion of the Project Facilities and subsequent thereto the Trustee shall receive a payment for the transfer of its interest in this Facilities Agreement or total rental payments for leasing that are, after the payment of the Corporation's expenses in connection therewith, including fees, costs and expenses of the Trustee, in excess of the principal amount of the Outstanding Bonds at the time of the Event of Default or Event of Nonappropriation and the interest due and to become due thereon (with amounts so received to be credited first to such interest and then to principal), then the Trustee shall pay such excess to the Commission.

Section 8.3. Limitations on Remedies. A judgment requiring a payment of money may be entered against the Commission by reason of an Event of Default or Event of Nonappropriation only as to the Commission's liabilities described in **Section 10.1** hereof.

Section 8.4. Cumulative Rights. No remedy conferred upon or reserved to the Corporation or the Trustee by this Facilities Agreement is intended to be exclusive of any other available remedy or remedies, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Facilities Agreement or now or hereafter existing at law or in equity or by statute. No waiver by the Corporation or the Trustee of any breach by the Commission of any of its obligations, agreements or covenants hereunder shall be deemed a waiver of any subsequent breach, or a waiver of any other obligation, agreement or covenant, and no delay or failure by the Corporation or the Trustee to exercise any right or power shall impair any such right or power or shall be construed to be a waiver thereof, but any such right and power may be exercised by the Corporation or the Trustee from time to time and as often as may be deemed expedient.

Section 8.5. Discontinuance of Proceedings. In case the Corporation or the Trustee shall have proceeded to enforce any right under this Facilities Agreement and such proceedings shall have been discontinued or abandoned for any reason or shall have been determined adversely to the Corporation or the Trustee, then and in every such case the Commission, the Corporation and the Trustee shall be restored respectively to their several positions and rights hereunder and all rights, remedies and powers of the Commission, the Corporation and the Trustee shall continue as though no such proceeding had been taken.

[End of Article VIII]

ARTICLE IX

CONVEYANCE OF THE PROJECT FACILITIES

Section 9.1. *Optional Purchase of the Project Facilities.*

(a) *Purchase in Full.* The Commission is hereby granted the option to terminate this Facilities Agreement and to purchase the Corporation's interest in the Project Facilities not theretofore acquired by the Commission at any time upon payment by the Commission of the then applicable Purchase Option Price; provided, however, that no such termination shall relieve the Commission from its obligation to pay Administrative Expenses as provided in **Section 4.4** hereof until the Bonds have been fully discharged and the Trust Agreement terminated. The Commission shall notify the Corporation and the Trustee of its intention to exercise this option, on or before the 45th day preceding the date of such purchase or such later date as may be acceptable to the Trustee, but in no event later than the 30th day preceding the date of such purchase, and the Commission shall provide funds for such prepayment. Upon the payment of the Purchase Option Price, the Corporation shall transfer and convey all its remaining interest in the Project Facilities to the Commission in the manner provided in **Section 9.2** hereof.

(b) *Partial Prepayment of Acquisition Payments and Purchase.* From and after _____ 1, 20__, the Commission is also granted the option to prepay Acquisition Payments for the purpose of having such prepayments credited towards the purchase price of the Project Facilities. The Commission shall notify the Corporation and the Trustee of its intention to exercise this option, on or before the 45th day preceding the date of such prepayment or such later date as may be acceptable to the Trustee, but in no event later than the 30th day preceding the date of such prepayment, and shall provide funds for such prepayment.

Section 9.2. *Manner of Conveyance.*

(a) *Complete Conveyance.* At the closing of any purchase or other conveyance of all of the Project Facilities and the Real Property pursuant to **Section 9.1(a)** hereof, or at the termination hereof by the payment of all amounts due hereunder, the Corporation and the Trustee by an instrument terminating the Base Lease and this Facilities Agreement and by quit claim or special warranty deed, as the case may be, in the form as mutually agreed to by the Trustee, the Corporation and the Commission shall execute and deliver to the Commission all necessary documents assigning, transferring, conveying and relinquishing all interest to the Project Facilities and Real Property, subject to the following:

(i) Permitted Encumbrances, other than this Facilities Agreement and the Trust Agreement;

(ii) all liens, encumbrances and restrictions created or suffered to exist by the Commission, the Corporation and the Trustee as required or permitted by this Facilities Agreement or the Trust Agreement or arising as a result of any action taken or permitted to be taken by the Commission, the Corporation or the Trustee as required or permitted by this Facilities Agreement or the Trust Agreement; and

(iii) any lien or encumbrance created by action of the Commission.

(b) *Partial Conveyance Resulting from Partition.* Upon any conveyance under **Section 2.4** hereof to the Commission, the Corporation and the Trustee shall execute and deliver to the Commission all necessary documents assigning, transferring and conveying all interest in the Commission Facilities by an instrument terminating the Base Lease and this Facilities Agreement with respect to the Commission

Facilities and quit claim or special warranty deed, as the case may be, in the form as mutually agreed to by the Trustee, the Corporation and the Commission, subject to the following:

- (i) Permitted Encumbrances, other than this Facilities Agreement and the Trust Agreement;
- (ii) all liens, encumbrances and restrictions created or suffered to exist by the Commission, the Corporation and the Trustee as required or permitted by this Facilities Agreement or the Trust Agreement or arising as a result of any action taken or permitted to be taken by the Commission, the Corporation or the Trustee as required or permitted by this Facilities Agreement or the Trust Agreement; and
- (iii) any lien or encumbrance created by action of the Commission.

Neither the Trustee nor the Corporation shall be responsible for the recordation of any deed or other instrument for such purposes, and the Commission shall be responsible for the recordation of any such deed or other instrument for such purposes.

Upon any conveyance under **Section 2.4** hereof to the Corporation, the Commission shall execute and deliver to the Corporation and the Trustee all necessary documents assigning, transferring and conveying all interest in the Corporation Facilities by an instrument terminating this Facilities Agreement with respect to the Corporation Facilities and quit claim or special warranty deed, as the case may be, in the form as mutually agreed to by the Trustee, the Corporation and the Commission, subject to the following:

- (i) Permitted Encumbrances, other than this Facilities Agreement and the Trust Agreement;
- (ii) all liens, encumbrances and restrictions created or suffered to exist by the Commission, the Corporation and the Trustee as required or permitted by this Facilities Agreement or the Trust Agreement or arising as a result of any action taken or permitted to be taken by the Commission, Corporation or the Trustee as required or permitted by this Facilities Agreement or the Trust Agreement;
- (iii) any lien or encumbrance created by action of the Commission; and
- (iv) the Base Lease.

The Commission shall not be responsible for the recordation of any deed or other instrument to the Trustee or the Corporation for such purposes and the Corporation shall be responsible for the recordation of any such deed or other instrument for such purposes.

(c) *Partial Conveyance Resulting from Prepayment.* Any conveyance resulting from a partial prepayment under **Section 9.1(b)** hereof shall be made in the manner as all other conveyances with respect to payments on each Bond Payment Date.

[End of Article IX]

ARTICLE X

MISCELLANEOUS

Section 10.1. *Limitation of Liability of the Corporation and the Commission.* Notwithstanding any other provision of this Facilities Agreement, in the event of any default by either the Corporation or the Commission hereunder or under the Trust Agreement, any liability of the Corporation or the Commission shall be enforceable only out of their respective interests in the Base Lease and under this Facilities Agreement and the moneys to be paid by the Commission through the later of the end of the Fiscal Year as to which Base Payments have been appropriated for or any Base Payments due as provided in **Section 2.3** hereof, and there shall be no recourse for any claim based on this Facilities Agreement, the Trust Agreement or the Bonds, against any other property of the Corporation or the Commission or against any officer or employee, past, present or future, of the Corporation or the Commission or any successor body as such, either directly or through the Corporation or the Commission or any such successor body, under any constitutional provision, statute or rule of law or by the enforcement of any assessment or penalty or otherwise, and the liability of the Corporation and the Commission shall be limited to its interests in the Base Lease and interests under this Facilities Agreement and the moneys to be paid by the Commission hereunder through the later of the end of the Fiscal Year as to which Base Payments have been appropriated therefor or any Base Payments due as provided in **Section 2.3** hereof, and the lien of any judgment shall be restricted thereto, and there shall be no other recourse by the Commission against the Corporation or the Corporation against the Commission or any of the property now or hereafter owned by it or either of them. The provisions hereof shall not be deemed to limit the rights of either the Commission or the Corporation or any assignee thereof as to any contracts with other parties with respect to the Project Facilities.

Section 10.2. *Surrender of Possession Upon Termination.* Upon termination hereof or upon termination of all rights of the Commission hereunder, either by reason of an Event of Default or an Event of Nonappropriation, the Commission covenants that it will deliver or cause to be delivered peaceable possession of such of the Project Facilities as are determined under **Section 2.4** hereof to be Corporation Facilities together with the related Real Property without delay, upon demand made by the Corporation or the Trustee, in good repair and operating condition, excepting reasonable wear and tear and damage, injury or destruction by fire or other casualty which, under the terms hereof, shall not have been repaired, reconstructed or replaced.

Section 10.3. *Notices.* Notices hereunder shall be given to the addresses shown below or to such other address as shall be filed in writing with the parties hereto:

The Corporation	Center for Arts and Health Sciences Facilities Corporation Attention: President, Board of Directors 506 South Pleasantburg Drive, Room 142 Greenville, South Carolina 29607
-----------------	--

The Commission	Greenville Technical College Area Commission Attention: Vice President of Finance 506 South Pleasantburg Drive, Room 142 Greenville, South Carolina 29607
----------------	--

The Trustee

U.S. Bank National Association
Attention: Corporate Trust Services
Mail Code: EX-SC-WMSC
1441 Main Street, Suite 775
Columbia, South Carolina 29201

Section 10.4. Assignments. Except as contemplated in the Trust Agreement, this Facilities Agreement may not be assigned by either of the parties hereto without the written consent of the other party hereto and the written consent of the Trustee.

Section 10.5. Severability. In case any provision of this Facilities Agreement shall for any reason be held invalid, illegal or unenforceable in any respect, by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof and this Facilities Agreement shall be construed as if such provision had never been contained herein.

Section 10.6. Amendments. The Commission and the Corporation may, with the prior written consent of the Trustee, as provided in the Trust Agreement, but without the consent of the Owner of any Bond, enter into any amendments hereto at any time for any of the following purposes:

- (a) To cure any ambiguity, defect or omission herein or in any amendment hereto; or
- (b) To grant to or confer upon the Corporation any additional rights, remedies, powers, authority or security that lawfully may be granted to or conferred upon it; or
- (c) To add to the covenants and agreements of the Commission herein contained, or to surrender any right or power herein reserved to or conferred upon the Commission; or
- (d) To increase the Base Payments hereunder to enable the Commission to proceed to acquire and install Additional Project Facilities; or
- (e) To reflect a change in applicable law; or
- (f) To make any changes required in connection with a substitution of facilities as permitted under the Base Lease or hereunder or to add Additional Real Property; or
- (g) To make any amendments required by any rating agency as a condition to rating the Series 2021 Bonds; or
- (h) To make provision of the issuance of Additional Bonds as provided for in the Trust Agreement, including increasing or decreasing Base Payments hereunder.

The Commission and the Corporation may, with notice to but without the prior consent of the Trustee, and without the consent of the Owner of any Bond, enter into any amendments hereto at any time and from time to time to (i) add additional parcels of Real Property and Additional Real Property to the description in **Exhibit A** hereto as provided in **Section 5.1(d)** hereof; (ii) under the conditions specified in **Section 5.1(c)** hereof, to delete Real Property in connection with a substitution of other Real Property; or (iii) under the conditions specified in Sections 3.6 and 6.3 of the Base Lease in connection with the granting of easements, releases and substitutions.

All other amendments must be approved by the Trustee, as provided in the Trust Agreement, and, if and to the extent required by the Trust Agreement, the consent of the Holders of the Bonds.

Section 10.7. Successors and Assigns. All covenants, promises and agreements contained in this Facilities Agreement by or on behalf of or for the benefit of the Commission or the Corporation, shall bind and inure to the benefit of their respective successors and assigns, whether so expressed or not.

Section 10.8. Applicable Law. This Facilities Agreement shall be governed by, and interpreted under, the laws of the State without regard to conflict of law principles.

Section 10.9. Recordation. At the option of the Corporation this Facilities Agreement or a short form and summary hereof may be recorded in appropriate official records.

[End of Article X]

WITNESS the due execution of this Public Facilities Purchase and Occupancy Agreement as of the day and year first mentioned above.

WITNESS:

CENTER FOR ARTS AND HEALTH SCIENCES
PUBLIC FACILITIES CORPORATION

By: _____
President, Board of Directors

ATTEST:

By: _____
Secretary/Treasurer, Board of Directors

STATE OF SOUTH CAROLINA)
)
COUNTY OF GREENVILLE)

ACKNOWLEDGEMENT

The foregoing instrument was acknowledged before me this ___ day of _____, 20_ by the within named _____ as the President of the Board of Directors of the **CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION** (the "*Corporation*") and _____ as the Secretary/Treasurer of the Board of Directors of the Corporation, as the act and deed of the Corporation.

Notary Public for South Carolina
Print Name: _____
My Commission Expires: _____

WITNESS:

**GREENVILLE TECHNICAL COLLEGE
AREA COMMISSION**

Chairman

ATTEST:

Secretary

STATE OF SOUTH CAROLINA)
)
COUNTY OF GREENVILLE)

ACKNOWLEDGEMENT

The foregoing instrument was acknowledged before me this ____ day of ____, 20__ by the within named _____, Chairman of the **GREENVILLE TECHNICAL COLLEGE AREA COMMISSION** (the "*Commission*") and _____, Secretary of the Commission, as the act and deed of the Commission.

Notary Public for South Carolina
Print Name: _____
My Commission Expires: _____

EXHIBIT A

DESCRIPTION OF THE REAL PROPERTY

EXHIBIT B
PERMITTED ENCUMBRANCES

EXHIBIT C

BASE PAYMENTS SCHEDULE

EXHIBIT D
CONTINUING DISCLOSURE UNDERTAKING

Draft dated 6/3/21
Haynsworth Sinkler Boyd, P.A.

TRUST AGREEMENT

between

CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION

and

**U.S. BANK NATIONAL ASSOCIATION,
as Trustee**

DATED AS OF [DATE]

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TRUST AGREEMENT

THIS TRUST AGREEMENT dated as of [DATE] (the "**Trust Agreement**") is made by and between **CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION** (the "**Corporation**"), a nonprofit corporation organized and existing under the laws of the State of South Carolina (the "**State**"), and U.S. Bank National Association, as trustee (the "**Trustee**"), a corporation duly organized and validly existing under the laws of the United States of America.

WITNESSETH:

WHEREAS, the Greenville Technical College Area Commission (the "**Commission**") is simultaneously herewith entering into a Base Lease Agreement dated as of [DATE] (the "**Base Lease**") with the Corporation pursuant to which it is leasing to the Corporation certain real property (the "**Real Property**") as more particularly described in Exhibit A attached to the Base Lease, so that the Corporation may (i) provide funds for the acquisition, construction, renovation, installing, furnishing and equipping of a new arts and health sciences building of the Commission (the "**Project Facilities**") and (ii) sell and convey the Project Facilities to the Commission; and

WHEREAS, the Corporation is simultaneously herewith entering into a Public Facilities Purchase and Occupancy Agreement dated as of [DATE] (the "**Facilities Agreement**") with the Commission, pursuant to which the Corporation has agreed to finance the Project Facilities and to sell the Project Facilities to the Commission; and

WHEREAS, the Commission will purchase under the provisions of the Facilities Agreement the Project Facilities during which time the Commission will be entitled to occupy and use the Real Property and the Project Facilities pending completion of the payment of the Project Facilities; and

WHEREAS, in order to raise funds to pay the costs of financing the Project Facilities, the Corporation proposes to issue a series of installment purchase revenue bonds in the aggregate principal amount of not exceeding \$_____ (the "**Series 2021 Bonds**"), pursuant to the terms of this Trust Agreement; and

WHEREAS, the Corporation desires to enter into this Trust Agreement in order to prescribe the terms and conditions of the Series 2021 Bonds and the security therefor and to provide for the issuance of one or more series of Additional Bonds (the "**Additional Bonds**" and, together with the Series 2021 Bonds, the "**Bonds**") to be secured under the terms hereof on a parity with the Series 2021 Bonds, and the Corporation and the Trustee are each authorized to execute and deliver this Trust Agreement and to do or cause to be done all acts provided or required herein to be performed on their respective parts; and

WHEREAS, as the source of payment and security for the Series 2021 Bonds and any Additional Bonds issued hereafter, the rights (except for certain reserved rights described herein) of the Corporation under the Facilities Agreement and certain of the payments to be made by the Commission under the Facilities Agreement are being assigned to the Trustee hereunder; and

WHEREAS, the Trustee has accepted the trusts created by this Trust Agreement, and in evidence thereof has joined in the execution hereof;

NOW, THEREFORE, THIS TRUST AGREEMENT WITNESSETH, that to secure the payment of the Bonds, to secure the performance and observance of all of the covenants, agreements, obligations and conditions contained therein and herein, and to declare the terms and conditions upon and subject to which the Bonds are and are intended to be executed, delivered, held, secured and enforced,

and in consideration of the premises and the acceptance by the Trustee of the trusts created herein and of the purchase and acceptance of the Bonds by the Holders, and for other good and valuable consideration, the receipt of which is acknowledged, the Corporation has executed and delivered this Trust Agreement and absolutely assigns hereby to the Trustee, and to its successors in trust, and its and their assigns all of the following described collateral, whether presently owned or subsequently acquired by the Corporation:

Granting Clause First

All right, title and interest of the Corporation in and to the Revenues (as defined in **Article I** of this Trust Agreement), including, without limitation, all Acquisition Payments (as defined in the Facilities Agreement) and other amounts receivable by or on behalf of the Corporation under the Facilities Agreement; subject to certain reserved rights described in Sections 4.2, 4.4, 4.5 and 5.7 of the Facilities Agreement.

Granting Clause Second

All of the Corporation's right, title, and interest in and to the Real Property, the Project Facilities, the Facilities Agreement, the Base Lease and the property rights evidenced thereby in the Real Property and the Project Facilities, including all the right, title, and interest of the Corporation in and to (a) all of the rents, issues, profits, revenues, income, receipts, moneys, royalties, rights, and benefits of and from the Real Property described in Exhibit A to the Base Lease and from and in connection with the Corporation's ownership of the Project Facilities, including, without limiting the generality of the foregoing, rents and revenues under any and all leases of the Real Property or the Project Facilities or any agreement for the operation or management of the Real Property or the Project Facilities, and (b) all leases of all or part of the Project Facilities hereafter made, executed, or delivered, whether oral or written, together with any and all renewals, extensions, and modifications thereof and any guarantees of the lessees' obligations under any thereof and any and all tenant contracts, rental agreements, franchise agreements, management contracts, construction contracts, and other contracts, licenses, and permits now or hereafter affecting the Real Property or the Project Facilities or any part thereof.

Granting Clause Third

All of the Corporation's rights with respect to any contracts for the construction or acquisition of the Project Facilities, including without limitation the Project Facilities Contracts (as defined in the Facilities Agreement); any insurance or condemnation proceeds with respect to the Project Facilities or any portion thereof and the proceeds of any other collateral granted hereunder or assigned hereby as security for the Bonds.

Granting Clause Fourth

All moneys and investments in the funds created pursuant to this Trust Agreement (except the Rebate Fund referred to in Section 5.10 hereof), and all income thereon.

TO HAVE AND TO HOLD unto the Trustee and its successors in that trust and its and their assigns forever;

BUT IN TRUST, NEVERTHELESS, and subject to the provisions hereof, and subject to the Bonds provided for herein and the Facilities Agreement, except as provided otherwise herein, for the equal benefit, security and protection of all present and future Holders of the Bonds executed and delivered under and secured by this Trust Agreement; for the enforcement of the payment of Base

Payments by the Commission when payable, according to the true intent and meaning thereof and of this Trust Agreement; and to secure the performance and observance of and compliance with the covenants, agreements, obligations, terms and conditions of this Trust Agreement, in each case, without preference, priority or distinction, as to lien or otherwise, of any one Bond over any other Bond by reason of designation, number, date of the Bond or of authorization, sale, execution, delivery or maturity thereof, or otherwise, so that any Bond shall have the same right, lien and privilege under this Trust Agreement as all other Bonds and shall be secured equally and ratably hereby, it being intended that the lien and security of this Trust Agreement shall take effect from the date hereof, without regard to the date of the actual execution, delivery, sale or disposition of the Bonds as though upon that date all of the Bonds were actually executed, sold and delivered to purchasers for value; *provided, however*, that if the principal of the Bonds and the interest due or to become due with respect thereto shall be well and truly paid, at the times and in the manner to which reference is made in the Bonds, according to the true intent and meaning thereof, or the Outstanding Bonds of a particular Series shall have been paid and discharged in accordance with **Article IX** hereof, and if all of the covenants, agreements, obligations, terms and conditions of the Corporation under this Trust Agreement shall have been kept, performed and observed and there shall have been paid to the Trustee, all sums of money due or to become due to it in accordance with the terms and provisions hereof, then this Trust Agreement and the rights assigned hereby shall cease, determine and be void with respect to such Bonds, except as provided in **Section 9.2** hereof with respect to the survival of certain provisions hereof; otherwise, this Trust Agreement shall be and remain in full force and effect.

It is declared that all Bonds executed and delivered hereunder and secured hereby are to be executed and delivered, and that all property assigned hereby is to be dealt with and disposed of under, upon and subject to the terms, conditions, stipulations, covenants, agreements, obligations, trusts, uses and purposes provided in this Trust Agreement. The Corporation and the Trustee have each agreed and covenanted, and agree and covenant with each other and with each and all Holders, as follows:

ARTICLE I

DEFINITIONS

Section 1.1. Definitions. Terms used herein without other definition shall have the meanings provided therefor in the Facilities Agreement unless the context or use clearly indicates another meaning or intent. In addition, the following words and terms shall have the meanings set forth below unless the context or use clearly indicates another meaning or intent:

“Acquisition Payments” means the amounts required to be paid to the Corporation by the Commission pursuant to Article IV of the Facilities Agreement.

“Additional Bonds” means any Bonds issued after the issuance of the Series 2021 Bonds and secured on a parity therewith under the terms of this Trust Agreement.

“Additional Payments” means Additional Payments as defined in the Facilities Agreement.

“Additional Project Facilities” means any facilities of the Commission proposed to be acquired or renovated by the Corporation and made subject to the Facilities Agreement.

“Additional Real Property” means any real property that is or will become the site of Additional Project Facilities.

“Base Lease” means the Base Lease Agreement dated as of [DATE], between the Commission and the Corporation, as may be amended and modified.

“Base Payments” means the Base Payments as defined in the Facilities Agreement.

“Bond” or **“Bonds”** means the Series 2021 Bonds and any Additional Bonds issued and secured under the terms hereof.

“Bond Counsel” means a firm of nationally recognized bond counsel experienced in matters of tax-exempt finance as shall be acceptable to the Corporation.

“Bond Fund” means the Bond Fund established pursuant to **Section 5.5** hereof.

“Bond Payment Date” means April 1 and October 1 of each year, beginning _____ 1, 20____ with respect to the Series 2021 Bonds.

“Business Day” means any day other than a Saturday, a Sunday, a legal holiday or a day on which banking institutions are closed in the state where the designated corporate trust office of the Trustee is located or any day on which the payment system of the United States Federal Reserve is not operational.

“Certificate of Completion” means a certificate executed by a Commission Representative, to the effect that all amounts available to the Commission pursuant to **Section 5.3** hereof which the Commission intends to apply to defray the costs of the Project Facilities have been disbursed to it from the Project Fund.

“Code” means the Internal Revenue Code of 1986, as amended from time to time, or any successor internal revenue laws of the United States enacted by the Congress of the United States in

replacement thereof. References to the Code and sections of the Code include relevant applicable regulations, temporary regulations and proposed regulations thereunder and any successor provisions to those sections, regulations, temporary regulations or proposed regulations.

“Commission” means Greenville Technical College Area Commission, a body politic and corporate of the State and the governing body of Greenville Technical College.

“Commission Financial Officer” means the Vice President of Finance or her designee.

“Commission Representative” means the person or persons at the time designated to act on behalf of the Commission in matters relating to the Base Lease, the Facilities Agreement or this Trust Agreement as evidenced by a written certificate furnished to the Corporation and the Trustee containing the specimen signature of such person or persons and signed on behalf of the Commission by its Chairman. Such certificate may designate an alternate or alternates each of whom shall be entitled to perform all duties of the Commission Representative.

“Corporation” means the Center for Arts and Health Sciences Public Facilities Corporation, a nonprofit corporation formed under the laws of the State, and its successors and assigns.

“Corporation Representative” means the person or persons at the time designated to act on behalf of the Corporation in matters relating to the Base Lease, the Facilities Agreement and this Trust Agreement as evidenced by a written certificate furnished to the Commission and the Trustee containing the specimen signature of such person or persons and signed on behalf of the Corporation by an officer of the Corporation. Such certificate may designate an alternate or alternates, each of whom shall be entitled to perform all duties of the Corporation Representative.

“Counsel” means an attorney duly admitted to practice law before the highest court of any state and, without limitation, may include legal counsel for either the Commission or the Corporation.

“Defeasance Obligations” means (a) cash; or (b) Eligible Investments that are United States Treasury Obligations State and Local Government Series; United States Treasury bills, notes, bonds, or zero coupon treasury bonds all as traded on the open market; Direct obligations of the U.S. Treasury which have been stripped by the Treasury itself, CATS, TIGRS and similar securities; pre-refunded municipal obligations; obligations of the following agencies which are backed by the full faith and credit of the United States: (i) U.S. Export-Import Bank-direct obligations or fully guaranteed certificates of beneficial ownership, (ii) Farmers Home Administration: Certificates of beneficial ownership; (iii) Federal Financing Bank; (iv) General Services Administration: Participation certificates; (v) U.S. Maritime Administration: Guaranteed Title XI financing; (vi) U.S. Department of Housing and Urban Development: Project Notes; Local Authority Bonds; New Communities Debenture-U.S. government guaranteed debentures; (vii) U.S. Public Housing notes and bonds-U.S. government guaranteed public housing bonds; or any legally permissible combination of any of the foregoing. Defeasance Obligations may be redeemable, but only is solely at the option of the holder thereof.

“Eligible Investments” means any one or more of the investments now or hereafter permitted by applicable State law and:

- (a) obligations which are also:
 - (i) direct obligations (other than an obligation subject to variation in principal repayment) of the United States of America (**“United States Treasury Obligations”**),

(ii) obligations fully and unconditionally guaranteed as to timely payment of principal and interest by the United States of America,

(iii) obligations fully and unconditionally guaranteed as to timely payment of principal and interest by any agency or instrumentality of the United States of America when such obligations are backed by the full faith and credit of the United States of America, or

(iv) evidences of ownership of proportionate interests in future interest and principal payments on obligations described above held by a bank or trust company as custodian, under which the owner of the investment is the real party in interest and has the right to proceed directly and individually against the obligor and the underlying government obligations are not available to any person claiming through the custodian or to whom the custodian may be obligated;

(b) Federal Housing Administration debentures;

(c) The listed obligations of government-sponsored agencies which are not backed by the full faith and credit of the United States of America:

(i) Federal Home Loan Mortgage Corporation (FHLMC) obligations,

(ii) Participation certificates (excluded are stripped mortgage securities which are purchased at prices exceeding their principal amounts) – Senior Debt obligations,

(iii) Farm Credit Banks (formerly: Federal Land Banks, Federal Intermediate Credit Banks and Banks for Cooperatives) Consolidated system-wide bonds and note,

(iv) Federal Home Loan Banks (FHL Banks) Consolidated debt obligations,

(v) Federal National Mortgage Association (FNMA) Senior debt obligations Mortgage-backed securities (excluded are stripped mortgage securities which are purchased at prices exceeding their principal amounts),

(vi) Student Loan Marketing Association (SLMA) Senior debt obligations (excluded are securities that do not have a fixed par value and/or whose terms do not promise a fixed dollar amount at maturity or call date),

(vii) Financing Corporation (FICO) Debt obligations, and

(viii) Resolution Funding Corporation (REFCORP) Debt obligations;

(d) Unsecured certificates of deposit, time deposits, and bankers' acceptances (having maturities of not more than 30 days) of any bank the short-term obligations of which are rated "A-1" or better by S&P, including the Trustee or its affiliates;

(e) Deposits the aggregate amount of which are fully insured by the Federal Deposit Insurance Corporation (FDIC), in banks which have capital and surplus of at least \$5 million, including the Trustee or its affiliates;

(f) Commercial paper (having original maturities of not more than 270 days) rated "A-1+" by S&P and "Prime-1" by Moody's;

(g) Money market funds rated at least “AAm” by S&P, or better, including those offered by the Trustee or its affiliates;

(h) “*State Obligations*,” which means:

(i) Direct general obligations of any state of the United States of America or any subdivision or agency thereof to which is pledged the full faith and credit of a state the unsecured general obligation debt of which is rated “A3” by Moody’s and “A” by S&P, or better, or any obligation fully and unconditionally guaranteed by any state, subdivision or agency whose unsecured general obligation debt is so rated,

(ii) Direct general short-term obligations of any state agency or subdivision or agency thereof described in (i) above and rated “A-1+” by S&P and “MIG-1” by Moody’s, and

(iii) Special Revenue Bonds (as defined in the United States Bankruptcy Code) of any state, state agency or subdivision described in (i) above and rated “AA” or better by S&P and “Aa” or better by Moody’s;

(i) Pre-refunded municipal obligations rated “AAA” by S&P and “Aaa” by Moody’s meeting the following requirements:

(i) the municipal obligations are (A) not subject to redemption prior to maturity or (B) the trustee for the municipal obligations has been given irrevocable instructions concerning their call and redemption and the issuer of the municipal obligations has covenanted not to redeem such municipal obligations other than as set forth in such instructions,

(ii) the municipal obligations are secured by cash or United States Treasury Obligations which may be applied only to payment of the principal of, interest and premium on such municipal obligations,

(iii) the principal of and interest on the United States Treasury Obligations (plus any cash in the escrow) has been verified by the report of independent certified public accountants to be sufficient to pay in full all principal of, interest, and premium, if any, due and to become due on the municipal obligations (“*Verification*”),

(iv) the cash or United States Treasury Obligations serving as security for the municipal obligations are held by an escrow agent or trustee in trust for owners of the municipal obligation,

(v) no substitution of a United States Treasury Obligation shall be permitted except with another United States Treasury Obligation and upon delivery of a new Verification, and

(vi) the cash or United States Treasury Obligations are not available to satisfy any other claims, including those by or against the trustee or escrow agent;

(j) Repurchase agreements with (1) any domestic bank, or domestic branch of a foreign bank, the long term debt of which is rated at least “A” by S&P and Moody’s; or (2) any broker-dealer with “retail customers” or a related affiliate thereof which broker-dealer has, or the parent company (which guarantees the provider) of which has, long-term debt rated at least “A” by S&P and Moody’s, which broker-dealer falls under the jurisdiction of the Securities Investors Protection Corporation; or (3) any other entity rated “A” or better by S&P and Moody’s, provided that:

(i) The market value of the collateral is maintained at levels and upon such conditions as would be acceptable to S&P and Moody's to maintain an "A" rating in an "A" rated structured financing (with a market value approach);

(ii) The Trustee or a third party acting solely as agent therefor or for the Corporation (the "**Holder of the Collateral**") has possession of the collateral or the collateral has been transferred to the Holder of the Collateral in accordance with applicable state and federal laws (other than by means of entries on the transferor's books);

(iii) The repurchase agreement shall state and an opinion of counsel shall be rendered at the time such collateral is delivered that, to the extent permitted by law in effect in the State, including the Uniform Commercial Code, the Holder of the Collateral has a perfected security interest in the collateral, any substituted collateral and all proceeds thereof (in the case of bearer securities, this means the Holder of the Collateral is in possession);

(iv) All other requirements of S&P in respect of repurchase agreements shall be met; and

(v) The repurchase agreement shall provide that if during its term the provider's rating by either Moody's or S&P is withdrawn or suspended or falls below "A-" by S&P or "A3" by Moody's, as appropriate, the provider must, at the direction of the Corporation or the Trustee, within ten days of receipt of such direction, repurchase all collateral and terminate the agreement, with no penalty or premium to the Corporation or Trustee.

Notwithstanding the above, if a repurchase agreement has a term of 270 days or less (with no evergreen provision), collateral levels need not be as specified in (i) above, so long as such collateral levels are 103% or better and the provider is rated at least "A" by S&P and Moody's, respectively;

(k) Investment agreements with a domestic or foreign bank or corporation (other than a life or property casualty insurance company) the long-term debt of which, or, in the case of a guaranteed corporation the long-term debt, or, in the case of a monoline financial guaranty insurance company, claims paying ability, of the guarantor is rated at least "AA" by S&P and "Aa" by Moody's; provided that, by the terms of the investment agreement:

(i) interest payments are to be made to the Trustee at times and in amounts as necessary to pay debt service (or, if the investment agreement is for the construction fund, construction draws) on the Series 2021 Bonds;

(ii) the invested funds are available for withdrawal without penalty or premium, at any time upon not more than seven days' prior notice; and the Corporation and the Trustee agree to give or cause to be given notice in accordance with the terms of the investment agreement so as to receive funds thereunder with no penalty or premium paid;

(iii) the investment agreement shall state that is the unconditional and general obligation of, and is not subordinated to any other obligation of, the provider thereof or, if the provider is a bank, the agreement or the opinion of counsel shall state that the obligation of the provider to make payments thereunder ranks pari passu with the obligations of the provider to its other depositors and its other unsecured and unsubordinated creditors;

(iv) the Corporation or the Trustee receives the opinion of domestic counsel (which opinion shall be addressed to the Corporation) that such investment agreement is legal, valid, binding and enforceable upon the provider in accordance with its terms and of foreign counsel (if applicable) in form and substance acceptable, and addressed to, the Corporation;

(v) the investment agreement shall provide that if during its term

(A) the provider's rating by either S&P or Moody's falls below "AA-" or "Aa3," respectively, the provider shall, at its option, within ten days of receipt of publication of such downgrade, either (i) collateralize the investment agreement by delivering or transferring in accordance with applicable State and federal laws (other than by means of entries on the provider's books) to the Corporation, the Trustee or the Holder of the Collateral, collateral free and clear of any third-party liens or claims the market value of which collateral is maintained at levels and upon such conditions as would be acceptable to S&P and Moody's to maintain an "A" rating in an "A" rated structured financing (with a market value approach); or (ii) repay the principal of and accrued but unpaid interest on the investment, and

(B) the provider's rating by either S&P or Moody's is withdrawn or suspended or falls below "A-" or "A3," respectively, the provider must, at the direction of the Corporation or the Trustee within ten days of receipt of such direction, repay the principal of and accrued but unpaid interest on the investment, in either case with no penalty or premium to the Corporation or Trustee,

(vi) the investment agreement shall state and an opinion of counsel shall be rendered, in the event collateral is required to be pledged by the provider under the terms of the investment agreement, at the time such collateral is delivered, that, to the extent permitted by law in effect in the State, including the Uniform Commercial Code, the Holder of the Collateral has a perfected first priority security interest in the collateral, any substituted collateral and all proceeds thereof (in the case of bearer securities, this means the Holder of the Collateral is in possession);

(vii) the investment agreement must provide that if during its term

(A) the provider shall default in its payment obligations, the provider's obligations under the investment agreement shall, at the direction of the Corporation or the Trustee, be accelerated and amounts invested and accrued but unpaid interest thereon shall be repaid to the Corporation or Trustee, as appropriate, and

(B) the provider shall become insolvent, not pay its debts as they become due, be declared or petition to be declared bankrupt, etc. ("event of insolvency"), the provider's obligations shall automatically be accelerated and amounts invested and accrued but unpaid interest thereon shall be repaid to the Corporation or Trustee, as appropriate.

"Event of Default" means an Event of Default under **Section 7.1** hereof.

"Event of Nonappropriation" shall have the meaning set forth for such term in the Facilities Agreement.

“Extraordinary Services” and **“Extraordinary Expenses”** means all services rendered and all reasonable expenses properly incurred by the Trustee under this Trust Agreement (including attorneys’ fees, costs and expenses), other than Ordinary Services and Ordinary Expenses.

“Facilities Agreement” means the Public Facilities Purchase and Occupancy Agreement dated as of [DATE], between the Corporation, as seller, and the Commission, as buyer, as the same may be amended or supplemented from time to time.

“Fiscal Year” means the Fiscal Year of the Commission as defined in the Facilities Agreement.

“Holder” or **“Bondholder”** means the Person in whose name a Bond is registered on the Register and as long as the Bonds are held under a Book-Entry format, shall mean the Securities Depository Nominee. If the Bonds are not being held in a Book-Entry format, then **“Holder”** shall also mean the owner of the Bonds.

“Moody’s” means Moody’s Investors Service, Inc., its successors and assigns and, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, “Moody’s” shall be deemed to refer to any other nationally recognized securities rating agency designated by the Commission by notice to the Trustee.

“Ordinary Services” and **“Ordinary Expenses”** mean those services normally rendered, and those expenses normally incurred, by a trustee, registrar or paying agent under instruments similar to this Trust Agreement (including attorneys’ fees, costs and expenses).

“Outstanding,” when used with reference to the Bonds of a particular Series, means, as of the applicable date, all the Bonds of a particular Series which have been executed and delivered, or which are being delivered by the Trustee under this Trust Agreement, except:

- (a) Bonds canceled upon surrender, exchange or transfer, or canceled because of payment or redemption on or prior to that date;
- (b) Bonds, or the portions thereof, for the payment, redemption or purchase for cancellation of which sufficient money has been deposited and credited with the Trustee on or prior to that date for that purpose (whether upon or prior to the maturity date of those Bonds);
- (c) Bonds or the portion thereof, which are deemed to have been paid and discharged or caused to have been paid and discharged pursuant to the provisions of this Trust Agreement; and
- (d) Bonds in lieu of which others have been executed and delivered under **Section 3.12** hereof.

“Person” or words importing “persons” mean firms, associations, partnerships (including without limitation, general and limited partnerships), joint ventures, societies, estates, trusts, limited liability companies, corporations, public or governmental bodies, other legal entities and natural persons.

“Project Fund” means the Project Fund established pursuant to **Section 5.2** hereof.

“Purchase Option Price” has the meaning set forth in Section 1.1 of the Facilities Agreement.

“Record Date” means either a Regular Record Date or a Special Record Date as the case may be.

“Register” means the books kept and maintained by the Trustee for registration and transfer of Bonds pursuant to **Section 3.13** hereof.

“Regular Record Date” means, with respect to any Bond, the fifteenth day of the calendar month preceding a Bond Payment Date applicable to the Bond.

“Revenues” means (i) the Acquisition Payments under the Facilities Agreement, (ii) all other moneys received or to be received by the Trustee under the Facilities Agreement from the lease, sale or other disposition of the Real Property or Project Facilities, (iii) any monies and investments in the Bond Fund, and (iv) all income and profit from the investment of the foregoing moneys.

“Securities Depository” shall mean a recognized securities depository (or its successor or substitute) selected by the Corporation or the Commission to act as the securities depository maintaining a book-entry transfer system for the Series 2021 Bonds.

“Securities Depository Nominee” shall mean, with respect to any Securities Depository, such Securities Depository or the nominee of such Securities Depository in whose name the Series 2021 Bonds shall be registered on the Register during the time such Bonds are held under a book-entry system through such Securities Depository.

“Series 2021 Bonds” means any or all of the \$_____ Center for Arts and Health Sciences Public Facilities Corporation Installment Purchase Revenue Bonds, Series 2021, authorized by and secured under this Trust Agreement.

“Special Record Date” means, with respect to any Bond, the date established by the Trustee in connection with the payment of overdue interest on that Bond pursuant to **Section 3.5** hereof.

“S&P” means S&P Global Ratings, a business unit of Standard & Poor’s Financial Services LLC, its successors and assigns and, if such corporation shall be dissolved or liquidated or shall no longer perform the functions of a securities rating agency, “S&P” shall be deemed to refer to any other nationally recognized securities rating agency designated by the Commission by notice to the Trustee.

“State” means the State of South Carolina.

“Supplemental Agreement” means any agreement supplemental to this Trust Agreement entered into between the Corporation and the Trustee in accordance with **Article VIII** hereof.

“Tax Regulatory Agreement” means the Arbitrage and Tax Regulatory Agreement dated as of the date of the initial delivery of the Series 2021 Bonds.

“Treasury Regulations” means the regulations promulgated from time to time by the United States Treasury or the Internal Revenue Service implementing the tax law in the Code, together with precedential interpretation thereof.

“Trust Agreement” means this Trust Agreement dated as of [DATE], by and between the Corporation and the Trustee, as the same may be supplemented or amended by any Supplemental Agreement.

“Trust Estate” means the Trust Estate described in the Granting Clauses hereto.

“Trustee” means U.S. Bank National Association, or any successor Trustee that may become the Trustee pursuant to the applicable provisions of this Trust Agreement.

Section 1.2. Interpretation. Any reference to a section or provision of the Constitution of the State, or to a section, provision or chapter of the Code of Laws of South Carolina, or to any statute of the United States of America, includes that section, provision or chapter as amended, modified, revised, supplemented or superseded from time to time; provided, that no amendment, modification, revision, supplement or superseding section, provision or chapter shall be applicable solely by reason of this paragraph, if it constitutes in any way an impairment of the rights or obligations of the Commission, the Corporation, the Holders, or the Trustee under this Trust Agreement, the Bonds, the Base Lease, the Facilities Agreement or any other instrument or document entered into in connection with any of the foregoing, including without limitation, any alteration of the obligation to pay principal, premium, if any, or interest on the Bonds in the amount and manner, at the times, and from the sources provided in this Trust Agreement, except as permitted herein.

Unless the context indicates otherwise, words implying the singular number include the plural number, and vice versa. The terms “hereof,” “hereby,” “herein,” “hereto,” “hereunder,” “hereinafter” and similar terms refer to this Trust Agreement; and the term “hereafter” means after, and the term “heretofore” means before the date of this Trust Agreement. Words of any gender include the correlative words of the other gender, unless the sense indicates otherwise.

References to sections, articles or exhibits, unless otherwise indicated, are to sections and articles of or exhibits to this Trust Agreement.

Section 1.3. Captions and Headings. The captions and headings in this Trust Agreement are solely for convenience of reference and in no way define, limit or describe the scope or intent of any Articles, Sections, subsections, paragraphs, subparagraphs or clauses hereof.

[End of Article I]

ARTICLE II

RECITALS AND REPRESENTATIONS

Section 2.1. Base Lease and Facilities Agreement. The Corporation has entered into with the Commission (i) the Base Lease under which the Commission has conveyed a leasehold interest in the Real Property to the Corporation, and (ii) the Facilities Agreement under the terms of which the Commission has arranged with the Corporation for the acquisition, construction, renovation and equipping of the Project Facilities for use and occupancy by the Commission and the sale of the Project Facilities by the Corporation to the Commission.

Section 2.2. Acquisition Payments. Under the Facilities Agreement, the Commission is obligated to pay to the Corporation or its assigns during the term thereof Acquisition Payments for the purchase of the Project Facilities, subject to the occurrence of an Event of Nonappropriation as set forth in Section 4.7 of the Facilities Agreement, and subject to the Commission's right to exercise its purchase option as set forth in Section 9.1 of the Facilities Agreement.

Section 2.3. Assignment and Conveyance.

(a) For the purpose of securing the payment of the Bonds, the Corporation has provided the Trustee with certain liens, assignments, security interests and other claims under the granting clauses hereto. The Corporation hereby represents and confirms that it has full legal power and authority to make the grants enumerated in the granting clauses and that no assignment has been made, except to the Trustee, of any of its right, title and interest in and to the Real Property, the Project Facilities, the Facilities Agreement, the Base Lease, or the Revenues.

(b) During the term of the Facilities Agreement, the Trustee may exclusively rely on the Commission to operate the Project Facilities and the Real Property in compliance with all laws, ordinances, rules and regulations, including without limitation, Environmental Regulations and shall have no duty to monitor such compliance.

(c) The Corporation and the Trustee intend for this Trust Agreement to be a collateral assignment of all rents, leases, issues and profits created by, or arising out of any right, title or interest of the Corporation in the Trust Estate, including without limitation, all leases, rents, issues, and profits arising out of the Base Lease, the Facilities Agreement, and any future lease or leases now or hereinafter entered into by the Corporation, all as more particularly authorized by Section 29-3-100 of the Code of Laws of South Carolina 1976, as amended.

Section 2.4. Powers and Trusts Granted. All acts, conditions and things required by law to exist, happen and be performed precedent to and in connection with the execution and entering into of this Trust Agreement have happened and have been performed in regular and due time, form and manner as required by law, and the parties hereto are now duly empowered to execute and enter into this Trust Agreement.

Section 2.5. Other Security Documents. The Corporation shall cause this Trust Agreement and any financing statements relating hereto, to be filed, in such manner and at such places as may be required by law to fully protect the security of the Holders of the Bonds and the right, title and interest of the Trustee in and to the Real Property, the Project Facilities and the Trust Estate created by this Trust Agreement or any part thereof. The Corporation will cause the Base Lease, the Facilities Agreement and any related instruments or documents to be recorded and filed in the manner and in the places which may be required by law in order to preserve and protect fully the security of the Holders and the rights of the

Trustee hereunder. The Corporation shall execute or cause to be executed any and all further instruments necessary for such protection of the interests of the Holders of the Bonds and necessary to preserve the Trust Estate created by this Trust Agreement or any part thereof until the principal of and interest of the Bonds issued hereunder shall have been paid. The Trustee shall execute or join in the execution of any such further or additional instrument and file or join in the filing thereof at such time or times and in such place or places as may be requested by the Corporation to preserve the Trust Estate created by this Trust Agreement or any part thereof until the Bonds shall have been paid or discharged in the manner hereinafter provided.

