

FOUR SCHOOLS ONE STORY



The Aftermath of Hurricane Harvey



THE AFTERMATH

August 2017

Four Days

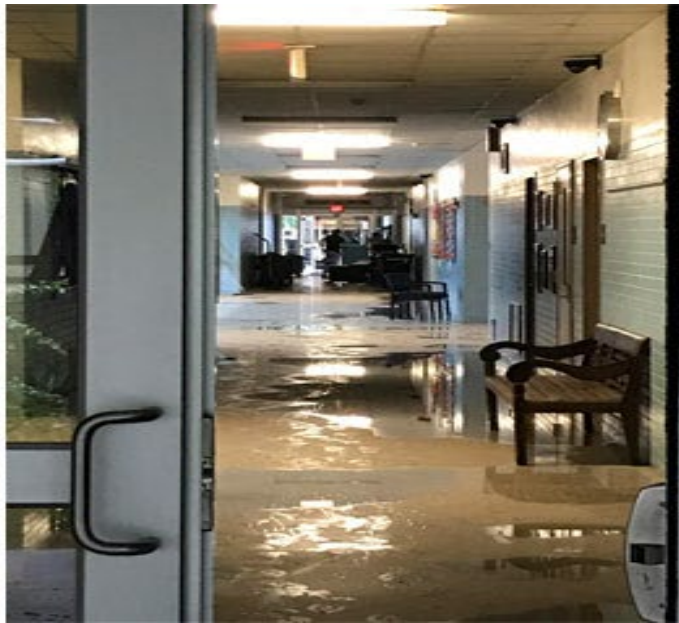
Hurricane Harvey

52" of rainfall on Houston

Devastating and
widespread flooding

100- & 500-year flood
maps obsolete





Braeburn Elementary



Temporary facility

“...it takes a village, and ours is unbelievable. Everyone pitched in. It was a community building event like no other”

- School Principal-



Temporary facility



Temporary facility

IMPACTED SCHOOLS

Widespread damage

29 campuses

Up to \$500k per campus in repairs

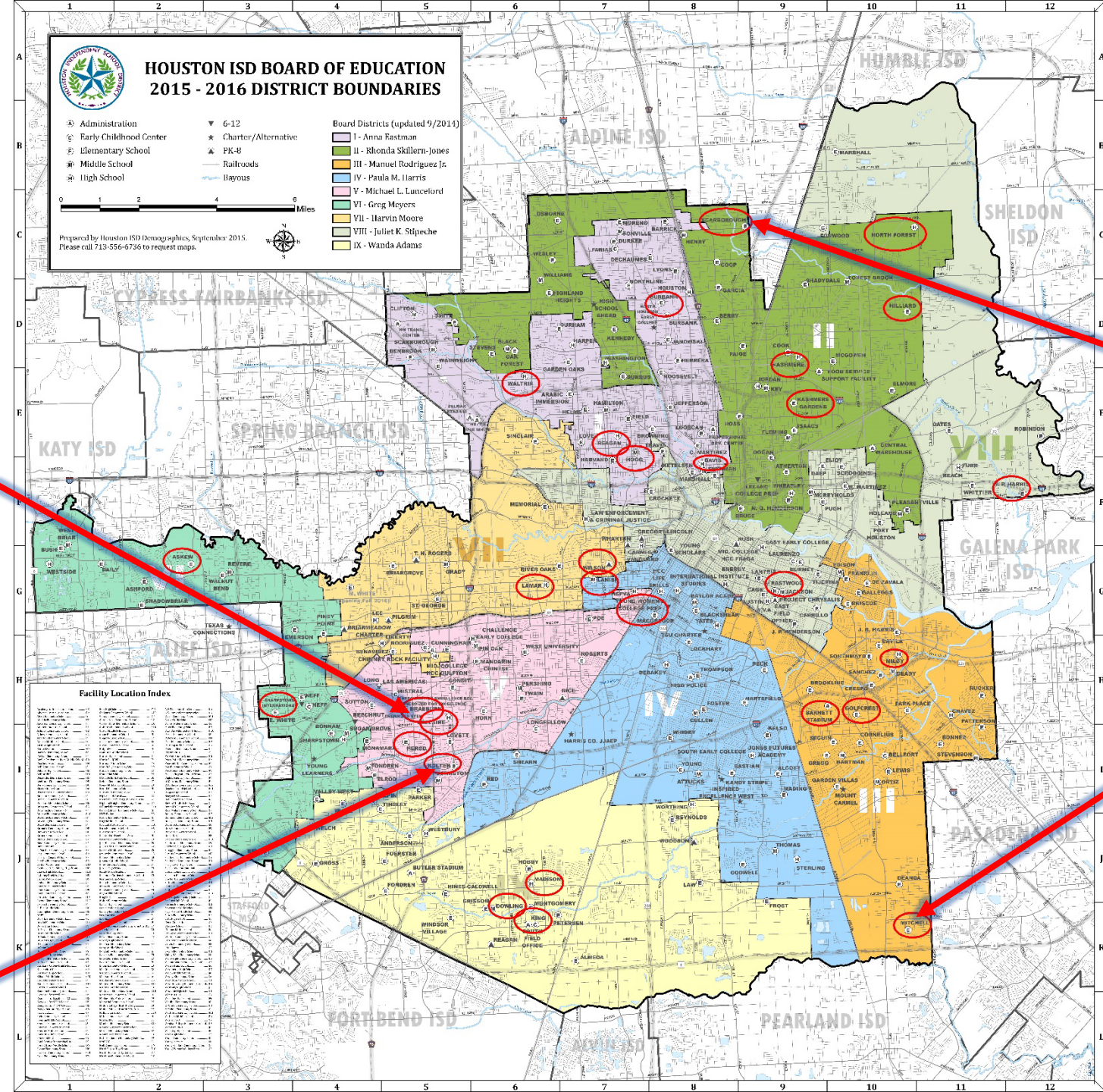
4 elementary schools replaced – The Harvey Schools

