ADDENDUM NUMBER ONE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JUNE 1, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE

PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1: PRE-BID MEETING MINUTES AND SIGN-IN-SHEET:

1. The meeting minutes from the Pre-Bid Conference are attached to this Addendum. ***All prospective bidders are urged to carefully read and note all items referenced in the meeting minutes. (9 pages total for meeting minutes and sign-in-sheet)***

End of Addendum No. 1

CUMMING | SMG

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803.256.1989 fax 803.254.5620

PRE-BID CONFERENCE AGENDA MEETING MINUTES
DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
BUILDING PACKAGE FOR THE CATE CENTER
May 24, 2011

I. INTRODUCTIONS:

1. Forrest King of Cumming | SMG introduced himself; Chris Whitley of Cumming | SMG; Roscoe Russell of Cumming | SMG and Paul Moscati of Cumming | SMG. Also in attendance was Keith McAlister the Director of New Design & Construction for District 5 Lexington & Richland Counties, Scott Carlin the Coordinator of Facilities for District 5 Lexington & Richland Counties and Brian Fessler of MPS Architects. ***The attendee sign-in-sheet will be attached to the end of these minutes.***

II. PROJECT DESCRIPTION AND SCOPE:

Brian Fessler described the Scope of Work which includes all building construction related to the 72,000 square foot base bid and (6) alternates. The CATE Center includes spread footings, concrete slab-on-grade, masonry wall construction, metal roofing, mechanical, electrical, and plumbing systems, and all interior and exterior building finishes. As noted there are (4) lab/classroom alternates and (2) alternates that relate to finishes that will be described under the alternate section in more detail. There is polished concrete work included in many areas of the building. Tree protection for the courtyard areas must also be maintained. Sitework has being awarded under a separate contract to Palmetto Grading & Drainage, Inc. Different contractors will be on site and working the site simultaneously. Critical issues in the site package that the CATE Center general contractor should be aware of include the clearing and grubbing for the power line relocations, the installation of the Detention Pond, the installation of the dry pipe system and the 24 hour / 7 day per week Fire Watch. The CATE Center must be ready to open for school in the fall of 2012.

III. BID DATE AND LOCATION:

1. Sealed bids for the CATE Center will be received from qualified bidders on **June 7th at 2:00pm**, opened and read aloud by the Owner in the District 5 Lexington & Richland Counties Board Room at 1020 Dutch Fork Road Irmo, SC 29063. ***As requested by contractors during the meeting; the base bids are due at 2:00pm and the alternates are due at 3:00pm. All bids will be read aloud after 3:00pm.***

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IV. BIDDING REQUIREMENTS:

1. **Form of Proposal - Enclose in a sealed; opaque envelope; bearing name and address of the bidder, South Carolina Contractors and Bidders License Numbers, identification of contract being bid and name of project.** ***(If contractors have both bidders and contractors license; list both on envelope. If not; be certain to list the bidder's license)***
2. **Bid Bond or Cashier's Check for 5% of Base Bid**
3. **Acknowledge Receipt of Addenda**
4. **All bids must comply with the laws of South Carolina**
5. **Signature**

V. REVIEW OF PLANS AND SPECIFICATIONS:

1. It was noted that there are several fields and open pads as well as parking lots that could be used for lay down areas. They will have to be shared by multiple contractors. Coordination must take place at these locations because the fields and some of the parking lots will get Geo-Thermal wells. The Geo-Thermal wells are being installed for the building HVAC systems operations and the areas must be clear for that installation. The regular wells will be used for temporary (non-potable) water. Contact has been made with the well installers and a company will be selected shortly.

2. Prospective Contractors are to review the Index of Drawings against the actual plans to make certain that they have received all pages noted.

3. The power company will receive materials for the power line easement relocation on 5-30-11. The building pad should be completed prior to the NTP. In the event there are delays with the power relocation and the pad completion, contractors should work footings from area 'D' toward area 'E' to avoid conflicts with power relocation. The power company has also stated that there is no problem with sharing work space until the old lines are disconnected and dropped for removal. Meetings will be scheduled with the utilities if it looks as if there will be an issue prior to the NTP for the CATE Center.

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4. All prospective bidders are to include the allowances in the base bid. The allowances are Owner controlled and used at the Owner's discretion as directed through the CM firm. Any unused portions of allowances will revert to the owner in a deductive change order at the end of the project. The Overhead and Profit for work paid by allowances is to be in the contractor's base bid. Billing against allowances will need actual invoices attached for verification and documentation.

5. As previously noted, Cumming | SMG will identify the well contractor, the landscaping contractor, the Geo-thermal test well contractor and the irrigation contractor for the Site GC. Once identified; the Site package General Contractor will assume the scheduling and coordination roles to get the work installed. The Overhead and Profit for work paid by allowances is to be in the contractor's base bid. Billing against allowances will need actual invoices attached for verification and documentation.

6. Coordination will be critical between the Site Package Surveyor and the Surveyors for the building packages. Acceptance of the original benchmark is essential for each new package. The benchmark must match the other packages because of the massive amount of underground lines, connection points and crossing points for all utilities. ***(The site surveyor is Grambling Brothers Surveying, Inc. PO Box 389 Grambling, SC 29348. Contact Marion R. Grambling, Jr. The phone number is 1-864-472-2157 and the cell number is 1-864-809-3102)***

7. Monthly payments will be tied directly to section 01290. A monthly updated CPM schedule.

8. All testing will be paid for by the owner. The Chapter 1 and Chapter 17 inspection firm is already under contract. ESP Associates has been awarded this work.

9. Closeout documents will be critical at the end of the job and as-built changes to the project are to be updated monthly. The monthly update of the as-built plans will also be linked to the monthly application for payment.

10. There can be no burning on site.

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VI. ADDENDA/ALTERNATES:

1. As previously noted, there are 6 alternates in the CATE Center. Alternates #1 through #4 are additions to the buildings. 1&3 are by area D and 2&4 are by area E. The substantial completion dates are also tied into alternates 1 through 4 if accepted. Contractors are to read the schedule section of the specifications carefully. Alternate #5 relates to stained exterior concrete and alternate #6 relates to installing stainless steel wall finishes in 122 in lieu of the noted finish. The intent is to accept all alternates on bid day provided the budget allows acceptance. The Owner wants the building section relating to alternate #2. ***The exact verbiage of the alternates will be included in these minutes below but contractors are urged to go to section 01230 to read them in preparing the bid to avoid mistakes. Contractors should not rely on the "simplified" explanation of the alternates alone on the bid form.*** Alternates #1 through #4 are time / schedule related. Work involved with Alternates #5 and #6 are part of the base bid time frame and are not subject to additional time on the schedule.

ALTERNATE NO. 1

State the amount to add or deduct from the base bid amount to construct the additional labs, classrooms, and miscellaneous adjoining spaces identified as **ALTERNATE NO. 1** on sheets A101 and A104 of the plans. The scope of work shall include all work associated with same as depicted on all plan sheets, including, but not limited to civil, architectural, structural, mechanical, electrical, and plumbing plan sheets. The result shall be finished spaces to function as identified with all applicable furnishings as identified on the plans.

ALTERNATE NO. 2

State the amount to add or deduct from the base bid amount to construct the additional labs, classrooms, and miscellaneous adjoining spaces identified as **ALTERNATE NO. 2** on sheets A101 and A105 of the plans. The scope of work shall include all work associated with same as depicted on all plan sheets, including, but not limited to civil, architectural, structural, mechanical, electrical, and plumbing plan sheets. The result shall be finished spaces to function as identified with all applicable furnishings as identified on the plans.

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ALTERNATE NO. 3
State the amount to add or deduct from the base bid amount to construct the additional labs, classrooms, and miscellaneous adjoining spaces identified as **ALTERNATE NO. 3** on sheets A101 and A104 of the plans. The scope of work shall include all work associated with same as depicted on all plan sheets, including, but not limited to civil, architectural, structural, mechanical, electrical, and plumbing plan sheets. The result shall be finished spaces to function as identified with all applicable furnishings as identified on the plans.

ALTERNATE NO. 4
State the amount to add or deduct from the base bid amount to construct the additional labs, classrooms, and miscellaneous adjoining spaces identified as **ALTERNATE NO. 4** on sheets A101 and A105 of the plans. The scope of work shall include all work associated with same as depicted on all plan sheets, including, but not limited to civil, architectural, structural, mechanical, electrical, and plumbing plan sheets. The result shall be finished spaces to function as identified with all applicable furnishings as identified on the plans.

ALTERNATE NO. 5
State the amount to add or deduct from the base bid to provide exterior stained concrete in front of the main entry and exterior courtyard areas as shown on sheet AS102 and described in specification section 03 35 20 – Polished Concrete. Provide for six (6) colors and a plaid pattern (to be determined) to be comparable to those in the main entry and typical corridors.

ALTERNATE NO. 6
State the amount to add or deduct from the base bid to delete the scheduled wall finish in Culinary Arts 122 and replace with a stainless steel wall panel system. Alternate pricing shall include pricing for a complete assembly of a DEI-IEC approved 18 gauge (0.050 inch) 304 2B, stainless steel brushed finish, 48" wide wall panels adhesively adhered (fully) and mechanically fastened (with SS fasteners) at 12" O.C. (at all 1" overlapped panel ends only) from the floor to 4" above finished ceiling. Provide mockup for approval.

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2. Addendum #1 will include this set of meeting minutes and the sign-in-sheet as a minimum along with as many answers as possible to any questions received at today's meeting. Any changes that affect the bid form will result in the issuance of a revised bid form. All contractors are urged to make certain that they thoroughly read any addenda that are issued.

VII. SPECIAL CONDITIONS:

1. The Site Lift Station and the main trunk lines should be complete and operational in order to gain occupancy for the CATE Center by August 2012. It will be confirmed by addendum how much of the work must be done for occupancy.

2. As previously noted, there is no water currently available on site and the wells will be critical. Options have been worked out with the city to get a water line to the site before the entire water expansion project is completed. ***Contractors are to bid the project anticipating that the CATE Center will open as scheduled in the fall of 2012 so staff accordingly. Scheduling of well drillers is in progress in order to have water on site for construction and the fire watch.***

3. Contractors are to carefully read the details in the Summary of Work as it relates to the phasing of the project in terms to completion dates and the alternates as previously stated.

4. All questions should be addressed to Cumming | SMG or to Cumming | SMG and the architect jointly in writing. This can be done by fax and or email. Written questions will require written responses and all answers will be issued by addendum. ***Any verbal answers to questions will not be counted as legitimate unless followed up in writing by addendum. This format will keep all parties equal in assembling their bids.***

VIII. QUESTIONS AND ANSWERS:

1. The current estimate is in the range of 15 to 16 million dollars but lower bids will definitely be accepted.

2. The CPM schedule can be self performed by the General Contractor or it can be provided from an outside source. This is a means and methods issue.

3. Contractors were told to be certain to fill in all items on the bid form including the subcontractors. Bids will be considered non-responsive if all items are not complete.

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4. Keith McAlister stated that pay application requests will be processed immediately and will not sit on his desk. The applications will go to payroll the same day he receives them. The only thing that could slow down the application process is to not supply the needed data required by Cumming | SMG. Contractors are to also note school holidays because during those periods payroll may be shut down and the time frame for pay applications submitted may need to be adjusted to meet the district schedule.

5. The anticipated NTP date is June 18th based on the bid date of June 7th and presentation to the Board of Trustees on June 13th. The time frame noted also includes the 10 day protest period.

6. Site fencing around the perimeter of the site and other areas noted on the plans are furnished by the site contractor. Any personal security fencing beyond what is shown on the plans that the CATE GC deems necessary will be their responsibility as previously noted.

7. Discussions are being held regarding the bid opening time of 2:00pm. The request was made to have base bids due at 2:00pm and alternates due at 3:00pm but open all bids after 3:00pm. ***As noted under bid time and location; the request for bids at 2:00pm and alternates at 3:00pm is approved. All bids will be open after 3:00pm.***

8. The CATE Center Building Package is a single prime bid package. The site contractor is Palmetto Grading & Drainage out of Spartanburg South Carolina.

9. The anticipated bid date for the high school project is in 45 to 60 days from the CATE Center NTP.

10. The Owner is responsible for the Builder's Risk.

END OF MINUTES

These minutes convey the Cumming | SMG understanding of discussions that took place at the meeting. It is requested that any comments, changes or additions to these minutes be forwarded to Cumming | SMG attention immediately upon review of these minutes.

DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
CATE CENTER
PRE-BID SIGN-IN SHEET
May 24, 2011

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
Forrest L. King	Cumming | SMG	1213 Lady Street PO Box 1785 (29202) Columbia SC, 29201	PH.1-803-256-1989 Fax 1-803-254-5620	1-803-917-8247	fking@southernmgt.com
CAL CONNER	LOVELESS CONTRACTING, INC	1821 STATE STREET CAYCE, S.C. 29033	803 796 5551 FAX 803 796 5030	1-803 518 1727	CAL@ LOVELESS CONTRACTING.COM
Rob Major	Medlock Bland	55 Commerce Center Greenville, SC 29615	864.627.0303 864 627 0804		rob.major@medlockbland.com
CHRIS SEIVAR	PENN CONTRACTORS LLC	P.O. Box 204 Ballentine SC 29002	803 407 4724 803 781 4142		CHRIS @ PENNCONTRACTING.com
Tom THAXTON	EXUM	Columbia	803-360-3688	803-360 2688	TTHAXTON EXUMCO.com
Greg Tyler	Tyler Const Group Inc	P.O Box 25037 Col. SC 29224	803 865 1404 Fax 803 865 1415	803-309-0007	gtyler@tylerconstruction.com
JOHN VANVICK	CONTRACT CONSTRUCTION, INC	P.O. BOX 269 BALLENTINE, SC	803-781-7058	864-303-0102	bvanvick@carolina construction.net
Jim Nesbit	Adolfson & Peterson	4301 Stuart Andrew Blvd Suite D	704-970-2200 704-970-2590	704-689-7718	Jnesb.t@a-p.com
Matt Alexander	Matthews Construction Co. Inc.	3911 Oak Lake Blvd Charlotte, NC 28208	704-357-6095 704-357-1442	704-201-2770	malexander@matthewsco.com
JACK BRAND	SHELCO, INC.	5012 PARKLAND PLAZA, SUITE 100 CHARLOTTE, NC 28217	864-918-0259 704-364-0120		jbrand@shelco.com

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
SCOTT HARPER	SHELCO, INC	506 Power Plant Pkwy Suite 100 Chesterfield, SC 29709	704-327-5600 704-364-0120		sharper@shelcoinc.com
Josh Edwards	Edcon, Inc.	PO Box 106 Peak, SC 29122	803-345-3791 803-345-1775		eddie@edconinc.com
Harry Tian	China Construction	700 Saturn Pkwy. Columbia, SC 29212	803-600-0624		tian_haojie@chinaconstruction.us ; jia_bing@chinaconstruction.us
Whitney Delbridge	Martin Engineering	P.O. Box 368 White Rock, SC 29177	(P) 803 781 1930 (F) 781 3186		estimating@martinengineeringsc.com
Dennis Childs	"	"	"		"
Sabin West	West Electrical	2447 Wilson Rd Newberry SC 29108	803 276 1884 321 1688		Sabin@westelectrical.com
RED FRANK	EARTHWORKS GRP LLC	1240 SOUTH RD CAYCE, SC 29201	803-779-5570 " 779-5577		REDFRANK@EARTHWORKSGRP.COM
Homer Sargent	Ready Mixed Conc.	1400 Key Rd Cayce, S.C. 29201	803-[redacted] 254-0740	803-730-0395	homersargent@ready.com
Phil Demery	Ready Mix Concrete	"	" "	803-53-2197	phil.demery@rmcc.com
Roscoe Russell	Cumming/SMG				
Chris Whitley Paul Moscati	Cumming/SMG				
Keith McAlister Scott Carlin	Lex 5				

ADDENDUM NUMBER ONE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 4, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE

PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1-1: PRE-BID MEETING MINUTES AND SIGN-IN-SHEET:

1. The meeting minutes from the Pre-Bid Conference are attached to this Addendum. ***All prospective bidders are urged to carefully read and note all items referenced in the meeting minutes. (5 pages total for meeting minutes and sign-in-sheet)***

Item 1-2: PROJECT DURATION:

The actual well drilling process under the parking lot area can be extended to 70 days; 10 additional days can be allowed for the piping from the vault to the building that is beyond the paved area.

Item 1-3: WORK RESTRICTIONS:

Specification section 01320 (Progress Schedule), Item 3.0.1G references working 24 hours per day if needed to complete the schedule on time. Longer hours are permitted; provided that the County Noise Ordinance is not violated. ***Potential Contractors are to check Richland County Ordinances to confirm if there are hourly limitations.***

Item 1-4: BID DATE:

The bid date will change to Tuesday January 10th at 10:00a.m. The location will remain the same unless changed in a future addendum.

Item 1-5: QUALIFICATIONS:

Potential contractors are to submit a list of references for the past 5 years. A list of projects completed during that same period with contract value and contact persons for verification.

Item 1-6: PLAN SHEETS:

Plan sheet HVAC 301is attached to this addendum. (1page).

End of Addendum No. 1

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803.256.1989 fax 803.254.5620

CATE CENTER
Geothermal Package
Pre-Bid Conference
December 22, 2011

PRESENT:

Allen Rivenbark	A.C. Schultes of Carolina
Shay Austin	Austin Drilling
Charles Davis	Earth Comfort
Michael Burns	EDGE Solutions
Bobby Richardson	Richardson Construction
Alton Hutto	LAD Corp
Roscoe Russell	Cumming | SMG
Chris Farr	Cumming | SMG

COPIES TO: Attendees, Distribution List, Moscati, King, Whitley, Fessler, McAlister

I. Introduction

II. Project Description and Scope

1. [0500-1] The scope of work includes the installation of the Geothermal Well System for the CATE Center "complete" along with associated vaults, connections; backfill and proper compaction as noted in the specification section. The scope also includes the drilling of the test well for the High School Geothermal System in the designated HS#4 Soccer Fields area and coordinating the delivery of the data obtained with the Mechanical Engineer, Architect and Construction Management Firm to determine the scope of work for the High School Geothermal System.

2. Work will be contracted as a sub-contract to the CATE Center Building Package General Contract held by Edcon, Inc.

3. Work to include the complete Geothermal Package, stubbed up within the Mechanical Room.

4. [0500-2] Bidding Documents are available for inspection at the offices of the Architect and plan rooms of Associated General Contractors. Bidding Documents may be obtained from the Construction Manager. ... All bids are to be accompanied by a bid bond or certified check of not less than five percent (5%) of the base bid. ... Bids are to be submitted on the form of proposal provided, enclosed in a sealed opaque envelope bearing the name and address of the bidder, contractor's license number, bidder's license number, identification of contract being bid and name of project. All bids must comply with the laws of the State of South Carolina. ... THE OWNER RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS, WAIVE INFORMALITIES AND AWARD THE CONTRACT IN THE BEST INTEREST OF THE OWNER.

5. Bidders shall acknowledge Receipt of Addenda, All bids must comply with the laws of South Carolina, and all Bids must include the Signature of an Officer of the Company.

6. Geothermal contactor will be required to maintain the schedule as bid, and will be required to coordinate all work with the CATE General Contractor and Early Site Package Contractor.

III. Review of Specifications and Plans

1. [01110-2] ... Duration for the Project is currently 60 (sixty) calendar days from the date of the Notice to Proceed. ...

2. [15300-1] ... The contractor shall have a contractor's license and shall be a certified well driller licensed in the state of South Carolina. The contractor shall have a history with geothermal heating/cooling systems with at least one successfully operating vertical ground coupled heating/cooling system in either North Carolina, Georgia or South Carolina and in excess of 100 tons capacity. Contractor shall be certified by IGSHPA. ...

3. [15300-4] ... (All) backfill shall be compacted to 98%. ... All water necessary for the well drilling operation and pipe installation shall be provided by this contract and shall be transported to the site by truck. Water may be available from the City of Columbia fire hydrant approximately 2 miles from the site. Temporary meter can be rented from the City of Columbia. ... The geothermal contractor shall make provisions to contain and properly dispose of water used during the drilling process and ground water produced from the wells to prevent the water from running offsite or conflicting with the work of other parties. The containment of water may include, but is not limited to silt fences, sediment basins and drainage trenches. After filtration, water shall be directed to storm water system or site storm water detention pond.

IV. Questions to be Answered by Addendum

1. Duration- Contractors requested a longer duration (suggested 90 calendar days). ***The actual well drilling process under the parking lot area can be extended to 70 days; 10 additional days can be allowed for the piping from the vault to the building that is beyond the paved area.***

2. Work Restrictions- Question was raised of restricted time days of work. Some contractors were saying they would have to work 7 days or 24 hour shifts to meet schedule. That may be a red flag that a longer duration is needed. Can noise be made dark-to-dark or 24hrs? ***Specification section 01320 (Progress Schedule); Item 3.0.1G references working 24 hours per day if needed to complete the schedule on time. Longer hours are permitted; provided that the County Noise Ordinance is not violated.***

3. Qualifications- An adjustment to the wording of section 15300-1 was discussed. ***Potential contractors are to submit a list of references for the past 5 years. A list of projects completed during that same period with contract value and contact persons for verification.***

4. Grout Type- Clarification requested on the use of Bentonite Grout mixture vs. the specified type I/II Portland cement. *Per one attendee, Bentonite/Silica combination requires a waiver from DHEC which can be obtained without issue. ***This item is being reviewed and will be addressed in an upcoming addendum.***

5. Bid Date- Contractors requested this be bid on Friday Jan. 6 or the following week. ***The bid date will change to Tuesday January 10th at 10:00 AM; see addendum #1.***

6. Location of Test Well for High School #4- ***Attachment will be in an upcoming addendum.***

7. High School #4 Future Project- The intent of the schedule is to bid and award the High School Geothermal Package (approx. 480 wells) during the CATE Center Project duration.

8. Mechanical Room- The sleeves and supply/return piping are in place within the mechanical room. These were installed by the contractor that installed the test well. This work in place is to be verified and guaranteed by the awarded Geothermal Contractor. Or the awarded Geothermal Contractor can opt to reinstall their own piping and will be responsible for excavating and backfilling with correct compaction within the building pad.

END OF MINUTES

These Minutes convey Cumming | SMG's understanding of discussions that took place at the meeting. It is requested that any comments, changes or additions to these minutes be forwarded to Cumming | SMG's attention immediately upon review of these minutes. *By copy of these minutes it is requested that all recipients forward copies to any other effected parties for review.*

JAN-04-2012(WED) 09:53 Southern Management Group (FAX)8035345820 P.011/013

DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
CATE CENTER GEOTHERMAL PACKAGE
WEEKLY CONSTRUCTION MEETING SIGN-IN SHEET
DECEMBER 22, 2011

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
X Forrest L. King	Cumming | SMG	1213 Lady Street PO Box 1785 (29202) Columbia SC, 29201	PH.1-803-256-1989 Fax 1-803-254-5620	1-803-917-8247	fking@southernmgt.com
✓ Roscoe Russell	Cumming | SMG	1213 Lady Street PO Box 1785 (29202) Columbia, SC 29201	PH 1-803-256-1989 Fax 1-803-254-5620	1-803-960-1400	rrussell@southernmgt.com
✓ Chris Farr	Cumming | SMG			1-803-760-0250	cfarr@southernmgt.com
X Paul Moscati	Cumming | SMG			1-803-917-6257	pmoscati@southernmgt.com
Allen Rivenbark	A.C. Schultes of Carolina	3887 NC 41 South Wallace, NC 28466	910 285-7465 F-910 285-6501		bjeffrys54@yahoo.com
Sibay Austin	Austin Drilling	2584 Fish Hatchery Rd W Columbia SC	0-9265402 926 5401		AustinDrillings@Att.Com
Charles Davis	Richardson Construction			912-695-7350	c_davis@earthconstructors.net
Michael Burns	EDGE Solutions	PO Box 639 Ravenel, SC 29470	843-556-5526 843-556-5584 fax	845-478-9869	mburns@edgesolutions.us
Bobby Richardson	RCC	PO Box 3489 Col. SC 29203	803 786 9741 803 735 1581	803 360 2595	estimator@RECHOUT.com
Alton Hutto	LAD Corp	221 MARTIN Luther Rd. SWANSEA 29160	803-739-4483	600 6295	LADcorp@FBTcom.net

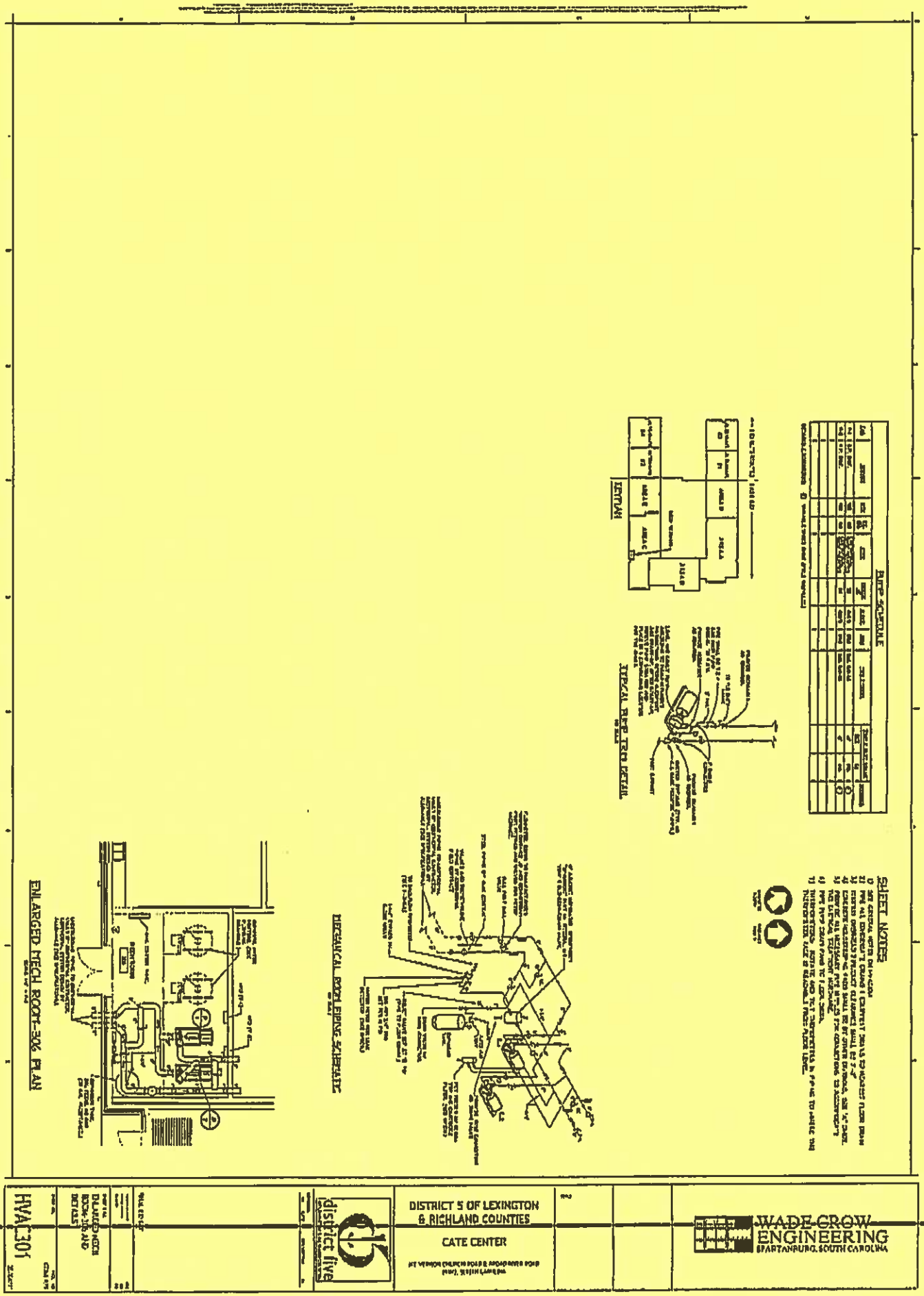
CUMMING SMG

CATE Center Geothermal Package

Plans/Specs Received

12/22/11

NAME	COMPANY	CONTACT NUMBER
Billy Jefferys	A.C. Schultes of Carolina	910-285-7465 910-285-6501 - Fax
Michael Burns	EDGE Solutions	843-556-5526 843-556-5584 Fax
Bobby Richardson	RCC (Rec LAND of Earth Compost)	843 766 9791 803 735 1581


ENLARGED MECH. ROOM-3/8" PLAN
MECHANICAL ROOF PIPING SCHEMATIC
TYPICAL REFRIG. DETAIL
SHEET NOTES
DISTRICT 5 OF LEXINGTON & RICHLAND COUNTIES
CATE CENTER
district five
WADE-CROW ENGINEERING
SPARTANBURG, SOUTH CAROLINA
HVAC301

ADDENDUM NUMBER ONE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR NEW HIGH SCHOOL #4

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: NOVEMBER 29, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1: PRE-BID MEETING MINUTES AND SIGN-IN-SHEET:

1. The meeting minutes from the Pre-Bid Conference are attached to this Addendum. ***All prospective bidders are urged to carefully read and note all items referenced in the meeting minutes. (8 pages total for meeting minutes and sign-in-sheet)***

Item 2: BID DATE CHANGE AND ALTERNATES:

1. Due to contractor requests regarding the project; the bid date will be changed to January 19, 2012 at 2:00pm. The bid location will remain at the same location.

2. The bid form will be revised in an upcoming addendum to accept delivery of the base bid at 2:00pm and to accept delivery of the alternates at 3:00pm. All versions of bids will be opened after 3:00pm.

End of Addendum No. 1

CUMMING | SMG

1213 Lady St • PO Box 1785 • Columbia, SC • 29202
803.256.1989 fax 803.254.5620

PRE-BID CONFERENCE AGENDA MEETING MINUTES
DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
NEW HIGH SCHOOL #4
November 17, 2011

I. INTRODUCTIONS:

Forrest King of Cumming | SMG introduced himself. It was requested on multiple occasions before the meeting started and at the meeting conclusion that all attendees must sign in. It is essential to confirm the attendance of attendees. Other attendees from Cumming | SMG were Chris Whitley, Chris Farr and Roscoe Russell. Also in attendance was Keith McAlister of District 5 Lexington & Richland Counties. Ed Reeves of McMillan | Pazdan | Smith were in attendance. ***The attendee sign-in-sheet will be attached to the end of these minutes.***

II. PROJECT DESCRIPTION AND SCOPE:

The scope of work includes all building construction related to the 260,000 sf (approximate base bid) New High School No. 4, including spread footings, concrete slab-on-grade, masonry wall construction, bituminous roofing, mechanical, electrical, and plumbing systems, exterior sidewalks and all interior and exterior building finishes. All site work is being awarded under a separate contract. The CATE Center Construction is also in progress on the same site. ***Three classroom wing alternates will be included in the upcoming addenda.***

III. BID DATE AND LOCATION:

The bid date will be changed in the upcoming addendum. Sealed bids for the New High School #4 will now be received from qualified bidders on **January 19th, 2012 at 2:00pm,** opened and read aloud by the Owner in the District 5 Lexington & Richland Counties Board Room at 1020 Dutch Fork Road Irmo, SC 29063.

IV. BIDDING REQUIREMENTS:

1. **Form of Proposal - Enclose in a sealed; opaque envelope; bearing name and address of the bidder, South Carolina Contractors and Bidders License Numbers, identification of contract being bid and name of project.** ***(If contractors have both bidders and contractors license; list both on envelope. If not; be certain to list the bidder's license)***

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2. **Bid Bond or Cashier's Check for 5% of Base Bid**
3. **Acknowledge Receipt of Addenda**
4. **All bids must comply with the laws of South Carolina**
5. **Signature**

V. REVIEW OF PLANS AND SPECIFICATIONS:

1. Due to certain issues, the plans and specifications have not been shipped to contractors as of this Pre-Bid. The large plans have been printed, the smaller sets are being printed as of this Pre-Bid Meeting and the Specifications will be printed immediately afterward. Plan distribution should begin on Friday November 18th. Prospective Contractors are to review the Index of Drawings against the actual plans once received to make certain that they have received all pages noted.

2. All prospective bidders are to include the allowances in section 01210 in the base bid. The allowances are Owner controlled and used at the Owner's discretion as directed through the CM firm. Any unused portions of allowances will revert to the owner in a deductive change order at the end of the project. The Overhead and Profit for work paid by allowances is to be in the contractor's base bid. Billing against allowances will need actual invoices attached for verification and documentation.

3. Monthly payments will be tied directly to section 01290. Monthly Updated CPM Construction Schedule; Monthly Update of Project Shop Drawing Log (Until all shop drawings are processed) and a Monthly Updated Staging Plan for Materials and Trailers. All 3 of these items must be provided prior to the processing of the first pay application.

4. All testing will be paid for by the owner. The Chapter 1 and Chapter 17 inspection firm is already under contract. ESP Associates has been awarded this work. ESP Associates is already on site making inspections on the Site Package and the CATE Center. The contractor is to coordinate and schedule all inspections and the requests are to be made with 24 hours notice. Cumming | SMG and MPS are to be copied on the requests for inspection for tracking purposes.

5. Closeout documents will be critical at the end of the job and as-built changes to the project are to be updated monthly. The monthly update of the as-built plans will also be linked to the monthly application for payment.

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6. There can be no burning on site.

VI. ADDENDA/ALTERNATES:

1. Alternates and related phasing will be described in the upcoming addendum.
2. Addendum #1 will include this set of meeting minutes and the sign-in-sheet along with the other items noted and as many answers as possible to any questions received at today's meeting. Any changes that affect the bid form will result in the issuance of a revised bid form. **All contractors are urged to make certain that they thoroughly read any addenda that are issued.**

VII. SPECIAL CONDITIONS:

1. The site **WILL BE** occupied and we share the project site with a new CATE Center facility. Staff will start to arrive after June of 2012 and students will arrive in August of 2012. The building will remain in operation to some degree 12 months out of the year.

2. All questions should be addressed to Cumming | SMG or to Cumming | SMG and McMillan | Pazdan | Smith Architects jointly and in writing. This can be done by fax and or email. Written questions will require written responses and all answers will be issued by addendum. ***Any verbal answers to questions will not be counted as legitimate unless followed up in writing and included in the addendum. This format will keep all parties equal in assembling their bids.***

3. It is noted in the specifications that the General Contractor will include in his base bid the cost to keep a Security Guard posted at the Construction Entrance. This person is to stop all vehicles and personnel that are not clearly already designated as part of the construction. The guard is to get their full name (See Photo ID as verification), license plate and note the nature of business on site on a daily sign-in-sheet. ***After the CATE Center opens the only site access will be the gate beyond the High School on Broad River Road. If the visit is not strictly construction related, then the visitor must go through the District to get permission to enter the site. The added security is strictly a safety measure or visitors, the construction project and the students and staff.***

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803.256.1989 fax 803.254.5620

4. The CPM schedule can be self performed by the General Contractor or it can be provided from an outside source. This is a means and methods issue. ***The change in the bid date will require adjustment of the 550 calendars for project completion noted in the documents. This change will be addressed in the upcoming addendum.***

5. Contractors were told to be certain to fill in all items on the bid form including the sub-contractors section. ***Bids will be considered non-responsive if all items are not complete.***

6. Keith McAlister during other Pre-Bid Meetings has stated that pay application requests will be processed immediately and will not sit on his desk. The applications will go to payroll the same day he receives them. The only thing that could slow down the application process is to not supply the needed data required by Cumming | SMG and MPS. Contractors are to also note school holidays because during those periods payroll may be shut down and the time frame for pay applications submitted may need to be adjusted to meet the district schedule.

7. The Owner is responsible for the Builder's Risk.

VIII. QUESTIONS AND ANSWERS:

1. CADD drawings and pdf versions will be available to the bidders. There is a form in the specifications noting the cost to be $25.00 per sheet. In order to get the electronic files the form must be filled out and the checks supplied.

2. A question was asked to see if the bid time could be altered to separate the Base Bid and the Alternates. The bid form will be revised through addendum to accept delivery of the base bid at 2:00pm and to accept delivery of the alternates at 3:00pm. All versions of bids will be opened after 3:00pm.

3. A question was asked regarding when the building and site could be viewed. Contractors can view the site at any time. They will be stopped at the two main gates in order to sign in and note their business on the site.

4. The masonry for the project is to be a turnkey masonry project.

5. The owner handles all tap fees and since this is a school project inspected by OSF; permits are not required.

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6. A line item for the Masonry Subcontractor identification will be added on the bid form through addendum at the same location the MEP subcontractors are listed.

7. A question was asked to get the monthly cost of the SMG trailer rental, average power bill and associated phone / utility bills to help assist in bid preparation. Richardson Construction will be contacted and this information will be included in an upcoming addendum.

8. Paving finishes are currently included in the site package. If any changes occur in this practice prior to the bid; it will be noted by addendum.

9. This project is an "Education Site" that will have Construction in progress; it is not a "Construction Site".

10. The campus is a smoke free campus and anyone caught smoking anywhere on site will be removed.

11. Deliveries for the project are critical for construction. Even though entrances are separate from the CATE Center the traffic flow on Broad River Road will be heavier between 7:30am to 9:00am and 3:15pm to 6:00pm due to school and regular highway traffic.

12. The specifications require employee screening. The contractor is to make certain that this is done thoroughly and correctly. Don't let the District catch someone that should have been picked up by the contractor screening.

13. Contractors were told to put good staff on the project. Work taking place in this school district is monitored closely by personnel and public entities across the entire area. There should never be a situation arise for judgment in staffing to be questioned.

14. Contractors are to note that OSF staff has been basically cut in half. When planning work and planning inspections; don't expect to schedule inspections as easily as in the past due to this manpower situation. Delays cannot be tolerated due to the critical nature of this project and inspection scheduling should not be an excuse.

END OF MINUTES

These minutes convey the Cumming | SMG understanding of discussions that took place at the meeting. It is requested that any comments, changes or additions to these minutes be forwarded to Cumming | SMG attention immediately upon review of these minutes.

DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
NEW HIGH SCHOOL #4
PRE-BID MEETING SIGN-IN SHEET
NOVEMBER 17, 2011

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
Forrest L. King	Cumming | SMG	1213 Lady Street PO Box 1785 (29202) Columbia SC, 29201	PH.1-803-256-1989 Fax 1-803-254-5620	1-803-917-8247	fking@southernmgt.com
Steve Cusick	PSI	534 St. Andrews Rd Ste C Columbia 29210	803 736 6050 803 772 2803	803-261-1830	stephen.cusick@psiusa.com
Bernard Pickett	Martin Engineering Inc.	127 Stonehill Rd White Rock, SC 29177	803-781-1930	803 429-9064	wbelbridge@martinengineeringsc.com
Ed Reeves	McMillan Pazdan Smith			864-316-6070	
Chris Farr	CISMG			803.760.0250	
Duane Gentilucci	ADT				DGENTILUCCI@ADT.COM
Ryan Reynolds	Ltg Reynolds	PO Box 2728 Aiken, SC 29802	803-641-1401 803-641-1037	803-439-6573	estimating@nglayne.bls.net
Joe Kinsey	McKnight Construction Co.	635 NW Frontage Rd Augusta GA 30907	P: 706-863-7764 F: 706-863-2031	706-260-6503	bids@mcknightconstructionco.com
Scott Harrn	SHELCO, INC.	5016 Parkway Plaza, Ste 100 Charlotte, NC 28217	P 704-367-5660 F 704-364-0120		shelton@shelcoinc.com

NOV-29-2011(TUE) 08:54 Southern Management Group (FAX)8032545620 P.008/010

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
Doug Price	China Construction America	700 Saturn Parkway, Columbia SC 29212	P 803 771-2777 F 803 771-2377	803-600-1466	price.doug@chinaconstruction.us
NANCY G. HARWEY	WEST ELECTRICAL CONTRS. OF NEWBERRY	P.O. BOX 734 A447 WILSON RD. NEWBERRY, SC 29108	P 803-276-1884 F 803-321-1688	803-924-0408	NANCY@WESTELECTRICAL.COM
Steve Bagnell	EATON	240 Stoneridge Dr. Site 200 Cola SC	803-454-1788		stephenmbagnell@eaton.com
Roscoe Russell	S & Co			803-960-1400	rrussell@southernmfg.co
Dennis Childs	Thompson Turner	100 N. Main Street Sumter S.C. 29150	803-773-8005 803-938-8619(F)	803-429-9059	dchilds@thompsonturner.com
Steve Pontek	PC Construction of GWD	108 Enterprise Ct Greenwood, SC 29649	864-223-6274 864-223-9183	864-377-0241	kitty.t@pcconst.net
Bart Seese	Edcon Inc	P.O. Box 100 Pelk, S.C. 29122	803-345-3791 345-1775(F)	622-1559	bart@edconinc.com
JACK BROWN	SITELCO INC	CHARLOTTE, NC	704-367-5560	864-918 0769	jbrown@sitelco.com
Kim Murphy	School Board				
RALPH HUNTER	EDISON FOARD	CHARLOTTE, NC	704 329 8000	7049369520	RHUNTER@EDISONFOARD.COM

NOV-29-2011(TUE) 08:54 Southern Management Group (FAX)8032545620 P.009/010

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
Tom Thaxton	TMS Ellum Company	Columbia		803 360 3639	TTHAXTON@ELLUM.COM
Kevin Judy	Judy Electric Inc	P.O Box 1064 St. George SC 29477	843-563-5385 843-563-8372		KevinJudy@ATTNet.com

NOV-29-2011(TUE) 08:54 Southern Management Group (FAX)8032545620 P.010/010

ADDENDUM NUMBER ONE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES EARLY SITE PACKAGE FOR NEW HIGH SCHOOL NO. 4 & CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: MARCH 31, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1: Section 00500 – INVITATION FOR BIDS:

1. The **location of the Pre-Bid Conference has changed.** The Pre-Bid Conference will now be held in the **Auditorium of Ballentine Elementary School, 1040 Bickley Road, Irmo, SC 29063.** The date and time remains the same.