Section 2.6. Purpose of Corporation; Certain Covenants. The Corporation hereby represents that its principal purpose is to acquire or lease real and/or personal property and develop, finance, refinance, construct, acquire, install and operate certain public facilities to be used by the Commission and such other projects located in and for the benefit of the Commission as may be permitted by applicable law. In order to provide assurances to Holders that nothing will be done that would jeopardize the Corporation's interest in the Real Property or the Project Facilities or that might adversely affect the will or desire of the Commission to continue to occupy the Real Property or the Project Facilities, the Corporation hereby covenants that so long as any of the Bonds are Outstanding it will not do any of the following without the written consent of the Commission: (i) undertake any projects for any entity other than the Commission; (ii) amend its Articles of Incorporation to change its principal purpose or to engage in activities that are not in support of its principal purpose; or (iii) incur any obligation for borrowed money or incur any other indebtedness not associated with the Bonds or this Trust Agreement. Prior to taking any such action, the Corporation shall file with the Trustee the written consent of the Commission and an opinion of Bond Counsel to the effect that such proposed action will not adversely affect the tax status of interest on the Bonds issued hereunder as federally tax-exempt.

[End of Article II]

ARTICLE III

AUTHORIZATION AND TERMS OF BONDS

Section 3.1. Principal Amount of the Bonds; Designation of Bonds; Conditions to Delivery.

(a) Pursuant to the provisions of this Trust Agreement there is hereby authorized to be issued one or more series of revenue bonds of the Corporation. Upon the execution and delivery hereof, there is hereby authorized an initial series of Bonds in the aggregate principal amount of \$_____ to be designated "Center for Arts and Health Sciences Public Facilities Corporation Installment Purchase Revenue Bonds, Series 2021." Any subsequent Bonds issued on a parity with the Series 2021 Bonds shall be designated Center for Arts and Health Sciences Public Facilities Corporation Installment Purchase Revenue Bond[s] with such further and other designation as may be necessary to identify such Bonds.

(b) Upon the execution and delivery of this Trust Agreement, and satisfaction of the conditions for delivery of the Series 2021 Bonds established by this Trust Agreement, the Trustee shall execute and deliver the Series 2021 Bonds to, or to the order of, the purchaser thereof.

(c) Before the Trustee authenticates any of the Series 2021 Bonds, the Trustee shall have received a request and authorization from the Commission and the Corporation, signed on their behalf by a Commission Representative and a Corporation Representative, respectively, to authenticate the Series 2021 Bonds upon payment to the Trustee of the amount specified therein (including without limitation, any accrued interest), which amount shall be deposited as provided in **Section 5.1** hereof. Executed copies of the following shall be submitted with the request:

- (i) this Trust Agreement,
- (ii) the Base Lease,
- (iii) the Facilities Agreement, and
- (iv) the Tax Regulatory Agreement.

(d) The Series 2021 Bonds do not and shall not constitute a debt or pledge of the faith and credit of the Commission but shall constitute a limited obligation of the Corporation and shall be payable solely from the Revenues. The Commission does not have taxing power.

Section 3.2. Purposes. The Series 2021 Bonds are authorized for the principal purposes of defraying a portion of the cost of (i) the acquisition, construction, renovation, installing, furnishing and equipping of the Project Facilities and (ii) paying certain costs and expenses relating to the issuance of the Series 2021 Bonds. The proceeds of the Series 2021 Bonds are to be made available through the Project Fund to the Corporation and Commission under the Facilities Agreement and **Section 5.3** herein.

Section 3.3. Maturity Schedule; Date; Interest Rates. The Series 2021 Bonds shall mature on April 1 in the years and principal amounts set forth below and shall bear interest payable on each Bond Payment Date, beginning on _____ 1, 20__, at the rates set forth below.

<u>Year</u>	<u>Principal Amount</u>	<u>Interest Rate</u>	<u>Year</u>	<u>Principal Amount</u>	<u>Interest Rate</u>
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Section 3.4. Provisions Relating to Additional Bonds; Conditions for Issuance.

(a) *Authorization for Additional Bonds.* Additional Bonds may be issued hereunder and secured on a parity with the Series 2021 Bonds under the conditions set forth herein.

(b) *Purposes for Additional Bonds.* Additional Bonds may be issued for the purposes of providing funds (i) to refund any of the Series 2021 Bonds or any Additional Bonds theretofore issued, (ii) for the purpose of paying the cost of completing the Project Facilities and (iii) for the purpose of paying the cost of Additional Project Facilities.

(c) *Conditions to the Issuance of All Additional Bonds.* No Additional Bonds may be issued hereunder if at the time there is an Event of Default or an Event of Nonappropriation unless upon the issuance of such Additional Bonds, no other Bonds will be Outstanding hereunder. Prior to issuing any Additional Bonds, there shall have been executed and delivered (i) a Supplemental Agreement authorizing such Additional Bonds and prescribing the terms and details thereof and the purposes for the issuance of such Additional Bonds; (ii) a supplement to the Facilities Agreement providing for Acquisition Payments thereunder sufficient to provide for the payment of the Additional Bonds, and extending the term of the Facilities Agreement, if needed, to the final maturity of such Additional Bonds; and (iii) a supplement to the Base Lease, if needed, extending the term thereof by the same amount of time as any extension to the term of the Facilities Agreement, as applicable, and making any changes required if there is Additional Real Property. There shall also be provided to the Trustee certified copies of resolutions adopted by the Corporation and by the Commission authorizing the issuance of the Additional Bonds and the execution and delivery of the documents to which each is a party. No Additional Bonds shall be issued hereunder unless the Trustee receives an opinion of Bond Counsel to the effect that the issuance of such Additional Bonds, the modifications to the Trust Agreement, the Facilities Agreement and the Base Lease and the application of the proceeds of the Additional Bonds as envisioned thereby are authorized and permitted under this Trust Agreement and shall not adversely affect the Federal income tax treatment of interest payments received or to be received by owners of the Outstanding Bonds which were issued as federally tax-exempt.

(d) *Other Provisions Relating to Additional Bonds.* The details of any Additional Bonds, including any reserve requirement relating thereto and the payment provisions thereof shall be specified in the Supplemental Agreement providing for the issuance thereof. Such Supplemental Agreement shall include provisions for the separation of the Bond Fund and the accounts therein into separate accounts and subaccounts for the Series 2021 Bonds and each series of Additional Bonds.

Section 3.5. Payment of Principal and Interest.

(a) Each of the Bonds shall be authenticated, as provided in **Section 3.10** hereof, on such date as it shall be delivered and shall bear interest from such date of delivery. Additional Bonds shall be authenticated and bear interest as provided in a Supplemental Agreement prescribing the terms and conditions thereof.

(b) Subject to the provisions of **Section 3.18** hereof, the principal of and premium, if any, on the Series 2021 Bonds shall be paid in immediately available funds by check or draft drawn upon the Trustee to the Holders thereof; provided that payment on final maturity shall only be made upon presentation and surrender thereof when due at the principal corporate trust office of the Trustee; provided further, that in the event that the Series 2021 Bonds are not held under a book-entry system, any Holder in an aggregate principal amount of not less than \$1,000,000 may, by prior written instructions filed with the Trustee prior to the close of business on the applicable Record Date (which instructions shall remain in effect until revoked by subsequent written instructions) request that principal and premium payments be made by wire transfer or other means acceptable to the Trustee to an address in the continental United States. Subject to the provisions of **Section 3.18** hereof, the interest on the Series 2021 Bonds shall be paid by check or draft drawn upon the Trustee and mailed to the Holders in whose names the Series 2021 Bonds are registered on the Record Date; provided, that in the event that the Series 2021 Bonds are not held under a book-entry system, any Holder in an aggregate principal amount of not less than \$1,000,000 may, by prior written instructions filed with the Trustee prior to the close of business on the applicable Record Date (which instructions shall remain in effect until revoked by subsequent written instructions) request that interest payments for any period be made by wire transfer or other means acceptable to the Trustee to an address in the continental United States.

(c) Any interest on any Bond which is payable, but is not punctually paid or duly provided for, on any Bond Payment Date (herein called "**Defaulted Interest**") shall forthwith cease to be payable to a Holder of such Bond on the relevant Regular Record Date by virtue of having been such Holder. The Trustee may elect to make payment of any Defaulted Interest to the persons in whose names the Series 2021 Bonds (or their respective predecessor Bonds) are registered at the close of business on a Special Record Date (as defined below) for the payment of such Defaulted Interest, which shall be fixed in the following manner. The Trustee shall determine the amount of Defaulted Interest proposed to be paid on each Bond and the date of the proposed payment, shall fix a date (a "**Special Record Date**") which shall be not more than 15 nor less than 10 days prior to the date of the proposed payment, and shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed first class, postage prepaid, to each Holder at his address as it appears on the Register not less than 10 days prior to such Special Record Date. Notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor having been mailed as aforesaid, such Defaulted Interest shall be paid to the Persons in whose names the Series 2021 Bonds (or their respective predecessor Bonds) are registered on such Special Record Date.

Section 3.6. Denomination; Numbering. The Series 2021 Bonds shall be issued in denominations of \$5,000 or any integral multiple thereof. The Series 2021 Bonds shall be numbered consecutively from 1 upward, preceded by the letter "R". Additional Bonds shall be in such denominations and be numbered in the manner provided in the Supplemental Agreement providing therefor.

Section 3.7. Paying Agent and Registrar. As long as there is any Outstanding Bond under this Trust Agreement, the Corporation shall cause the Trustee to serve as paying agent and registrar therefor. Notices and demands to or upon the Trustee and the Corporation in respect of the Series 2021 Bonds may be served, at the designated corporate trust office of the Trustee or the designated office of the

Corporation, as applicable. The Series 2021 Bonds shall be presented for registration of transfers and exchanges in accordance with the provisions of this Trust Agreement at the principal corporate trust office of the Trustee.

Section 3.8. Form of Bonds. The Series 2021 Bonds, together with the certificate of authentication and assignment to appear thereon, shall be in substantially the form attached hereto as *Exhibit A* with necessary and appropriate variations, omissions and insertions as permitted or required by this Trust Agreement. Additional Bonds shall be in such form as is provided in a Supplemental Agreement pursuant to which such Additional Bonds are issued.

Section 3.9. Execution of Bonds. The Series 2021 Bonds shall be executed in the name of and on behalf of the Corporation by the President or Vice President of the Board of Directors of the Corporation and the same shall be attested by such officer as may be designated by the Board of Directors of the Corporation. Such officers may employ facsimiles of their signatures.

In case any officer whose signature or facsimile signature shall appear on the Series 2021 Bonds shall cease to be such officer before the delivery of any Bond such signatures or such facsimiles shall nevertheless be valid and sufficient for all purposes, the same as if such officer had remained in office.

Section 3.10. Authentication. Only such Bonds as shall have endorsed thereon a certificate of authentication duly executed by the Trustee shall be entitled to any right or benefit under this Trust Agreement. No Bond shall be valid or obligatory for any purpose unless and until such certificate of authentication shall have been duly executed by the Trustee, and such executed certificate of the Trustee upon any such Bond shall be conclusive evidence that such Bond has been authenticated and delivered under this Trust Agreement. The Trustee's certificate of authentication on any Bond shall be deemed to have been executed by it if signed by any authorized signatory of the Trustee.

Section 3.11. Medium of Payment. The Series 2021 Bonds shall be payable with respect to principal, interest and premium, if any, in lawful money of the United States of America.

Section 3.12. Mutilated, Lost, Stolen or Destroyed Bonds. In the event any Bond is mutilated, lost, stolen or destroyed, the Corporation may execute and the Trustee may authenticate a new Bond of like series, date, maturity and denomination as that mutilated, lost, stolen or destroyed; provided that, in the case of any mutilated Bond, such mutilated Bond shall first be surrendered to the Trustee, and in the case of any lost, stolen or destroyed Bond, there shall be first furnished to the Corporation and to the Trustee evidence of such loss, theft or destruction satisfactory to the Corporation and the Trustee together with indemnity satisfactory to them. In the event any such Bond shall have matured, instead of issuing a duplicate Bond, the Corporation may pay the same. The Corporation and the Trustee may charge the Holder of such Bond with their reasonable fees and expenses (including attorneys' fees, costs and expenses) in this connection.

Section 3.13. Transfer and Registry; Persons Treated as Holders.

(a) As long as there shall be any Outstanding Bond, the Corporation shall cause books for the registration and for the transfer of Bonds to be kept which books constitute the Register. The Register shall be kept by the Trustee at its principal corporate trust office. The transfer of each Bond may be registered only upon the Register kept by the Trustee for that purpose by the Holder thereof in person or by his duly authorized attorney upon surrender thereof together with a written instrument of transfer satisfactory to the Trustee, duly executed by the Holder or his duly authorized attorney. Upon the registration of transfer of any Bond, the Trustee will authenticate and deliver, subject to the provisions of

Section 3.15 hereof, in the name of the transferee, a new Bond or Bonds of the same series and aggregate principal amount as the surrendered Bond.

(b) The Corporation and the Trustee may deem and treat the person in whose name any Bond shall be registered upon the Register as the absolute owner of such Bond, whether such Bond shall be overdue or not, for the purpose of receiving payment of, or on account of, the principal of, premium, if any, and interest on such Bond and for all other purposes, and all such payments so made to any such Holder or, upon his order, shall be valid and effectual to satisfy and discharge the liability upon such Bond to the extent of the sum or sums so paid, and neither the Corporation nor the Trustee shall be affected by any notice to the contrary.

Section 3.14. Interchangeability of Bonds. Bonds, upon surrender thereof at the principal corporate trust office of the Trustee with a written instrument of transfer satisfactory to the Trustee, duly executed by the Holder or his duly authorized attorney, may, at the option of the Holder and upon payment by such Holder of any charges made pursuant to **Section 3.15** hereof, be exchanged for an equal aggregate principal amount of Bonds of any other authorized denominations of the same series and maturity.

Section 3.15. Regulations With Respect to Exchanges and Transfer. In all cases in which the privilege of exchanging or transferring Bonds is exercised, the Corporation shall execute and the Trustee shall authenticate and deliver Bonds in accordance with the provisions of this Trust Agreement. All Bonds surrendered in any such exchanges or transfers shall forthwith be cancelled and destroyed and shall not be reissued, and a counterpart of the certificate of destruction evidencing such destruction shall be furnished by the Trustee to the Corporation. All Bonds so destroyed shall thereafter no longer be considered Outstanding Bonds for any purposes of this Trust Agreement. There shall be no charge to the Holder for such exchange or transfer of Bonds except that the Trustee may make a charge sufficient to reimburse itself for any tax, fee or other governmental charge required to be paid with respect to such exchange or transfer. Neither the Corporation nor the Trustee shall be required to issue, exchange or transfer (i) any Bond during the 15 days immediately preceding any Bond Payment Date, (ii) any Bond during a period beginning at the opening of business 15 days immediately preceding any selection of Bonds to be redeemed and ending at the close of business on the date of the mailing of notice of such redemption or (iii) any Bonds called for redemption in whole or in part.

Section 3.16. Cancellation and Destruction of Mutilated, Paid or Surrendered Bonds. Upon the surrender of mutilated Bonds pursuant to **Section 3.12** hereof or Bonds paid or surrendered, the same shall be cancelled and destroyed and shall not be reissued, and, upon request, a counterpart of the certificate evidencing such destruction shall be furnished by the Trustee to the Corporation. All Bonds so destroyed shall thereafter no longer be considered Outstanding Bonds for any purposes of this Trust Agreement.

Section 3.17. Payments Due on Days Other Than a Business Day. In any case where the Bond Payment Date or the date fixed for redemption of any Bonds shall not be a Business Day, then payment of principal of, premium, if any, or interest on the Series 2021 Bonds need not be made on such date but may be made on the next succeeding Business Day, with the same force and effect as if made on the Bond Payment Date or the date fixed for redemption, and no interest shall accrue for the period after such date.

Section 3.18. Book-Entry System. Notwithstanding anything to the contrary herein, so long as any series of Bonds are being held under a book-entry system pursuant to this **Section 3.18**, transfers of beneficial ownership of such Bonds will be effected pursuant to rules and procedures established by the Securities Depository. The Series 2021 Bonds shall be initially issued under a book-entry system and shall be held thereunder except as provided in this **Section 3.18**. The Series 2021 Bonds shall be initially

issued in the form of a separate, authenticated, fully registered Series 2021 Bond for each maturity in a principal amount equal to the amount of such maturity, and shall be registered on the Register in the name of the Securities Depository Nominee. So long as the book-entry system is in effect, the Securities Depository Nominee will be recognized as the Holder of the Series 2021 Bonds for the purposes of (i) paying the principal of, premium, if any, or interest on the Series 2021 Bonds, (ii) selecting the Series 2021 Bonds or portions thereof to be redeemed, (iii) giving any notice permitted or required to be given to Holders under this Trust Agreement, (iv) registering the transfer of Series 2021 Bonds, and (v) requesting any consent or other action to be taken by the Holders, and for all other purposes whatsoever, and neither the Trustee nor the Corporation shall be affected by any notice to the contrary. Neither the Trustee nor the Corporation shall have any responsibility or obligation to any participant (a *“Participant”*), any beneficial owner of Series 2021 Bonds or any other person claiming a beneficial ownership interest in the Series 2021 Bonds under or through the Securities Depository or any Participant, or any other person which is not shown on the Register as being a Holder of Series 2021 Bonds with respect to (i) the accuracy of any records maintained by the Securities Depository or any Participant, (ii) the payment to the Securities Depository, any Participant or any beneficial owner of Series 2021 Bonds of any amount in respect of the principal of, premium, if any, or interest on the Series 2021 Bonds, (iii) any notice which is permitted or required to be given to Holders under this Trust Agreement, (iv) the selection by the Securities Depository or any Participant or any other person to receive payment in the event of a partial redemption of the Series 2021 Bonds or (v) any other action taken by the Securities Depository as Holder of the Series 2021 Bonds. The Trustee shall pay all principal of and premium, if any, and interest on the Series 2021 Bonds only to the Securities Depository or the Securities Depository Nominee, as the case may be, and all such payments shall be valid and effectual to fully satisfy and discharge the obligations with respect to the principal of and premium, if any, and interest on the Series 2021 Bonds to the extent of the sum or sums so paid.

The Securities Depository may determine to discontinue providing its services as such with respect to the Series 2021 Bonds at any time by giving notice to the Corporation and the Trustee and discharging its responsibilities with respect thereto under applicable laws. In such event, the Corporation shall either (i) engage the services of another Securities Depository or (ii) deliver physical Series 2021 Bonds in the manner described below. In the event the book-entry system is discontinued or terminated with respect to the Series 2021 Bonds, and no other Securities Depository is named, then the Corporation shall notify the Trustee of such event and the Securities Depository shall immediately notify the Participants of the availability, through the Securities Depository, of physical Series 2021 Bonds. In such event, the Corporation shall execute and the Trustee shall authenticate, register and deliver physical Series 2021 Bonds as requested by the Securities Depository or any Participant or beneficial owner of Series 2021 Bonds in appropriate authorized denominations in exchange for the Series 2021 Bonds registered in the name of the Securities Depository Nominee.

Notwithstanding any other provision of this Trust Agreement to the contrary, so long as the Series 2021 Bonds are registered in the name of Cede & Co., as Securities Depository Nominee, all payments with respect to the principal of, premium, if any, and interest on the Series 2021 Bonds and all notices with respect to the Series 2021 Bonds shall be made and given, respectively, to The Depository Trust Company, New York, New York, as provided in the representation letter.

In connection with any notice or other communication to be provided to the Holders by the Corporation or the Trustee with respect to any consent or other action to be taken by the Holders, the Corporation or the Trustee, as the case may be, shall establish a record date for such consent or other action and give the Securities Depository notice of such record date not less than 15 days in advance of such record date to the extent possible.

Section 3.19. Tax Covenants of Corporation. The Corporation will not take or permit, or omit to take or cause to be taken, any action that would adversely affect the exclusion from gross income for federal income tax purposes of the interest evidenced by or paid on the Series 2021 Bonds and, if it should take or permit, or omit to take or cause to be taken, any such action, the Corporation will take or cause to be taken all lawful actions within its power necessary to rescind or correct such actions or omissions promptly on having knowledge thereof. The Corporation acknowledges that the continued exclusion of interest evidenced by or paid on the Series 2021 Bonds from a Holder's gross income for federal income tax purposes depends, in part, on compliance with the arbitrage limitations imposed by Section 148 of the Code. To that end, the Corporation covenants that it will comply with the Tax Regulatory Agreement.

The Corporation acknowledges that, for federal income tax purposes, the Series 2021 Bonds are being issued by the Corporation as an instrumentality of the Commission, acting on behalf of such Commission as set forth in Revenue Ruling 63-20 (as supplemented by Revenue Procedure 82-26) and covenants to comply with all provisions of such Revenue Ruling as so supplemented. The Corporation, therefore, represents, warrants and covenants as follows:

(a) The Commission may, at any time, request and receive a conveyance of fee simple title to and exclusive possession of the Project Facilities by (i) establishing an irrevocable deposit with the Trustee, as escrow agent, that will be sufficient to defease the Series 2021 Bonds, and (ii) paying the reasonable costs incident to such defeasance. The Trustee and the Corporation agree in such event to immediately cancel all encumbrances on the Project Facilities and Real Property to which they are a party, including any management contract or lease of the Project Facilities and Real Property.

(b) If the Corporation defaults in its payments of principal and interest due on the Series 2021 Bonds and the Trustee declares the principal of the Series 2021 Bonds to be due and payable, the Commission is granted the exclusive option to purchase the Project Facilities, including any improvements, for a price equal to the amount of the Series 2021 Bonds which are Outstanding, as well as any other Bonds as may be Outstanding, plus accrued interest to the date of such default and, upon such purchase, to terminate the Base Lease. These provisions are not intended and shall not be interpreted so as to limit the rights of the Holders of the Series 2021 Bonds to pursue their remedies under this Trust Agreement and the Facilities Agreement.

(c) The Commission shall obtain fully unencumbered fee simple title to the Project Facilities when the Series 2021 Bonds are discharged and paid in full. The Corporation will convey to the Commission such fee simple title and exclusive possession and use of the Project Facilities, including any additions thereto, without demand or further action on its part.

(d) The proceeds of fire or other casualty insurance policies received in connection with the damage or destruction to the portion of the Project Facilities financed with the proceeds of the Series 2021 Bonds, including any improvements, will be used, subject to the provisions of this Trust Agreement regarding extraordinary redemption of the Series 2021 Bonds, to rebuild the Project Facilities or to redeem the Series 2021 Bonds or, if all of the Series 2021 Bonds as well as any other Bonds as may be Outstanding have been paid or defeased under this Trust Agreement, will be remitted to the Commission.

(e) In the event of any division of the Project Facilities and the Real Property pursuant to Section 2.4 of the Facilities Agreement, the Corporation agrees that, unless (i) it obtains an opinion of Bond Counsel to the effect that such action is unnecessary to preserve the exclusion from gross income of interest on the Series 2021 Bonds, or (ii) the Corporation or the Trustee is directed by the owners of a majority of the beneficial ownership interests of the Series 2021 Bonds, it will timely undertake to satisfy the requirements of the Code and the Treasury Regulations relating to a change in use of the Real

Property or the Project Facilities. Regulations governing such remedial action are now contained in Section 1.141-12 of the Treasury Regulations.

(f) A reasonable estimate of the fair market value of the Project Facilities as of the latest maturity date of the Series 2021 Bonds is equal to at least 20% of the original costs of the Project Facilities.

(g) A reasonable estimate of the remaining useful life of the Project Facilities as of the latest maturity date of the Series 2021 Bonds is equal to at least 20% of the original useful life of the Project Facilities.

[End of Article III]

ARTICLE IV

REDEMPTION OF BONDS

Section 4.1. Redemption of Bonds.

(a) *Optional Redemption of Series 2021 Bonds.* In the event the Commission exercises its option pursuant to Section 9.1 of the Facilities Agreement to purchase the Corporation's interest in the Real Property and the Project Facilities and pay the amount required to defease and redeem the Series 2021 Bonds or to prepay Base Payments or in the event the Commission makes a voluntary prepayment under Section 4.3 of the Facilities Agreement, the Series 2021 Bonds maturing after April 1, 20__ shall be subject to redemption in whole or in part at any time on and after April 1, 20__, by the Corporation at a redemption price equal to the principal amount of the Series 2021 Bonds to be redeemed plus accrued interest to the redemption date.

The Series 2021 Bonds shall be redeemed in accordance with this subsection (a) only by written notice from the Commission or the Corporation to the Trustee in accordance with **Section 4.2** hereof. Such notice shall specify the redemption date on which the Series 2021 Bonds are to be redeemed, and shall be given at least 45 days prior to the redemption date or such shorter period as shall be acceptable to the Trustee. Prior to the giving of notice by the Trustee to the Holders as provided in **Section 4.2** hereof, there shall be deposited with the Trustee funds which, in addition to any other moneys available therefor and held by the Trustee, will be sufficient to redeem at the redemption price thereof all of the redeemable Series 2021 Bonds for which notice of redemption has been given; provided, however, the Commission or the Corporation may direct the Trustee to condition any such notice provided to the Holders on the receipt of funds at or prior to the date set for redemption.

(b) *Reserved.*

(c) *Partial Redemption of Series 2021 Bonds.* If less than all of the Series 2021 Bonds are called for redemption, the Series 2021 Bonds to be redeemed will be selected in the manner that the Corporation shall determine as set forth in a Certificate of the Corporation filed with the Trustee. If less than all Series 2021 Bonds of any one maturity are called for redemption, the Trustee shall select the Series 2021 Bonds to be redeemed by lot, each \$5,000 portion of the principal being counted as one Series 2021 Bond for this purpose; provided, however, that so long as the only registered owner of the Series 2021 Bond is Cede & Co., such selection shall be made by The Depository Trust Company.

(d) *Redemption of Additional Bonds.* Provisions relating to the circumstances upon which Bonds other than Series 2021 Bonds may be redeemed shall be as set forth in the Supplemental Agreement providing for the issuance thereof.

Section 4.2. Notice of Redemption. Notice of any such redemption shall be given by the Corporation, or by the Trustee in the name of the Corporation, which notice shall specify the number of the Bonds called for redemption, the title, series, maturities, letters or other distinguishing marks of the Bonds to be redeemed, the redemption date and the place or places where the amount due upon such redemption will be payable, and, in the case of any Bonds to be redeemed in part only, such notice shall also specify the respective portions of the principal amount thereof to be redeemed. Such notice shall further state that upon the date fixed for redemption there shall become due and payable upon each Bond to be redeemed the principal amount thereof plus the premium, if any, due thereon upon such redemption date, together with interest accrued to the redemption date, and that from and after the redemption date interest thereon, or on the portion of any Bond to be redeemed in part (unless the Corporation shall default in the payment of the redemption price of such Bond, or of the portion of any Bond so to be

redeemed in part) shall cease to accrue and become payable. Such notice shall be mailed not less than 30 days nor more than 60 days prior to the redemption date, by first-class mail, to the registered owner of each such Bond at his address as it appears on the registration books; but failure to give such notice to the owner of any Bond being redeemed, or any defect in any notice given, shall not affect the validity of the proceedings for the redemption of any Bond for which notice was properly given. The Corporation shall give written notice to the Trustee of any optional redemption of the Bonds at least 45 days prior to the redemption date, or such shorter period as shall be acceptable to the Trustee. Whenever notice of redemption has been duly given as herein provided, the Trustee shall, not later than the date fixed for redemption in such notice, transfer to the Paying Agent or Paying Agents for the Bonds so to be redeemed, amounts which, in addition to other moneys, if any, held by such Paying Agent or Paying Agents for such purpose, will be sufficient to redeem on the redemption date all the Bonds so to be redeemed.

Any notice of optional redemption given pursuant to this **Section 4.2** may state that it is conditional upon receipt by the Trustee of moneys sufficient to pay the redemption price of such Bonds or upon the satisfaction of any other condition, or that it may be rescinded upon the occurrence of any other event, and any conditional notice so given may be rescinded at any time before payment of such redemption price if any such condition so specified is not satisfied or if any such other event occurs. Notice of such rescission shall be given by the Trustee to affected owners of such Bonds as promptly as practicable upon the failure of such condition or the occurrence of such other event.

Section 4.3. Payment of Redeemed Bonds. Notice having been mailed, the Bonds called for redemption shall become due and payable on the redemption date, and upon presentation and surrender thereof at the place or places specified in that notice, shall be paid at the redemption price plus interest accrued to the redemption date.

If money for the redemption of all of the Bonds to be redeemed is held by the Trustee on the redemption date so as to be available therefor on that date, and if notice of redemption has been mailed as aforesaid, then from and after the redemption date those Bonds called for redemption shall no longer be entitled to payment of any sum other than the redemption price.

In the event Bonds which have been called for redemption are not presented to the Trustee for redemption on or prior to the 30th day following the redemption date, the Trustee shall notify the registered Holder thereof by certified or registered mail, return receipt requested, that such Bonds have been called and that the Trustee is holding funds for the payment of the redemption price thereof pending presentation by such Holder.

All moneys deposited in the Bond Fund and held by the Trustee for the redemption of particular Bonds shall be held in trust for the account of the Holders thereof and shall be paid to them, respectively, upon presentation and surrender of those Bonds.

[End of Article IV]

ARTICLE V

PROVISIONS AS TO FUNDS AND PAYMENTS

Section 5.1. Deposit of Money. The proceeds of the Series 2021 Bonds in the amount of \$_____ (representing the par amount of the Series 2021 Bonds of \$_____ [plus/minus] [net] original issue [premium/discount] of \$_____ minus underwriter's discount of \$_____) will be deposited into the Project Fund maintained with the Trustee to defray the costs of the Project Facilities and costs of issuance in order to ensure that the Project Facilities will be available for purchase and occupancy by the Commission without delay.

Section 5.2. Creation of Project Fund. There is hereby created as a separate account in the custody of the Trustee a trust fund designated the "**Project Fund.**" Pending disbursement pursuant to this Trust Agreement, the proceeds of the sale of the Series 2021 Bonds deposited in the Project Fund pursuant to **Section 5.1** hereof, together with any other moneys and Eligible Investments held to the credit of the Project Fund, shall be held as security for the payment of the Series 2021 Bonds.

Section 5.3. Disbursements from and Records of Project Fund.

(a) Moneys in the Project Fund shall be disbursed for the costs of the Project Facilities and for costs of issuance in accordance with the provisions of this **Section 5.3**. The Trustee shall cause to be kept and maintained accurate records pertaining to the Project Fund and all investments and disbursements of moneys in the Project Fund. After the Project Facilities have been completed and a Certificate of Acceptance (as defined below) with respect thereto is filed as referred to in **Section 5.3(c)** hereof, the Trustee shall retain copies of the records pertaining to the Project Fund and disbursements therefrom for inspection upon request of the Corporation or the Commission for a period ending five years from the date of such Certificate.

(b) All disbursements from the Project Fund, except those pertaining to the payment of issuance costs of the Series 2021 Bonds, shall be made by the Trustee upon the receipt of a requisition in substantially the form set forth in **Exhibit B** hereto signed by a Commission Representative. Funds may not be disbursed from the Project Fund for working capital expenditures. The Trustee shall be entitled to rely conclusively on each requisition as conclusive evidence of the Commission's compliance with the procedure described herein. The Trustee has no duty or obligation to confirm the use of any requested disbursement.

Disbursements from the Project Fund pertaining to payment of costs of issuance of the Series 2021 Bonds shall be made by the Trustee upon receipt of a requisition in substantially the form set forth in **Exhibit C** hereto signed by a Commission Representative. The Trustee shall be entitled to rely conclusively on each such requisition for costs of issuance.

(c) Upon the substantial completion of the Project Facilities, the Commission shall submit to the Trustee a final requisition request in the total amount remaining owing for costs of the Project Facilities, including all applicable retainages. Such requisition request shall be made in the same manner as provided in subparagraph (b) above except that such requisition request shall be in substantially the form of the final disbursement request form attached hereto as **Exhibit D** and shall contain (i) a certification by the Commission Representative to the effect that the Project Facilities are free and clear of all liens and encumbrances for labor or materials and all contractors, subcontractors and materialmen retained by the Commission and all contractors, subcontractors and materialmen performing work on the Project Facilities have been, or upon receipt by the Commission of the payment of the final requisition request will be, paid in full, except for those the Commission is contesting in good faith and with due

diligence as permitted under the Facilities Agreement; and (ii) a Certificate of Acceptance stating that the Project Facilities have been substantially completed in accordance with the applicable Project Facilities Contract and other terms and conditions of the Facilities Agreement, and the Project Facilities comply in all material respects with all applicable governmental regulations (a “*Certificate of Acceptance*”). Upon the receipt of the final requisition request, the Trustee shall promptly disburse the amounts requested therein. As used in this paragraph, “substantial completion” of the Project Facilities shall mean completion such that a certificate of occupancy has been, or could be, issued notwithstanding the fact that certain minor items of work remain to be done.

(d) In making any payment, the Trustee may rely on directions, requisitions, and certifications delivered to it pursuant to this **Section 5.3** and shall not have any liability with respect to the proper application of any funds held hereunder so long as disbursed in accordance with such directions, requisitions and certifications.

Section 5.4. Completion of Project Facilities. As soon as practicable after the filing with the Trustee of the Certificate of Acceptance referred to in **Section 5.3** hereof and a Certificate of Completion, the Trustee shall transfer any balance then remaining in the Project Fund (other than the amounts required to be retained by the Trustee as described herein and in the said certificate), upon the written direction of the Commission, either (i) to the Bond Fund to be credited against the payment of the principal of the Series 2021 Bonds, subject to Section 4.1(b) of the Facilities Agreement, (ii) to the Commission as necessary for the completion of the Project Facilities or for Additional Project Facilities or other capital expenditures; or (iii) a combination of (i) and (ii). Notwithstanding the foregoing, if prior to the transfer by the Trustee of any such balance in the Project Fund, the Trustee shall have received from the Corporation in the Certificate of Acceptance a statement of the aggregate amount of any lien or claim against the Project Facilities then being contested in good faith by the Corporation, any such amount then in contest shall be held in reserve in the Project Fund until such contest is resolved. The Project Fund shall be closed upon final resolution of claims, with any amounts not required to satisfy such claims distributed as otherwise provided in this **Section 5.4**.

Section 5.5. Creation of the Bond Fund.

(a) There is hereby created as a separate account in the custody of the Trustee a trust fund to be designated the “*Bond Fund*.” There shall be deposited in the Bond Fund (and credited, as required by this Trust Agreement, to appropriate accounts therein), the Base Payments to be made by the Commission to the Trustee (as the assignee of the Corporation) under the terms of the Facilities Agreement.

(b) The Bond Fund (and the accounts therein) and the moneys and Eligible Investments therein shall be used solely and exclusively for the payment of principal of, premium, if any, and interest on the Bonds as the same respectively become due, except as otherwise provided in this Trust Agreement.

(c) The Trustee shall set aside from moneys in the Bond Fund amounts sufficient to make timely payments of the principal of, premium, if any, and interest on the Bonds as the same respectively become due.

(d) Amounts due with respect to the Series 2021 Bonds, except as provided in the remainder of this **Section 5.5**, shall be payable as they become due in the following order, (i) first, from amounts in the Bond Fund; (ii) second, from other Revenues to the extent available; and (iii) third, from any other source lawfully available to the Trustee, including without limitation, proceeds from the leasing of the Real Property and Project Facilities in accordance with the terms of the Facilities Agreement and the Base Lease.

Section 5.6. Investments.

(a) Moneys in the Project Fund and the Bond Fund shall be invested and reinvested by the Trustee in Eligible Investments at the written direction of the Commission Financial Officer. Any investments of moneys held to the credit of the Project Fund or the Bond Fund shall mature, be redeemable at the option of the owner or holder, or, in the case of repurchase agreement or similar contract, be available thereunder, not later than the respective dates when the money held to the credit of those funds and accounts will be required for the purpose intended. All investments shall be acquired at “fair market value” as described in the Tax Regulatory Agreement.

(b) At the written direction from the Commission Financial Officer with respect thereto, from time to time, the Trustee shall sell investments and reinvest the proceeds therefrom in Eligible Investments maturing or redeemable or available as required hereunder. The Trustee may enter into transactions for the purchase or sale of Eligible Investments with itself or any bank, trust company or savings and loan association affiliated with the Trustee and may charge its ordinary and customary fees for such trades. The Trustee shall sell or redeem Eligible Investments credited to the Bond Fund, without direction from the Commission, at the times required for the purpose of paying amounts due with respect to the respective series of Bonds payable therefrom when due as aforesaid, and shall do so without necessity for any order. An investment made from moneys credited to the Project Fund or to any account in the Bond Fund shall constitute part of that account and fund, and each account and fund shall be credited with all proceeds of sale and income from investment of moneys credited thereto.

(c) Investment income from investment of amounts on deposit in the Project Fund shall be retained therein and applied as other moneys in the Project Fund.

(d) Investment income from investment of the Bond Fund shall be retained in the Bond Fund and credited against the amount of the Base Payments to be paid by the Commission on the next succeeding Bond Payment Date.

(e) The Trustee shall report to the Commission at least five days prior to each date on which a Base Payment is due and payable the amount of investment income credited or transferred to the Bond Fund and available to make payments due on the next Bond Payment Date, and the amount of the Base Payment by the Commission on that date shall be reduced by such amount.

(f) The Trustee shall not be liable for any loss resulting from the making or disposition of any investment pursuant to the provisions of this **Section 5.6**, and any such losses shall be charged to the fund and account with respect to which such investment is made. The Trustee may conclusively rely upon the Commission’s written instructions as to both the suitability and legality of all investments directed hereunder. Ratings of investments shall be determined at the time of purchase of such investments and without regard to ratings subcategories. The Trustee shall have no responsibility to monitor the ratings of investments after the initial purchase of such investments, including at the time of reinvestment of earnings thereon and whether such investments comply with the requirements of this Trust Agreement and the related tax regulatory agreement. In the absence of written investment instructions from the Commission, the Trustee shall not be responsible or liable for keeping the moneys held by it hereunder fully invested. Confirmations of investments are not required to be issued by the Trustee for each month in which a monthly statement is rendered. In the absence of written investment directions from the Commission, the Trustee shall hold all such funds uninvested in cash, without liability for interest.

(g) The value of the obligations in which money in a fund or account has been invested shall be computed at market value or the amortized cost thereof, whichever is lower.

Section 5.7. Moneys to be Held in Trust. All moneys required or permitted to be deposited with or paid to the Trustee under any provisions of this Trust Agreement or the Facilities Agreement, and any investments thereof, shall be held by the Trustee in trust. Except for moneys held by the Trustee pursuant to **Section 5.8** hereof, all moneys described in the preceding sentence held by the Trustee shall be subject to the lien of this Trust Agreement while so held.

Section 5.8. Nonpresentment of Bonds. If any Bond is not presented for payment when its principal becomes due in whole or in part, or a check or draft for interest is uncashed, if moneys sufficient to pay the principal then due on that Bond or such check or draft shall have been made available to the Trustee for the benefit of its Holder, all liability of the Corporation or the Commission to that Holder for the payment of the principal then due or of the check or draft thereupon shall cease and be discharged completely. Thereupon, it shall be the duty of the Trustee to hold those moneys, without liability for interest thereon, for the exclusive benefit of the Holder, who shall be restricted thereafter exclusively to those moneys for any claim of whatever nature on its part under this Trust Agreement or on, or with respect to, that principal then due or of such check or draft.

Any such moneys which shall be so held by the Trustee, and which remain unclaimed by the Holder of a Bond not presented for payment or check or draft not cashed for a period of five years after the due date thereof, shall be paid to the Commission free of any trust or lien. Thereafter, the Holder of such Bond shall look only to the Commission for payment and then only to the amounts so received by the Commission without any interest thereon, and the Trustee shall not have any responsibility with respect to those moneys.

Section 5.9. Repayment to Commission from Bond Fund. Except as provided in this **Section 5.9** hereof, any amounts remaining in the Bond Fund in excess of the amounts necessary to effect the payment and discharge of the Series 2021 Bonds (i) after all of the Outstanding Bonds shall be deemed paid and discharged under the provisions of this Trust Agreement, and (ii) after payment of all fees, charges and expenses of the Trustee and of all other amounts required to be paid under this Trust Agreement and the Facilities Agreement, shall be paid to the Commission.

Section 5.10. Rebate Fund. With respect to the Series 2021 Bonds, there is required to be established under the Tax Regulatory Agreement under the circumstances specified therein, a Rebate Fund to be held by the Trustee. The Rebate Fund shall be held by the Trustee and administered in accordance with the terms hereof and of the Tax Regulatory Agreement. Deposits into and transfers or withdrawals from the Rebate Fund shall be made in accordance with the Tax Regulatory Agreement with notice thereof in writing to the Trustee, such notice signed by a Chief Financial Officer. The Trustee shall be deemed conclusively to have complied with the provisions of the Tax Regulatory Agreement if it follows the written directions of the Commission or the Corporation including supplying all necessary information in the manner provided in the Tax Regulatory Agreement and shall have no liability or responsibility to enforce compliance by the Commission or the Corporation with the terms of the Tax Regulatory Agreement or any other tax covenants contained herein. The Trustee shall not be responsible for calculating rebate amounts or for the adequacy or correctness of any rebate report or rebate calculations. The Trustee shall have no independent duty to review such calculations or enforce the compliance by the Commission or the Corporation with such rebate requirements. The Trustee shall have no duty or obligation to determine the applicability of the Code and shall only be obligated to act in accordance with written instructions provided by the Commission or the Corporation.

[End of Article V]

ARTICLE VI TRUSTEE

Section 6.1. Trustee's Acceptance and Responsibilities.

(a) The Trustee accepts the trusts imposed upon it by this Trust Agreement, and agrees to observe and perform those trusts, but only upon and subject to the terms and conditions set forth in this **Article VI**, to all of which the parties hereto, the Commission and the Holders agree.

(b) It is expressly understood and agreed that this Trust Agreement is being executed by the Trustee not in its corporate and individual capacity but solely as trustee hereunder in the exercise of the power and authority conferred and vested in it as such Trustee. It is further understood and agreed that neither the Trustee nor any director, officer, employee, agent, controlling person or nominee of the Trustee shall be personally liable for any breach of any representation or warranty of the trust incorporated herein or in any other agreement or obligation contemplated hereby and nothing herein or therein contained shall be construed as creating any liability of the Trustee in its corporate and individual capacity or as creating any liability of any director, officer, employee, agent, controlling person or nominee of the Trustee to make any payment or to perform any agreement or undertaking contained herein or therein.

(c) Prior to the occurrence of an Event of Default of which the Trustee has been notified or deemed to have been notified as provided in paragraph (f) of **Section 6.2** hereof, and after the cure or waiver of all defaults or Events of Default which may have occurred,

(i) the Trustee undertakes to perform only those duties and obligations which are set forth specifically in this Trust Agreement, and no duties or obligations shall be implied to the Trustee;

(ii) in the absence of bad faith on its part, the Trustee may rely conclusively, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the procedural requirements of this Trust Agreement; but in the case of any such certificates or opinions which by any provision hereof are required specifically to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the procedural requirements of this Trust Agreement.

(d) After the occurrence of an Event of Default of which the Trustee has knowledge or is deemed to have knowledge, the Trustee shall exercise those rights and powers vested in it by this Trust Agreement and shall use the same degree of care as a prudent person would exercise or use in the circumstances in the conduct of such prudent person's own affairs.

(e) No provision of this Trust Agreement shall be construed to relieve the Trustee from liability for its own grossly negligent action, its own grossly negligent failure to act, or its own willful misconduct, except that:

(i) this subsection shall not be construed to affect the limitation of the Trustee's duties and obligations provided in subsection (c)(i) of this **Section 6.1** or diminish the Trustee's right to rely on the truth of statements and the correctness of opinions as provided in subsection (c)(ii) of this **Section 6.1**;

(ii) the Trustee shall not be liable for any error of judgment made in good faith in ascertaining the pertinent facts;

(iii) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the Holders of not less than a majority in principal amount of the Outstanding Bonds relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Trust Agreement;

(iv) no provision of this Trust Agreement shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder, or in the exercise of any of its rights or powers if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is not reasonably assured to it; and

(v) the Trustee may act upon the opinion or advice of any attorney (who may be the attorney or attorneys for the Corporation or the Commission) approved by the Trustee in the exercise of reasonable care. The Trustee shall not be responsible for any loss or damage resulting from any action taken or omitted to be taken in good faith in reliance upon that opinion or advice.

(f) Every provision of this Trust Agreement relating to the conduct or affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this **Section 6.1**. Whenever the Trustee acts in its capacity as Trustee with respect to any document or agreement relating to the Bonds, the provisions of this **Section 6.1** shall apply to all such actions.

Section 6.2. Certain Rights and Obligations of the Trustee. Except as otherwise provided in **Section 6.1** hereof:

(a) The Trustee (i) may execute any of the trusts or powers hereof and perform any of its duties by or through attorneys, agents, receivers or employees, (ii) shall be entitled to the advice of counsel concerning all matters of trusts or powers hereof and duties hereunder, and (iii) may pay reasonable compensation in all cases to all of those attorneys, agents, receivers and employees reasonably employed by it in connection with the trusts hereof.

(b) Except as may be required of it in its capacity as assignee of the Corporation under the Facilities Agreement or as specifically provided for elsewhere herein, the Trustee shall not be responsible for:

(i) any recital in this Trust Agreement or the Bonds,

(ii) the validity, priority, perfection, recording, rerecording, filing or refiling of this Trust Agreement or any Supplemental Agreement, the Facilities Agreement or any financing statement with respect to the Trust Estate; provided, however, that upon the receipt of any opinion under Section 5.5(b) of the Facilities Agreement, the Trustee agrees to cooperate with the Commission and the Corporation and to take such action as is required to be taken in accordance with such opinion,

(iii) reviewing any financial statements delivered to it,

(iv) any instrument or document of further assurance or collateral assignment,

- (v) any financing statements, amendments thereto or continuation statements,
- (vi) insurance of any of the Real Property, Project Facilities or collection of insurance moneys,
- (vii) the validity of the execution by the Corporation of this Trust Agreement, any Supplemental Agreement or instruments or documents of further assurance,
- (viii) the sufficiency of the security for the Bonds executed and delivered hereunder or intended to be secured hereby,
- (ix) the value of or title to the Real Property or Project Facilities or
- (x) the maintenance of the security hereof, except that, in the event that the Trustee enters into possession of a part or all of the Real Property or Project Facilities pursuant to any provision of the Facilities Agreement or any other instrument or document collateral thereto, the Trustee shall use due diligence in preserving that property.

