K&W
ENGINEERS • CONSULTANTS

June 11, 2010

RECEIVED
JUN 14 2010
BY: Denise Miller

East Fallowfield Township Board of Supervisors
2264 Strasburg Road
East Fallowfield, PA 19320

Re: Coatesville Area School District – South Brandywine Middle School
Water and Sewer Use
K&W Project No. 2041.004

Dear Supervisors:

We are in receipt of the Chester County Health Department (CCHD) July 23, 2009 letter, MacCombie Engineering and Surveying, Inc.'s December 3, 2009 letter, and Della Penna Engineering, Inc.'s June 4, 2010 letter for the above-referenced project. Accordingly, we are providing the requested information regarding water and sewer use by proposed South Brandywine Middle school.

To review, the District is planning to construct a new middle school building to provide current and future projected educational needs for the student population. This building will replace the existing middle school building on the same property that will be demolished. Based upon the State Department of Education research, there is no projected increase in student population for this building.

Historical data has the middle school population ranging from 597 (in 2006-07 school year) to 738 (in 2002-03 school year) students. The proposed school's capacity will be 750 students. Projections for the next 5 years (to the 2014-15 school year) have the school's enrollment reaching 729 students.

The existing square footage of the middle school is 91,472 square feet, providing 122 square feet per student (based upon 750 students). The proposed middle school will provide 126,314 square feet, providing 168 square feet per student (based upon 750 students).

The proposed school will be seeking Leadership in Energy and Environmental Design (LEED) certification. As a required part of achieving this certification, the building must reduce its water use by 20% by use of water efficient fixtures throughout the building. This will result in a net reduction of sewage flows to the existing septic field on the site.

The location of the existing septic field relative to the location of the proposed stormwater basin was a concern of the MacCombie letter, specifically seepage from the field into the basin. Currently, the septic field shows no signs of failure (i.e. flooding or different colored grass above the field) and with the reduction in flows proposed by the project, the field should continue operating as it is now. Additionally, the proposed basin is located approximately ten to fourteen feet down gradient of the existing septic field, which meets the ten foot required separation distance between a septic field and a stormwater basin per PADEP.

213 Granite Run Drive
Lancaster, PA 17601
(717) 735-9531
fax (717) 735-9532
www.kandwengineers.com

470 Friendship Road, Suite 100
Harrisburg, PA 17111
(717) 635-2835
fax (717) 635-2836
www.kandwengineers.com

Research into the history of the existing septic field indicates that it was constructed in 1957. The Chester County Health Department began to keep records on septic fields in 1968, so no CCHD records are available on the septic field (see attached correspondence). We have included a plan sheet of the design for the septic field for your review.

Since no sewage flow records exist for the existing South Brandywine Middle School, a comparative sewage flow will be determined using the water use records from its sister school, North Brandywine Middle School, located in West Brandywine Township, Chester County. Both schools were constructed at the same time in the 1950's and have the same building design and layout; the only difference being North Brandywine Middle School uses public water and sewer. Based upon the 2008-09 school year, the average consumption per student was 10.13 GPD based upon enrollment figures throughout the school year. Applying this figure to the South Brandywine Middle School enrollment for the 2008-09 school year (595 students) would result in a school water use of 6027 GPD. Applying the proposed student capacity (750 students) to this water use figure, the maximum daily water use would equal approximately 7600 GPD.

Lastly, the proposed South Brandywine Middle School will be served by public water which will be provided to the site via an extension of the existing water main located in Doe Run Road. The school will connect to the water at a proposed water meter located on the southwest side of the Doe Run Road and Strasburg Road intersection. This expansion of the PA American Water Company Franchise Area was granted by the East Fallowfield Township Board of Supervisors on April 27, 2010.

We believe the above information satisfies all of the concerns presented by the Township and the CCHD. As such, we would request that our planning module be forwarded to PADEP for review.

If you should have any questions or require any additional information regarding this request, please do not hesitate to contact me.