End of Addendum No. 1

DATE 3-31-11

ARC™

205 PICKENS STREET
COLUMBIA, SC 29205
(803) 254-2561
FAX: (803) 779-2082

SHIP TO: Lexington/Richland Dist #5
Attn: Keith McAlister/Scott Carlin
2 / 1

FROM: C-SMC

JOB: New High Sch #4

SET #: Addendum #1 3

RECEIVED BY:

PACKING SLIP

ADDENDUM NUMBER TWO

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 6, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE

PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1-1: BID DATE:

The bid date will change to Tuesday January 17th at 10:00a.m. The location will remain the same unless changed in a future addendum.

End of Addendum No. 2

DEC 5 2011
Lex/Rich 5

ADDENDUM NUMBER TWO

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR NEW HIGH SCHOOL #4

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: DECEMBER 2, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

GENERAL:

Item 2-1: Correction to Addendum #1: Pre-bid Conference Meeting Minutes: Under item VIII.1; note that electronic CADD files are only available to the "successful low bid contractor and associated subcontractors" following contract award. None will be issued during the bidding period in accordance with specification 00 00 16 CADD File Release Form.

Item 2-2: A revised bid form will be issued in the next addendum to reflect the alternates and their descriptions.

Item 2-3: **Alternate #1 Area C – Lower level Deductive Alternate:** Omit the following scope from Corridor C100, Classroom C101, Hall C103, Toilet C104, Teacher Workroom C105, Charging C106, Classroom C109, Classroom C111, Classroom C113, Classroom C114, Classroom C116, Classroom C117, and Classroom C119:

A. All finishes including material and labor to install ceiling tile and grid shown on A301C; floor covering and base scheduled on ID100A; wall finishes scheduled on ID100A.
B. All built-in casework, bookshelves, marker boards, and tack boards including material and labor to install as shown on floor plan sheet A101C and interior elevations A1/A902, A2/A902, C1/A903, C3/A903, and A1/A904.
C. All lockers and associated concrete bases including material and labor to install as shown on floor plan A101C in Corridor C100 and detail C5/A223.
D. All toilet accessories including material and labor to install as shown on interior elevations and/or enlarged plans for Toilet C104 and Teacher Workroom C105.
E. At Classrooms C101, C109, C111, C113, C114, C116, C117, and C119, omit distribution ductwork and Type B supply diffusers served by WSHP and Type G ceiling grilles with sound traps. Water Source Heat Pump, first 3 feet of horizontal supply duct from WSHP into classroom, and wall-mounted return air grille and associated RA ductwork to WSHP shall remain in the scope of work. All other HVAC units, associated ductwork, air devices, piping, etc...shown on the HVAC drawings shall remain in the scope of work. Air devices intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.

F. At electric water coolers, water closets, lavatories, and sinks, omit purchase and installation of fixture (including faucet and other accessories specified with fixture). Rough-in for supply and waste these fixtures shall

be installed, tested, and capped for future use. All floor drains, floor sinks, hub drains, roof drain leaders, supply, waste, and vent piping shall remain in the scope of work.

G. All convenience power receptacles at wall locations (including device, wiring, and cover plate). Purchase and installation of conduit/j-boxes for raceway, empty wall box, and pull cord for wall receptacles shall remain in the scope of work. All floor receptacles shall be installed complete.

H. All non-egress/non-emergency lighting (including fixture, wiring, switches, and lighting control devices). Purchase and installation of conduit/j-boxes for raceway, empty boxes, and pull cord for non-egress/non-emergency lighting shall remain in the scope of work. All egress and emergency lighting as well as exit signs shall be installed complete. Lighting fixtures intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.

I. In lieu of sprinkler drops with specified heads for use with lay-in ceilings, provide upright sprinkler heads located as required for full coverage under NFPA 13. Design and installation of fire protection system shall allow for future removal of upright heads and future installation of specified heads.

Item 2-4: <u>Alternate #2 Area C – Upper level Deductive Alternate:</u> Omit the following scope from Corridor C200, Classroom C201, Hall C203, Toilet C204, Teacher Workroom C205, Charging C208, Classroom C209, Classroom C211, Classroom C213, Science Classroom C214, Science Lab C216, Science Prep C217, Science Classroom C219 and Stair 004:

A. All finishes including material and labor to install ceiling tile and grid shown on A302C; floor covering and base scheduled on ID100C; wall finishes scheduled on ID100C.

B. All built-in casework, bookshelves, science casework, fume hood and lab equipment, marker boards, and tack boards including material and labor to install as shown on floor plan sheet A102C, enlarged plan A1/A232, and interior elevations B1/A901, B3/A901, D2/A901, C1/A903, C3/A903, and A1/A904.

C. All lockers and associated concrete bases including material and labor to install as shown on floor plan A102C in Corridor C200 and detail C5/A223.

D. All toilet accessories including material and labor to install as shown on interior elevations and/or enlarged plans for Toilet C204 and Teacher Workroom C205.

E. At Classrooms C201, C209, C211, C213, Science Classrooms C214, C219, Science Prep room C217, and Science Lab C216, omit distribution ductwork and Type B/C supply diffusers served by WSHP and Type G ceiling grilles with sound traps. Water Source Heat Pump, first 3 feet of horizontal supply duct from WSHP into classroom, and wall-mounted return air grille and associated RA ductwork to WSHP shall remain in the scope of work. All other HVAC units, associated ductwork, air devices, piping, etc...shown on the HVAC drawings shall remain in the scope of

work. Air devices intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.

F. At electric water coolers, water closets, lavatories, and sinks, omit purchase and installation of fixture (including faucet and other accessories specified with fixture). Rough-in for supply and waste these fixtures shall be installed, tested, and capped for future use. Rough-in for gas cocks in Science classrooms, prep room and lab shall be installed, tested, and capped for future use. All floor drains, floor sinks, hub drains, roof drain leaders, supply, waste, and vent piping shall remain in the scope of work.
G. All convenience power receptacles at wall locations (including device, wiring, and cover plate). Purchase and installation of conduit/j-boxes for raceway, empty wall box, and pull cord for wall receptacles shall remain in the scope of work. All floor receptacles shall be installed complete.
H. All non-egress/non-emergency lighting (including fixture, wiring, switches, and lighting control devices). Purchase and installation of conduit/j-boxes for raceway, empty boxes, and pull cord for non-egress/non-emergency lighting shall remain in the scope of work. All egress and emergency lighting as well as exit signs shall be installed complete. Lighting fixtures intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.
I. In lieu of sprinkler drops with specified heads for use with lay-in ceilings, provide upright sprinkler heads located as required for full coverage under NFPA 13. Design and installation of fire protection system shall allow for future removal of upright heads and future installation of specified heads.
J. At Corridor B200, add 12 LF of wall type 31 (6" metal studs at 16" o.c. with 5/8" gypsum board each side and sound attenuation batts) temporarily spanning floor to ceiling across corridor outside of Janitor B203 to prevent dead end corridor in excess of 2.5 X corridor clear width (30' maximum at this location). Field install where directed by architect. Also add metal stud header centered in temporary wall; door type H at 3'-0" wide x 7'-0" high x 1 ¾" thick; frame type R; and glazing type 2 at both door and frame.

Item 2-5: <u>Alternate #3 Area H Deductive Alternate</u>: Omit the following scope from Auxiliary Gym H116, Storage Rooms H117, H118, H119, Cheer/Wrestle H120, Office H122, Storage Rooms H123, H124, Weight Room H125, and Offices H126, H:

A. All finishes including material and labor to install ceiling tile, grid, and painted structure/deck shown on A301H and A302GH; floor covering and base scheduled on ID100B; wall finishes scheduled on ID100B.
B. All built-in bleachers, athletic equipment (including wall pads, basketball Backstops / goals, volleyball equipment/standards, scoreboard and associated controls/wiring), acoustical wall panels, and mirrors including material and labor to install as shown on floor plan sheet A101H, enlarged plan A1/A233, and interior elevations D1/A906, A1 and C1/A911, A1 and

C1/A912. Conduit, junction boxes, empty wall/floor boxes, and pull cord for control wiring/power to scoreboard shall remain in scope.

C. At Aux Gym H116, omit spiral ductwork and HH diffusers. Rectangular supply ductwork and all return air ductwork/grilles shall remain in scope.
D. At Cheer/Wrestle H120, install supply air trunk duct from RTHP8 to minimum 3 feet horizontally within room H120. Omit distribution supply ductwork and Type C diffusers this room only. All other supply branches, diffusers, and all return air ductwork/grilles for RTHP8 shall remain in scope. Air devices intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.
E. At Weight Room H125, install supply air trunk duct from RTHP7 to minimum 3 feet horizontally within room H125. Omit distribution supply ductwork and Type D diffusers this room only. All other supply branches, diffusers, and all return air ductwork/grilles for RTHP7 shall remain in scope. Air devices intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.
F. At Offices H122, H126, H128, and Storage H123, H124, all air devices intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.
G. All convenience power receptacles at wall locations (including device, wiring, and cover plate). Purchase and installation of conduit / junction boxes for raceway, empty wall box, and pull cord for wall receptacles shall remain in the scope of work. All floor receptacles shall be installed complete.
H. All non-egress/non-emergency lighting (including fixture, wiring, switches, and lighting control devices). Purchase and installation of conduit/j-boxes for raceway, empty boxes, and pull cord for non-egress/non-emergency lighting shall remain in the scope of work. All egress and emergency lighting as well as exit signs shall be installed complete. Lighting fixtures intended to be clipped into a lay-in ceiling grid shall be temporarily supported with seismic wire from structure above.
I. In lieu of sprinkler drops with specified heads for use with lay-in ceilings, provide upright sprinkler heads located as required for full coverage under NFPA 13. Design and installation of fire protection system shall allow for future removal of upright heads and future installation of specified heads.

ARCHITECTURAL:

Item 2-6: Request for Substitution: The following manufacturers have been approved as substitute manufacturers provided that the proposed product meets all specified criteria:

04 44 12: Architectural Precast Stone Midwest Cast Stone
11 61 00: Laboratory Fume Hood (Ducted) Air Master Systems Corporation

Item 2-7: Residential Appliances, Sheets A101A thru A102E: On the floor plans, enlarged floor plans, and interior elevations, residential appliances are noted as "N.I.C." or "not in contract". Please strike through and disregard this note. Residential appliances (limited to refrigerators, under-counter refrigerators, under-counter dishwasher, and stacked combination washer/dryer units) shall be provided and installed by the General Contractor in accordance with specification 11 31 00. Final connections shall be made by appropriate subcontractor. Note that commercial athletic washers and dryers shown in Laundry Storage G122 remain "N.I.C." as shown on the drawings (furnished, installed, and final connections made by owner).

Item 2-8: Athletic Whirlpools, Sheet A101H and A1/A223: Note that the (4) athletic whirlpools shown in Training/First Aid Room H105 shall be provided and installed (including final connections) by owner.

Item 2-9: Location of Door/frame H139, Sheet A101H: Note that door and frame H139 from Corridor H100C to Emergency Electrical Room H139 shall be installed with masonry opening shifted 2'-4" towards Room H140. Revise string of dimensions on each side of masonry opening from 17'-8" to 15'-4" and from 15'-8" to 18'-0".

Item 2-10: Room name change, Sheet A101H: Note that rooms H117 and H118 shall be labeled as Storage Rooms in lieu of Mechanical Rooms.

Item 2-11: Trench drain at showers, Sheet A221: Add 45 degree chamfers to detail C2 where floor slab meets open trench. General Contractor to provide smooth, uniform chamfered edge at open side of concrete trench prior to installation of resinous flooring. Slope floor of shower areas ¼" per foot to provide positive drainage towards open trench. Slope bottom of trench toward each floor drain.

Item 2-12: Recessed floor slab at Walk-ins, Sheet A227: Details A3, A4, and A5 show slab recess below walk-ins as 4". Revise note to read as 5". General Contractor to confirm dimension with walk-in cooler/freezer shop drawings prior to pouring recessed floor slab.

Item 2-13: Finish floor at Aux. Gym, Sheet A233: At enlarged floor plan A1, revise note that reads "Polyurethane sports flooring extends under bleachers" to read as "Wood sports flooring...." In addition to floor striping shown on drawings, General Contractor to provide custom painted mascot logo at center court and 3' wide painted accent border with contrasting school name in letters at perimeter of competition court in Main Gymnasium G132 only.

Item 2-14: Reflected Ceiling Plans – All Areas, Sheets A301A thru A302E: All of the following spaces shall use Moisture Resistant lay-in ceiling tile as specified: all individual toilet rooms (drywall ceilings remain where shown); all group restrooms that show lay-in ceiling (drywall ceilings remain where shown); all locker rooms in Areas G and H (G107, G113, G130, G127, H108, H114); Laundry Storage G122; Training/First Aid H105; Dish wash H149, Kitchen H152, and Serving H153.

Item 2-15: Reflected Ceiling Plans – Area F and G, Sheet A301F and G: All of the following spaces shall use Fiberglass lay-in ceiling tiles (.95 NRC minimum) as specified: Drama F101, Strings F106, Band F108, Practice Rooms F109, F110, F111, Ensemble F117, Choral F124, Dance F128, Cheer/Wrestle H120, and Weight H125.

Item 2-16: Stainless Steel Column Covers, Sheet A622: Wall Section A4 describes the interior column covers on line 4 as "Aluminum". Revise note to read as "Stainless Steel". Refer to specification 05 58 23.23.

Item 2-17: Science Casework Legend B2, Sheet A900: Under item 11B, Ductless Fume Hood, replace model listed from Green 5300 by ALC to "Captair Flex M391 by Erlab" in accordance with specification 11 61 10.

Item 2-18: Finish Schedule, Sheets ID100A thru C: Incorporate the following revisions:

A. Note that all carpet and/or carpet tile including adhesive shall be "N.I.C." furnished and installed by owner. The General Contractor remains responsible for furnishing and installing all rubber base and all vinyl transition strips between carpet and other floor finishes.
B. Weight Room H125, revise floor finish from Poured Polyurethane Sports flooring to "Impact Resistant Sport Flooring" specified in 09 77 30.
C. At Dance Room F128, refer to specification 09 64 67 for Wood Strip Floor (over sleepers). This spec also applies to the wood floor on Stage F139.
D. On sheet ID100C, the finish schedule located at lower left corner of sheet should be titled as "Second Floor Finish Schedule - Area C".

Item 2-19: Specification 07 52 16, SBS Modified Bitumen Sheet Roofing: Under 1.6 Quality Assurance, add item L: "Progress:

1. The roof installer shall take all necessary steps to ensure that continuous and uninterrupted progress is made in the designated areas regarding the respective established completion dates as agreed to during the pre-installation meeting.
2. The roof installer shall ensure that all materials, supplies, labor, and equipment are accounted for and onsite ready for immediate use and that equipment is operating properly.
3. The roof installer shall be on site and performing roofing installation as long as weather conditions are within the specified parameters and the

designated areas are in an acceptable condition to receive the roofing system.

4. Roof installation shall not cease without just cause. Lack of materials; supplies, labor, equipment, or broken equipment are not just cause.
5. If work is to be ceased, permission shall be requested from the General Contractor at least 72 hours prior to time of work stoppage. Work shall not stop without the Contractor's written permission.

Item 2-20: Specification 09 64 67, Wood Strip Floor: Under 2.4 Accessory Materials, add item H: "At Dance Floor only, provide resilient pads below sleepers at maximum 16" o.c. each way. Prestige Sports Systems 19 mm "4 Cone" Bi-power pads or approved equal. General Contractor is to coordinate required depth of depressed floor slab for total system including vapor barrier, 19mm pad, sleeper, plywood, and hardwood strip finish floor."

Item 2-21: Foundation & S.O.G. Plan, Area A: Incorporate these revisions:

A. Hatching to indicate depressed floor slab at Lobby A100A is printed lightly. Note this area shall have a depressed concrete slab for installation of thickset Terrazzo Tile. Refer to sheet ID101A for extents. General Contractor to confirm extents with ID drawings and depth of recess required with tile specification and manufacturer prior to pouring floor slab – typical all areas to receive terrazzo floor tile.
B. Delete hatching that indicates depressed floor slab at Men A139, A154, and Women A140, A147. Depression not required these (4) rooms.

Item 2-22: Foundation & S.O.G. Plan, Area B: Incorporate these revisions:

A. Lobby B100 shall have a depressed concrete slab for installation of thickset Terrazzo Tile. Refer to sheet ID101B for extents. General Contractor to confirm extents with ID drawings and depth of recess required with tile specification and manufacturer prior to pouring floor slab – typical all areas to receive terrazzo floor tile.
B. Delete hatching that indicates depressed floor slab at Men B106 and Women B107. Depression not required these (2) rooms.

Item 2-23: Foundation & S.O.G. Plan, Area F: Incorporate these revisions: Delete hatching that indicates depressed floor slab at Men F132 and Women F134. Depression not required these (2) rooms.

Item 2-24: Foundation & S.O.G. Plan, Area G: Incorporate these revisions: Hatching to indicate depressed floor slab at Vestibule G100B is printed lightly. Note this area shall have a depressed concrete slab for installation of thickset Terrazzo Tile. Refer to sheet ID101G for extents. General Contractor to confirm extents with ID drawings and depth of recess required with tile

specification and manufacturer prior to pouring floor slab – typical all areas to receive terrazzo floor tile.

Item 2-25: **HVAC Alternates 1, 2, and 3:** Refer to Items 2-3, 2-4, and 2-5 of this addendum for deduct alternates impacting HVAC scope. Each of these alternates shall be bid separately to the General Contractors as amounts to be deducted from the base bid amount.

Item 2-25: **Plumbing Alternates 1 and 2:** Refer to Items 2-3 and 2-4 of this addendum for deduct alternates impacting Plumbing scope. Both of these alternates shall be bid separately to the General Contractors as amounts to be deducted from the base bid amount.

Item 2-26: Specification 15100, Plumbing: Include the following revisions:

A. Page 14 – Revise specified model number for Anti-Freeze Wall Hydrants from 67 to B67 with secured recessed box.
B. Page 27 - Revise fixture number of the Fume Hood Sink from P-23 to P-24 to agree with the plumbing schedule on sheet P3.10.
C. Page 27 - Revise fixture number of the Shower (ADA Compliant) from P-22 to P-23 to agree with the plumbing schedule on sheet P3.10.
D. Page 27 –Add the following as P-22 Double Compartment Sink: P-22 Sink: Just #DL-1933-A-GR stainless steel, 18 gauge, and 19" x 33" x 7 ½" deep, double compartment sink. Furnish with a Chicago #1102 eight inch high swing spout faucet with hand spray and with aerator. Furnish with Just #J35 STP basket strainer.

Item 2-27: **Electrical Alternates 1, 2, and 3:** Refer to Items 2-3, 2-4, and 2-5 of this addendum for deduct alternates impacting Electrical scope. Each of these alternates shall be bid separately to the General Contractors as amounts to be deducted from the base bid amount.

Item 2-28: **Fire Protection Alternates 1, 2, and 3:** Refer to Items 2-3, 2-4, and 2-5 of this addendum for alternates impacting Fire Protection scope. Each of these alternates shall be bid separately to the General Contractors as amounts to be added to or deducted from the base bid amount.

End of Addendum No. 2

ADDENDUM NUMBER TWO

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES EARLY SITE PACKAGE FOR NEW HIGH SCHOOL NO. 4 & CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: APRIL 8, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1: CAD Release Form:

1. An electronic drawing file of the project site plans is available upon request to Cumming|SMG. Electronic drawings will be forwarded upon receipt of a fully executed CAD release form. A copy of this form is attached to this addendum. The prospective bidder is to complete the CAD release form and return to Cumming|SMG attn: Margaret Muller at mmuller@southernmgt.com. The electronic drawing files will be emailed directly to the bidder at the email address provided. ***Contractors are reminded to compare the CAD files to the printed version of the contract documents to avoid errors in bid preparation.***

End of Addendum No. 2

mcmillan|pazdan|smith
architecture

CAD RELEASE FORM

Per your request, McMillan Pazdan Smith Architecture will provide electronic files for your convenience and use in the preparation of work related to the ***Site Package for New High School No.4 & CATE Center***, subject to the following terms and conditions:

Our electronic files are compatible with AutoCAD. We make no representation as to the compatibility of these files with your hardware or your software beyond the specified release of the referenced specifications.

Data contained on these electronic files are part of our instruments of service and shall not be used by you or anyone else receiving these data through or from you for any purpose other than as a convenience in the preparation of your layout plans for the referenced project. Any other use or reuse by you or by others will be at your sole risk and without liability or legal exposure to us. You agree to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against us, our officers, directors, employees, agents, or sub-consultants that may arise out of or in connection with your use of the electronic files.

Furthermore, you shall, to the fullest extent permitted by law, indemnify and hold us harmless against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising out of or resulting from your use of these electronic files.

These electronic files are not construction documents. Differences may exist between these electronic files and corresponding hard-copy construction documents. We make no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the signed or sealed hard-copy construction documents prepared by us, and the electronic files, the signed and sealed hard-copy construction documents shall govern. You are responsible for determining if any conflict exists by your use of these electronic files; you are not relieved of your duty to fully comply with the contract documents, including and without limitation, the need to check, confirm, and coordinate all dimensions and details, take field measurements, verify field conditions, and coordinate your work with that of other contractors for the project.

Because information presented on the electronic files can be modified, unintentionally or otherwise, we reserve the right to remove all indicia of ownership and/or involvement from each electronic display.

We will furnish you electronic files of the following:

Civil Site Plan

Under no circumstances shall delivery of the electronic files for use by you, be deemed a sale by us and we make no warranties, either expressed or implied, of merchantability and fitness for any particular purpose. In no event shall we be liable for any loss of project or any consequential damages of your use or reuse of these electronic files.

_____ _____

Company Name Name (Print)

_____ _____

Date Signature

_____

Email Address to receive files

2120 noisette blvd ste 100 charleston, sc 29405
o. 843 566 0771 f. 843 566 0775

mcmillanpazdansmith.com

ADDENDUM NUMBER THREE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 12, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE

PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1-1: BID DATE INFORMATION:

Contractors that intend to mail, Fed-Ex or UPS bids to the District Office on Monday the 16th in order for them to be there on Tuesday the 17th for the 10:00am opening should not do so. The District Office is closed on Monday the 16th .Contractors that plan to mail, Fed-Ex or UPS bids for Monday the 16th delivery should send them to Cumming at 1213 Lady Street, Columbia SC 29201. Make sure to mark it as **"BID DOCUMENTS, ATTENTION Forrest king and or Chris Farr.** If contractors intend to hand deliver bids on Tuesday morning the 17th; the original information for the District Office applies.

End of Addendum No. 3

ADDENDUM NUMBER THREE

FOR

DISTRICT FIVE OF
LEXINGTON & RICHLAND COUNTIES
FOR
NEW HIGH SCHOOL #4

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
127 Dunbar Street, Spartanburg, SC 29306
P.O. Box 5331, Spartanburg, SC 29304

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 11, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE

INFORMALITY IN THE BID.

GENERAL:

Item 3-1: The High School General Contractor is to coordinate with the Site Package General Contractor to assume the cost of all the utilities and the CM trailer on the site by April 1, 2012. The Site Package General Contractor is Richardson Construction.

Item 3-2: The General Contractor is to refer to the bid documents sheet S203E for information on roof curb sizes and weights relating to installation.

Item 3-3: Refer to bid documents: specs 04 20 00 paragraph 3.4.C.2 and Sheet S001 CMU note #6 regarding the requirements and locations for stacked bond masonry.

Item 3-4: It is the General Contractor's decision to assign who is responsible for the installation of the seismic wires that hold devices in the air if the deduct alternates are accepted.

Item 3-5: The CATE Center Geothermal Well System is part of the CATE Center. The High School Geothermal Well System will be bid separately but must coordinate with the CATE Center, Site Package and HS#4 General Contractors.

Item 3-6: The mortar color for brick veneer shall be selected from the manufacturer's full color range and not covered by an allowance.

Item 3-7: The contractors asked which fixtures will be required to be suspended from the structure. The response from the architect is as follows: "Lighting fixtures intended to be clipped into a lay-in ceiling shall be…"

Item 3-8: The contractors are to refer to the bid document sheets S301A thru S301E for section cut / notes and see Framing Note 6 on those sheets regarding how framing is to be handled at the floors.

Item 3-9: The contractors are to refer to the Phase One Sitework drawings included in the HS set as "information only". Look at Sheet 8 and 28 specifically for work by the Phase One site contractor regarding trench drains at the ramp outside the connecting corridor and cafeteria.

Item 3-10: The contractors are to refer to both the architectural and structural drawings as well the Concrete Masonry Notes on S001 in regards to requirements for horizontal bond beams other than in shear walls, within 8" of the top of the wall and at floor and roof intersections.

Item 3-11: Refer to specification 08 71 20 for automatic door operators. MPS does not reference providing automatic door operators by allowance. Therefore they are to be included in the base bid as specified.

Item 3-12: Gas piping to Water Heater #2 and #3: The gas piping to Water Hater #2 and #3 are provided under the HVAC contract. See drawing HVAC-2.11.

Item 3-13: Trap Primers in Kitchen: It was not our intent to have trap primers or trap guard valves installed in the kitchen floor sinks and/or floor drains.

Item 3-14: The foundation schedule shown on the bid documents is a typical one used on different projects. The bidder installs the footing designated on the plan in reference to size, depth, and rebar requirements listed on the foundation schedule.

Item 3-15: A Business License will be required for the High School project by the County. Contractors are to contact the County in order to determine the cost.

Item 3-16: The bidder needs to refer to the bid documents. The drawings and specification section 33 46 13 state that foundation drain lines tie into storm drain boxes (or may be piped to daylight if no box with adequate depth is available). Also, foundation drainage is not and does not belong in the plumber's scope of work.

Item 3-17: **Plumbing Drawing P-2.13 "ENLARGED PLAN: KITCHEN-H152"**
There are a total of (8) P-13 hand sinks located in the kitchen, dish wash, and serving areas. These P-13 sinks will be provided by the kitchen equipment contract in lieu of the plumbing contract. The plumbing contractor shall rough for and make all final connections to these sinks.

Item 3-18: **Plumbing Drawing P-3.10 NEUTRALIZATION TANK AND MANHOLE DETAIL:**
A. Revise the manhole cover note as follows:
"VENTED CAST IRON MANHOLE COVER (SIZE TO ALLOW FOR NEUTRALIZATION TANK REMOVAL.)"
B. Add the following note to the detail:
"FILL NEUTRALIZING TANK WITH LIMESTONE CHIPS PER MANUFACTURER'S RECOMMENDATIONS. LIMESTONE CHIPS SHALL BE 1" TO 3" DIAMETER WITH CALCIUM CARBONATE EQUIVALENT INEXCESS OF 85%. (APPROX 2500 LBS OF LIMESTONE CHIPS REQUIRED FOR 200 GAL. TANK.)"

Item 3-19: **Electrical Drawing E8.01 Lighting Fixture Schedule**: Add Fixture Type R6 – 6-inch Downlight with 2-26 watt lamps, Lithonia Cat# LF6N-2/26DTT-F6O2AZ-MVOLT.

Item 3-20: **Electrical Drawing E8.01 Lighting Fixture Schedule:** Add Fixture Type R7 – 2x4 recessed fluorescent volumetric troffer, same as type R1 except provide mounting provisions for installation in a gypsum ceiling.

Item 3-21: **Electrical Drawing E8.02 General Notes**: Revise note 1 to read "Lighting Panels and Relay Control Panels shall be provided, installed and wired under Division 26".

BULLETIN DRAWINGS / ADDED SHEETS:

Item 3-22: **Plumbing Drawing P-1.1H "FIRST FLOOR PIPING PLAN - AREA H".** See the addendum drawing AD-P-01 for revised gas piping. ***(Attached, 1 page)***

Item 3-23: **Addendum Sketch SK-E1:** Add antenna mast detail to Drawing E4.03. Coordinate location of antenna mast with owner prior to installation. ***(Attached, 1 page)***

Item 3-24: **HVAC Drawings HVAC-2.11, "PARTIAL FIRST FLOOR HVAC PIPING PLAN":** See the addendum drawing AD-HV-01 for the addition of gas piping serving dryers in Laundry Storage-G122. ***(Attached, 1 page)***

Item 3-25: **HVAC Drawings HVAC-3.11, "PARTIAL HVAC ROOF PLAN":** See the addendum drawing AD-HV-02 for revised gas piping on roof. ***(Attached, 1 page)***

Item 3-26: **HVAC Drawings HVAC-4.10, "ENLARGED PLAN: MECHANICAL ROOMH131":** See the addendum drawing AD-HV-03 for revised gas piping in and around Mechanical Room-H131. ***(Attached, 1 page)***

SPECIFICATIONS:

Item 3-27: **Specification 07 52 16, SBS Modified Bituminous Sheet Roofing, Cold Applied:** Delete the roofing specification included in the project manual and replace with the one issued in this addendum with date of issue shown as January 9, 2012. ***(Attached, 38 pages)***

Item 3-28: **Specification 04 44 12, Architectural Precast Stone units:** Under Fabricator Qualifications, delete the requirement for membership in the Cast Stone Institute.

Item 3-29: **Specification 09 51 23, Acoustical Tile Ceilings and Reflected Ceiling Plan A301H:** Delete paragraphs 2.1.C.7 and 2.3.B.2 of specification 09 51 23 regarding fire rated lay-in ceiling tile and grid. On the drawings, note

that the 2 hour rated roof/ceiling assembly above the Main Electrical Room and Emergency Electrical Room (H138 and H139) shall include a gypsum board ceiling rather than fire-rated lay-in ceiling (UL **P514** in lieu of UL P266) per OSF's request. All fixtures shall be installed as surface mounted or recessed in lieu of lay-in and in accordance with UL P514.

Item 3-30: **HVAC Specifications page 15200-8 "SEISMIC RESTRAINTS":**

A. Replace Section 1 with the following:

WIND AND SEISMIC RESTRAINTS:

Equipment, piping, and ductwork shall be restrained to resist wind and seismic forces. Restraints shall maintain equipment, piping, and duct work in a captive position. Restraint devices shall be designed and selected to meet the wind and seismic requirements as defined in the latest edition of the IBC (International Building Code).

Seismic Restraint:

All restraints shall be designed for an "Importance Factor", Ip= 1.0, except all fossil fueled equipment shall have Ip=1.5. Seismic design category shall be "C."

Wind Restraint:

All restraints shall be designed for an "Importance Factor" Iw=1.15. Design wind speed at 90 mph (3 second gust)

.

B. Add the following sentence to section 2G:

"Materials and equipment for wind restraints shall be provided for all rooftop equipment."

Item 3-31: **Specification Section 263213, ENGINE GENERATORS**, Under 2.3, A. delete Fuel Oil, Grade DF-2 and replace with "Natural Gas/LP. Delete all references to Diesel Engine. Generator shall be Natural Gas with LP Backup System.

SUBSTITUTIONS:

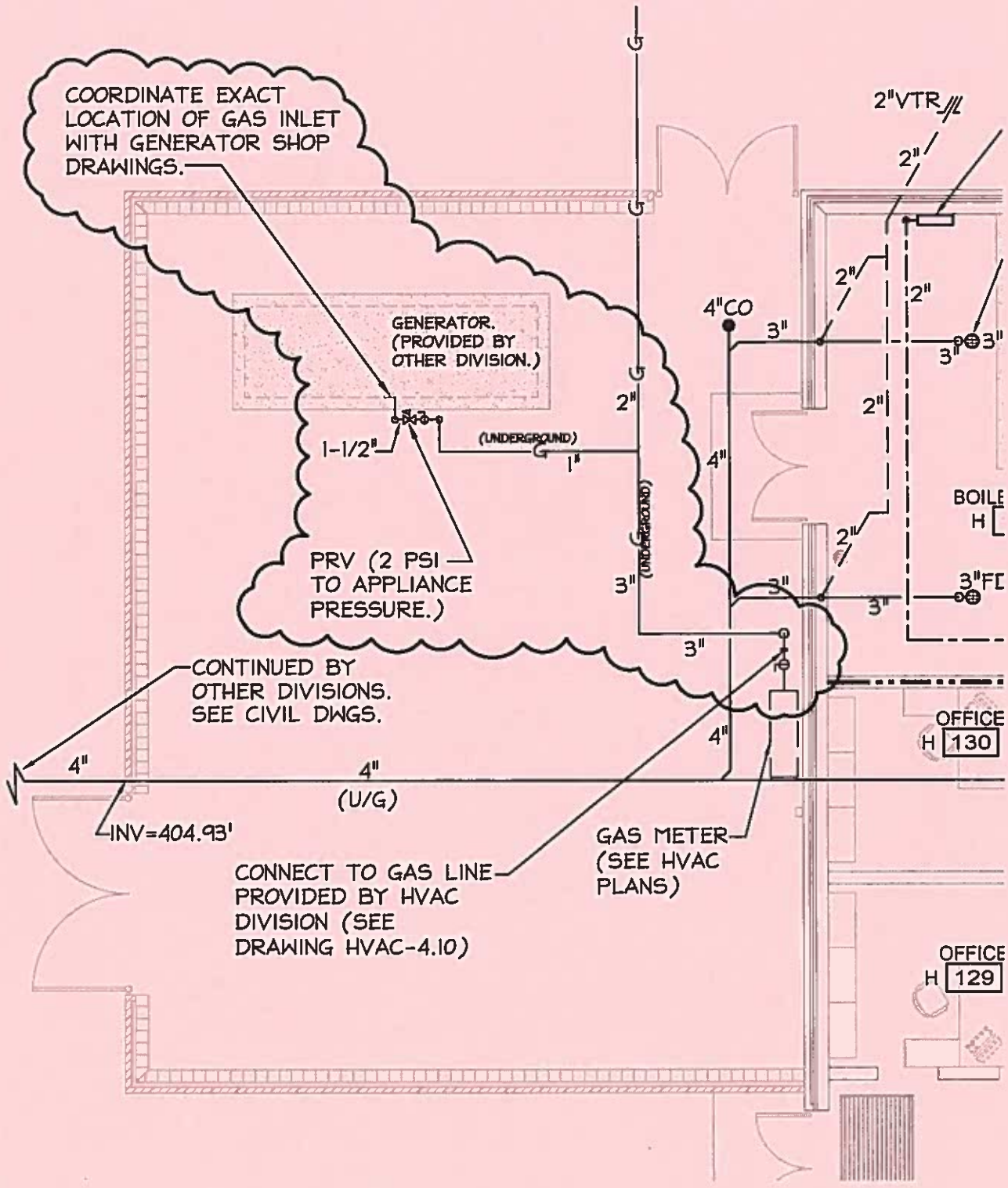
Item 3-32: **Request for Substitution:** The following manufacturers have been approved as substitute manufacturers provided that the proposed product meets all specified criteria:

04 44 12, Architectural Precast Stone Units Bassco Caststone
05 12 00, Structural Steel Framing D & T Steel
06 20 00, Millwork & Lam. Plastic Casework Midlands Woodwork, LLC
09 33 10, Terrazzo Tile Doyle Dickerson Terrazzo, Inc (with color range to match complete Wausau range at no additional cost)
10 10 10, Display Cases Aarco Products, Inc.
10 11 00, Visual Display Boards Aarco Products, Inc.
12 35 52, Wood Laboratory Casework Cabinets By Design, Inc.

Item 3-33: **Request for Prior Approval**: The following Lighting Fixture package has been approved as an equal to the specified lighting fixtures provided the products meet all specified criteria: The *Schneider Company Lighting Pre-approval package* submitted on December 13, 2011.

End of Addendum No. 3

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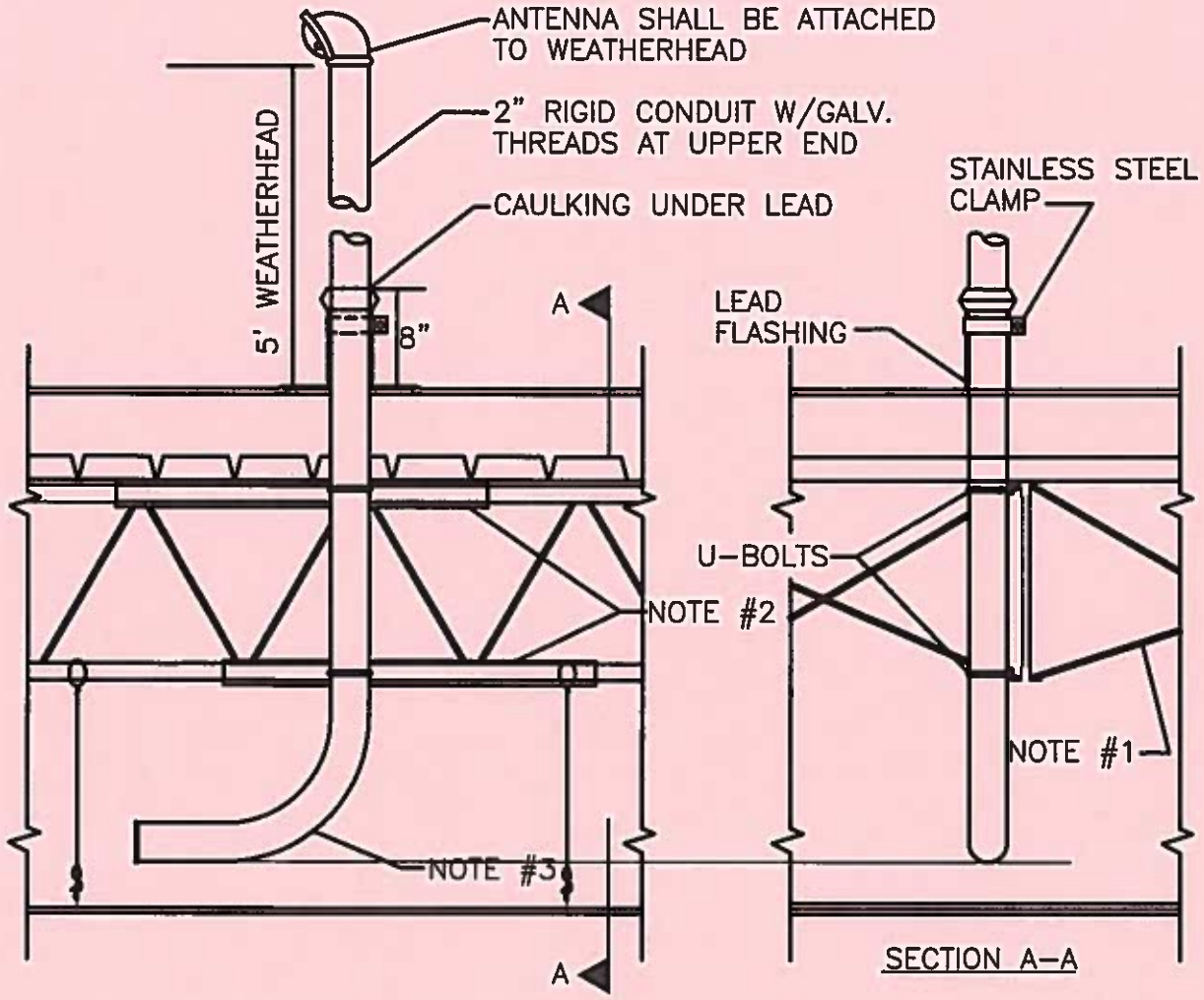
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WADE CROW ENGINEERING
SPARTANBURG, SOUTH CAROLINA

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
New High School No. 4

PROJ NO.	07065
DATE:	01/05/2012
REF:	P-1.1H
SHEET NO.	AD-P-01

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NOTES

1. ADDITIONAL CROSS BRIDGING TO ADJACENT JOIST AT ANTENNA (WELD ALL CONNECTIONS).
2. ANGLES WELDED TO JOIST BETWEEN JOIST ROD WELD POINTS.
3. 2" CONDUIT WITH 1#6 COPPER GROUND TO CABLE TRAY.