The Trustee shall not be bound to ascertain or inquire as to the observance or performance of any covenants, agreements or obligations on the part of the Corporation or the Commission under the Facilities Agreement or the Base Lease except as set forth hereinafter; but the Trustee may require of the Corporation or the Commission full information and advice as to the observance or performance of those covenants, agreements and obligations. The Trustee shall not be deemed to have notice of an Event of Nonappropriation until it shall have received notice of the same from the Commission. Upon receipt of notice from the Commission of an Event of Nonappropriation, the Trustee shall commence the procedures outlined in Section 4.7 of the Facilities Agreement.

(c) The Trustee shall not be accountable for the application by the Commission or any other Person of the proceeds of the Bonds.

(d) The Trustee shall be protected and shall incur no liability, in the absence of bad faith on its part, in acting or proceeding, or in not acting or not proceeding upon any notice, request, consent, certificate, order, affidavit, letter, telegram or other paper or document reasonably believed by it to be genuine and correct and to have been signed or sent by the proper Person or Persons. The Trustee is under no duty to make any investigation or inquiry as to any statements contained or matters referred to in any such instruments. Any action taken by the Trustee pursuant to this Trust Agreement upon the request or authority or consent of any Person who is the Holder of any Bond at the time of making, the request or giving the authority or consent, shall be conclusive and binding upon all future Holders of the same Bond and of Bonds executed and delivered in exchange therefor or in place therefor.

(e) As to the existence or nonexistence of any fact for which the Corporation or the Commission may be responsible or as to the sufficiency or validity of any instrument, document, report, paper or proceeding, the Trustee, in the absence of bad faith on its part, shall be entitled to rely upon a certificate signed on behalf of the Corporation by a Corporation Representative or the Commission by a Commission Representative as sufficient evidence of the facts recited therein. Prior to the occurrence of a default or Event of Default of which the Trustee has been notified or is deemed to have notice as provided in paragraph (f) of this **Section 6.2**, the Trustee may accept a similar certificate to the effect that any particular dealing, transaction or action is necessary or expedient; provided, that the Trustee in its discretion may require and obtain any further evidence which it deems to be necessary or advisable; and, provided further, that the Trustee shall not be bound to secure any further evidence.

(f) The Trustee shall not be required to take notice, and shall not be deemed to have notice, of any default or Event of Default with respect to the Bonds, except Events of Default described in **Section 7.1(a)** hereof, unless the Trustee shall be notified specifically of the default or Event of Default in a written instrument or document delivered to it by the Commission or the Holders of at least 10% of the aggregate principal amount of Outstanding Bonds. In the absence of delivery of a notice satisfying those requirements, the Trustee may assume conclusively that there is no default or Event of Default, except as noted above.

(g) At any reasonable time, the Trustee and its duly authorized agents, attorneys, experts, engineers, accountants and representatives may inspect and copy fully all books, papers and records of the Corporation pertaining to the Real Property or the Project Facilities, and may make any memoranda from and in regard thereto as the Trustee may desire.

(h) The Trustee shall not be required to give any bond or surety with respect to execution of these trusts and powers or otherwise in respect of the premises.

(i) Notwithstanding anything contained elsewhere in this Trust Agreement, the Trustee may demand any showings, certificates, reports, opinions, appraisals and other information, and corporate action and evidence thereof, in addition to those required by the terms hereof, as a condition to the execution and delivery of any Bonds or the taking of any action whatsoever within the purview of this Trust Agreement, if the Trustee deems it to be desirable for the purpose of establishing the right of any Person to the taking of any other action by the Trustee; provided, that the Trustee shall not be required to make that demand.

(j) Before taking action hereunder pursuant to **Section 6.4, 6.12(b)** or **Article VII** hereof (with the exception of any action required to be taken under **Section 7.2** hereof), the Trustee may require that a satisfactory indemnity bond be furnished to it by the Holders for the reimbursement of all expenses (including attorneys' fees, costs and expenses) which it may incur and to protect it against all liability by reason of any action so taken, including, but not limited to, any liability arising directly or indirectly under any federal, state or local statute, rule, law or ordinance related to the protection of the environment or hazardous substances, except liability which is adjudicated to have resulted from its negligence or willful default. The Trustee may take action without such indemnity, and in that case, all of the Trustee's expenses pursuant to **Section 6.3** hereof with respect to the Bonds will be reimbursable as provided in the Facilities Agreement.

(k) Unless otherwise provided herein, all moneys received by the Trustee under this Trust Agreement shall be held in trust for the purposes for which those moneys were received, until those moneys are used, applied or invested as provided herein; provided, that those moneys need not be segregated from other moneys, except to the extent required by this Trust Agreement or by law. The Trustee shall not have any liability for interest on any moneys received hereunder, except to the extent expressly provided herein or agreed with the Corporation.

(l) Any opinions, certificates and other instruments and documents for which provision is made in this Trust Agreement, may be accepted by the Trustee, in the absence of bad faith on its part, as conclusive evidence of the facts and conclusions stated therein and shall be full warrant, protection and authority to the Trustee for its action taken hereunder.

(m) The permissive right of the Trustee to do things enumerated in this Trust Agreement shall not be construed as a duty.

(n) Notwithstanding the effective date of this Trust Agreement or anything to the contrary in this Trust Agreement, the Trustee shall have no liability or responsibility for any act or event relating to this Trust Agreement which occurs prior to the date the Trustee formally executes this Trust Agreement and commences acting as Trustee hereunder.

(o) The Trustee shall have no responsibility with respect to any information, statement or recital in any official statement, offering memorandum or any other disclosure material prepared or distributed with respect to the Bonds and shall have no responsibility for compliance with any state or federal securities laws in connection with the Bonds.

(p) The Trustee shall not be responsible or liable for any failure or delay in the performance of its obligations under this Trust Agreement arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God; earthquakes; fire; flood; hurricanes or other storms; wars; terrorism; similar military disturbances; sabotage; epidemic; pandemic; riots; interruptions, loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Trustee shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

(q) The Trustee agrees to accept and act upon instructions or directions pursuant to this Trust Agreement, the Base Lease, the Facilities Agreement or any other document reasonably relating to the Bonds sent by the Commission or the Corporation, as the case may be, by unsecured e-mail, facsimile transmission or other similar unsecured electronic methods, provided, however, that the Commission and the Corporation, respectively, shall provide to the Trustee an incumbency certificate listing designated persons with the authority to provide such instructions, which incumbency certificate shall be amended whenever a person is to be added or deleted from the listing. If the Commission or the Corporation, as applicable, elects to give the Trustee e-mail or facsimile instructions (or instructions by a similar electronic method) and the Trustee in its discretion elects to act upon such instructions, the Trustee's understanding of such instructions shall be deemed controlling. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's reliance upon and compliance with such instructions notwithstanding such instructions conflict with or are inconsistent with a subsequent written instruction. The Commission and the Corporation, as applicable, agree to assume all risks arising out of the use of such electronic methods to submit instructions and directions to the Trustee, including without limitation the risk of the Trustee acting on unauthorized instructions, and the risk of interception and misuse by third parties.

Section 6.3. Fees, Charges and Expenses of Trustee. The Trustee acknowledges receipt of payment in full from the proceeds of the Series 2021 Bonds for its fees for its Ordinary Services rendered hereunder and for all advances, counsel fees and other Ordinary Expenses reasonably and necessarily paid or incurred, or to be paid or incurred, by it in connection with the provision of Ordinary Services to the date hereof. The Trustee shall be entitled to the payment of its annual charges upon invoice to the Corporation (which pursuant to the Facilities Agreement shall be payable by the Commission). In the event that it should become necessary to perform Extraordinary Services including any such Extraordinary Services relating to a default or post-default situation, with respect to the Bonds, the Trustee shall be entitled to reasonable extra compensation therefor, determined in accordance with the Trustee's then-current fee schedule, and to reimbursement for reasonable and necessary Extraordinary Expenses incurred in connection therewith.

The Trustee, in that or its other capacities, shall not be entitled to compensation or reimbursement for Extraordinary Services or Extraordinary Expenses occasioned by its gross negligence or willful misconduct.

Any amounts payable under this **Section 6.3** are payable upon demand and shall bear interest from the date of demand therefor at the prime rate quoted from time to time by the banking association serving as Trustee or its affiliated bank.

The Trustee's rights under this **Section 6.3** shall survive its resignation or removal as Trustee.

Section 6.4. Intervention by Trustee. The Trustee may and shall, at the written direction of the Holders of at least 25% of the aggregate principal amount of the Outstanding Bonds, intervene in any judicial proceeding to which the Corporation or the Commission is a party and which in the opinion of the Trustee and its counsel has a substantial bearing on the interests of Holders of the Bonds. The rights and obligations of the Trustee under this **Section 6.4** are subject to the approval of that intervention by a court of competent jurisdiction. The Trustee may require that a satisfactory indemnity bond be provided to it by the Holders in accordance with **Sections 6.1** and **6.2** hereof before it takes action hereunder.

Section 6.5. Successor Trustee. Anything herein to the contrary notwithstanding:

(a) Any corporation or association (i) into which the Trustee may be converted or merged, (ii) with which the Trustee or any successor to it may be consolidated, or (iii) to which it may sell or transfer its assets or corporate trust assets and trust business or corporate trust business as a whole or substantially as a whole, or any corporation or association resulting from any such conversion, merger, consolidation, sale or transfer, ipso facto, shall be and become successor Trustee hereunder and shall be vested with all of the title to the whole property or Trust Estate hereunder.

(b) Any such corporation or association that becomes a successor Trustee by virtue of the foregoing shall be vested further, as was its predecessor, with each and every trust, property, remedy, power, right, duty, obligation, discretion, privilege, claim, demand, cause of action, immunity, estate, title, interest and lien expressed or intended by this Trust Agreement to be exercised by, vested in or conveyed to the Trustee, without the execution or filing of any instrument or document or any further act on the part of any of the parties hereto.

(c) Any successor Trustee, or its parent corporation, shall meet the requirements of **Section 6.8** hereof.

Section 6.6. Resignation by Trustee. The Trustee may resign at any time from the trusts created hereby by giving written notice of the resignation to the Commission and by mailing written notice of the resignation to the Holders as their names and addresses appear on the register at the close of business 15 days prior to the mailing. The resignation shall take effect upon the appointment of a successor Trustee.

Section 6.7. Removal of Trustee.

(a) The Trustee may be removed for cause at any time by an instrument or document or concurrent instruments or documents in writing delivered to the Trustee, with copies thereof mailed to the Commission, and signed by or on behalf of the Holders of not less than a majority of the aggregate principal amount of the Outstanding Bonds.

(b) The Trustee also may be removed at any time for any breach of trust or for acting or proceeding in violation of, or for failing to act or proceed in accordance with, any provision of this Trust

Agreement with respect to the duties and obligations of the Trustee by any court of competent jurisdiction upon the application of the Corporation, the Commission or the Holders of not less than 25% in aggregate principal amount of the Outstanding Bonds.

(c) At the request of the Commission, so long as no default exists under the Facilities Agreement and no Event of Nonappropriation has occurred, the Corporation may remove the Trustee and appoint a successor Trustee as provided in **Section 6.8 hereof**.

Section 6.8. Appointment of Successor Trustee.

(a) If (i) the Trustee shall resign, shall be removed, shall be dissolved, or shall become otherwise incapable of acting hereunder, (ii) the Trustee shall be taken under the control of any public officer or officers, or (iii) a receiver shall be appointed for the Trustee by a court, then a successor Trustee shall be appointed by the Corporation (with the agreement of the Commission if there is no Event of Default and no Event of Nonappropriation under the Facilities Agreement); provided, that if a successor Trustee is not so appointed within ten days after (a) a notice of resignation or any instrument or document of removal is received by the Corporation as provided in **Sections 6.6 and 6.7** hereof, respectively, or (b) the Trustee is dissolved, taken under control, becomes otherwise incapable of acting or a receiver is appointed, in each case, as provided above, then, so long as the Corporation shall not have appointed a successor Trustee, the Holders of a majority in aggregate principal amount of the Outstanding Bonds not paid or provided for may designate a successor Trustee by an instrument or document or concurrent instruments or documents in writing signed by or on behalf of those Holders. If no appointment of a successor Trustee shall be made pursuant to the foregoing provisions of this **Section 6.8** within 60 days of the occurrence of any event listed in **Section 6.8(a)(i)-(iii)**, the Holder of any Outstanding Bond hereunder or any retiring Trustee may apply to any court of competent jurisdiction to appoint a successor Trustee. Such court may thereupon, after such notice, if any, as such court may deem proper and prescribe, appoint a successor Trustee.

(b) Every successor Trustee appointed pursuant to this **Section 6.8** shall (i) be a trust company or bank having the powers of a trust company, (ii) be in good standing within the State or the United States, (iii) be duly authorized to exercise trust powers within the State or the United States, (iv) have a reported capital and surplus of not less than \$250,000,000, and (v) be willing to accept the trusteeship under the terms and conditions of this Trust Agreement.

(c) Every successor Trustee appointed hereunder shall execute and acknowledge, and shall deliver to its predecessor and to the Corporation and the Commission, an instrument or document in writing accepting the appointment. Thereupon, without any further act, the successor shall become vested with all of the trusts, properties, remedies, powers, rights, duties, obligations, discretion, privileges, claims, demands, causes of action, immunities, estates, titles, interests and liens of its predecessor. Upon the reasonable written request of its successor, the Corporation or the Commission, the predecessor Trustee (i) shall execute and deliver any instrument or document transferring to its successor all of the trusts, properties, remedies, powers, rights, duties, obligations, discretions, privileges, claims, demands, causes of action, immunities, estates, titles, interests, and liens of the predecessor Trustee hereunder, and (ii) shall take any other action necessary to duly assign, transfer and deliver to its successor all property (including without limitation, all securities and moneys) held by it as Trustee. Should any instrument or document in writing from the Corporation be requested by any successor Trustee for vesting and the conveying more fully and certainly in and to that successor the trusts, properties, remedies, powers, rights, duties, obligations, discretions, privileges, claims, demands, causes of action, immunities, estates, titles, interests and liens vested or conveyed hereby in or to the predecessor Trustee, the Corporation shall execute, acknowledge and deliver that instrument or document.

(d) In the event of a change in the Trustee, the predecessor Trustee shall cease to be custodian of any moneys which it may hold pursuant to this Trust Agreement and shall cease to act as registrar and paying agent for the Bonds. The successor Trustee shall become custodian, registrar and paying agent.

(e) Upon the appointment of a successor Trustee and completion by the predecessor Trustee of the actions required of it under (c) above, the predecessor Trustee shall not be liable for any acts of its successor.

Section 6.9. Dealing in Bonds. The Trustee and its affiliates, and any directors, officers, employees or agents thereof, in good faith, may become the owner of any Bond or Bonds with the same rights which they would have hereunder if the Trustee did not serve in that capacity.

Section 6.10. Representations, Agreements and Covenants of Trustee. The Trustee hereby represents that it is a banking association duly organized, validly existing and in good standing under the laws of the United States of America and duly authorized to exercise corporate trust powers in the State, it has an unimpaired reported capital and surplus of not less than \$250,000,000. The Trustee covenants that it will take such action, if any, as is necessary to remain in good standing and duly authorized to exercise corporate trust powers in the State, and that it will maintain unimpaired reported capital and surplus of not less than \$250,000,000. The Trustee accepts and agrees to observe and perform the duties and obligations of the Trustee hereunder and under any other instrument or document providing security for the Bonds; provided, nevertheless, that the Trustee shall not be responsible or liable for the performance of or observation of any covenants respecting the maintenance of federal tax exemption of interest with respect to the Series 2021 Bonds or other applicable Additional Bonds in the absence of specific direction in writing from the Commission or the Corporation and shall not be responsible for ascertaining the requirements of federal tax law with respect to thereto.

Section 6.11. Right of Trustee to Pay Taxes and Other Charges. Reference is made to Section 4.1(c) of the Facilities Agreement whereby the Corporation is authorized to advance moneys (i) to pay taxes, assessments and other governmental charges with respect to the Real Property and the Project Facilities, (ii) for the discharge of mechanic's and other liens relating to the Real Property and the Project Facilities, (iii) to obtain and maintain insurance for the Real Property and the Project Facilities and pay premiums therefor, and (iv) generally, to make payments and incur expenses in the event that the Commission fails to do so as required by such Facilities Agreement. The Trustee may make those advances but shall not be required to do so (and may require indemnification) pursuant to **Sections 6.1(e) (iv) and 6.2(j)** hereof, but without prejudice to any rights of the Trustee as assignee of the Corporation against the Commission for failure of the Commission to do so.

Section 6.12. Additional Covenants and Agreements of the Trustee. In addition to any other covenants and agreements of the Trustee in this Trust Agreement, the Trustee further covenants and agrees for the benefit of the Holders as follows:

(a) *Register.* At reasonable times and under reasonable regulations established by the Trustee, the Register for the Bonds may be inspected and copied by the Corporation, the Commission or Holders of 25% or more in principal amount of the Outstanding Bonds, or a designated representative therefor.

(b) *Rights and Enforcement of Base Lease and Facilities Agreement.* The Trustee may enforce, in its name, all rights of the Corporation under the Base Lease and the Facilities Agreement for and on behalf of the Holders. The Trustee covenants and agrees to perform all obligations and duties imposed on it by assignment hereunder, and to enforce, at the direction of the majority Bondholders,

subject to **Sections 6.1** and **6.2** hereof, all covenants, agreements and obligations of the Commission under and pursuant to the Base Lease and the Facilities Agreement. The Trustee will do all things and take all actions on its part necessary to comply with covenants, agreements, obligations, duties and responsibilities on its part to be observed or performed under the Base Lease and the Facilities Agreement, and will take all actions within its authority to keep the Base Lease and the Facilities Agreement in effect in accordance with the terms thereof. The Trustee's obligations under this paragraph are subject to the provisions of the last paragraph of **Section 7.3** hereof.

Section 6.13. Observance and Performance of Covenants, Agreements, Authority and Actions.
The Trustee will observe and perform faithfully at all times all covenants, agreements, authority, actions, undertakings, stipulations and provisions to be observed or performed on its part under this Trust Agreement and the Bonds.

The Trustee represents and warrants that:

(a) It is duly authorized to execute and deliver this Trust Agreement and to perform its obligations hereunder in the manner and to the extent set forth in this Trust Agreement.

(b) All actions required on its part to be performed for authentication of the Bonds and the execution and delivery of this Trust Agreement has been or will be taken duly and effectively.

[End of Article VI]

ARTICLE VII

DEFAULT PROVISIONS AND REMEDIES OF TRUSTEE AND HOLDERS

Section 7.1. Defaults; Events of Default. The occurrence of any of the following events is defined as and declared to be and does constitute an Event of Default hereunder:

(a) Payment of the principal or interest due on any Bond shall not be made when and as such payment shall become due and payable; or

(b) The occurrence and continuance of an Event of Default as defined in Section 8.1 of the Facilities Agreement; or

(c) Any material breach by the Corporation of any representation or warranty made in this Trust Agreement or default in the performance or observance of any other of the covenants, agreements, or conditions on the part of the Corporation in this Trust Agreement or contained in the Bonds; or

(d) The issuance of an order of relief by the United States Bankruptcy Court or the United States District Court having valid jurisdiction, granting the Corporation relief under federal bankruptcy law, or the issuance by any other court having valid jurisdiction of an order or decree under applicable federal or state law providing for the appointment of a receiver, liquidator, assignee, trustee, or sequestrator (or other similar official) of the Corporation or any substantial part of its property, affairs, or assets, and the continuance of any such decree or order unstayed and in effect for a period of 60 consecutive days; or

(e) The consent by the Corporation to the institution of proceedings in bankruptcy against it, or to the institution of any proceeding against it under any federal or state insolvency laws, or to the filing of any petition, application, or complaint seeking the appointment of a receiver, liquidator, assignee, trustee, or sequestrator (or other similar official) of the Corporation or of any substantial part of its property, affairs, or assets.

Section 7.2. Notice of Default. In the event the Trustee becomes aware of the occurrence of an Event of Default described in **Section 7.1** above, the Trustee shall give written notice of the Event of Default, by registered or certified mail, to the Commission and the Corporation, within 10 days after the Trustee has actual knowledge of the Event of Default. If an Event of Default occurs of which the Trustee has notice pursuant to this Trust Agreement, the Trustee shall give written notice thereof, within 30 days after the Trustee's receipt of notice of its occurrence, to the Holders of all Outstanding Bonds as shown by the Register at the close of business 15 days prior to the mailing of that notice.

Section 7.3. Remedies; Rights of Holders.

(a) *General.* Upon the occurrence and continuance of an Event of Default, the Trustee may pursue any available remedy to enforce the payment of any amounts due with respect to the Bonds or the observance and performance of any other covenant, agreement or obligation under this Trust Agreement, the Facilities Agreement pertaining thereto or any other instrument providing security, directly or indirectly, for the Bonds. If, upon the occurrence and continuance of an Event of Default, the Trustee is requested so to do in writing by the Holders of at least 25% of the aggregate of the principal amount of the Outstanding Bonds, the Trustee (subject to the provisions of **Sections 6.1** and **6.2** hereof), shall exercise one or more rights and powers conferred by this **Section 7.3** as the Trustee, upon advice of counsel, deems most expedient in the interests of the Holders of such Bonds.

(b) *Acceleration.* Upon the occurrence of an Event of Default, and at any time thereafter while such Event of Default continues, then, and in each and every case, the Trustee in its own name and as trustee of an express trust, on behalf and for the benefit and protection of the Holders of all Outstanding Bonds, may proceed, and upon the written request of the Holders of not less than 25% in principal amount of the Outstanding Bonds, shall proceed to declare the principal of all Outstanding Bonds, together with all accrued and unpaid interest thereon, if not already due, to be due and payable immediately, and upon any such declaration the same shall become and be due and payable immediately, anything contained in this Trust Agreement or any Supplemental Agreement or in any of the Bonds to the contrary notwithstanding. This provision is also subject, however, to the condition that, if at any time after the principal of the Bonds, together with the accrued and unpaid interest thereon and other moneys secured hereby, have been so declared due and payable and before any further action has been taken (other than the making of the above declaration), the principal amount of all Bonds which have matured either according to the maturity date or dates otherwise specified therein (except as a result of such declaration) and all arrears of interest upon all Bonds, except interest accrued but not yet due on said Bonds, have been paid or caused to be paid, and all other Events of Default, if any, which have occurred have been remedied, cured or secured, then and in each and every such case the Holders of 25% in principal amount of the Outstanding Bonds, by notice in writing delivered to the Trustee and the Corporation, may waive such Event of Default and its consequences and rescind and annul such declaration. No such waiver or rescission or annulment shall extend to or affect any subsequent default or impair or exhaust any right or power related to such subsequent default.

(c) *Other Remedies.* In case any one or more of the Events of Default shall happen and be continuing, then and in every such case, but subject to the provisions of **Section 7.7** hereof, the Holder of any Outstanding Bond, or Trustee therefor, may, for the equal benefit and protection of all Holders of the Bonds similarly situated:

(i) by mandamus or other suit, action or proceedings at law or in the equity, enforce such Holder's right against the Corporation and require and compel the Corporation to perform and carry out its duties and obligations under this Trust Agreement or enforce any such remedies against the Commission pursuant to the Facilities Agreement, and require and compel the Corporation to perform and carry out its covenants and agreements with the Holders;

(ii) by action or suit in equity require the Corporation to account as if such Corporation were the trustee of an express trust;

(iii) by action or suit in equity enjoin any acts or things which may be unlawful or in violation of the rights of the Holders;

(iv) bring suit upon the Bonds;

(v) take such other action with respect to the Trust Estate, including obtaining the appointment of a receiver, as it may deem appropriate and apply any funds resulting therefrom as if such funds were Revenues; or

(vi) avail itself of any other remedy, whether at law or in equity, as it may determine to be appropriate.

(d) *Remedies Under Uniform Commercial Code.* The Trustee may exercise any rights, powers, or remedies it may have as a secured party under the Uniform Commercial Code of the State, or other similar laws in effect.

(e) *No Remedy Exclusive, Effect of Delay and Waiver.* No remedy conferred upon or reserved to the Trustee (or to the Holders) by this Trust Agreement is intended to be exclusive of any other remedy. Each remedy shall be cumulative and shall be in addition to every other remedy given hereunder or otherwise to the Trustee or to the Holders now or hereafter existing. No delay in exercising or omission to exercise any remedy, right or power accruing upon any default or Event of Default shall impair that remedy, right or power or shall be construed to be a waiver of any default or Event of Default or acquiescence therein. Every remedy, right and power may be deemed to be expedient. No waiver of any default or Event of Default hereunder, whether by the Trustee or by the Holders, shall extend to or shall affect any subsequent default or Event of Default or shall impair any remedy, right or power consequent thereon.

(f) *Remedies Under Facilities Agreement and Base Lease.* As the assignee of all right, title and interest of the Corporation in and to the Facilities Agreement and the Base Lease, the Trustee is empowered to enforce each remedy, right and power granted to the Corporation under the Facilities Agreement (except for those rights specifically reserved to the Corporation) and the Base Lease. In exercising any remedy, right or power under the Facilities Agreement, the Base Lease or this Trust Agreement, the Trustee shall take any action which would best serve the interests of the Holders in the judgment of the Trustee and its counsel, applying the standards described in **Sections 6.1** and **6.2** hereof.

Section 7.4. Right of Holders to Direct Proceedings. Anything to the contrary in this Trust Agreement notwithstanding, the Holders of at least a majority in aggregate principal amount of the Outstanding Bonds shall have the right at any time to direct, by an instrument or document or instruments or documents in writing executed and delivered to the Trustee, the method and place of conducting all proceedings to be taken in connection with the enforcement of the terms and conditions of this Trust Agreement or any other proceedings hereunder; provided, that (i) any direction shall not be other than in accordance with the provisions of law and of this Trust Agreement, (ii) the Trustee shall be indemnified as provided in **Sections 6.1** and **6.2** hereof, and (iii) the Trustee may take any other action which it deems to be proper and which is not inconsistent with the direction.

Section 7.5. Application of Moneys. (a) Unless the principal of all Outstanding Bonds shall have become or have been declared due and payable, any funds received by the Trustee hereunder shall after payment to the Trustee of its fees, costs, and expenses (including attorneys' fees, costs and expenses) be applied as follows:

First: To the payment to the Persons entitled thereto of all installments of interest then due on the Bonds in the order of maturity of such installments, and, if the amount available shall not be sufficient to pay in full any installment or installments maturing on the same date, then to the payment thereof ratably, according to the amounts due thereon to the person entitled thereto, without any discrimination or preference;

Second: To the payment to the Persons entitled thereto of the unpaid principal amounts or redemption premium, if any, of any Bonds which shall have become due (other than Bonds previously called for redemption in accordance with the provisions hereof), whether at maturity or by call for redemption, in the order of their due dates, and if the amounts available shall not be sufficient to pay in full all the Bonds due on any date, then to the payment thereof ratably, according to the principal amounts or redemption premium, if any, due on such date, to the Persons entitled thereto, without any discrimination or preference; and

Third: If, when there is not an Event of Default, the Trustee is required to expend funds to defend itself in a lawsuit which arises under a cause of action attacking the legality of the Bonds; the inclusion of interest earned on the Bonds, as applicable, in the gross income for federal income tax purposes of a

Holder; or the status of the Corporation as issuer, then, in such event the Trustee shall be entitled to a call on the funds for the same kinds of expenses as are described as costs and expenses of collection as described in **Section 7.5(b)** below.

(b) If the principal of all Outstanding Bonds shall have become or have been declared due and payable, any funds received by the Trustee hereunder, after payment of costs and expenses of collection, shall be applied to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the Persons entitled thereto without any discrimination or preference. For purposes hereof, “costs and expenses of collection” shall include such expenses as are necessary for the Trustee to fulfill its obligation of due diligence to protect the interests of the Holders in the Trust Estate, which may include the Trustee’s reasonable expenses and fees for its duties administering this Trust Agreement while the Bonds are in default to include its normal fees, additional expenses resulting from managing any of the property forming part of the Trust Estate, costs and expenses of counsel to represent the Trustee, expenses of any and all consultants employed by the Trustee and direct expenses of the Trustee to include the costs of preparing and mailing notices to Holders and other parties.

(c) If the principal of all Outstanding Bonds shall have been declared due and payable, and if such declaration shall thereafter have been rescinded and annulled under the provisions of this **Article VII**, then, subject to the provisions of paragraph (b) of this **Section 7.5** in the event that the principal of all Outstanding Bonds shall later become due or be declared due and payable, moneys shall be applied in accordance with the provisions of paragraph (a) of this **Section 7.5**.

(d) Whenever moneys are to be applied pursuant to the provisions of this **Section 7.5**, those moneys shall be applied at such times, and from time to time, as the Trustee shall determine, having due regard to the amount of moneys available for application and the likelihood of additional moneys becoming available for application in the future. Whenever the Trustee shall direct the application of those moneys, it shall fix the date upon which the application is to be made, and upon that date, interest shall cease to accrue on the amounts of principal, if any, to be paid on that date, provided the moneys are available therefor. The Trustee shall give notice of the deposit with it of any moneys and of the fixing of that date, all consistent with the requirements of **Section 3.5** hereof for the establishment of, and for giving notice with respect to, a Special Record Date for the payment of overdue interest. The Trustee shall not be required to make payment of principal of a Bond to the Holder thereof, until the Bond shall be presented to the Trustee for appropriate endorsement or for cancellation if it is paid fully.

(e) Whenever all Bonds and interest thereon have been paid under the provisions of this **Section 7.5** and all expenses and charges of the Trustee have been paid, any balance remaining shall be paid to the Person entitled to receive the same; if no other Person shall be entitled thereto, then the balance shall be paid to the Commission or as a court of competent jurisdiction may direct.

Section 7.6. Remedies Vested in Trustee. All rights of action (including without limitation, the right to file proofs of claims) under this Trust Agreement or under any of the Bonds may be enforced by the Trustee without the possession of any of the Bonds or the production thereof in any trial or other proceeding relating thereto. Any suit or proceeding instituted by the Trustee shall be brought in its name as Trustee without the necessity of joining any Holders as plaintiffs or defendants. Any recovery of judgment shall be for the benefit of the Holders of the Outstanding Bonds subject to the provisions of this Trust Agreement. When the Trustee incurs costs or expenses (including legal fees, costs and expenses) or renders services after the occurrence of an Event of Default, such costs and expenses and the

compensation for such services are intended to constitute expenses of administration under any federal or state bankruptcy, insolvency, arrangement, moratorium, reorganization or other debtor relief law.

Section 7.7. Rights and Remedies of Holders. Except as provided in **Section 7.4** hereof, a Holder of a Bond shall not have any right to institute any suit, action or proceeding for the enforcement of this Trust Agreement, for the execution of any trust hereof, or for the exercise of any other remedy hereunder, unless there has occurred and is continuing an Event of Default of which the Trustee has been notified or is deemed to have notice as provided in **Section 6.2(f)** hereof; the Holders of at least 25% in aggregate principal amount of the Outstanding Bonds shall have made written request to the Trustee and shall have afforded the Trustee reasonable opportunity to proceed to exercise the remedies, rights and powers granted herein or to institute the suit, action or proceeding in its own name, and shall have offered indemnity to the Trustee as provided in **Sections 6.1** and **6.2** hereof; and the Trustee thereafter shall have failed or refused to exercise the remedies, rights and powers granted herein or to institute the suit, action or proceeding in its own name. At the option of the Trustee, such notification (or notice), request, opportunity and offer of indemnity are conditions precedent in every case, to the institution of any suit, action or proceeding described above.

No one or more Holders of the Bonds shall have any right to affect, disturb or prejudice in any manner whatsoever the security or benefit of this Trust Agreement by its or their action, or to enforce, except in the manner provided herein, any remedy, right or power hereunder. Any suit, action or proceeding shall be instituted, had and maintained in the manner provided herein for the benefit of the Holders of all Outstanding Bonds. Nothing in this Trust Agreement shall affect or impair, however, the right of any Holder to enforce the payment of the principal and interest due on any Bond owned by that Holder at and after the due date thereof, at the place, from the sources and in the manner expressed in the Bond.

Section 7.8. Termination of Proceedings. In case the Trustee shall have proceeded to enforce any remedy, right or power under this Trust Agreement in any suit, action or proceedings, and the suit, action or proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Trustee, the Corporation and the Holders shall be restored to their former positions and rights hereunder, respectively, and all rights, remedies and powers of the Trustee shall continue as if no suit, action or proceedings had been taken.

Section 7.9. Waivers of Events of Default. Except as hereinafter provided, at any time, in its discretion, the Trustee may waive any Event of Default hereunder and its consequences and shall do so upon the written request of the Holders of Bonds of at least a majority in aggregate principal amount of Bonds Outstanding. There shall not be so waived, however, any Event of Default described in **Section 7.1(a)** hereof unless at the time of such waiver payments of all amounts then due and payable with respect to the Bonds have been made or provision has been made therefor. In the case of such waiver, or in case any suit, action or proceeding taken by the Trustee on account of any Event of Default shall have been discontinued, abandoned or determined adversely to it, the Trustee and the Holders shall be restored to their former positions and rights hereunder, respectively. No waiver or rescission shall extend to any subsequent or other Event of Default or impair any right consequent thereon.

[End of Article VII]

ARTICLE VIII

SUPPLEMENTAL AGREEMENTS

Section 8.1. Supplemental Agreements Generally. The Corporation and the Trustee may enter into Supplemental Agreements, as provided in this **Article VIII** and pursuant to the other provisions therefor in this Trust Agreement.

Section 8.2. Supplemental Agreements Not Requiring Consent of Holders. Without the consent of, or notice to, any of the Holders, the Corporation and the Trustee may enter into Supplemental Agreements for any one or more of the following purposes:

- (a) To cure any ambiguity, inconsistency or formal defect or omission in this Trust Agreement;
- (b) To grant to or confer upon the Trustee for the benefit of the Holders any additional rights, remedies, powers or authority that lawfully may be granted to or conferred upon the Holders or the Trustee;
- (c) To assign additional revenues under this Trust Agreement;
- (d) To accept additional security and instruments and documents of further assurance with respect to the Project Facilities;
- (e) To add to the covenants, agreements and obligations under this Trust Agreement, other covenants, agreements and obligations to be observed for the protection of the Holders;
- (f) To evidence any succession to the Trustee and the assumption by its successor of the covenants, agreements and obligations of the Trustee under this Trust Agreement and the Bonds;
- (g) To permit the use of a book entry system to identify the owner of a proportionate interest in the payments under the Facilities Agreement, whether that proportionate interest was formerly, or could be, evidenced by a tangible security;
- (h) To permit the Trustee to comply with any obligations imposed upon it by law;
- (i) To specify further the duties and responsibilities of the Trustee;
- (j) To achieve compliance of this Trust Agreement with any applicable federal securities or other related federal law;
- (k) To make amendments to the provisions hereof relating to matters under the Code, if, in the opinion of Bond Counsel, those amendments would not cause the interest on the Bonds, as applicable, to become includable in the gross incomes of the Holders thereof for federal income tax purposes;
- (l) To make provision of the issuance of Additional Bonds as provided for herein;
- (m) To permit any other amendment which is not to the prejudice of the Holders or, in the judgment of the Trustee, is not to the prejudice of the Trustee; or
- (n) To reflect a change in applicable law.

The provisions of paragraphs (h), (j) and (n) above shall not be deemed to constitute a waiver by the Trustee or any Holder of any right which it may have in the absence of those provisions to contest the application of any change in law to this Trust Agreement or the Bonds.

Section 8.3. Supplemental Agreements Requiring Consent of Holders. Exclusive of Supplemental Agreements to which reference is made in **Section 8.2** hereof and subject to the terms, provisions and limitations contained in this **Section 8.3**, and not otherwise, with the consent of the Holders of not less than a majority in aggregate principal amount of the Outstanding Bonds at such time, evidenced as provided in this Trust Agreement, the Corporation and the Trustee may execute and deliver Supplemental Agreements adding any provisions to, changing in any manner or eliminating any of the provisions of this Trust Agreement or any Supplemental Agreement or restricting in any manner the rights of the Holders. Nothing in this **Section 8.3** or in **Section 8.2** hereof shall, however, be construed as permitting:

(a) without the consent of the Holder of each Bond so affected, (i) an extension of the maturity of the principal of or the interest on any Bond, or (ii) a reduction in the principal amount of any Bond or the rate of interest thereon, or

(b) without the consent of the Holders of all Outstanding Bonds, (i) the creation of a privilege or priority of any Bond or Bonds over any other Bond or Bonds, or (ii) a reduction in the aggregate principal amount of the Bonds required for consent to a Supplemental Agreement; provided, however, that the establishment of an escrow for the defeasance of a portion of the Bonds shall not be deemed to constitute the creation of a privilege or priority for the benefit of the Bonds to be defeased.

If the Corporation shall request that the Trustee execute and deliver any Supplemental Agreement for any of the purposes of this **Section 8.3**, upon (i) being satisfactorily indemnified with respect to its expenses in connection therewith, and (ii) if required by **Section 8.4** hereof, receipt of the Commission's consent to the proposed execution and delivery of the Supplemental Agreement, the Trustee shall cause notice of the proposed execution and delivery of the Supplemental Agreement to be mailed by first class mail, postage prepaid, to all Holders of Outstanding Bonds at their addresses as they appear on the Register at the close of business on the 15th day preceding that mailing.

The Trustee shall not be subject to any liability to any Holder by reason of the Trustee's failure to mail, or the failure of any Holder to receive, the notice required by this **Section 8.3**. Any failure of that nature shall not affect the validity of the Supplemental Agreement when there has been consent thereto as provided in this **Section 8.3**. The notice shall set forth briefly the nature of the proposed Supplemental Agreement and shall state that copies thereof are on file at the designated trust office of the Trustee for inspection by all Holders.

If the Trustee shall receive, within a period described by the Trustee of not less than 60 days but not exceeding one year, following the mailing of the notice, an instrument or document or instruments or documents (which instrument or document or instruments or documents shall refer to the proposed Supplemental Agreement in the form described in the notice), by which the Holders of not less than a majority in aggregate principal amount of the Outstanding Bonds consent to the execution of such Supplemental Agreement, the Trustee shall, but shall not otherwise, execute and deliver the Supplemental Agreement in substantially the form to which reference is made in the notice as being on file with the Trustee, without liability or responsibility to any Holder, regardless of whether that Holder shall have consented thereto.

Any consent shall be binding upon the Holder of the Bond giving the consent and, anything herein to the contrary notwithstanding, upon any subsequent Holder of that Bond and of any Bond executed and delivered in exchange therefor (regardless of whether the subsequent Holder has notice of the consent to the Supplemental Agreement). A consent may be revoked in writing, however, by the Holder who gave the consent or by a subsequent Holder of the Bond by a revocation of such consent received by the Trustee prior to the execution and delivery by the Trustee of the Supplemental Agreement. At any time after the Holders of the required percentage of Bonds shall have filed their consents to the Supplemental Agreement, the Trustee shall make and file with the Commission a written statement that the Holders of the required percentage of Bonds have filed those consents. That written statement shall be conclusive evidence that the consents have been so filed.

If the Holders of the required percentage in aggregate principal amount of Outstanding Bonds shall have consented to the Supplemental Agreement, as provided in this **Section 8.3**, no Holder shall have any right (a) to object to (i) the execution or delivery of the Supplemental Agreement, (ii) any of the terms and provisions contained therein, or (iii) the operation thereof, (b) to question the propriety of the execution and delivery thereof, or (c) to enjoin or restrain the Trustee from that execution or delivery or from taking any action pursuant to the provisions thereof.

For Bonds insured by a municipal bond insurance policy issued by a bond insurer, such bond insurer will have the right to consent hereunder in lieu of such Holders.

Section 8.4. Consent of Commission. Anything contained herein to the contrary notwithstanding, a Supplemental Agreement executed and delivered in accordance with this **Article VIII** which affects any rights or obligations of the Commission shall not become effective unless and until the Commission shall have consented in writing to the execution and delivery of that Supplemental Agreement. The Trustee shall cause notice of the proposed execution and delivery of any Supplemental Agreement and a copy of the proposed Supplemental Agreement to be mailed to the Commission, as provided in **Section 13.3** hereof, (i) at least 30 days (unless waived by the Commission) before the date of the proposed execution and delivery in the case of a Supplemental Agreement to which reference is made in **Section 8.2** hereof, and (ii) at least 30 days (unless waived by the Commission) before the giving of the notice of the proposed execution and delivery in the case of a Supplemental Agreement for which provision is made in **Section 8.3** hereof.

Section 8.5. Authorization to Trustee; Effect of Supplement. The Trustee is authorized to join with the Corporation in the execution and delivery of any Supplemental Agreement in accordance with this **Article VIII** and to make the further agreements and stipulations which may be contained therein with the following effect:

- (a) That Supplemental Agreement shall form a part of this Trust Agreement;
- (b) All terms and conditions contained in that Supplemental Agreement as to any provision authorized to be contained therein shall be deemed to be a part of the terms and conditions of this Trust Agreement for any and all purposes;
- (c) This Trust Agreement shall be deemed to be modified and amended in accordance with the Supplemental Agreement; and
- (d) The respective rights, duties and obligations under this Trust Agreement of the Corporation, the Trustee and all Holders of Outstanding Bonds shall be determined, exercised and enforced hereunder in a manner which is subject in all respects to those modifications and amendments made by the Supplemental Agreement.

Express reference to any executed and delivered Supplemental Agreement may be made in the text of any Bonds executed and delivered thereafter, if that reference is deemed necessary or desirable by the Trustee or the Corporation. The Trustee shall not be required to execute a Supplemental Agreement containing provisions adverse to the Trustee.

Section 8.6. Opinion of Counsel. The Trustee shall be entitled to receive, and shall be fully protected in conclusively relying upon, the opinion of any counsel approved by it as conclusive evidence that (i) any proposed Supplemental Agreement complies with the provisions of this Trust Agreement, and (ii) it is proper for the Trustee to join in the execution of that Supplemental Agreement under the provisions of this **Article VIII**. The Trustee may accept an opinion of Bond Counsel or counsel for the Corporation or the Commission for such purposes. Prior to taking any action hereunder, the Trustee shall be entitled to assurance as to the payment of the fees, costs and expenses of any counsel providing such opinion.

Section 8.7. Modification by Unanimous Consent. Notwithstanding anything contained elsewhere in this Trust Agreement, the rights and obligations of the Trustee and of the Holders of the Bonds, and the terms and provisions of the Bonds and this Trust Agreement or any Supplemental Agreement, may be modified or altered in any respect with the consent of (i) the Trustee, (ii) the Holders of all of the Outstanding Bonds, and (iii) if required by **Section 8.4** hereof, the Commission.

[End of Article VIII]

ARTICLE IX
DEFEASANCE

Section 9.1. Defeasance.

(a) When principal or redemption price (as the case may be) of, and interest on, any Bonds issued hereunder has been paid, or provision shall have been made for payment of the same, together with the compensation of the Trustee and all other sums payable hereunder by the Corporation and the Commission, the right, title and interest of the Trustee with respect to such Bonds shall thereupon cease and the Trustee shall release this Trust Agreement and shall execute such documents to evidence such releases as may be reasonably required by the Corporation and shall turn over to the Corporation or to such person, body or authority as may be entitled to receive the same all balances then held by it hereunder; provided, however, that the Commission shall in all events remain liable under the Facilities Agreement (subject to **Section 4.7** thereof) until all amounts due and owing thereunder have been paid or provision shall have been made for payment of the same.

(b) Provision for the payment of the Bonds shall be deemed to have been made when the Trustee holds, in an irrevocable deposit, under the provisions hereof (i) cash in an amount sufficient to make all payments specified above with respect to all of such Bonds, or (ii) Defeasance Obligations maturing on or before the date or dates when the payments specified above shall become due, the principal amount of which and the interest thereon, when due, is or will be, in the aggregate, sufficient without reinvestment to make all payments specified above with respect to such Bonds, or (iii) any combination of such cash and such Defeasance Obligations the amounts of which and interest thereon, when due, are or will be, in the aggregate, sufficient without reinvestment to make all payments specified above on such Bonds; provided that, to the extent such deposit does not consist of uninvested cash, the Trustee shall have received a report of an independent accountant or firm of accountants selected by the Corporation verifying that the computations of the amount available from Defeasance Obligations when added to any cash available shall be sufficient to meet the requirements hereof.

(c) Neither the obligations nor the moneys deposited with the Trustee pursuant to this **Section 9.1** shall be withdrawn or used for any purpose other than, and shall be segregated and held in trust for, the payment of the principal or redemption price of, and interest on, said Bonds.

(d) Whenever moneys or obligations shall be deposited with the Trustee for the payment or redemption of Bonds more than 60 days prior to the date that such Bonds are to mature or be redeemed, the Trustee shall mail a notice stating that such moneys or obligations have been deposited and identifying the Bonds for the payment of which such moneys or obligations are being held, to the Holders of Bonds for the payment of which such moneys or obligations are being held.

(e) Prior to any defeasance becoming effective under this Trust Agreement, there shall have been delivered to the Trustee an opinion of Bond Counsel, satisfactory to the Trustee, to the effect that interest on the Bonds being paid by such defeasance will not become subject to federal income taxation by reason of such defeasance.

Section 9.2. Survival of Certain Provisions. Notwithstanding the foregoing, any provisions of this Trust Agreement which relate to the maturity of Bonds, interest payments and dates thereof, exchange, transfer and registration of Bonds, replacement of mutilated, destroyed, lost or stolen Bonds, the safekeeping and cancellation of Bonds, nonpresentment of Bonds, the holding of moneys in trust, and payments to the Commission from the Bond Fund pertaining to the Facilities Agreement and the duties of the Trustee in connection with all of the foregoing, shall remain in effect and be binding upon the Trustee

and the Holders, notwithstanding, the release and discharge of this Trust Agreement. The provisions of this **Article IX** and payment of the Trustee's fees, charges and expenses in connection therewith shall survive the release, discharge and satisfaction of this Trust Agreement.