Braeburn ES

Scarborough ES

Mitchell ES

Kolter ES



HISD

Legend

★ ELEMENTARY SCHOOL

SCARBOROUGH ELEMENTARY SCHOOL

1942

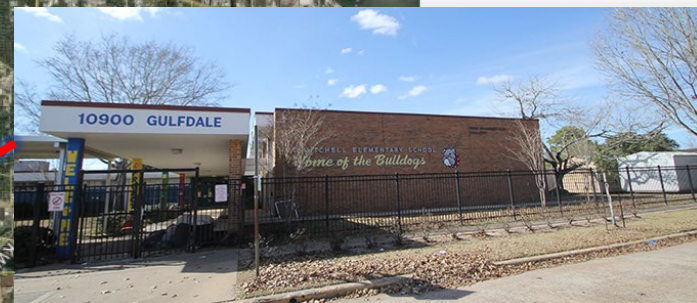
Bearmont Hwy



BRAEBURN ELEMENTARY SCHOOL

KOLTER ELEMENTARY SCHOOL

225



MITCHELL ELEMENTARY SCHOOL



10 mi

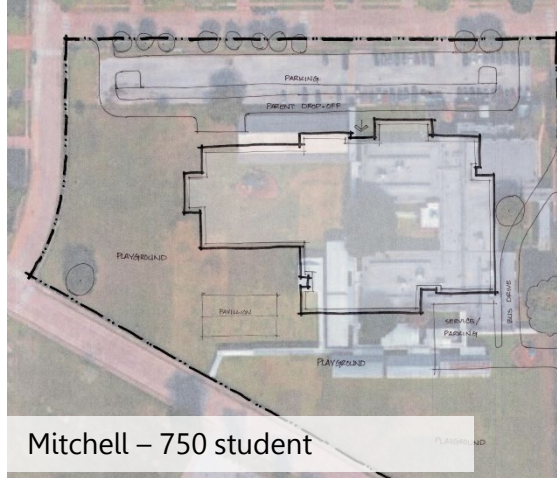
CHARACTERISTICS & OPPORTUNITIES

single design

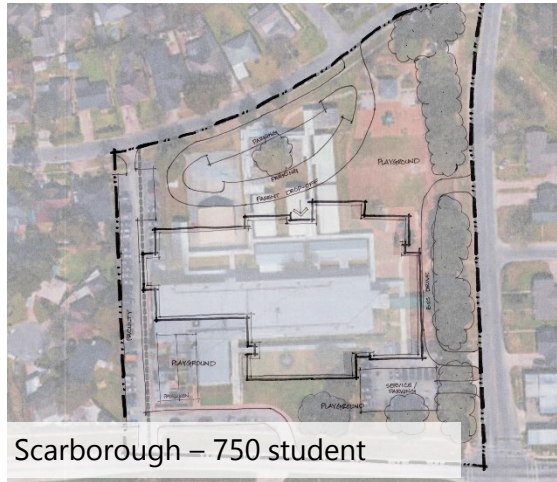
footprint is compact footprint

maximize natural light

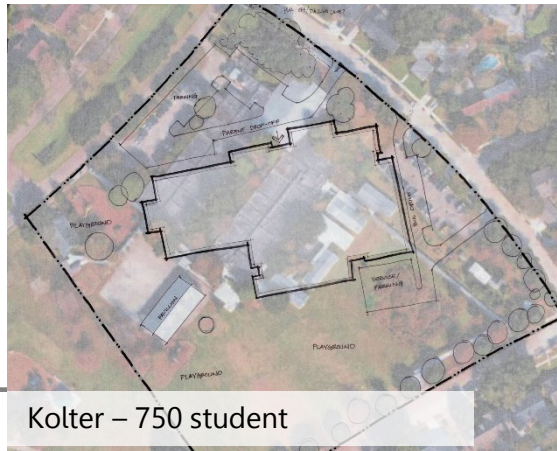
Preservation of unique site
characteristics/programs