1 / E4.03 ANTENNA ROOF MAST WEATHERHEAD SECTION DETAILS

NO SCALE

mcmillan | pazdan | smith
architecture
charleston greenville spartanburg
120 ronsette blvd ste 100 charleston, sc 29405 o 843.566.0771 f 843.566.077

LEXINGTON/RICHLAND DISTRICT 5

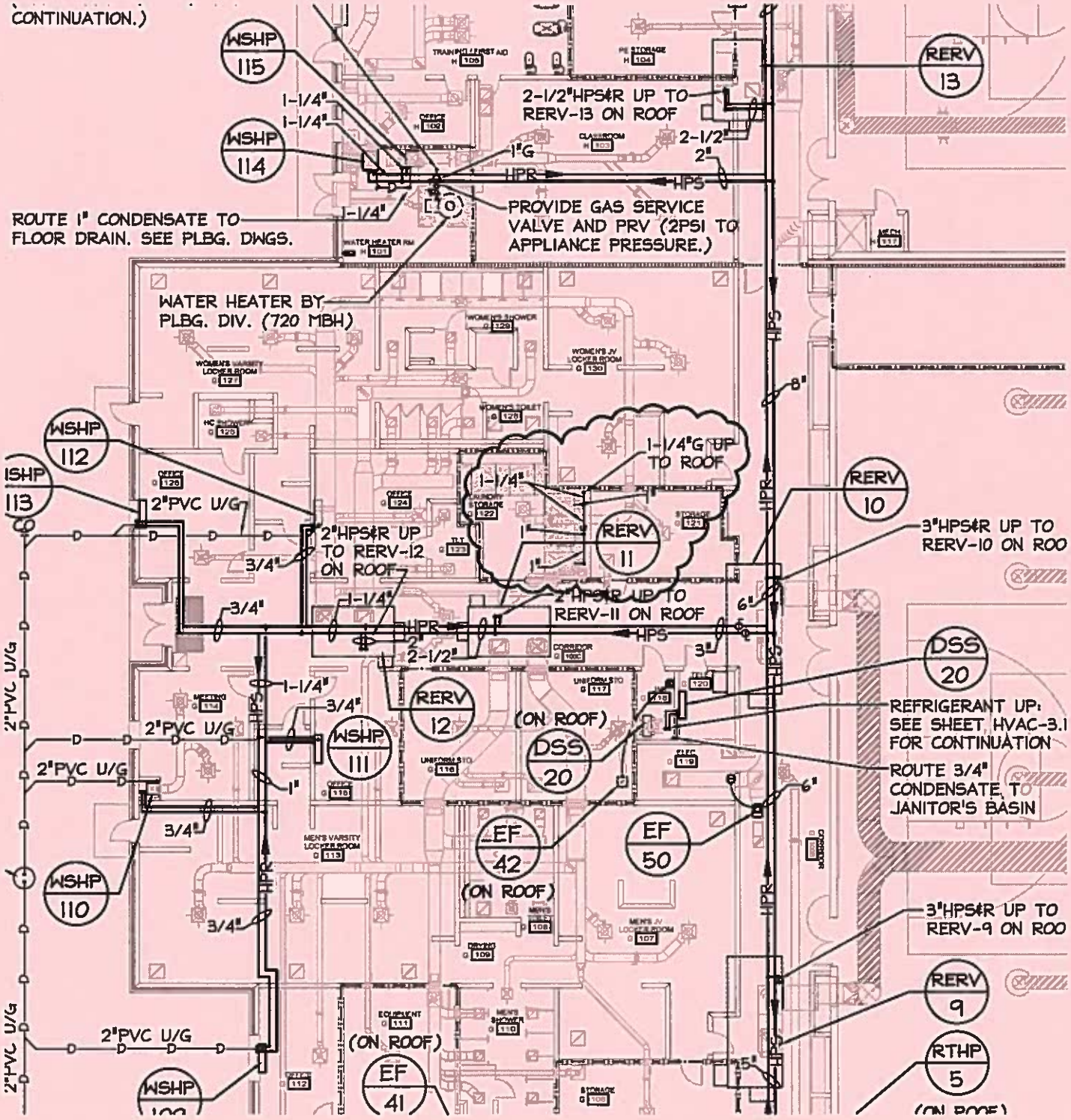
NEW HIGH SCHOOL No.4

MT VERNON CHURCH ROAD & BROAD RIVER ROAD
IRMO, SOUTH CAROLINA

PROJ. NO. 07065
DATE: 12/29/11
REF:

SKETCH NO.
SK-E1.0

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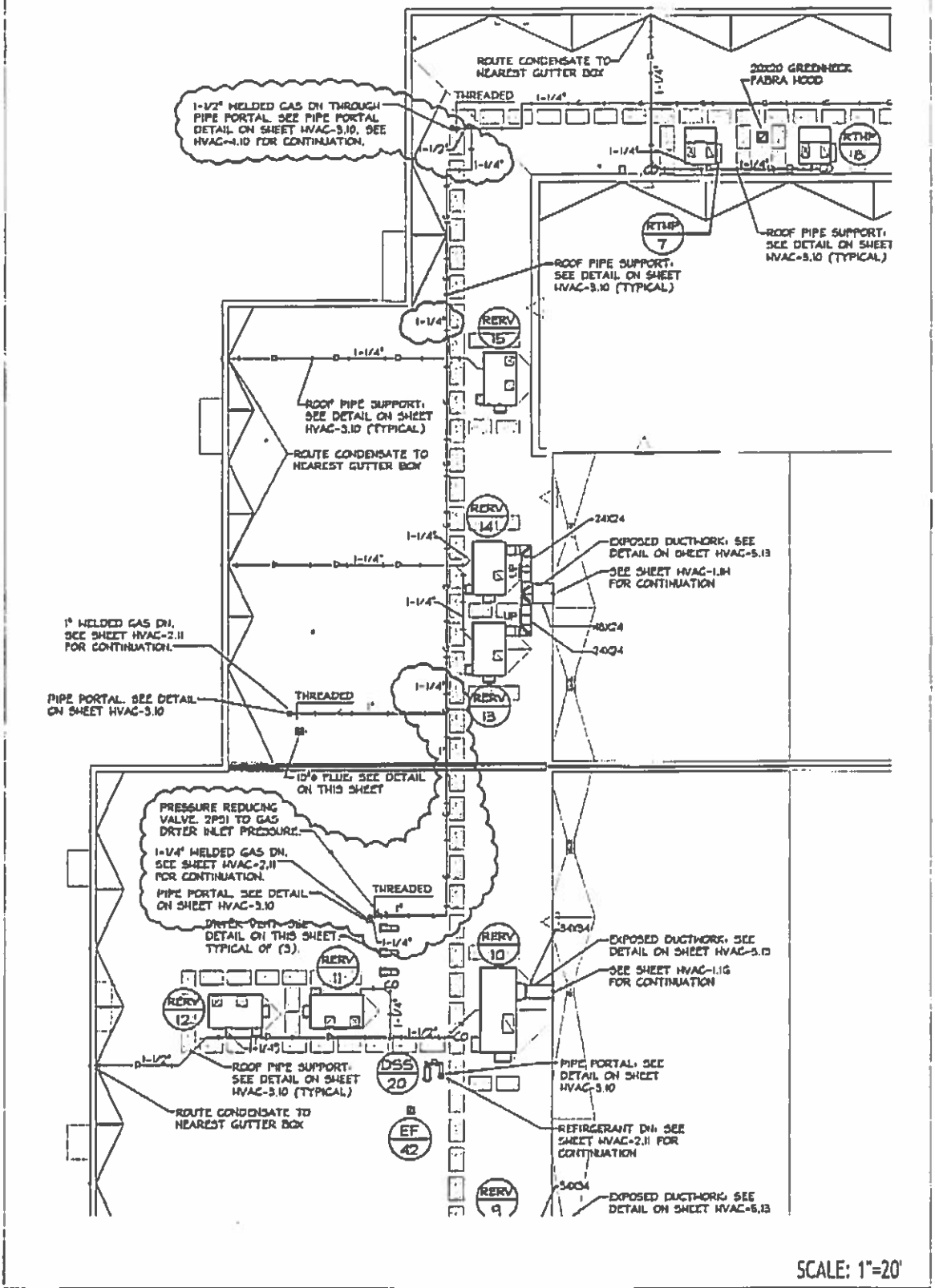
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WADE CROW ENGINEERING
SPARTANBURG, SOUTH CAROLINA

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
New High School No. 4

PROJ NO.	07065
DATE:	01/05/2012
REF:	HVAC-2.11
SHEET NO.	AD-HV-01

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SCALE: 1"=20'

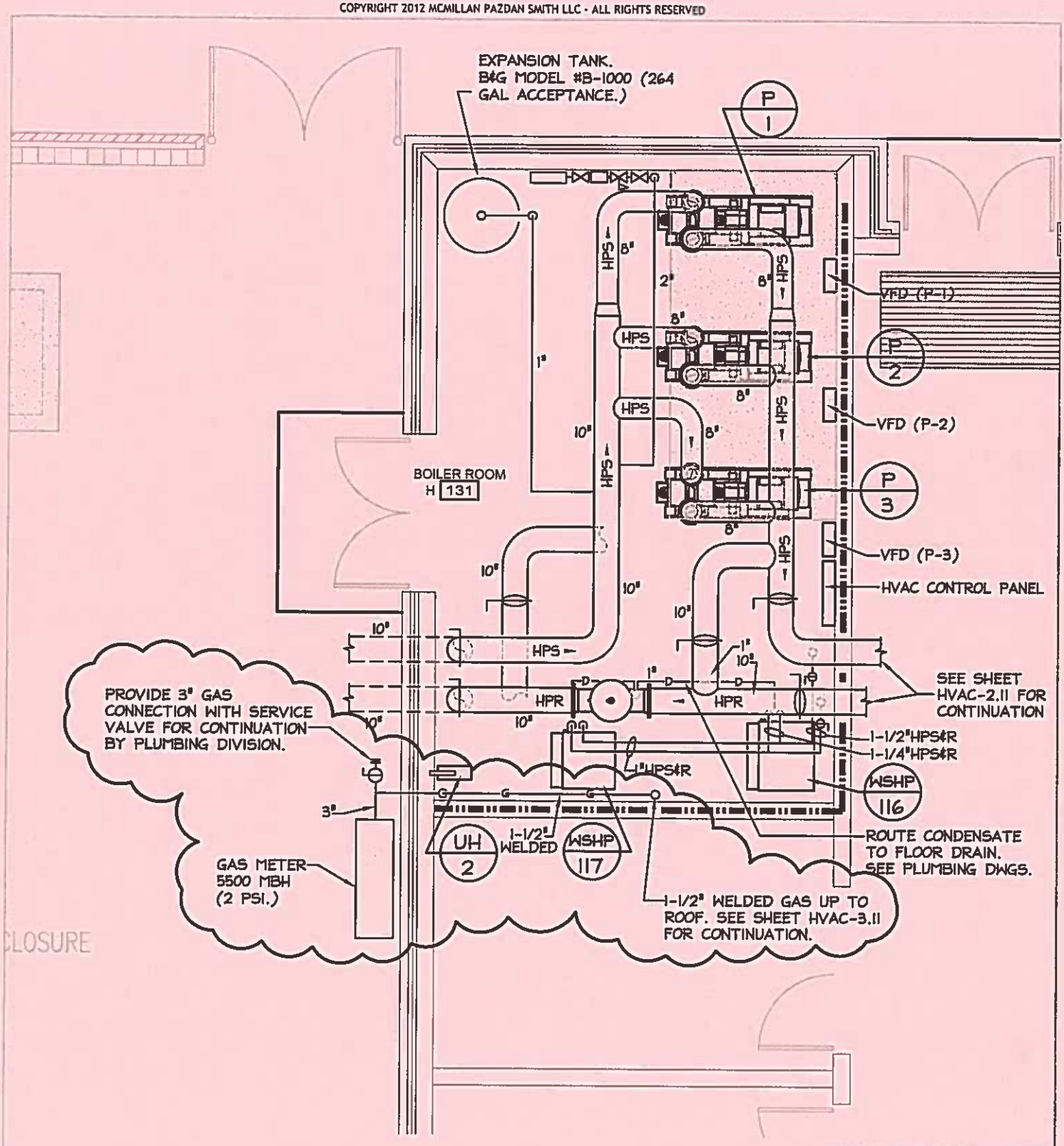
WADE CROW ENGINEERING

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
New High School No. 4

PROJ NO.	07065
DATE:	01/05/2012
REF:	HVAC-3.11
SHEET NO.	

AD-HV-02

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SCALE: 3/16" = 1'-0"

WADE CROW ENGINEERING
SPARTANBURG, SOUTH CAROLINA

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
New High School No. 4

PROJ NO.	07065
DATE:	01/05/2012
REF:	HVAC-4.10
SHEET NO.	

AD- HV-03

SECTION 07 52 16 - SBS-MODIFIED BITUMINOUS SHEET ROOFING, Cold Adhesive

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

C. Reference Publications: Comply with the following reference publication:
1. SMACNA Architectural Sheet Metal Manual, Sixth Edition.
2. NRCA Roofing and Waterproofing Manual, Fifth Edition

1.2 SUMMARY

A. This Section includes furnishing and installing all labor and materials for the following:

1. Furnishing and installing Modified bituminous sheet with mineral granule surfacing.
2. Roof insulation.
3. Roofing asphalt.
4. Roof drains

B. Related Sections: The following sections contain requirements that relate to this Section:
1. Division 06 Section "Rough Carpentry" for treated wood nailers, curbs, and wood cants.
2. Division 07 Section "Flashing and Sheet Metal" for metal counter flashings.
3. Division 07 Section "Roof Accessories"/"Roof Hatch, Flat Roof" for access hatches.
4. Division 23 Sections for curbs and equipment supports coordination.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 for definitions of terms related to roofing work not otherwise defined in this Section.

B. Thermal Resistivity (r-value) is the reciprocal of thermal conductivity (k-value), which is the rate of heat flow through a homogenous material exactly 1 inch (25.4 mm) thick. Thermal resistivity (r-value) is expressed by the temperature difference in degrees F (Kelvins) between two parallel surfaces required to cause 1 Btu to flow through 1 sq. ft. (1 watt to flow through 1 sq. m) of a homogenous material exactly 1 inch (25.4 mm) thick per hour at the mean temperature indicated.

1.4 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Install modified bituminous sheet roofing to withstand wind loads, structural movement, thermally induced movement, and exposure to weather, without failure.

B. UL Listing: Provide modified bituminous sheet roofing system and component materials that have been tested for application and slopes indicated and are listed by Underwriters Laboratories, Inc. (UL) for Class A external fire exposure.

1. Provide roof-covering materials bearing UL Classification Marking on bundle, package, or container indicating that materials have been produced under UL's Classification and Follow-up Service.

C. Provide only flashings, including roof edges, copings, fascia, clips, and retainer pieces that have been designed, fabricated installed, and satisfactorily tested as a system to comply with the following standards, test methods, and requirements:
1. FM requirements for specified Wind Uplift Classification. Submit certificate of Compliance.
2. ANSI/SPRI-ES-1 for specified wind uplift. All sheet metal edge fabrications provided for this project shall comply with and meet all requirements for design, testing, and installation of the sheet metal. Submit Certification that all edge sheet metal to be supplied for this project has been designed and tested to specified wind loads and that the fabricator and installer meet the applicable ANSI/SPRI ES-1 requirements for fabrication and installation.
3. ANSI/ASCE-7-02

D. FM Listing: Provide modified bitumen sheet roofing system and component materials that have been evaluated by Factory Mutual System for fire spread, wind uplift, and hail damage and that are listed in "Factory Mutual Approval Guide" for Class I construction.
1. Roofing system shall comply with FM Class I-90 for wind-uplift resistance.
2. Provide roof-covering materials bearing FM approval marking on bundle, package, or container, indicating that material has been subjected to FM's examination and follow-up inspection service.

E. Insulation Fire-Performance Characteristics: Provide insulation materials that are identical to materials whose fire-performance characteristics have been determined for the assemblies of which the insulation materials are a part, per test method listed below, by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

1. Surface Burning Characteristics: ASTM E 84.
2. Fire Resistance Ratings: ASTM E 119.

F. Drainage Requirements
1. The roof shall have sufficient drainage to ensure that there are no signs of ponding or standing water 48 hours after a rain. If this provision is more severe than the drainage requirements of the membrane manufacturer, then this provision shall prevail. All drainage shall be towards roof drains and gutters as applicable.
2. The installed roof deck shall not have any deflections that exceed 1 inch in 10 feet. The General Contractor shall report, to the Architect, all suspicious areas in the roof deck that may contribute to ponding or standing water.
3. Prior to installing the cap sheet, and immediately after a measurable rainfall or after flooding the roof, the roofing contractor, in the presence of the Owner, the Architect, and

the Contractor, shall check for positive drainage. All areas with ponding or standing water that measure ½ inch deep or deeper in 10 feet shall be marked and corrected according to the roof membrane manufacturer's instructions. Corrections shall be made at no additional cost to the Owner. After corrections have been made, the corrected areas shall be tested again as previously described.

G. Seismic Provisions: Where roof curbs, roof accessories, and all other roof components are installed in roof systems that are located geographic locations that require special seismic provisions, comply with all applicable seismic requirements as stipulated applicable model codes and by the local governing authorities. All required flashing shall conform to the manufacturer's instructions and requirements to comply with the specified warranty.

1.5 SUBMITTALS

A. General: Submit the following according to Conditions of Contract and Division 01 Specification Sections.

B. Insulation: Submit certification from the insulation manufacturer that insulation is suitable for intended use, is suitable for direct applications over a metal roof deck, and meets the following approvals:

1. ASTM C1289
2. FM Standard 4450/4470
3. UL Standard 1256
4. Manufacturer's Certification that insulation meet specified compressive strength.

C. Samples of the following:
1. 12 x 12 inch square samples of each color modified, bituminous, mineral-surface cap sheets to be exposed as finished roof surface.

D. Installer Certification: Submit written certification from manufacturer of modified bituminous sheet roofing system certifying that Installer has completed training sponsored by the roof membrane manufacturer and is approved by manufacturer to install specified roofing system. Provide copy of certification to Architect before award of roofing work.

E. Submit the manufacturer's certification that the insulated deck assembly complies with FM 4450 and UL 1256 and does not require a thermal barrier. Certify that insulation is acceptable to the roof membrane manufacturer.

F. Shop drawings showing roof configuration, sheet layout, seam locations, colors (as applicable), details at perimeter, and special conditions.
1. Indicate layout of tapered insulation materials.

G. Pre-roofing conference records.

H. Test data for pullout resistance of fastening systems.

I. Certifications.
   1. Materials comply with local VOC limitations
   2. Laboratory analysis and certification that asphalt meets specifications for, but not limited to, content, purity, and characteristics
   3. Laboratory analysis and certification that all product containing asphalt including base sheet and cap sheet, meet specifications for but not limited to content, purity, and characteristics
   4. Submit certification from manufacturer that the roof system manufacturer does not market the specified roof system or materials as commodity items.

J. Test Cut Report: During roof installation, each week, submit copy of each daily Test Cut Report to the Architect for the previous week's installation.

K. Asbestos Content: Submit certification that roofing materials and components are substantially asbestos-free (Less than 1%).

L. Fasteners: Certify that fasteners comply with FM Standard 4450 for corrosion resistance.

M. Special Cold Weather Instructions: Submit manufacturer's special cold weather installation instructions.

N. DELETED

O. DELETED

P. DELETED

Q. DELETED

R. DELETED

S. Letter from the proposed primary roofing manufacturer confirming that a phased roof application, with only the modified bitumen base ply in place for a period of up to 10 weeks, is acceptable and approved for this project.

T. DELETED

U. DELETED

V. DELETED

X. Warranty: With shop drawings, submit copy of the warranty that will be provided to the Owner at project closeout. The submitted warranty shall include the warranty provisions listed in these specifications. Shop drawings and submittals without this warranty will not be reviewed and will not be reviewed until proper warranty has been submitted. Warranties without the specified provisions will result in rejection of the submitted roof system and the submittal of a conforming roof system.

Y. With the shop drawing submittal, submit a letter from the roof membrane manufacturer stating that the manufacturer's technical representative, not sales representative, will perform the inspections specified in this specification or stating the membrane manufacturer's technical representative will not perform the inspections specified in this specification.

1.6 QUALITY ASSURANCE

A. Product Substitutes: Substitutes for specified products will only be considered during the bidding phase and the requests for substitutes shall be in accordance with the Request For Substitute Form bound in this manual. All substitutes shall meet all of the minimum performance criteria of the specified product. Submittals shall list performance criteria of the substitute product next to the applicable performance criteria of the specified product. Performance criteria shall be in the same units of measure using the same test methods as listed for the specified product. Where performance criteria are not listed in the specifications, comply with the specified product manufacturer's published data for performance criteria. Submittals not meeting these requirements are not acceptable.

B. Manufacturer Qualifications: Obtain primary products, including each type of roofing sheet, bitumen, membrane flashings, and vapor retarder (if any), from a single manufacturer. Provide secondary products as recommended by manufacturer of primary products for use with roofing system specified.
1. Roof system manufacturer shall have roof systems of the type specified currently in service for at least as long as the specified warranty period.
2. DELETED
3. DELETED

C. Installer Qualifications Criteria: As an absolute minimum, all roofing contractors/installers shall meet the following criteria and shall acknowledge compliance by completing the Roofing Contractor's Certification Statement at the end of this specification and including it with the Bid. Qualification Criteria includes, but is not limited to:

1. Be a roofing contractor with 7 continuous years experience specializing in the specified roofing system.

2 Have operated under the same name for at least 5 years.

3. Be certified by the roofing system manufacturer prior to date of advertisement for bids. Provide copy of certification for Architect prior to awarding roofing work. Obtain written certification from manufacturer of roofing system certifying that Installer is approved by manufacturer to install specified roofing system. Provide copy of certification for Architect prior to awarding roofing work. Installer shall have been trained, qualified, certified, and approved by the manufacturer prior to the date of Advertisement or Invitation for Bids for this project.

4. Presently have the staff and equipment on board to perform the contracted work.

5. Have not been refused a bond in the last 5 years

6. Be able to self-perform all work described under this contract with own employees without sub-contracting. For the purpose of this Contract, the installers own employees are considered employees for which the installer contributes directly to and is directly financially responsible for the following employment expenses:
   a. All Federal, State and Local Taxes
   b. Social Security
   c. Insurance
   d. Workers Compensation
   e. Holidays
   f. Vacations
   g. Sick Time
   h. Retirement

7. Never have had a roofing system manufacturer's certification revoked because of unsatisfactory performance?

8. Have completed at least 80% of projects on time and under budget

9. Be able to respond within 24 hours of notification by the Owner.

10. Completed at least 5 projects of comparable size and complexity within the last year.

11. Have not, under this name or any other name, ever filed for protection under either Chapter 7 or 11 of the US Bankruptcy Laws within last 7 years.

12. Be able to prepare satisfactory and acceptable shop drawings.

13. Have verifiable means to provide necessary funds to honor contractor's 2-year warranty.

14. Be able to maintain a full-time non-working supervisor/foreman on the job site during times that roofing work is in progress and who is experienced in installing roofing systems similar to type and scope required for this Project. This person shall be fluent in English.

15. Be able to maintain a full-time supervisor/foreman who is on job site during times that roofing work is in progress and who is experienced in installing roofing systems similar to type and scope required for this Project.

16. The subcontractor that is contractually bound to the General Contractor shall not act as a broker, shall perform all work with it own labor forces, and shall not subcontract any portion of the Work to another entity.

D. Certifications

1. Insulation: Submit certification from the insulation manufacturer that insulation is suitable for intended use, is suitable for direct applications over a metal roof deck, and meets the following approvals:
   a. Federal Specification HH-I-1972/GEN and HH-I-1972/2, Class 1
   b. FM Standard 4450/4470
   c. UL Standard 1256
   d. Manufacturer's Certification that insulation meet specified compressive strength.
2. Installer Certification: Submit written certification from manufacturer of modified bituminous sheet roofing system certifying that Installer has completed training sponsored by the roof membrane manufacturer and is approved by manufacturer to install specified roofing system. Provide copy of certification to Architect before award of roofing work.
3. Submit the manufacturer's certification that the insulated deck assembly complies with FM 4450 and UL 1256 and does not require a thermal barrier. Certify that insulation is acceptable to the roof membrane manufacturer.
4. Fasteners:
   a. Pull Out: Test data for pullout resistance of fastening systems.
   b. Certify that fasteners comply with FM Standard 4450 for corrosion resistance.
   c. **Contractor shall be responsible for performing pull out tests.**
5. VOC Limits: Certification that materials comply with local VOC limitations.
6. Asbestos Content: Submit certification that roofing materials and components are substantially asbestos-free (less than 1%).
7. Certification that all provisions and requirements stated in the manufacturer's instructions and project roofing specifications have been reviewed with the roofing foreman and crew that will perform the work prior to the pre-roofing conference.
8. Insurance Certification: Assist Owner in preparing and submitting roof installation acceptance certification as necessary in connection with fire and extended-coverage insurance on roofing and associated work.

E. UL Listing: Provide roofing system and component materials that have been tested for application and slopes indicated and that are listed by UL for Class A external fire exposure.

1. Provide roof-covering materials bearing UL Classification Marking on bundle, package, or container indicating that materials have been produced under UL's Classification and Follow-up Service.
2. Provide roofing system that can be installed to comply with UL requirements for Fire Classified and Class 90 uplift resistance requirements.

F. UL and FM Listing:
1. Provide labeled materials that have been tested and listed by UL in "Building Materials Directory" and in FM Approval Guide or by other nationally recognized testing laboratory for Class A rated materials/system.
2. When specified, provide labeled materials that have been tested and listed by in FM Approval Guide or by other nationally recognized testing laboratory for Class A rated materials/system.

3. Provide factory attached UL and FM labels on all products and materials that have been specified to be produced under these labels. Products and materials without these labels will not be accepted.

4. Provide roofing system and component materials that have been evaluated by FM System for fire spread, uplift resistance, and hail damage and are listed in "Factory Mutual Approval Guide" for Class I construction.

5. Provide roof covering materials bearing FM approval marking on bundle, package, or container, indicating that material has been subjected to FM's examination and follow-up inspection service.

G. Provide only flashings, including roof edges, copings, fascia, clips, and retainer pieces that have been designed, fabricated installed, and satisfactorily tested as a system to comply with the following standards, test methods, and requirements:
   1. FM requirements for specified Wind Uplift Classification. Submit certificate of Compliance.
   2. ANSI/SPRI-ES-1 for specified wind uplift. All sheet metal edge fabrications provided for this project shall comply with and meet all requirements for design, testing, and installation of the sheet metal. Submit Certification that all edge sheet metal to be supplied for this project has been designed and tested to specified wind loads and that the fabricator and installer meet the applicable ANSI/SPRI ES-1 requirements for fabrication and installation.
   3. ANSI/ASCE-7-02

H. Preliminary Roofing Conference: As soon as possible after award of modified bitumen sheet roofing work, meet with Installer (Roofer), installers of substrate construction (roof decks) and other work adjoining roof system including penetrating work and roof accessories, Architect, Owner, and representatives of other entities directly concerned with performance of roofing system including (as applicable) Owner's insurers and test agencies.

   1. Review requirements (Contract Documents), submittals, status of coordinating work, availability of materials, and installation facilities and establish preliminary installation schedule. Review requirements for inspections, testing, certifications, forecasted weather conditions, governing regulations, insurance requirements, and proposed installation procedures.
   2. Discuss roofing system protection requirements for construction period extending beyond roofing installation. Discuss possible need for temporary roofing.
   3. Record discussion, including agreement or disagreement on matters of significance; furnish copy of recorded discussions to each participant. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

I. Preapplication Roofing Conference: Approximately 2 weeks before scheduled commencement of modified bitumen sheet roofing installation and associated work, meet at Project site with Installer, installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in and around

roofing that must precede or follow roofing work (including mechanical work if any), Architect, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, test agencies, and governing authorities.

1. Review foreseeable methods and procedures related to roofing work, including but not necessarily limited to the following:

    a. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations, and other preparatory work performed by other trades.
    b. Review structural loading limitations of steel deck and inspect deck for loss of flatness and for required mechanical fastening.
    c. Review roofing system requirements (drawings, specifications, and other contract documents).
    d. Review required submittals, both completed and yet to be completed.
    e. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    f. Review required inspection, testing, certifying, and material usage accounting procedures.
    g. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).
    h. Review procedures and capabilities for staging materials to be installed to eliminate the need to move materials from the staging point to the point of installation. Transversing completed roofing is not recommended and shall only be done when materials cannot be stage in a way or location to prevent it.

2. Record (Contractor) discussions of conference, including decisions and agreements (or disagreements) reached, and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.

J. Inspections

1. Periodic Inspections By Manufacturer's Representative: A technical representative (not a sales representative) of the roof system manufacturer shall make periodic visits to the site to inspect all roof system that is in-place and that is being installed. The Contractor shall ensure that the Manufacturer's representative has a copy of the project specifications, including all modifications prior to the representative making a visit. As a minimum, this representative shall:
    a. Be on-site at startup to ensure that the roofing contractor fully understands the roofing system being installed, the specifications, and the manufacturer's requirements.
    b Make at least a bi-weekly inspections during installation.

c. Inspect not only for compliance with the manufacturer's requirements but also for compliance with the project specifications where specification requirements are more stringent than the manufacture's requirements.
   1). At the completion of the warranty inspection and after all roof punch list items have been corrected and the roof is acceptable for the specified warranty, the manufacturer's technical representative shall issue a report certifying that the roof has been installed in compliance with the manufacturer's requirements and with the specifications. If the technical representative will not comply with this provision, the Owner will contract with a third party inspector to conduct an applicable inspection and issue the required certification. The cost of this inspection will be deducted from the Contract Sum.

d. Report all deviations from both manufacturer's requirements and from the specifications and defective work.

e. Submit a record of each visit and a copy of each inspection report to the Architect within 2 days of the visit. Telephone reports shall be followed up in writing. Failure to submit copies of each required inspection may be interpreted as having not competed the inspections, the manufacturer being in non-compliance with roof membrane manufacturer's requirements, and the roof membrane manufacturer being excluded from future specifications.

f. If the roofing crew continues to repeat the same installation error or errors after having been reminded of that error twice, then the General Contractor may be requested require that the roofing contractor replace that roofing crew.

g. After warranty inspection has been made and the roof system has been declared satisfactory, issue a letter that the roof system has been installed according to the manufacturers requirements and to these specifications.

2. Third Party Representative: If, for any reason, the roof membrane manufacturer's technical representative fails to comply with the specified inspection provisions and requirements in this section of the specifications, the Owner reserves the right to retain a qualified independent registered roof consultant to conduct inspections. The cost of such inspections shall be deducted from the Contract sum.

3. Infrared and Thermal Imaging Inspection: If the Owner or Architect suspect that damp or wet materials were installed or improper installation procedures were used, a non-destruct infrared thermal imaging moisture inspection and survey will be requested by Owner for the suspected areas or any other portion of the completed roof. If the inspection reveals damp or wet materials in any area inspected, the roofing installer shall replace all wet materials with dry materials, leave completed roofing in a dry and watertight condition, and pay for costs of this testing including areas found to be dry and acceptable and for all subsequent infrared testing and other related or required tests and material replacement until

all tests indicate that the entire roof system is dry. If initial tests reveal dry materials, the Owner will pay for the cost of testing. However, if tests, that are made after initial tests reveal moisture, the roof installer shall pay for the cost of those tests and subsequent tests and for removing wet materials and replacing with dry materials until the roof declared dry. These tests can be requested to be performed during roof construction or after the building is in the dry and the interior is acclimated to normal HVAC operating conditions. Costs for this inspection will be as submitted under Unit Prices.

Should infrared inspection indicate moisture, samples from the suspected area may be removed and tested for actual moisture content using oven loss method for insulation, and Dean and Stark method for the membrane. Moisture contents shall not exceed levels recommended by NRCA. If there are no recommended NRCA levels, then the following moisture levels shall govern:

a). Roof membrane: 0.2 percent moisture (excluding aggregate surfacing)
b). Polyisocyanurate insulation: 9 percent
c). Fiberglass insulation: 3 percent
d). Perlite insulation: 3 percent

4. Random Inspections: The Owner may, at any time during roof installation, randomly remove samples of the installed roof system for testing by an independent testing laboratory, as selected by the Owner to ensure material and installation compliance with these specifications. If said testing indicates that the roof system complies with the specifications, then the Owner will be responsible for the costs of this testing. If tests indicate non-compliance with the specifications, all non-compliant or suspected non-compliant roofing shall be removed and replaced with a compliant roof system. The contractor shall be responsible for all costs related to this testing, roof replacement and subsequent testing, including costs by the Architect and roof consultants.

5. Architect's Periodic Observations: The Architect will make periodic observations of the roof system during installation in accordance with the General Conditions of the Contract. The roof installer will be cautioned three times regarding insulation that is not properly installed, the presence of fish mouths, open seams, dry seams, excessive asphalt run out, embedded trash, and any other unacceptable imperfections. The first caution will be during the pre-roofing conference. During the periodic observations by the Architect or by the Contractor, if these or other imperfections deemed unacceptable by the Architect or Contractor occur after the third and subsequent cautions, all roofing installed between the third and subsequent cautions will be removed from the project site and replaced with acceptable roofing at the installer's expense. The roof installer will be required to maintain all established schedules regardless of the amount of roof system

removed or the frequency of removal. Additionally, any unacceptable portion of the roof system removed at the request of a third party inspector will be at the roof installer's expense and without extension of established schedules. If the roof installer is required to remove portions of installed roof system more than twice, the Owner will be advised to request termination of that unacceptable roof installer's contract and replace the unacceptable roof installer with an acceptable roof installer at no additional cost to the Owner or extension of Contract Time.

K. Substitute Requests For A Specified Entity

1. Provisions, requirements, and stipulations stated under this paragraph of this specification apply not only to this specification, but they also apply to all other specifications that are included in the project manual, on the drawings or are otherwise a part of the Contract Documents even if not so stated in these documents. Information requested under this paragraph heading is the minimum required information for consideration and evaluation and additional information may be requested. This information is required in addition to information required by any substitute request forms that may be included in the Project Manual or Contract Documents, or otherwise provided.

2. Where the Contract Documents list at least three entities (products, materials, components, systems, manufacturers, installers, methods, etc.), the Architect reserves the option to reject any and all requests for a substitute. Where the Contract Documents list only one entity without "Or equal" or similar language, substitutes will not be considered. Where the Contract Documents list less than 3 entities, substitutes may be reviewed and evaluated on an individual base.

3. Include the following information on the cover page of the request:
   a. Name of Project and project number as shown in the header of the specification
   b. Date request is being made.
   c. Name of person, company, and contact information of person requesting substitute.
   d. Specification title and number and drawing number where the specified product is listed or shown.
   e. Exact name of the specified entity and substitute entity. .

4. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.

5. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers ("Better". "Cheaper". "More competitive", etc.); that lack supporting data to substantiate equal or superior

quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.

a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

6. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
   b. Whether the manufacturer operated under any other name, and if so, under what name and when?
   c. Length of time the substitute entity has been on the market.
   d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
   e. Who will install and service the substitute entity?
   f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
   g. All required changes in the project design that will be required to incorporate the substitute entity.
   h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The Owner reserves the right to take samples of the base ply, interply, surrface ply, and flashing material for testing to verify compliance with the material physical properties specified.
   a. The cost of materials testing will be by Owner.
   b. If any of the tested materials fail to comply with the physical properties specified, the roofing system shall be removed and replaced with new roofing system, consisting of materials meeting the physical properties specified, at no additional cost to the Owner.

8. Submittal of Equals: Materials submitted for consideration 'as equal' shall provide all of the manufacturer certificates and quality control documents required by the specifications. In addition to the documents signed by the Roofing Manufacturer Director of Technical Services, **ALL** criteria must be met and certified by the independent testing laboratories. The following independent testing laboratories affidavits/test results shall accompany any submittals for consideration as equals.

   Structural Research Inc.
   Attn: Rene Dupuis
   3207 Laura Lane
   Middleton, WI 53562
   (608) 831-5333

   PRI Asphalt Technologies
   Attn: Don Portfolio
   6400 Bolger Dr.

Tampa, FL 33610
(813) 621-5777

9. The manufacturer's published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity hat meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.

10. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
    a. All substitutes shall meet all of the minimum performance criteria of the specified entity.
    b. Submit certified data provided by an independent testing laboratory.
    c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item the substitute item.
    d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.
    e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer's published data for performance criteria.
    f. Where the specified entity requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

11. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected.
    a. That the specifications have been read and are understood,
    b. That the entity being submitted meets or exceeds all provisions of the specifications,
    c. That all submitted information is true and accurate,
    d. Will remove the substitute entity and replace it with an acceptable product, at his expense, if it is determined that the substitute does not meet the specifications as certified.
    e. Agrees to pay for all necessary design changes and increased construction costs to incorporate the substitute entity.

L. Progress:
    1. The roof installer shall take all necessary steps to ensure that continuous and uninterrupted progress is made in the designated areas regarding the respective established completion dates as agreed to during the pre-installation meeting.

2. The roof installer shall ensure that all materials, supplies, labor, and equipment are accounted for and onsite ready for immediate use and that equipment is operating properly.
3. The roof installer shall be on site and performing roofing installation as long as weather conditions are within the specified parameters and the designated areas are in an acceptable condition to receive the roofing system.
4. Roof installation shall not cease without just cause. Lack of materials, supplies, labor, equipment, or broken equipment are not just cause.
5 If work is to be ceased, permission shall be requested from the General Contractor at least 72 hours prior to time of work stoppage. Work shall not stop without the Contractor's written permission.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store and handle roofing sheets in a dry, well-ventilated, weathertight place to ensure no possibility of significant moisture pickup. Store rolls of felt and other sheet materials on end on pallets or other raised surface. Do not cover materials with plastic tarpaulins. Cover materials only with canvas. All products whose covers have condensation on the inside shall be tagged as wet and immediately removed from the job site.
   1. Make all necessary provisions to ensure that all SBS materials at stored at the minimum temperature recommended by the manufacturer. If a minimum temperature is not recommended, then store at 50 deg. F minimum.

B. Do not leave unused felts and other sheet materials on the roof overnight or when roofing work is not in progress unless protected from weather or other moisture sources.

C. Handle and store materials or equipment in a manner to avoid significant or permanent deflection of deck.

D. Mark wet or moist materials and immediately remove them, permanently, from the site.

E. Materials that have any sign of condensation on the inside of the manufacturer's plastic wrapping shall be identified, marked as WET, and immediately and permanently removed from the site.

