



MEMORANDUM

To: ACPS
Cc: Patrick Henry School & Recreation Center Owner Team (ACPS, RPCA, DGS)
From: Brailsford & Dunlavey with Owner Team
Subject: Patrick Henry as Swing – Feasibility Study Analysis
Date: March 26, 2019

Purpose: The intent of this white paper is to provide a summary of the Cost, Schedule and Operational impacts to the new Patrick Henry School and Recreation Center Project if the former Patrick Henry Elementary School and Recreation Center is used as a swing space during the construction of Douglas MacArthur School.

1. Considerations:

- A. The use of the former Patrick Henry facility as swing space for Douglas MacArthur students:
 - i. Moves the start of design and construction of the new Douglas MacArthur School to FY 2020 and FY 2021 respectively, with an estimated completion of 2023 (2 years ahead of current CIP Plan)
 - ii. Delays the completion of the new Patrick Henry School & Recreation Center to Fall 2023 (4 years later than original completion date)
 - one tot playground, the synthetic turf field, the full parking lot with complete vehicular circulation
 - iii. Prevents the new Patrick Henry building from achieving LEED Certification.
- B. Based on Keller ROM (Rough Order of Magnitude) pricing, the cost estimate to renovate the former Patrick Henry building as swing space is \$5.94m
 - i. Excludes site lighting, and any modifications to building envelope or structure.
 - ii. Includes all alternates which would not all be pursued.
 - iii. Includes 20% soft costs and 15% for contingency.
 - iv. Currently, the city has \$60M budgeted for swing space development as part of its CIP in FY 2021 and FY 2022.
- C. Keller has provided an initial estimate of \$3M (excluding mark-ups and contingencies) as the value of the new Patrick Henry building scope to be credited to ACPS/RPCA. This scope would need to be re-bid at a later date, with anticipated increase in cost due to escalation and lost efficiency in continuous construction (see sample escalation calculation below).
 - i. This estimate is currently under review by the Owner Team.

2. New Patrick Henry School and Recreation Center Project Impacts

A. Cost - Temporary Suspension of Construction Activities

- i. Contract Extension of Services for Owner contracted vendors
 - e.g. Keller, B&D, Moseley, etc.
- ii. Acceleration costs to meet original project completion (August 31, 2019)
 - To be priced by Keller once restart date is defined.
 - Scope potentially requiring acceleration includes tot lot, basketball court, intermediate playground, exercise & fitness area, and walking loop.
- iii. Resequencing costs. Keller did not identify additional costs for resequencing work in their letter dated February 21, 2019, however this should still be budgeted.
- iv. Demobilization / Re-mobilization
 - If Keller and their trade contractors complete the work they are contracted to do for Phase 2 and Phase 3 (excluding Scope currently directed to not complete) prior to restart of Construction, there will be additional demobilization and re-mobilization costs to complete the balance of the original scope of work.



- Trade Contractors holding prices for limited duration, thru early March per latest Keller Memo.

B. Cost – Long-Term Suspension of Construction Activities (3-5 years)

- Credit - Scope of work not to be completed by Keller has been valued at approximately \$3,000,000. This amount would be deducted from their current Contract Amount as part of closing out their contract. (Keller's initial estimate, under review by the Owner team and pending interim SWM requirements confirmation.)
- Escalation – Scope of work to complete the new Patrick Henry School & Recreation Center Phase III scope would need to be re-bid.
 - E.g. abatement, demolition, synthetic turf field, parking lot, site work, Pre-K playground, storm water management
 - Escalation is approximately 3-5% per year, dependent on market conditions.
 - $\$3m + (\$3m \times 4\% / \text{yr} \times 4 \text{ years}) = \$3.5m$
- Storage for items that have been bought but not installed
 - BMP (best management practices) storm water structures
- Contract Closeout – Cost of early closeout of CMAR & A/E contracts. Payment for work engineered but not installed, with potential need to duplicate pre-construction (submittals, engineering, and shop drawings) effort in the future.
- Re-procurement – Cost to bid and contract new A/E, CMAR and other Owner Contracted vendors, with added cost of time to learn the project.