[End of Article IX]

ARTICLE X
[RESERVED]

ARTICLE XI

AMENDMENTS TO BASE LEASE AND FACILITIES AGREEMENT

Section 11.1. Amendments Not Requiring Consent of Holders. Without the consent of or notice to the Holders, the Trustee, as Trustee and as lessor and seller by assignment, may consent to any amendment, change or modification of the Base Lease and the Facilities Agreement as may be required (i) by the provisions of the Base Lease, the Facilities Agreement or this Trust Agreement, (ii) for the purpose of curing any ambiguity, inconsistency or formal defect or omission in the Base Lease or the Facilities Agreement, (iii) in connection with an amendment or to effect any purpose for which there could be an amendment of this Trust Agreement pursuant to **Section 8.2** hereof, (iv) in connection with the refinancing, in whole or in part, of the Project Facilities, (v) in connection with the issuance of Additional Bonds as provided for herein, or (vi) in connection with any other change therein which in the judgment of the Trustee, relying on an opinion of Counsel as provided in Section 11.3 herein is not to the prejudice of the Holders. No such consent or notice to the Holders shall be required with respect to any amendment to add to the description of the Real Property any subsequently acquired property that becomes a part thereof or to remove therefrom any property to be deleted under the provisions of the Base Lease or the Facilities Agreement whether by way of release or substitution in accordance with the terms of the Base Lease and the Facilities Agreement or in connection with the granting of easements, releases and substitutions under Sections 3.6 and 6.3 of the Base Lease.

Section 11.2. Amendments Requiring Consent of Holders. Except for the amendments, changes or modification contemplated in **Section 11.1** hereof, the Trustee shall not consent to:

(a) Any amendment, change or modification of the Facilities Agreement which would change the amount or time as of which Base Payments are required to be paid without the giving of notice as provided in this **Section 11.2** of the proposed amendment, change or modification and receipt of the written consent thereto of the Holders of all of the Outstanding Bonds; provided that this requirement shall not apply to amendments that increase or decrease payments under the Facilities Agreement to provide for Additional Bonds hereunder; or

(b) Any amendment, change or modification of the Facilities Agreement without the giving of notice as provided in this **Section 11.2** of the proposed amendment, change or modification and the receipt of the written consent thereto of the Holders of not less than a majority in aggregate principal amount of the Outstanding Bonds.

The consent of the Holders shall be obtained as provided in **Section 8.3** hereof with respect to Supplemental Agreements. If the Commission shall request at any time the consent of the Trustee to any proposed amendment, change or modification of the Facilities Agreement contemplated in subsections (a) or (b), upon being indemnified satisfactorily with respect to expenses, the Trustee shall cause notice of the proposed amendment, change or modification to be provided in the manner which is required by **Section 8.3** hereof with respect to notice of Supplemental Agreements. The notice shall set forth briefly the nature of the proposed amendment, change or modification, as provided to the Trustee, and shall state that copies of the instrument or document embodying it are on file at the principal corporate trust office of the Trustee for inspection by all Holders.

For Bonds insured by a municipal bond insurance policy issued by a bond insurer, such bond insurer will have the right to consent hereunder in lieu of such Holders.

Section 11.3. Opinion of Counsel. The Trustee shall be entitled to receive, and shall be fully protected in conclusively relying upon, the opinion of any counsel approved by it as conclusive evidence

that (i) any proposed amendment, change, or modification of or supplement to the Base Lease and the Facilities Agreement (a) complies with the provisions of this Trust Agreement and (b) is authorized and permitted pursuant to the terms of the Base Lease and the Facilities Agreement, and (ii) it is proper for the Trustee to consent to the proposed amendment, change, or modification of or supplement to the Base Lease and the Facilities Agreement under the provisions of this **Article XI**. The Trustee may accept an opinion of Bond Counsel or counsel for the Corporation or the Commission for such purposes. Prior to taking any action hereunder, the Trustee shall be entitled to assurance as to the payment of the fees, costs and expenses of any counsel providing such opinion.

[End of Article XI]

ARTICLE XII

MEETINGS OF HOLDERS

Section 12.1. Purpose of Meetings. A meeting of Holders of the Bonds may be called at any time and from time to time pursuant to the provisions of this **Article XII**, to take any action (i) authorized to be taken by or on behalf of the Holders of any specified aggregate principal amount of the Bonds, (ii) under any provision of this Trust Agreement, or (iii) authorized or permitted by law.

Section 12.2. Call of Meetings. The Trustee may call at any time a meeting of Holders of the Bonds pursuant to **Section 12.1** hereof to be held at any reasonable time and place the Trustee shall determine. Notice of such meeting, setting forth the time, place and generally the subject thereof, shall be mailed by first class mail, postage prepaid, not fewer than 15 nor more than 90 days prior to the date of the meeting to the Holders at their addresses as they appear on the Register on the 15th day preceding such mailing, which 15th day preceding the mailing shall be the record date for the meeting.

At any time the Holders of at least 25% in aggregate principal amount of the Outstanding Bonds shall have requested the Trustee to call a meeting of Holders, by written request setting forth the purpose of the meeting within 20 days after receipt of the request, then the Corporation or, if it does not do so, the Holders of Bonds in the amount above specified may determine the time and the place of the meeting and may call the meeting to take any action authorized in **Section 12.1** hereof, by mailing notice thereof as provided above, such meeting to be noticed not more than 30 days after receipt of request of the Holders.

Any meetings of Holders shall be valid without notice, if the Holders of all Outstanding Bonds are present in person or by proxy, or if notice is waived before or after the meeting by the Holders of all Outstanding Bonds who were not so present at the meeting, and if the Corporation, the Commission and the Trustee are either present by duly authorized representatives or have waived notice, before or after the meeting.

Section 12.3. Voting. To be entitled to vote at any meeting of Holders of the Bonds, a Person shall (i) be a Holder of one or more Outstanding Bonds as of the record date for the meeting as determined above, or (ii) be a person appointed by an instrument or document in writing as proxy by a Person who is such a Holder as of the record date for the meeting of one or more Outstanding Bonds. Each Holder or proxy shall be entitled to one vote for each \$5,000 principal amount of Bonds held or represented by it.

The vote upon any resolution submitted to any meeting of Holders shall be by written ballots on which shall be subscribed the signatures of the Holders or their representatives by proxy and the identifying numbers of the Bonds held or represented by them.

Notwithstanding any other provisions hereof, any insurer, surety, guarantor or provider of any credit facility that applies to such series of Bonds or a portion thereof may act in the place and stead of the Holders of such Bonds with respect to consents or action at any meeting of the Holders.

Section 12.4. Meetings. Notwithstanding any other provision of this Trust Agreement, the Trustee may make any reasonable regulations which it may deem to be advisable for meetings of Holders, with regard to:

- (a) proof of the holding of Bonds and of the appointment of proxies,
- (b) the appointment and duties of inspectors of votes,

- (c) recordation of the proceedings of those meetings,
- (d) the execution, submission and examination of proxies and other evidence of the right to vote, and
- (e) any other matters concerning the conduct, adjournment or reconvening of meetings which it may deem fit.

The Trustee shall appoint a temporary chair of the meeting by an instrument or document in writing, unless the meeting shall have been called by the Corporation or by the Holders, as provided in **Section 12.2** hereof, in which case the Corporation or the Holders calling the meeting, as the case may be, shall appoint a temporary chair in like manner. A permanent chair and a permanent secretary of the meeting shall be elected by vote of the Holders of a majority in principal amount of the Bonds represented at the meeting and entitled to vote.

The only Persons who shall be entitled to be present or to speak at any meeting of Holders shall be the Persons entitled to vote at the meeting, any representatives of the Trustee, any representatives of the Corporation, and any representatives of the Commission, and their respective counsel.

Section 12.5. Miscellaneous. Nothing contained in this **Article XII** shall be deemed or construed to authorize or permit any hindrance or delay in the exercise of any right or rights conferred upon or reserved to the Trustee or to the Holders under any of the provisions of this Trust Agreement or of the Bonds by reason of any call of a meeting of Holders or any rights conferred expressly or impliedly hereunder to make a call.

[End of Article XII]

ARTICLE XIII

MISCELLANEOUS

Section 13.1. Limitation of Rights. With the exception of rights conferred expressly in this Trust Agreement, nothing expressed or mentioned in or to be implied from the Base Lease, the Facilities Agreement or the Bonds is intended or shall be construed to give to any Person other than the parties hereto and the Holders of the Bonds any legal or equitable right, remedy, power or claim under or with respect to this Trust Agreement or any covenants, agreements, conditions and provisions contained herein. This Trust Agreement and all of those covenants, agreements, conditions and provisions are intended to be, and are, for the sole and exclusive benefit of the parties hereto, and the Holders of the Bonds as provided herein.

Section 13.2. Severability. In case any section or provision of this Trust Agreement, or any covenant, agreement, stipulation, obligation, act or action, or part thereof, made, assumed, entered into or taken under this Trust Agreement, or any application thereof, is held to be illegal or invalid for any reason, or is inoperable at any time, that illegality, invalidity or inoperability shall not affect the remainder thereof or any other section or provision of this Trust Agreement or any other covenant, agreement, stipulation, obligation, act or action, or part thereof, made, assumed, entered into or taken under this Trust Agreement, all of which shall be construed and enforced at the time as if the illegal, invalid or inoperable portion were not contained therein.

Any illegality, invalidity or inoperability shall not affect any legal, valid and operable section, provision, covenant, agreement, stipulation, obligation, act, part or application, all of which shall be deemed to be effective, operative, made, assumed, entered into or taken in the manner and to the full extent permitted by law from time to time.

Section 13.3. Notices. Except as provided in **Section 7.2** hereof, it shall be sufficient service or giving of any notice, request, complaint, demand or other instrument or document, if it is mailed by first class mail, postage prepaid or is sent via electronic transmission. Notices to the Corporation, the Commission and the Trustee shall be addressed as follows:

The Corporation	Center for Arts and Health Sciences Public Facilities Corporation Attention: President, Board of Directors 506 South Pleasantburg Drive, Room 142 Greenville, South Carolina 29607
The Commission	Greenville Technical College Area Commission Attention: Vice President of Finance 506 South Pleasantburg Drive, Room 142 Greenville, South Carolina 29607
The Trustee	U.S. Bank National Association Attention: Corporate Trust Services Mail Code: EX-SC-WMSC 1441 Main Street, Suite 775 Columbia, South Carolina 29201

Duplicate copies of each notice, request, complaint, demand or other instrument or document given hereunder by the Corporation, the Trustee or the Commission to one or more of the others also shall be given to the others. The foregoing parties may designate, by notice given hereunder, any further or

different addresses to which any subsequent notice, request, complaint, demand or other instrument or document shall be sent.

In connection with any notice mailed pursuant to the provisions of this Trust Agreement, a certificate of the Trustee, the Corporation, the Commission or the Holders, whichever or whoever mailed that notice, that the notice was so mailed shall be conclusive evidence of the proper mailing of the notice.

Section 13.4. Suspension of Mail. If because of the suspension of delivery of first class mail or, for any other reason, the Trustee shall be unable to mail by the required class of mail any notice required to be mailed by the provisions of this Trust Agreement, the Trustee shall give such notice in such other manner as in the judgment of the Trustee shall most effectively approximate mailing thereof, and the giving of that notice in that manner for all purposes of this Trust Agreement or the Facilities Agreement shall be deemed to be in compliance with the requirement for the mailing thereof. Except as otherwise provided herein, the mailing of any notice shall be deemed complete upon deposit of that notice in the mail and the giving of any notice by any other means of delivery shall be deemed complete upon receipt of the notice by the delivery service.

Section 13.5. [Reserved]

Section 13.6. Instruments of Holders. Any writing, including without limitation, any consent, request, direction, approval, objection or other instrument or document, required under this Trust Agreement to be executed by any Holder may be in any number of concurrent writings of similar tenor and may be executed by that Holder in person or by an agent or attorney appointed in writing. Proof of (i) the execution of any writing, including without limitation, any consent, request, direction, approval, objection or other instrument or document, (ii) the execution of any writing appointing any agent or attorney, and (iii) the ownership of Bonds, shall be sufficient for any of the purposes of this Trust Agreement, if made in the following manner, and if so made, shall be conclusive in favor of the Trustee with regard to any action taken thereunder, namely:

(a) The fact and date of the execution by any person of any writing may be proved by the certificate of any officer in any jurisdiction, who has power by law to take acknowledgments within that jurisdiction, that the person signing the writing acknowledged that execution before that officer, or by affidavit of any witness to that execution; and

(b) The fact of ownership of Bonds shall be proved by the Register.

Nothing contained herein shall be construed to limit the Trustee to the foregoing proof, and the Trustee may accept any other evidence of the matters stated therein which it deems to be sufficient. Any writing, including without limitation, any consent, request, direction, approval, objection or other instrument or document, of the Holder of any Bond shall bind every future Holder of the same Bond, with respect to anything done or suffered to be done by the Corporation or the Trustee pursuant to that writing.

Section 13.7. Priority of this Trust Agreement. This Trust Agreement shall be superior to any liens which may be placed upon the Revenues or any funds (or accounts therein) created pursuant hereto.

Section 13.8. Extent of Covenants; No Personal Liability. All covenants, stipulations, obligations and agreements of the Trustee contained in this Trust Agreement are and shall be deemed to be covenants, stipulations, obligations and agreements of the Trustee as such to the full extent authorized by law. No covenant, stipulation, obligation or agreement of the Trustee or Corporation contained in this Trust Agreement or any other agreement relating to the Bonds shall be deemed to be a covenant, stipulation, obligation or agreement of any present or future member, officer, agent or employee of the

Trustee or the Corporation in other than that person's official capacity. No official executing the Bonds, this Trust Agreement or any amendment or supplement hereto or thereto or other document relating to the Bonds, shall be liable personally on the Bonds or be subject to any personal liability or accountability by reasons of the issuance or execution hereof or thereof.

Section 13.9. Continuing Disclosure. The Commission has covenanted in the Facilities Agreement to provide information under Rule 15c2-12 promulgated under the Securities Exchange Act of 1934, as an Obligated Person (as defined in Rule 15c2-12).

Section 13.10. Binding Effect. This Trust Agreement shall inure to the benefit of and shall be binding upon the Corporation and upon the Trustee, and their respective successors and assigns, subject, however, to the limitations contained herein.

Section 13.11. Counterparts. This Trust Agreement may be executed in any number of counterparts, each of which shall be regarded as an original and all of which shall constitute but one and the same instrument.

Section 13.12. Governing Law. This Trust Agreement and the Bonds shall be deemed to be contracts made under the laws of the State and for all purposes shall be governed by and construed in accordance with the laws of the State without regard to conflict of law principles.

Section 13.13. Limitation of Liability of Corporation. All payments to be made by the Corporation or obligations of the Corporation hereunder are payable solely from the Trust Estate and revenues derived therefrom.

[End of Article XIII]

IN WITNESS WHEREOF, the Corporation has caused this Trust Agreement to be executed and delivered for it and in its name and on its behalf by its duly authorized officers, and the Trustee has caused this Trust Agreement to be executed and delivered for it and in its name and on its behalf by its duly authorized officer all as of the day and year first above written.

WITNESSES

**CENTER FOR ARTS AND HEALTH SCIENCES
PUBLIC FACILITIES CORPORATION**

By: _____
Its: President, Board of Directors

ATTEST:

By: _____
Its: Secretary/Treasurer, Board of Directors

STATE OF SOUTH CAROLINA)
)
COUNTY OF GREENVILLE)

ACKNOWLEDGEMENT

The foregoing instrument was acknowledged before me this __ day of _____, 20
by the within named _____ as the President of the Board of Directors of **CENTER FOR
ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION** (the *“Corporation”*)
and _____ as the Secretary/Treasurer of the Board of Directors of the Corporation as the
act and deed of the Corporation.

Notary Public for South Carolina
Print Name: _____
My Commission Expires: _____

[FORM OF SERIES 2021 BOND]

Registered
No. R-__

\$_____

CENTER FOR ARTS AND HEALTH SCIENCES PUBLIC FACILITIES CORPORATION
INSTALLMENT PURCHASE REVENUE BOND
SERIES 2021

Interest Rate	Maturity Date	Dated Date	CUSIP
_____%	_____	_____, ____	

Holder: CEDE & CO.

Principal Amount: _____ DOLLARS

[FORM OF REQUISITION]

DIRECTION TO MAKE DISBURSEMENT

Requisition No. ____

U.S. Bank National Association
Attention: Corporate Trust Department

Re: \$_____ Center for Arts and Health Sciences Public Facilities Corporation
Installment Purchase Revenue Bonds, Series 2021

Gentlemen:

As Trustee under the Trust Agreement dated as of [DATE], between you and Center for Arts and Health Sciences Public Facilities Corporation (the ***“Trust Agreement”***), and in accordance with the provisions of Section 5.3 of the Trust Agreement, you are hereby directed to disburse from the Project Fund the sum of \$_____, payable to the persons and in the amounts and at the addresses or pursuant to the wiring instructions set forth in Schedule I attached hereto, said sums being the amounts due for or attributable to the items described in said Schedule I. Included herewith is documentation supporting the payments requested herein.

In this connection, we further certify to you as follows:

- A. The amounts to be paid hereunder (i) are due and payable, (ii) are the costs of the Project Facilities, and (iii) have not been the subject of any previous requisition from the Project Fund.
- B. All representations and warranties of the Greenville Technical College Area Commission (the ***“Commission”***) in the Facilities Agreement are true and correct as of the date hereof.
- C. The Commission is not in default under any provisions of the Facilities Agreement.

Dated this ____ day of _____, 20__.

**GREENVILLE TECHNICAL COLLEGE AREA
COMMISSION**

By: _____
Commission Representative

[FORM OF REQUISITION FOR ISSUANCE COSTS]

**DIRECTION TO MAKE DISBURSEMENT
(Costs of Issuance)**

Issuance Cost Requisition No. _____

U.S. Bank National Association
Attention: Corporate Trust Department

Re: \$_____ Center for Arts and Health Sciences Public Facilities Corporation
Installment Purchase Revenue Bonds, Series 2021

Gentlemen:

As Trustee under the Trust Agreement (the ***“Trust Agreement”***) dated as of [DATE], between you and Center for Arts and Health Sciences Public Facilities Corporation (the ***“Corporation”***), and in accordance with the provisions of Section 5.3 of the Trust Agreement, you are hereby directed to disburse from the Project Fund the sum of \$_____, payable to the persons and in the amounts and at the addresses or pursuant to the wiring instructions set forth in Schedule I attached hereto, said sums being the amounts due for or attributable to the items described in said Schedule I. Included herewith is documentation supporting the payments requested herein.

In this connection, we further certify to you as follows:

- A. The amounts to be paid hereunder (i) are due and payable, (ii) are costs of issuance and (iii) have not been the subject of any previous requisition from the Project Fund.
- B. All representations and warranties of the Corporation in the Trust Agreement are true and correct as of the date hereof.
- C. The Corporation is not in default under any provisions of the Trust Agreement.

Dated this ____ day of _____, 20__.

**GREENVILLE TECHNICAL COLLEGE AREA
COMMISSION**

By: _____
Commission Representative

[FORM OF FINAL REQUISITION]

**DIRECTION TO MAKE FINAL DISBURSEMENT
AND CERTIFICATE OF COMPLETION**

Requisition No. ____

U.S. Bank National Association
Attention: Corporate Trust Department

Re: \$_____ Center for Arts and Health Sciences Public Facilities Corporation
Installment Purchase Revenue Bonds, Series 2021

Gentlemen:

As Trustee under the Trust Agreement (the ***“Trust Agreement”***) dated as of [DATE], between you and Center for Arts and Health Sciences Public Facilities Corporation (the ***“Corporation”***), and in accordance with the provisions of Section 5.3 of the Trust Agreement, you are hereby directed to disburse from the Project Fund the total sum of \$_____, payable to the persons and in the amounts and at the addresses or pursuant to the wiring instructions set forth in Schedule I attached hereto, said sum being the total of amounts due for or attributable to the items described in said Schedule I. Said sum represents the final requisition from said Project Fund. Included herewith is documentation supporting the payments requested herein.

In this connection, we further certify to you as follows:

- A. The amounts to be paid hereunder (i) are due and payable, (ii) are for costs of the Project Facilities, and (iii) have not been the subject of any previous requisition from the Project Fund.
- B. All representations and warranties of the Greenville Technical College Area Commission (the ***“Commission”***) in the Facilities Agreement are true and correct as of the date hereof.
- C. The Commission is not in default under any provisions of the Facilities Agreement.
- D. The Project Facilities (as defined in the Facilities Agreement) are free and clear of all liens and encumbrances for labor and materials furnished by the Corporation and by all contractors, subcontractors and materialmen retained by the Commission or by the Corporation for the Project Facilities [except as provided herein], and [all such contractors, subcontractors and materialmen have been, or upon receipt of amounts being requisitioned herein, will be, paid in full, except as permitted by Section 5.3(c) of the Trust Agreement.][the following claims are presently being contested in good faith by the Corporation, and the following amounts as to each shall be held in reserve in the Project Fund pending the resolution thereof: (describe each claimant, nature of controversy, and amount to be held in reserve in Project Fund).]

We further certify to you that the Project Facilities have been substantially completed in accordance with all acquisition or construction contracts and the terms and conditions of the Facilities Agreement, and that the Project Facilities as completed comply with all applicable governmental regulations.

Dated this ____ day of _____, 20__.

**GREENVILLE TECHNICAL COLLEGE AREA
COMMISSION**

By: _____
Commission Representative

ESCROW AGREEMENT

This **ESCROW AGREEMENT** (this *“Escrow Agreement”*), dated as of _____, 20__, by and among Greenville County, South Carolina (the *“County”*), a body corporate and politic and a political subdivision of the State of South Carolina (the *“State”*), the Greenville Technical College Area Commission (the *“Commission”*), a body corporate and politic of the State, and U.S. Bank National Association (the *“Escrow Agent”*), a national banking association organized and existing under the laws of the United States of America, as escrow agent.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto hereby formally covenant, agree, and bind themselves as follows:

Section 1. Findings of Fact.

(a) The County Council of the County (the *“Council”*), the governing body of the County, levies an annual ad valorem tax millage (the *“Tax”*) for the Commission.

(b) The Commission utilizes the collected Tax revenues for operation and maintenance and for the acquisition, construction and renovation of capital improvements for Commission facilities including debt service for such facilities.

(c) The Commission desires to acquire, construct, renovate, install, furnish and equip capital facilities to be used as a new educational building of the Commission (the *“Project Facilities”*). In order to finance the Project Facilities and related issuance costs, the Commission intends to have issued on its behalf installment purchase revenue bonds (the *“Bonds”*) by Center for Arts and Health Sciences Public Facilities Corporation, a South Carolina nonprofit corporation (the *“Corporation”*) pursuant to a Trust Agreement between the Corporation and U.S. Bank National Association, as trustee (the *“Trustee”*), dated as of [DATE] (the *“Trust Agreement”*).

(d) The Commission intends to use the Tax revenues as the payment source for the Base Payments and Acquisition Payments, which are the payments due by the Commission to the Corporation under a Public Facilities Purchase and Occupancy Agreement dated as of [DATE] between the Corporation and the Commission (the *“Facilities Agreement”*) for the acquisition of the Project Facilities.

(e) Pursuant to the Facilities Agreement, the Commission has agreed to make Base Payments and Acquisition Payments payable from revenues of the Commission, subject to annual appropriated of sufficient revenues by the Commission for such purposes, to acquire the Project Facilities from the Corporation pursuant to the Facilities Agreement.

(f) The Corporation will use the Base Payments and the Acquisition Payments to pay the debt service due on the Bonds issued by the Corporation from time to time for the financing or refinancing of the Project Facilities pursuant to the Trust Agreement.

(g) The Corporation intends to secure its obligations under the Trust Agreement by assigning its rights to receive Base Payments and Acquisition Payments from the Commission to the Trustee pursuant to the Trust Agreement.

(h) The County, the Commission and the Escrow Agent desire to enter into this Escrow Agreement, whereby the County will agree to the extent it has levied and collected the Tax for the Commission, to deposit a portion of the Tax revenues received by the County into an Escrow Fund (as defined below) held by the Escrow Agent to be used by the Commission to pay its obligations under the Facilities Agreement.

Section 2. Definitions. Terms used herein without other definition shall have the meanings provided therefor in the Facilities Agreement or the Trust Agreement unless the context or use clearly indicates another meaning or intent. In addition, the following words and terms shall have the meanings set forth below unless the context or use clearly indicates another meaning or intent:

“Business Day” means any day other than a Saturday, a Sunday, a legal holiday or a day on which banking institutions are closed in the state where the designated corporate trust office of the Escrow Agent is located or any day on which the payment system of the United States Federal Reserve is not operational.

“Commission” means the Greenville Technical College Area Commission, its successors and assigns, a body politic and corporate of the State and the governing body of Greenville Technical College.

“Corporation” means Center for Arts and Health Sciences Public Facilities Corporation, a nonprofit corporation incorporated under the laws of the State.

“County” means Greenville County, South Carolina, its successors and assigns.

“County Council” means the governing body of the County.

“Escrow Agent” means U.S. Bank National Association, a national banking association, acting in the capacity of trustee pursuant to the Trust Agreement, and any successor thereto appointed under the Trust Agreement.

“Escrow Agreement” means this Escrow Agreement among the Commission, the County and the Escrow Agent, as amended from time to time.

“Escrow Fund” means the fund by that name established pursuant to **Section 3** hereof.

“Facilities Agreement” means the Public Facilities Purchase and Occupancy Agreement dated as of [DATE] between the Corporation and the Commission, as amended or supplemented from time to time.

“Permitted Investments” means investments permitted under State law for political subdivisions and by the Commission’s investment policy.

“State” means the State of South Carolina.

“Trustee Agreement” means the Trust Agreement dated as of [DATE] between the Commission and the Trustee, as amended or supplemented from time to time.

Section 3. Taxes and Escrow Fund.

(a) The County agrees to pay, or cause to be paid, to the Escrow Agent by the tenth day of each month or the next succeeding Business Day if the tenth day of the month is not a Business Day, commencing December 10, 20__, for the entire term of the Facilities Agreement, the Tax revenues collected by the County.

(b) A special fund is hereby created and established with the Escrow Agent to be designated “Greenville Technical College Area Commission Escrow Fund” (the “*Escrow Fund*”), which shall be expended in accordance with paragraphs (c) and (d) of this **Section 3**. Upon receipt by the Escrow Agent of any Tax revenues from the County pursuant to paragraph (a) of this **Section 3**, the same shall be deposited immediately into the Escrow Fund.

(c) On the fifteenth day of the month prior to each Bond Payment Date, such amount as is needed for the next ensuing Bond Payment Date shall be withdrawn from the Escrow Fund by the Escrow Agent, unless the Escrow Agent has received notice from the Commission that it has not appropriated revenues in its budget for the payment of Base Payments for such fiscal year, and transferred to the Bond Fund established in the Trust Agreement and used by the Trustee to make timely payments of the principal of, premium, if any, and interest on the Bonds as the same respectively become due.

(d) Each year once the Escrow Fund contains the amount of money necessary to satisfy the Bond payments for the Bond Payment Dates of the same calendar year, the Escrow Agent will notify the County in writing of such occurrence and the County shall then transfer all subsequent collected Tax revenues to the Commission until December 1 of such calendar year; the Escrow Agent will then transfer any excess money in the Bond Fund to the Commission. Thereafter, the County will transfer collected Tax revenues to the Escrow Fund until the Escrow Fund has the amount of money necessary to satisfy the Bond payments for the following April 1 and October 1 Bond Payment Dates as set forth on *Exhibit A* attached hereto and thereafter will be distributed as described in the first sentence of this paragraph (d).

(e) Any moneys held as part of the Escrow Fund shall, at the written direction of and as specified by an authorized representative of the Commission, be invested and reinvested by the Escrow Agent in Permitted Investments to the extent practicable. Any investments shall be held by or under the control of the Escrow Agent and shall be deemed at all times a part of the Escrow Fund and the interest accruing thereon and any profit realized from said investments shall be credited to the Escrow Fund, and any loss resulting from the investments shall be charged to the Escrow Fund. The Escrow Agent is directed to sell and reduce to cash funds a sufficient amount of investments whenever the cash balance of the Escrow Fund is insufficient to make any necessary transfers or withdrawals from the Escrow Fund. The Escrow Agent shall value the Permitted Investments in the Escrow Fund on the same occasions and under the same terms and conditions as it shall value funds held under the Trust Agreement. The Escrow Agent may conclusively rely upon the authorized representative of the Commission’s written instructions as to both the suitability and legality of all investments directed hereunder. The Escrow Agent shall have no responsibility to monitor the ratings of investments after the initial purchase of such investments. The Escrow Agent may make any and all such investments through its own investment department or that of its affiliates or subsidiaries, and may charge its ordinary and customary fees for such investments. In the absence of written investment instructions from the Commission, the Escrow Agent shall not be responsible or liable for keeping the moneys held by it hereunder fully invested in investments. The Escrow Agent shall not be liable for any loss from any investments directed hereunder. Confirmations of investments are not required to be issued by the Escrow Agent for each month in which a monthly statement is rendered with respect to such investments.

Section 4. Creation of Lien. The Commission and the County hereby grant to the Escrow Agent a first lien on the monies in the Escrow Fund and acknowledge that the monies in the Escrow Fund shall be subject to an express lien and trust for the benefit of the holders of the Bonds, subject, however, to the terms hereof.

Section 5. Acceptance of the Trusts. The Escrow Agent hereby accepts the trusts imposed upon it by this Escrow Agreement, and agrees to perform those trusts. The Commission shall pay directly to the Escrow Agent from the monies deposited with the Escrow Agent, promptly upon receipt of its statements therefor, all reasonable fees for its services hereunder and all reasonable expenses, charges and disbursements incurred by it in the performance of its duties hereunder. If the Escrow Agent is required by a governmental agency or action initiated by a third party to undertake efforts beyond that which is set forth herein but related thereto (other than due to the Escrow Agent's negligence or willful misconduct), the Escrow Agent shall notify each of the Commission of the same in writing before undertaking such efforts and upon the written approval given by the Commission for the performance by the Escrow Agent of such efforts, the Commission shall promptly pay the Escrow Agent, from the monies deposited with the Escrow Agent, for such extraordinary fees, costs and expenses reasonably and necessarily incurred in connection therewith.

Section 6. Representatives and Responsibilities of Escrow Agent. It is expressly understood and agreed that the Escrow Agent's duties and obligations in connection herewith are confined to those expressly defined herein and no additional covenants or obligations shall be read into this Escrow Agreement against the Escrow Agent. The Escrow Agent shall not be held to any personal liability whatsoever in tort, contract, or otherwise in connection with the execution and delivery of this Escrow Agreement, the establishment of the Escrow Fund, the acceptance of moneys and securities deposited in the Escrow Fund, or any payment, transfer, or other application of money or securities by the Escrow Agent, or any act, omission, or error of the Escrow Agent made in good faith in the conduct of its duties and not involving negligence or willful misconduct.

Notwithstanding any provision herein to the contrary, in no event shall the Escrow Agent be liable for special, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Escrow Agent has been advised of the likelihood of such loss or damage and regardless of the form of action. The Escrow Agent may consult with counsel with respect to any question relating to its duties or responsibilities hereunder or otherwise in connection herewith and shall not be liable for any action taken, suffered or omitted by the Escrow Agent in good faith upon the advice of such counsel. The Escrow Agent shall not be required to expend its own funds for the performance of its duties hereunder. The Escrow Agent may act through its agents and attorneys and shall not be responsible for any misconduct or negligence on the part of any such person so appointed with due care. The Escrow Agent may conclusively rely upon and shall be fully protected in acting and relying upon any notice, order, requisition, request, consent, certificate, order, opinion (including an opinion of counsel), affidavit, letter or other paper or document in good faith deemed by it to be genuine and correct and to have been signed or sent by the proper person or persons. The Escrow Agent shall not be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God; earthquakes; fire; flood; hurricanes or other storms; wars; terrorism; similar military disturbances; sabotage; epidemic; pandemic; riots; interruptions; loss or malfunctions of utilities, computer (hardware or software) or communications services; accidents; labor disputes; acts of civil or military authority or governmental action; it being understood that the Escrow Agent shall use commercially reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as reasonably practicable under the circumstances.

Section 7. Resignation or Removal of Escrow Agent. The Escrow Agent may resign and thereby become discharged from the duties and obligations hereby created, by notice in writing given to the Commission and the County not less than sixty (60) days before the date the resignation shall take effect. The Escrow Agent may be removed by the Commission and the County upon sixty (60) days written notice to the Escrow Agent by an instrument executed and signed by the duly authorized officers of the Commission and the County. The resignation or removal shall take effect upon the appointment of a successor Escrow Agent that shall accept the duties and obligations hereof. If at any time the Escrow Agent shall resign or be removed and no appointment of a successor Escrow Agent shall be made pursuant to the provisions of **Section 9** hereof within sixty (60) days of the date of resignation or removal of the Escrow Agent, then the Escrow Agent, the Commission or the County, may apply to any court of competent jurisdiction to appoint a successor Escrow Agent. The court may thereupon, after any notice as it may deem proper and prescribed, appoint a successor Escrow Agent. Upon the resignation or removal of the Escrow Agent, all moneys, securities, or other obligations shall be transferred immediately to the successor Escrow Agent without the execution or filing of any instruments or any further act, deed, or conveyance on the part of the parties hereto, anything herein to the contrary notwithstanding.

Section 8. Successor Escrow Agent. Any corporation or association into which the Escrow Agent may be converted or merged, or with which it may be consolidated, or to which it may sell or transfer its corporate trust business and assets as a whole or substantially as a whole, or any corporation or association resulting from any conversion, sale, merger, consolidation, or transfer to which it is a party shall be and become successor Escrow Agent hereunder and vested with all of the title to the whole property or trust estate and all the trusts, powers, discretions, immunities, privileges, and all other matters as was its predecessor, without the execution or filing of any instruments or any further act, deed, or conveyance on the part of any of the parties hereto, anything herein to the contrary notwithstanding.

Section 9. Appointment of Successor Escrow Agent. In case the Escrow Agent hereunder shall resign or be removed, or be dissolved, or shall be in the course of dissolution or liquidation, or otherwise become incapable of acting hereunder, or in case it shall be taken under the control of any public officer or officers, or of a receiver appointed by a court, a successor may be appointed by the Commission and the County by an instrument executed and signed by the duly authorized officer of each.

Section 10. Miscellaneous.

(a) All notices, certificates, requests, or other communications hereunder shall be in writing and shall be deemed to be sufficiently given when either (i) hand delivered, (ii) sent via overnight delivery service or (iii) deposited in the United States mail, certified mail, return receipt requested, with postage pre-paid, and addressed to the party or parties for whom intended as follows:

If to the County:

Greenville County
301 University Ridge, Suite 2400
Greenville, South Carolina 29601
Attention: County Administrator

If to the Commission:

Greenville Technical College Area Commission
506 South Pleasantburg Drive
Administration Building, Room 142
Greenville, South Carolina 29607
Attention: President

If to the Escrow Agent:

U.S. Bank National Association
1441 Main Street, Suite 775
Mail Code: EX-SC-WMSC
Columbia, South Carolina 29201
Attention: Corporate Trust Services

A duplicate copy of each notice, certificate, request, or other communication given hereunder to the County, the Commission or the Escrow Agent, shall also be given to the others. The County, the Commission and the Escrow Agent, by notice given hereunder, may designate any further or different address as to which subsequent notices, certificates, requests, or other communication shall be sent.

(b) No covenant, obligation, or agreement contained herein shall be deemed to be a covenant, obligation, or agreement of any present or future member, officer, agent, or employee, of the County, the Commission or the Escrow Agent, in any other than his official capacity, and neither the members of the County Council or the Commission, nor any official executing this Escrow Agreement shall be personally liable thereon or be subject to any personal liability or accountability by reason of the covenants, obligations or agreements of the County, the Commission or the Escrow Agent contained herein.

(c) This Escrow Agreement shall inure to the benefit of and shall be binding in accordance with its terms upon the Escrow Agent, the County, the Commission and their respective successors and assigns.

(d) This Escrow Agreement may not be effectively amended, changed, modified, altered or terminated, except in accordance with the express provisions hereof or with the written consent of all parties hereto.

(e) This Escrow Agreement may be executed in any number of counterparts, each of which shall be regarded as an original and all of which shall constitute but one and the same instrument.

(f) If any other provision of this Escrow Agreement, or any covenant, obligation, or agreement contained herein, is determined by a court of competent jurisdiction to be invalid or unenforceable, that determination shall not affect any other provision, covenant, obligation or agreement, each of which shall be construed and enforced as if the invalid or unenforceable portion were not contained herein. That invalidity or unenforceability shall not affect any valid and enforceable application thereof, and each such provision, covenant, obligation or agreement shall be deemed to be effective, operative, made, entered into or taken in the manner and to the full extent permitted by law.

(g) This Escrow Agreement shall be deemed to be a contract made under the laws of the State and for all purposes shall be governed by and construed in accordance with the laws of the State without regard to conflict of law principles.

(h) Upon termination of this Escrow Agreement, at the termination of the Facilities Agreement, the Escrow Agent shall transfer all moneys held in the Escrow Fund to the other funds held by the Escrow Agent to be used pursuant to the terms of the Trust Agreement and second, any remaining funds, to the Commission.

Section 11. Effective Date. This Escrow Agreement will become effective on the date of issuance of the first series of Bonds under the Trust Agreement.

[Signature page follows]

IN WITNESS WHEREOF, the County, the Commission and the Escrow Agent have caused this Escrow Agreement to be duly executed in their respective names, all as of the date first above written.

GREENVILLE COUNTY, SOUTH CAROLINA

Chairman, County Council

County Administrator

ATTEST:

Clerk to County Council

**GREENVILLE TECHNICAL COLLEGE
AREA COMMISSION**

Chairman

ATTEST:

Secretary

**U.S. BANK NATIONAL ASSOCIATION,
as Escrow Agent**

By: _____

Its: _____

EXHIBIT A
PAYMENT SCHEDULE

A RESOLUTION

TO EXPRESS THE INTENTION OF THE GREENVILLE TECHNICAL COLLEGE AREA COMMISSION, TO CAUSE THE COMMISSION TO BE REIMBURSED FOR CERTAIN COSTS FOR CERTAIN PUBLIC IMPROVEMENTS WITH THE PROCEEDS OF TAX-EXEMPT OBLIGATIONS.

WHEREAS, the Internal Revenue Service and the U.S. Treasury Department have promulgated Section 1.150-2 of the Treasury Regulations (the “*Regulations*”) which authorizes an issuer to reimburse itself for expenditures made with respect to projects prior to the issuance of tax-exempt obligations for such projects; and

WHEREAS, the Greenville Technical College Area Commission (the “*Commission*”), the governing body of Greenville Technical College, is adopting this Resolution to recite certain facts and intentions prior to the incurrence of certain expenditures and the issuance of tax-exempt obligations; and

WHEREAS, the Regulations require that the Commission or a person designated by the Commission declare an official intent to reimburse an expenditure prior to the incurrence of the expenditure; and

WHEREAS, the Commission anticipates incurring certain expenditures in order to acquire, construct, renovate, install, furnish and equip an arts and health sciences facility for the Commission (the “*Project*”) to be owned and operated by the Commission, prior to the issuance of tax-exempt obligations for such purposes in an aggregate principal amount of approximately \$60,000,000 (the “*Obligations*”);

NOW, THEREFORE, BE IT RESOLVED by the Commission as follows:

Section 1. The Commission hereby declares its official intent pursuant to Regulation Section 1.150-2 to be reimbursed from the proceeds of the Obligations for expenditures with respect to the Project which may occur prior to the issuance of the Obligations.

Section 2. To be eligible for reimbursement of any expenditures, the Commission will allocate the proceeds of any tax-exempt obligations to reimburse such expenditures not later than 18 months after the later of (a) the date on which the original expenditures were paid or (b) the date the Project was placed in service or abandoned, but in no event more than three (3) years after the original expenditures were paid. Expenditures, for purposes of the declaration of official intent and the reimbursement allocation, do not apply to any preliminary expenditures for a project, up to an amount not in excess of 20 percent of the aggregate issue price of the tax-exempt obligations. Preliminary expenditures include architectural, engineering, surveying, soil testing, reimbursement bond issuance, and similar costs that were incurred prior to the commencement of acquisition, construction or rehabilitation of any project, other than land acquisition, site preparation, and similar costs incident to commencement of construction.

Section 3. Within one year of any allocation made pursuant to **Section 2** hereof, funds corresponding to the proceeds of the Obligations will not be used in a manner that results in the creation of replacement proceeds, as defined in Regulation Section 1.148-1, of any tax-exempt obligations. The preceding sentence does not apply to amounts deposited in a bona fide debt service fund, as defined in Regulation Section 1.148-1.

Section 4. The allocation described in **Section 2** hereof will not employ an abusive arbitrage device under Regulation Section 1.148-10.

Section 5. Any expenditures to be reimbursed from proceeds of the Obligations will be incurred solely to acquire, construct, or rehabilitate property having a reasonably expected economic life of at least one year.

Section 6. The source of funds for any initial expenditures with respect to the Project will be capital improvement funds or reserve funds of the Commission. Any Obligations issued will be paid from revenues of the Commission, including taxes levied by Greenville County, South Carolina for the Commission.

Section 7. This Resolution does not obligate the Commission to issue the Obligations if it determines that such issuance is not in the interests of the Commission.

Done in meeting duly assembled this 16th day of June, 2021.

**GREENVILLE TECHNICAL COLLEGE
AREA COMMISSION**

Chairman

ATTEST:

Secretary

STATE OF SOUTH CAROLINA)
)
COUNTY OF GREENVILLE)

CERTIFICATE OF RESOLUTION

I, the undersigned Secretary of the Greenville Technical College Area Commission (the "*Commission*"), the governing body of Greenville Technical College, do hereby certify as follows:

Attached hereto is a full, true and correct copy of the resolution duly adopted by the Commission at a meeting thereof duly held on June 16, 2021, which resolution has not been amended, altered or repealed but the same and each and every part thereof is in full force and effect at the date hereof.

WITNESS my official signature this 16th day of June, 2021.

**GREENVILLE TECHNICAL COLLEGE
AREA COMMISSION**

Secretary



Greenville Technical College Arts and Health Sciences Building Schematic Design Narratives

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Architectural Materials

Division 3 - Concrete

Cast-in-Place Concrete

- Refer to structural narrative

Division 4 - Masonry

Masonry Veneer

- Facing brick, type FBX, Grade SW. Standard Modular, 3-5/8" x 2-1/4" x 7-5/8.
- Refer to exterior elevations for locations

Division 5 - Metals

Structural Steel/Steel Decking

- Refer to structural narrative

Cold-Form Metal Framing

- 6" typical, refer to exterior elevations for additional information

Architecturally Exposed Structural Steel Framing

- Canopy/Sunshade - refer to plans and elevations

Metal Fabrications

- Elevator Pit Access ladder: 3/8" x 2" steel bar side rails; steel mounting brackets; 1" diameter solid round bar rungs spaced at 12" on center
- Exterior openings in brick/masonry walls: steel, hot-dipped galvanized lintels

Metal Stairs and Railings

- Monumental Stairs in Atrium: Architecturally-exposed structural steel (AESS). Steel tube stringer, sheet steel risers and treads for installation of precast terrazzo tread/risers, steel pan landings, structural glass railing system, laminated glass, thickness as required,
- Enclosed Exit Stairs: Steel channel stringer, steel sheet risers, steel pan treads/landings; painted steel balusters; stainless steel handrail; painted steel rod horizontal infill.
- Refer to room finish plans and interior materials/finishes matrix for additional finish information.

Glass Railing System

- Structural Glass Railing Systems (at Atrium openings): Basis of Design: CR Laurence SRS Standoff Glass Railing System. Laminated glass, thickness as required.

Division 6 - Wood/Plastic

Rough Carpentry

- Blocking as required for mounting of miscellaneous accessories, casework, and equipment.
- Roofing nailers
- Communications and electrical room mounting boards

Architectural Materials

Finish Carpentry

- Classrooms, seminar rooms, and conference rooms - wood chair rail
- Atrium - wood veneer panel feature walls; Class B Fire Rating or better, refer to building sections for additional information
- Multi-Purpose Room: wood base, wood chair rail
- Window Stools - solid surfacing

Architectural Wood Casework

- Work Rooms, Faculty Break Rooms - plastic laminate base and wall cabinets with solid surfacing counters, refer to plans for locations
- Toilet rooms - prefabricated solid surface trough sinks.

Division 7 - Thermal/Moisture Protection

Waterproofing

- Waterproofing at below grade exterior walls. Basis of Design: Henry CM 100 2-coat fluid applied membrane
- Drainage panel. Basis of Design: Henry DB 520 drainage panel/protection course

Thermal Insulation

- Extruded polystyrene board insulation (at perimeter foundation wall and underside of floor slab)
- Exterior wall insulation: continuous rigid insulation and batt insulation. Refer to exterior elevations for additional information.

Weather Barriers

- Fluid-applied weather barrier

Metal Panel Wall System

- Refer to elevations for types and locations

Terracotta Rainscreen Tile Cladding System

- Refer to elevations for locations

Standing Seam Metal Roof

- Refer to roof plan

Thermoplastic Membrane Roofing

- Refer to roof plan

Sheet Metal Flashing & Trim

- Flashings and counter flashing
- Aluminum coping - see elevations for locations

Fire-stopping

- At rated partitions and penetrations through rated assemblies

Architectural Materials

Joint Sealers

- General Purpose Exterior Sealant: polyurethane; ASTM C 920, Grade NS, Class 25, Uses NT, M, G, and A; single or multi-component. Basis of Design: Pecora Corporation; DynaTrol II General-Purpose Two-Part Polyurethane Sealant.
- General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable. Basis of Design: Pecora Corporation; AC-20 + Silicone Acrylic Latex Caulking Compound.
- Tile Sealant: Silicone; ASTM C920, Uses Mand A; single component, mildew resistant. Basis of Design: Pecora Corporation; 898NST Sanitary Silicone Sealant - Class 50.
- Acoustical Sealant for Concealed Locations. Basis of Design: Pecora Corporation; BA-98 Non-Skinning Butyl Sealant.
- Lap sealant for flashings. Butyl Sealant: ASTM C1311; single component, solvent release, non-skinning, non-sagging. Basis of Design: Pecora Corporation; Product: "BC-158".