F. Material Handling Equipment: Carts, wagons, dollies, and other carriers that are used on the roof to move materials shall be equipped with large, wide, inflatable rubber tires. Tires shall be kept inflated to stated pressure at all times.

G. Verify the maximum load that the roof structure will support. Do not stage materials on the roof in such a way the concentrated loads of the staged materials exceed structural design.

H. Stage materials in such a way that the workman do not have to cross finished roof when moving materials from the staging area to the point of application.

I. The roofing contractor shall maintain, on site and readily available, a sufficient supply of tarps and covers to completely cover and seal the largest area of the existing roof that is expected to be open at any given time or new roof to be laid out. Tarps and covers shall be in good condition without holes and of sizes and configuration to prevent water penetration into the structure.

J. The contractor shall protect the existing roof at all times during roofing operations. Protect the membrane with specified temporary walkway boards.

K. Materials that may absorb moisture and are staged on earth or over concrete that is not in a conditioned space shall be staged over plastic sheet that is free of holes and tears. Such materials include, but are not limited to, insulation, membrane, base sheet, strip flashing, roofing cement, etc.

1.8 PROJECT CONDITIONS

A. Do not perform roofing operations during precipitation or within 6 hours of forecasted precipitation.

B. Cleanup requirements to be performed by the roofing contractor are specified in Part 3 of this section of the Specifications. If the roofing contractor fails to comply with these cleanup requirements, then the Contractor may arrange for the required cleanup to be performed by others, and the roofing contractor will be responsible for the cost of this cleanup.

C. Substrate Conditions: Do not begin roofing installation until substrates have been inspected and are determined to be in satisfactory condition.

D. Do not remove any portion of the existing roof during precipitation or if precipitation is forecasted within the next 6 hours.

E. The Work will require a tie-in to the existing roof system. The tie-in shall be complete and be compatible with the existing system. The water-tight integrity of the roofing system shall be preserved and maintained at all times during the construction. The Contractor shall be financially responsible for all damage and its repair, including consequential and co-lateral, that result from the failure to maintain watertightness of the roof.

F. The existing roof is still under the manufacturer's warranty. If tie-ins are made with materials that are by a manufacturer other than the manufacturer of the existing roof system, then the-tie ins shall be done with materials and in a manner acceptable to the existing and new roof system manufacturers and will not diminish or void the existing warranty. The new and existing roof systems shall be separated with a raised roof divider.

G. There will be areas under the existing roof will be occupied at all times. All possible precautions shall be use to maintain the watertightness of the roof and structure during this work. No more of the existing roof shall be opened than can be covered in the same day or before inclement weather sets in. The roofing contractor shall be responsible for all damage to

the structure and its contents that result from water damage as a consequence of performing these operations.

H. Cold Weather Roofing:

1. Comply with membrane manufacturer's instructions for cold-weather application and with more stringent requirements specified in this specification.
2. Do not conduct roofing operations that require asphalt application when ambient temperature or wind chill temperatures are 50 deg. F or less or are 55 deg. F and falling.

1.9 SEQUENCING AND SCHEDULING

A. Sequence installation of modified bituminous sheet roofing with related units of Work specified in other Sections to ensure that roof assemblies, including roof accessories, flashing, trim, and joint sealers, are protected against damage from effects of weather, corrosion, and adjacent construction activity.

B. Roof installation shall be scheduled, sequenced, and coordinated so that newly installed membrane is not traversed when moving materials from the staging area to the point of installation.

1.10 WARRANTY

A. Contractor's 2 Year Warranty:

1. By executing this section of the specifications, the Roofing Contractor agrees to warrant to the Owner that the roofing system will remain watertight and free of other defects for a period of 2 years following substantial completion of Work.

2. Under terms of Roofing Contractor's warranty and at no expense to the Owner, the Roofing Contractor shall repair defects in roofing system during warranty period.

3. Upon receipt of notification by Owner, the Roofing Contractor shall commence repair operations within 48 hours, unless directed otherwise by Owner. When weather or other conditions do not permit such work to be done immediately, Contractor shall provide temporary protection, as required, to prevent water damage to buildings and contents. Temporary emergency repairs employed by Owner to protect his property until Roofing Contractor is able to make repairs shall not void Contractor's warranty or the manufacturer's guarantee, nor reduce the obligations of Contractor.

B. Inspections by Roofing Contractor:

1. Inspect roofing system at 6 month intervals during 2-year warranty period.

2. Make final inspection during last month of warranty period.

3. Make inspections in presence of Owner's representative.

4. Notify Owner 10 days in advance of inspection date.

C. Manufacturer's Warranty: Submit executed copy of SBS membrane manufacturer's No Dollar Limit Service Warranty agreement including flashing endorsement, signed by an authorized representative of manufacturer. Provide form that was published with product literature as of date of Contract Documents.
   1. MANUFACTURER'S WARRANTY SHALL NOT REQUIRE THE OWNER'S SIGNATURE TO BECOME EFFECTIVE. WARRANTIES THAT REQUIRE THE OWNER'S SIGNATURE ARE NOT ACCEPTABLE AND WILL BE REJECTED.

D. Warranty Period: 20 years from date of Substantial Completion.

E. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

   1. The manufacturer of roofing membrane shall provide a full labor and materials no-dollar-limit written roof membrane system warranty covering defects in materials, workmanship, and rigid insulation components for the specified warranty period after Owner's acceptance of the roof. The guarantee shall provide for prompt repair or replacement of defective work reported within this period, (at no cost to Owner.) Leaks or blow-off occurring during normal weather conditions and weather conditions within the parameters of a specified wind uplift, may be considered evidence of faulty workmanship or materials. Corrective action required by the guarantee is not limited to repair of leaks or blow-off, but also includes repair or replacement where work is obviously defective, even though leaks may not have occurred. Guarantee shall have a provision that the insulation will retain at least 80 percent of its advertised thermal resistance. If warranty is not a No-Dollar Limit Warranty, then costs for repair and replacement under this warranty shall not be based on unit prices. Instead, costs shall be for full labor and materials up to the total value for the installed cost of the roof.

   2. Under terms of the guarantee, begin repair or replacement within 48 hours of receiving notification of roof leaks or defective work, weather permitting. When weather or other conditions do not permit such work to be accomplished immediately, the Roofing Contractor shall provide temporary protection as required to prevent water damage to buildings and contents. Temporary emergency repairs that may be employed by the Owner to protect his property shall not void the roofing manufacturer's guarantee nor in any way reduce obligations required by the guarantee or the Contractor.

   3. Insofar as practical, components of the roofing system, including membrane and flashing, shall be the products of the same manufacturer, and materials shall bear the manufacturers' labels. Items not the products of the approved membrane manufacturer shall be identified as to manufacturer and source, and the approved membrane

manufacturer shall give written certification that such items are acceptable and applicable for intended uses on this project.

4. Prior to the beginning of roofing work on any structure, the roofing membrane manufacturer shall provide written certification that the intended roofing is suitable for locations and intended building use.

5. Guarantee shall state name of project, location, name or Owner, name of Applicator, and date of final acceptance.

F. Special Project Warranty: Submit two executed copies of standard 2-year Roofing Warranty on form included at end of this Section, covering work of this section including roofing membrane, membrane flashing, roof insulation, any vapor retarders, and roofing accessories, signed and countersigned by Installer (Roofer) and Contractor.

G. Manufacturer's Warranty: Submit executed copy of roofing manufacturer's standard Limited Service Warranty agreement including flashing endorsement, signed by an authorized representative of modified bitumen sheet roofing system manufacturer, on form that was published with product literature as of date of Contract Documents, for the specified warranty period.

1.11. DESIGN CRITERIA

A. Wind Uplift: FM I-90

B. Fire Resistance: FM Class 1; UL Class A

C. Construction: FM Bulletin 1-28, Class 1

D. Thermal: As indicated.

E. Drainage Requirements

1. The roof shall have sufficient drainage to ensure that there are no signs of ponding or standing water 48 hours after a rain. If this provision is more severe than the drainage requirements of the membrane manufacturer, then this provision shall prevail. All drainage shall be towards roof drains and gutters as applicable. Drainage shall be achieved by the structure or tapered insulation, as indicated on the Drawings and as specified, to ensure that required slope is achieved and the roof meets drainage requirements.
2. The installed roof deck shall not have any deflections that exceed 1 inch in 10 feet. The General Contractor shall report, to the Architect, all suspicious areas in the roof deck that may contribute to ponding or standing water.
3. Prior to applying the cap sheet and immediately after a measurable rainfall or after flooding the roof, the roofing contractor, in the presence of the Owner, the Architect, and the Contractor, shall check for positive drainage. All areas with ponding or standing water that measure ½ inch deep or deeper in 10 feet shall be marked and corrected

according to the roof membrane manufacturer's instructions. After corrections have been made, the corrected areas shall be tested again as previously described.

F. Slope: 1/4 inch per foot unless specified or indicated otherwise.

G. Seismic Provisions

1. Where roof curbs, roof accessories, and all other roof components are installed in roof systems that are located geographic locations that require special seismic provisions, comply with all applicable seismic requirements as stipulated applicable model codes and by the local governing authorities. Required flashing shall conform to the manufacturer's instructions and requirements to comply with the specified warranty.

2. Seismic isolators and view ports that comply with the seismic requirements in accordance with seismic class, as stipulated in applicable edition of IBC, for the project location may be required for this project. Ensure the curb height is adjusted as required to accommodate the seismic isolators and view ports and to meet the roof membrane manufacturer's requirements for the specified warranty. Coordinate with mechanical, equipment support manufacturer, and roof membrane manufacturer.

PART 2 - PRODUCTS

2.1 ROOF INSULATION

A. Top Layer: Fiberboard, 1/2 inch thick, complying with ASTM C728 with R value of 1.25. Provide manufacturer's standard sizes. Provide factory-installed UL and FM labels on insulation.

B. Rigid boards of closed cell polyisocyanurate-based foam core, permanently bonded to fiberglass facer sheets on both sides. Facers containing cellulose are not acceptable. Provide in thickness indicated with minimum aged R-value of 5.36 per inch, when conditioned per ASTM C518, RIC/TIMA Bulletin No. 281-1. Insulation shall lay flat, even, and smooth without curling or blistering and be acceptable by FM for use over steel roof deck without a thermal barrier, will not buckle or bow if exposed to temperatures of 165 deg. F. Provide factory-installed UL and FM labels on insulation. Manufacturer shall certify in writing that insulation complies with the following listed. Acceptable products are Hunter H-shield-CG, Atlas Energy AC Foam-II, Johns Manville Energy 3, Firestone ISO 95, GAF Energy Guard, or a reviewed substitute by R-Max.

1. Dimensions: 4 ft. x 4 ft.
2. Board Thickness: Two layers at two inches thick each layer (4" total).
3. Compressive Strength: 25 psi. per ASTM D1621
4. Density: 2.1 pcf per ASTM D1622
5. Dimensional Stability: 2 percent maximum linear change when conditioned at 158 deg. F. and 97 percent relative humidity for seven days. Per ASTM D2126.
6. Water Absorption: Less than 1 percent per ASTM C209.
7. Moisture Vapor Transmission: Less than 1 per, per ASTM E96.

8. Curing Time: 24 hours minimum, plus a minimum of 24 hours per inch of thickness at a minimum of 60 deg. F. prior to shipping from the manufacturer.
9. Cupping or Bowing: None
10. Edge Cavitation: None. Edges of boards shall be straight and smooth without concave depressions.
11. Facer Sheets: Fully attached to the insulation with no signs of delamination.
12 Warranty: Published and written warranty that the insulation will retain it's aged advertised R-value for 20 years. Submit sample with roofing submittals.
13. Type II, Class II, Grade 3 per ASTM C1289.
14. FM Standard 4450/4470 and 4880 for FM Class 1.
15. Must also meet UL Standard 1256.

C. Tapered Insulation: As recommended by the roof membrane manufacturer to achieve the required slope and that is compatible with the roofing system and the other insulation.

2.2 MODIFIED BITUMINOUS SHEET ROOFING SYSTEM

THE SPECIFIED ROOF SYSTEM AND MATERIALS SHALL NOT BE MARKETED OR CONSIDERED AS COMMODITY ITEMS.

A. System: Paradine 20/30 FR Class A by Siplast or one of the following manufacturers/systems:
1. Johns Manville: DynaBase®/DynaGlas® with DynaClad® aluminum base flashings
2. Firestone Building Products (FBP): SBS Base/SBS FR cap sheet with SBS Metal Flash-AL Base Flashings
3. GAF: Ruberoid®20 Base/MOP-170 FR with Ultraclad® SBS aluminum foil faced base flashings

B. System shall consist of a dual reinforced cap sheet or dual reinforced base sheet. All other substitutes shall substantially comply with all of the warranty and the following published Performance Criteria and requirements. These Performance Criteria submittals shall include a sample warranty to be issued and the listed Performance Criteria with both the specified Performance Criteria and the Performance Criteria of the substitute item listed in side-by-side tabular form. Submitted Performance Criteria that is not published and does not list the same test methods or standards, and does not list the same unit of measure as specified will not be considered.

PROPERTY	VALUE/UNITS		TEST METHOD
	Base Sheet	Cap Sheet	
Thickness excluding granule (Min.)	87 mils	NA	ASTM D5147 (Sect. 5)

Thickness(Ave) excluding granule	91 mils	130 mils	ASTM D5147 (Sect. 5)
Thickness at Selvage excluding granule Minimum Average	NA	 94 mils 98 mils	ASTM D5147 (Sect. 5)
Maximum Load @ 73 deg F (AVE)	30 lbf/inch	30 lbf/inch	ASTM D5147 (Sect. 6)
Maximum Load @ 0 deg. F (AVE)	70 lbf/inch	75 lbf/inch	ASTM D5147 (Sect. 6)
Elongation @ Maximum Load @ 73 F (AVE)	3%	3%	ASTM D5147 (Sect. 6)
Elongation @ Maximum Load @ 0 F (AVE)	3%	3%	ASTM D5147 (Sect. 6)
Elongation @ 5% Maximum Load @ 73 F (AVE)	50%	55%	ASTM D5147 (Sect. 6)
Tear Strength (Ave.)	40 lbf	40 lbf	ASTM D5147 (Sect. 7)
Water Absorption (Max.)	1%	1%	ASTM D5147 (Sect. 9)
Dimensional Stability (Max)	0.1%	0.1%	ASTM D5147 (Sect. 10)
Low Temp. Flexibility (Max.)	-13 deg. F	-13 deg.	ASTM D5147 (Sect. 11)
High Temp. Stability (Min.)	250 deg. F	250 deg. F	ASTM D5147 (Sect. 15)
Granule Embedment (measured on edge excluding granule surfacing Max. Ave. Loss Max. Individual Loss	NA	 1.5 grams/sample 2.0 grams/sample	ASTM D5147 (Sect. 14)

C. Materials

1. Base Sheet: Styrene Butadiene Styrene (SBS)-modified bitumen glass fiber reinforced base sheet with a minimum weight of 60 lb/square as provided by the roof membrane manufacturer.
   a. Siplast Paradiene 20
   b. Johns Manville DynaBase,
   c. Firestone SBS Base
   d. GAF: Rubberoid 20 Base

2. Cap Sheet: Styrene Butadiene Styrene (SBS)-modified asphalt sheets with continuous layer of mineral granules factory-applied to top exposed surface; 90 lbs/square minimum weight.
   a. Siplast Paradiene 30FR
   b. Johns Manville DynaGlas FR
   c. Firestone SBS FR.
   d. GAF: MOP-170FR.

3. Cold Adhesive: Low VOC Asphalt cutback adhesive containing non-asbestos fibers and special bond enhancing modifiers. PA-311M, by Siplast. Application rate should be verified with the Manufacturer for the Base and Cap Sheet. Adhesive shall set sufficiently fast so as to not impeded installation or normal roofing installations activities, or cause the membrane to slip or otherwise to be displaced during hot weather installation but still retain the required adhesion to meet uplift requirements. Curing/drying/setting/adhesion problems mentioned by the installer shall be promptly addressed and resolved by the roof membrane manufacturer.

4. Flashing
   a. Base Flashing: P20 base sheet by Siplast. Fiberglass reinforcing; polyester not acceptable.
   b. Aluminum Flashing: Flashing by one of the following manufacturers shall have the scheduled properties. Fiberglass reinforcing; polyester not acceptable.
      - Siplast Veral
      - Johns Manville DynaClad
      - Firestone SBS Metal Flash-AL
      - GAF Ultra Clad SBS

PROPERTY	VALUE/UNITS	TEST METHOD
Thickness (Min.)	138 mils	ASTM D5147 (Sect. 5)
Thickness (Ave)	142 mils	ASTM D5147 (Sect. 5)
Maximum Load @ 73 deg F (AVE)	85 lbf/inch	ASTM D5147 (Sect. 6)
Maximum Load @ 0 deg. F (AVE)	180 lbf/inch	ASTM D5147 (Sect. 6)
Elongation @ Maximum Load @ 73 F (AVE)	5%	ASTM D5147 (Sect. 6)
Elongation @ Maximum Load @ 0 F (AVE)	4%	ASTM D5147 (Sect. 6)
Elongation @ 5% Maximum Load @ 73 F (AVE)	45%	ASTM D5147 (Sect. 6)
Tear Strength (Ave.)	120 lbf	ASTM D5147 (Sect. 7)
Water Absorption (Max.)	1%	ASTM D5147 (Sect. 9)
Dimensional Stability (Max)	0.2%	ASTM D5147 (Sect. 10)
Low Temp. Flexibility (Max.)	0 deg. F	ASTM D5147 (Sect. 11)
High Temp. Stability (Min.)	225 deg. F	ASTM D5147 (Sect. 15)
Coating Thickness (back surf)	40 mils	ASTM D5147 (Sect. 16)
Thermal Shock Resistance (max)		ASTM D6298

2.3 MISCELLANEOUS MATERIALS

A. Tapered Edge Strips: Rigid perlite board, ASTM C 728, 18 inches wide.

B. Substrate Joint Tape: 6 or 8 inch (150 or 200 mm) wide, coated, glass-fiber joint tape.

C. Mastic Sealant: Polyisobutylene (plain or bituminous modified), nonhardening, nonmigrating, nonskinning, and nondrying.

D. Fasteners: Insulation fasteners and plates shall be FM Approved, and/or approved by the manufacturer of the primary roofing products. The insulation fasteners shall provide attachment required to meet the specified uplift performance and to restrain the insulation panels against the potential for ridging, etc. The fastening pattern for each insulation panel to be used shall be as recommended by the insulation manufacturer and approved by the manufacturer of the primary roofing products. Screw or plastic plate type, complying with FM 4450 for corrosion resistance, FM approved for the specified wind uplift classification, provided by the panel manufacturer, and acceptable to the insulation manufacturer. Provide in a length to penetrate all layers of the insulation and then penetrate the top flute of the metal deck by 3/4 inch maximum. When driven through the top flute, fasteners shall not extend more than half way between the top and bottom of the flutes. Under no circumstance, shall fasteners extend past the bottom of the flutes. Acceptable insulation fastener manufacturers for specific deck types are listed below.

E. Base Sheet Fasteners: As recommended by the roof membrane manufacturer.

F. Roof Walkway Pads: Paratread by Siplast or DynaTread by Johns Manville; 5/16 inch thick or equal. Keep flat until installation.

G. Asphalt Primer: ASTM D41: As recommended by the roof membrane manufacturer.

H. Solvent-Free Flashing Cement: A single-component, solvent-free modified adhesive. The adhesive blend shall be formulated in a grade for application of flashing materials.

I. Cant Strips: Pressure treated and kiln dried to 19 percent lumber, 1-1/2 inches, 45-deg. 5-inch exposed face. Lumber shall be dry, straight, and true without warps or bows. Surfaces in contact with the roofing system shall be smooth and free of sharp edges, splinters, protrusions, etc. that may cause damage to or interfere with the roof system. Treat all cut surfaces with field-applied treatment according to Division Section 6 - Rough Carpentry. Perlite or wood Fiber strips are not acceptable.
   1. Installation: Set nails 12-16 apart as required to prevent warping. Stagger nails slightly on both sides of cant centerline instead of nailing down the center in a straight line. Use care so as not to get the nails so close to the edge that cants are split.

J. Roof Drains shall be equal to model indicated on the Drawings. Provide with CAST IRON dome set in 14 gauge sump pan. Drain and pan to be furnished and installed under this section. Piping and hook-up by others.

K. Expansion Joints: In accordance with manufacturer's requirements and instructions for intended application and roof design.

L. Pipe Supports: Miro Pipe Stands sized to fit diameter and weight of pipe to be supported.

M. Unless specified otherwise on the Drawings or provided otherwise under the Plumbing Division, Roof Drains shall be equal to Josam 21520 with cast iron dome set in 14 gauge sump pan. Drain and pan to be furnished and installed under this section. Piping and hook-up shall be performed under Plumbing Division.

2.4 TEMPORARY MEMBRANE PROTECTION BOARDS

A. Temporary membrane protection boards shall be used to traverse newly installed roof when moving materials from the staging area to the point of installation. All efforts to stage materials to prevent this situation shall be used. Use these boards to protect the owner's existing roof when operations are adjacent to the existing roof.

B. Temporary Membrane Protection Boards: 3/4 inch, C-D, EXT plywood free of warps, bows, splinters, nails, and projections. Edges shall be round and smooth.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect the metal roof deck, nailers, openings, and structural members to ensure that they are suitable to receive roofing system. Notify the Architect of conditions that will be detrimental to proper installation and performance of the installed roofing. If unsuitable conditions are encountered during roofing operations, notify the Architect for a determination. However, do not stop roofing. Where possible, roof around the questionable area. Then, roof the questionable area after a determination has been made. Ensure that the roof deck meets the following requirements:

METAL DECK

1. End laps are lapped 2 inches and occur over supports and are lapped.
2. Deck is clean, dry, and sound.
3. Deck flutes are straight and parallel.
4. Side lap are properly nested and fasteners are 36 inches on center.
5. Screws are tight, straight, and fully seated.
6. Metal deck is undamaged and free of ice, frost, snow, and moisture.
7. Deck is fastened securely and does not wobble, shake, twist, when walked on.
8. Wood nailers are of proper and consistent thickness to match insulation thickness and nailers are secured along roof perimeters and openings
9. Top Flanges have no concavity or convexity in excess of 1/16 inch across any three adjacent flanges.
10. Deck secured to each supporting member in every other rib, maximum spacing 12 inches o.c., with puddle welds or approved mechanical fasteners.
11. Deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch out of plane.

12. Roof drains are in place and are unclogged.
13. Overflows are in place and of the proper height.
14. Deck is butted to perimeter terminations with a minimum gap between top deck flute and the perimeter termination of 3 inches.

B. Starting installation in a particular area signifies that the roofing contractor has walked the roof deck for that particular area, and that the roof deck is acceptable to receive the roofing system.

C. Examine installed wood nailers for moisture. If installed nailers are wet or appear to be wet, notify the Architect for evaluation. Do not cover any portion of damp or wet nailers with the roof system or attach any portion of the roof system to damp or wet nailers. Signs of moisture include, but are not limited to
1. Heavy
2. Warping
3. Dark green color
4. Corroded fasteners
5. Salt granules on the surface
6. Condensation forming when covered
7. Moisture flying from wood when struck
8. Moisture content that exceeds 19 percent

3.2 GENERAL INSTALLATION REQUIREMENTS

A. Start installation only in the presence of the roof membrane manufacturer's technical representative. This representative shall ensure that the roofing crew fully understands the specifications and the roofing contractor has a satisfactory roofing crew. Work performed without meting this requirement shall be removed. Comply with material manufacturer's instructions and more stringent requirements specified.

B. Cooperate with inspection and test agencies engaged or required to perform services in connection with installing roofing system.

C. Protect other work, building, and surrounding area from spillage of roofing materials, and prevent liquid materials from entering or clogging drains and conductors. Replace/restore other work damaged when installing roofing system work.

D. Insurance/Code Compliance: Install and test, where required, roofing system to comply with governing regulations and the following insurance requirements:

1. FM requirements for Class I or Noncombustible, including zoned wind resistance as specified by FM.
2. UL Fire Classified Class A.

E. Coordinate installing insulation, roofing sheets, flashings, stripping, coatings, and surfacings so that insulation and felts are not exposed to precipitation or exposed overnight. Provide cutoffs at end of each day's work to cover exposed felts and insulation with a course of coated felt with

joints and edges sealed with roofing cement. Remove cutoffs immediately before resuming work.

F. Arrange work sequence to avoid use of newly constructed roofing for storage, walking surface and equipment movement. When traffic over newly constructed roofing is necessary, lay a continuous path of specified temporary walkway plywood over the roofing.

G. Cutoffs: At the end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation. Provide temporary covering of two plies of No. 15 roofing felt set in full moppings of hot bitumen; remove at beginning of the next day's work. Ensure that all cutoffs extend to the bottom of deck flutes to ensure that water cannot run under the insulation through the flutes.

H. At the close of each day and when inclement weather is imminent, ensure the roof perimeters that are supported by masonry or concrete construction that is scheduled for painting or has been recently painted, are weathertight. This requirement is to prevent moisture and water from saturating the masonry and concrete wall.

I. Roof Drains:
1. Roofing contractor shall set and fasten all roof drains.
2. Plumbing contractor shall connect roof drains to drainage systems.
3. Install drains in strict compliance with drain manufacturers instructions and recommendations of the NRCA for the type roof membrane drains are being installed in.
4. Extend membrane under drain clamping ring.
5. Prime both sides of lead flashing prior to installation.
6. Set lead flashing sheet in a bed of mastic, recommended by the membrane manufacturer, on completed membrane with lead sheet clamped in roof drain ring and extended 12 inches onto roofing.
7. Install clamping ring in bed of recommended mastic.
8. Cover and protect lead sheet as recommended by the membrane manufacturer.
9. Install work to prevent ponding around drains.

3.3 INSTALLING INSULATION

A. General

1. Remove ice, frost, snow, and moisture from the roof deck and broom clean all surfaces.

2. Install insulation in 2 layers.

3. Lay insulation with continuous edge bearing of 3/4 inch minimum over metal deck flutes. Cut edges of insulation back to ensure full edge bearing over deck flutes. Do not fill space between flutes of roof deck with fillers to achieve edge support for insulation.

4. Install insulation fully supported and parallel to metal deck flutes.

5. Stagger short joints 6 inches minimum.

6. Install no more insulation than will be covered with completed roof membrane the same day, or at end of work day, or before arrival of inclement weather. Cover all materials before leaving the roof for more than 30 minutes. All insulation not covered at the end of the day shall be removed from the project site and replaced with new insulation.

7. Install insulation with tightly butted joints and without deformation or damage to the materials. Recut insulation boards as necessary to ensure that joints are tightly butted with no gaps greater than 1/4 inch or fill all gaps in joints greater than 1/4 inch with same insulation being installed using adhesive to hold filler insulation in place. Filler insulation with any dimension greater than 2 inches shall be mechanically fastened. All joints requiring filling or insulation that requires replacing shall be done a work progresses.

8. Break insulation joints 12 inches minimum.

9. Do not use insulation boards that are broken or crushed, have less than perfect edges, have holes or depressions, have missing or damaged facers, or are less than half width.

10. Form sumps around roof drains using tapered edge strips of suitable size to achieve proper sump and slope to roof drain. Provide a smooth transition from roof surface to drain clamping ring. Ensure that there are no gaps or voids between the layers of insulation and that each layer is fully supported. Cut and fit insulation to eliminate gaps and voids between the layers.

11. Remove fasteners that do not penetrate the upper flange. Provide additional perimeter fastening as required by the insulation manufacturer to meet specified wind uplift requirements.
    a. Ensure that all edges of insulation are flush and that insulation edges do not bounce or deflect when walked on after fasteners have been installed. Install additional fasteners to make all edges flush and eliminated bounce and deflection.
    b. No fastener shall be closer than 6 inches to or 12 inches from the edge of the insulation.
    c. Remove fasteners that are overdriven, that have crushed the insulation, or that have cupped the fastener disk and replace with properly driven fasteners.
    d. Remove fasteners that extend below the edge of the bottom flute and replace with fasteners of proper length.

12. Install mechanical fasteners through insulation into only the upper flanges of metal roof deck in a pattern and density required by the insulation and membrane manufacturers to comply with the specified wind uplift classification. Remove fasteners that do not penetrate the upper flange. Provide additional perimeter fastening as required by the insulation manufacturer to meet specified wind uplift requirements
    a. Ensure that all edges of insulation are flush and that insulation edges do not bounce or deflect when walked on after fasteners have been installed. Install additional fasteners to make all edges flush and eliminated bounce and deflection.

13. Install tapered insulation over deck as required to achieve specified slope.

14. Ganged fastening is not acceptable.

B. Bottom Layer:

1. Mechanically fasten bottom layer of insulation boards to metal deck with insulation fasteners through steel discs. Provide 50 percent additional perimeter and corner fastening. Install fasteners at perimeter, corners and in field in a pattern and density to meet FM requirements for specified wind uplift classification and FM Bulletin 1-28. Insulation joints parallel to the deck direction are to be supported by the steel deck with 3/4 inch minimum edge bearing.

2 Install mechanical fasteners through insulation into only the upper flanges of metal roof deck in a pattern and density required by the insulation and membrane manufacturers to comply with the specified wind uplift classification. Remove fasteners that do not penetrate the upper flange. Provide additional perimeter fastening as required by the insulation manufacturer to meet specified wind uplift requirements

3. Do not fill space between flutes of roof deck with fillers to achieve edge support for insulation.

4. Install cants and tapered edge strips in full mopping of hot steep asphalt.

C. Middle Layer:

1. Install middle layer of insulation over bottom layer in a full and uniform bed of adhesive. Step each board into adhesive being careful not to disturb adjacent boards.

2. Install tapered insulation in pattern to achieve slope of 1/4 inch per foot. Slope to drains to prevent ponding.

3. Stagger all joints between the top and bottom layers of insulation by 6 inches minimum. No top layer joint shall occur over a bottom layer joint.

4. Check adhesion of top layer of insulation regularly. If an insulation board comes loose when an exposed edge of the insulation is manually picked up, that board shall be removed and replaced with a new board properly embedded in adhesive. Suspected insulation shall also be checked.

D. Top Layer:

1. Install top layer of insulation over middle layer in a full and uniform bed of adhesive. Step each board into adhesive being careful not to disturb adjacent boards.

2. Install tapered insulation in pattern to achieve slope of 1/4 inch per foot. Slope to drains to prevent ponding.

3. Stagger all joints between the top and bottom layers of insulation by 6 inches minimum. No top layer joint shall occur over a bottom layer joint.

4. Check adhesion of top layer of insulation regularly. If an insulation board comes loose when an exposed edge of the insulation is manually picked up, that board shall be removed and replaced with a new board properly embedded in adhesive. Suspected insulation shall also be checked.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush with drain ring.

F. Nailers: Where insulated substrates slope more than 1/2 inch per foot, install wood nailers of same thickness as insulation, set between insulation boards and spaced not more than 20 to 21 feet apart, depending on insulation board size. Anchor nailers to substrate. Run nailers perpendicular to slope of roof unless otherwise indicated.

G. Crickets and Saddles
1. Layout and install tapered insulation so that the slope of backslopes is at least twice the slope of the roof deck.

2. Install crickets on the high side of all curbs.

3. Lay out and install crickets with 4-way slopes.

4. Lay out and install crickets and saddles with slopes at least twice the slope of the roof deck.

5. Layout and install crickets with a minimum width to length ratio of 1:3.

6. In roofs with a 2-way slope system, install crickets to divert water between drains.

7. For renovations, recondition all existing roof drains.

8. Ensure that roof drains are installed in the lowest possible point.

9. Slope of crickets and saddles shall be1/2 inch per foot unless otherwise specified, indicated or recommended by the membrane manufacturer.

3.4 ROOF MEMBRANE INSTALLATION

A. General
1. Aesthetic Considerations. An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, metallic powder, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner.

2. Priming. If recommended by the manufacturer, prime metal flanges (all jacks, edge metal, lead drain flashings, etc.) and concrete and masonry surfaces with a uniform coating of primer.
3. Membrane Adhesive Application. Apply cold adhesive in a smooth, even, uniform, and continuous layer without breaks or voids at the rate of 1 1/2 gallons per square per ply. (The porosity of some substrates may require a heavier application to ensure full adhesion.)

B. Membrane

1. Install system in 2 plies overlapped evenly and uniformly. Overlap in proper direction to shed water (water flows over the seams and not against the seams) on each large area of roofing, where slope is significant (over 1/4 inch per foot .

2. Apply adhesive at a uniform rate recommended by the manufacturer, leaving no breaks or voids. Hand application is recommended for detail work and confined areas. Mechanical adhesive distributor may be used to apply adhesive open areas.

3. Lay all layers of roofing free of wrinkles, creases or fishmouths and shall be laid at right angles to the slope of the deck. Lay sheets directly behind the adhesive applicator.

4. Exert sufficient pressure on the roll during application to prevent air pockets. Air pockets beneath the system or between the plies are unacceptable. Any such pockets shall be "walked in" immediately.

5 Cut out and patch all fishmouths or surface irregularities in the membrane with membrane set in a full and uniform application of adhesive as recommended by the manufacturer prior to leaving the site each day. Areas of minor interply voids caused by roof surface traffic shall be treated in a similar manner within the same time frame constraints.

6. Beginning at the low point of the roof, the Base Sheet shall be fully bonded to the top layer of insulation set in a full and uniform application of adhesive as recommended by the manufacturer and shall have a minimum of 3" side and end laps.

7. Off set end laps of the base sheet a minimum of 3'.

8. Fully bond cap sheet to the Base Sheet surface set in a full and uniform application of adhesive as recommended by the manufacturer and form a minimum of 3" side and end laps.

   a. Off set end laps of surface sheet ½ roll (preferred) or minimum of 3'.
   b. Lap seams in the Base Sheet layer should not coincide with the laps of the Surface Sheet layer. The courses should be staggered to ensure this.

9. Install a strip a of base sheet at gutters over the edge blocking . Keep base sheet under the membrane. Lap loose end into gutter.

10. Prime all metal flanges, concrete and masonry surfaces with a uniform coating of primer approved by the Manufacturer.

11. During hot weather installation, installers shall dust the bottoms of shoes with sand to keep feet from sticking to the membrane.

C. Base Sheet: Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.

D. Cap Sheet: Install top sheet adhesive at the same rate as base sheet to form a continuous bonded membrane.

1. Extend modified bituminous sheet to 2 inches above top edge of cant strip and terminate.
2. Nail edges of membrane to wood blocking at perimeter edges of roof prior to installing metal gravel stops/fascias. Space nails at minimum 8 inches on center.
3. Fully bond the finish ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps of the finish ply a minimum 3 feet. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.
4. Maximum sheet lengths and special fastening of the specified roof membrane system may be required at various slope increments where the roof deck slope exceeds 1/2 inch per foot. The manufacturer shall provide acceptable sheet lengths and the required fastening schedule for all roofing sheet applications to applicable roof slopes.

E. Set-On Accessories: Where small roof accessories are set on modified bituminous sheet roofing, set metal flanges in a bed of roofing cement and seal penetration of membrane with bead of roofing cement to prevent flow of adhesive from membrane.

3.5 ROOF DRAINS

A. Roof Drains:
1. Plumbing contractor to connect roof drains to drainage systems. Bring plies over insulation and drain body. Extend roofing plies under drain clamping ring. Set lead flashing sheet in a bed of roofing cement on completed roofing ply sheet courses with lead sheet clamped in roof drain ring and extended 12 inches onto roofing. Cover lead sheet with modified bitumen extended 4 to 6 inches beyond edges of lead sheet. Provide composition stripping of any gravel stop rings. Install work to prevent ponding around drains.
2. Do not allow seams to pass through the drain sump. Cover with one-piece target. There shall be no seams or wrinkles in the drain sump.

3. After roof drain piping has been installed, insulate all drain components below the roof deck to prevent condensation.

3.6 MEMBRANE FLASHING AND STRIPPING

A. Comply with the NRCA requirements for modified bitumen for all flashing details and specifications not provided by the roofing manufacturer or in the specifications.

1. Install all flashing at perimeter, gravel stops and fascia according to FM I-49. Stagger nails 3 inches oc.

2. The Flashing Base Sheet shall be lapped a minimum of 4 inches up vertical surfaces above cants and nailed 8 inches oc.

3. Two-ply flashing shall be accomplished using one ply of Flashing Base Sheet and one ply of Aluminum Flashing Sheet (Flashing Sheet).

4. The Flashing Cap Sheet shall be lapped a minimum of 3 inches to itself and shall extend a minimum of 6 inches onto the membrane Surface Sheet and 8 inches minimum up vertical surfaces.

5. Lap seams in the Flashing Base Sheet shall never coincide with the laps of the Flashing Sheet layer.

6. Adhere the Flashing Base Sheets by a uniform coating of cold adhesive as approved by the Manufacturer (both wall and sheet).

7. The flashing sheets shall be fully adhered in place by a uniform coating of solvent-free cement and attached across the top edge of sheet at 9 inches o.c.

8. Exert sufficient pressure on the Flashing Sheet to ensure the prevention of air pockets. This can be accomplished by using a damp kitchen type sponge mop or a damp, heavy duty cotton nap paint roller.

9. Prime all end laps of the Flashing Sheet with a uniform coating of the specified primer and allowed to thoroughly dry prior to overlapping of adjoining sheets.

10 When parapet walls are 24" or less in height Flashing Sheet may be extended up wall in one piece.

11 When walls are higher than 24 inches, the base flashing and wall treatment shall be done as separate procedures in accordance with the Manufacturer's specifications. In such cases, the base flashing shall extend up wall 8 inches, minimum. Wall treatment shall lap base flashing 3 inches.

12. Base flashing shall extend up wall a minimum 8 inches and a maximum 12 inches. Bring flashing over top of roof curbs so that equipment curbs will overlap flashing terminations. Lift existing equipment as necessary.

13. Catalyzed Acrylic Resin Flashing System: Install the liquid-applied primer and flashing system in accordance with the membrane system manufacturer's printed installer's guidelines and other applicable written recommendations as provided by the manufacturer.

B. Install modified bituminous flashing at cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof. Comply with paragraph 3.7A7. Extend flashing a minimum of 6 inches onto modified bituminous sheet roofing.

C. Install modified bituminous stripping where metal flanges are set on roofing. Install one ply of modified bituminous base-ply stripping in uniform application of as recommended by the manufacturer and extend stripping a minimum of 6 inches out onto the roof membrane and covering metal flange less ¾ inch from outside drip edge. .

D. Allow for expansion of running metal flashing and edge trim that adjoins roofing. Do not seal or bond membrane or modified bituminous flashing or stripping to metal flanges over 36 inches in length.

E. Counter-Flashings: Counter-flashings, cap flashings, expansion joints, and similar work to be coordinated with modified bitumen roofing work are specified in other Sections.

F. Roof Accessories: Miscellaneous sheet metal accessory items, including piping vents, insulation vents and other devices to be coordinated with modified bituminous roofing system work, are specified in other Sections.

G. Cap Sheet Surfacing:
1. Clean the surface of the base sheet thoroughly of dust, dirt, moisture or other foreign materials that would affect bond before installing the cap sheet. Prime if required by the Manufacturer.

H. After completing base sheet apply one lapped course of cap sheet of type indicated. Set cap sheet in uniform application of adhesive as recommended by the manufacturer with 1/4-inch adhesive flow exposed along cap sheet edge. Lap edges 3 inches and sheet ends 6 inches minimum. Always sprinkle loose granular into the adhesive bleed-out as the sheet is being installed.

3.7 EXPANSION JOINTS

A. Install expansion joints every 200 linear feet; at building expansion joints; when roof changes direction, elevations, or materials; where required, where shown on drawings, as recommended by the membrane manufacturer, according to manufacturer's instructions.

3.8 FIELD QUALITY CONTROL

A. Make test cuts where and as recommended by the manufacturer. If the manufacturer does not require a test cut because of insufficient square footage of the installed system, the Contractor shall make a minimum of 1 test cut at a location selected by the Architect.