C. LEED

- Per US Green Building Council (USGBC), the sunset date for LEED v3 Certification is June 30, 2021.
 - By this date, all project construction work and submissions to USGBC must be complete in order for the new Patrick Henry School & Recreation Center to qualify for LEED Silver Certification.
 - The project as designed and constructed will not qualify for LEED Silver under LEED v4.
- ACPS will work with the City to either be granted an exemption to the DSUP LEED Silver Certification requirement or determine if a comparable certification can be achieved at the time Patrick Henry work resumes.

D. Operational

- The new Patrick Henry School & Recreation Center was designed to have three playgrounds, a turf field, and a large parking lot, the use of which would be shared between the School and the Recreation Center.
- Locating another elementary school on site will result in the delay of one playground, the turf field, and the final parking lot to the new Patrick Henry School & Recreation Center for four years.
- Arrival and dismissal times for the two different schools would need to be staggered, in order to manage traffic / circulation on site.
- Additional interim parking would need to be added to the site to accommodate Douglas MacArthur School.
- ACPS has indicated to RPCA that the two schools will operate independently. The new Patrick Henry School & Recreation Center is not planned to be needed to support either the relocated Douglas MacArthur or new Patrick Henry school population during the school day.

3. Former Patrick Henry School & Recreation Center as Swing - Cost & Schedule Impacts

A. Schedule (See Schedule Exhibit)

- The Permit approval process of the interior building work at the former Patrick Henry School & Recreation Center could proceed more quickly than the approval of the site work.
- The team has assumed a 24-month design schedule for Douglas MacArthur.



B. Cost – Renovations to Former Patrick Henry School & Recreation Center (See Renovation Costs Exhibit)

- i. Renovation to the former Patrick Henry School & Recreation Center would include repairs, maintenance and upgrades to meet City / Building Code requirements and provide an updated and appropriate learning space for short-term use of the facility.
- ii. The total construction cost (materials & labor) for the anticipated renovation scope, as currently defined, is \$5.9m, including all alternates, soft costs and contingencies.
- iii. The scope of the project includes a refresh of spaces including new ceiling tile and paint, mechanical servicing and preventive maintenance. Life safety upgrades include a new fire alarm system and possibly a new fire suppression system and fire pump. The cost also includes an allowance for adding a new parking lot and parent drop-off loop. The two parking lots on site would then include spaces for use by the new Patrick Henry School & Recreation Center and the Douglas MacArthur School.
- iv. The soft costs for the anticipated renovation scope would include:
 - DSUP Amendment preparation costs
 - A/E costs for building improvements and site work (parking lot)
 - Traffic study by transportation engineer, ROM \$45,000
 - Additional State DEQ mandatory fee
 - Legal costs associated with easement plats
 - Program management
- v. We would not be pursuing LEED certification for the swing-space work.

C. Scope – Options for Former Recreation Center & Gym Space

- i. Consideration for demolition of the former Patrick Henry School & Recreation Center gymnasium
- ii. Pros of gym demolition are:
 - Increased access from East to West on the site OR the potential early provision of the Pre-K playground for use by the new Patrick Henry School & Recreation Center
 - Advance on school demolition scope
 - Eliminates need for fire separation modifications to the existing gym and the new Patrick Henry glazing facade.
 - \$850,000 - ROM estimate for these improvements
 - Ability to complete the sanitary system for the new building and remove the currently installed temporary pumping station
 - Discussions with Code Enforcement and Fire Marshall indicate that they would support/require demolition of the existing recreation center.
- iii. Cons of gym demolition are:
 - Conversion of auditorium into multipurpose room to provide gym program space.
 - ROM cost is pending design
 - Multipurpose room and cafeteria are required to accommodate both RPCA (150 students) and Campagna (80 students) Douglas MacArthur after-school programs
 - Schedule and construction logistics of demolishing and closing up and building to provide watertight exterior condition.