Division 8 - Windows/Doors

Hollow Metal Doors and Frames

- Hollow metal frames: factory mitered and welded, 16 gauge with semi-gloss painted finished. All doors and frames in rated walls shall be fire-rated as required. Provide 24" wide sidelights typical at offices and as shown on plans.
- Mechanical/service room doors: hollow metal doors and welded hollow metal frames

Flush Wood Doors

- 1-3/4" thick, solid core, fire-rated and non-fire rated; custom grade per AWI Section 1300; Factory finished, select white maple veneer typical.
- Flush, half glass, or narrow vision glass panel.
- Wood doors typical at offices, toilet rooms, science labs and prep rooms unless shown/noted otherwise. Refer to plans and interior section elevations.

Radiation Shielding Lead-Lined Wood Doors and Hollow Metal Frames

- Lead-lined hollow metal frames, flush lead-lined wood doors, pivot door hinges. Basis of Design: Neice Worldwide.
- Doors: wood veneer facings; particle board core, lead sheets located at door center, extend to outer edge of door.
- Hollow metal frames: shop-welded, 16-gage, line frames with sheet lead.
- Provide at X-Ray Teaching Labs, refer to floor plans for locations.

Aluminum-Framed Storefronts/Aluminum Doors and Frames

- Interior aluminum store front (Office suite entries, and as shown in the plans at classrooms, computer classrooms, seminar rooms, and conference rooms): 2" wide x 4" deep, center set style. Basis of Design Kawneer 400, interior storefront framing.
- Glazed interior aluminum doors(Office suite entries, and as shown on the plans at classrooms, computer classrooms, seminar rooms, and conference rooms): Wide Stile Aluminum Door, fitted

Architectural Materials

for 1/4" tempered glazing, 1-3/4" door thickness, pigmented high-performance organic coating complying with AAMA 2604. Basis of Design: Kawneer, 500 Standard Aluminum Entrance.

- Glazed exterior aluminum doors: Wide Stile Aluminum. Basis of Design: Kawneer 500 Tuffline Entrance .
- Exterior aluminum storefront (refer to exterior elevations for locations/sizes). Thermally broken; Basis of Design: Kawneer 451T.

Glazed Aluminum Curtain Walls

- 2.5" x 6" deep or 2.5" x 7.5" deep frontset aluminum curtainwall (refer to exterior elevations for locations/sizes). Basis of Design Kawneer 1600

Deployable Fire Wall

- Refer to plans for locations and sizes
- Basis of Design: Wondoor Fireguard MFW

Door Hardware

- Aluminum storefront entrance doors (main building entries): continuous hinge, exit device, closer
- Automatic door openers at accessible entry doors
- Door closers at doors in rated wall assemblies and at partitions between the atrium and program spaces
- Panic devices at assembly spaces and all spaces with over 49 occupants
- Refer to Security System narrative for extent of electronic access control hardware

Glazing

- Interior vision panels: 1/4" clear float glass, fully tempered
- Exterior Insulated glass and Spandrel Glass/Panels: refer to exterior window elevations

Louvers

- Extruded Aluminum, superior organic coating

Division 9 - Finishes

Gypsum Board Assemblies

- Level 4 finish on interior partitions, typical
- Level 5 finish on interior partitions designated to receive wallcovering. Refer to interior materials/finishes matrix and finish plan
- Typical partitions: 3-5/8 inch metal studs at 16 inches on center with 5/8 inch type-X gypsum wall board
- Toilet rooms, janitor rooms: 3-5/8 inch metal studs at 16 inches on center and 5/8 moisture resistant wall board
- Partitions enclosing classrooms, seminar rooms, offices and science labs: Higher STC partitions - 3-5/8" metal studs at 16" on center with 5/8" type-X gypsum wall board each side, 1/2" resilient channels one side at 24" on center. STC 54.

Architectural Materials

- Partitions enclosing X-Ray Labs (see plans for extent): metal studs with lead-lined gypsum board panels
- All interior partitions will extend to underside of deck. Provide sound attenuating batt insulation at all interior walls that separate classrooms, seminar rooms, labs, and offices.
- 1-hour shaftwall at mechanical chase/shaft enclosures
- Refer to code conformance plans for additional information
- GWB ceilings: 5/8" thick, type-X gypsum wall board. "USG Drywall Suspension System"

Tiling

- Refer to finish plans and interior materials/finishes matrix

Terrazzo/Pre-cast Terrazzo

- Refer to room finish plans and interior materials/finishes matrix

Acoustical Ceilings/Acoustical Wood Ceilings

- Refer to reflected ceiling plans for ceiling type descriptions and locations.

Resilient Flooring

- Refer to room finish plans and interior materials/finishes matrix

Tile Carpeting

- Refer to room finish plans and interior materials/finishes matrix

Fixed Sound-Absorptive Panels

- Refer to room finish plans and interior materials/finishes matrix

Resinous Flooring Systems

- Poured epoxy flooring, refer to room finish plans and interior materials/finishes matrix

Painting and Coatings

- Refer to room finish plans and interior materials/finishes matrix

Division 10 - Specialties

Visual Display Boards

- Marker Boards (Classrooms, Computer Labs, Conference Rooms, Science Labs): porcelain enamel on steel; extruded aluminum frame; Claridge 'LCS Series II' with low gloss surface and marker tray
- Refer to plans and interior elevations for sizes and locations

Signs and Letters

- ADA and room identification signage

Metal Toilet Compartments

- Stainless steel panels, doors, and pilasters, floor-mounted and headrail-braced; Basis of Design: "Series 400 Permaseal Stainless Steel" by Bradley

Architectural Materials

- Refer to room finish plans and interior materials/finishes matrix

Automatic Vertically Retractable Acoustic Wall

- Multi-purpose Room: Basis of Design: Skyfold Classic
- Refer to plans for locations

Toilet Accessories

- Mirrors, Toilet Paper Dispensers, Soap Dispensers, Grab Bars, and Waste Receptacles (all toilet rooms); Bobrick Washroom Equipment, Inc.
- Electric Hand Dryer (all toilet rooms): Basis of Design: "Xlerator" No XL-SB with recess kit (ADA) by Excel Dryer
- Utility shelf and mop and broom holder (Janitor Closets); stainless steel, Basis of Design: Bobrick Model B-239 x 34

Fire Extinguisher Cabinets

- Extinguishers: 5 pound, multi-purpose dry chemical type, 2A-10B: Crating. Basis of Design: Model MP-5 by Larsen Manufacturing Company
- Cabinets: fully-recessed aluminum, 9" wide x 24" high x 5-1/2" deep, glass door. Basis of Design: Model FS AL2409 by Larsen Manufacturing Company 105617 Wall Mounted Standard and Shelving

Plastic Lockers

- Refer to room finish plans and interior materials/finishes matrix

Metal Sun Shades

- Refer to exterior elevations for locations and types

Division 11 - Equipment

Projection Screens

- Manual Projection Screens (Labs, Classrooms, Computer Labs, and Conference Rooms): front projection, spring roller operated, matte white surface; Basis of Design: "Advantage Manual with CSR (Controlled Screen Return)" by Da-Lite Screen Company. Typical size: 60" H x 96" W
- Motorized Operation (Multi-purpose Room): Basis of Design: "Advantage Delux Electrol"
- Refer to Audio Visual Systems narrative for additional information

Division 12 - Furnishings

Furniture

- All loose equipment/furniture including chairs, tables, student desks, office furniture, etc. by owner, under separate contract. Typically indicated on floor plans with dashes lines.

Window Shades

- Light-Filtering Shades and Room Darkening Shades: refer to finish plans and interior materials/finishes matrix

Architectural Materials

Laboratory Casework

- Refer to floor plans, elevations, finish plans and interior materials/finish matrix

Division 14 - Conveying Systems

Passenger Elevators

- West Elevator: 4 stops, front/rear opening
- East Elevator: 3 stops, front opening
- Basis of Design: Schindler 3300 MRL (machine room-less) Traction Elevator. 3,000 lbs. capacity, 150 fpm speed. Stretcher compatible.

"Site - Civil" Narrative

Site Information:

- **Site Location:** Barton Campus in parking lot south of UT building and west of Engineering Building.
- **Site Area:** Approximately 5-acres
- **Site Tax Map No:** Portion of TMS #0267000100305
- **Jurisdiction:** City of Greenville/ OSE
- **Site Zoning:** O-D Office

Parking Information:

- **Parking (Existing):** 4,219 spaces
- **Parking Displaced as a result of this project:** Approximately 292 spaces.
- **Accessible Parking Displaced as a result of the project:** 16 spaces striped ADA
- **Parking improvements:** The eastern parking lot adjacent to the engineering building will be improved to provide more efficient parking and landscaping. 6 accessible parking spaces will be added to this parking lot to provide true accessible parking meeting ADA requirements to the building. The design team will identify additional locations in the near vicinity to Building 103 and 104 to add or restripe approximately 10 accessible parking spaces.

Stormwater Information:

- **Regulations:** City of Greenville regulations apply which require addressing water quality for development area.
- **Existing Conditions:** The site is mostly asphalt pavement with existing storm drainage.
- **Compliance:** The current site is all pavement and as a result of this project there will a net increase of greenspace which will result in stormwater detention not being required. However, water quality treatment meeting the city ordinance will need to be incorporated into the project. Even though a variety of options are available to provide water quality to bring the project site into compliance (bioswales, rain gardens, etc.), the most likely solution is an in-ground water quality treatment unit (e.g. Downstream Defender or Barricuda Unit).

"Site - Civil" Narrative

Site Grading:

- **Existing Grades:** The existing site slopes generally from east to west at an average slope of 4% and from north to south at an average slope of 4%.
- **Existing Concerns:** The site was once a landfill. Excavation and foundations must take into account the material of the prior landfill. Unsuitable material may need to be hauled off-site and structural fill hauled into the site.
- **Proposed Grades:** The proposed grades will be provided to allow for accessible entrances, sidewalks, and green spaces. There will be a step in the building on the western side of the project site to accommodate accessibility to other buildings to south and west of the project.

Site Utilities:

- **Existing Utilities:** The site currently has storm drainage, hot and cold water feeds, sanitary sewer main, Water Main, Underground Electric, and Underground Telecom.
- **Conflicts with Proposed Building:** Known conflicts currently include only storm drainage. Further evaluation is being worked on now to insure location of utilities.

Site Access:

- **Existing Access to public streets:** The site is currently accessed from public roads via the main campus entrance on S. Pleasantburg Drive.
- **Access improvements:** The campus has an approved concept plan to add an additional access directly to this project site from S. Pleasantburg Drive by way of a right-in/right-out.
- **Fire Apparatus Access:** The proposed building is taller than 30' high and therefore will need a portion of the access to be 26' wide to accommodate outriggers from a ladder truck. Current schematic plan shows at least a 20' wide fire access around the building perimeter.

Landscape Architecture Narrative

Planting-

The architecture of the building is modern, sleek with clean lines and incorporates a moderate use of glass. The building does not need foundation planting. There will be very little use of shrubs at the base of the building, but there will be some shrub massing of indigenous plants and native grasses for color and texture out in the landscape at strategic positions. Top priority will be to supplement the existing urban forest established on campus with additional large scale shade trees, such as oak varieties, sycamore, tulip poplar, and maple varieties. (Trees to be planted with a 4" caliper). Shade trees will line the walks, shade the parking lots, and shade the terraces and courtyards of the site. Some ornamental trees will also be utilized strategically for color and texture. The majority of the grounds will be grassed, to provide clear and open views through the site and will be an easier landscape to maintain and police. The final landscape should appear more parklike than a formalized institutional planting. Trees should be limbed up to 6' and any shrubs should be selected to grow to a maximum of 4' +/- to maintain these open views and create a safe environment.

Irrigation-

All new plantings will receive 100% irrigation coverage. The new irrigation system will deliver water to trees, shrubs, and groundcover via in-line emitter drip tubing. Standard pressure compensating drip tubing, with 0.6gph emitters spaced 12-inches on center along the length of the tubing, will be installed in the planting beds in rows that are 18-inches on center. The tubing will be placed beneath the mulch layer and secured in place with sod staples every five feet of tubing length. Planting beds will be divided into separated irrigation zones based on microclimate and exposure enabling the irrigation system to provide the proper amount of water based on the differing requirement around the site. Matched precipitation rate rotor heads (MPR) shall be used wherever possible in turf areas to comply with sustainable design guidelines for water consumption.

Irrigation System will be supplied water from an existing available water source. If city water is used a separate meter for irrigation should be provided. The new system will be controlled using current weather based irrigation control technology allowing the system to automatically adjust water application rates to the current weather conditions. Controller shall be sized to meet the water demands for proposed plant materials

Fire Access-

If at all possible, it is desirable to retain the existing perimeter curb and gutter intact for the majority of the outer edge of the proposed fire access lane. This would also allow for

Landscape Architecture Narrative

the concrete sidewalk along the southern edge of the site to remain. The fire lane material would preferably be TurfPave (or equal) providing a green pervious surface that will blend with the rest of the parklike appearance. Construction of the fire lane would be achieved by removing the asphalt and base stone to sub-grade, loosening the soil and then installing the TurfPave system up to the existing top of curb. Existing catch basins along the curb line would be converted to appropriate yard drains if practical.

Pedestrian Walks and Site Features-

Terraces and sidewalks would preferably be a pervious pavement such as permeable concrete, "Klingstone Paths" with a loose gravel topping (or equal), permeable pavers. All steps, seatwalls and retaining walls would be poured in place concrete. Site walls to be cast in place concrete formed with horizontal wood planks or "board formed concrete". Also, an 18"-24" wide x 4" thick concrete mow strip would be installed at the base of the building facade for easy maintenance. There may also be some use of decorative rock/gravel in the landscape for interest and texture.

Drives and Parking-

An access drive to the existing Bookstore loading dock will be reconfigured and the existing parking lot will also be reoriented resulting in new islands that will require new curb and gutter, asphalt, striping, new sleeving and irrigation, top soils for new trees and plantings.

Site Prep-

Tree protection fencing will be required around all existing trees during construction. The entire site that is to be seeded, sodded, or planted will need to be loosened (from compaction) and 4" of topsoil installed over the site. An arborist should be engaged to evaluate all existing trees near the site and perform maintenance on the trees and help establish a plan to work around these trees during construction and best maintenance procedures for these trees going forward after construction is complete.

Landscape Architecture Narrative

Site Furnishing-

ITEM	DESCRIPTION
Bench	Landscape Forms, Neocombo Backed 59" Color: Aluminum
Bike Rack	Landscape Forms, Loop Bike Rack Color: Aluminum
Dining Seat with Umbrella	Landscape Forms, Carousel Seating Dining Backed (4 chairs armless) Landscape Forms, Solstice Umbrella Cygnus Color: Aluminum
Recycling Units	Landscape Forms, Recycling Units, Double Unit, Style 2 Color: Aluminum
Bollards	Retractable Bollard by Ameristar ASSA ABLOY Color: Aluminum
Washed Stones	2"-3" Rain Forest Grev Mexican Pebbles
Outdoor Lighting	Enterprise LED, 12' mounting height Color: TBD

Landscape Architecture Narrative

Bench



Bike rack



Landscape Architecture Narrative

Dining seat and Umbrella



Recycling Units



Landscape Architecture Narrative

Retractable Bollards



Washed Stones



1.0 STRUCTURAL NARRATIVE

1.1 OVERVIEW

The Greenville Tech Arts & Health Sciences Building (GTC A+HS Building) is an approximately 125,000 sft, 3 story academic building with class rooms, labs and office spaces.

1.2 DESIGN CODES

The 2018 South Carolina Building Code based on the 2018 International Building Code will be used as the governing code for design of the GTC A+HS Building The 2018 IBC references ASCE 7-16 Minimum Design Loads for Buildings and Other Structures with Supplement No. 1 for additional structural loading requirements not outlined in the code. AC/ 318-14 Building Code Requirements for Structural Concrete, TMS402/602-2016 Building Code Requirements for Masonry Structures, AISC Steel Construction Manual, AISC 360-16 Specification for Structural Steel Buildings and AISC Design Guide 11 Floor Vibrations due to Human Activity references will also be utilized for the structural design.

1.3 DESIGN CRITERIA / LOADS

Design of the for the GTC A+HS Building will be based on the requirements of the 2018 /BC. In addition to the actual gravity dead loads of the roof and floor systems, the design will account for the required gravity live loads defined by area usage. The lateral structural framing system as well as the components and cladding are to be designed for the 115 miles per hour basic wind speed (3-second peak gust) established in the 2018 /BC while considering a Risk Category "III" and Exposure Category "B". The seismic design will utilize spectral response accelerations as determined from code supplied maps. A Risk Category "III" combined with the spectral response accelerations will result in a Seismic Design Category "C" classification. The anticipated design loads for the new facility are as follows:

Gravity Design Live Loads

▶	Roofs	20 psf
▶	Classrooms	40 psf
-▶	Offices	50 psf
▶	Labs.....	100 psf
▶	Conference/ Lounge/ Lobby.....	100 psf
▶	Corridors Above First Floor.....	80 psf
▶	Stairs and Exit Ways	100 psf
▶	Light Storage	125 psf
▶	Mechanical/ Electrical Areas.....	150 psf
▶	Partitions (Added to Floor Live Loads less than 100 psf ..	15 psf

Wind Loads

- ▶ Ultimate Design Wind Speed v_{u11} (3-second gust)..... 115 mph
- ▶ Exposure "B"
- ▶ Risk Category "III"

Seismic Loads

- ▶ Risk Category "III"
- ▶ Seismic Importance Factor, $I_e = 1.25$
- ▶ Mapped spectral response acceleration parameters, $S_s = 0.309$ and $S_1 = 0.096$
- ▶ Site Class "D"
- ▶ Design Spectral Response Acceleration Parameters, $S_{os} = 0.320$ and $S_o = 0.153$
- ▶ Seismic Design Category "C"

1.4 STRUCTURAL SYSTEMS

1.4.1 Structural System Selection

Two schemes were evaluated for the Schematic Design.

Scheme 1 - Structural Concrete Frame System: a 21 inch deep skip pan joist and concrete girder system with a 5 inch slab at an estimated cost of \$40 per sft and 20 weeks duration to build.

Scheme 2: Structural Steel Frame System: a steel composite floor system with a light weight 5 1/2 inch concrete slab at an estimated cost of \$29 per sft and 15 weeks duration to build.

Based on cost and construction timeline Scheme 2 (Structural Steel Frame System) was chosen.

1.4.2 Foundations

The GTC A+HS Building is anticipated to be supported on a conventional shallow foundation system consisting of shallow spread footing foundations at the load bearing steel columns and continuous strip footings at the perimeter for the non-load bearing steel cold-formed metal stud walls with brick exterior, CMU walls or curtainwalls. Site improvement through the installation of Rammed Aggregate Piers will enable the building to be supported on shallow foundations. The Rammed Aggregate Pier supported foundations for this project are expected to be designed based on an allowable bearing pressure of 6,000 psf. The specific details will be determined by the design built contractor selected to install the Rammed Aggregate Piers.

1.4.3 Cast-in-Place Retaining Walls

The site conditions at the new building will require concrete retaining walls at the low first floor area and at the high first area where the grade is below the first floor level. In addition some retaining walls will be required at ramps and walkways.

1.4.4 Slab-on-Grade

The ground level floor of for the GTC A+HS Building is assumed to consist primarily of a 4" thick slab-on-grade (3,500 psi) reinforced with 6 x 6 - W2.1 x W2.1 welded wire reinforcement (WWR) placed at mid-depth and thickened slabs as required. Other areas such as mechanical rooms, electrical rooms, etc. will consist of a 5" to 6" thick slab-on-grade (3,500 psi) reinforced with 6 x 6 - W2.9 x W2.9 WWR placed 2" from the top of the slab. All grade slabs to be placed over 15-mil vapor retarder and 4" to 6" - #57 stone.

1.4.5 Elevated Second and Third Floor Framing

Structural Narrative

The elevated second and third floor level for the GTC A+HS Building consist of a minimum 2 1/2" thick light weight concrete slab (3,000 psi) on 3" deep, 20-gauge composite steel deck (G60 Galvanized) with a 5 1/2" total thickness reinforced with 6 x 6 - W1.4 x W1.4 WWR placed at mid-depth. The composite slab system will be supported on a system of steel beams spaced at approximately 8'-0" to 10'-0" on center. The composite slab floor system will be designed for vibration criteria in accordance with *AISC Design Guide Series 11*.

1.4.6 Roof Framing

The roof framing of the for the GTC A+HS Building will consist of a 20-gauge metal roof decking (G60 Galvanized) placed over a steel beam and girder system and open-web K and LH/DLH series steel joists. In lieu of steel joists, W-Shapes will be used at areas with high concentrated loads, and HSS members will be used where the steel members are exposed to view. Where sound control is of concern, acoustical deck will be provided.

1.4.7 Lateral Resisting System

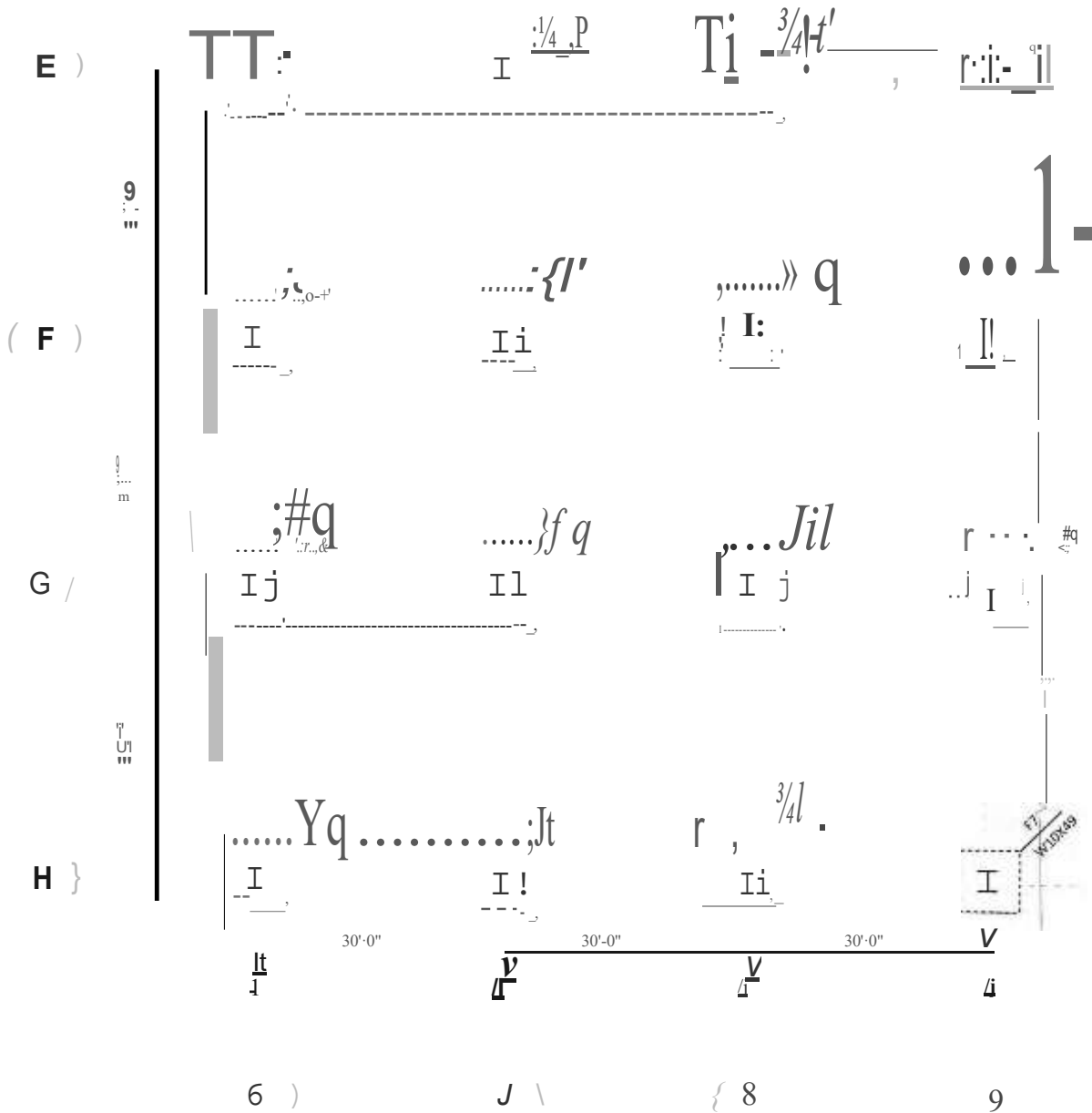
The lateral force resisting system for the for the GTC A+HS Building will consist of steel braced frames to the requirements for "Steel Systems Not Specifically Detailed for Seismic Resistance" with R=3, (Response Modification Coefficient), in accordance with *ASCE 7-16 Minimum Design Loads for Buildings and Other Structure* designed to transfer wind and seismic loads to the conventional shallow foundation system. Structural steel braced frames will be utilized for the lateral wind and seismic force resisting system.

The roof systems using the steel deck as a diaphragm, and the second/ third floor composite concrete slab system, acting as a diaphragm, will distribute wind and seismic forces to the lateral resisting elements. The forces generated by the lateral loads in each braced frame will be resisted and transferred to the conventional shallow foundation system designed to safely resist the worse-case load combinations.

1.4.8 Special Inspections and Tests

The GTC A+HS Building construction will require Special Inspections and Tests to be performed in accordance with Chapter 17 of the *2018 IBC*.

GTC -ARTS AND HEALTH SCIENCES BUILDING SCHEMATIC DESIGN - STEEL FRAMING SYSTEM



TYPICAL FOUNDATION LAYOUT

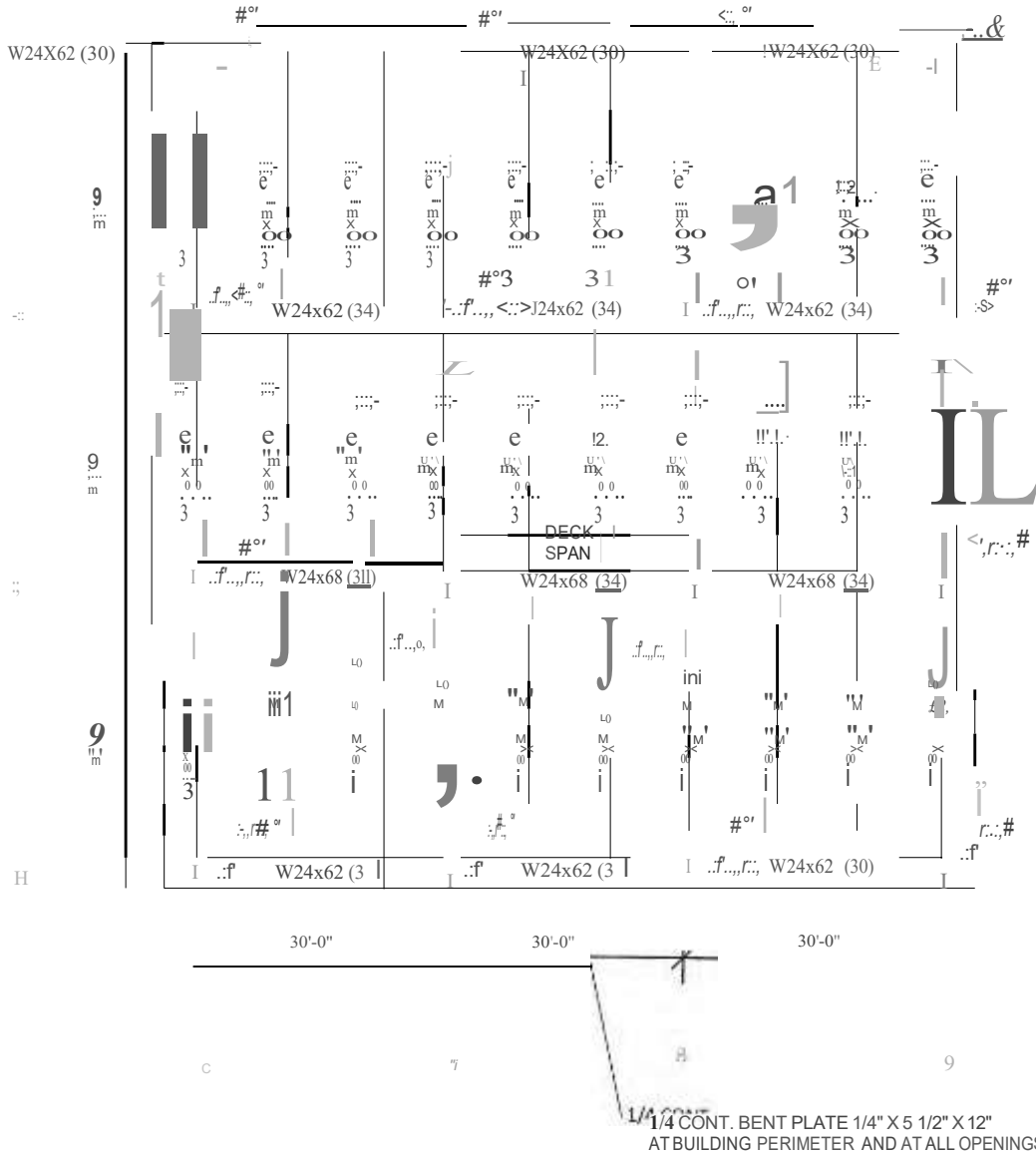
FLOOR SLAB SHALL BE 4" SLAB-ON-GRADE REINFORCED W/ 6x6-W2.1xW2.1 WWF (UNO)

SK-S1
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURAL

* REINFORCING SCHEDULE FOR SQUARE FOOTINGS					
DESIGNATION	FOOTING SIZE (FT x FT)	DEPTH (IN)	BOTTOM REINFORCING	TOP REINFORCING	REMARKS
F7	7'-0" x 7'-0"	24"	7#7	--	--

* ASSUMES FOUNDATION BEARING ON **RAMMED** AGGREGATE PIERS WITH A BEARING CAPACITY OF 6000 PSF

GTC -ARTS AND HEALTH SCIENCES BUILDING SCHEMATIC DESIGN - STEEL FRAMING SYSTEM



TYPICAL FRAMING AT 2ND AND 3RD FLOOR

FLOOR SYSTEM= 3", 20 GA COMPOSITE STEEL DECK (GG0 GALV) WITH 2 1/2"
LIGHTWEIGHT CONCRETE, 5 1/2" TOTAL THICKNESSW/ WWF 6X6 - W1.4 X W1.4

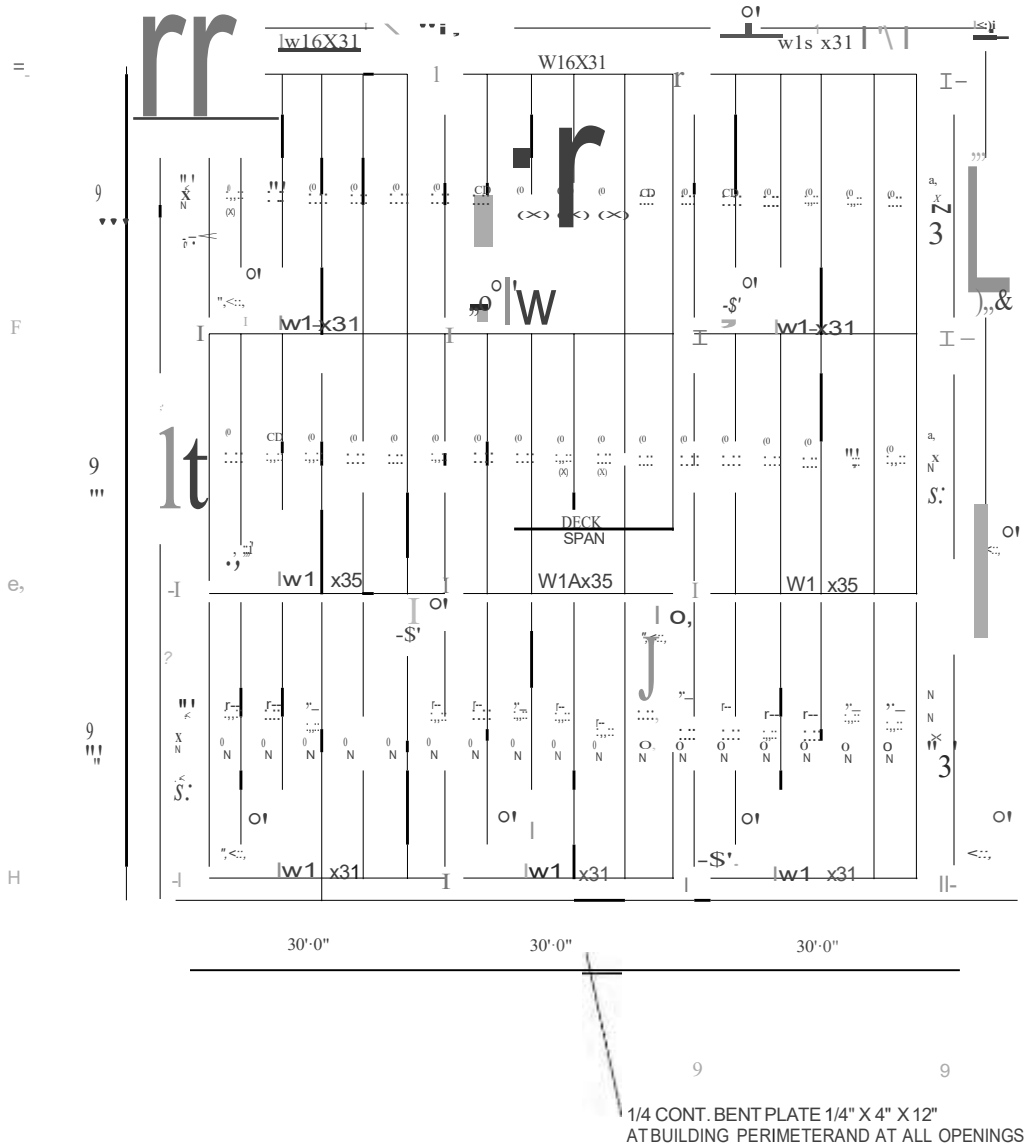
SK-S2
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURAL

NUMBER OF SHEAR
STUDS (EQUALLY SPACED)

BEMISIZE\

COMPOSITE BEAM DESIGNATION

GTC -ARTS AND HEALTH SCIENCES BUILDING SCHEMATIC DESIGN - STEEL FRAMING SYSTEM

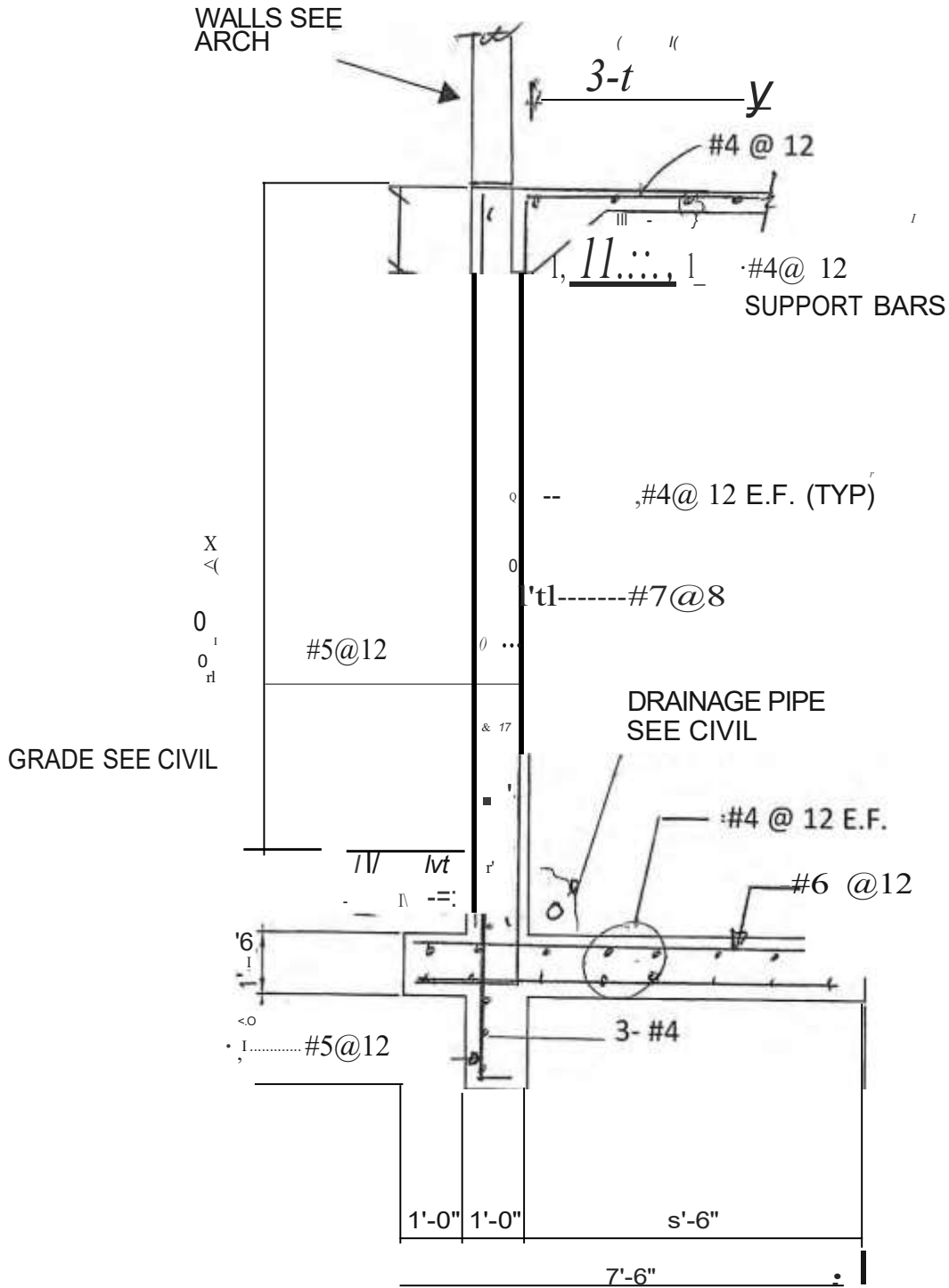


TYPICAL FRAMING AT ROOF

ROOF DECK SHALL BE 11/2", 20GA WIDE RIB ROOF DECK (G60 GALV) TYPE B

SK-S3
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURALL

GTC -ARTS AND HEALTH SCIENCES BUILDING
 SCHEMATIC DESIGN

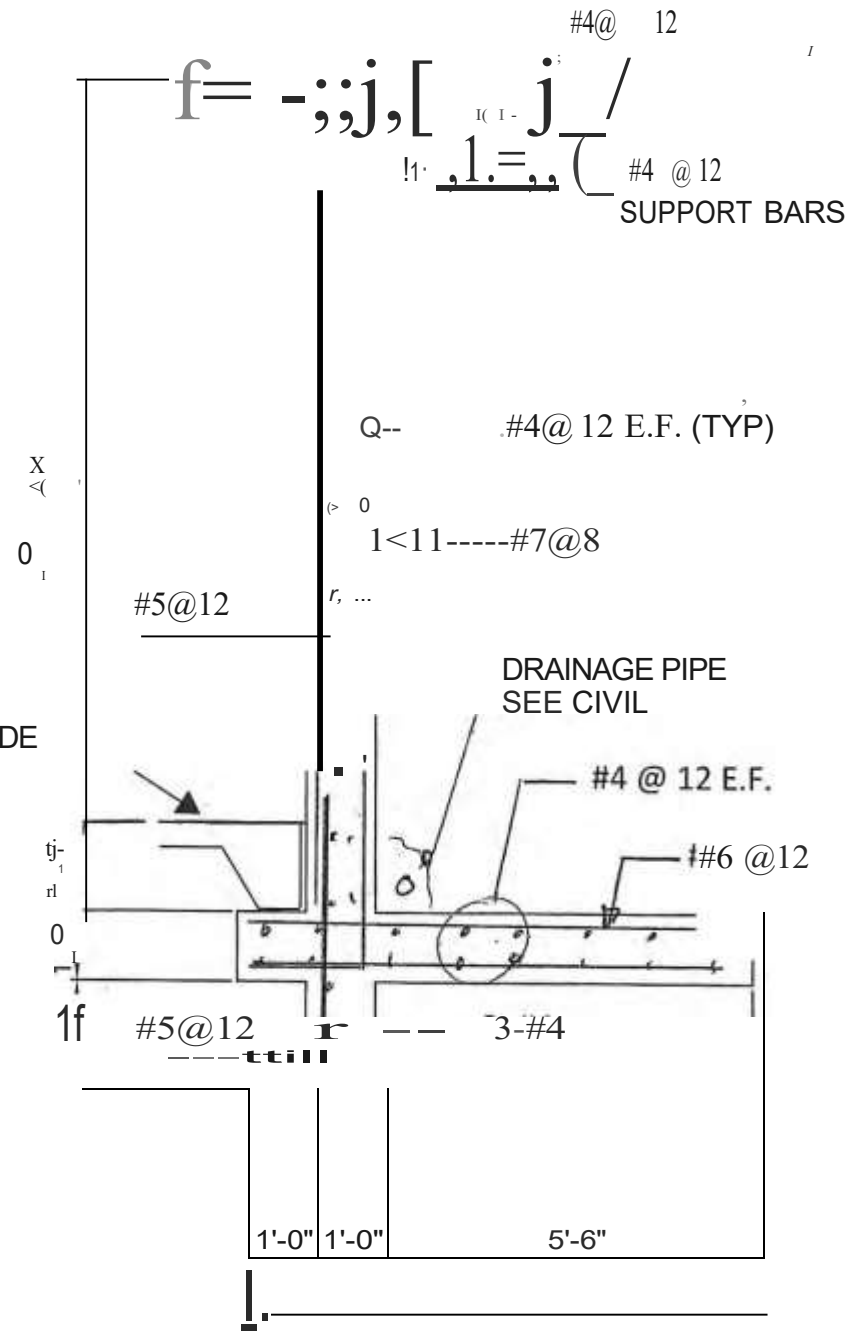


**HIGH FIRST FLOOR
 SECTION AT EXTERIOR LOW GRADE**

SK-S4
 06.16.2021
 SCHEMATIC DESIGN PKG
 STRUCTURAL

GTC - ARTS AND HEALTH SCIENCES BUILDING SCHEMATIC DESIGN

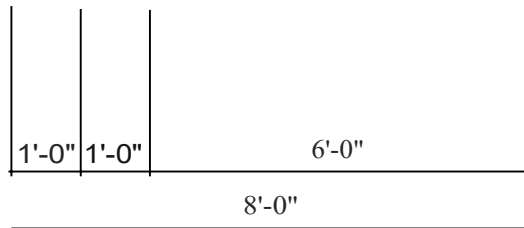
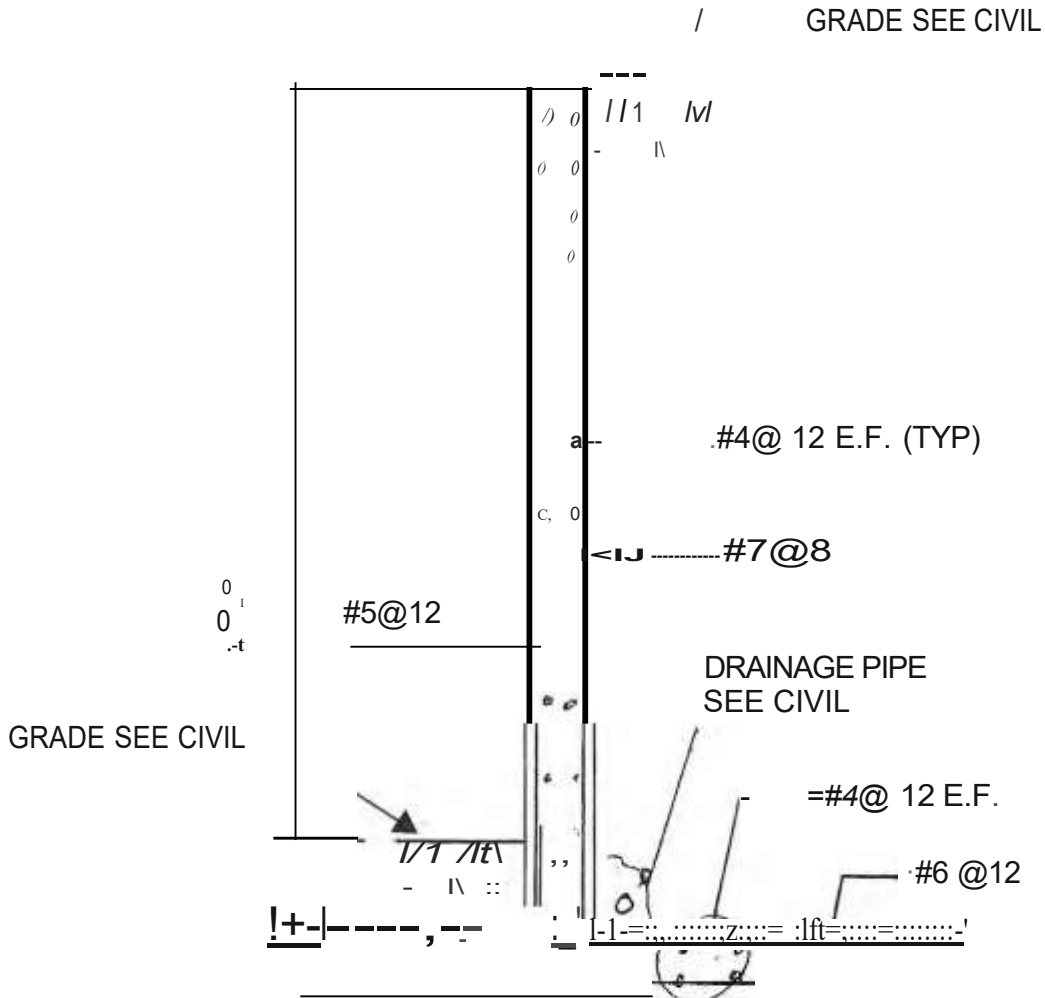
WALLS SEE -c;b(JL , $3-t$ -- $\frac{V}{V}$; V