1. However, if the Owner suspects that the installation does not comply with the specifications, then the owner may require additional test cuts other than those required by the manufacturer. The cost of manufacturer required test cuts and their subsequent repair shall be a part of the Contract. If the Owner requests additional test cuts, and the installation is not according to specifications, the Contractor shall be responsible for all costs applicable to the tests, repairing test cuts, and for bringing the roof installation into compliance with the specifications. If the membrane is in compliance, the Owner will be responsible for costs related to the Owner-requested test cuts.
2. Make test cuts approximately 12 inches by 12 inches and weigh to determine conformance. If test cuts comply with the specifications, the test cuts may be returned to the roof. If requested, test cuts may be kept for analysis by an independent laboratory. If an independent laboratory determines that the roofing system does not comply with the specifications, the Contractor shall be responsible for all costs applicable to the laboratory tests, repairing test cuts, and for bringing the roof installation into compliance with the specifications. If the membrane is in compliance, the Owner will be responsible for laboratory costs associated with test cuts required by the manufacture.

2. Repair test cuts immediately installing the same number of plies to repair the test cut as were installed in the roofing system

4. Show location of each test cut, results of the test cut and areas of remedial work on a copy of the roof plan. Where remedial work is required, describe the remedial work performed.

B. During routine observations, if the appearance of installed work suggests, or the Architect suspects that defective materials were installed or that materials were not installed according to the specifications, the roofing contractor will be required to perform the required procedures to expose suspected materials for examination. Conforming to this requirement will be at no additional cost to the Owner. This requirement also includes, but is not limited to removing necessary materials to expose questionable elements, making satisfactory repairs, and restoring disturbed areas to a satisfactory condition.

3.9 NIGHT SEALS

A. Install night seals at the end of each day's work and when inclement weather is imminent. Install according to the membrane manufacturer's instructions. Seal from the membrane to the bottom of flutes in the deck to prevent water from running under the insulation through the flutes.

B. Where gravel stops are not installed on when the roof membrane is completed, seal the perimeter as recommended by the membrane manufacturer.

3.10 ROOF WALKWAYS

A. Prior to installing walkway pads, inspect them to ensure that they do not have tears, splits, wrinkles, gouges, bubbles, or other imperfections. Dispose and do not install all pads with imperfections.

B. Install in strict compliance with the manufacturers instructions to prevent movement of pads during use or during extreme weather conditions and that will provide maximum protection to the roof membrane.

C. Install where indicated on the Drawings. If not indicated, as a minimum, install walkway pads around all access hatches, and leading from the access hatches to and around all roof top equipment that will require routine maintenance or servicing.

D. When installing, do not interfere with or change the drainage of crickets that are located above the units. Coordinate pattern and layout of walkway pads with the Architect.

3.11 PROTECTING ROOFING

A. When it is impossible to stage materials to avoid crossing completed or partially completed roof when moving materials from the staging area to the point of application, install temporary walkways from staging areas to work areas to protect substrate. Temporary walkways shall be used for traversing. Remove temporary walkways at completion of work. Use materials that are free of sharp edges, splinters, nails, or projections that will damage the membrane.

B. After completing roofing (including associated work), institute appropriate procedures for surveillance and protection of roofing during remainder of construction period. At the end of the construction period, or at a time when remaining construction will in no way affect or endanger roofing, make a final inspection of roofing and prepare a written report to Owner, describing nature and extent of deterioration or damage found.

C. Repair or replace (as required) deteriorated or defective work found at the time of final inspection to a condition free of damage and deterioration at the time of Substantial Completion and according to the requirements of the specified warranty.

D. Pipe Supports: After roofing operations have been completed, support equipment drainage pipe on Miro Pipe Stands sized to fit diameter and weight of pipe to be supported. Set pipe on supports as recommended by the support manufacturer and space the supports to ensure that the pipe does not sag or have low spots, and that there will be positive drainage. At no point shall pipe contact the roof membrane.

E. Warning Signs:

F. Post warnings signs that read as follows at points of access to roofing areas:

CAUTION - COMPLETED ROOFING - AVOID FOOT TRAFFIC AND OTHER ABUSE

G. Temporary Walkways:

1. When it is impossible to stage materials to avoid crossing completed or partially completed roof when moving materials from the staging area to the point of application, install temporary walkways from staging areas to work areas to protect substrate. Temporary walkways shall be used for traversing. Remove temporary walkways at completion of work. Use materials that are free of sharp edges, splinters, nails, or projections that will damage the membrane.

2. Protection of installed materials shall be the responsibility of Roofing Contractor until the project has been accepted by Owner. Remove and replace damaged installed materials at no additional cost.

3.12 CLEANUP

A. Daily: Comply with the following on a daily basis; no exceptions:
1. Do not allow trash, debris, waste, defective materials, and unused materials, equipment and tools to collect on the roof. Remove these items from the roof daily, and dispose of in approved manner and container..
2. Keep work area clean and free of clutter.
3. Do not stage materials, tools, or equipment on new or existing roof membrane. Comply with provisions under Product Handling and Storage in Part 1 of this specification.
4. Secure all materials, equipment, and tools to prevent movement during windy conditions.
5. Cover all materials, equipment, and tools completely at the end of each day to prevent water entry and so that covers will not loosen or separate during windy conditions.
6. Promptly remove all unused or unneeded sharp or pointed objects, including sheet metal, that may puncture roof membrane from the roof.
7. Keep all mechanical fasteners, including screws and nails, in rigid storage containers until ready for use. Put all used or defective mechanical fasteners in a designated rigid container that is clearly marked, **SCRAP**. Do not allow used or defective fasteners to mix with new fasteners.
8. Correct all defects not corrected during normal roofing operations by end of each work day.
9. Ensure that all roof drains and downspouts are unclogged.

B. Completion Of Roofing Operations: Comply with the following at the completion of roofing operations; no exceptions:
1. Remove all trash, debris, waste, defective materials, and unused materials, equipment and tools, resulting from these roofing operations, from the roof and off the site. Dispose of in approved manner and container.
2. Broom clean the new roof.

3. Clean and restore all surfaces, damaged or disturbed during roofing operations, to the original preroofing operations conditions and to the satisfaction of the Owner.
4. Remove adhesive from surfaces other than those requiring bituminous coating.
5. Where landscaping has been damaged or disturbed, remove all ruts and depressions in landscaping, smooth repaired areas, plant grass to match existing, and replace shrubbery, ground cover, and trees to the original preroofing operations conditions and to the satisfaction of the Owner.
6. Ensure that all roof drains and downspouts are unclogged.

END OF SECTION 07 52 16

ROOFING CONTRACTOR'S CERTIFICATION STATEMENT

Project Name: **Project No:**

Contractor's Name:
Address:

Telephone: **Fax:** **E-mail:**

It is understood that the person initializing each qualification criteria and signing this form is an authorized representative of the roofing contractor named above and certifies that this roofing contractor meets all qualification criteria stipulated in the specifications. The same person must initial the qualification criteria and sign this statement.

Qualification Criteria No from 1.6C in Specification	Contractor Meets Criteria (Initials)	Supporting Information Requested From the Contractor by the Owner
1		
2		
3		Provide manufacturer's dated certification
4		
5		Provide name of present bonding agent
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

ADDENDUM NUMBER THREE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES EARLY SITE PACKAGE FOR NEW HIGH SCHOOL NO. 4 & CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: APRIL 12, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 1: PRE-BID MEETING MINUTES AND SIGN-IN-SHEET:

1. The meeting minutes from the Pre-Bid Conference are attached to this Addendum. ***All prospective bidders are urged to carefully read and note all items referenced in the meeting minutes.***

End of Addendum No. 3

DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
EARLY SITE PACKAGE OF NEW HIGH SCHOOL No.4 AND CATE CENTER
PRE-BID SIGN-IN SHEET
April 7, 2011

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
Forrest L. King	Cumming | SMG	1213 Lady Street PO Box 1785 (29202) Columbia SC, 29201	PH.1-803-256-1989 Fax 1-803-254-5620	1-803-917-8247	fking@southernmgt.com
Pat Moscati	Cumming/Smg	Sams	Sams (803)917-6257	(803) 917-6257	Pmoscati@southernmgt.com
Brian Fessler	MPS Architecture	2120 Northtide Blvd Charleston SC 29405	843 566-0771		bfessler@mcmillanpazdan smith.com
Steve Rikard	Capital Construction	Spartanburg SC	864-809-7629		
Bill Bailey	Cherokee INC.	P.O. Box 9044 Col, SC 29290	803-776-4870 803-776-5507	843-601-1555	JJordan@cherokee-sc.com
Marty Baltzegar	S&ME	134 Suber Rd Columbia SC	561.9024 561.9177	960-1955	Mbaltzegar@smeinc.com
INGA SHARPE	COOGLER CONST.	1760 DUTCH FORK BALLENTINE SC 29002	781-7411 FAX 781-2457	513-8252 (DANE MATNEY)	INGA @ COOGLERCONSTRUCTION.COM
Joe Sox	Sox & Sons	P.O. Box 3875 West Columbia 29171	796-8395 796-0124	600-4177	joesox@soxandsons.com
Scott Nolff	McClam & Assoc.	1642 Holy Trinity Little Mtn. SC.	345-9194 345-5362 F	920-0673	SNolff@mcclam.net
Phillip Conley	JC Wilkie Contractors	349 Bucle Conley CT	808-3226 808 3262		PConley@JCWilkieLLC.com

Representative	Company Name	Address	Phone / Fax	Cell Phone	e-mail address
William George	CK Contracting	Po Box 339 Kings Mountain, NC 28086	704-730-9948 704 730 9975	704-913-5648	wgeorge@ckcontractinginc.com
Ricky Jolly	Clary Hood Inc	150 Conway blk Rd Sptbg. SC. 29307	864 579-8881 864-579-8582	864-706-7223	Andy@ClaryHood.com
Chris Pitts	Starnes & Gentry Bros. Construction	621 Pondexter Rd Evans, GA 30809	706 860 5931 706 860 9639	706 755-5771	chris@gentrybros.com
Ricky Bosley	BGBM's Construction	2735 Dismal Rd 29842 Beech Island SC	803-827-0134 803-827-1868	706-840-4879	RBosley@Aikensawmill.net
Dwight Smith	Sloan Const.	645 Rosewood Dr. Columbia SC 29212	803-376-1240 803 376 1967	864 303-1934	Smithdg@sloanco.net
RYAN WILLIAMS BILL FLOWERS	CIVIL ENGINEERING OF COLUMBIA				
Kenny Andrew	Herbert Andrew Jr Const	2117 Hwy 72 West Dr GREENWOOD SC 29649	T 864-229-5708 F 864 229-5882	864-942-0331	KEFaAndrews@bls2
Bobby Richard	Richardson Const Company	P.O Box 31857 Col SC 29203 6806 Mallard Rd Col SC 29223	803 786 9741 803 735 1581	803 360 2595	estimator@RICHDIRT.com
Tom Anderson III	J+H GRADING & PAVING	1579 EDGEFIELD ROAD, AIKEN 29801	803-641-1412 803-649-6591	803 645-0301	tandbulldozing@gmail.com
Larry Bagwell	Lake Murray Utility Larry's Backhoe	P.O Box 1059 130 Peachtree Rd Chapin SC	0803-732-7849 Fax 803-732-7891	803 730-7652	
Kyle Farley	Contract Construction	Po Box 764 Ballentine, SC 29002	803-781-1055	803-513-3698	JFarley@contractconstruction.net

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303.256.1989 fax 803.254.5620

PRE-BID CONFERENCE AGENDA MEETING MINUTES
DISTRICT 5 LEXINGTON & RICHLAND COUNTIES
EARLY SITE PACKAGE OF NEW HIGH SCHOOL No.4 AND CATE CENTER
APRIL 7, 2011

I. INTRODUCTIONS:

1. Paul Moscati of Cumming | SMG introduced himself; Chris Whitley of Cumming | SMG; Roscoe Russell of Cumming | SMG and Forrest King of Cumming | SMG. Also in attendance were Keith McAlister the Director of New Design & Construction for District 5 Lexington & Richland Counties, Brian Fessler of MPS Architects, Bill Flowers; Ryan Williams of Civil Engineering and Marty Baltzegar of SM&E. ***The attendee sign-in-sheet will be attached to the end of these minutes.***

II. PROJECT DESCRIPTION AND SCOPE:

1. Brian Fessler reviewed the scope of work for the 110 acre site which includes all site construction, including all clearing, grading, storm drainage, building pads, parking lots, drives, curb/gutter, on-site utilities, finish grading, irrigation, landscaping, and grassing. The successful bidder shall also be responsible for coordinating grading activities with Santee Cooper to facilitate the relocation of overhead power lines on-site. Off-site road improvements are also part of the scope, including traffic control and widening for deceleration and acceleration lanes, as well as the installation of major improvements to the intersection of Broad River Road and Mt. Vernon Church Road. Brian emphasized the critical nature of coordination between the different contracts that will be sharing the site simultaneously. Critical issues on site include: The clearing and grubbing for the power line relocations, the installation of the Detention Pond; the installation of the dry pipe system; the 24 hour / 7 day per week Fire Watch until the CATE Center General Contract has been awarded; the CATE Center building pad; at least one well installed to fill the Detention Pond for fire protection.

III. BID DATE AND LOCATION:

1. Sealed bids for the **Early Site Package of New High School No. 4 & CATE Center** will be received from qualified bidders on **April 21st at 2:00pm**, opened and read aloud by the Owner in the District 5 Lexington & Richland Counties Board Room at 1020 Dutch Fork Road Irmo, SC 29063.

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IV. BIDDING REQUIREMENTS:

1. **Form of Proposal - Enclose in a sealed; opaque envelope; bearing name and address of the bidder, South Carolina Contractors and Bidders License Numbers, identification of contract being bid and name of project.** ***(If contractors have both bidders and contractors license; list both on envelope. If not; be certain to list the bidder's license)***
2. **Bid Bond or Cashier's Check for 5% of Base Bid**
3. **Acknowledge Receipt of Addenda**
4. **All bids must comply with the laws of South Carolina**
5. **Signature**

V. REVIEW OF PLANS AND SPECIFICATIONS:

1. Paul Moscati went briefly through each section of the specifications and noted the critical nature of the project and how important it would be to thoroughly read all sections and coordinate with the plans.

2. It was noted that there are several fields and open pads as well as parking lots that could be used for lay down areas. They will have to be shared by multiple contractors. Coordination must take place at these locations because the fields and some of the parking lots will get Geo-Thermal wells. The Geo-Thermal wells are being installed for the building HVAC systems operations and the areas must be clear for that installation.

3. Contractors are to review the Index of Drawings against the actual plans to make certain that they have received all pages noted.

4. The power company will receive materials for the power line easement relocation on 5-30-11 so the site needs to be cleared so relocations can begin immediately after material receipt.

5. Work can take place for the CATE Center building pad in conjunction with the easement relocation. The contractor is responsible for coordinating this work.

6. All prospective bidders were told to include the allowances in the base bid. The allowances are Owner controlled and used at the Owner's discretion as directed through the CM firm. Any unused portions of allowances will revert to the owner in a deductive change order at the end of the project.

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7. Cumming | SMG will identify the well contractor, the landscaping contractor, the Geo-thermal test well contractor and the irrigation contractor. ***Do not include the actual work for any of the noted items above in your base bid. Include only the related allowances for the items. The cost for the work is paid through allowances that are to be included in the Site Package base bid.*** Once identified; the Site package General Contractor will assume the scheduling and coordination roles to get the work installed. The Overhead and Profit for work paid by allowances is to be in the contractor's base bid. Billing against allowances will need actual invoices attached for verification and documentation.

8. Coordination will be critical between the Site Package Surveyor and the Surveyors for the upcoming building packages. Acceptance of the original benchmark is essential for each new package. The benchmark must match the other packages because of the massive amount of underground lines, connection points and crossing points.

9. The size of the water utility sleeves will be clarified and confirmed by addendum. The size will be 20" or greater to accommodate the 16" water line.

10. Monthly payments will be tied directly to section 01290. A monthly updated CPM schedule, a monthly updated staging plan, a monthly updated fire watch summary and monthly updated digital photos of the tree protection and tree protection site plan will be required before payment is made.

11. All testing will be paid for by the owner. The Chapter 1 and Chapter 17 inspection firm is already under contract.

12. Closeout documents will be critical at the end of the job and as-built changes to the project are to be updated monthly. The monthly update of the as-built plans will also be linked to the monthly application for payment.

13. It was emphasized to do the work correctly the first time because there is no time to do the work twice.

14. There can be no burning on site.

VI. ADDENDA/ALTERNATES:

1. There are no alternates on the site project but the CATE Center will have (4) alternates regarding classroom spaces.

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2. Addendum #1 has been issued. Addendum #2 should include the CAD release form for the drawings if the permission is granted. Addendum #3 will include this set of meeting minutes and the sign-in-sheet as a minimum along with as many answers as possible to any questions received at today's meeting. Any changes that affect the bid form will result in the issuance of a revised bid form. All contractors are urged to make certain that they thoroughly read any addenda that are issued.

VII. SPECIAL CONDITIONS:

1. As previously noted, building pads will be in progress at the same time as the power line easement relocation, the installation of the Detention pond and the installation of the dry hydrant system. Coordination is critical. The portion of the CATE pad noted in the specifications must be completed in approximately 4 weeks from the notice to proceed in order to be ready for the CATE Center General Contractor. The CATE Center Package, pending on OSF Final Approval of plans is scheduled to bid in the middle of May.

2. The Site Lift Station and the main trunk lines should be complete and operational in order to gain occupancy for the CATE Center by August 2012. It will be confirmed by addendum how much of the work must be done for occupancy.

3. It was noted that there is no water currently available on site and the wells will be critical. Options are being investigated to get an 8" temporary water line to the site before the larger city line is completed. ***Contractors are to bid the project anticipating that the CATE Center will open as scheduled in the fall of 2012 so staff accordingly.***

4. Discussions were held regarding the erosion control monitoring and the temporary entrances. Water trucks may be necessary to keep the dust down / wash down the highway in the event of mud to avoid conflicts with SCDOT. The implementation of a hose bib to "wash off" vehicle tires before exiting the site may also be an option that the contractors may pursue in order to be "good neighbors".

5. The clearing of the power easement needs to occur within the first 30 days.

VIII. QUESTIONS AND ANSWERS:

1. The question was asked to see if ground wood chips could be wasted on site. ***The architect and engineers will review and respond by addendum.***

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803.256.1989 fax 803.254.5620

2. The discussion was held regarding the use of the Liquid Index for the installation of Asphalt. ***Comments were that the index was currently being used on most jobs and the index keeps initial costs down on bid day. Contractors are also on a level playing field.***

3. Contractors asked if a unit price would be added to the bid form for the Rock Allowance. Contractors also wanted to know how the determination will be made between blasting and ripping of rock. ***The engineers will review and publish by addendum a standard that all contractors can use to identify the method that will determine if the rock is to be blasted or ripped. The special inspector will monitor and confirm the correct application and note it in all reports. The designation of soils will not be changed to unclassified. The idea of adding a unit price section to the bid form will be reviewed.***

4. Contractors asked if they could obtain plans on AutoCAD. It was stated that estimating would be more accurate and done faster if the plans were available in this format. ***The decision is being reviewed by the architect and engineers and will be answered by addendum. If the use is approved a waiver will be issued as part of the addendum requiring signatures.***

5. Contractors asked what the current estimate was for the project. ***The current estimate is in the range of 7.1 million but lower bids will definitely be accepted.***

6. Contractors asked how retainage would be handled for contractors appointed by the owner and paid by allowance. Contractors also wanted to know how they would be paid for managing the contracts if they are not allowed to add overhead and profit. ***Retainage will be held on the packages paid by allowance until work is completed on the particular allowances. After the work is accepted the retainage will be released. The contractor should include any needed administration costs as part of their own general conditions.***

7. Contractors requested which format should be used to publish the project CPM schedule. ***The format will be noted in the addendum but the schedule does not need to reflect cost loading.***

8. Contractors wanted to know the status of project permits. ***All necessary permits have been obtained for the project except for the water permit which is pending on the settlement of the site water delivery by the utility.***

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9. ***This item was not specifically mentioned during the meeting. Contractors are to check and see if local business licenses are required to perform work on the site. This cost will be handled by each contractor as part of their base bid.***

10. ***This item was not specifically mentioned during the meeting but any and all questions should be addressed to Cumming | SMG or to Cumming | SMG and the architect jointly in writing. This can be done by fax and or email. Written questions will require written responses and all answers will be issued by addendum. Any verbal answers to questions will not be counted as legitimate unless followed up in writing by addendum. This format will keep all parties equal in assembling their bids.***

END OF MINUTES

These minutes convey the Cumming | SMG understanding of discussions that took place at the meeting. It is requested that any comments, changes or additions to these minutes be forwarded to Cumming | SMG attention immediately upon review of these minutes.

ADDENDUM NUMBER FOUR

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 16, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 4-2: BID DATE:
The bid date will change to Tuesday January 24th at 10:00a.m. The location will remain the same unless changed in a future addendum.

Item 4-2: BID DATE INFORMATION:
If contractors have sent bids by mail, Fed-Ed or UPS as referenced in Addendum #3 Item 4-1 they will remain unopened and will be returned by mail to the return address listed on the package.

End of Addendum No. 4

ADDENDUM NUMBER FOUR

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

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DATE OF ISSUE: JANUARY 16, 2012

TO: ALL PRIME BIDDERS OF RECORD

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End of Addendum No. 4

GENERAL:

Item 4-1: Revise specification section 01210-2 Cash Allowances for the Landscape Allowance to match the section 01120 Landscape Allowance amount of $350,000.00.

Item 4-2: General Clarification: Revise specification section 01210-2 Cash Allowances to the note the $38,000.00 amount for the installation of a domestic booster pump assembly in Water Heater Room H101 from specification section 15100-4. The allowance amount is also to be referenced in section 01120. In sections 01210 and 01120 this allowance is to be named "Plumbing Booster Pump Allowance" and applies specifically to room H101.

Item 4-3: **Form of Proposal:** Refer to revised Bid Form issued by Owner's Construction Manager dated 1-16-12. Revisions include line items listing Alternates 1, 2, and 3.

Item 4-4: General Clarification: The security guard for the High School entrance gate is for the duration of the construction project. The shared entry for the CATE Center and the High School has a separate guard being handled currently in the CATE Center bid package. Once the CATE Center is owner occupied the guard at the shared drive will no longer be needed. The only guard on site will be at the high school entry.

Item 4-5: Temporary fencing that can be shifted and relocated is to be included in the high school base bid. It is to extend from the fencing and drive by the CM office trailer parallel to the shared drive to the CATE Center and cross the parking lot to the practice fields. The purpose is to separate without damaging parking lots, sidewalks and grassing; the high school construction from the Owner occupied CATE Center. Exact fencing locations can be coordinated with the CM and architect.

Item 4-6: Contractors are to confirm that their base bid includes all proper tagging to meet OSHA requirements for the safety of all parties using the scaffolding on the site. This includes all MEP trades and all testing agencies.

Item 4-7: Contractors are responsible for all digging, excavation and backfill necessary to install footings and all underground rough-in in their base bid price.

PLAN SHEETS AND BULLETIN DRAWINGS:

Item 4-8: Contractors are responsible for the installation of all sidewalks noted on the green highlighted sheet 2 of 30 for the overall site.

Item 4-9: **Reflected Ceiling Plan Sheets A301F and A302F:**
Incorporate the following revisions:
A. At Ensemble F117, ceiling height this room shall be noted as 12'-2" a.f.f. in lieu of 11'-0" shown.
B. At Multipurpose Room F141, add soffits and perimeter trim as shown on enclosed addendum sketch **AD4-11.** Also see new soffit details C5A and C5B on sheet A908 as shown on enclosed addendum sketch **AD4-12.**
C. Above Stage F139, provide pipe grid as noted on **AD4-11.**

Item 4-10: **Door Schedule Sheet A802:**
Incorporate the following revisions:
A. At Door G100B, revise door material to read as "Wood" in lieu of "H.M.".

Item 4-11: **Window Details, Sheet A814:**
Refer to 08 11 13, section 2.5.L.7 for coordination on size of rabbet for pressed metal window frames. Typical P.M. stop size shall be 5/8".

Item 4-12: **Interior Elevations, Sheets A905, A906, A907, A908 and A915:**
Incorporate the following revisions:
A. At Drama F101, replace interior elevations A1A and A1D on sheet A905 with ones shown on enclosed addendum sketch **AD4-A1.**
B. At Strings F106, replace interior elevations A2A and A2B on sheet A905 with ones shown on enclosed addendum sketch **AD4-A2.**
C. At each Practice F109, F110, and F111, add interior elevations D5A and D5B to sheet A905 as shown on enclosed addendum sketch **AD4-A3.**
D. At Ensemble F117, delete interior elevation A4 on sheet A905. Replace with A4A and A4B shown on enclosed addendum sketch **AD4-A4.**
E. At Choral F124, replace interior elevations A4A and A4D on sheet A906 with ones shown on enclosed addendum sketch **AD4-A5.**
F. At Dance F128, replace interior elevations A1A and A1B on sheet A906 with ones shown on enclosed addendum sketch **AD4-A6.**
G. At Multipurpose F141, refer to elevations A1 and C1 on sheets A907 and A908. Add 2" thick Black Acoustic Board continuous to all perimeter walls of this room from bottom of steel elevation (23'-4" A.F.F.) to underside of roof deck above. Provide stained wood trim at bottom edge of acoustic board. Refer to enclosed addendum sketches **AD4-7** for partial interior elevation, **AD4-A8** as revised detail C3/A302GH, and **AD4-A9** as revised details C4 and C5 on A651.
H. At Weight Room H125, add interior elevations D1A and D1B to sheet A915 as shown on enclosed addendum sketch **AD4-A10.**

Item 4-13: **Structural Steel Notes, Sheet S002:**
Refer to enclosed addendum sketch **AD4-S3** for boxed note applicable for any steel framing required that is not shown, referenced, and/or noted on the bid documents. At the end of the project any unused portion of the tonnage stipulated shall be returned to the owner in the form of credits by the fabricator and erector.

Item 4-14: **Structural Low Roof Framing Plan, Sheet S301F:**
Refer to enclosed addendum sketch **AD4-S4** for revisions/clarifications to the framing plan shown near rooms F144, F145, and F146.

Item 4-15: **Structural Sections and Details, Sheet S402:**
Refer to enclosed addendum sketches **AD4-S1** and **AD4-S2** for revisions/clarifications to details D3 and A4 this sheet.

Item 4-16: **HVAC Drawing HVAC-5.11 and HVAC-5.12 "WATER SOURCE HEAT PUMP SCHEDULE":**
Revise Note "A" as follows:
"EER RATINGS ARE BASED ON SCHEDULED ENTERING AIR AND ENTERING WATER CONDITIONS."

Item 4-17: **HVAC Drawing HVAC-5.12 "GEOTHERMAL HEAT PUMP INSTALLATION DETAIL":**
Replace the note on the heat pump piping mains indicating "INSULATE OVERHEAD HORIZ. MAINS ONLY" with the following sentence:
"REFER TO HVAC SPECIFICATION FOR PIPING REQUIRING INSULATION"

Item 4-18: **HVAC Drawing HVAC-5.13 "EXHAUST FAN SCHEDULE":**
For the exhaust fans EF-1, 2, 3, 4, 12, 13, 14, 37, 41, and 47, make the following revisions:
Revise the voltage for each unit from 115v-1ph to 277v-1ph.
Delete remark #3 (277v/115v transformer w/ enclosure) for each unit

Item 4-19: **Electrical Power Floor Plans E2.00 Series:**
Incorporate the following revisions:
A. At each roof hatch with ladder access, install GFCI duplex power receptacle within reach of the ladder and not less than 12" below the roof deck; Circuit from closest panel with spare 20 amp 120v breaker.
B. At electrically operated projection screens (three locations total: Media Center
B125, Stage F139 and Dining J10) coordinate power and raceway requirements with manufacturer's shop drawings. Install flush mounted control switch on adjacent wall no higher than 48" max.; Circuit from closest panel with spare 20 amp 120v breaker.

C. In the Multipurpose Room F141 and Auxiliary Gym H116, coordinate power and raceway requirements with manufacturer's shop drawings for the electrically operated telescoping stands. Refer to note 1 on sheet E1.01G; Circuit from closest panel with spare capacity using 60A/3P breaker.

Item 4-20: **Electrical Special Systems Drawings E3.00 Series:**
A. The following Special System Drawings are enclosed as part of this addendum and are hereby incorporated into the contract documents: **Drawing E3.01A, E3.01B, E3.01C, E3.01D, E3.01E, E3.01F, E3.01G, E3.01H, E3.01J, E3.02A, E3.02B, E3.02C, E3.02D, and E3.02E.**
B. The attached drawings have been revised and include the following additional items:
1) Locations of additional wireless access points as shown on the revised drawings.
2) Locations of wireless GPS clocks have been added to the drawings. The clocks will be furnished and installed by the owner and are shown for coordination purposes.
3) Locations of additional motion detectors and security keypads adjacent to exterior doors as shown on the revised drawings.
4) Locations of additional flat screen TV outlets where shown on the revised drawings. Provide 120 volt 20Amp circuits to each TV outlet location shown on the drawings.

Item 4-21: **Electrical Diagrams and Details Sheet E4.03:**
The revised Detail Sheet **E4.03** is enclosed as part of this addendum and is hereby incorporated into the contract documents. Revise electrical rough-in requirements at all smartboard and teaching station locations to match the revised Typical Classroom Teaching Wall IT Detail shown on drawing E4.03.

Item 4-22: **Electrical Drawing E6.13 ELECTRICAL PANEL SCHEDULES:**
Replace panel schedule for T1LSLR1 on this sheet with the panel schedule for T1LSHL1 as shown on attached sketch **SKE-2.0** dated January 13, 2012.

SPECIFICATIONS:

Item 4-23: **Specification 06 20 00, Millwork and Laminated Plastic Casework:**
Incorporate the following revisions to the applicable section referenced below:
A. Under 2.7.I, Tops/Backsplashes: At second sentence, replace word "square" with "eased-edge".

Item 4-24: **Specification 08 11 13, Hollow Metal Doors and Frames:**
Incorporate the following revisions to the applicable section referenced below:
A. Under 2.3.A.1, Interior Doors: Delete items 1.a and 1.b. Fourteen gauge face sheets are not required at interior openings. B. Under 2.3.A.2, Exterior Doors: Delete items 2.a and 2.b. Sixteen gauge face sheets are not allowed at exterior openings.

Item 4-25: **Specification 08 14 16, Flush Wood Doors:**
Incorporate the following revisions to the applicable section referenced below:
A. Under 2.2.A.1; Faces: Wood species shall be plain sliced Red Oak.
B. Under 2.3; Sound Retardant Doors: All wood doors listed in door schedule as elevation type "K" shall be sound retardant doors.

Item 4-26: **Specification 09 51 23, Acoustical Tile Ceilings:**
Incorporate the following revisions to the applicable section referenced below:
A. Under 2.1.C.1, Regular Acoustical Lay-in Tile: add the following model numbers as additional options acceptable to the owner:
a. Armstrong items 574 HRC or 533 HRC
b. USG Millennia items 76505 or 78505
B. Under 2.1.C.4, Fiberglass -Sound Absorptive Tile: add the following model numbers as additional options acceptable to the owner:
a. Armstrong items 3352 or 3353 with .90 NRC and min. 20 CAC
C. Under 2.1.C.8, Convex Lay-in Ceiling Diffuser: add the following manufacturers as substitute to Wenger products for use in the music rooms:
a. Conweb 4'x4' Respond Barrel Diffuser
b. Golterman & Sabo 4'x4' BCD Barrel Ceiling Diffuser
D. Under 2.1.C.9, Convex Suspended Ceiling Diffuser: add the following manufacturers as substitutes to Wenger for use as Cloud ceilings in the Multipurpose Room (see detail B4/A301E and note that rift-sawn stained red oak wood veneer shall be finished to match wood doors):
a. Conweb 4'x8' Respond Curved Reflective Ceiling Clouds (IF all components including MDO plywood is tested per ASTM 84 to provide a Class 1A rating)
b. Golterman & Sabo 4'x8' Harmony HCR-R Radial

Item 4-27: **Specification 09 84 13, Acoustical Wall Panels:**
Add the following section as 2.3:
A. Black Acoustic Board: All black 2" thick mat face, NRC of not less than .95, PCF of 3.0, finish wrap edges of each panel and install panels to wall with appropriate adhesive as recommended by manufacturer. Provide products by one of the following manufacturers on the upper wall of the Multipurpose Room per new detail C5/A908:

a. Owens Corning Select Sound Black Acoustical Board
b. Knauf Black Acoustical Board with Ecose Technology

Item 4-28: **Storage Shelving Specification 10 56 16 and detail A2/A904:**
Under 2.2.H, the depth of typical shelving units is noted as 18" unless noted otherwise on the drawings. The referenced detail indicates 16" typically for depth unless noted otherwise. Note that premanufactured nominal depths of +/- 1" from the size(s) shown on the floor plans will be acceptable.

Item 4-29: **Specification 12 35 52, Wood Laboratory Casework:**
Incorporate the following changes:
A. Under 2.2.A.3: In the second sentence, note that Grade A or AA shall be acceptable on plywood veneer based on manufacturer's standard, but do not mix grades. Use one or the other.
B. Under 2.4.A.4, 7 and 8: Note that drawer and door fronts constructed of minimum 47 pcf density M3 particleboard are acceptable in lieu of solid hardwood and plywood core with hardwood veneer. At areas subject to moisture such as sink base cabinets, use water resistant glue.

Item 4-30: **Specification 12 48 13, Entrance Floor Mats and Frames, Recessed:**
Delete this specification from the project manual. Where recessed mats/frames are shown on the floor plans, note that the Owner shall provide recessed carpet tile in lieu of recessed frame with specified carpet mat.

Item 4-31: **HVAC Specifications page 15200- 17 "J. INSULATION ":**
Revise the first sentence of J. Insulation, Section #1 as follows:
"1. Heat pump piping and Accessories above ground. (Includes all piping inside building except branch piping serving floor mounted heat pumps exposed inside mechanical closets.)"

Item 4-32: **HVAC Specifications page 15200-34 "Heat Pumps: Water Source (WHSP)":**
Revise the 1st sentence of the 8th paragraph as follows:
"Drain pan shall be non-corrosive and double sloped."

Item 4-33: **HVAC Specifications page 15200-43 "M. Brick Vents":**
Revise the 3rd and 4th sentence as follows:
"Finish shall be Kynar (70%) coating in a custom color selected by the Architect.
Architect to provide paint sample for color match."

Item 4-34: **HVAC Specifications page 15200-44 "N. Louvers":**
Revise the 5th and 6th sentence as follows:
"Finish shall be Kynar (70%) coating in a custom color selected by the Architect.
Architect to provide paint sample for color match."

Item 4-35: **Plumbing Specifications page 15100-7: "D. Potable Water Piping (copper):**
In the 2nd paragraph: Delete the following sentence:
"At the contractors' option, ¾" and smaller underground water pipe may be Type "K" soft copper with elbows formed with a bending tool."
All below grade or underground piping shall be Type "K" hard copper.

Item 4-36: **Electrical Specification Section 263213, ENGINE GENERATOR:**
Under 2.3A add a note as follows:
"Contractor shall furnish all piping and connectors and any other items required
to connect the LP gas tank to the generator. LP tank will be provided by the owner. Coordinate with the Construction Manager to schedule with the owner for the LP tank delivery."

Item 4-37: Reference 15200-12 "E. Heat Pump Loop Water Piping; Section 1.
Add the following sentence to the end of section 1a:
"All piping underground shall be galvanized with galvanized grooved couplings. See section b. for specifications on Victaulic/Gruvlok piping."

Item 4-38: Reference 15200-13 "E. Heat Pump Loop Water Piping; Section 1b. [Victaulic piping option]:
Revise item #9 as follows:
9. All underground heat pump pipe below ground piping and fittings shall be hot dipped galvanized.

SUBSTITUTION / APPROVED EQUALS:

Item 4-39: Dynamic Sports Construction request for substitution to install CHS flooring is not accepted and or allowed approved equal status for this particular project.

Item 4-40: Soprema Roofing request for substitution is accepted and allowed approved equal status for this particular project.

Item 4-41: The following manufacturers have been approved as substitute manufacturers provided that the proposed product meets all specified criteria:
05 52 16, Aluminum Tube Trellis Gelander Industries

06 20 00, Millwork & Lam. Plastic Casework	LSI Corporation of America
06 20 00, Solid Surfacing Countertops	Corian
09 84 13, Acoustical Wall Panels	Golterman & Sabo Wall Technology
12 30 50, Band and Music Casework	TMI Systems Design Corp.

Item 4-42: **HVAC Equals (Division 15200):**
The following substitute manufacturers shall be considered equal to the specified manufacturers provided that the equipment meets the specifications in all respects.

Water source heat pumps (indoor):	Water Furnace, Johnson Controls
Water source heat pumps (rooftop):	Annexair
Air Distribution:	Tuttle & Bailey
Air purification system:	Bioclimatic
Electric Unit Heaters:	Redd-1
Variable frequency drives: Yaskawa	*Motor Starters:* Ceres

Item 4-43: **Plumbing Equals (Division 15100):**
The following substitute manufacturers shall be considered equal to the specified manufacturers provided that the equipment meets the specifications in all respects.

Domestic water heaters:	Bock

Item 4-44: **Electrical Request for Prior Approval:**
The following manufacturer has been approved as an equal to the specified *engine generator* provided the products meet all specified criteria:
Generac package submitted by National Power Corporation on January 8, 2012.

Item 4-45: Plexi-Chemie is not accepted and or allowed approved equal status for this particular project.

Item 4-46: L & S Electronics for the fire alarm system is not accepted and or allowed approved equal status for this particular project.

End of Addendum No. 4

ADDENDUM NUMBER FOUR

FOR

DISTRICT FIVE OF
LEXINGTON & RICHLAND COUNTIES
EARLY SITE PACKAGE
FOR
NEW HIGH SCHOOL NO. 4 & CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING|SOUTHERN MANAGEMENT GROUP
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: APRIL 18, 2011

TO: ALL PRIME BIDDERS OF RECORD

This addendum modifies the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, or addenda nos. 1, 2, or 3, all work shall be in accordance with the basic requirements of the

Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

ITEM 4-1: ATTACHMENTS

The following attachments are enclosed as part of this addendum and are hereby incorporated into the contract documents.

ATTACHMENT NO. 1:	Revised Bid Form
ATTACHMENT NO. 2:	Project Construction Sign Template
ATTACHMENT NO. 3:	School Flasher Installation
ATTACHMENT NO. 4:	Image of Existing Pond to be Removed
ATTACHMENT NO. 5:	Location for On-Site Disposal of Wood Chips
ATTACHMENT NO. 6:	Revised Location of Water Line Easement at CATE Center
ATTACHMENT NO. 7	Spot Elevation Revision @ South Most Tennis Court
ATTACHMENT NO. 8:	Spot Elevation Revision @ South Most Tennis Court AND Access Gate Width Revisions
ATTACHMENT NO. 9:	8" x 6" Reducer Label
ATTACHMENT NO. 10:	Extended 8" City of Columbia Water Line Stub Out
ATTACHMENT NO. 11:	Water Line and Easement Revisions @ CATE Center Entrance
ATTACHMENT NO. 12:	Extended 8" City of Columbia Water Line Stub Out
ATTACHMENT NO. 13:	Revised Tags for SD #105 and SD #106
ATTACHMENT NO. 14:	Revised Storm Drainage Annotation Connecting SD #95 and SD #96
ATTACHMENT NO. 15:	Storm Drainage Profiles
ATTACHMENT NO. 16:	Revised General Lift Station Notes
ATTACHMENT NO. 17:	Revised Control Panel Specifications
ATTACHMENT NO. 18:	New Handicap Parking Sign Detail

ITEM 4-2: REFERENCE THE SPECIFICATIONS SECTION 00300, TABLE OF CONTENTS

A. Division 2 – Earthwork

1. Revise specification section 0260-6 to 0260-5. There are only five (5) pages included in this specification.

B. Division 26 – Electrical

1. Revise the specification section 265600-12 to 265600-13. There are thirteen (13) pages in this specification in lieu of twelve (12).