SCHEDULE EXHIBIT

A. Swing @ Former Patrick Henry School & Recreation Center Design & Construction Schedule

- i. Mar 2019
 - a) Design Procurement
- ii. April – May 2019
 - a) DSUP Amendment Draft
- iii. May – November 2019
 - a) DSUP Amendment Review
 - b) Planning Commission Hearing
 - c) City Council Hearing
- iv. December 2019
 - a) Renovation Procurement
 - b) PH Renovation Design & Permitting (May – Sep)
- v. December 2019 – May 2020 (5 Months)
 - a) Building Renovation & Site Work
 - b) Assumes both scopes happen concurrently
- vi. June 2020
 - a) PHES ready for Swing occupancy
 - b) Move Douglas MacArthur into PH Swing Space
 - i. Can delay to June 2021 to coincide with start of DMES Construction

B. Douglas MacArthur Schedule Assumptions

- i. April 2019– March 2021 (24 months)
 - a) DSUP + Community Engagement
 - b) Design
 - c) Permitting
- ii. April 2021 – November 2022 (20 months)
 - a) Demo
 - b) Construction
 - c) Punch List / Closeout
- iii. January 2023
 - a) New Douglas MacArthur ready for Move-in / Occupancy

C. New Patrick Henry School & Recreation Center Phase 3 Restart Schedule

- i. January 2023 – September 2023 (9 months)
 - a) Abatement
 - b) Demolition
 - c) Field and Parking Lot
- ii. September 2023
 - a) Complete Patrick Henry Site

**NEW PATRICK HENRY SCHOOL & RECREATION CENTER
 KELLER GMP CREDIT EXHIBIT**

Excerpt from Keller email received February 28th, 2019

Keller Estimated Value	CREDITS from terminating remaining subcontracts
\$890,000	Demolition including Abatement
\$400,000	Earthwork, Site Utilities including SWM, Site Demolition
\$445,000	Synthetic Turf Field
\$100,000	Playground (Pre-K) equipment and installation
\$400,000	Paving/Signage
\$375,000	Site Concrete
\$300,000	Site Amenities including fencing
\$125,000	Landscaping
\$3,035,000	TOTAL*

***Does not include fees, bonds, general conditions, contingencies**



**FORMER PATRICK HENRY SCHOOL & RECREATION CENTER
 RENOVATION COSTS ESTIMATE EXHIBIT**

DRAFT Cost Estimate for Renovation to existing building (86,500 SF)

Cost ROM	Alternates	Description	Notes / Action Items
\$389,250		Add Sprinkler system assuming \$4.50/SF	Keller: Currently seeing higher \$/SF costs. B&D to confirm against pricing on other Metro area projects
\$50,000		Add Fire Pump for sprinkler system	Keller: Fire Pump – Keller based ROM on previous pump provided. Cost for Pump only. Does not include any MEP infrastructure work cost.
\$200,000		ALLOWANCE to renovate Fire Alarm System	Keller: New F/A, Cut / Cap existing
	\$120,000	ALLOWANCE for Fire Separation assemblies improvements on existing PH	Fire separation modifications to existing PH
	\$650,000	Range (\$600,000-\$750,000): Change aluminum frames and glazing to Fire-Rated at all 3 levels, where adjacent to existing Rec Gym at new school.	Keller ROM estimate based on C&D recommendations. Fire rated glazing to replace new glazing at PH. This activity is disruptive to new PH.
\$90,000		to Demo Existing Rec Center Gym, assuming 15,000 SF at \$6.00/SF	
\$562,250		Acoustical Ceiling Grid and Tile replacement in entirety, assumed needed if sprinkler system being installed, \$6.50/SF	C&D– consideration of asbestos ceiling above existing ACT.
	\$151,375	Acoustical Ceiling Tile replacement if NO sprinkler, assuming 25% of tile to be replaced at \$7.00/SF	Keller to confirm this is <u>Tile only</u>
\$60,550		Acoustical Ceiling Tile Attic Stock for on-going replacement assuming 10% attic stock at \$7.00/SF	Keller to confirm this is <u>Tile only</u>
\$80,000		ALLOWANCE Roof patching, assume 25% of roofing to patch/repair	C&D – Roof currently 20 years old. If longer than 3 year use recommend full replacement. Most roof leaks occur at the valleys and require sealant.
\$200,000		ALLOWANCE Light Fixtures replacement, assume 25% of fixtures being replaced.	Keller – Replacing fixtures in kind.
\$50,000	\$300,000	ALLOWANCE Mechanical HVAC Equipment preventive maintenance, assuming 28 RTU's at +/- \$1800/unit	Alternate cost is Keller RTU replacement unit cost estimate (\$65-85k/unit)