SK-S5
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURAL

LOW FIRST FLOOR SECTION AT INTERIOR

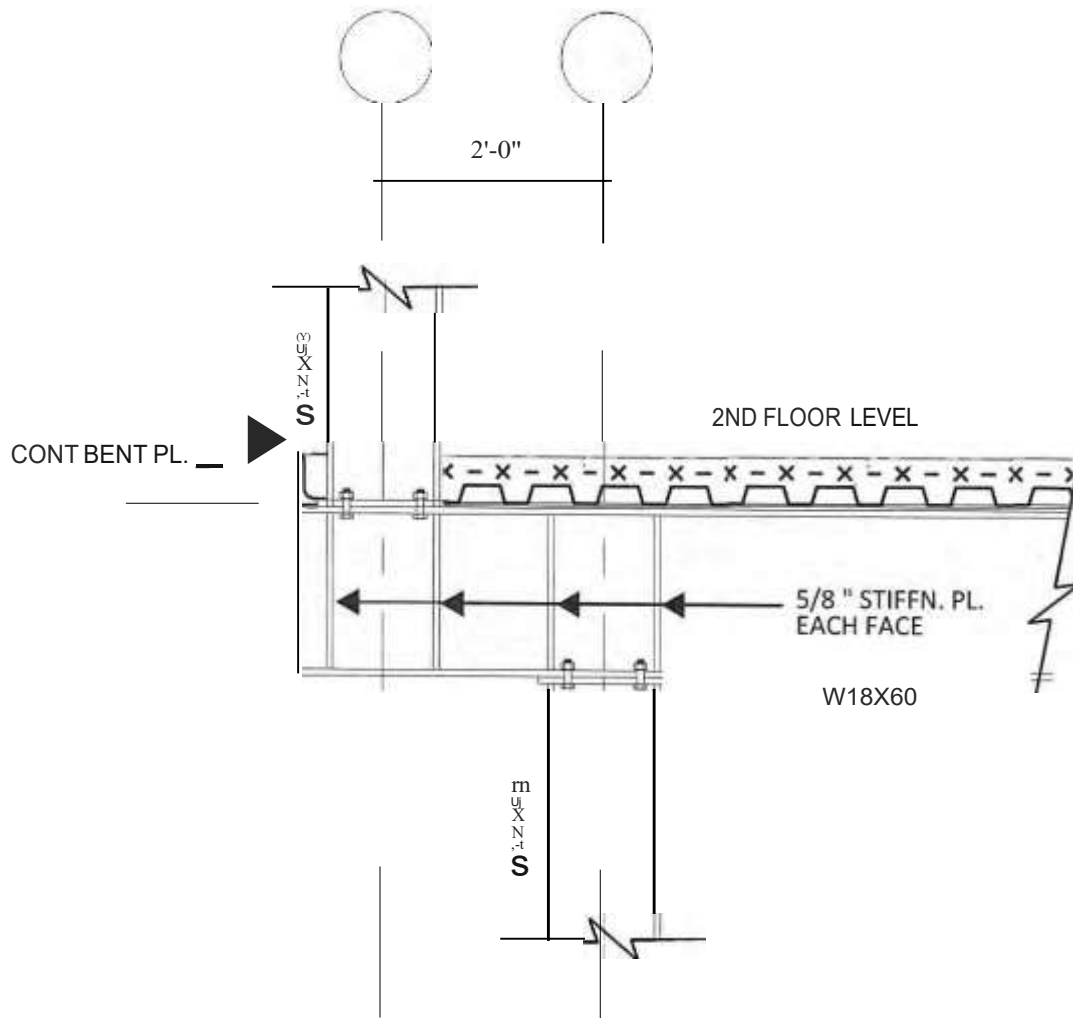
GTC - ARTS AND HEALTH SCIENCES BUILDING
 SCHEMATIC DESIGN



TYPICAL SITE RETAINING WALL

SK-S6
 06.16.2021
 SCHEMATIC DESIGN PKG
 STRUCTURAL

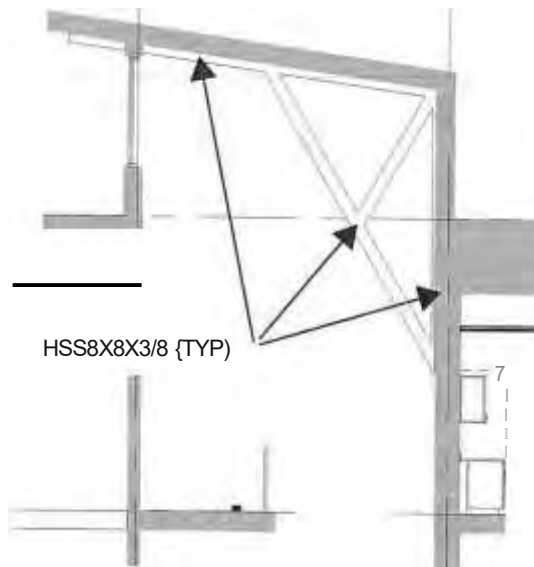
GTC -ARTS AND HEALTH SCIENCES BUILDING
SCHEMATIC DESIGN



TYPICAL DETAIL AT FIRST FLOOR COLUMN OFFSET

SK-S7
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURAL

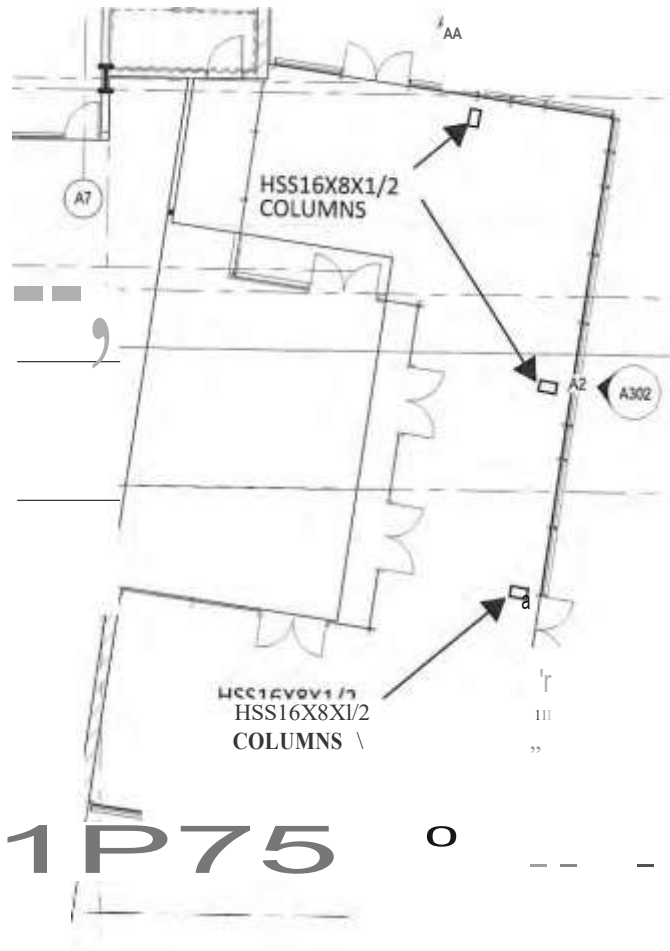
GTC -ARTS AND HEALTH SCIENCES BUILDING
SCHEMATIC DESIGN



TYPICAL FRAMING AT ROOF OPENING

SK-S8
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURAL

GTC -ARTS AND HEALTH SCIENCES BUILDING
SCHEMATIC DESIGN



TYPICAL COLUMNS SIZES AT VESTIBULE

TYPICAL FOOTING SIZE AT VETIBULE COLUMNS:
5'-0" X 5'-0" X 1'-4" THICK
W/ 5#5 E.W. TOP AND BOTTOM

SK-S9
06.16.2021
SCHEMATIC DESIGN PKG
STRUCTURAL

Division 27 - Audio Visual Systems

Scope of Project

This document defines the audio visual systems that will be designed for the new Greenville Technical College, Arts and Health Sciences Building. The audio visual systems addressed in this narrative include:

- Multi-purpose room
- Large Classrooms
- Medium Classrooms
- Small Classrooms
- Computer Classrooms
- Physics and A+P labs
- Medical Imaging Computer Lab
- Ultra Sound Labs
- Seminar Room
- Conversation rooms
- Specialty Instruction, Meeting, and Collaboration Spaces
- Lounges and break rooms
- Miscellaneous Displays for signage

General

All audio visual systems work shall be completed in accordance with the following codes and standards:

- South Carolina Standard Building Code
- National Electrical Code with South Carolina Amendments - Current Adopted Edition
- Americans with Disabilities Act (ADA), ANSI A117.1, Current Edition
- Greenville Technical College Construction and AV Standards
- AES14-1992 (s2014) AES Standard for Professional Audio Equipment
- AES26-2001 (r2011) AES Recommended Practice for Professional Audio
- ANSI EIA-310-E(r1996) Cabinets, Racks, Panels, and Associated Equipment
- Additional references for best practices design and installation:
 - Audio Systems Design and Installation, Philip Giddings, 1997 edition, Focal Press.
 - Sound System Design, Don Davis and Eugene Patronis, 2006 edition, Focal Press.
 - The Basics of Audio and Visual Systems Design, edited by Mike Weems, 2003 edition, International Communications Industry Association, Inc.

- o AV Design Reference Manual, multiple authors, 2006, BICSI®and InfoComm International®.

All equipment, devices, and fixtures will be new and conform to the standards of the following, where such standards are applicable:

- National Electrical Manufacturers Association.
- Underwriters' Laboratories, Inc.
- American National Standards Institute.
- National Fire Protection Association.

System Summaries:

The Audio Visual Systems shall consist of the furnishing, installation, and commissioning of presentation systems that will support classroom instruction, group meetings, and large gatherings throughout the Greenville Technical College Student Success Center. Quality, intelligible audio and video information will be provided to all participants while ensuring that the system is simple to operate. The AV systems should be integrated into the building structure both functionally and aesthetically. The systems will be integrated with the building telecommunication network and with other systems where required in order to take advantage of current and future technology that will support distribution of content throughout the new campus and beyond.

Audio Visual Standards:

Greenville Technical College has established the following general standards for its audio visual systems:

- AV Control Systems - Extron or Crestron AV control systems, to be developed.
- Wireless *video* presentation systems - Screenbeam 1100.
- Document Cameras - Quomo Digital visualizer as needed.
- Video-teleconferencing- Typically consists of web-conferencing using Microsoft Teams, Zoom or similar, not hard codecs are anticipated in this facility.
- Ceiling microphone arrays - Biamp or equivalent
- Room Scheduling System - to be determined if required.
- Digital Signage System - Shall utilize Visix as the Campus standard.
- Video displays - Shall be LG commercial or NEC.
- Assisted Listening systems as required for ADA compliance.
- Projectors- Epson laser projectors shall be deployed as needed.

- Fixed projection screens are desired, unless conditions determine that interactive technology or ceiling recessed motorized screens are required.
- Cable Cubbys - Extron is the preferred manufacturer.
- Power management - Power management PDU devices shall have remote capabilities, preferred manufacturer is Juice Goose.
- Microphones - Shure are acceptable on campus
- Cameras- Clear One Unite 200
- Collaboration Table Systems, cabinets and Lecterns - May be owner or AV contractor provided as coordinated through the design process.

Audio Visual Systems - Project Requirements

The Audio Visual Systems will be designed to meet the specific requirements of the instructional and meeting spaces. Audio Visual Systems should be closely coordinated with Telecommunications Systems for equipment and connection point locations.

For all spaces, room lighting should be zoned to avoid light spill onto video displays. Shades should be provided for the windows in order to improve the quality of the video presentation.

The Audio Visual Systems for the Greenville Technical College Project will include the following room types and spaces.

Multi-Purpose room

The Multi-Purpose Room shall function as a stand-alone system. This room may have divide/combine to support different event scenarios and will be developed through the design process.

Video cameras shall be provided to provide for video conferencing and lecture capture functions. Content from video cameras shall be streamed to various destinations by use of video encoders and decoders. Additionally, as remote support is required by OIT and the primary point of access is via the video cameras, an audio feed will be applied to the camera input so remote support can see and hear the situations requiring support.

Assisted listening devices shall be made available to this space.

AV systems in these spaces will likely consist of the following equipment:

- Two (2) ceiling recessed, motorized, tensioned projection screens with 16:10 aspect ratio.
- Two (2) ceiling mounted video laser projectors with optical lens shift capability, possibly on motorized lifts as determined in the design process.
- Ceiling mounted loudspeakers.

- Wired and/or wireless microphones for voice lift.
- Connectivity for temporary event support.
- AV support equipment rack will likely be housed in the adjacent MP service room. The following equipment may be utilized: OFE Computer, DVD player, AV switching capability, audio amplifier and DSP.
- Ceiling enclosures that provide ac power and mounting support for the video projectors will be provided and installed by the electrical contractor.
- Audio system to consist of ceiling speakers, wireless microphone, podium gooseneck microphone, and hearing assistance system.
- Room combining, to be discussed.

Pre-function for Multi-Purpose Room

AV systems in these spaces may consist of the following equipment:

- Flat panel displays.
- AV input locations.
- AV control panel.
- Ceiling mounted loudspeakers.
- Owner-provided PC, video switcher, and video source devices located in a local equipment rack.
- Wireless microphones as needed.

Computer Classrooms

The expectation is for these rooms to support normal classroom activities with a centralized projection system and ceiling mounted speakers. As with all classrooms, Lecture capture for remote instruction is desired and will be developed /coordinated through the design process. Currently the emphasis is for fixed projection screens and a use case review will be conducted to determine the best approach to maximize writable surface and presentation displays.

Additionally, there shall be computers located on all desks, screen sharing and presenting capabilities will be developed as needed.

AV systems in these spaces will consist of the following equipment:

- Flat panel display and/or video projection system.
- AV input location integrated into floor box and lectern.

- Wall-mounted or table mounted AV control panel.
- Ceiling mounted loudspeakers.
- Owner-provided PC
- HDMI and USB connectivity from the teaching position.
- Web-conferencing(software conferencing capability)
- Lecture capture.

Core Curriculum Classrooms

The expectation is for these rooms to support normal classroom activities with a centralized projection system and ceiling mounted speakers. As with all classrooms, Lecture capture for remote instruction is desired and will be developed /coordinated through the design process. Lecture capture and remote learning will require the use of ceiling mounted microphones, the use of wireless microphones shall be utilized for voice lift for larger spaces.

Currently the emphasis is for fixed projection screens and a use case review will be conducted to determine the best approach to maximize writable surface and presentation displays.

Assisted listening systems (ALS) shall be provided for these spaces. It may be possible to provide a few ALS systems for the entire facility for use when required. This is typically

AV systems in these spaces will consist of the following equipment:

- Flat panel display and/or video projection system.
- AV input location integrated into floor box and lectern.
- Wall-mounted or table mounted AV control panel.
- Ceiling mounted loudspeakers and microphones.
- Owner-provided PC
- HDMI and USB connectivity from the teaching position.
- Web-conferencing(software conferencing capability)
- Lecture capture.

Conference Rooms and Seminar Rooms

AV systems in these spaces will consist of the following equipment:

- Flat panel display and/or video projection system.
- Portable white board.
- AV input location integrated into floor box and tabletop.
- Wall-mounted or table mounted AV control panel.

- Ceiling mounted loudspeakers.
- Owner-provided PC
- HDMI and USB connectivity from the table.
- Web-conferencing (software conferencing capability)

Medical Imaging Computer Lab

AV systems in this space will support the standard lecture environment and consist of the following equipment:

- Two large format video displays likely to display content from medical imaging computers.
- A video matrix may be used to provide flexible routing of inputs to outputs.
- 15 owner provided computers

Ultrasound Lab

AV systems in this space will consist of the following equipment:

- Video monitors to display content from medical imaging computers
- A video matrix may be used to provide flexible routing of inputs to outputs.
- Telemedicine functionality is desired and will require video cameras microphones. It is likely that, due to room size, a more basic conference system will be appropriate.
- Detailed functionality will be developed through the design process.

Conversation Rooms

AV systems in these spaces will consist of the following equipment:

- Flat panel displays
- HDMI connection for laptop
- Owner provided docking stations

Digital Signage Locations

AV systems in these spaces will consist of the following equipment:

- Flat panel display with owner provided signage player.
- Displays to be located at 84 inches AFF to avoid ADA issues.

END OF REPORT

Division 28 - Electronic Safety and Security

This document defines the electrical low voltage systems that will be designed for the building renovation project at Greenville Technical College. The low voltage security systems addressed in this section of the narrative include:

- Access Control Systems
- Intrusion Detection Systems
- Video Surveillance and recording systems
- Emergency Communication Systems

General

All low voltage electrical systems work shall be completed in accordance with the following codes and standards:

- South Carolina Standard Building Code
- National Electrical Code with North Carolina Amendments - Current Adopted Edition
- Americans with Disabilities Act (ADA), ANSI A117.1, Current Edition
- BICSI Telecommunications Installation Guidelines
- Greenville Technical College Construction Standards

All equipment, devices, and fixtures will be new and conform to the standards of the following, where such standards are applicable:

- National Electrical Manufacturers Association.
- Underwriters' Laboratories, Inc.
- American National Standards Institute.
- National Fire Protection Association.

Electronic Security Systems

In general, there is an expectation that the new Greenville Technical College Arts and Health Sciences (A+HS) building will be provided with multiple security systems in an effort to provide a safe, secure environment for the students and *staff* from defined hazards and threats incumbent in a building of this type. The electronic security systems that will be designed for the building include:

- Access Control Systems for main building entry, computer rooms, administration corridors, and telecom rooms

Security Systems Narrative

- Intrusion Detection Systems
- IP-Based Video Surveillance & Recording Systems

All electronic security systems will be designed to be an integral part of the Greenville Technical College security and emergency response operation. In general, the systems are intended to provide interior and exterior surveillance and electronic access control. The systems are not intended to replace the security staff but allow them to concentrate their efforts in the most effective manner. It is expected that the overall security operation will include the following:

- Greenville Technical College Police/Fire/Rescue personnel.
- Fire Alarm System integration.
- Mechanical keyed and electric locks
- Signage
- Administrative controls (e.g. Security & Access Control Workstations).

Access Control & Intrusion Detection System - System Configuration:

Greenville Technical College has standardized on SALTO enterprise access control system that will be expanded into the new building. The expansion of the central system will be the most cost and administratively efficient means to maintain electronic access control in the new space.

The expectation is that the Access Control System will communicate security information over the College's Local Area Networks (LAN) & Wide Area Networks (WAN). This allows for remote monitoring and control from existing Administration posts and Campus security offices.

Greenville Technical College personnel carry one credential (access control card) for all campus buildings. The expectation is that the system will utilize smart card access technology to provide electronic access through secured openings.

A commercial building intrusion detection system shall be designed for building security. The intrusion detection system shall consist of the following main components:

- Intrusion Detection Panel with Digital Communicator
- Door position switches on all exterior doors
- Motion detectors in grade level corridors
- Intrusion detection keypads at main pedestrian entrances

Access Control System - Field Devices:

Door openings with electronic access control systems shall include:

Security Systems Narrative

- Main Staff/Student Entry Doors - Each door shall be provided with electric panic hardware on each leaf, Request-to-Exit (REX) sensors, and door position switches. One opening on each side of building shall be provided with ADA automatic door operators.
- Exit only doors - Each door shall be provided with door position switch and local intrusion sounder.
- Wireless Locksets shall be provided for interior access control doors including office suite door, computer classrooms, labs, lab preps, ultrasound, rad tech, and mdf/idf rooms.

One of the features provided by all access control systems is the capability to provide a means to remotely lock and unlock the main pedestrian entrances at scheduled times during the day and evening. By equipping all leafs at these main openings with hardwired electric door hardware, the building will be able to remotely lock and unlock the building on set schedules. Staff or students requiring access after building operating hours will be required to utilize the card readers which will allow Greenville Technical College to maintain a registry of all personnel accessing the building during these times.

Video Surveillance Systems:

The College has standardized on Avigilon Video Management System with IP-Technology cameras and Network Video Recorder appliances. This will allow the distribution of security camera video information over the campus network. Access to the video from the College network shall be protected with passwords and access to recorded video will be restricted to select personnel.

The Video Surveillance Systems shall consist of color-format IP-based digital cameras that will report back to campus data center network video recorders. The A+HS building video surveillance system shall be provided with a dedicated nvr server/storage appliance sized to ensure 30 day archiving of all recorded video. NVR appliance shall be located in campus data center.

All cameras shall be fixed position type. Exact camera technology shall be selected based on the area of surveillance. For example - exterior cameras will utilize low light technology and shall utilize digital signal processing in order to provide clear images when viewing bright sunny backgrounds or shaded areas.

The primary purpose of the Camera System will be general surveillance of select areas designated as higher risk or high usage. All camera video shall be routed directly to the closest Telecom Room and all video cables will be terminated on dedicated data patch panels. Camera video cables shall be Category 6A and shall be green in color. At a minimum, cameras will be placed in the following locations:

- Staff & Student Pedestrian Entrances
- Main Building Entry Door

Security Systems Narrative

- Main Public Corridors
- Exterior Parking Areas and Pedestrian Pathways (intent is to install cameras on building exterior walls)

There is an expectation of approximately twenty (20) interior camera locations plus ~six (6) exterior cameras.

Emergency Call Systems

Emergency Call stations shall be provided in public areas to ensure safety of students and staff. In general, each main entrance and primary walkway shall have direct line of sight to a local emergency call station. Call stations can either be free standing pedestal or wall mount type. GTC has standardized on Gaitronics emergency call stations.

END OF REPORT

Division 27 - Communications

Scope of Project

This document defines the electrical low voltage systems that will be designed for the Greenville Technical College Arts and Health Sciences Building (A+HS). The low voltage systems addressed in this narrative include:

- Telecommunications: Voice, Data, & Wi-Fi Cabling Systems.

General

All low voltage electrical systems work shall be completed in accordance with the following codes and standards:

- South Carolina Standard Building Code
- National Electrical Code with North Carolina Amendments - Current Adopted Edition
- Americans with Disabilities Act (ADA), ANSI A117.1, Current Edition
- BICSI Telecommunications Installation Guidelines
- ANSI/TIA/EIA Standards
- Greenville Technical College Construction Standards

All equipment, devices, and fixtures will be new and conform to the standards of the following, where such standards are applicable:

- National Electrical Manufacturers Association.
- Underwriters' Laboratories, Inc.
- American National Standards Institute.
- National Fire Protection Association.

Telecommunications Architecture:

The Telecommunication Systems shall consist of the furnishing, installation, and connection of a building-wide voice and data distribution system. The distribution system shall consist of horizontal cabling, backbone cabling, and associated connecting hardware to transport voice and data services throughout the Greenville Technical College Arts and Health Sciences Building.

Telecommunications Infrastructure Narrative

The A+HS building will be provided with a Main Telecom Room, preferably on grade or lower level 1, with secondary telecom rooms (IDF Rooms) centrally located on each floor. Per Greenville Technical College standards, the Main Telecom Room shall be sized at ~20' x 11' and the IDF rooms shall be sized at ~16' x 11'. Telecom rooms shall be placed to ensure that no data outlet is beyond the Ethernet standards cabling distance of 90 meters. It is preferred that the telecom rooms be vertically stacked.

As this is a new construction project, the campus service provider copper and University provided fiber service will need to be routed to the building. The proposed pathway for extending GTC fiber services is to route from the fiber handhole in front of building 102 green space into the new MDF room utilizing Sumitomo Air Blown fiber system. Site analysis will confirm whether or not the existing fiber ductbank pathway will be disturbed during construction. Campus voice/tv service provider will be coordinated with to determine additional conduit stub-out and site handhole locations. New 12 strand singlemode fiber backbone cables and 25 pair category 3 copper cable will be provided from MDF room to each IDF room.

The design of the voice & data network will be based on a hierarchical star network with fiber and multipair copper backbone being one level of the hierarchy (Main Telecom Room to the IDF telecom room) and Category 6A distribution cabling (telecom room to field outlet) being the second level of the hierarchy. Telecom outlets will consist of two (2) Category 6A cables. Two (2) Category 6A cables shall also be required for wireless data outlets to meet the requirements of the IEEE 802.11ac & ax wireless networking standards. Each communication outlet shall have a 1:1 point-to-point connection to the Main Telecom Room/IDF.

Telecommunication Standards:

The Cabling Infrastructure Systems shall be designed to existing Greenville Technical College standards. All project requirements shall be completed by manufacturer certified vendors. By working only with certified vendors, each project will qualify for a twenty-five year extended warranty that is offered and maintained by the manufacturers. If any components fail due to manufacturer related issues or installation practices, the manufacturer will correct the issue at their cost. In order to obtain this warranty, the designers must require that the project be registered with the select manufacturer and that the contractor provide the manufacturer warranty certificate as part of their close-out documentation.

Telecommunications Infrastructure Narrative

The preferred campus manufacturers include:

- CommScope Systems for copper cabling infrastructure
- CommScope Systems for fiber infrastructure
- Chatsworth Products for racks, basket tray, and ladder rack

As a campus standard, all Category 6A cable installations must meet or exceed the standards of the CommScope ND&I Program and be certifiable or eligible for warranty by the CommScope ND&I Program.

Telecommunication Systems - Project Requirements

The telecommunication system is to provide the cabling and raceway infrastructure to support the various electronic communications systems to be ultimately installed throughout the renovation project. In order to develop a Schematic Design Narrative, several assumptions have been made that will have to be finalized as each project proceeds through Design Development and the Construction Documents Phase. These assumptions are as follows:

- The project shall require new copper and fiber service cables from service provider handholes to the new project Main Telecom Room. It is estimated that service cables will consist of 24 strands of single mode fiber and 50 pairs of UTP 24 AWG copper.
- A Voice-Over-IP (VOiP) telephone system, local and wide area network equipment including switching equipment, operator console(s), handsets, operation or application software, servers, computers, hubs, switches, routers, etc. will be installed under a separate budget. Wiring and raceway will be installed as part of the telecommunication system in the building's construction project.
- As required by the voice and data 90-meter cabling standards, a telecom room (IDF) shall be provided on each level in addition to the Main Telecom Room on level 1. Fiber backbone connections will be run from the Main Telecom Room to rack mount patch panels (fiber) in each IDF room. Between telecom rooms, backbone cabling will consist of 12 strands of single mode fiber optic cable and 25 multi-paircat-3 copper cabling.
- Horizontal cabling from the Telecom Room to the final points of connection will be Category 6A for defined horizontal data connections, Category 6A for defined Wi-Fi connections,

Telecommunications Infrastructure Narrative

Category 6A for TV locations, and Category 6A for defined voice connections. Category 6A horizontal voice cabling will support the distribution of Voice-Over-IP (VOiP) services.

The following list identifies systems that may require support by the telecommunication systems and whose needs will have to be further defined.

- Security System.
- HVAC Control/Energy Management System.
- Operations/Maintenance CMMS.
- Audio/Visual Systems.
- Digital Signage Systems
- Other systems yet to be identified.

The new campus building shall be designed with the following Telecommunication Infrastructure Requirements:

Telecommunication Equipment Room Requirements:

- The new building Main Telecommunication Equipment Room will be provided with the following equipment:
 - Full cable tray system to allow overhead wiring between rack mounted equipment, wall mounted equipment, and field wiring
 - Two (2) 7'-0" Open Frame 2-post Vertical Racks. Space for two (2) owner provided data cabinets shall be maintained.
 - Vertical Racks to contain data patch panels, two-sided horizontal wire managers, two-sided vertical wire managers (10" wide), fiber connector panels, power distribution hubs, and space for College provided networking equipment
 - $\frac{3}{4}$ " plywood backboard on all four (4) walls painted with fire retardant gray paint. Backboard to be 8'-0" high and installed at ~15" to 18" AFF.
 - Wall or rack mount security equipment panels & door hardware power supplies
 - Rack mount video surveillance equipment
 - Wall mount ground bus bars with grounding electrodes
 - Wall sleeves and slab cores to allow cable distribution horizontally and vertically throughout the building

Telecommunications Infrastructure Narrative

- o Power for data cabinets and racks shall include two NEMA L6-30R 30A/208V receptacle or two 110V/20A circuits in the center of the telecom. Exact requirements to be coordinated with the College. The outlet must be mounted or suspended using flex conduit in the center of the ceiling directly over the midsection of the ladder rack. It has to have enough slack to reach the floor. Owner will later extend them to the data cabinet.
- o Floor finishes can be asphalt tile, linoleum tile, or sealed concrete.
- o Telecom spaces should be free of water or drain pipes not directly required to support equipment in the room.

- The new building IDF Room will be provided with the following equipment:
 - o Full cable tray system to allow overhead wiring between rack mounted equipment, wall mounted equipment, and field wiring
 - o Two (2) 7'-0" Open Frame 2-post Vertical Racks. Space for one (1) owner provided data cabinets shall be maintained.
 - o Vertical Racks to contain data patch panels, two-sided horizontal wire managers, two-sided vertical wire managers (~6" to 10" wide), fiber connector panels, power distribution hubs, and space for College provided networking equipment
 - o ¾" plywood backboard on all four (4) walls painted with fire retardant gray paint. Backboard to be 8'-0" high and installed at ~15" to 18" AFF.
 - o Wall or rack mount security equipment panels & door hardware power supplies
 - o Rack mount video surveillance equipment
 - o Wall mount ground bus bars with grounding electrodes
 - o Wall sleeves and slab cores to allow cable distribution horizontally and vertically throughout the building
 - o Power for data cabinets and racks shall include two NEMA L6-30R 30A/208V receptacle or two 110V/20A circuits in the center of the telecom. Exact requirements to be coordinated with the College. The outlet must be mounted or suspended using flex conduit in the center of the ceiling directly over the midsection of the ladder rack. It has to have enough slack to reach the floor. Owner will later extend them to the data cabinet.
 - o Floor finishes can be asphalt tile, linoleum tile, or sealed concrete.
 - o Telecom spaces should be free of water or drain pipes not directly required to support equipment in the room.

Telecommunications Infrastructure Narrative

Telecommunication Horizontal Cabling Requirements:

All required spaces shall be provided with voice/data outlets, data outlets and voice outlets. All outlet circuits shall be homerun to the closest telecom room. The definition of each outlet is as follows:

- Voice/Data Outlet - The standard voice/data outlet shall include one (1) Category 6A blue data cable and one (1) Category 6A blue VOiP cable. The outlet jack colors shall be blue for voice jacks and yellow for data jacks. Where required, additional data or voice circuits shall be provided. Ex. Informational Technology Staff member may require outlet with three (3) Category 6A data circuits and one (1) category 6A voice circuit.
- Data Outlet- The standard data outlet shall include two (2) Category 6A data circuits. An example would include a network printer location.
- Voice Outlet - The standard voice outlet shall include one (1) Category 6A voice circuit. An example would include wall phone in public or staff areas.
- Administrative Offices - Large offices will require approximately two (2) voice/data outlets,. Small offices/workspaces will require one (1) voice/data outlet.
- Workrooms - Each workroom shall be equipped with multiple voice/data outlets, one(l) outlet shall be provided at each workstation location.
- Conference/Meeting Rooms - Each conference room shall be cabled with multiple voice/data outlets and Audio Visual system data outlets.
- Classrooms/Meeting Rooms - Each classroom shall be equipped with multiple voice/data outlets.
- Divisible Multi-purpose Rooms - Each multi-purpose room shall be equipped with multiple voice/data outlets:
- The new building shall be cabled for wireless data communications inside and designated locations outside the building. Data outlets will be placed in the ceiling space throughout the inside of the building. This will allow the utilization of wireless data networks and

Telecommunications Infrastructure Narrative

communications throughout the building. For budgeting purposes, wireless data outlets to be placed at ~45' centers in a grid pattern throughout the building.

- The horizontal data termination standard for the building shall be TIA/EIA 5688.

- Building Control Systems shall be provided with voice and data outlets. These systems include:
 - o Security System.
 - o HVAC Control/Energy Management System.
 - o Operations/Maintenance CMMS.
 - o Audio/Visual Systems.
 - o Wireless Data Networks.
 - o Other systems yet to be identified.

- Data cables shall be plenum rated and shall be CommScope Uniprise cables in order to meet campus standards.

END OF REPORT

I. **Heating, Ventilation, and Air Conditioning (HVAC)**

A. Description of New Work - HVAC Systems:

1. Airside: New building air handling systems are described as follows:

- a. System #1, AHU-1: Located in First Floor Lower-Level Mechanical Room, AHU-1 shall be design for indoor use, and shall be a double wall construction, multiple zone VAV type air handling unit supplying multiple VAV Boxes serving entry lobby/circulation area, gang toilets, and Multipurpose and associated Multipurpose service rooms. The system shall be considered mixed-air type with return fan economizer operation. AHU-1 shall feature combination OA/RA mixing box with angled 2" filter rack, chilled water-cooling coil with stainless steel sloped drain pan, 24" access section between coils, heating hot water coil with galvanized drain pan, turning module, and 2nd level (stacked) supply air fan with horizontal discharge. AHU-1 design airflow shall be 9,000 CFM and shall be approximately 25 Tons of cooling capacity. It is anticipated that six (6) VAV Boxes shall be served from AHU-1. New supply and return ductwork shall extend from AHU-1 to the high above-ceiling space. Return air duct shall terminate to low return air grilles serving the multipurpose room with high ceilings. Outside air ductwork shall extend to from outside air louver located on mechanical room exterior wall. Insulation on supply duct, where routed outside of equipment room, and concealed (not visible) above ceiling, shall feature 2" thick fiberglass duct wrap exterior insulation, 1.5 pct, with fabric and mastic insulation joints. Supply, return, and outside air ductwork located in equipment room shall feature 1.5" thick, 6 pct, rigid board insulation with canvas finish. New AHU-1 controls shall be DOC type and shall extend and connect to existing campus "JCI" Metasys system by way of BACNet. Sequence of operation for AHU-1 shall be Multiple Zone VAV - supply air temperature control and modulation of Supply Fan motor VFD based upon duct static pressure control. Unit shall operate as a Return Fan Economizer system where both fans operate simultaneously. Return air fan and associated exhaust and return dampers shall control to maintain negative pressure in mixing box during non-economizer operation. New wall mounted VFD shall be provided for both AHU-1 supply and return fans (equal to "DanFoss") and shall feature integral 3-contactor bypass and separate external disconnect by Electrical contractor. AHU-1 shall be connected to building chilled water and heating hot water system.
- b. Systems #2 and #3: Similar to AHU-1, AHU-2 and AHU-3 shall also reside in Lower-Level First Floor Mechanical rooms and shall feature similar indoor construction. AHU-2 shall supply multiple VAV Boxes serving faculty offices, X-Ray/Radiology labs & waiting areas, classrooms, Seminar rooms, Micro-market, Ultrasound labs, and East Entry Lobby. AHU-2 design airflow shall be 18,000 CFM and shall be approximately 50 Tons cooling capacity. It is anticipated that twenty-four (24) VAV Boxes shall be served from AHU-2. AHU-3 shall also supply multiple VAV Boxes serving large circulation space, multiple large

Mechanical (HVAC) Narrative

classrooms, and computer classrooms. AHU-3 design airflow shall be 18,000 CFM and shall be approximately 50 Tons of cooling capacity. It is anticipated that twelve (12) VAV Boxes shall be served from AHU-3. Airside system configuration and controls shall be like AHU-2 and AHU-3 in that these are return fan economizer units with Variable Air Volume controls.

- c. Systems #4 and #8: AHU-4 and AHU-8 shall be outdoor construction residing upon the roof designed for installation upon an insulated, soundproof perimeter curb. AHU-4 shall supply multiple VAV Boxes serving faculty offices, faculty seminar, and break room areas on BOTH the second and Third Floor areas. AHU-4 design airflow shall be 15,000 CFM and shall be approximately 40 Tons of cooling capacity. It is anticipated that thirty-two (32) VAV Boxes shall be served from AHU-4. AHU-8 shall supply multiple VAV Boxes serving small and medium classroom spaces, and main circulation space on the second floor. AHU-8 supply and return duct will need to route and chase through the third floor in order to serve the second floor. AHU-8 design airflow shall be 17,000 CFM and shall be approximately 45 Tons of cooling capacity. It is anticipated that fifteen (15) VAV Boxes shall be served from AHU-8. Airside system configuration and controls will be return fan economizer units with Variable Air Volume controls.
- d. Systems #5 and #6: AHU-5 and AHU-6 shall be outdoor construction designed for rooftop installation upon an insulated, soundproof perimeter curb. AHU-5 shall supply multiple VAV Boxes serving the second-floor classroom laboratories. AHU-5 design airflow shall be 15,000 CFM and shall be approximately 40 Tons of cooling capacity. It is anticipated that twelve (12) VAV Boxes shall be served from AHU-5. AHU-6 shall supply multiple "Phoenix" constant volume air valves with reheat hot water coils serving third-floor laboratory areas. AHU-6 design airflow shall be 17,000 CFM and shall be approximately 45 Tons of cooling capacity. It is anticipated that twelve (12) VAV Boxes shall be served from AHU-6. Airside system configuration and controls will be return fan economizer units with Variable Air Volume controls.
- e. System #7: AHU-7 shall be outdoor construction designed for rooftop installation upon an insulated, soundproof perimeter curb. AHU-7 shall supply multiple VAV Boxes serving Biology offices, and Dean's suite of offices on BOTH the second and Third Floor areas. AHU-7 design airflow shall be 11,000 CFM and shall be approximately 30 Tons of cooling capacity. It is anticipated that twenty-two (22) VAV Boxes shall be served from AHU-7. Airside system configuration and controls will be return fan economizer units with Variable Air Volume controls.
- f. Systems #9: AHU-9 shall supply multiple VAV Boxes serving primarily faculty office spaces. AHU-9 supply and return duct will need to route directly from the roof and shall serve the third floor. AHU-9 design airflow shall be 18,000 CFM and shall be approximately 50 Tons of cooling capacity. It is anticipated that twenty-four (24) VAV Boxes shall be served from AHU-9. Airside system

Mechanical (HVAC) Narrative

configuration and controls will be return fan economizer units with Variable Air Volume controls.

- g. **Laboratory Exhaust System:** Central laboratory exhaust fan systems, consisting of high plume dilution blowers, shall be located upon the roof. One fan shall serve the third-floor biology labs, and another fan shall serve the chemistry lab and chemistry prep area. Fans shall feature pre-engineered outlet nozzle to allow for required exit velocities and vertical throws away from the building. Refer to architectural drawings for number and sizes (widths) of hoods on the third floor. Hood exhaust ductwork shall be fully welded stainless-steel construction and shall feature automatic mechanical modulated flow limiting airflow valves equal to "Phoenix". Laboratory exhaust hoods shall be basis of design "*Labconco Protector Extreme*", and general information regarding these hoods is attached to this narrative. The following hood sizes and locations are given:

1. Biology Lab 101 - qty (1) 4' Hood
2. Biology Lab 102 - qty (1) 6' Hood
3. Biology Lab 105 - qty (1) 6' Hood
4. Chemistry Lab 314 - qty (2) 6' Hoods
5. Chemistry Lab 316 - qty (2) 6' Hoods
6. Chemistry Prep 315- qty (1) 4' Hood

In addition, a general exhaust stainless steel "heat hood" and exhaust fan shall be provided for the autoclaves indicated in Micro Prep 312

- h. **General exhaust:** Areas that will require exhaust include toilet rooms, both gang type and individual toilets, as well as janitor's closets. The exhaust from these rooms shall be in quantities as required per code.
- i. **IT Rooms** shall feature standalone dedicated cooling only ductless minisplit systems, equal to "Mitsubishi" P-Series systems with wall mounted indoor and roof mounted outdoor units. For schematic design purposes, we estimate 3 Ton systems for each IT Room.
- j. The MDF room on the lower level first floor shall feature standalone "Liebert" cooling and dehumidification system to support the building main IT equipment. For schematic design purposes, we estimate 5 Ton system.
- k. **Life safety systems / Atrium Exhaust:** For the designated boundary of the defined atrium, a smoke exhaust system shall be capable of removing design fire smoke exhaust. Exhaust fans shall be UL listed for smoke removal purpose and shall be connected to emergency power. Preliminary atrium smoke removal airflow calculations result in a requirement of 179,066 cfm. Our design allows for two (2) fans, used in 3 different areas along the building plan, that corresponds with openings on the 3rd floor that are open to the 1st floor. A total quantity of six (6) atrium exhaust fans shall be used, and each fan shall be designed for 29,845

Mechanical (HVAC) Narrative

CFM minimum of airflow against 0.375" external static pressure. In addition, a fire fighters smoke control panel (a panel a part of the fire alarm system) shall be used to control and initiate/override fans as well as intake devices such as louvers and/or doors and/or supply fan systems. Fire fighters control panel shall be a seamless and integrated and a part of the building fire alarm system - see electrical.

- I. A radon exhaust fan shall be included for the building and located upon the roof. The fan shall be ducted to a radon pit designed within the slab of the building foundation. A typical detail of the fan condition is included in the appendix of this narrative.
2. Waterside: New building waterside distribution systems are described as follows:
 - a. New distribution pumps and piping: Two (2) new chilled water pumps (1 primary, 1 standby) - piped in parallel, and two (2) new heating hot water pumps (1 primary, 1 standby) - piped in parallel, shall be installed in mechanical room on First Floor Lower Level. Each set of pumps shall feature Variable Frequency Drive (VFD's) with external disconnect and 3-contactor bypass. Pumps shall be scheduled and indexed for equal run time operation through the Building Automation System. Pump VFD's shall be controlled by differential pressure sensors located in the distribution piping. Pumps shall be end suction, base mounted type, with motor shaft grounding rings and shall feature new housekeeping pads that are 4 times the weight of the pumps. Chilled water and heating hot water piping extended from new pumps shall be schedule 40 carbon black steel, threaded construction 1.5" size and below and welded construction 2" size and larger. Piping insulation shall be 2" thick fiberglass equal to "Owens Corning" ASJ-Max "paper-free" jacketing. Piping exposed in mechanical rooms shall feature PVC cladding with labelling. Chilled water pumps shall be insulated by way of 3/4" sheet Armaflex insulation.
 - b. New underground chilled water and heating hot water service lines are required for the building, and shall extend from the existing Central Energy Plant. Chilled water supply and return piping shall be Nominal 8" in size and heating hot water piping shall be Nominal 6" in size. Underground piping product shall be factory pre-insulated type piping with steel carrier. Casing shall be HOPE and insulation shall be minimum 2" thickness foam type insulation. Steel piping shall not be in contact with underground elements. Target burial depth shall be 4 feet minimum. Allow for up to 500 ft of piping length for each of the four (4) pipes, ((2) 8" chilled water pipes, and (2) 6" hot water pipes].

3. BUILDING AUTOMATION SYSTEM AND CONTROLS

- a. New Building Automation System shall be an extension of existing "JCI" campus building automation system and shall utilize "BACNet" communication means within the building. JCI system architecture shall be compatible with existing

Mechanical (HVAC) Narrative

campus systems and user workstations. Contact for JCI serving Greenville Technical College is Mrs. Allison Knox at (864) 234-3812.

4. TEST AND BALANCE

- a. The building airside, waterside, life safety systems including atrium and lab exhaust systems shall be tested, adjusted, and balanced by a licensed NEBB firm that will also work in conjunction with the building commissioning agent. It is anticipated that the test and balance contractor WILL work for the Contractor on the project and should be accounted for in the schematic design budget.

5. ENERGY CODE COMPLIANCE

- a. This project requires is being targeted to achieve Green Globes (GG) certification, which includes energy conservation compliance. Building Energy modelling is being conducted in accordance with ASHRAE 90.1 (2010 edition), Appendix G, to document energy performance and to gain credits towards GG certification. A schematic level energy analysis is attached documenting annual energy savings.