ITEM 4-3: REFERENCE THE SPECIFICATIONS
SECTION 00800, BID FORM

A. Note the following:

1. A unit price for rock excavation and removal has been incorporated into the bid for. See **ATTACHMENT NO. 1.** All Bidders shall utilize this bid form to submit your bid.

ITEM 4-4: REFERENCE THE SPECIFICATIONS
SECTION 00910, REPORT OF GEOTECHNICAL EXPLORATION

REFERENCE THE PLANS
CIVIL SHEETS 1 THRU 30

A. Note the following:

1. The Report of Geotechnical Exploration makes several references to multiple approximate levels of cut and or fill for the project, from the early schematic design phase. These numbers are not to be used for bidding purposes. Use the civil drawings to determine cut and fill quantities for the project.

ITEM 4-5: REFERENCE THE SPECIFICATIONS
SECTION 01110, SUMMARY OF WORK
SUBPARAGRAPH 1.06

A. Reference Subparagraph 1.06, A, 1, a. Revise the last sentence as follows:

1. Delete "...July 1, 2011..." and replace with "...July 1, 2013...".

2. Delete the words "...at which time the CATE Center Building Contractor shall assume the responsibility for same."

3. **CLARIFICATION**. The Early Site Contractor shall be solely responsible for the implementation of the 24/7 Fire Watch for the entire site. Once the CATE Center is occupied, it will then only be necessary for the Fire Watch to be performed for the High School site.

B. Add the following as Item 2, c:

"c. Although unrelated to the new power line easement, on 03.07.11, Mid-Carolina Electric Cooperative, Inc. completed a preliminary review of the existing utility poles along the perimeter of the property boundaries. The Early Site Contractor is to be advised that the following poles will be relocated by the Utility Provider during the course of the project:

i) The pole at the intersection of Mt. Vernon Church and Broad River

ii) The pole across from Canterfield (between SD#99 & SD#100).

The GC is to coordinate and schedule this work with the utility companies. A pre-construction meeting will be required. Contact Chris Harmon for additional information (after award of contract).

Chris Harmon
Engineering Project Coordinator
Mid-Carolina Electric Cooperative
803.749.6443
Chris@mcecoop.com"

C. Add the following as Item 3, c:

"c. Per the overhead power utility companies (Santee Cooper and Mid Carolina Electric Cooperative), the following will be required for all work in the existing overhead power utility easement, and new utility easement, when power lines are installed:

1. The GC shall strictly adherence to all provisions of the formal encroachment agreement between the utility companies and the School District. Copies will be provided to the GC, by SMG, when available.

2. No equipment will come within 15' of a conductor. For general reference, the existing

and proposed wire heights vary between approximately 25 and 73 feet above grade.

3. No staging of equipment or materials will be allowed within the easement.

4. No equipment is to be operated within 20' of a pole, guy, or anchor.

5. No underground piping, sleeves, conduits, etc. are to be located closer than 20' from a pole, guy or anchor.

6. One weeks written advance notice to the utility company is required before starting activities within the easement.

7. The GC is to submit a detailed plan and schedule of all work within the utility easement to the utility company within 5 days of Notice to Proceed.

8. No vegetation with a mature height greater than 12' is allowed in the easement, unless it is an ornamental that will be trimmed on an annual basis.

9. Representatives from the power utility companies must provide a safety briefing at a pre-construction meeting on site, prior to any work in the easement. GC is to coordinate and schedule this meeting. Tree removal and grading sub-contractors are to attend.

10. All tree removal next to the existing easement needs to be contracted to a qualified company. The utility companies are to review all tree removal sub-contractors."

ITEM 4-6: REFERENCE THE SPECIFICATIONS
SECTION 01110, SUMMARY OF WORK
SUBPARAGRAPH 1.07

A. Add Item F as follows:

"F. In addition to the potential liquidated damages addressed in Item 1.07, E above relative to substantial completion of each project, liquidated damages shall also be assessed at the rate of $ 1,000 per day per building relative the completion of the building pad as follows:

CATE Center Building Pad: June 15, 2011
High School Building Pad: August 15, 2011

ITEM 4-7: REFERENCE THE SPECIFICATIONS SECTION 01120, SCOPE OF WORK

A. Reference Subparagraph 2.04, Allowance as follows:

1. Revise the end of the last sentence phrase beginning with, "...bids, except as otherwise noted" to read as "...**base** bids, except as otherwise noted."

B. Reference Subparagraph 2.04, D, Rock Blasting

1. Increase the rock blasting allowance from $ 75,000 to $ 125,000.

C. Add new Subparagraph 2.04, D, 1 as follows:

"2.04, D, 1. Rock Classification:

Rock that can be ripped with a Caterpillar D-8 dozer (or equivalent), as determined by the Owner's Special Inspector or Owner's Geotechnical Consultant, shall not require blasting. The cost for rock removal that can be ripped with the D-8 dozer or equivalent shall be included in the base bid cost and cannot be charged against the rock blasting allowance as noted in Subparagraph 2.04, D. Only rock that must be blasted will be considered eligible to be addressed through the rock blasting allowance".

ITEM 4-8: REFERENCE THE SPECIFICATIONS SECTION 01140, WORK RESTRICTIONS

A. Reference Subparagraph 1.06. Add the following as Item F:

"F. For General reference, in March of 2011, the School District acquired Lot R01700-07-13, formerly owned by Yuh Jin Chao, Deed D0964-34. This lot is to remain undisturbed."

ITEM 4-9: REFERENCE THE SPECIFICATIONS SECTION 01210, CASH ALLOWANCES

A. Reference Subparagraph 2.01, A, 4.

1. Increase the rock blasting allowance from $ 75,000 to $ 125,000.

B. Add new Subparagraph 2.01, A, 4, a, as follows:

"2.01, A, 4, a. Rock Classification:

Rock that can be ripped with a Caterpillar D-8 dozer (or equivalent), as determined by the Owner's Special Inspector or Owner's Geotechnical Consultant, shall not require blasting. The cost for rock removal that can be ripped with the D-8 dozer or equivalent shall be included in the base bid cost and cannot be charged against the rock blasting allowance as noted in Subparagraph 2.01, A, 4. Only rock that must be blasted will be considered eligible to be addressed through the rock blasting allowance".

C. Reference Subparagraph 2.01, A, 2 and note the following **CLARIFICATIONS**.

1. If needed, actual sleeve sizes will be provided during construction. For general reference the following approximate sleeve sizes will be required:.

a. 16" water line – 24" casing
b. 24" water line – 26" casing"

2. Note that only the water utility sleeves relating to the lines **installed by the City of Columbia** noted on sheet AS100 and associated sheets are eligible to be addressed by the Water Utility Sleeve Allowance. All other sleeves noted on the plans for contractor installed water lines or any other sleeve referenced in the documents shall be included in the base bid.

ITEM 4-10: REFERENCE THE SPECIFICATIONS
SECTION 01290, APPLICATION FOR PAYMENT

A. Note the following:

1. In paragraphs 1.3, A, 1 & 1.3, B, 1, revise the phrase "AIA Document G702, "Application and Certificate for Payment", to **"AIA document G732–2009 (formerly G702CMa–1992), Application and Certificate for Payment, Construction Manager as Adviser Edition."**

ITEM 4-11: REFERENCE THE SPECIFICATIONS
SECTION 01320, PROGRESS SCHEDULE

A. Note the following **CLARIFICATIONS:**

1. The schedule must be a computer generated CPM schedule. The CPM schedule should clearly depict the project critical path items. However, no specific computer software or file format is specified.

B. Add new paragraph 2.0.1, B as follows:

1. "The CPM schedule shall identify activities by all subcontractors on-site as included in the scope of work for the Early Site Contract. It shall also show the Utility companies' schedules in order to reflect optimal installation time frames for outside systems that are critical to the Substantial Completion dates for the CATE Center Building Package and the High School Building Package. For the Owner's benefit and use, the schedule shall also reflect the anticipated start and completion dates for the CATE Center Building Package and the High School building package. These dates will be provided by the Construction Manager."

ITEM 4-12: REFERENCE THE SPECIFICATIONS
SECTION 01450, QUALITY CONTROL AND TESTING SERVICES

A. Revise Subparagraph 2.2.1. as follows:

1. In the last line, revise the word, "...Contractor...", to read as, **"...Owner...".**

ITEM 4-13: REFERENCE THE SPECIFICATIONS
SECTION 01500, TEMPORARY FACILITIES

A. Add new paragraph 1.2, B, 5 as follows:

"Broad-band internet service, and or DSL connections for site based internet connections."

B. Add the following to the end of paragraph 2.1.J:

"Also, provide temporary 6' high chain link security fencing and gates as described in this specification section and as indicated elsewhere in the contract documents. If not specifically shown, the Contractor will provide fencing to the extent necessary to secure work areas, materials and equipment. The Contractor is responsible for the safety and security of the work area. Reference Subparagraph 3.4, E and F of this specification and Detail B1, Sheet AS100, regarding fencing.

C. Add the following to the end of paragraph 2.1.K:

"See **ATTACHMENT NO. 2** at the end of this addendum for details pertaining to the job site sign. Exact images and logos will be provided by Architect after award of contract.

D. The 2nd page labeled "1500-3" (that begins with paragraph 3.2.A) is to read as "1500-4."

E. Add the following to the end of paragraph 3.3.E:

"Provide DSL, Broadband or whatever type of high speed internet access is available at the site for the duration of the project. All associated costs relating to power, water, and internet are to be paid by the site contractor for the project duration. This field office must be maintained by the Site GC immediately following the NTP until the substantial completion of the HS package in March of 2013. Also include (1) complete office trailer relocation to the high school portion of the site if deemed necessary at the end of the CATE Center building package. This move is to include the relocation of all utilities and full set up of the trailer. If this relocation is determined to be unnecessary by the CM, a full credit for the relocation costs will be refunded to the owner at the end of the project.

ITEM 4-14: REFERENCE THE SPECIFICATIONS

SECTION 01770, CONTRACT CLOSE-OUT PROCEDURES

A. Add new paragraph 1.0.2.H as follows:

"Other contractors on site may be invited to participate in specific Punch List/Final Inspections when deemed appropriate by the Architect, CM, or Owner. Documentation will be generated to reflect their acceptance of the applicable work completed by the Site GC. This will include, but is not limited to:

1. CATE Center Building pad - CATE GC
2. High School Building pad - HS GC
3. Above Ground Power Utility Easements – Utility Contractors, Santee-Cooper & Mid-Carolina Electric Coop
4. Below Ground Utility Easements - City of Columbia, Richland County
5. Paving, Sidewalks, and Curb & Gutter - HS GC & CATE GC
6. Sleeves – HS GC, CATE GC, & City of Columbia
7. As-Built Site Drawings - HS GC & CATE GC
8. Dry Hydrant System – Richland County
9. Traffic Controls and Road Work – SCDOT

ITEM 4-15: REFERENCE THE SPECIFICATIONS
SECTION 0201, STAKING

A. Add new paragraph 1.04, Benchmarks, as follows:

1. Project benchmark elevations markers are to be concrete and designed to be stable and permanent in nature.

2. Benchmarks are to be left in place and used by CATE GC and HS GC.

3. CATE GC and HS GC will review and accept all benchmarks established by EARLY SITE GC prior to beginning any work on site. The Early Site GC shall address any noted concerns

ITEM 4-16: REFERENCE THE SPECIFICATIONS
SECTION 0220, SITE GRADING

A. Add new paragraph 1.03.B as follows:

1. Loose dust, mud, water, trash, etc., is not to enter adjacent properties, roadways or open storm drainage network.

Contractor shall utilize water trucks and/or sweeper trucks to control dust and debris where appropriate or directed by the Architect. The contractor shall also reference and abide by SCDOT and DHEC guidelines regarding these restrictions.

B. In paragraph 3.01 A, revise the phrase "... six (6) inches...," to read as, "six (6) inches, **or more, or less if specific localized soil conditions indicate and Owner's Special Inspector or Geotechnical Consultant agrees to same.**"

C. Revise Subparagraph 3.01.B as follows:

1. Revise " ...greater than 1/2"..." to "...**greater than ¼".**

D. Revise Subparagraph 3.05.A as follows:

1. Revise the phrase "...four (4) inches...", to read as "...**two (2)** inches shall not be permitted in the upper six (6) inches of fill or embankment."

ITEM 4-17: REFERENCE THE SPECIFICATIONS SECTION 0255, EXCAVATING, TRENCHING, AND BACKFILLING FOR PIPE LINES

A. Revise Subparagraph 3.05.B as follows:

1. Revise the phrase, "...six (6) inches,..." to read "...**two (2)** inches..."..

ITEM 4-18: REFERENCE THE SPECIFICATIONS SECTION 0256, SEWAGE COLLECTION SYSTEM CLARIFICATIONS

A. Note the following regarding Subparagraph 2.01, C:

1. Richland County requires Protecto 401 lining for DIP sewer lines.

B. Note the following regarding Subparagraph 3.01, A

1. As it relates to roadway crossings, Richland County requires a DIP sewer service if there is less than 3' of cover.

C. Note the following regarding Subparagraph 3.03, A:

1. PVC pipe used for the force main shall be C-900 PVC pipe (green color pipe) and shall comply with ANSI/AWWA.

ITEM 4-19: REFERENCE THE SPECIFICATIONS
SECTION 0257, WATER DISTRIBUTION SYSTEM

A. Add the following to the end of Subparagraph 2.01, A:

1. "Water lines larger than 8" must be ductile iron pipe."

B. Note the following **CLARIFICATION** to the fittings referenced in Subparagraph 2.01, B:

1. While the C-153 grade fittings are allowed by the City of Columbia for use on water lines in their system, C-110 grade fittings are specified. The successful bidder shall utilize the most restrictive and highest quality grade fittings of the two. See also General Project Note 22 on Sheet G100.

C. Revise the following in Subparagraph 2.01, C:

1. Delete "four (4) inches through twelve (12) inches" and replace with "up to and including 8" in size may be PVC,".

D. Delete the last paragraph of Part 2, G and replace with the following:

1. "The general contractor is to provide sterilization in phases based upon his own schedule and as outlined in specification section 01110 - Summary of Work."

ITEM 4-20: REFERENCE THE SPECIFICATIONS
SECTION 0260, ASPHALT CONCRETE PAVING

A. Add Subparagraph 1.01E as follows:

1. "The South Carolina Department of Transportation Asphalt Index will be utilized to equitably adjust asphalt prices that are subject to fluctuation with the cost of oil. The indexing of asphalt prices in accordance with the guidelines established by SCDOT will be allowed."

B. Add the following sentence to the end of subparagraph 1.03.B:

1. "All remaining paving is to appear new and clean at substantial completion of the High School package in March of 2013. After award of contract, Architect will clarify extents of finished paving required to be complete at the end of each phase."

C. Revise Subparagraph 3.01. B, 3, as follows:

1. In the first sentence, revise the word, "...Contractor...", to read as, "**...Owner...**".

D. Revise Subparagraph 3.01. C, 3, as follows:

1. In the last sentence, change the word, "...Contractor..." to "...**Owner**...".

E. Revise Subparagraph 3.01, G as follows:

1. In the first sentence, change the word, "...Contractor..." to "...**Owner**...".

ITEM 4-21: REFERENCE THE SPECIFICATIONS
SECTION 0280, GRASSING

A. Add new Subparagraph 3.04.C as follows:

1. "Any damage done to grading, planted areas, paving, curbs, glazing, or buildings, by mowers and other maintenance equipment operated by the owner or the contractor will be repaired by the contractor at no expense to the Owner."

ITEM 4-22: REFERENCE THE SPECIFICATIONS
SECTION 0410, TEMPORARY FENCING

A. Delete paragraph 2.01, A, 4 in its entirety.

B. Revise the first sentence of Subparagraph 3.03.B as follows:

1. "Temporary fencing along Mt. Vernon Church Road shall be removed at the direction of the design engineer upon Substantial Completion of the CATE Center new construction

work (Summer of 2012), and along Broad River Road upon Substantial Completion of the High School new construction work (Substantial Completion in 2013)."

A. Delete paragraph 3.03.C in its entirety and replace as follows:

1. "All repairs to the temporary fencing will be the responsibility of the Early Site Contractor through Substantial Completion of the High School in 2013. The CATE & HS GCs will inspect and notify the Early Site Contractor weekly of any repairs needed to the project fencing."

ITEM 4-23: REFERENCE THE SPECIFICATIONS
SECTION 260519, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

SECTION 260526, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

SECTION 260543, UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

SECTION 265600, EXTERIOR LIGHTING

A. Note the following:

1. The 2008 version of the National Electrical Code applies to this project. All references to the NEC in the specification shall be in accordance with the 2008 National Electrical Code.

ITEM 4-24: REFERENCE ATTACHMENT NO. 3
SCDOT NEW SCHOOL FLASHER INSTALLATION

A. See **ATTACHMENT NO. 3**, New "School Flasher Installation" drawing for general reference.

ITEM 4-25: REFERENCE THE PLANS
SHEET G100, COVER SHEET

A. Revise title of Civil Sheet 24 to read as "FORCE MAIN PROFILES"

B. Revise title of Civil Sheet 26 to read as "POLLUTION PREVENTION

DETAILS"

C. Add the following to the end of General Project Note 1:

"RESPONSIBILITIES FOR TREE PROTECTION AREAS IDENTIFIED BY KEYNOTE (Z) ON SHEET AS100 SHALL BE TURNED OVER TO THE HS AND CATE GCs, UPON THEIR MOBILIZATION. THE HS AND CATE GCs SHALL SIGN OFF ON THE CONDITION OF THESE TREES AND PROTECTION PRIOR TO MOBILIZATION. ALL OTHER TREE PROTECTION IS TO BE MAINTAINED BY SITE GC AND REMAIN IN PLACE UNTIL SUBSTANTIAL COMPETITION OF THE HS, OR AS DETERMINED BY RICHLAND COUNTY OR OTHER AHJs."

D. Delete General Project Note 6 and replace as follows:

"6. THE TEMPORARY CONSTRUCTION FENCING WILL BE LEFT IN PLACE UNTIL SUBSTANTIAL COMPLETION OF THE HS. THE SILT FENCING WILL BE LEFT IN PLACE UNTIL SUBSTANTIAL COMPLETION OF THE HS AND APPROVED BY DHEC IN WRITING TO BE REMOVED. BOTH TEMP FENCING AND SILT FENCING ARE TO BE REMOVED BY THE SITE GC. OWNERSHIP OF TEMP FENCING AND SILT FENCING WILL REMAIN WITH THE SITE GC AT ALL TIMES. HOWEVER, CATE GC AND HS GC WILL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE. THE HS GC AND CATE GC WILL APPROVE CONDITION OF FENCING PRIOR TO BEGINNING WORK ON SITE."

E. Add the following to the end of General Project Note 17:

"MUNICIPAL WATER IS CURRENTLY NOT ANTICIPATED TO ARRIVE ON SITE UNTIL 2013. SITE CONTRACTOR IS TO PROVIDE ALL MAINTENANCE AND MONTHLY TESTING OF THE SYSTEM UP UNTIL SUBSTANTIAL COMPETITION OF HS IN 2013."

F. Add the following to end of General Project Note 22:

"IN THESE INSTANCES, AT THE ARCHITECT'S DISCRETION, DRAWINGS MAY OVERRIDE SPECIFICATIONS."

G. Add new General Project Note 34 as follows:

"34. THIS PROJECT WAS SUBMITTED AND REVIEWED ACCORDING TO SC OSF GUIDEBOOK 2010. GC IS TO HAVE A

BOUND HARD COPY PRINTED AND AVAILABLE ON SITE AT ALL TIMES. IT IS FREE AND AVAILABLE FOR DOWNLOAD ON THE SC OSF WEBSITE."

H. Add new General Project Note 35 as follows:

"35. SITE GC IS TO PROVIDE TEMPORARY ABOVE GROUND WATER LINE CONNECTED TO ATHLETIC FIELD IRRIGATION WELL TO DETENTION POND, TO ASSIST IN MAINTAINING THE MINIMUM REQUIRED WATER LEVELS IN THE POND AT ALL TIMES. THIS TEMPORARY LINE IS NOT TO ENCROACH UPON THE DEFINED WETLANDS BUFFERS. THE LINE MAY ENTER LOT R01700-07-13. THIS LOT, FORMERLY OWNED BY YUH JIN CHAO, IS NOW OWNED BY THE SCHOOL DISTRICT. EXACT LOCATION IS TO BE APPROVED BY ARCHITECT."

I. Add new General Project Note 36 as follows:

"36. SITE GC IS TO COORDINATE SCHEDULE WITH SCDOT – SCHOOL FLASHER INSTALLATION. ALL FLASHER WORK WILL BE PROVIDED BY SCDOT."

ITEM 4-26: REFERENCE THE PLANS
SHEET AS100, ARCHITECTURAL SITE PLAN

A. Add new Plan Keynote symbol (MM) near lift station.

B. Delete the last sentence of Keynote (P) and replace with "See revision to Specification 01500, Subparagraph 2.1, K as detailed in ITEM 4-13, C of Addendum No. 4."

ITEM 4-27: REFERENCE THE PLANS
CIVIL SHEET 1 of 30, Demolition Plan

A. Delete Note & References 4 in its entirety and replace with the following:

"4. SEE SHEET 7 OF 30 FOR SEDIMENT AND EROSION CONTROL NOTES AND SHEET 26 OF 30 FOR THE TREE CERTIFICATION AND POND MAINTENANCE CERTIFICATION."

B. Add the following note to this sheet:

"NOTE: THERE IS A SMALL (48' LONG x 12' WIDE x 5'

DEEP) EXISTING POND ON THE SITE THAT IS NOT INDICATED ON THE SITE SURVEY. SITE CONTRACTOR IS TO DRAIN WATER AND REPLACE WITH COMPACTED FILL, TO MATCH ADJACENT GRADES." See **ATTACHMENT NO. 4.**

C. Wood chips may be disposed of on-site according to the procedures as shown on **ATTACHMENT NO. 5.**

ITEM 4-28: REFERENCE THE PLANS
CIVIL SHEET 2 of 30, TRAFFIC CONTROL PLAN

A. Delete Note & References 6 in its entirety and replace with the following:

"6. SEE SHEET 3 – 6, 17A AND 18A FORE MORE INTERSECTION DETAILS."

ITEM 4-29: REFERENCE THE PLANS
CIVIL SHEET 4 of 30, STAKING & ALIGNMENT PLAN

A. Water line easement near CATE Center Site Entrance has been revised as shown on **ATTACHMENT NO. 6.**

ITEM 4-30: REFERENCE THE PLANS
CIVIL SHEET 8 of 30, GRADING & DRAINAGE PLAN
CIVIL SHEET 9 of 30, GRADING & DRAINAGE PLAN
CIVIL SHEET 10 of 30, GRADING & DRAINAGE PLAN
CIVIL SHEET 11 of 30, GRADING & DRAINAGE PLAN
CIVIL SHEET 12, GRADING & DRAINAGE PLAN

A. In NOTES & REFERENCES, Note 5, revise the phrase "26 of 28," to read as, "**26 of 30.**"

ITEM 4-31: REFERENCE THE PLANS
CIVIL SHEET 11 of 30, GRADING & DRAINAGE PLAN

A. Revise the spot elevation at the middle end of the south most tennis court that reads as "387.30" to read as **"387.28,"** as shown in **ATTACHMENT NO. 7.**

ITEM 4-32: REFERENCE THE PLANS
CIVIL SHEET 12 of 30, GRADING & DRAINAGE PLAN

A. Revise the spot elevation at the middle end of the south most tennis court that reads as "387.30" to read as "**387.28,**" as shown on **ATTACHMENT NO. 8.**

B. Access gate widths around the pond and wetlands have been revised and clarified. They are now typically 16'-0" wide, not 32'-0" wide to match detail on sheet 29 of 30. See **ATTACHMENT NO. 8.**

ITEM 4-33: REFERENCE THE PLANS
CIVIL SHEET 13 of 30, UTILITIES PLAN

A. 8" x 6" reducer has been labeled on water line near hydrant & SD#56, as shown on **ATTACHMENT NO. 9.**

ITEM 4-34: REFERENCE THE PLANS
CIVIL SHEET 14 of 30, UTILITIES PLAN

A. Extended 8" City of Columbia water line stub-out and add 8" x 6" reducer near SD #91, as shown on **ATTACHMENT NO. 10.**

B. Water line (and easement) near CATE Center Site Entrance has been revised, as shown on **ATTACHMENT NO. 11.**

ITEM 4-35: REFERENCE THE PLANS
CIVIL SHEET 15 of 30, UTILITES PLAN

A. Extended 8" City of Columbia water line stub-out near SD #79, as shown on **ATTACHMENT NO. 12.**

ITEM 4-36: REFERENCE THE PLANS
CIVIL SHEET 16 of 30, UTILITIES PLAN

A. Add the following new note to the dry hydrant water lines on the main drawing and Inset "A".

"BACKFILL AROUND THE PIPE SHALL OCCUR IMMEDIATELY AFTER PROPER CURING OF THE PIPE SECTIONS AFTER ASSEMBLY."

ITEM 4-37: REFERENCE THE PLANS
CIVIL SHEET 17 of 30, OFFSITE ROAD IMPROVEMENT PLAN
CIVIL SHEET 18 of 30, OFFSITE ROAD IMPROVEMENT PLAN

A. Tags for SD #105 and SD #106 have been switched, as shown on **ATTACHMENT NO. 13.**

ITEM 4-38: REFERENCE THE PLANS
CIVIL SHEET 18 of 30, OFFSITE ROAD IMPROVEMENT PLAN

A. Revise storm drainage pipe annotation connecting SD #95 and SD #96 to include (Remove existing 24" RCP), as shown on **ATTACHMENT NO. 14.**

ITEM 4-39: REFERENCE THE PLANS
CIVIL SHEET 22 of 30, STORM DRAINAGE PROFILES

A. Add the following 2 storm drainage profiles as shown in **ATTACHMENT NO. 15.**

ITEM 4-40: REFERENCE THE PLANS
CIVIL SHEET 24 of 30, FORCE MAIN PROFILES

A. Add drawing labels as follows:

1. "Sanitary Sewer Profile" – Drawing on lower left

2. "Force Main Profile" – Drawing on top and lower right

ITEM 4-41: REFERENCE THE PLANS
CIVIL SHEET 25 of 30, LIFT STATION DETAILS

A. Delete General Lift Station Notes in their entirety and replace with those shown on **ATTACHMENT NO. 16.**

B. Delete Control Panel Specifications in their entirety and replace with those shown on **ATTACHMENT NO. 17.**

C. Add the following to the end of Control Panel Specifications D.1:

"Connect to pump control panel and circuit breaker."

ITEM 4-42. REFERENCE THE PLANS

CIVIL SHEET 27 of 30, MISCELLANEOUS DETAILS

A. Revise the note on the middle of the page to read as follows:

"USE S.C.D.O.T. TYPE 17 CATCH BASIN FOR SD #**105** & 115 (SEE S.C.D.O.T. STANDARD DRAWINGS ON SHEET #30 FOR DETAIL)"

B. Add the following new notes to Temporary Dry Hydrant Details:

"1. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR MONTHLY TESTING OF THE DRY HYDRANT SYSTEM, ACCORDING TO LOCAL FIRE DEPARTMENT STANDARDS.

2. THE PIPE EXTENSION INTO THE POND MAY REQUIRE ADDITIONAL SUPPORTS. SUPPORT SPACING SHALL NOT EXCEED 8'."

C. **CLARIFICATION**: Specifications for the dry hydrant are noted on the reference plan sheet.

ITEM 4-43: REFERENCE THE PLANS
CIVIL SHEET 28 of 30, MISCELLANEOUS DETAILS

A. New handicap parking sign detail has been added, as shown in **ATTACHMENT NO. 18.**

ITEM 4-44: REFERENCE THE PLANS
SHEET E0.01, ELECTRICAL LEGEND AND OVERALL SITE PLAN

A. Add new General Note 5 as follows:

"5. Refer to Drawing AS-100 for locations of all underground electrical sleeves to be installed on the site. See General Notes – Sleeves on AS-100 for additional information and requirements."

ITEM 4-45: REFERENCE THE PLANS
SHEET E0.01A, ELECTRICAL SITE LIGHTING PLAN - AREA A

A. Add the following note to the drawing:

"NOTE:

1. Sign conduit (note 4) shown on this drawing shall be run to the High School Electrical Room."

ITEM 4-46: REFERENCE THE PLANS
SHEET E0.01B, ELECTRICAL SITE LIGHTING PLAN – AREA B

A. Add the following notes to the drawing:

"1. Homerun shown for CATE center courtyard pole lights shall be run to within 5 feet of the CATE center and terminated. Conduit to be run to main electric room by CATE center contractor. Wiring from pole lights to CATE center electrical room by this contractor.

2. Irrigation conduit (note 9) shown on this drawings shall be run to the CATE Center Electrical Room.

3. Sign conduit (note 4) shown on this drawing shall be run to the CATE Center Electrical Room."

ITEM 4-47: REFERENCE THE PLANS
SHEET E0.01C, ELECTRICAL SITE LIGHTING PLAN – AREA C

A. Add note to the drawing:

"1. Irrigation conduit (note 9) shown on this drawings shall be run to the High School Electrical Room."

ITEM 4-48: REFERENCE THE PLANS
SHEET E0.02, ELECTRICAL DETAILS

A. Revise light pole base details as follows:

"1. Delete coil of #6 wire at the base of the pole and provide a 10 foot ¾"dia. X 10 foot ground rod adjacent to each pole and connect to the #6 AWG ground wire."

ITEM 4-49: REFERENCE THE PLANS
SHEET LS1.7, PLANTING SPECIFICATIONS AND DETAILS

A. Refer to detail 1, Typical Permeable Paver System and add the

following note:

"ALL PERMEABLE PAVER SYSTEMS ARE TO BE INCLUDED IN THE BASE BID WORK, NOT LANDSCAPING ALLOWANCE. SITE GC IS TO COORDINATE INSTALLATION SCHEDULE WITH HS GC."

ITEM 4-50: REFERENCE THE PLANS
SHEET IR1.1, PRELIMINARY MASTER IRRIGATION PLAN

A. Delete the word "Preliminary" from the title of this sheet. The sheet title now reads as "MASTER IRRIGATION PLAN," and is consistent with Index of Drawings on sheet G100 and Spec Section 0400.

B. Add the following new note to this sheet:

"NOTE:

SEE SHEET AS100 FOR ADDITIONAL SLEEVING LOCATIONS"

End of Addendum No. 4

ATTACHMENT NO. 1

BID FORM *(REVISED 4-17-11)*

BIDDER SUBMITTING: _____

CONTRACT FOR: _____

BID DATE: APRIL 21, 2011 @ 2:00 PM

EARLY SITE PACKAGE
NEW HIGH SCHOOL NO. 4 & CATE CENTER
CHAPIN, SOUTH CAROLINA

SINGLE PRIME CONTRACT

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
1020 DUTCH FORK ROAD
IRMO, SOUTH CAROLINA 29063

Gentlemen:

Having carefully examined the Drawings and Specifications for the above noted project(s), as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials, labor, equipment and services called for by them for a lump sum consideration of

BASE BID: $_____ (NUMERICAL AMOUNT HERE)

_____ (WRITTEN DOLLARS HERE)

_____

The above stated bid is based on the above-mentioned Drawings, Specifications, Pre-Bid Schedule and any Addenda issued subsequent to the basic Drawings and Specifications. (List all Addenda with dates of any issued. If no additional Addenda are issued, write the word "NONE".)

Addendum Number	Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

ATTACHMENT NO. 1

The bidder is required to propose the following unit costs on the following items of work that would be performed under this contract. Prices should be given for additions to the base bid scope of work. Prices shall be used for additions to the base contract and shall not be construed for usage for any item, which is part of the base contract. Unit prices shall include all costs including charges for materials, labor, equipment, fees, taxes, insurance, bonding, overhead, profit, etc.

ITEM	UNIT	UNIT PRICE
Unsuitable material excavation including offsite disposal:	Each cu. yd.	_____
Structural fill material using approved offsite borrow:	Each cu. yd.	_____
Concrete pavement (4" sidewalks):	Each s.f.	_____
Hydro-Seeding:	Each s.f.	_____
Topsoil, (4") In Place	Each cu. yd.	_____
Concrete Curb & Gutter	Each l.f.	_____
Stabilized Aggregate Base Compacted In Place	Each ton	_____
6' Permanent Chain Link Fence, Installed, with Poles	Each l.f	_____
Rock Excavation and removal (Off Site Disposal)	Per cu. Yd.	_____

If notified of the acceptance of this bid within sixty (60) days after the date fixed for the opening of the bid, the undersigned agrees to execute and deliver the specified Contract and Contractor's Bond within ten (10) days. The undersigned agrees, if awarded the Contract within sixty (60) days from the fixed date for opening of the bids, to faithfully and properly complete the whole work within the specified time, consistent with the best interest of the Owner, the safety of the public and in accordance with first-class workmanship.

The undersigned agrees that the Owner may retain the sum of money specified in Paragraph 1.07.B of Section 01110 Summary Of Work, from the amount of compensation to be paid the undersigned for each calendar day that work remains uncompleted and unaccepted after the maximum duration of time for the work to be completed. This amount is agreed upon as the proper measure of liquidated damages, which the Owner sustains per day by failure of the undersigned to complete the work in the stipulated time and is not to be construed in any sense as a penalty.

Attached hereto is a certified check of the _____ Bank of _____ or Bid Bond, neither, of which shall be less than five percent (5%) of the principal's bid, made payable to the Owner.

Subcontractors

All bidders are required to list the names and license number of all subcontractors who will perform work or render services to a prime contractor for the work sections noted below. Failure to list subcontractors in accordance with this section shall render the Prime contractor's bid unresponsive.

ATTACHMENT NO. 1

Electrical_____License #_____

Utilities_____License #_____

The undersigned agrees, if awarded the Contract, to comply with all provisions regarding commencement, prosecution, completion and acceptance of the work as described in the above mentioned Specifications, "Bid Form", Construction Contract and Performance Bond. If the undersigned fails to perform according to these documents, the check or Bid Bond shall be paid as liquidated damages for such failure; otherwise, the check or Bid Bond accompanying this proposal shall be returned to the undersigned.

It is agreed that the undersigned has completed and/or will comply with all requirements concerning licensing and with all other local, state and national laws and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him and/or in the performance of the Work required there under.

The undersigned declares that this firm is (delete those not applicable):

A corporation organized and existing under the laws of the state of _____.

A partnership consisting of _____.

An individual trading as _____.

The undersigned declares that the person or persons signing this proposal is/are authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

Respectfully submitted this _____ day of _____, 20_____.