Mitchell – 750 student



Scarborough – 750 student



Kolter – 750 student



Braeburn – 1,000 student

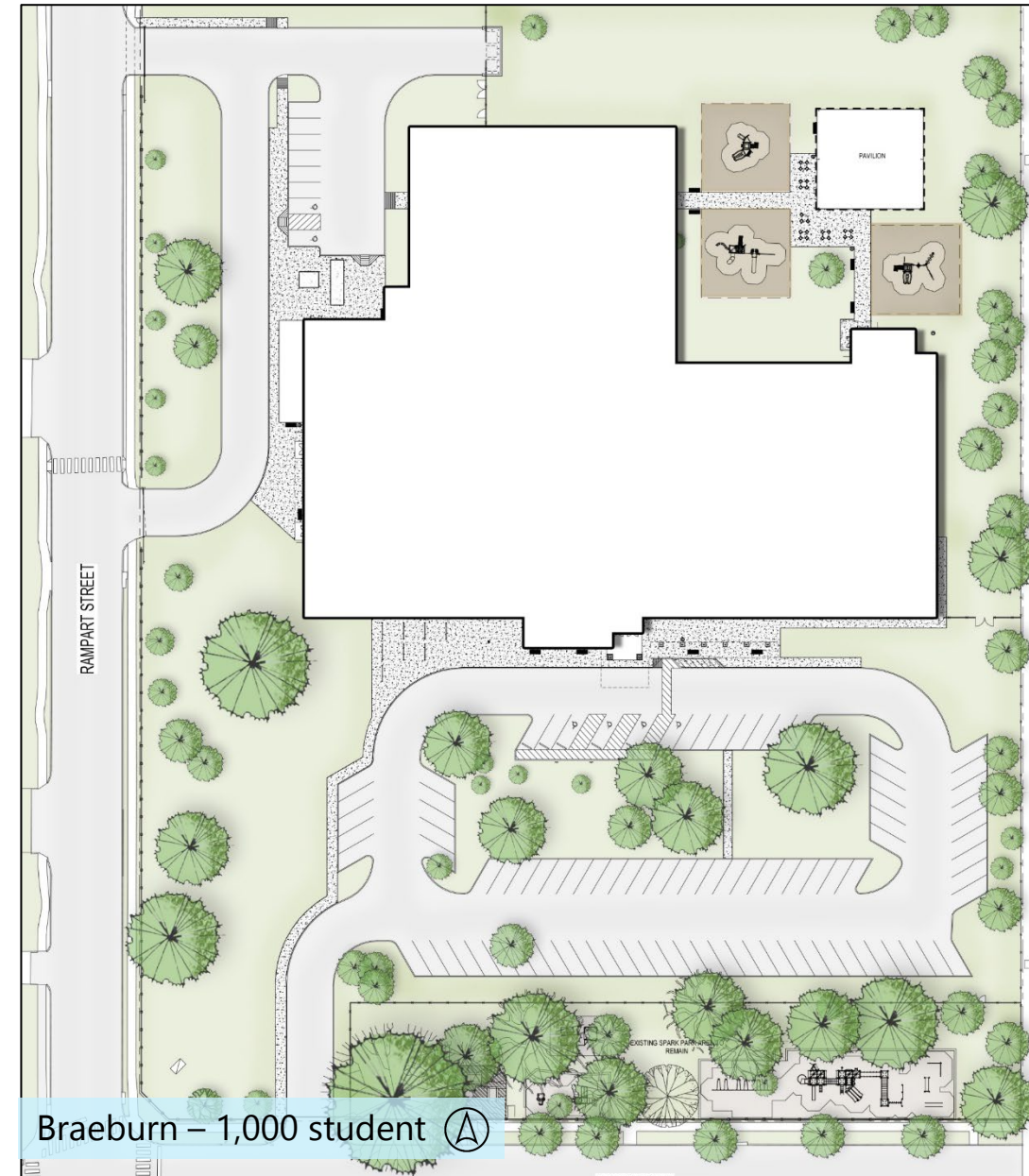