END OF NARRATIVE

SCHEMATICS

GREENVILLE TECHNICAL COLLEGE - BARTON CAMPUS

GTC - ARTS AND HEALTH SCIENCES BUILDING

GREENVILLE, SC

Issue Date/Description: 06.16.2021 SCHEMATIC DESIGN PKG

MPS Project No: 020300

Agency Review ID: HSS.6166-PD

mcm11lan
pazdan
smith
OCHU.CTUII

OWNER **DRAWING LIST**

OPFW...ATEC
GREENVILLE, SC

OWNER

GENERAL CONTRACTOR

1-WFERG...TORS
2-WSTCOURT...
GREENVILLE, SC

ARCHITECT OF RECORD

GREENVILLE, SC

ARCHITECT

JMAACME...
GREENVILLE, SC

CIVIL

91JDEWAR...
GREENVILLE, SC

LANDSCAPE

GREENVILLE, SC

LANDSCAPE

STRUCTURAL

GREENVILLE, SC

STRUCTURAL

MECH/ELECTRICAL/PLUMBING

GREENVILLE, SC

ELECTRICAL

GREENVILLE, SC

ELECTRICAL

A-V / LOW VOLTAGE

GREENVILLE, SC

A-V / LOW VOLTAGE

GREEN GLOBES

GREENVILLE, SC

GREEN GLOBES

STAIRS

GREENVILLE, SC

STAIRS

INDEX OF DRAWINGS

NO.	DESCRIPTION	DATE
1	GENERAL CONTRACTOR	
2	ARCHITECT OF RECORD	
3	ARCHITECT	
4	CIVIL	
5	LANDSCAPE	
6	STRUCTURAL	
7	MECH/ELECTRICAL/PLUMBING	
8	ELECTRICAL	
9	A-V / LOW VOLTAGE	
10	GREEN GLOBES	
11	STAIRS	



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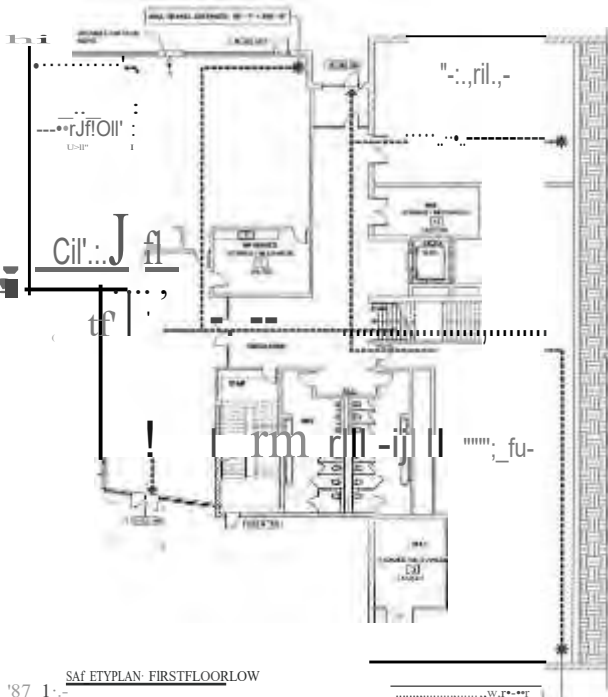
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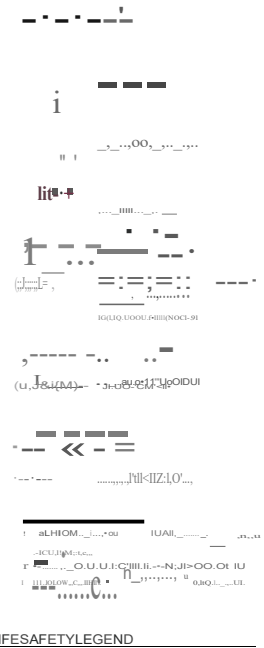


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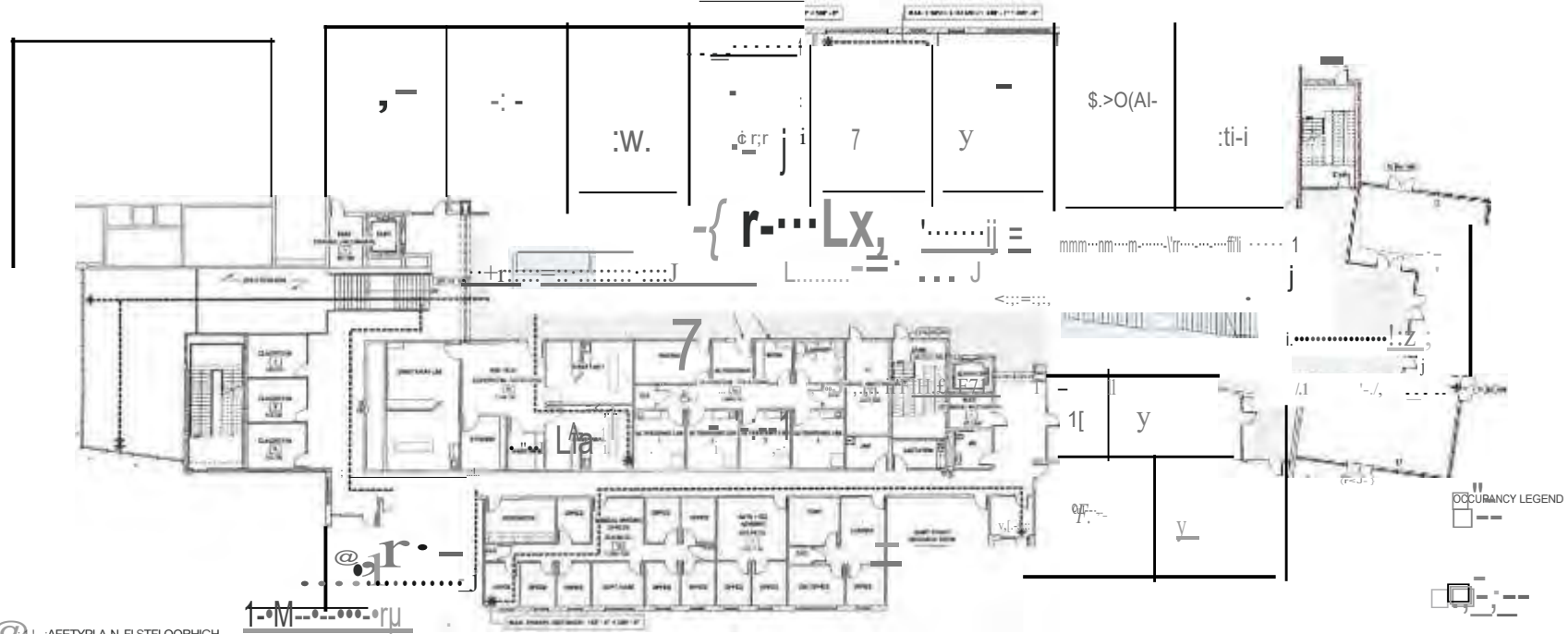


OCCUPANCY LEGEND



LIFESAFETYLEGEND

SAFETYPLAN- FIRSTFLOORLOW



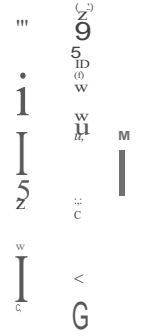
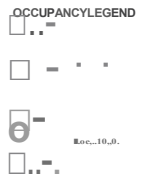
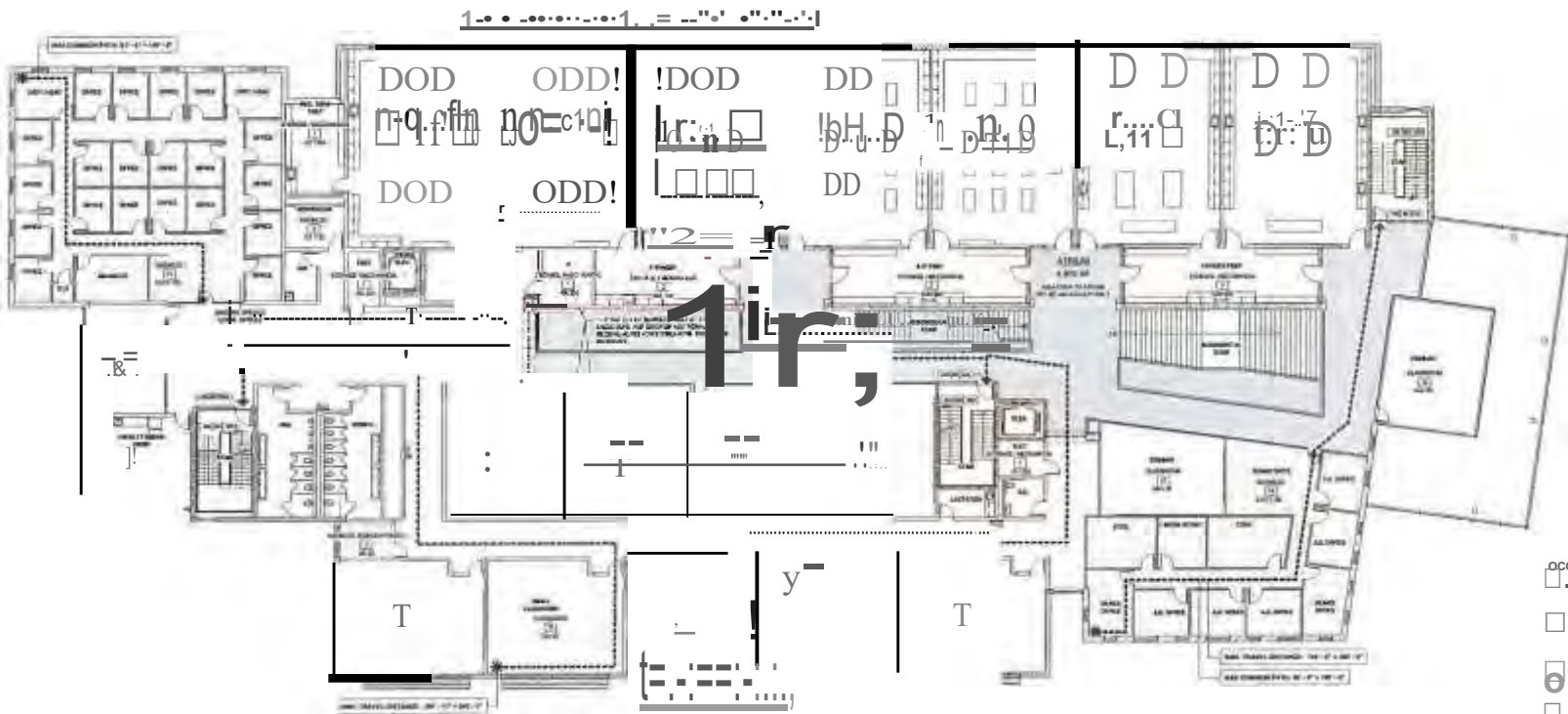
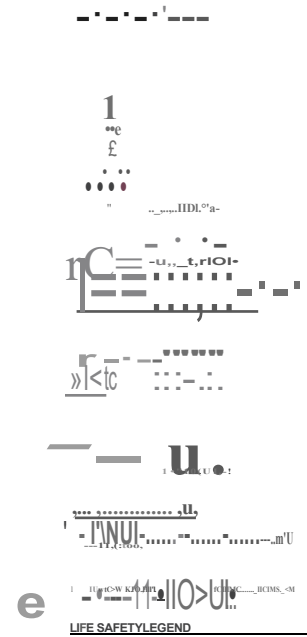
OCCUPANCY LEGEND

LIFE SAFETY PLAN- FIRST FLOOR

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smith

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G110



DATE: 05/11/10
DRAWN BY: [Name]

LIFE SAFETY PLAN - SECOND FLOOR

G120

VJ/



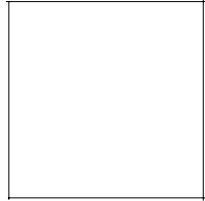
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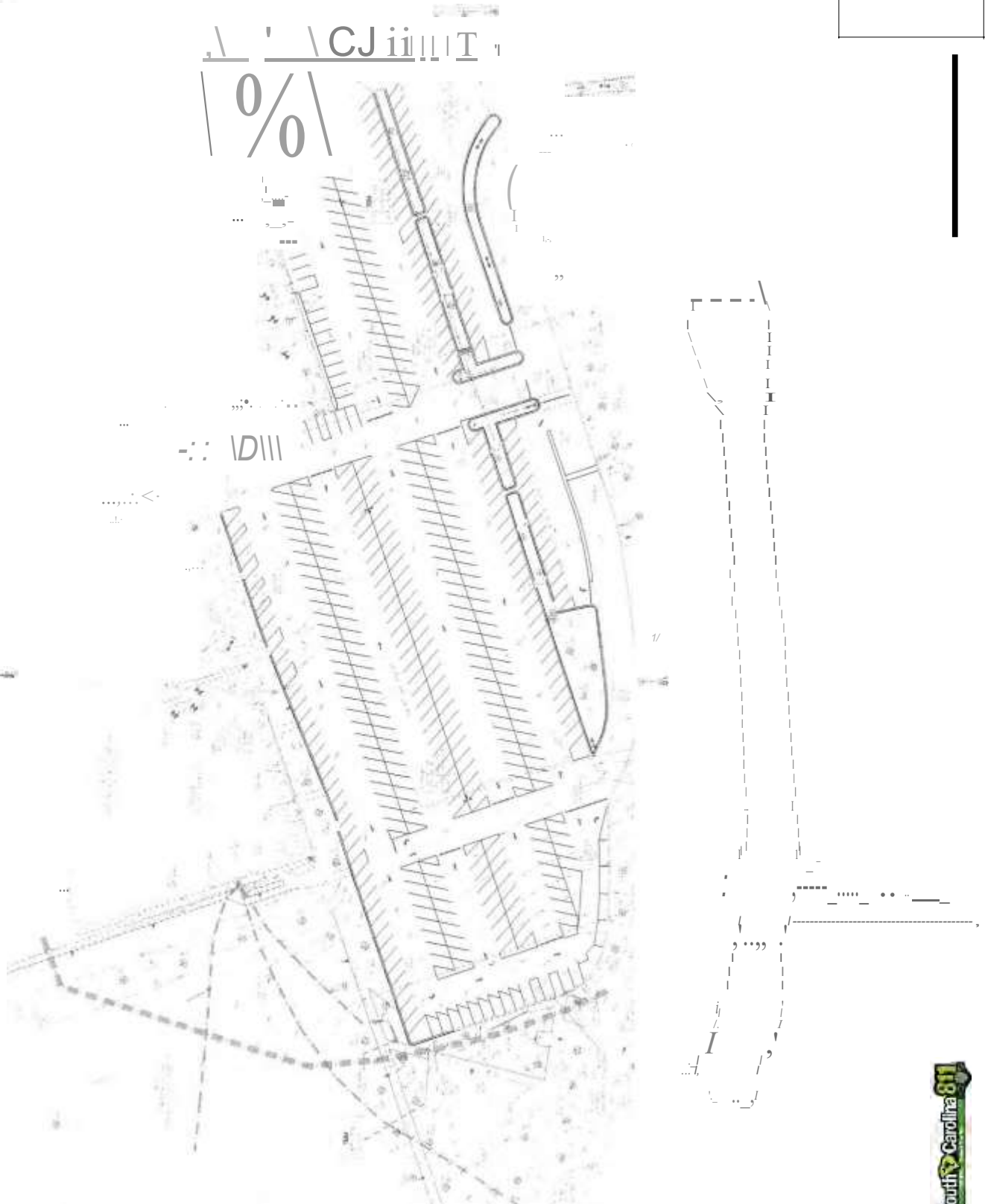


EXISTING
CONDITIONS PLAN

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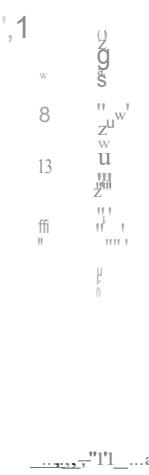
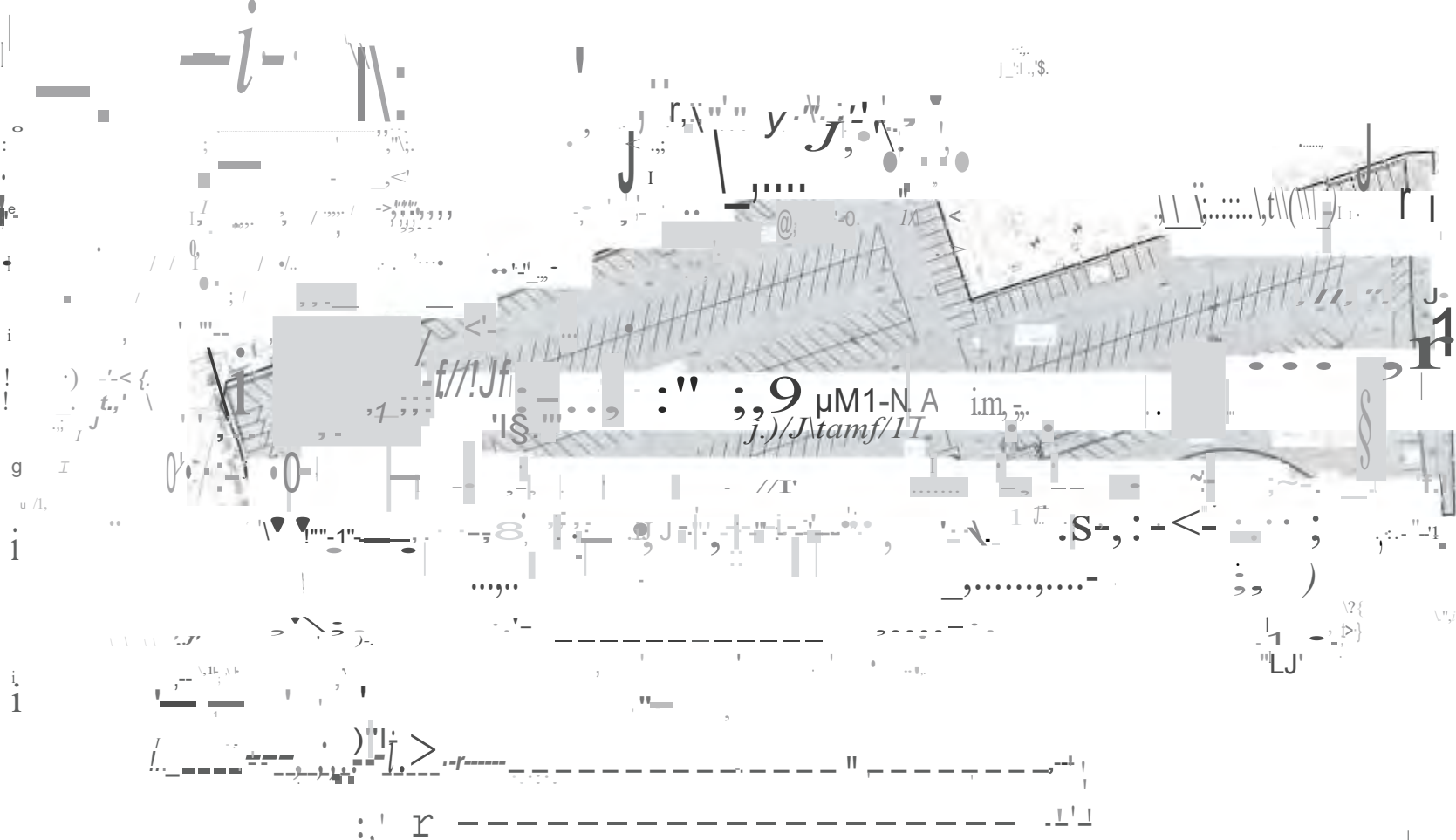
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DEMOLITION NOTES:

1. The Contractor will be responsible for obtaining all necessary permits and approvals prior to beginning any demolition work.
2. Prior to beginning demolition the Contractor will insure that all necessary safety measures are in place to protect the Owner's property, vehicles, and the public in general.
3. All materials shall be hauled off-site and disposed of legally on the Owner's approved route, and disposed of legally at the landfill permitted to accept this specific material.
4. On-site work shall be performed during hours of operation as approved by the Owner's Representative.
5. The Contractor will coordinate with the Owner's Representative the quantity of all salvagable materials. The Contractor will haul-off the salvagable material as approved in writing by the Owner's Representative.
6. All demolition work shall meet the minimum requirements of OSHA, Federal Laws, State LA-WHS, and Local Laws. The State will be notified.



DEMOLITION PLAN

C003



GRADING NOTES:

1. ALL EXISTING GRADES SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
2. ALL NEW GRADES SHALL BE MAINTAINED TO A MINIMUM SLOPE OF 1% UNLESS OTHERWISE NOTED.
3. ALL EXISTING GRADES SHALL BE MAINTAINED TO A MINIMUM SLOPE OF 1% UNLESS OTHERWISE NOTED.
4. ALL EXISTING GRADES SHALL BE MAINTAINED TO A MINIMUM SLOPE OF 1% UNLESS OTHERWISE NOTED.
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GRADING AND DRAINAGE PLAN

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THIS DRAWING IS A CONSTRUCTION DOCUMENT.
IT IS THE RESPONSIBILITY OF THE USER TO VERIFY ALL INFORMATION.
DATE: 11/10/2010 10:00 AM

GENERAL NOTES:
1. ALL UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY.
2. VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. ALL NEW UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
4. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
5. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES.
6. ALL UTILITIES SHALL BE INSTALLED AT THE USER'S RISK.
7. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
8. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES.
9. ALL UTILITIES SHALL BE INSTALLED AT THE USER'S RISK.
10. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
11. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES.
12. ALL UTILITIES SHALL BE INSTALLED AT THE USER'S RISK.
13. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
14. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES.
15. ALL UTILITIES SHALL BE INSTALLED AT THE USER'S RISK.
16. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
17. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES.
18. ALL UTILITIES SHALL BE INSTALLED AT THE USER'S RISK.
19. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
20. THE USER SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES.

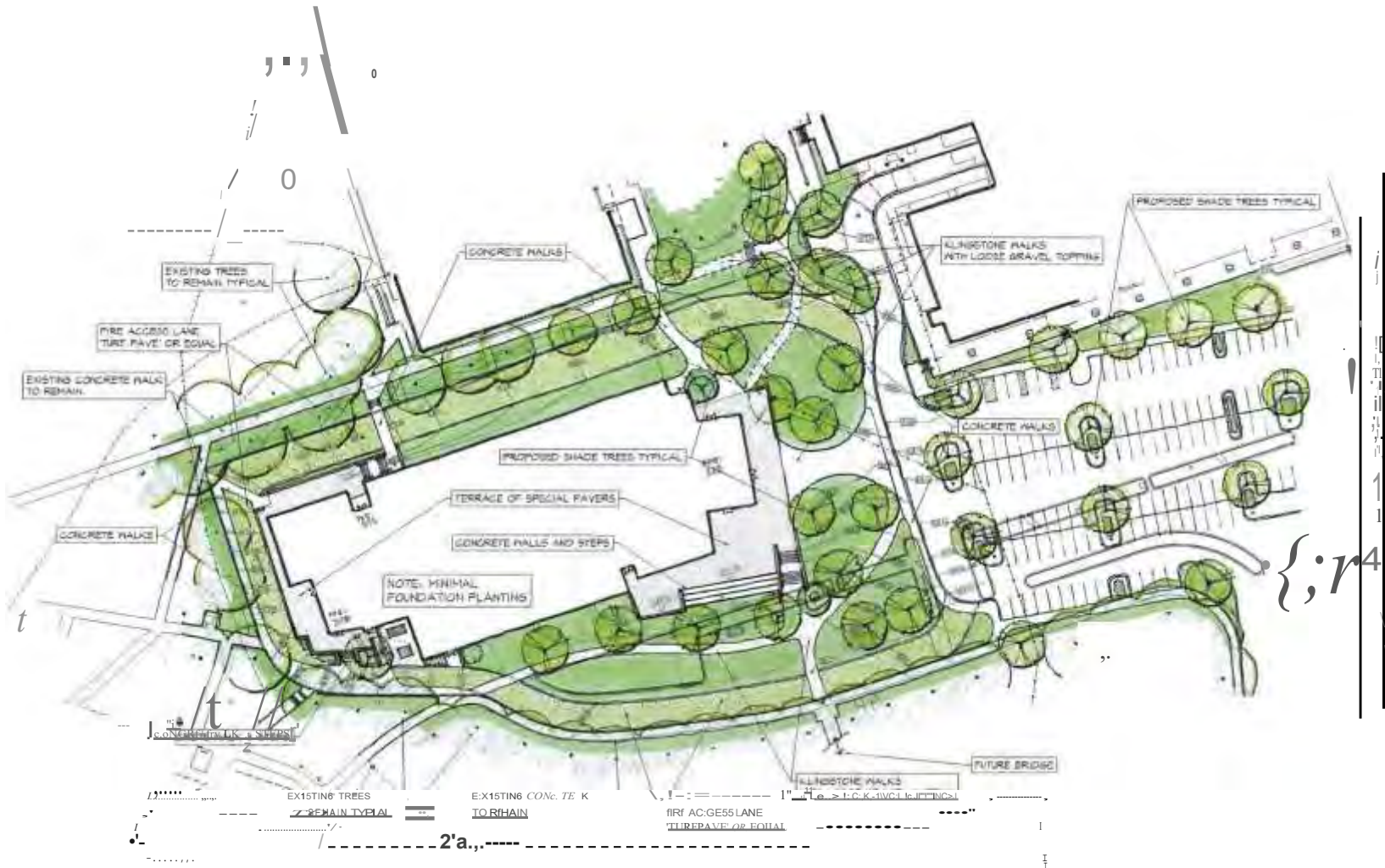
GRAPHIC SCALE:



UTILITY PLAN

C301





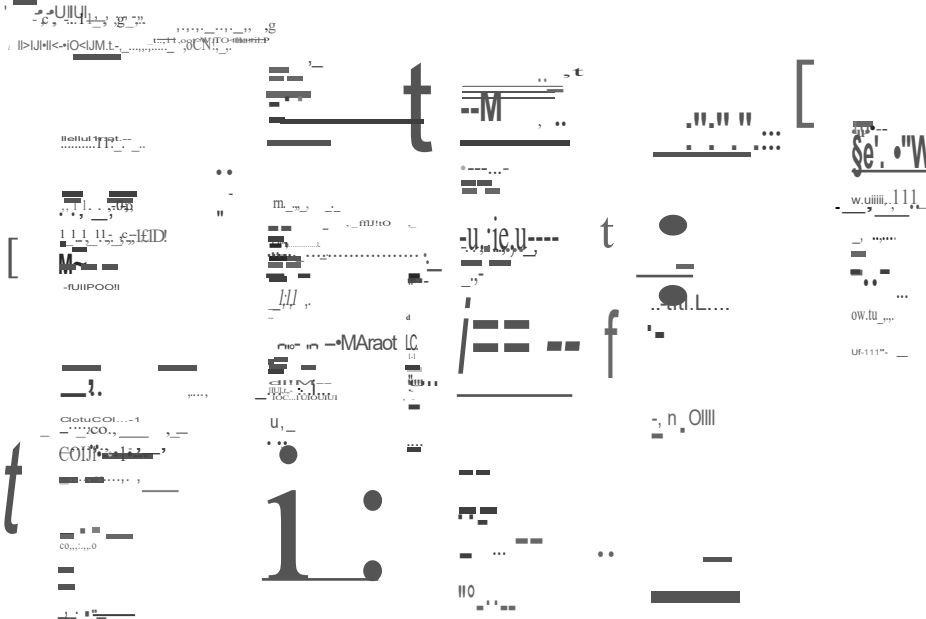
E.J. 1/16" = 1'-0"

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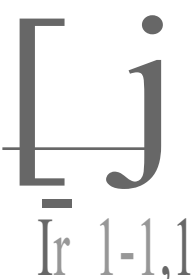
1/16" = 1'-0"

LANDSCAPE
PLAN

L-1

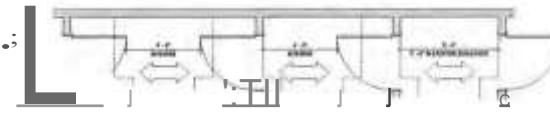


ABBREVIATIONS UST



1. All Dimensions in mm unless otherwise specified.
2. The width of the door shall be as indicated on the drawing.
3. The height of the door shall be as indicated on the drawing.
4. The door shall be as indicated on the drawing.
5. The door shall be as indicated on the drawing.

HINGE SIDE APPROACHES



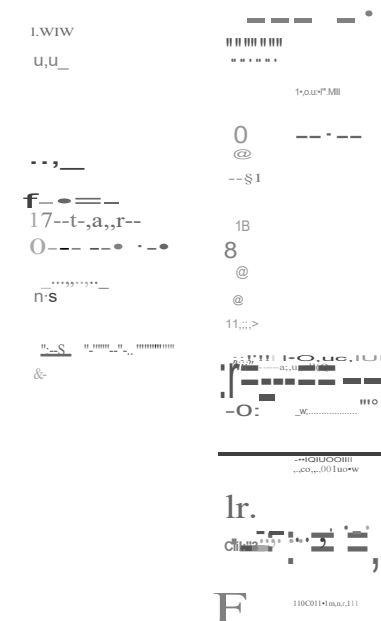
LATCH SIDE APPROACHES



DOORS IN A SERIES



DOORWAY W/O DOORS, SLIDING DOORS, AND FOLDING DOORS



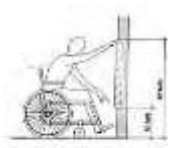
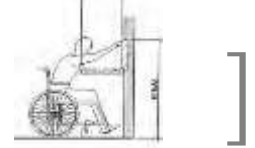
STANOARO GRAPHICS AND SYMBOLS

1. All Dimensions in mm unless otherwise specified.
2. The width of the door shall be as indicated on the drawing.
3. The height of the door shall be as indicated on the drawing.
4. The door shall be as indicated on the drawing.
5. The door shall be as indicated on the drawing.

GENERAL NOTES



TYPICAL MATERIALS



REARRANGES

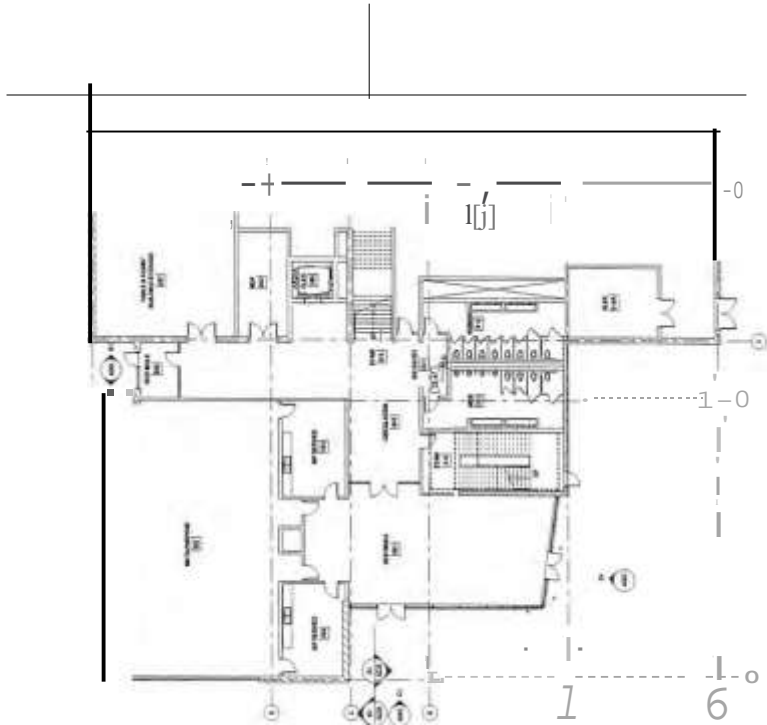
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ABBREVIATION,
SYMBOLS AND
LEGENDS

- 1. UNFINISHED FLOOR AREA
- 2. FINISHED FLOOR AREA
- 3. UNFINISHED WALL AREA
- 4. FINISHED WALL AREA
- 5. UNFINISHED CEILING AREA
- 6. FINISHED CEILING AREA

KEYNOTE LEGEND

1. UNFINISHED FLOOR AREA
2. FINISHED FLOOR AREA
3. UNFINISHED WALL AREA
4. FINISHED WALL AREA
5. UNFINISHED CEILING AREA
6. FINISHED CEILING AREA

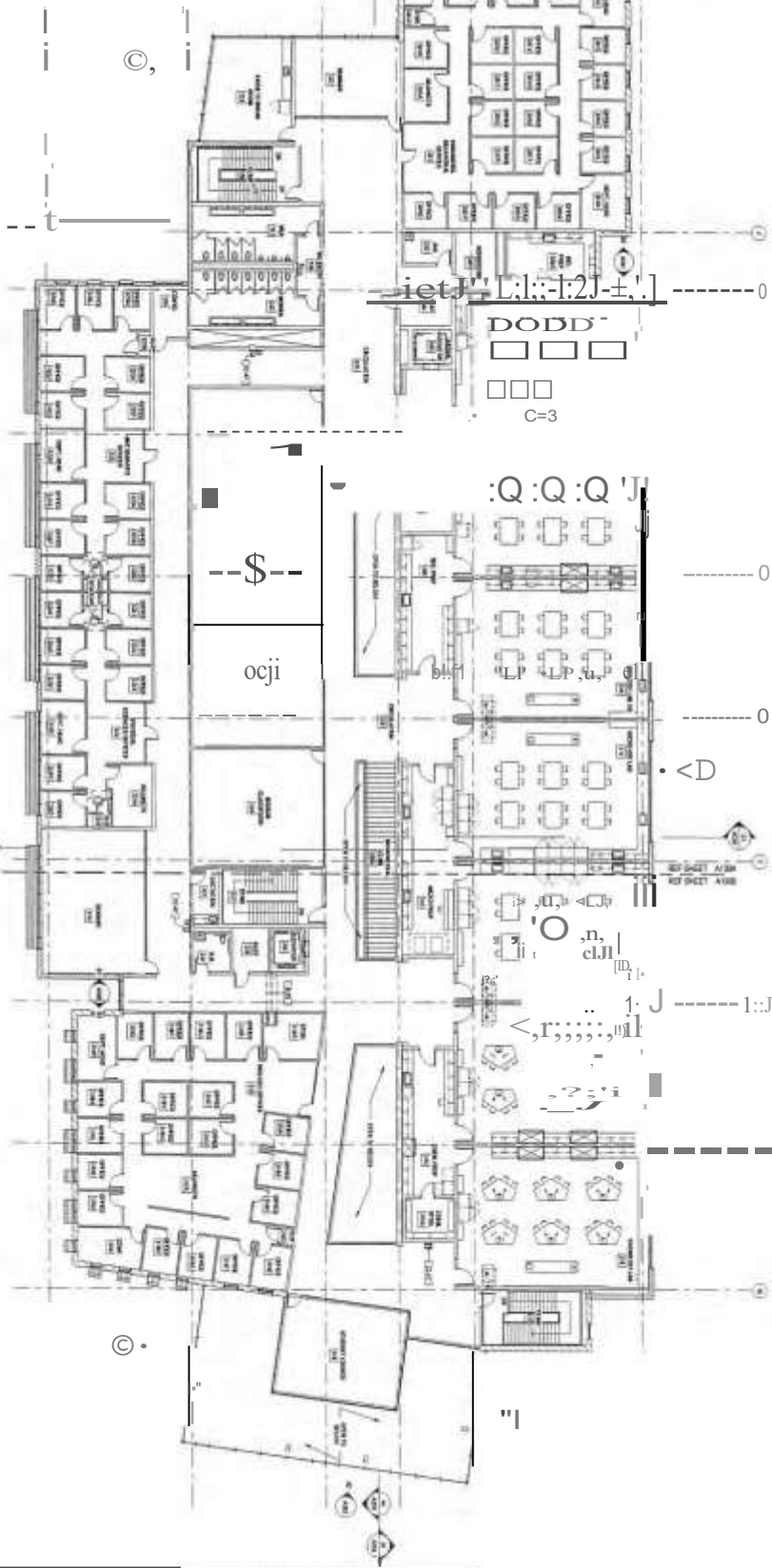


OVERALL PLAN - FIRST FLOOR LOW

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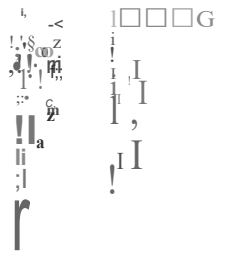
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GREENVILLE TECHNICAL COLLEGE - BARTON CAMPUS

GTC • ARTS AND HEALTH SCIENCES BUILDING

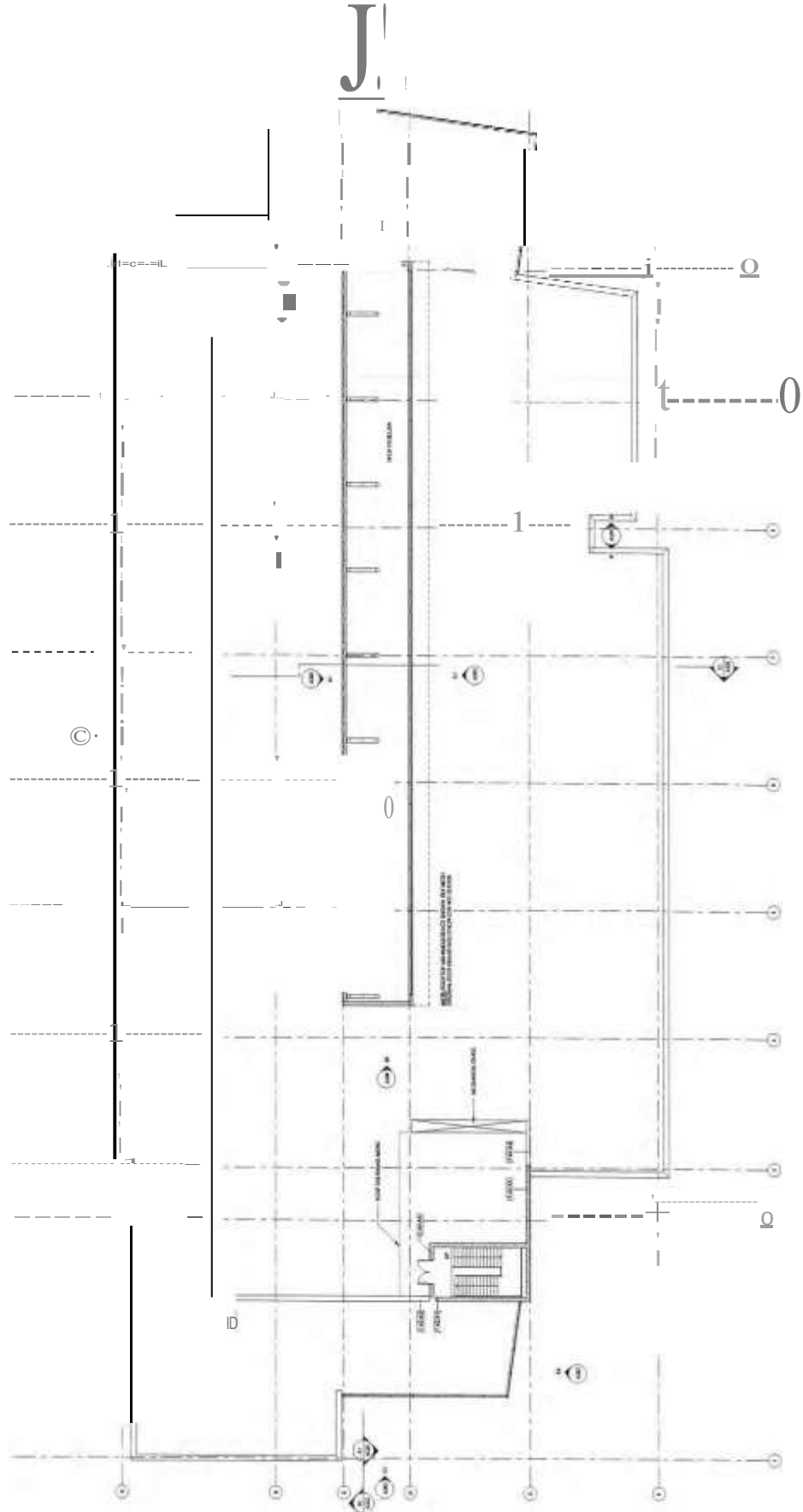
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PLAN LEGEND

- 1. FINISH FLOOR
- 2. FINISH CEILING
- 3. FINISH WALL
- 4. FINISH DOOR
- 5. FINISH WINDOW
- 6. FINISH STAIR
- 7. FINISH ELEVATOR
- 8. FINISH RAMP
- 9. FINISH BALCONY
- 10. FINISH TERRACE

KEYNOTE LEGEND

1. FINISH FLOOR
2. FINISH CEILING
3. FINISH WALL
4. FINISH DOOR
5. FINISH WINDOW
6. FINISH STAIR
7. FINISH ELEVATOR
8. FINISH RAMP
9. FINISH BALCONY
10. FINISH TERRACE



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DATE: 10/10/2011
PROJECT: 8NIOIn8 S3:JN31:JS HI 1'13HONV SHIV - :JW
DRAWN BY: [Name]

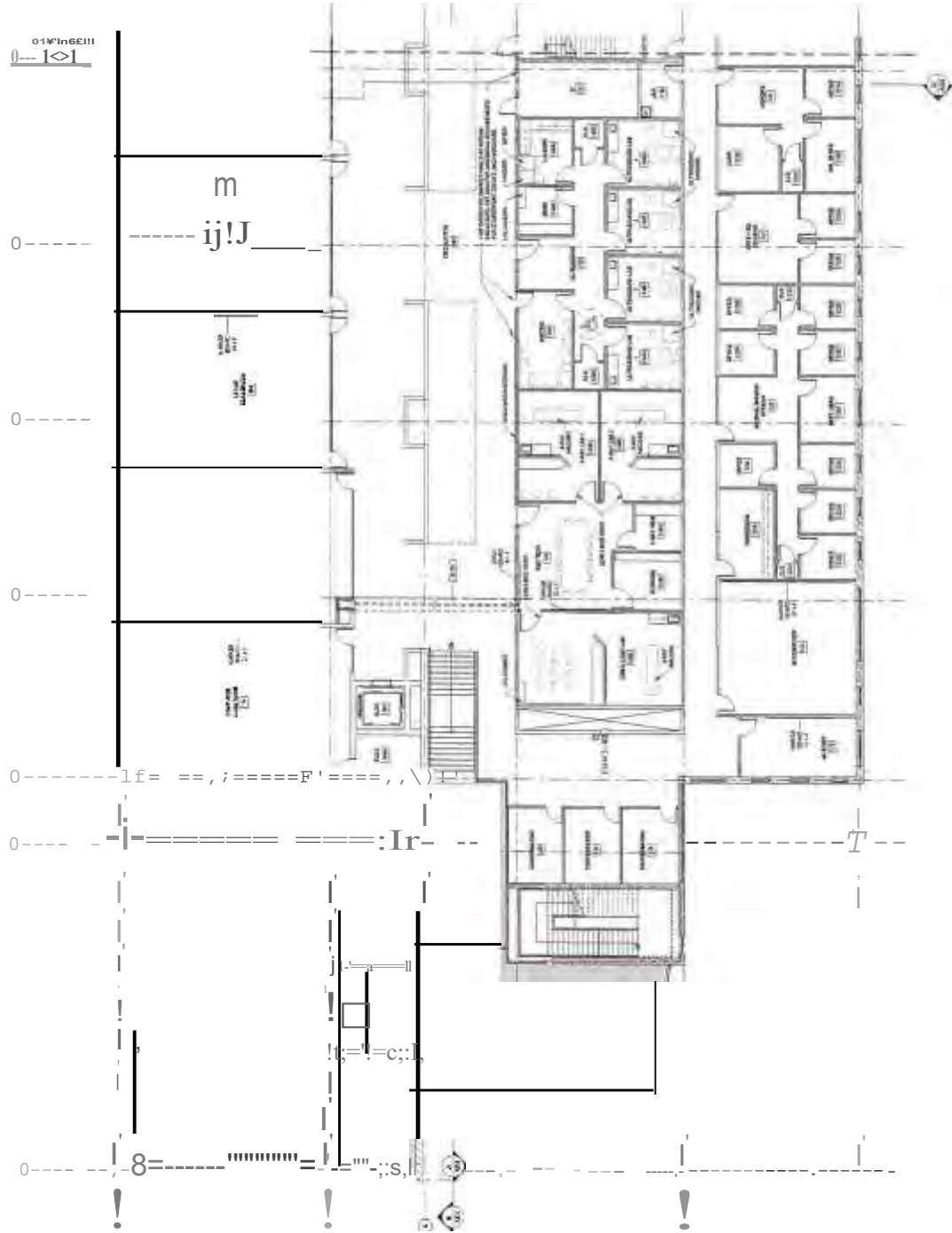
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FIRST FLOOR PLAN -
HIGH - AREA A

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- ALL ROOMS SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- ALL WALLS SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- ALL FLOORS SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- ALL CEILING SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- ALL LIGHTING SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.

KEYNOTE LEGEND

- 1. ALL ROOMS SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- 2. ALL WALLS SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- 3. ALL FLOORS SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- 4. ALL CEILING SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.
- 5. ALL LIGHTING SHALL BE FINISHED TO THE FINISHES SHOWN ON THE DRAWINGS.



AREA PLAN - FIRST FLOOR HIGH - AREA A

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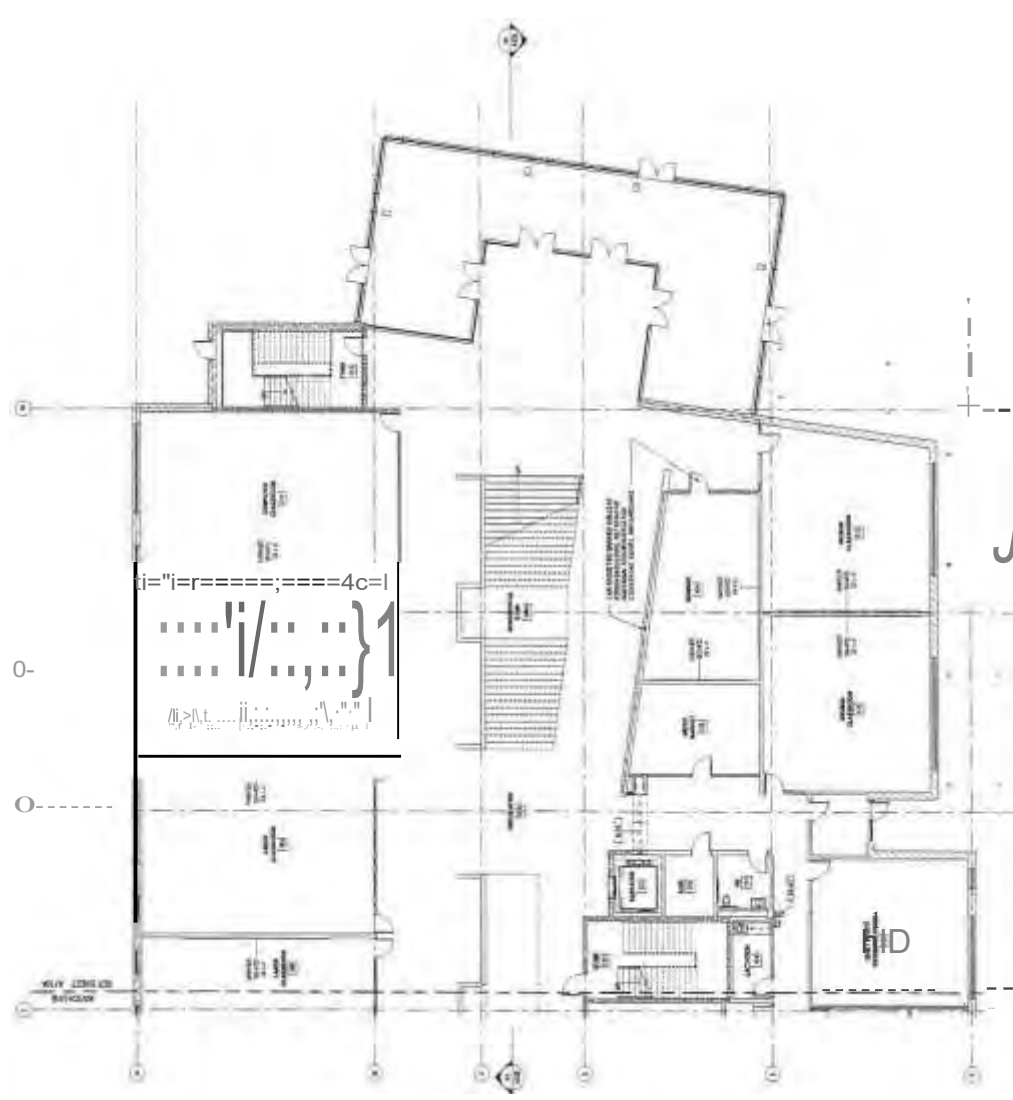
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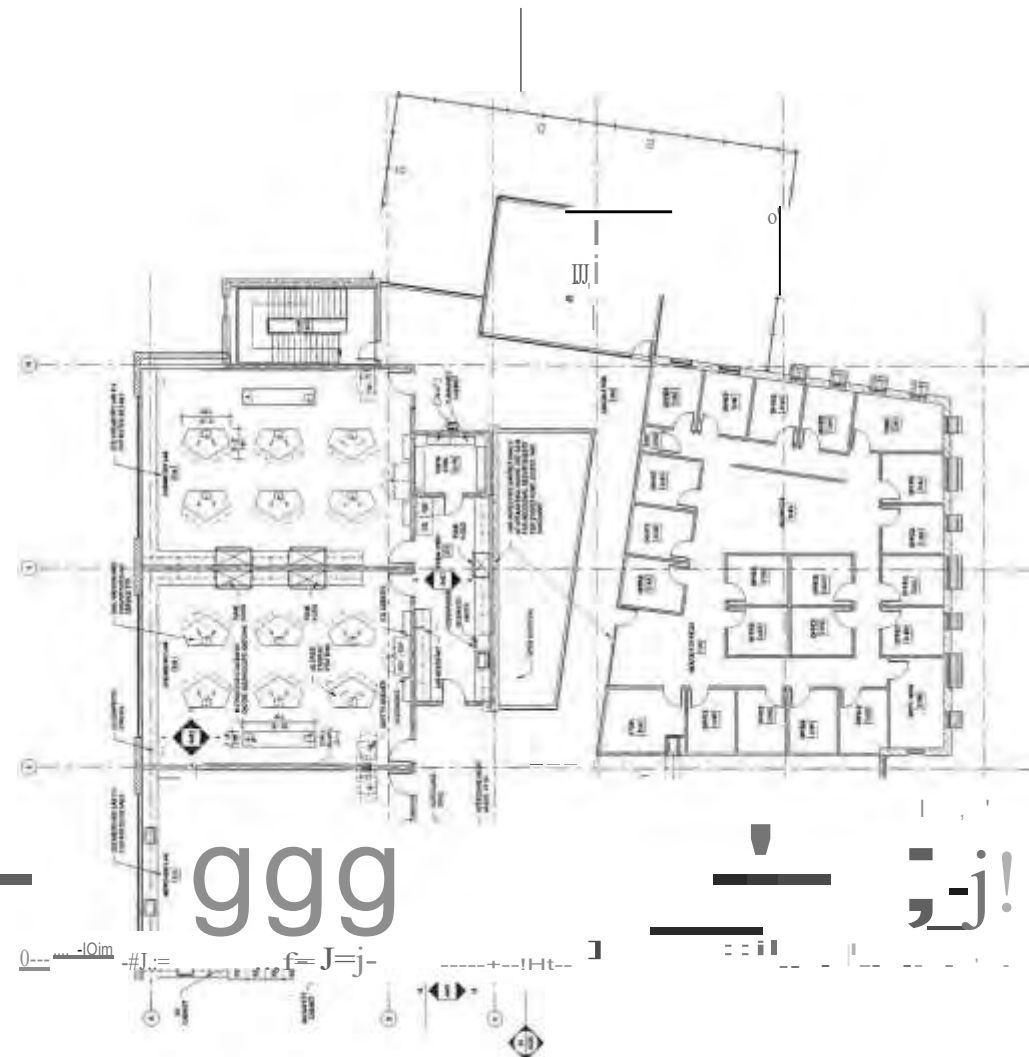
Vertical text on the right side, possibly a scale or reference.