Very truly yours,

Kurowski & Wilson, LLC

Patrick G. DeNardo, P.E.
Project Professional

cc: Mr. William Androwick – Project Manager, CASD
Mr. Kenneth R. Johnson – Gilbert Architects
Christopher Della Penna, P.E.
James W. MacCombie, P.E.
William J. Conrad III, CCHD

CORRESPONDENCE

Kurowski & Wilson, LLC
470 Friendship Road, Suite 100
Harrisburg, PA 17111
P: 717-635-2835 F: 717-635-2836

LETTER OF TRANSMITTAL

TO: Chester County Health Department
601 Westtown Road, Suite 288
P.O. Box 2747
West Chester, PA 19380-0990

FROM: Steve Hoffman
PROJECT NAME: South Brandywine M.S.
K&W PROJECT NO: 2041.002
RE: Sewer Permit
DATE: August 30, 2007

WE ARE SENDING YOU: ☒ Attached ☐ Under separate cover via _____ the following items:

COPIES	DATE	NO.	DESCRIPTION
1	8/29/07	2520	Check payable to "Treasurer of Chester County" for $75.00
1	8/29/07	--	File Lookup Request form

These Are Transmitted as Checked Below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐ _____

☐ FOR BIDS DUE _____ 20 _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS:

We are looking for any Permit that is related to the existing on-lot system found at the South Brandywine Middle School. If you need any additional information, please call at the number provided.

Thank you,

Cc:

Signed: Steve B. Hoffman

If enclosures are not as noted, kindly notify us at once.

COPY

2041.00A
Correspondence
9/7/07

THE COUNTY OF CHESTER

COMMISSIONERS:
Carol Aichele
Donald A. Mancini
Patrick C. O'Donnell

2 N Church Street
PO Box 2748
West Chester, PA 19380-2616
(610) 344-6000

September 5, 2007

Kurowski & Wilson, LLC
470 Friendship Road
Suite 100
Harrisburg, PA 17111

Dear Mr. Hoffman:

Per our telephone conversation earlier today, I am writing you in reference to your request.
The property in East Fallowfield Township was built around 1958, prior to our existence here at the Chester County Health Department. Our records begin in 1968. Therefore we have no records on file.
Please find the enclosed check, number 2520, voided, in the amount of $75.00 dated 8-29-07.

Sincerely,

Patricia Katch
Support Staff V

COPY

CALCULATIONS

WATER USE

Gallons of Water Consumed
North Brandywine Middle School and Friendship Elementary School

	Monthly	Monthly Consumption Per Student	Daily Consumption Per Student (20 school days)
July, 2008	79,000	83	4.16
August, 2008	120,000	126	6.32
September, 2008	208,500	220	10.99
October, 2008	187,000	197	9.85
November, 2008	155,500	164	8.19
December, 2008	203,000	214	10.70
January, 2009	195,500	206	10.30
February, 2009	202,000	213	10.64
April, 2009	372,500	393	19.63
May, 2009	200,000	211	10.54
Average Consumption:	**192,300**	**203**	**10.13**

Student Enrollment:

		Estimated Average Daily Consumption
North Brandywine Middle School		
2008-2009	503	**5,096**
Friendship Elementary School		
2008-2009	446	**4,519**

Monthly water consumption figures and school enrollment figures were provided by the Coatesville Area School District. The Middle School and Friendship Elementary School are connected to the same meter, therefore, an average flow was calculated. The monthly and daily consumption per student was based on the 2008-2009 school enrollment figures and a 20-day month (school days only). For purposes of estimating flow, we are rounding the estimated daily consumption figures up to 5,100 GPD for the middle school and 4,550 GPD for the elementary school. There was no flow data available for March 2009 and June 2009.

This table calculates the average daily consumption. Peak rates may be higher.

WATER USE

Gallons of Water Consumed
South Brandywine Middle School

	Students	Daily Consumption Per Student (Gallons)	Estimated Average Daily Consumption (Gallons)
2008-2009 School Year	565	10.13	5723
Maximum Capacity	750	10.13	7598

This table calculates the average daily consumption. Peak rates may be higher.