_____
(Name of Firm)

_____
(S.C. Contractor's License)

_____
(Address)

By _____
(Title)

ite Package for
ew High School No.4
CATE Center
hapin, South Carolina

Arch Project No. 010112.0



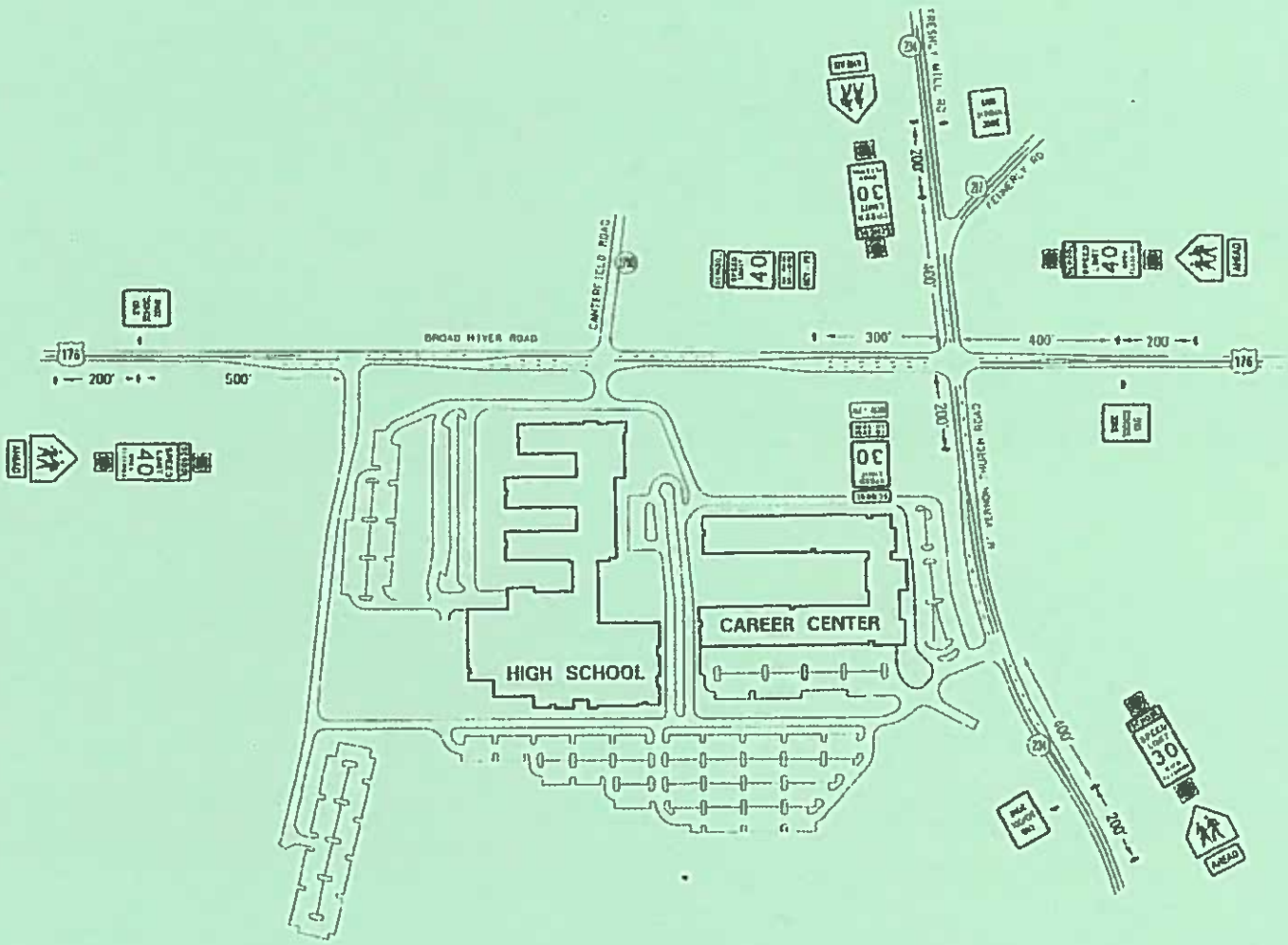
EXACT IMAGE TO BE PROVIDED BY ARCHITECT

ATTACHMENT NO. 2

McMillan Pazdan Smith Site Project Sign template

JOB SIGN

ATTACHMENT NO. 3



SCHOOL FLASHER EQUIPMENT

FOUR (4)	SOLID STATE FLASHERS COMPLETE WITH CAB NET
EIGHT (8)	ONE WAY BEACONS WITH 12 INCH YELLOW LENS
ONE (1)	LOCK BOX, WITH PRESET COUNT DOWN TIMER TO CONTROL FLASHING OPERATION
TWO (2)	SIGN S5-1-24-40
TWO (2)	SIGN S5-1-24-30
ONE (1)	SIGN R2-1-24 40
ONE (1)	SIGN R2-1-24-30
TWO (2)	SIGN S4-3-24
TWO (2)	SIGN S4-1-24
TWO (2)	SIGN S4-6-24
FOUR (4)	SIGN S5-2-24
FOUR (4)	SIGN S1-1-30
FOUR (4)	SIGN W16-9P-30

SCDOT

SCHOOL FLASHER INSTALLATIO

BROAD RIVER (S.C. Route 176) and MT. VERNON CHURCH ROAD (S.C. 21)

YORK

RICHLAND

1" = 200'

3 / 30 / 18

School District Five of Lexington and Richland Counties
Site Package of New High School No. 4 and CATE Center
04.17.11
Addendum No. 4

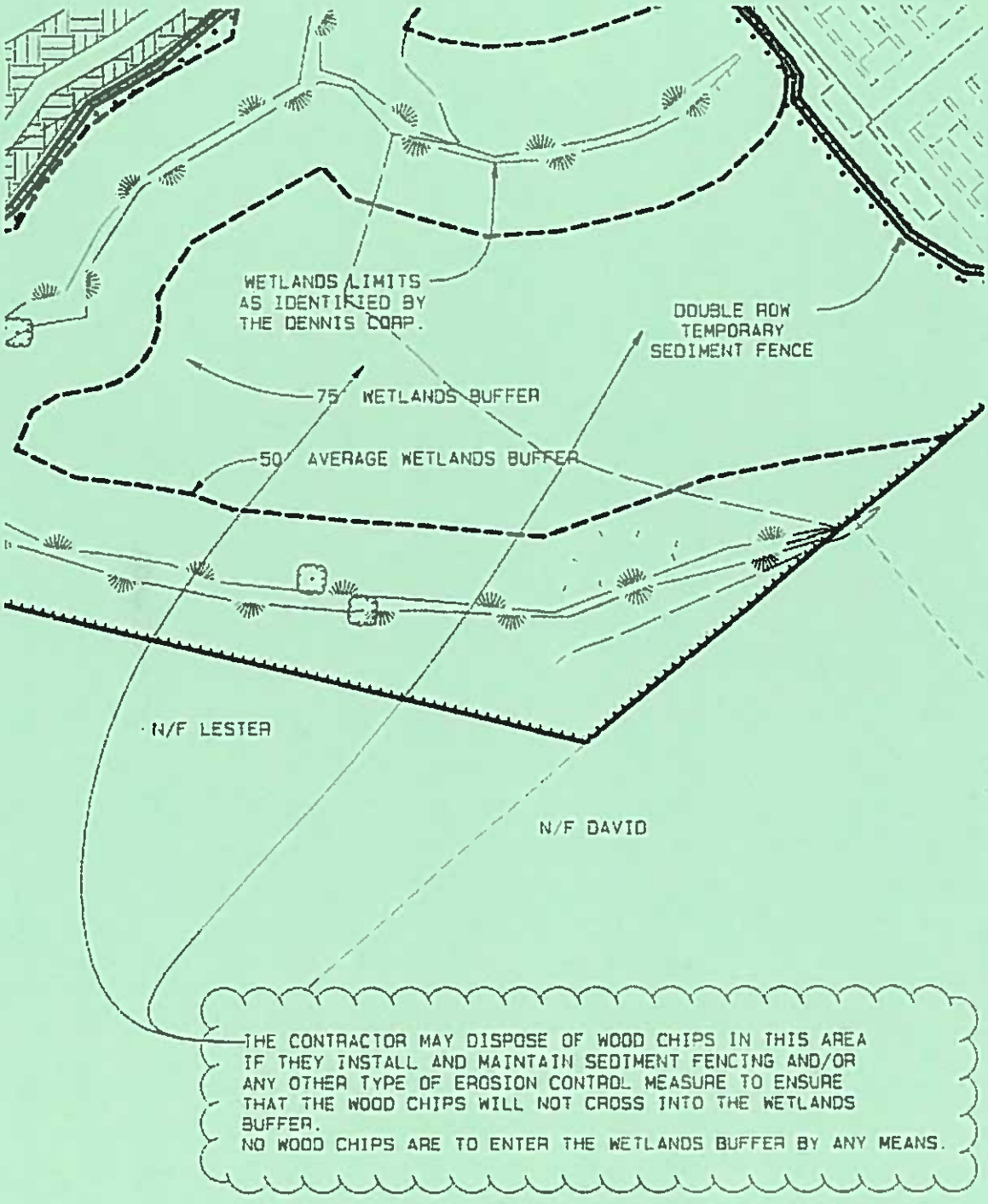
ATTACHMENT NO. 4



Existing pond to be removed - 04.07.11

School District Five of Lexington and Richland Counties
Site Package for New High School No.4 & CATE Center
04.17.11
ADDENDUM NO. 4

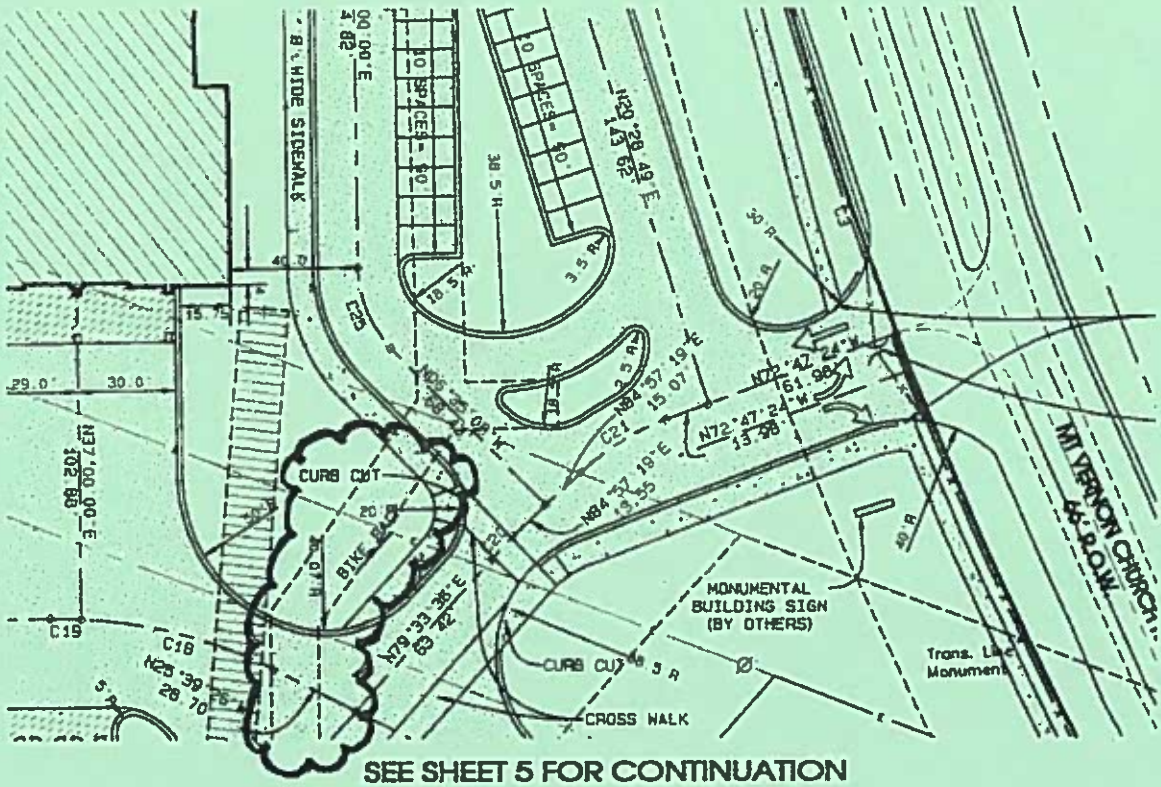
ATTACHMENT NO. 5



School District Five of Lexington and Richland Counties
Site Package for New High School No.4 & CATE Center
04.17.11
ADDENDUM NO. 4

ATTACHMENT NO. 6

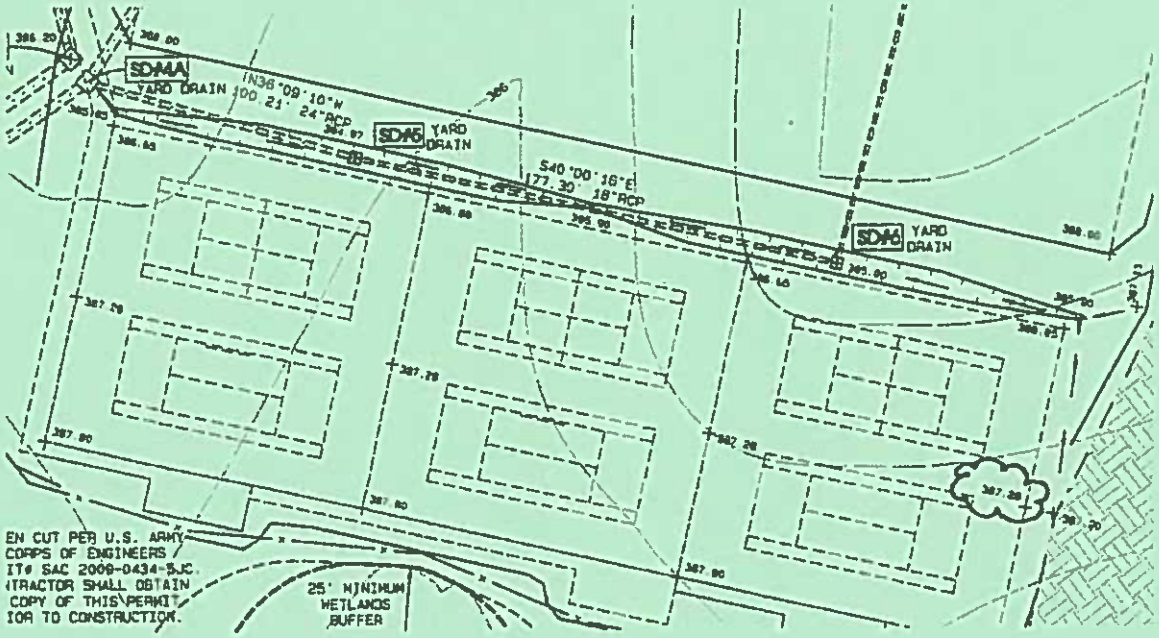
Water line easement near CATE Center Site Entrance has been revised as shown below.



School District Five of Lexington and Richland Counties
Site Package for New High School No.4 & CATE Center
04.17.11
ADDENDUM NO. 4

ATTACHMENT NO. 7

a. Revise the spot elevation at the middle end of the south most tennis court that reads as "387.30" to read as "**387.28**," as shown below.



ATTACHMENT NO. 8

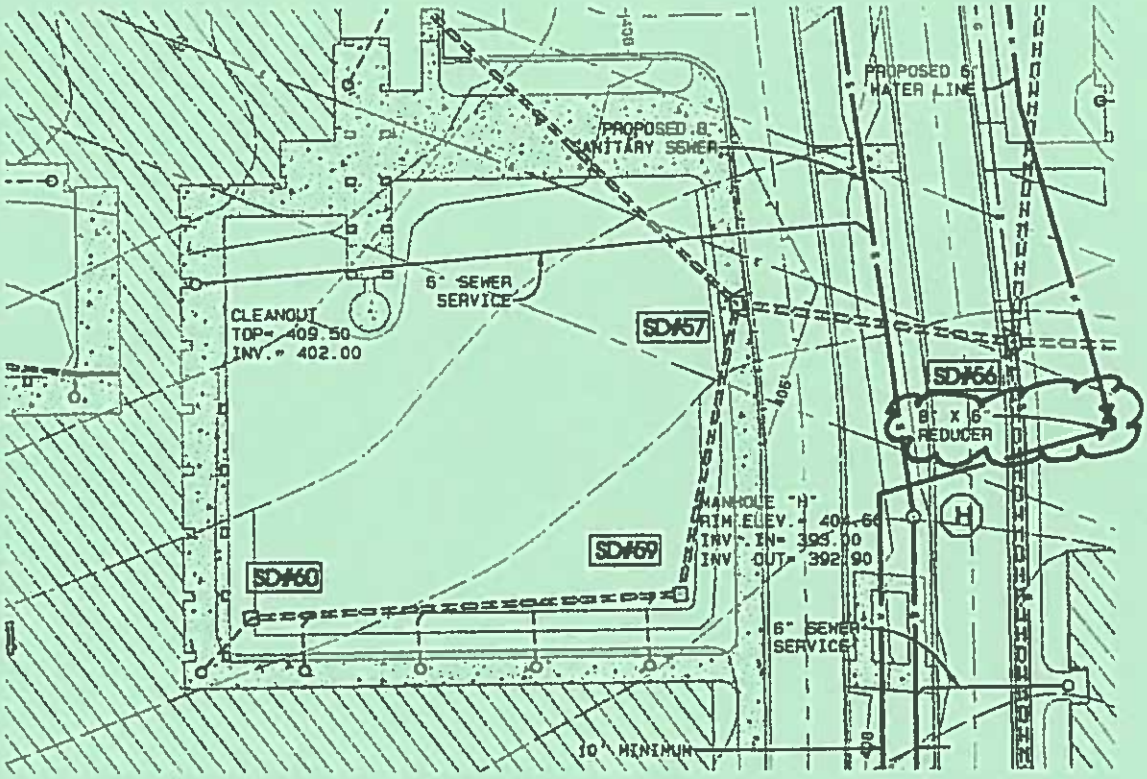
a. Revise the spot elevation at the middle end of the south most tennis court that reads as "387.30" to read as "**387.28**," as shown below.

b. Access gate widths around the pond and wetlands have been revised and clarified. They are now typically 16'-0" wide, not 32'-0" wide to match detail on sheet 29 of 30. See below.



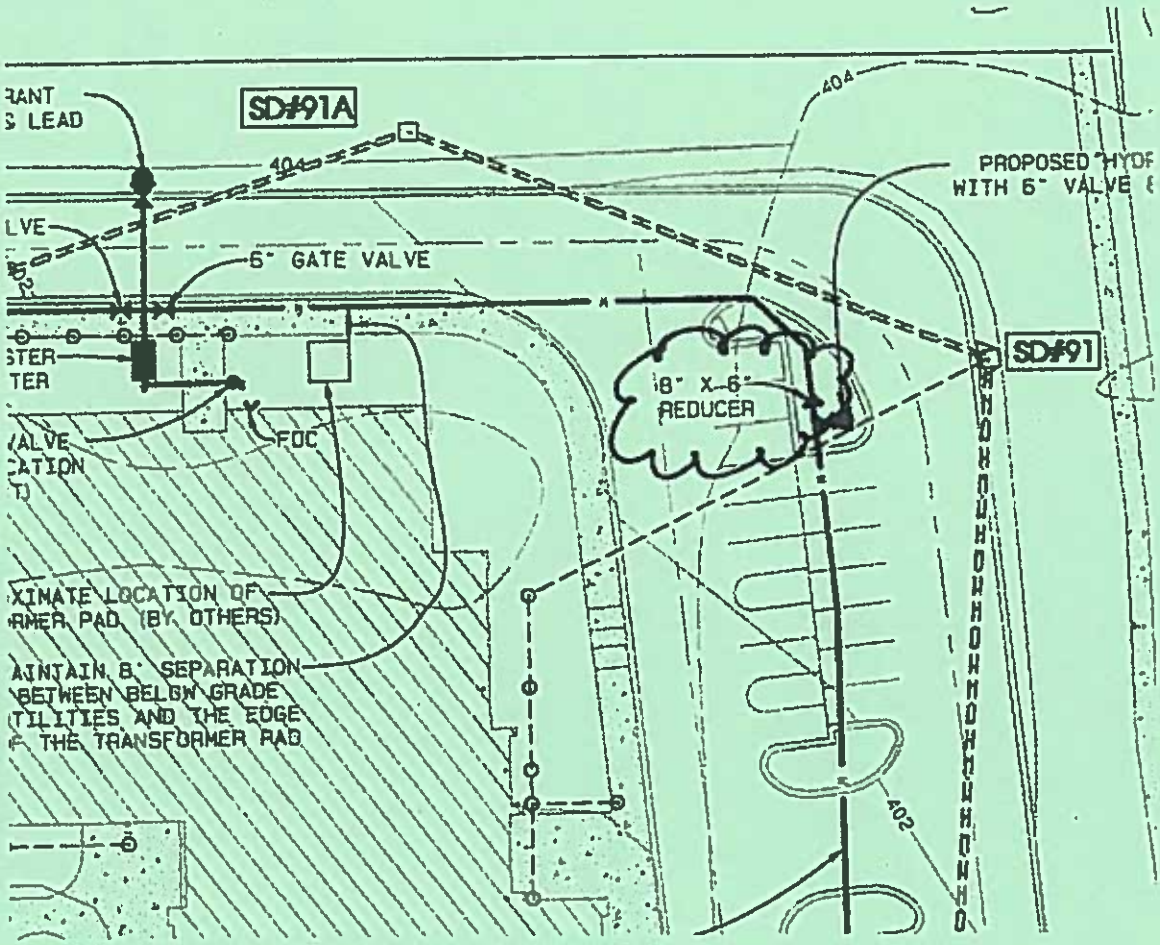
ATTACHMENT NO. 9

a. 8" x 6" reducer has been labeled on water line near hydrant & SD#56, as shown below.



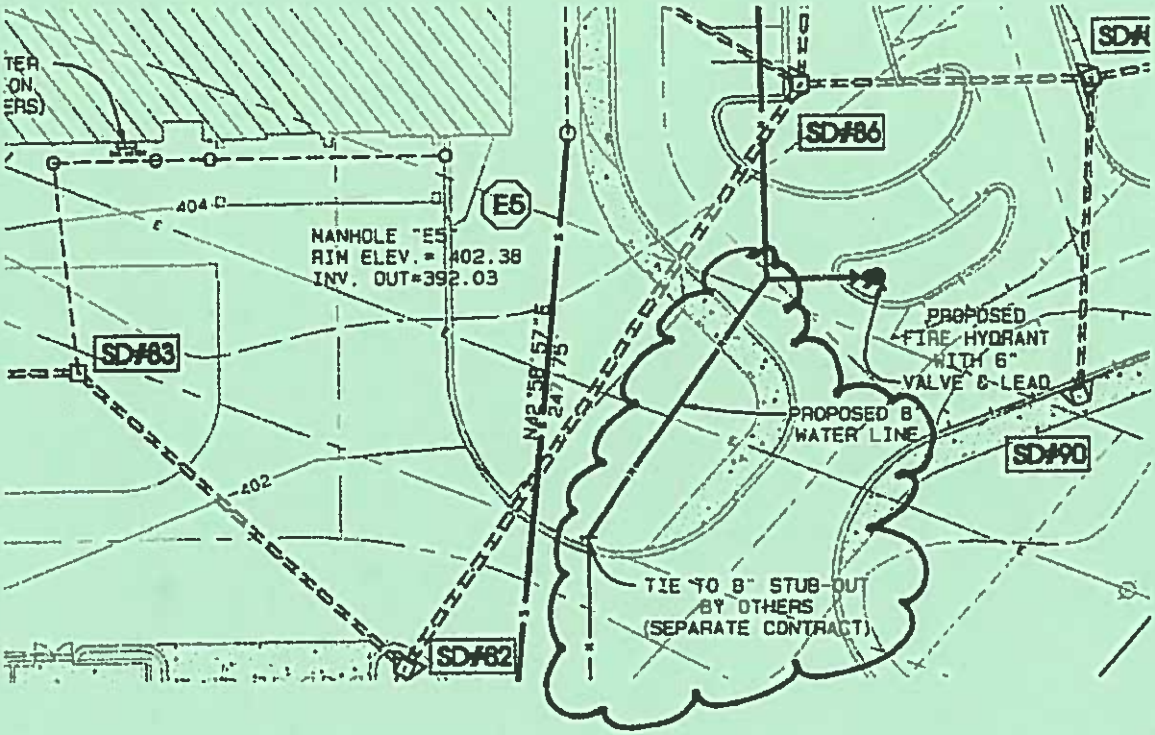
ATTACHMENT NO. 10

a. Extended 8" City of Columbia water line stub-out and add 8" x 6" reducer near SD#91, as shown below.



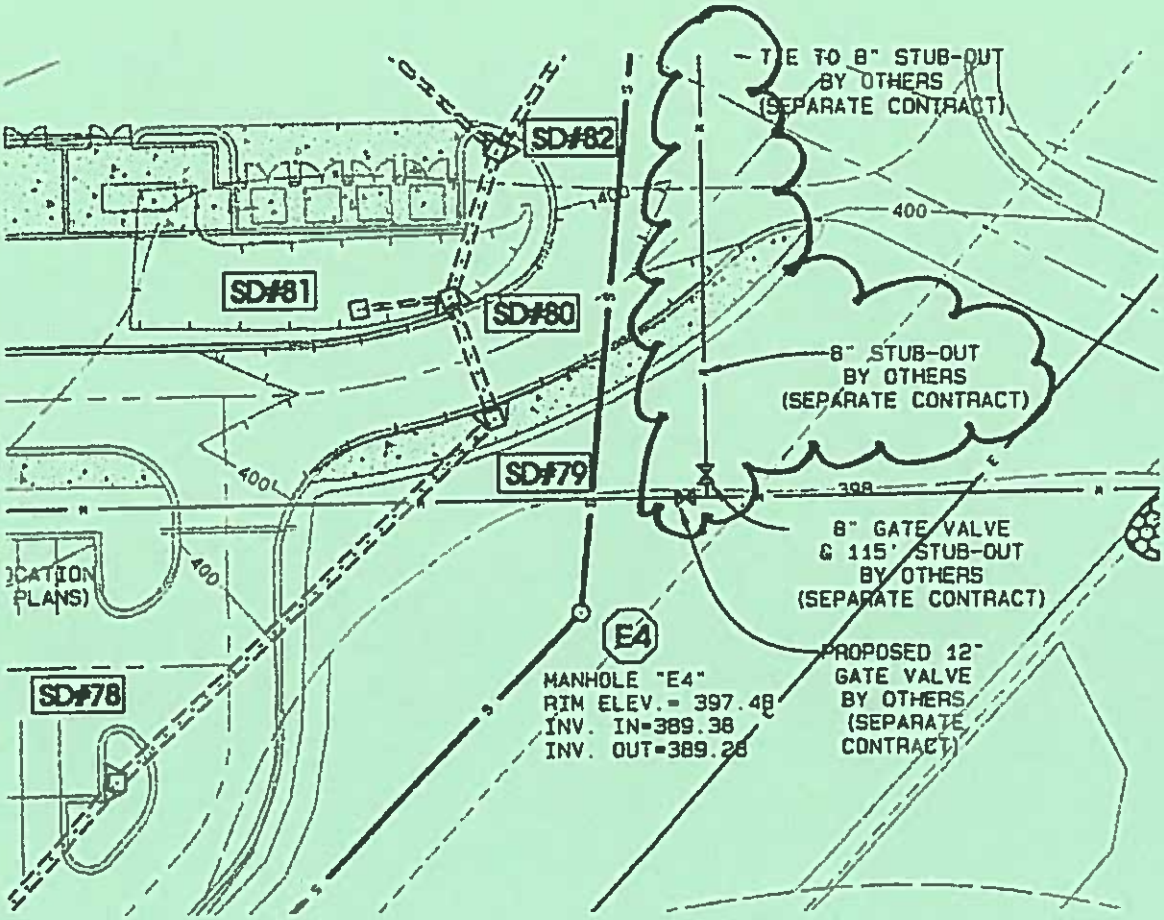
ATTACHMENT NO. 11

b. Water line (and easement) near CATE Center Site Entrance has been revised, as shown below:



ATTACHMENT NO. 12

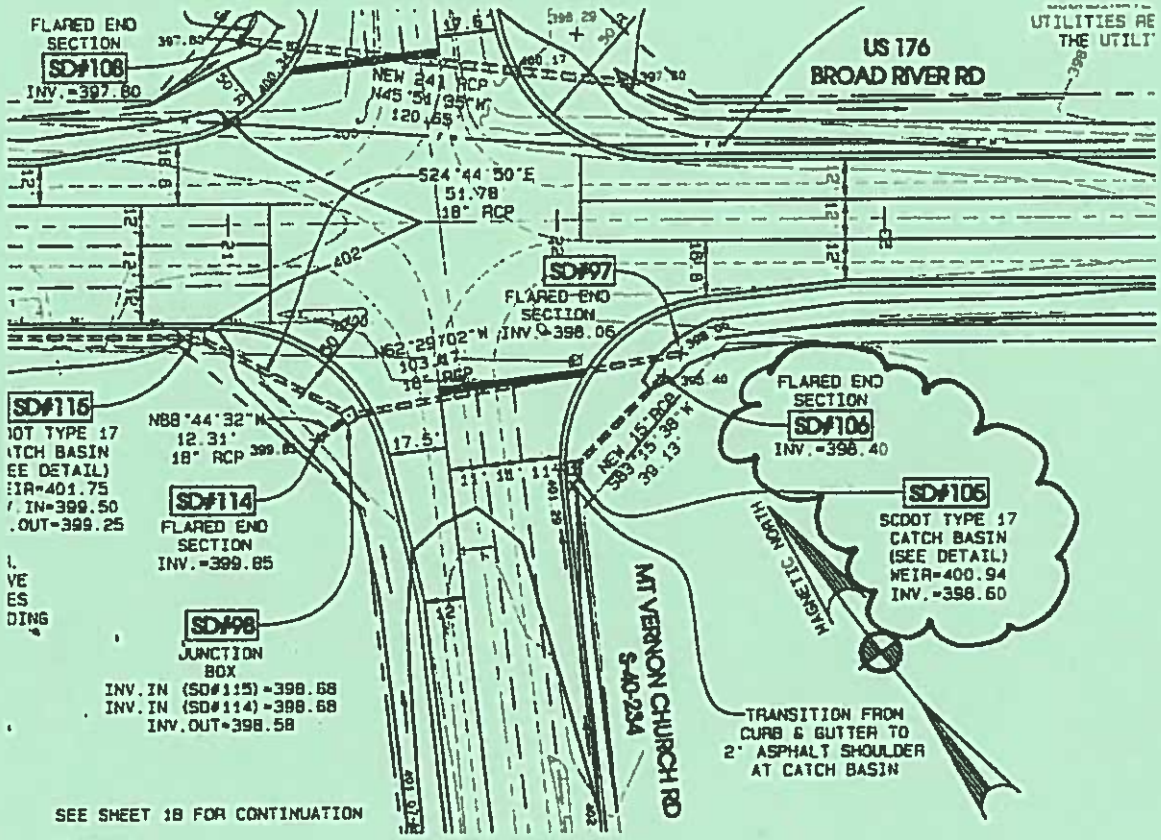
a. Extended 8" City of Columbia water line stub-out near SD#79, as shown below.



School District Five of Lexington and Richland Counties
Site Package for New High School No 4 & CATE Center
04.17.11
ADDENDUM NO. 4

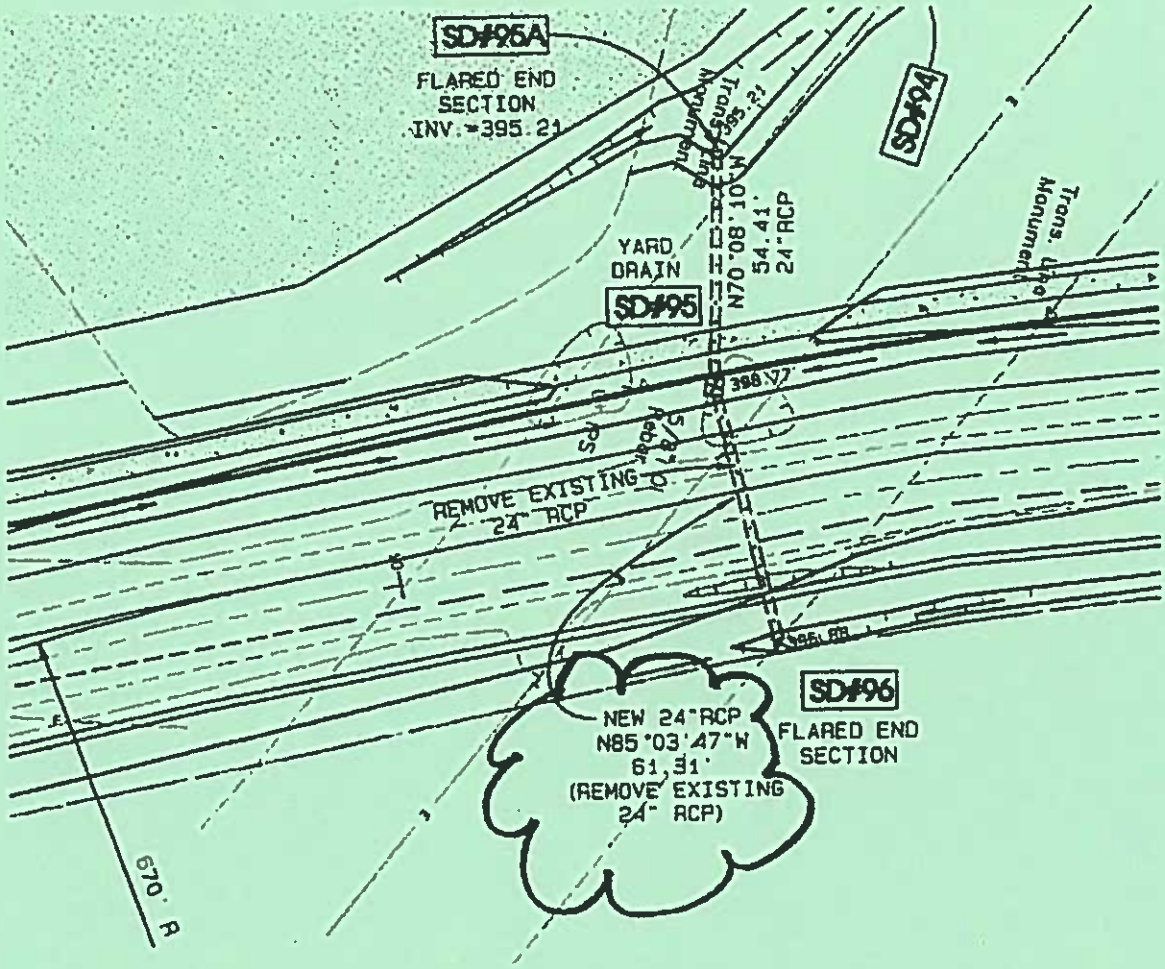
ATTACHMENT NO. 13

a. Tags for SD #105 and SD #106 have been switched, as shown below.



ATTACHMENT NO. 14

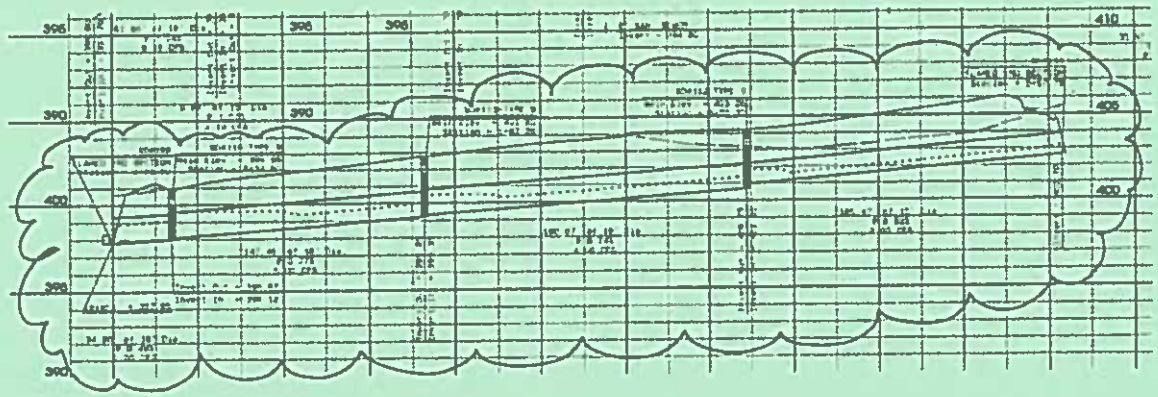
a. Revise storm drainage pipe annotation connecting SD #95 and SD #96 to include (Remove existing 24" RCP).

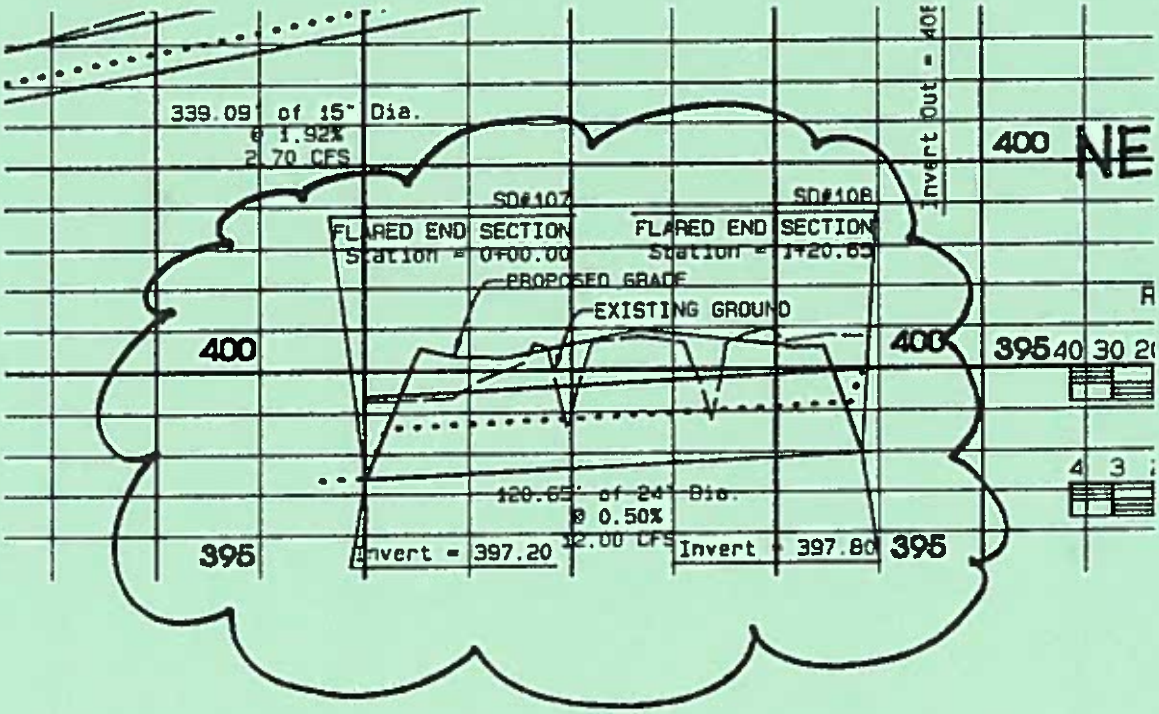


School District Five of Lexington and Richland Counties
Site Package for New High School No.4 & CATE Center
04.17.11
ADDENDUM NO. 4

ATTACHMENT NO. 15

a. Add the following 2 storm drainage profiles.





ATTACHMENT NO. 16

a. Delete General Lift Station Notes in their entirety and replace with the following:

GENERAL LIFT STATION NOTES:

1. ALL INTERNAL WETWELL PIPING AND VALVE VAULT PIPING SHALL BE CLASS 52 DIP.

2. ALL FLANGES SHALL BE 125# STANDARD.

3. PUMP SLIDE RAILS SHALL BE EXTRA STRENGTH STAINLESS STEEL.

4. CONTRACTOR SHALL INSTALL PUMP DISCHARGE PIPING AND SLIDE RAILS LEVEL AND PLUMB FOR EASE OF PUMP REMOVAL. HOIST AND EACH PUMP SHALL BE REMOVED AND REINSTALLED IN THE PRESENCE OF THE ENGINEER TO DEMONSTRATE PERFORMANCE.

5. WETWELL SHALL BE TESTED FOR LEAKAGE AND SHALL NOT EXCEED 1" OF WETWELL DEPTH IN 24 HOURS.

6. PUMP DRAWDOWN TEST SHALL BE CONDUCTED FOR EACH PUMP IN THE PRESENCE OF THE ENGINEER.

7. CONTRACTOR TO INSTALL BACKFLOW PREVENTER AND METER BOX AS SHOWN & NON-FREEZE HYDRANT AT WETWELL.

8. CONTRACTOR SHALL INSTALL APPROPRIATE SIZED TRANSFER SWITCH PER RICHLAND COUNTY SPECIFICATIONS. OPERATION OF ALL ELECTRICAL CONTROLS SHALL BE DEMONSTRATED IN THE PRESENCE OF THE ENGINEER AND RICHLAND COUNTY.

9. CONTRACTOR SHALL PROVIDE RICHLAND COUNTY A SPARE PUMP EQUAL TO THE INSTALLED PUMPS. SPARE PUMP SHALL BE STORED ON-SITE AT A SET LOCATION THAT IS AGREED ON BY THE OWNER, CONTRACTOR AND RICHLAND COUNTY. THE SPARE PUMP SHALL ALWAYS REMAIN AT THIS SET LOCATION.

10. CONTRACTOR SHALL PROVIDE A STAINLESS STEEL PORTABLE ELECTRICAL HOIST WITH A 30' STAINLESS STEEL CABLE AND ADJUSTABLE LIFTING ARM AND SIZED ACCORDINGLY (MIN. 300lbs.) WITH DROP IN SOCKET AND RAIN CAP.

11. INTERIOR OF WET WELL SHALL BE COATED WITH STRONG-SEAL EPOXY TOPCOAT OR APPROVED EQUIVALENT A MINIMUM OF 120 MILS OR AGRU SURE GRIP.

12. VERTICAL SEPARATION OF SEWER FROM STORM DRAINAGE PIPE SHALL BE A MINIMUM OF ONE FOOT.

13. FORCE MAIN SHALL UTILIZE RESTRAINED JOINT PIPE AT ALL BENDS 30° OR GREATER AND AT THE PUMP STATION SITE.

14. ALL HARDWARE, BOLTS, NUTS, WASHERS, ETC. SHALL BE STAINLESS STEEL.

ATTACHMENT NO. 17

b. Delete Control Panel Specifications in their entirety and replace with the following:

CONTROL PANEL SPECIFICATIONS

A. ENCLOSURE
   1. MINIMUM SIZE 30x36x12
   2. NEMA 4X
   3. STAINLESS STEEL
   4. CONTINUOUS HINGE
   5. DEAD FRONT
   6. PAD LOCKABLES SS SINGLE HANDLE 3 POINT LATCH

B. COMPONENTS
   1. NEMA RATED STARTER (ONE PER PUMP) — SQUARE D/FURNAS
   2. NEMA RATED BREAKER (ONE PER PUMP) — SQUARE D
   3. PHASE/VOLTAGE MONITOR — TIMEMARK 8-PIN OCTAL
   4. ELAPSED TIME METER (ONE PER PUMP) — CRAMER #6x137 - HOURS/NON RESETTABLE
   5. CONTROL CIRCUIT 120 VOLTS
   6. RUN LIGHT, GREEN (ONE PER PUMP)
   7. SEAL FAIL LIGHT, RED (ONE PER PUMP)
   8. AUDIBLE ALARM, RED (120 VOLTS)
   9. VISUAL ALARM, RED (120 VOLTS)
   10. H.O.A. SWITCH (ONE PER PUMP)
   11. ONE (1) GFI DUPLEX CONVENIENCE RECEPTACLE WITH 15 AMP BREAKER
   12. SURGE AND LIGHTNING PROTECTION WITH FUSES
   13. AUDIBLE SILENCE BUTTON
   14. AUTOMATIC ELECTRICAL ALTERNATOR WITH SELECTOR SWITCH — FURNAS
   15. HEATER WITH THERMOSTAT
   16. INTERIOR PANEL LIGHT
   17. SPARE 15 AMP. CIRCUIT BREAKER
   18. PHASE FAILURE RELAY WITH PIN TYPE PLUG IN SOCKET AND FUSES

C. GENERATOR RECEPTACLE
   1. CROUSE HINDS AREA 10415

D. MISCELLANEOUS
   1. AREA LIGHT WITH ON/OFF LIGHT SWITCH - USE OUTDOOR FLOOD LIGHTS WITH AN APPROVED OUTDOOR ON/OFF SWITCH.
   2. ALL SWITCHES, LIGHTS AND METERS PROPERLY LABELED WITH ENGRAVED NAMEPLATES
   3. ALL WIRING PROPERLY LABELED AT ALL CONNECTIONS
   4. ELECTRICAL DISCONNECT PRIOR TO CONTROL PANEL (STAINLESS STEEL)
   5. MINIMUM CONDUIT SIZE 2 INCHES
   6. MINIMUM NUMBER OF CONDUITS - 3 (1 FOR CONTROL WIRING, 1 FOR EACH PUMP POWER CABLE)
   7. ALL CONDUITS ENTERING THE CONTROL PANELS OR OTHER ENCLOSURES FROM THE WET WELL SHALL BE SEALD WITH GAS-TIGHT FITTINGS (MYERS TYPE HUBS)
   8. CONTRACTOR SHALL PROVIDE, INSTALL AND HAVE OPERATIONAL A CRYSTAL BALL RTU COMPATIBLE WITH THE COUNTY'S EXISTING SYSTEM

NOTE: CIRCUIT BOARD CONTROLS ARE NOT ACCEPTABLE

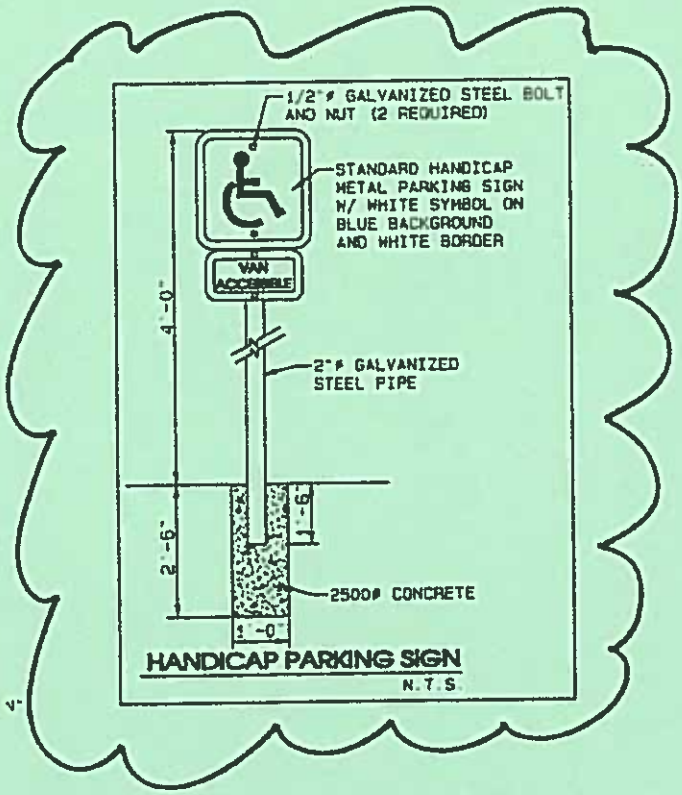
CONTROL PANEL SPECIFICATIONS MUST BE SUBMITTED AND APPROVED BY RICHLAND COUNTY PRIOR TO INSTALLATION. TO INCLUDE BUT NOT LIMITED TO SCHEMATICS AND COMPONENTS LISTS.