Cost ROM	Alternates	Description	Notes / Action Items
\$30,000	\$270,000	Total \$300,000 – Assume 1 replaced @ \$30,000 Range (\$65,000-\$85,000 each) RTU replacement:	Assume \$3500/tn x 10tn units = \$35,000 equipment demo, labor, dunnage/curbs, roof patching, duct transitions, TAB
\$90,000		Add Tankless Water Heaters for Bathrooms and Kitchen, assuming 9 locations at \$10,000 ea	Cost includes labor & material. Cost does not include electrical upgrades if required.
\$450,000		Add revised Parking Lot and Drop off Loop including subbase grading, striping and signage, NOTE a design will be required.	ROM. Does not include site lighting. There is a stub out from the New building intended to connect future site lighting. B&D new pole lighting could cost \$100-300k depending on quantity, fixture, etc. Walkway modifications costs could be above this number depending on the SOW for the parking lot (curb, SWM, etc.)
\$173,000		Painting, assuming entirety of interior at \$2.00/SF	
	\$30,000	Kitchen - 3 pieces of equipment to replace what was moved from Existing to New PH	Keller to provide pricing. Alternate plan – move from MacArthur if possible
\$17,500		Sewer / Waste lines – Kitchen \$5,500; Bathroom \$12,000	Keller to provide cost to Camera & clean out of sewer and waste lines.
\$12,000		Demo and remove existing fixed seating	Modify Existing Auditorium for use as Gym (considering 75'x48' = 3,600 SF)
\$25,200		Demo existing ceiling tile and install new tile.	Modify Existing Auditorium ceiling tiles This could become an alternate.
\$75,000		Add Stud Framing and Sub Floor (Plywood (2) layers) to remove sloped floor and create single floor elevation	Modify Existing Auditorium flooring for use as Gym
\$48,000		Gym Flooring (sheet vinyl athletic flooring, leveling compound	Modify Existing Auditorium flooring for use as Gym
\$15,000		Exterior Ramps for Egress (80-120 ft. length, concrete)	Currently anticipated that none will be required by code. (15K for Stairs with railing should be sufficient)
	\$12,500	Handrails for Ramps	Currently anticipated that none will be required by code. (Stairs held in above number)
\$12,500		ALLOWANCE for Portable Gym Equipment (Basketball Goals, Volleyball Equipment, Etc.)	



Cost ROM	Alternates	Description	Notes / Action Items
\$9,500		Athletic Wall Pads at Pilasters	Modify Existing Auditorium for use as Gym
\$10,000		Interior Ramps/Rails as necessary	Not likely to be needed, but final design will determine
\$7,200		Painting for multipurpose area, assuming entirety of interior at \$2.00/SF	
	\$7,500	Acoustical Wall Panels	Not a code requirement. Sufficient acoustical attenuation likely in place.
\$10,000		ALLOWANCE Replace Light Fixtures (+/- 20 units)	
\$15,000		Protection of Windows (assume existing are not rated as safety glazing)	
	\$75,000	EXISTING PH Playground repairs – site drainage, cleanup. Soft surfacing	This is needed if site allowance of \$450,000 is exceeded
	\$15,000	Temporary Sanitary pumping station monitoring	Currently serving the new building. New future line to be installed under the existing gym. If gym is demolished, this would be completed as part of Ph3. Additional measures may be required if left in place long term.
\$15,000		Testing and inspections Pricing TBD once SOW for building and site is confirmed. (\$5-\$15k)	Alexandria inspectors could be used for cost savings
\$50,000		Fiber Splice between the buildings for redundancy. Pricing TBC with low voltage contractor (estimated \$20-50k)	Alternative option of having Comcast provide redundancy would likely cost more and owners would have less control
\$15,000		Sanitary Line Flush	Keller estimate \$2,000/day toilet rooms and including camera recording
\$6,000		Sanitary Line Flush at Kitchen equipment and Grease Interceptor	
\$2,767,950	\$1,631,375	Construction Cost Subtotal**	
\$4,399,325		Base + Alternates	
\$660,000		General Conditions, Fees, Bonds, Contingency (15%)	
\$880,000		Owner Soft Costs (20%)	
\$5,939,325		Total Cost Estimate	

****Values in red are estimates from B&D based on available information.**



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