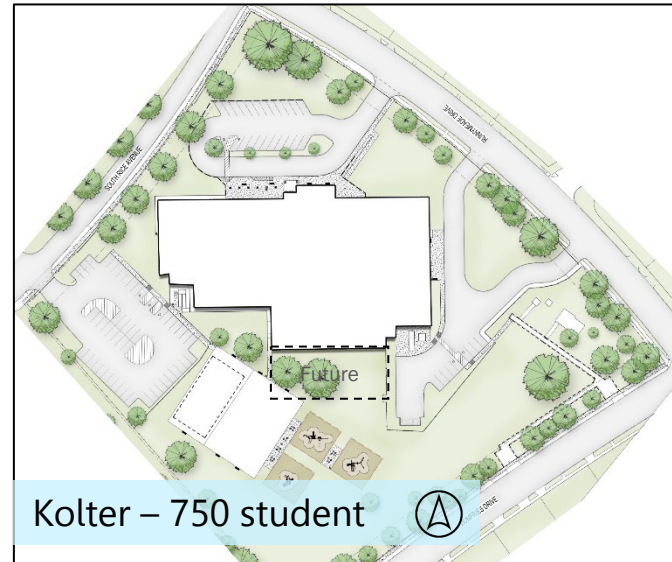
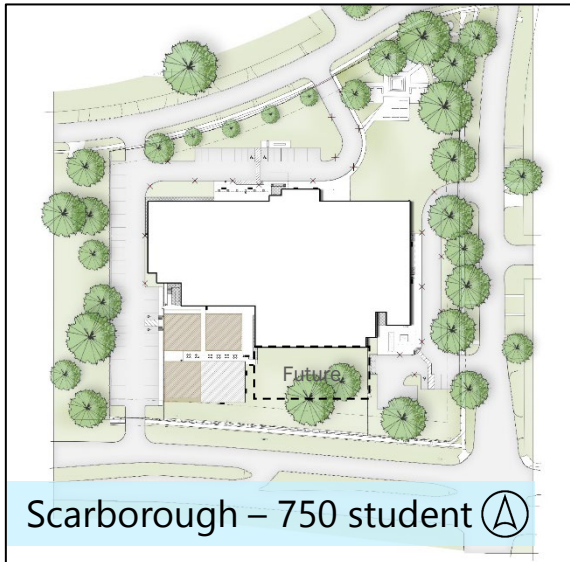
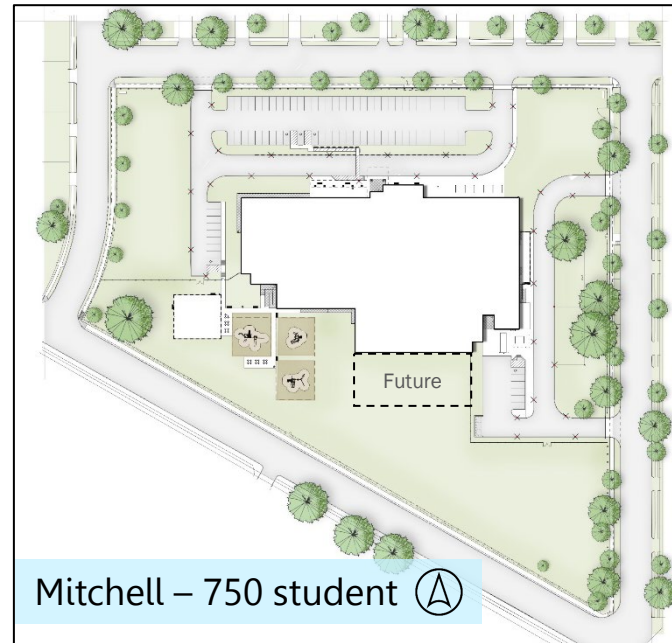