NOTICE: THESE SPECIFICATIONS ARE SUBJECT TO REVISIONS WITHOUT NOTICE. CONTACT RICHLAND COUNTY TO RECEIVE THE CURRENT SPECIFICATIONS.

NOTE: CONSTRUCTION OF ALL SEWER LINES, FORCE MAIN AND LIFT STATION IS TO BE COMPLETED PRIOR TO THE OPENING OF THE CATE CENTER AND/OR THE HIGH SCHOOL.

ATTACHMENT NO. 18

a. New handicap parking sign detail has been added, as shown below.



ADDENDUM NUMBER FIVE

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 23, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 5-1: BID DATE:
The bid date will change to Wednesday February 1st at 2:00p.m. The location will remain the same unless changed in a future addendum.

End of Addendum No. 5

ADDENDUM NUMBER FIVE

FOR

DISTRICT FIVE OF
LEXINGTON & RICHLAND COUNTIES
FOR
NEW HIGH SCHOOL #4

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
127 Dunbar Street, Spartanburg, SC 29306
P.O. Box 5331, Spartanburg, SC 29304

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 17, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

SUBSTITUTION / APPROVED EQUALS:

Item 5-1: Munters and McQuay are accepted and allowed approved equal status for this particular project.

End of Addendum No. 5

ADDENDUM NUMBER SIX

FOR

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES FOR GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 27, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 6-1: **Scope:** The project scope has changed. The location of the geothermal field will be on the campus soccer fields as shown in the attached drawing G-02. Sheet G-02 is to be used for well field layout, the other information shown on Sheet G-01 still applies. Base bid shall include the geothermal field for the CATE Center only. Alternate II shall include the geothermal field for High School #4. The attached well field drawing is not for construction. In-field coordination with the designer will be required prior to proceeding. Any changes to the number of wells or footage of piping required during post bid coordination will be adjusted by the unit prices listed on the bid form.

Item 6-2: **Bore Log:** See attached Bore Log from CATE Center Test Well.

Item 6-3: **SC Bidder's License:** Obtaining a SC Bidders License is no longer a requirement. Strike all references from the Bid Form and Specifications.

Item 6-4: **Qualification Requirements:** The qualification requirements of Addendum #1 override the qualification requirements of the specifications. These qualifications are to be included with the bid form package.

Item 6-5: **Flushing/Purging:** In the specifications page 15300-7, "E. Purging", this purging will be performed by the geothermal contractor. The building pumps, provided by the HVAC contractor, will be used. This purging will not be able to take place until after the mechanical room is at or near completion.
The mechanical room piping has been designed with isolation valves so that the building piping and the geothermal piping can be isolated and pumped independently from the building pump. The intent is that the building loop and geothermal loops can be independently cleaned, flushed, and chemically treated before the (2) systems are opened to each other.

Item 6-6: **High School #4 Test Well:** The High School test well is no longer included in the scope of this project.

Item 6-7: **Request for Substitution:** Reference Geothermal Specifications 15300-10, "HDPE Vault":
Revise the specified and substitute manufacturers as follows:
Specified: ISCO Industries "Circuit Maker" is accepted.
Substitute: Weholite or by prior approval
Deduct Alternate: Atlantis (See Bid Form Page 2)

Item 6-8: **Warranty:** The Warranty Details of Section 1780 2.3 & Section 15300 both apply. The duration listed in Section 1780 2.3 is to be revised to two (2) years. All warranties include the cost of excavation and repair to adjacent trades (turf, sprinkler, etc.) required to repair system. All costs and coordination are to be borne by the geothermal contractor. All warranties shall commence from the date of Substantial Completion of the General Contractor's scope for the building being served by the system. Expected Substantial Completions are: CATE Center- August 2012, High School #4- August 2013

Item 6-9: **Unclassified Excavation:** All excavation related to the installation of geothermal system components is to be bid as Unclassified.

Item 6-10: **Owner's Procurement Code:** This document is available on the owner's website www.lexrich5.org

Item 6-11: **As-Builts:** The geothermal contractor is responsible for all record drawings, as-builts, surveys and record documents referenced throughout the specifications.

Item 6-12: **LLR Clarification on licensing requirements:** Per Garry Wiggins' (LLR Construction Division) and Theresa Garner's (LLR Environmental/Well Drilling Division) interpretation of the codes and requirements (01/09/12)- A well driller's license (geothermal, rock, type B or higher) is required to install a Geothermal System. This license includes the installation of the transfer heat loop piping. A general contractor's license is not required unless the scope of work includes Mechanical work within the building beyond the piping stub ups (installing equipment, making connections to equipment, duct/piping, test and balance, etc).

Item 6-13: **Liquidated Damages:** Refer to Specification Section 01110 1.06 B. & Supplementary Conditions 8.E (pg. 9). Modify Liquidated Damages to be five thousands dollars ($5,000) per calendar day.

Item 6-14: **Systems & Phasing.**

SYSTEMS.

System #1 is CATE Center System.
System #2 is High School #4 System.

PHASING.

All days are calendar days.

Phasing Schedule-System #1
Well Drilling: 70 days
Connections: 10 additional days
The system #1 is to be fully operational at the end of this 80 day period.
The 14 day punchlist period for the field area begins at the end of this 80 days.
All work & punchlist associated with System #1 is to be completed by Friday May 18, 2012

Phasing Schedule-System #2
Schedule Commences at the end of the System #1 80 day period.
Well Drilling: 240 days
Connections: 20 additional days
The system #1 is to be fully operational at the end of this 260 day period.
The 14 day punchlist period for the field area begins at the end of this 260 days.
All work & punchlist associated with System #2 is to be completed by Monday February 4, 2013

End of Addendum No. 6

BID FORM
Revised 1-27-12
Bid Delivery 2:00pm

BIDDER SUBMITTING: _____

CONTRACT FOR: _____

GEOTHERMAL WELLS FOR CATE CENTER & NEW HIGH SCHOOL #4
CHAPIN, SOUTH CAROLINA

SINGLE PRIME CONTRACT

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
1020 DUTCH FORK ROAD
IRMO, SOUTH CAROLINA 29063

Gentlemen:
Having carefully examined the Drawings and Specifications for the above noted project(s), as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials, labor, equipment and services called for by them for a lump sum consideration of

Base Bid
CATE Center Geothermal System (System #1)

BASE BID: $_____ (NUMERICAL AMOUNT HERE)

_____ (WRITTEN DOLLARS HERE)

_____

The above stated bid is based on the above-mentioned Drawings, Specifications, Pre-Bid Schedule and any Addenda issued subsequent to the basic Drawings and Specifications. (List all Addenda with dates of any issued. If no additional Addenda are issued, write the word "NONE".)

Addendum Number	Date
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

If any of the following Alternates are accepted, the above stated sum (base bid amount) will be altered by the amount(s) indicated below.

a. If no Alternates are indicated, enter the term "NOT APPLICABLE" after the dollar ($) sign.

b. If Alternates are indicated, strike through completely either "add" or "deduct" in order to leave exposed the proper change to the base bid amount and indicate the amount of the change in numbers after the dollar ($) sign.

c. If Alternates are indicated, but there is no change to the base bid amount, enter the term "NO CHARGE" after the dollar ($) sign.

I. BASE BID-SYSTEM #1
All parts are to be completed per Phasing Schedule #1.

$ LISTED ON PG. 1

I.A. Voluntary Alternate for use of Atlantis vault in lieu of specified vault within System #1.

ADD / DEDUCT $_____

I.B. Voluntary Alternate for post bid engineer approved grout change to bidder recommended grout within System #1 (attach cut sheets for product recommended).

ADD / DEDUCT $_____

II. ALTERNATE-SYSTEM #2
All parts System #2 are to be completed per Phasing Schedule #2.

$_____

II.A. Voluntary Alternate for use of two (2) Atlantis vaults in lieu of specified vault within System #2.

ADD / DEDUCT $_____

II.B. Voluntary Alternate for post bid engineer approved grout change to bidder recommended grout within System #2. (attach cut sheets for product recommended).

ADD / DEDUCT $_____

The bidder is required to propose the following unit costs on the following items of work that would be performed under this contract. Prices should be given for additions to the base bid scope of work. Prices

shall be used for additions to the base contract and shall not be construed for usage for any item, which is part of the base contract. Unit prices shall include all costs including charges for materials, labor, equipment, fees, taxes, insurance, bonding, overhead, profit, etc.

ITEM	UNIT	UNIT PRICE
Well Field Piping 1" (Includes Fittings, Welding, Installation)	linear ft.	_____
Well Field Piping 2" (Includes Fittings, Welding, Installation)	linear ft.	_____
Well Field Piping 3" (Includes Fittings, Welding, Installation)	linear ft.	_____
Additional Wells (353' Deep, Loop Installed, Grouted, Tested)	Each	_____

If notified of the acceptance of this bid or any Alternate within sixty (60) days after the date fixed for the opening of the bid, the undersigned agrees to execute and deliver the specified Contract and Contractor's Bond within ten (10) days. The undersigned agrees, if awarded the Contract within sixty (60) days from the fixed date for opening of the bids, to faithfully and properly complete the whole work within the specified time, consistent with the best interest of the Owner, the safety of the public and in accordance with first-class workmanship.

The undersigned agrees that the Owner may retain the sum of money specified in Paragraph 1.06.B of Section 01110 Summary Of Work, from the amount of compensation to be paid the undersigned for each calendar day that work remains uncompleted and unaccepted after the maximum duration of time for the work to be completed. This amount is agreed upon as the proper measure of liquidated damages, which the Owner sustains per day by failure of the undersigned to complete the work in the stipulated time and is not to be construed in any sense as a penalty.

Attached hereto is a certified check of the _____ Bank of_____ or Bid Bond, neither, of which shall be less than five percent (5%) of the principal's bid, made payable to the Owner.

Subcontractors
All bidders are required to list the name and license number of all subcontractors who will perform work or render services to a prime contractor for the work sections noted below. Failure to list subcontractors in accordance with this section shall render the Prime contractor's bid unresponsive.

Subcontractor's Name	Work Description	License Number
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The undersigned agrees, if awarded the Contract, to comply with all provisions regarding commencement, prosecution, completion and acceptance of the work as described in the above

mentioned Specifications, "Bid Form", Construction Contract and Performance Bond. If the undersigned fails to perform according to these documents, the check or Bid Bond shall be paid as liquidated damages for such failure; otherwise, the check or Bid Bond accompanying this proposal shall be returned to the undersigned.

It is agreed that the undersigned has completed and/or will comply with all requirements concerning licensing and with all other local, state and national laws and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him and/or in the performance of the Work required there under.

The undersigned declares that this firm is (delete those not applicable):

A corporation organized and existing under the laws of the state of _____.

A partnership consisting of _____.

An individual trading as _____.

The undersigned declares that the person or persons signing this proposal is/are authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

Respectfully submitted this _____ day of _____, 20_____.

(Name of Firm)

_____ _____

(S.C. Contractor's License) (S.C. Bidder's License)

(Address)

By _____

(Title)

By _____

(Title)

By _____

(Title)

END OF SECTION

Geothermal
Resource
Technologies, Inc.

MAIN OFFICE:
P.O. Box 150
BOWIE, TX 76230
(940) 872-2222
Fax: (940) 872-3678

REGIONAL OFFICES:
ELKTON, SD
(605) 692-9069
Fax: (605) 692-2604

ASHEVILLE, NC
(828) 225-9166
Fax: (828) 281-4139

WEB SITE:
www.GRTI.com

FORMATION THERMAL CONDUCTIVITY TEST AND DATA ANALYSIS

Analysis for: **Mid-South Geothermal, LLC**
8275 Tournament Drive, Suite 185
Memphis, TN 38125
Phone: (901) 748-9095
Fax: (901) 748-9097

Test location: **New School**
District 5
Chapin, SC

Report Date: September 26, 2011

Test Performed by: **Mid-South Geothermal, LLC**

Executive Summary

A formation thermal conductivity test was performed at the new District 5 school site at 11629 Broad River Road in Chapin, South Carolina. The vertical bore was completed on September 12, 2011 by Mid-South Geothermal, LLC. GRTI's test unit was attached to the vertical bore on the evening of September 19, 2011. Geothermal Resource Technologies, Inc. analyzed the collected data using the "line source" method.

This report provides a general overview of the test and procedures that were used to perform the thermal conductivity test along with a plot of the data in real time and in a form used to calculate the formation thermal conductivity. The following average formation thermal conductivity was found from the data analysis.

⇒ Formation Thermal Conductivity = 1.78 Btu/hr-ft-°F

Due to the necessity of a thermal diffusivity value in the design calculation process, an estimate of the average thermal diffusivity was made for the encountered formation.

⇒ Formation Thermal Diffusivity = 1.13 ft^2/day

An estimate of the undisturbed formation temperature was determined from the initial temperature data at startup.

⇒ Undisturbed Formation Temperature = 62.6-63.6°F

A copy of the original collected data is available either in a hard copy or an electronic format upon request.

Test Procedures

The American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) has published a set of recommended procedures for performing formation thermal conductivity tests for geothermal applications. GRTI is committed to adhering to ASHRAE recommendations. Some of these recommended procedures are listed below:

(1) Required Test Duration – A minimum test duration of 36 hours is recommended, with a preference toward 48 hours.

(2) Power Quality – The standard deviation of the power should be less than or equal to 1.5% of the average power, with maximum power variation of less or equal to 10% of the average power. The heat flux rate should be 51 Btu/hr (15 W) to 85 Btu/hr (25 W) per foot of borehole depth to best simulate the expected peak loads on the u-bend.

(3) Undisturbed Formation Temperature Measurement – The undisturbed formation temperature should be determined by recording the minimum loop temperature as the water returns from the u-bend at test startup.

(4) Installation Procedures for Test Loops – The bore diameter is to be no larger than 6 inches, with 4.5 inches being the target diameter. To ensure against bridging and voids, the bore annulus is to be uniformly grouted from the bottom to the top using a tremie pipe.

(5) Time Between Loop Installation and Testing – A minimum delay of five days between loop installation and test startup is recommended if the formation is expected to have a low thermal conductivity or if low conductivity grouts (< 0.75 Btu/hr·ft·°F) are used. A minimum delay of three days is recommended for all other conditions.

GRTI's testing procedures deviate slightly from those above with regard to item (5). While item (5) bases the delay between installation and testing on the expected formation conductivity, GRTI bases its delay on the type of drilling used in the installation. When air drilling is required, a five-day delay is recommended to allow the bore to return to its undisturbed temperature. For mud rotary drilling, a minimum waiting period of two days is sufficient.

For a complete list of recommended procedures, refer to the ASHRAE 2007 HVAC Applications handbook, pages 32.12-32.13.

Data Analysis

Geothermal Resource Technologies, Inc. uses the "line source" method of data analysis. The line source equation used is not valid for early test times. Also, the line source method assumes an infinitely thin line source of heat in a continuous medium. If a u-bend grouted in a borehole is used to inject heat into the ground at a constant rate in order to determine the average formation thermal conductivity, the test must be run long enough to allow the finite dimensions of the u-bend pipes and the grout to become insignificant. Experience has shown that the amount of time required to allow early test time error and finite borehole dimension effects to become insignificant is approximately ten hours.

In order to analyze real data from a formation thermal conductivity test, the temperature of the water entering and exiting the u-bend heat exchanger is plotted versus the natural log of time. Using the Method of Least Squares, the linear equation coefficients are then calculated that produce a line that fits the data. This procedure is normally repeated for various time intervals to ensure that variations in the power or other effects are not producing erroneous results.

Through the analysis process, the collected raw data is converted to spreadsheet format (Microsoft Excel®) for final analysis. A copy of this data can be obtained either in a hard copy or electronic copy format at any time. If desired, please contact Geothermal Resource Technologies, Inc. and provide a ship-to address or e-mail address at one of the following:

Contact: Chad Martin
Phone: (828) 225-9166
Fax: (828) 281-4139
E-mail: cmartin@grti.com

Formation Thermal Conductivity Test Report

Date	September 19-21, 2011
Location	Chapin, SC
Undisturbed Formation Temperature	Approx. 62.6-63.6°F

Borehole Data – As Provided by Mid-South Geothermal, LLC

Borehole Diameter ..... 6 inches

Note: Casing was installed from 0-20 ft.

Drill Log .....

3" Top soil, lean clay & sand, partially weathered relict rock	0'-20'
Slate/Phyllite	20'-350'

Note: Bore produced 1 gpm water from 0-20 ft.

U-bend Size	1 inch HDPE
U-Bend Length	350 ft
Grout Type	GeoPro TG Select
Grout Solids	8:1 sand to bentonite
Grouted Portion	Entire bore

Test Data for Analysis Time Period

Test Duration	40.8 hrs
Average Voltage	245.1 V
Average Heat Input Rate	21,788 Btu/hr
Calculated Circulator Flow Rate	5.8 gpm
Standard Deviation of Power	0.05%
Maximum Variation in Power	0.11%

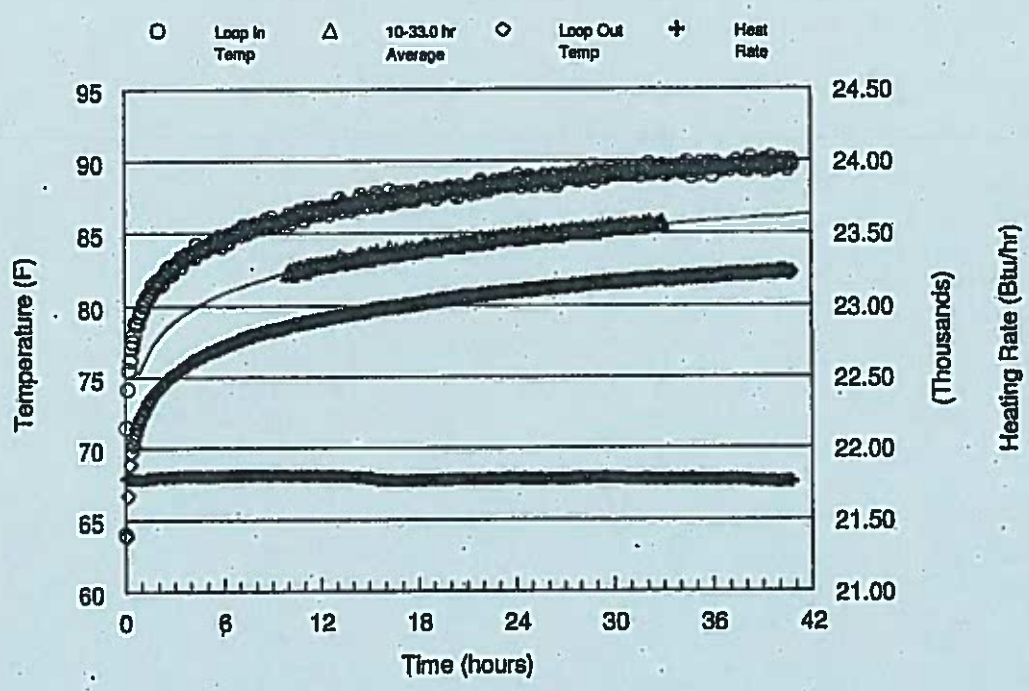


Figure 1: Temperature versus Time Data

Line Source Data Analysis

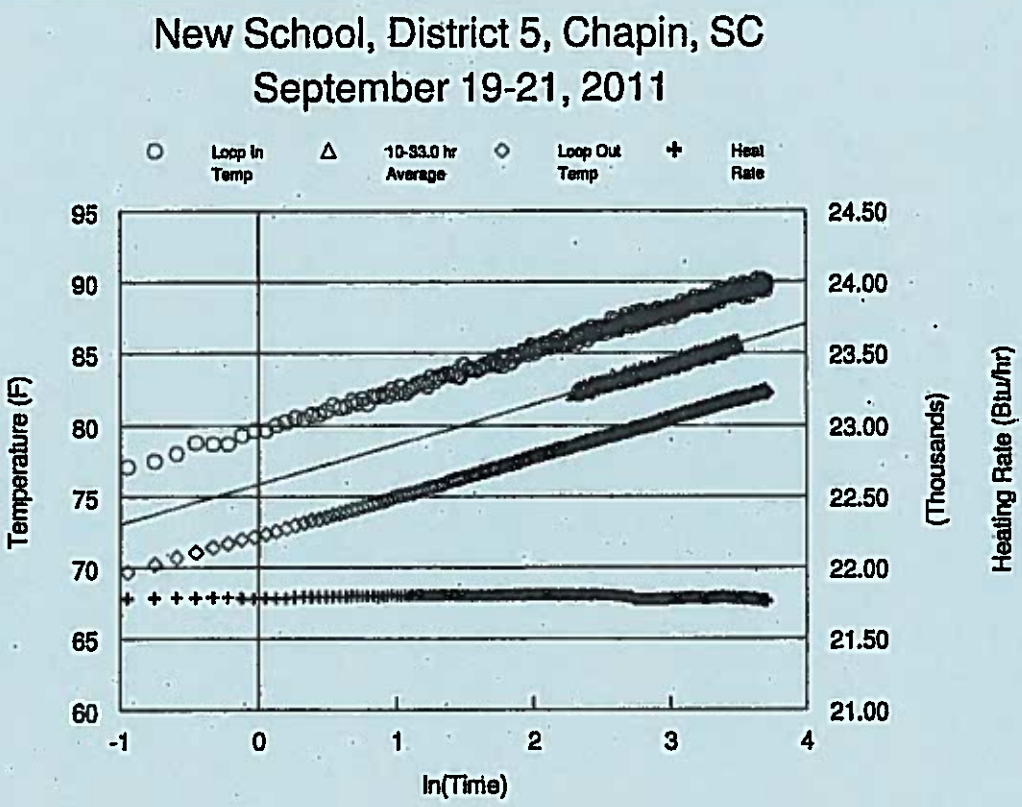


Figure 2: Temperature versus Natural Log of Time

Time Period	Slope: a_1	Average Heat Input (Btu/hr-ft)	(W/ft)	Thermal Conductivity (Btu/hr-ft-°F)
10 – 33.0 hrs	2.79	62.3	18.2	1.78

The temperature versus time data was analyzed using the line source analysis for the time period shown above. An average linear curve fit was applied to the data between 10 and 33.0 hours. The slope of the curve (a_1) was found to be 2.79. The resulting thermal conductivity was found to be 1.78 Btu/hr-ft-°F.

Estimated Thermal Diffusivity

The reported drilling log for this test borehole indicated that the formation consisted of top soil, clay, sand, partially weathered rock, and slate/phyllite. A heat capacity value for slate was calculated from specific heat and density values listed by Kavanaugh and Rafferty (Ground-Source Heat Pumps - Design of Geothermal Systems for Commercial and Institutional Buildings, ASHRAE, 1997). A weighted average of heat capacity values based on the indicated formation was used to develop an average heat capacity for the formation. An estimated diffusivity value was then found using the calculated formation thermal conductivity and the estimated heat capacity. The thermal diffusivity for this formation was estimated to be 1.13 ft^2/day.

Est. Average Heat Capacity (Btu/ft^3 °F)	Thermal Conductivity (Btu/hr-ft-°F)	Est. Thermal Diffusivity (ft^2/day)
37.7	1.78	1.13

Frequently Asked Questions (FAQ's) Regarding FTC Testing

Q: Thermally-enhanced grout is specified for the final loop field design. The test bore was grouted with a low conductivity, 20% solids, bentonite grout. How do I adjust the thermal conductivity value to account for this?

A: While the conductivity of the grout is important for the loop field design, it is not important for determining formation thermal conductivity. We use the "line source" method to analyze data, which assumes an infinitely thin line rejecting heat at a constant rate into an infinite medium. The initial ten hours, which is influenced by the bore dimensions and grout conductivity, is ignored in the analysis. However, once the heat has penetrated into the formation, the temperature rise of the formation approaches steady-state. It is the slope of the temperature rise that is used in the analysis. Hence, no adjustment to the reported formation thermal conductivity is required.

Q: The software I use to design the loop field requires that I input a value for "soil conductivity". Is this the same as formation thermal conductivity?

A: Absolutely. Formation, soil, and ground are all used interchangeably to describe the conditions in which the u-bends will be installed. The use of the word "formation" simply implies that the installation conditions may be soil, rock, or some combination of the two.

Q: I've just received your report. I have a formation conductivity of 1.54 Btu/hr.ft.°F. How do I translate that into a loop length requirement, in terms of bore depth (in feet) per ton?

A: The formation thermal conductivity test provides values for three key parameters required for the ground loop design. These are the "Undisturbed Formation Temperature, Formation Thermal Conductivity, and Formation Thermal Diffusivity." These parameters, along with many others, are inputs to commercially available loop design software (e.g. GchpCalc, available at GeoKiss.com/software). The software uses all of the inputs to determine the required loop length in bore depth per ton.

Q: Is the "Undisturbed Formation Temperature" listed in the report the temperature that I enter into my loop design software where it calls for the "Deep-Earth Temperature"?

A: Generally, yes. The "Undisturbed Formation Temperature" is the constant temperature of the formation. We attempt to determine this value by measuring the temperature of the water entering the test unit at the beginning of the test. However, the value we measure and report may be inaccurate if the test is initiated too quickly after the installation of the test bore, or if the testing operator failed to activate the data acquisition unit prior to energizing the heating elements. If you suspect the temperature we are reporting to be too high or too low, we recommend that you investigate further through other sources.

ADDENDUM NUMBER SIX

FOR

DISTRICT FIVE OF
LEXINGTON & RICHLAND COUNTIES
FOR
NEW HIGH SCHOOL #4

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
127 Dunbar Street, Spartanburg, SC 29306
P.O. Box 5331, Spartanburg, SC 29304

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 18, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

SUBSTITUTION / APPROVED EQUALS:

CLARIFICATIONS:

Item 6-1: Clarification; all contractors, subcontractors and suppliers are to calculate areas on the drawings based on written dimensions, not digitizing. It has been determined that there were scale issues in the plotting process.

Item 6-2: Clarification to Addendum #4; item 4-8: ***Contractors are responsible for the installation of all sidewalks noted on the green highlighted sheet 2 of 30 for the overall site.*** The bulletin drawing in the addendum was printed in black and white and the highlights were not visible.

Sidewalk locations are as follows; reference sheet 2 of 30:

- All sidewalks, steps, ramps and associated handrails that are in the island between the CATE Center and the High School.
- All sidewalks along Broad River Road between the two driveways.
- All sidewalks along student parking by soccer fields.
- All sidewalks at staff parking and visitor parking.
- All sidewalks in the student parking lot adjacent to and between the High School and soccer fields up to the corner and including the island closest to the High School.
- All sidewalks around the perimeter of the High School not noted in the base bid.
- All sidewalks around the perimeter of the High School noted in the base bid.
- Sidewalks are not required to have 4" stone base but must meet all compaction requirements noted for the project.
- All curb and gutter, the dumpster pad, speed bumps and the raised crosswalk will remain in the site package.

Item 6-3: Clarification to Addendum #5: Munters and McQuay are accepted and allowed approved equal status for this particular project regarding the rooftop WSHP units with ERV wheels.

Item 6-4: Revised bid forms dated 1-8-12 are to be used on bid day; see attached. Reminder; the delivery of the base bid is for 2:00pm and delivery of the alternates is for 3:00pm. Base bids and alternate bids will be opened and read after 3:00pm. ***(8 pages total)***

End of Addendum No. 6

BID FORM
Revised 1-18-12
Base Bid Delivery 2:00pm

BIDDER SUBMITTING: _____

CONTRACT FOR: _____

BUILDING PACKAGE FOR NEW HIGH SCHOOL #4
CHAPIN, SOUTH CAROLINA

SINGLE PRIME CONTRACT

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
1020 DUTCH FORK ROAD
IRMO, SOUTH CAROLINA 29063

Gentlemen:

Having carefully examined the Drawings and Specifications for the above noted project(s), as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials, labor, equipment and services called for by them for a lump sum consideration of

BASE BID: $_____ (NUMERICAL AMOUNT HERE)

_____ (WRITTEN DOLLARS HERE)

_____

The above stated bid is based on the above-mentioned Drawings, Specifications, Pre-Bid Schedule and any Addenda issued subsequent to the basic Drawings and Specifications. (List all Addenda with dates of any issued. If no additional Addenda are issued, write the word "NONE".)

Addendum Number	Date

If any of the following Alternates are accepted, the above stated sum (base bid amount) will be altered by the amount(s) indicated below.

a. If no Alternates are indicated, enter the term "NOT APPLICABLE" after the dollar ($) sign.

b. If Alternates are indicated, strike through completely either "add" or "deduct" in order to leave exposed the proper change to the base bid amount and indicate the amount of the change in numbers after the dollar ($) sign.

c. If Alternates are indicated, but there is no change to the base bid amount, enter the term "NO CHARGE" after the dollar ($) sign.

Alternate #1: ADD / DEDUCT: $_____

Area 'C' 1st Floor:

Alternate #2:

Area 'C' 2ND Floor: ADD / DEDUCT: $_____

.

Alternate #3:

Area 'H' Core Area: ADD / DEDUCT: $_____

The bidder is required to propose the following unit costs on the following items of work that would be performed under this contract. Prices should be given for additions to the base bid scope of work. Prices shall be used for additions to the base contract and shall not be construed for usage for any item, which is part of the base contract. Unit prices shall include all costs including charges for materials, labor, equipment, fees, taxes, insurance, bonding, overhead, profit, etc.

ITEM	UNIT	UNIT PRICE
Unsuitable material excavation including off-site disposal:	Each cu. yd.	_____
Unsuitable material excavation including on-site disposal:	Each cu. yd.	_____
Structural fill material including approved off-site borrow:	Each cu. yd.	_____
Structural fill material including approved On-site borrow:	Each cu. yd.	_____
Concrete pavement (4" sidewalks):	Each s.f.	_____
Hydro-Seeding:	Each s.f.	_____
Sod Grass:	Each s.f.	_____

Concrete Curb & Gutter Each l.f. _____

Stabilized Aggregate Base Compacted In Place: Each ton _____

If notified of the acceptance of this bid or any Alternate within sixty (60) days after the date fixed for the opening of the bid, the undersigned agrees to execute and deliver the specified Contract and Contractor's Bond within ten (10) days. The undersigned agrees, if awarded the Contract within sixty (60) days from the fixed date for opening of the bids, to faithfully and properly complete the whole work within the specified time, consistent with the best interest of the Owner, the safety of the public and in accordance with first-class workmanship.

The undersigned agrees that the Owner may retain the sum of money specified in Paragraph 1.06.B of Section 01110 Summary Of Work, from the amount of compensation to be paid the undersigned for each calendar day that work remains uncompleted and unaccepted after the maximum duration of time for the work to be completed. This amount is agreed upon as the proper measure of liquidated damages, which the Owner sustains per day by failure of the undersigned to complete the work in the stipulated time and is not to be construed in any sense as a penalty.

Attached hereto is a certified check of the _____ Bank of _____ or Bid Bond, neither, of which shall be less than five percent (5%) of the principal's bid, made payable to the Owner.

Subcontractors

All bidders are required to list the name and license number of all subcontractors who will perform work or render services to a prime contractor for the work sections noted below. Failure to list subcontractors in accordance with this section shall render the Prime contractor's bid unresponsive.

Subcontractor's Name	Work Description	License Number
_____	Mechanical	_____
_____	Electrical	_____
_____	Plumbing	_____
_____	Masonry	_____

The undersigned agrees, if awarded the Contract, to comply with all provisions regarding commencement, prosecution, completion and acceptance of the work as described in the above mentioned Specifications, "Bid Form", Construction Contract and Performance Bond. If the undersigned fails to perform according to these documents, the check or Bid Bond shall be paid as liquidated damages for such failure; otherwise, the check or Bid Bond accompanying this proposal shall be returned to the undersigned.

It is agreed that the undersigned has completed and/or will comply with all requirements concerning licensing and with all other local, state and national laws and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him and/or in the performance of the Work required there under.

The undersigned declares that this firm is (delete those not applicable):

A corporation organized and existing under the laws of the state of _____.

A partnership consisting of _____.

An individual trading as _____.

The undersigned declares that the person or persons signing this proposal is/are authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

Respectfully submitted this _____ day of _____, 20_____.

(Name of Firm)

_____ _____

(S.C. Contractor's License) (S.C. Bidder's License)

(Address)

By _____
(Title)

By _____
(Title)

By _____
(Title)

END OF SECTION

BID FORM
Revised 1-18-12
Alternates Bid Delivery 3:00pm

BIDDER SUBMITTING: _____

CONTRACT FOR: _____

BUILDING PACKAGE FOR NEW HIGH SCHOOL #4
CHAPIN, SOUTH CAROLINA

SINGLE PRIME CONTRACT

DISTRICT FIVE OF LEXINGTON & RICHLAND COUNTIES
1020 DUTCH FORK ROAD
IRMO, SOUTH CAROLINA 29063

Gentlemen:

Having carefully examined the Drawings and Specifications for the above noted project(s), as well as the premises and conditions affecting the work, the undersigned proposes to furnish all materials, labor, equipment and services called for by them for a lump sum consideration of

BASE BID: $_____ (NUMERICAL AMOUNT HERE)

_____ (WRITTEN DOLLARS HERE)

_____

The above stated bid is based on the above-mentioned Drawings, Specifications, Pre-Bid Schedule and any Addenda issued subsequent to the basic Drawings and Specifications. (List all Addenda with dates of any issued. If no additional Addenda are issued, write the word "NONE".)

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Alternate #2:

Area 'C' 2ND Floor: ADD / DEDUCT: $_____

Alternate #3:

Area 'H' Core Area: ADD / DEDUCT: $_____

The bidder is required to propose the following unit costs on the following items of work that would be performed under this contract. Prices should be given for additions to the base bid scope of work. Prices shall be used for additions to the base contract and shall not be construed for usage for any item, which is part of the base contract. Unit prices shall include all costs including charges for materials, labor, equipment, fees, taxes, insurance, bonding, overhead, profit, etc.

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Unsuitable material excavation including on-site disposal:	Each cu. yd.	_____
Structural fill material including approved off-site borrow:	Each cu. yd.	_____
Structural fill material including approved On-site borrow:	Each cu. yd.	_____
Concrete pavement (4" sidewalks):	Each s.f.	_____
Hydro-Seeding:	Each s.f.	_____
Sod Grass:	Each s.f.	_____

Concrete Curb & Gutter Each l.f. _____

Stabilized Aggregate Base Compacted In Place: Each ton _____

If notified of the acceptance of this bid or any Alternate within sixty (60) days after the date fixed for the opening of the bid, the undersigned agrees to execute and deliver the specified Contract and Contractor's Bond within ten (10) days. The undersigned agrees, if awarded the Contract within sixty (60) days from the fixed date for opening of the bids, to faithfully and properly complete the whole work within the specified time, consistent with the best interest of the Owner, the safety of the public and in accordance with first-class workmanship.

The undersigned agrees that the Owner may retain the sum of money specified in Paragraph 1.06.B of Section 01110 Summary Of Work, from the amount of compensation to be paid the undersigned for each calendar day that work remains uncompleted and unaccepted after the maximum duration of time for the work to be completed. This amount is agreed upon as the proper measure of liquidated damages, which the Owner sustains per day by failure of the undersigned to complete the work in the stipulated time and is not to be construed in any sense as a penalty.

Attached hereto is a certified check of the _____ Bank of _____ or Bid Bond, neither, of which shall be less than five percent (5%) of the principal's bid, made payable to the Owner.

Subcontractors

All bidders are required to list the name and license number of all subcontractors who will perform work or render services to a prime contractor for the work sections noted below. Failure to list subcontractors in accordance with this section shall render the Prime contractor's bid unresponsive.

Subcontractor's Name	Work Description	License Number
_____	Mechanical	_____
_____	Electrical	_____
_____	Plumbing	_____
_____	Masonry	_____

The undersigned agrees, if awarded the Contract, to comply with all provisions regarding commencement, prosecution, completion and acceptance of the work as described in the above mentioned Specifications, "Bid Form", Construction Contract and Performance Bond. If the undersigned fails to perform according to these documents, the check or Bid Bond shall be paid as liquidated damages for such failure; otherwise, the check or Bid Bond accompanying this proposal shall be returned to the undersigned.

It is agreed that the undersigned has completed and/or will comply with all requirements concerning licensing and with all other local, state and national laws and that no legal requirement has been or will be violated in making or accepting this proposal, in awarding the Contract to him and/or in the performance of the Work required there under.

The undersigned declares that this firm is (delete those not applicable):

A corporation organized and existing under the laws of the state of _____.

A partnership consisting of _____.

An individual trading as _____.

The undersigned declares that the person or persons signing this proposal is/are authorized to sign the proposal on behalf of the firm listed and to fully bind the firm listed to all the conditions and provisions thereof.

Respectfully submitted this _____ day of _____, 20_____.

(Name of Firm)

_____ _____
(S.C. Contractor's License) (S.C. Bidder's License)

(Address)

By _____
(Title)

By _____
(Title)

By _____
(Title)

END OF SECTION

#4

ADDENDUM NUMBER SEVEN

FOR

DISTRICT FIVE OF
LEXINGTON & RICHLAND COUNTIES
FOR
GEOTHERMAL WELLS FOR CATE CENTER

PREPARED BY

MCMILLAN|PAZDAN|SMITH ARCHITECTS
2120 NOISETTE BOULEVARD
SUITE 100
CHARLESTON, SOUTH CAROLINA 29405

AND

CUMMING
1213 LADY STREET, FOURTH FLOOR (29201)
POST OFFICE BOX 1785
COLUMBIA, SOUTH CAROLINA 29202

DATE OF ISSUE: JANUARY 30, 2012

TO: ALL PRIME BIDDERS OF RECORD

This addendum modified the Contract Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Contract Documents. Except as specified or otherwise indicated by this addendum, all work shall be in accordance with the basic requirements of the Contract Documents.

BIDDER SHALL ACKNOWLEDGE RECEIPT OF ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY CONSTITUTE INFORMALITY IN THE BID.

Item 7-1: BID DATE:
The bid date will change to Wednesday February 8TH at 2:00p.m. The location will remain the same unless changed in a future addendum.

End of Addendum No. 7