Vertical text on the far right side, possibly a scale or reference.

Vertical text on the left side, including the number 121001.



Technical drawing notes and symbols overlaid on the floor plan.



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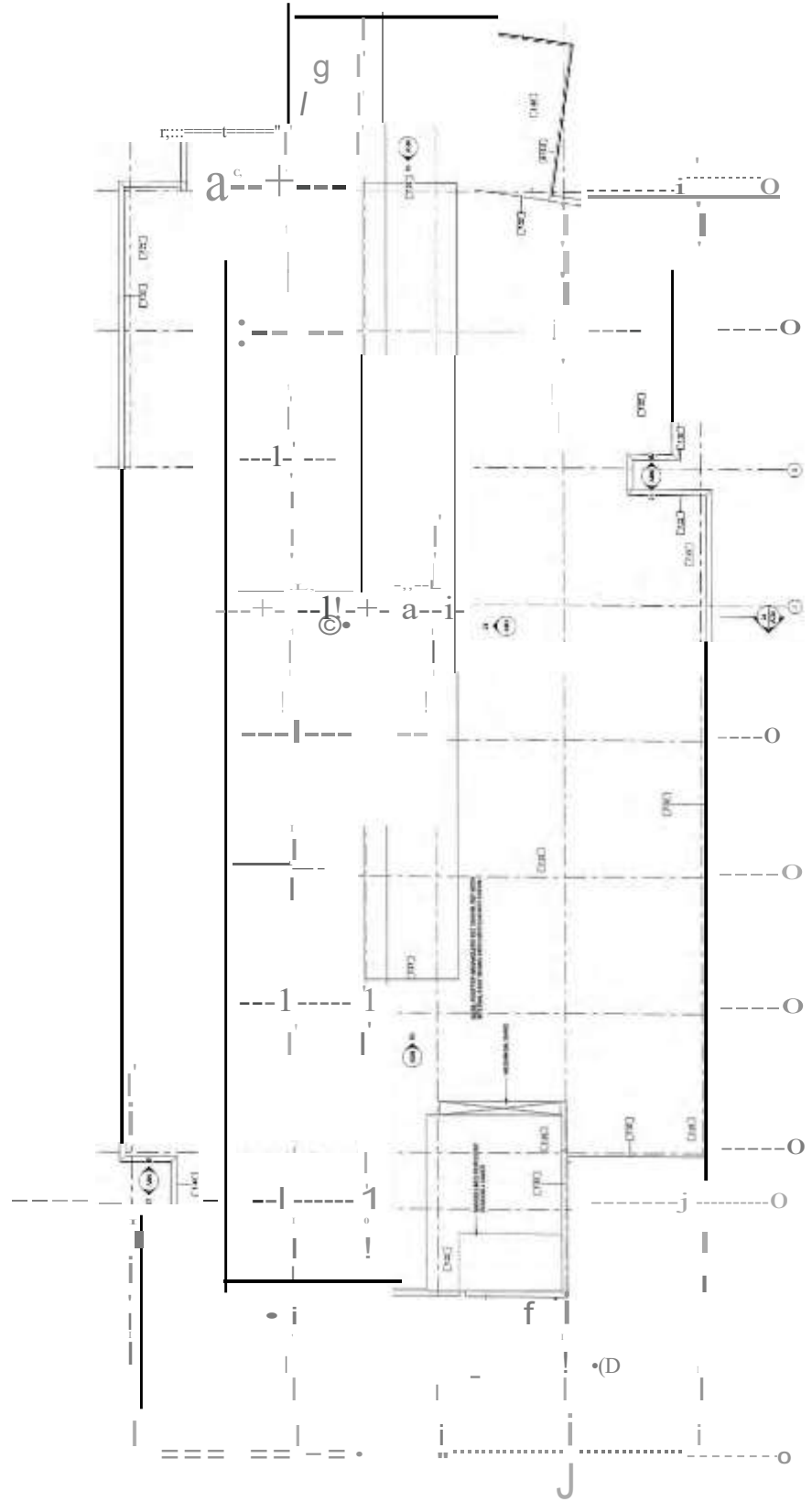
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PROJEKSI
 1. ARSITEK
 2. STRUKTUR
 3. MEKANSIS
 4. ELEKTRIK
 5. SANITASI

OVERALL ROOF PLAN

KEYNOTE LEGEND

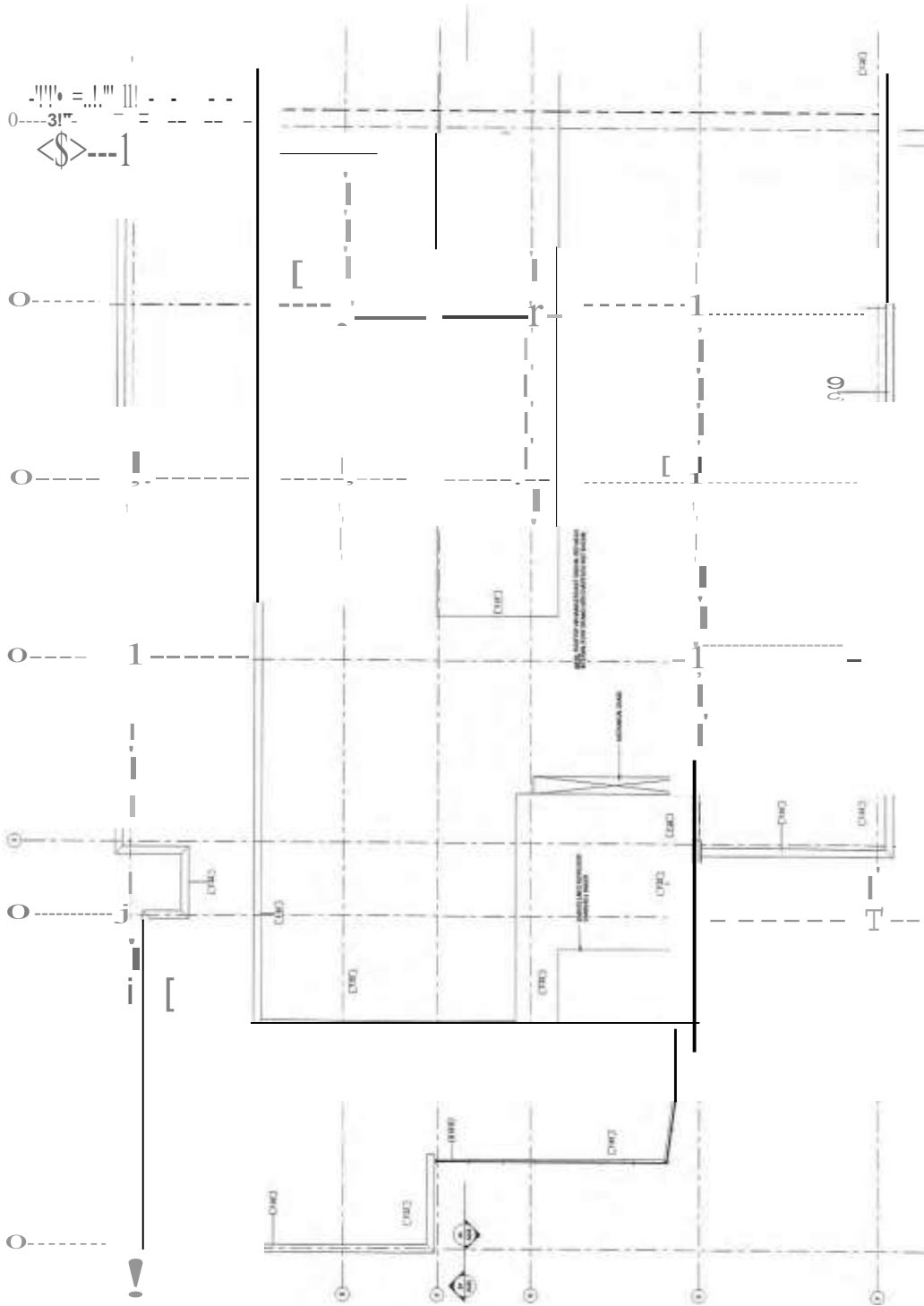
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OVERALL ROOF PLAN

SEWAGE LEGEND

- 1. Sewerage
- 2. Stormwater
- 3. Rainwater
- 4. Greywater
- 5. Blackwater
- 6. Industrial effluent
- 7. Other



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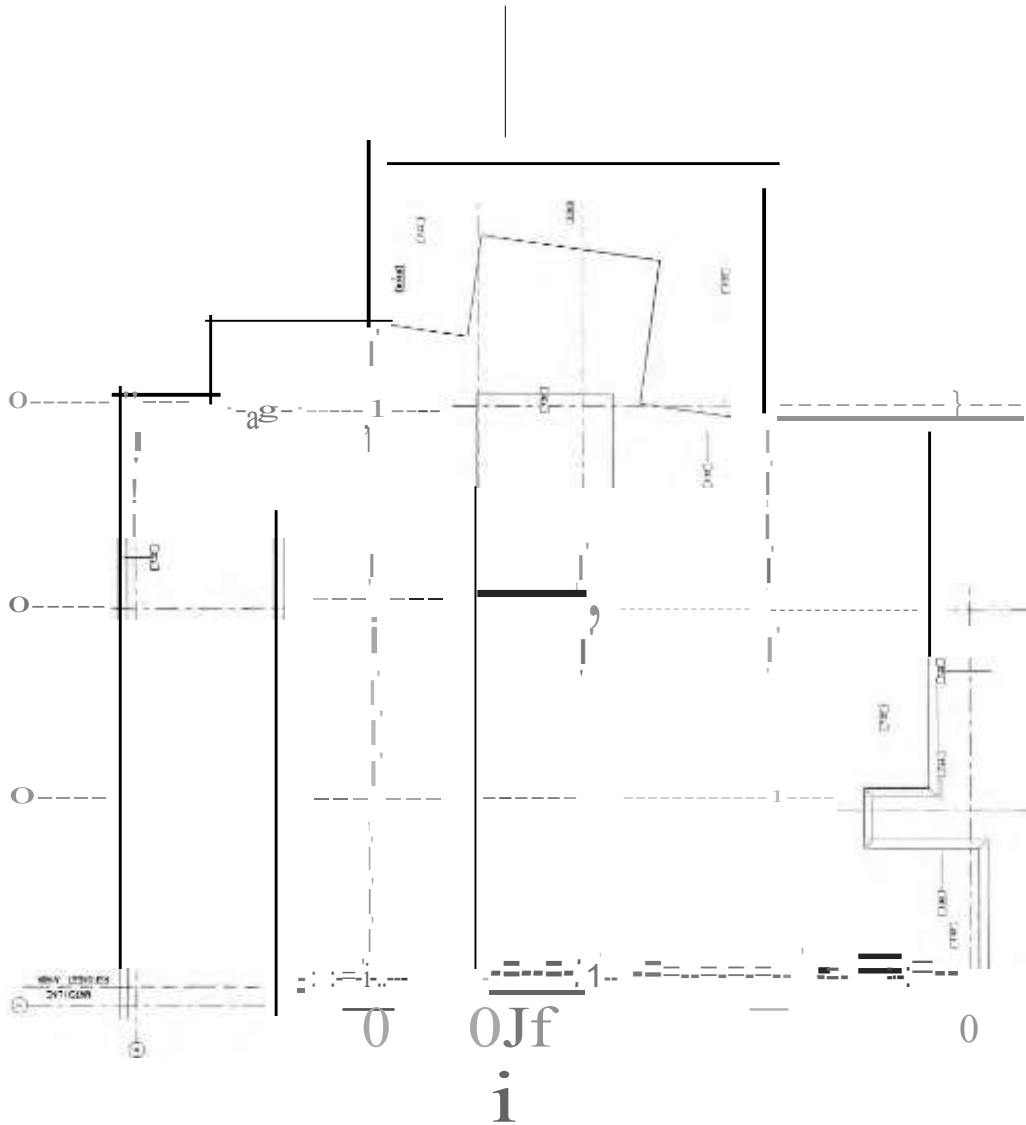
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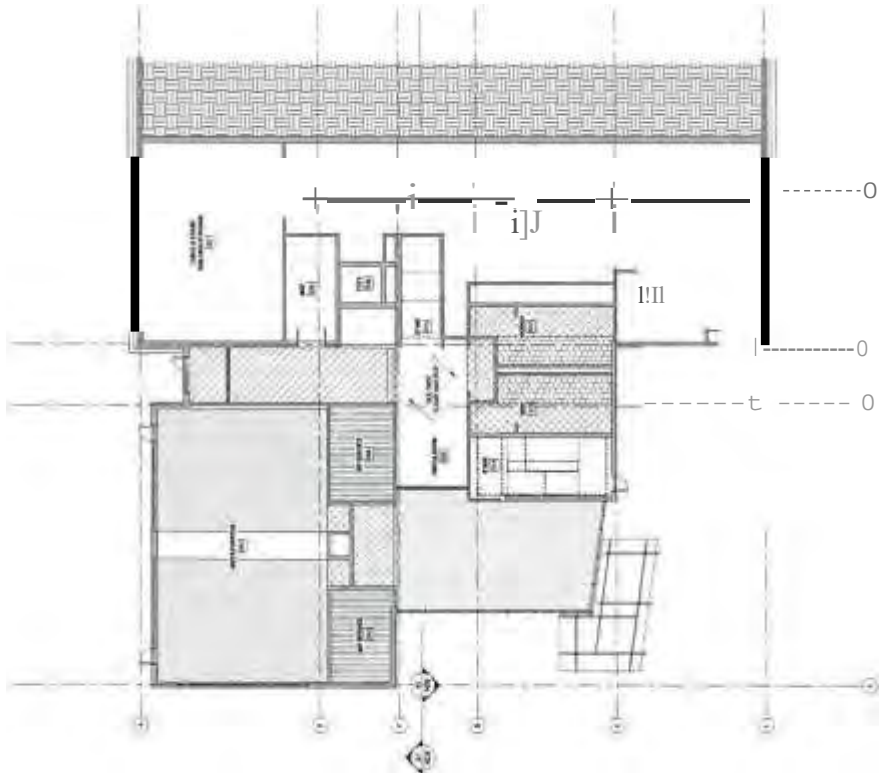
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5. DIMENSIONS TO CENTERLINE OF PIPE UNLESS OTHERWISE SPECIFIED.
6. DIMENSIONS TO CENTERLINE OF STRUCTURAL MEMBER UNLESS OTHERWISE SPECIFIED.
7. DIMENSIONS TO CENTERLINE OF WALL UNLESS OTHERWISE SPECIFIED.
8. DIMENSIONS TO CENTERLINE OF COLUMN UNLESS OTHERWISE SPECIFIED.
9. DIMENSIONS TO CENTERLINE OF BEAM UNLESS OTHERWISE SPECIFIED.
10. DIMENSIONS TO CENTERLINE OF SLAB UNLESS OTHERWISE SPECIFIED.

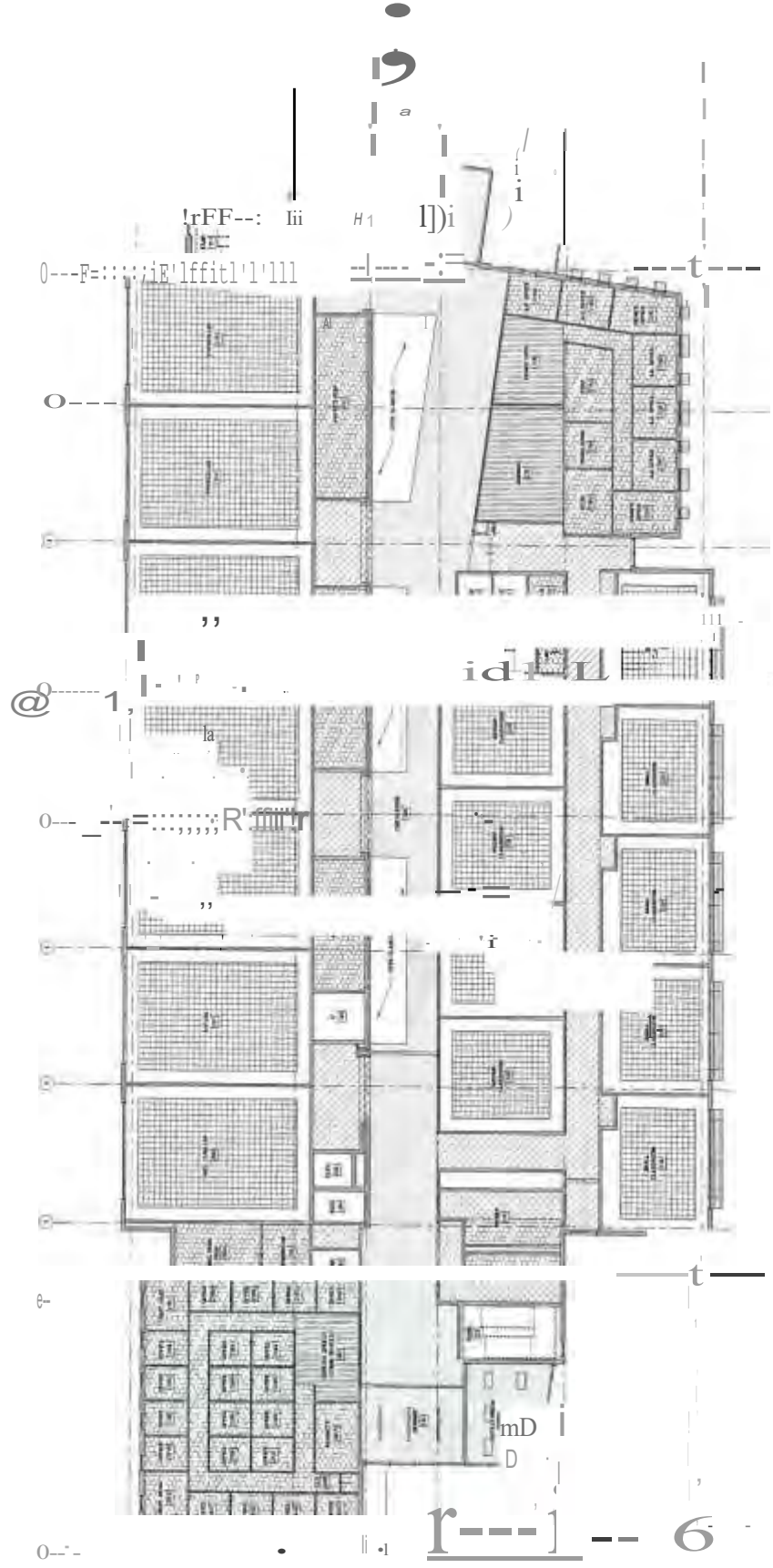


	THIS HATCH IS USED TO REPRESENT THE LIGHT WEIGHT CONCRETE WALLS AND PARTITION WALLS.
	THIS HATCH IS USED TO REPRESENT THE HEAVY CONCRETE WALLS AND PARTITION WALLS.
	THIS HATCH IS USED TO REPRESENT THE FLOOR SLABS.
	THIS HATCH IS USED TO REPRESENT THE STAIRS.
	THIS HATCH IS USED TO REPRESENT THE ROOF SLABS.
	THIS HATCH IS USED TO REPRESENT THE TERRACE SLABS.

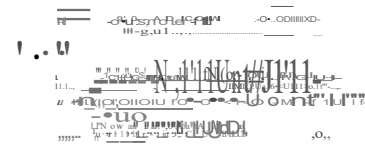


OVERALL RCP - FIRST FLOOR LOW

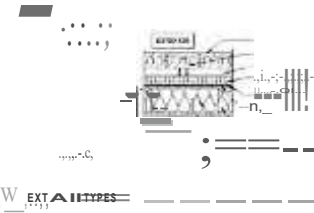
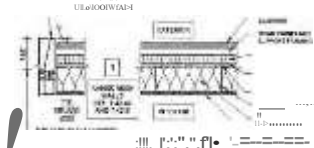
CEILING TYPES	
	GRID CEILING (SUSPENDED)
	CROSS-HATCH CEILING (SUSPENDED)
	VERTICAL LINE CEILING (SUSPENDED)
	HORIZONTAL LINE CEILING (SUSPENDED)
	DIAGONAL LINE CEILING (SUSPENDED)
	STIPPLED CEILING (SUSPENDED)
	SOLID GREY CEILING (SUSPENDED)
	WHITE CEILING (SUSPENDED)



KEYNOTE LEGEND



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OVERALL BUILDING
ELEVATIONS

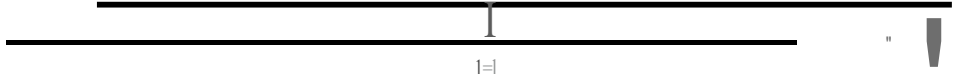
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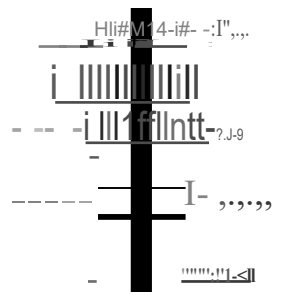
@-OVERALLELEVATION-MONITOR NORTH

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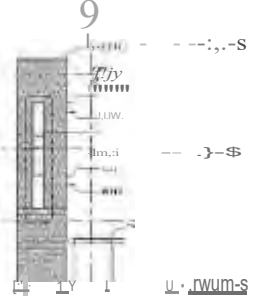


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① OVERALLELEVATION-SOUTHSECONDARY ENTRANCE WEST



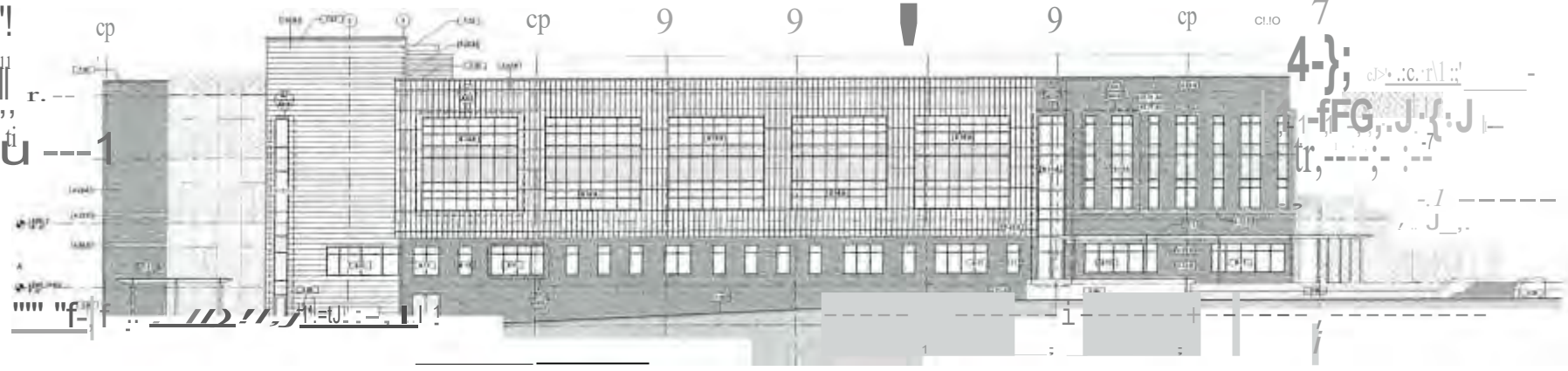
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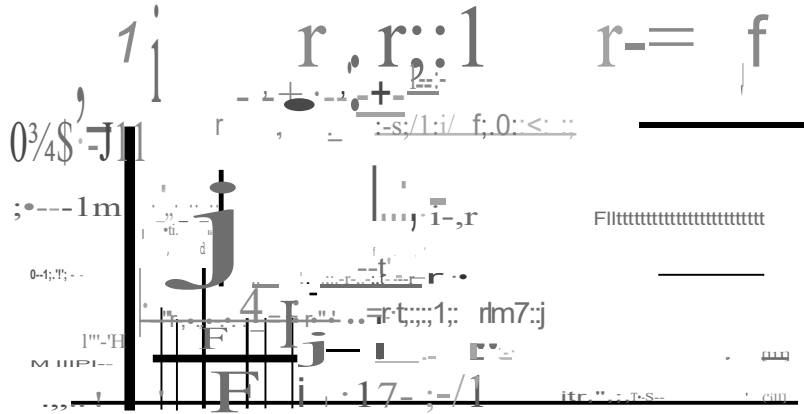
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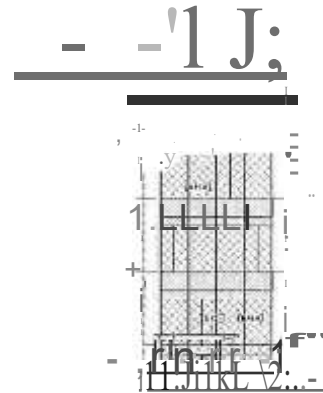
LTY E ELEVATION-MONITOR WEST



LEVATION-SOUTH



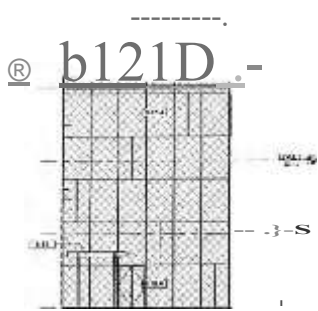
ELEVATION - WEST



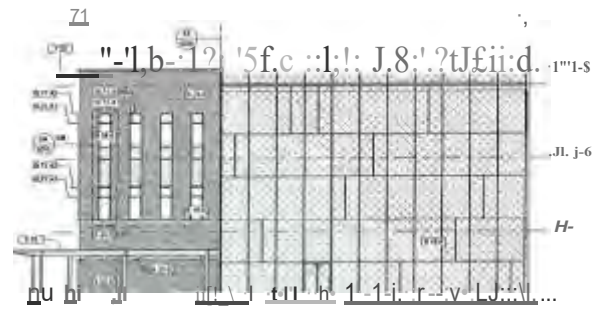
ELEVATION - TRENCH SOUTH



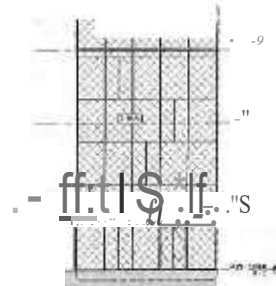
EXT WALL TYPES



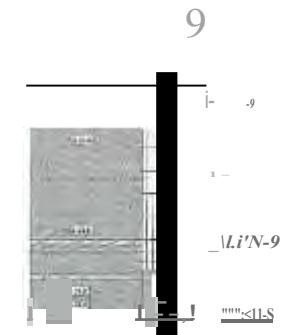
ELEVATION - EAST ENTRANCE SOUTH



ELEVATION - EAST ENTRANCE EAST



ELEVATION - EAST ENTRANCE NORTH



ELEVATION - EAST EGRESS SOUTH

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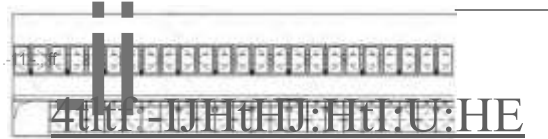
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OVERALL BUILDING
ELEVATIONS

A302



MEOTERM-NORTH



MP AND MEDTERM-EAST



MEOTERM-SOUTH

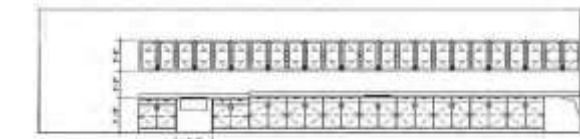


PANDMEDTERM-WEST

IICS-NORTH

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INTERIOR ELEVATION LEGEND

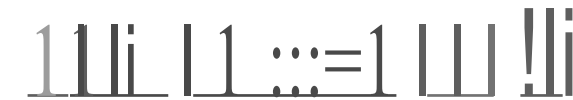


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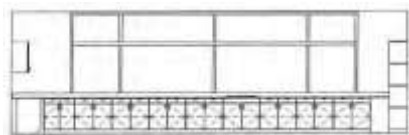
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OGY101-NORTH



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OGY101-NORTH



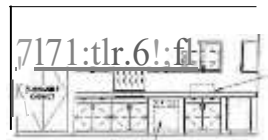
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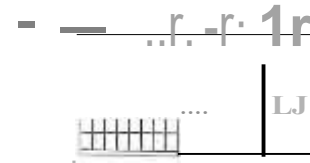
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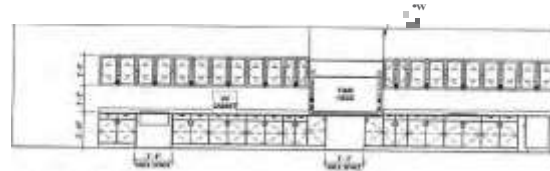
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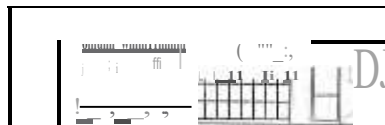
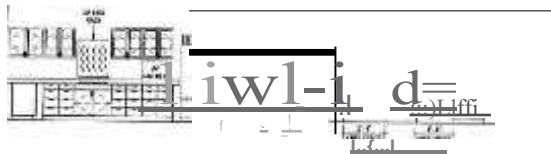


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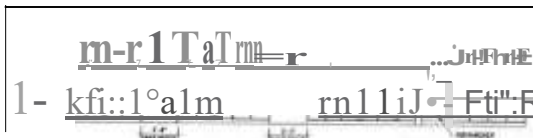
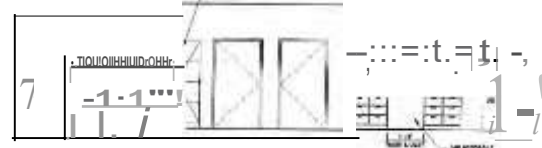
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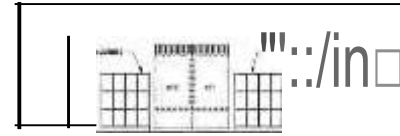
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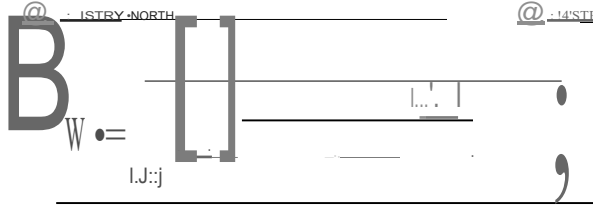
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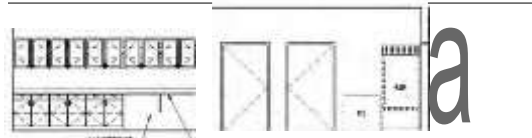
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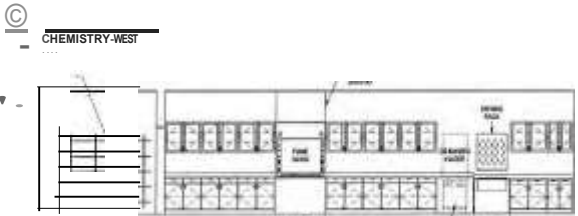


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INTERIOR ELEVATION LEGEND



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Interior Elevation Legend
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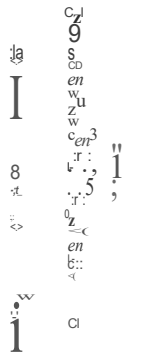
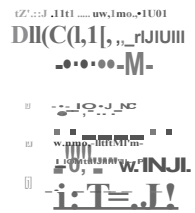
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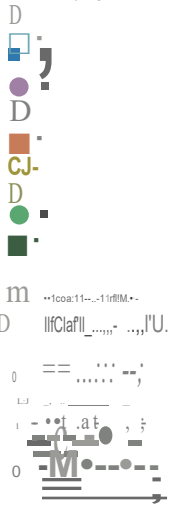
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SECOND FLOOR -
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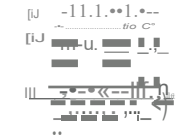
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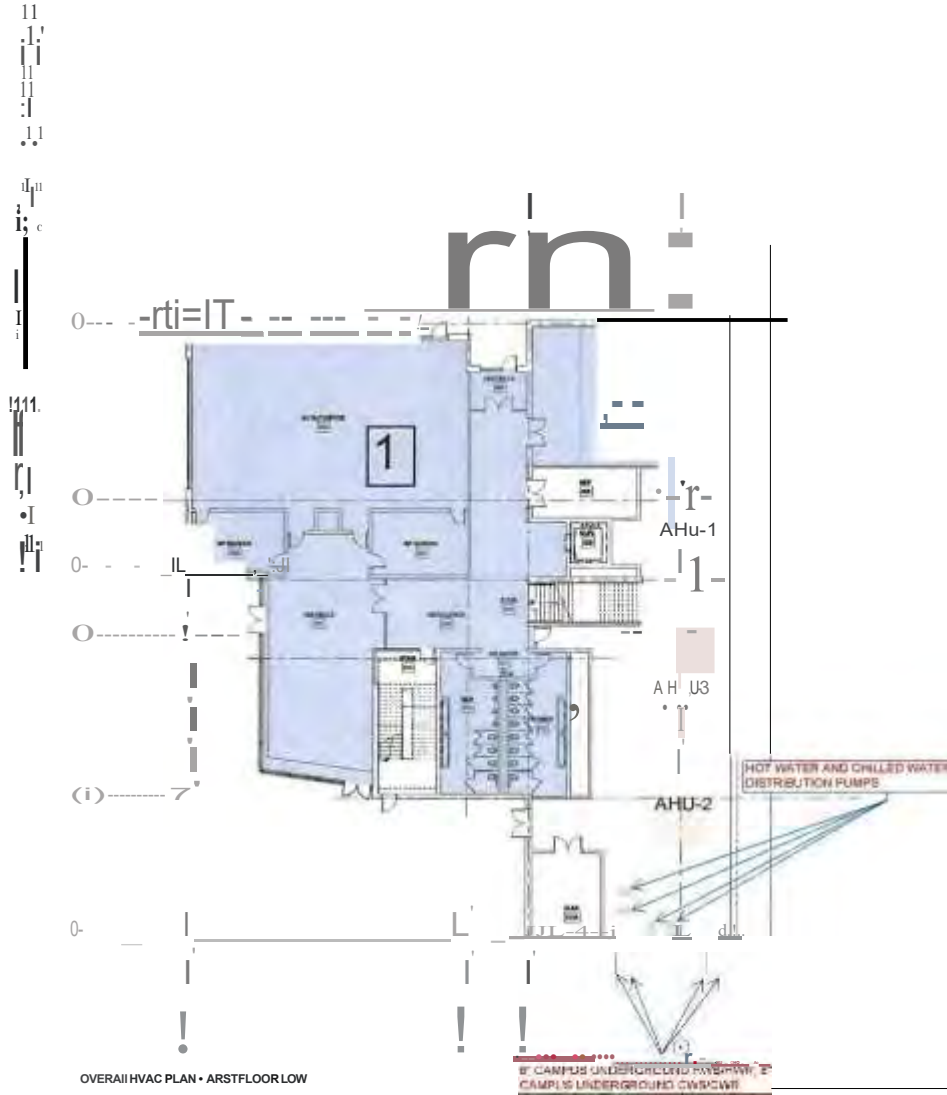


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THIRD FLOOR - FINISH
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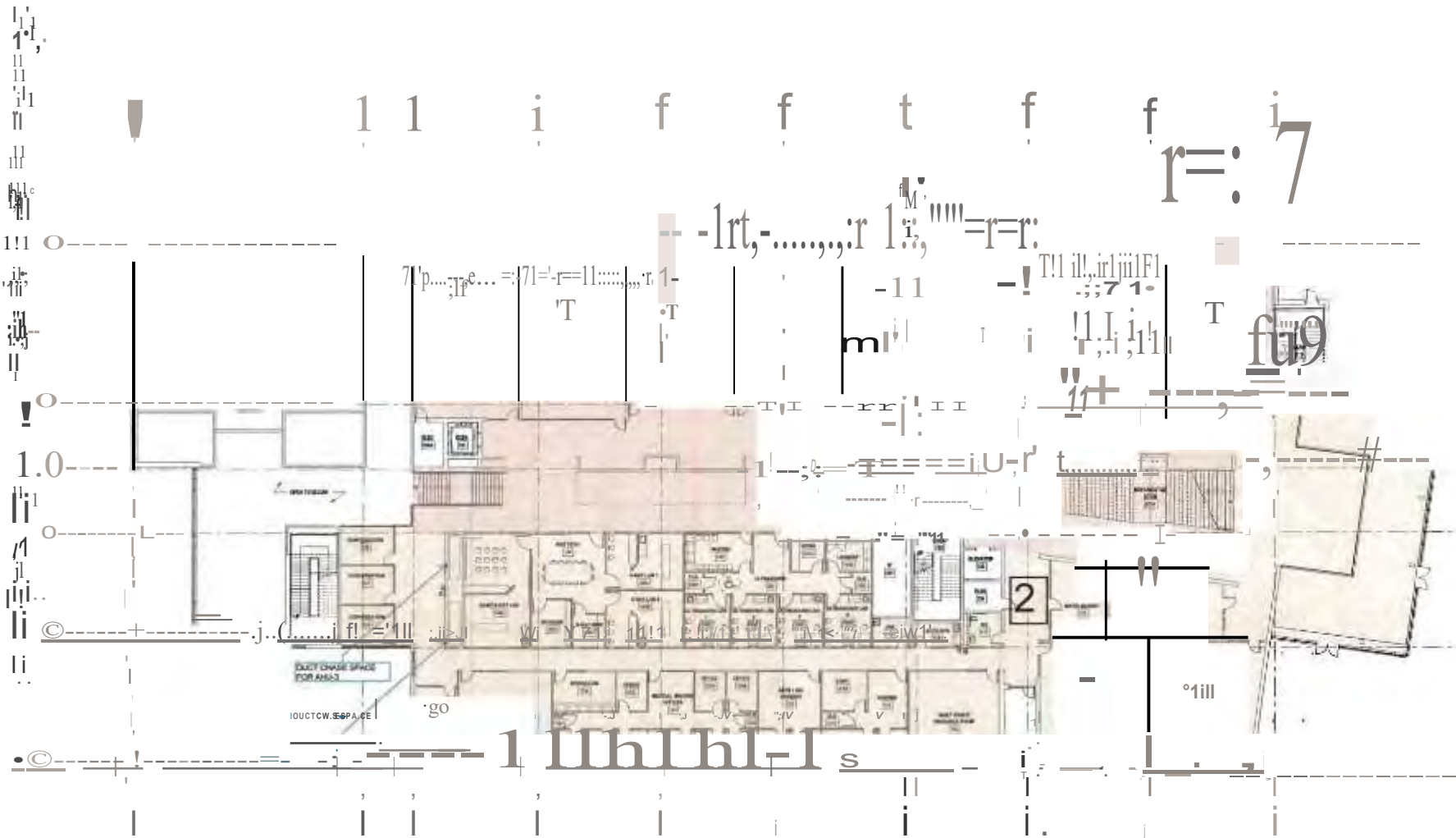


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OVERALL HVAC PLAN -
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OVERALL HVAC PLAN - FIRST FLOOR HIGH

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OVERALL HVAC PLAN - FIRST FLOOR HIGH

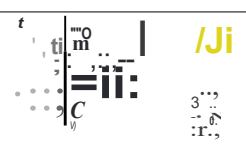
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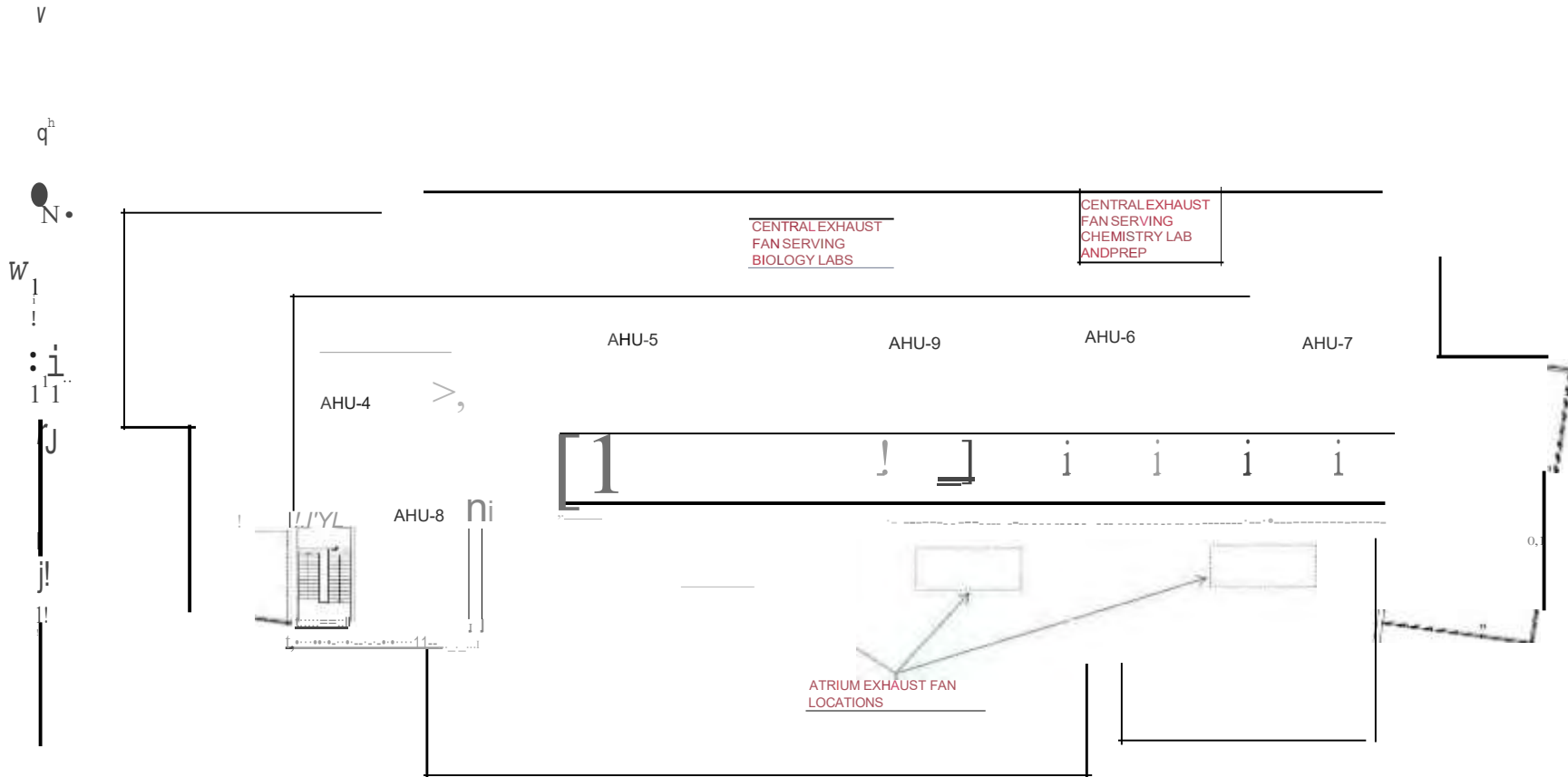


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OVERALL HVAC PLAN -
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