SITE DEVELOPMENT

Small Neighborhood Sites
(5-8 acres)

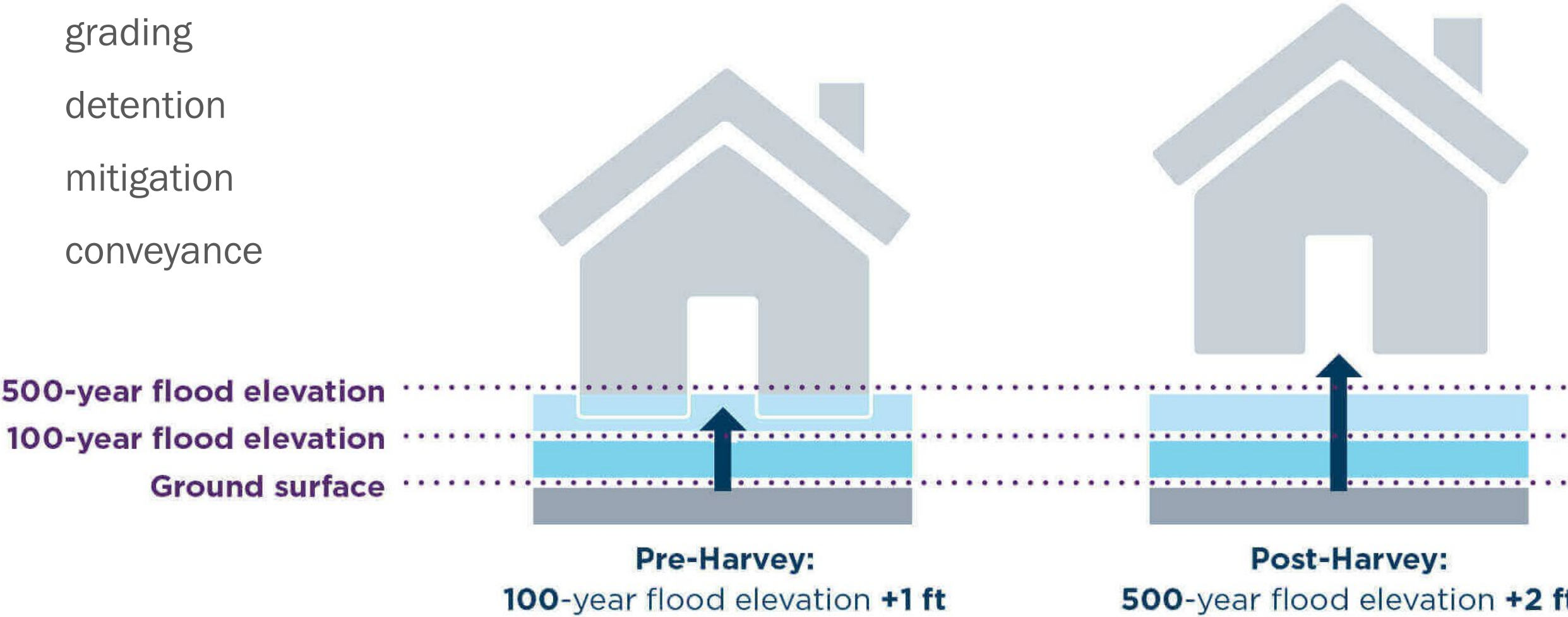
Compact, economical plan

Maintain flexibility to
grow/expand



CITY OF HOUSTON REGULATIONS

- grading
- detention
- mitigation
- conveyance



500-year floodplain is considered a moderate flood risk (0.2% annual chance floodplain)

DETENTION



36" STORMWATER PIPES



30" STORMWATER PIPES



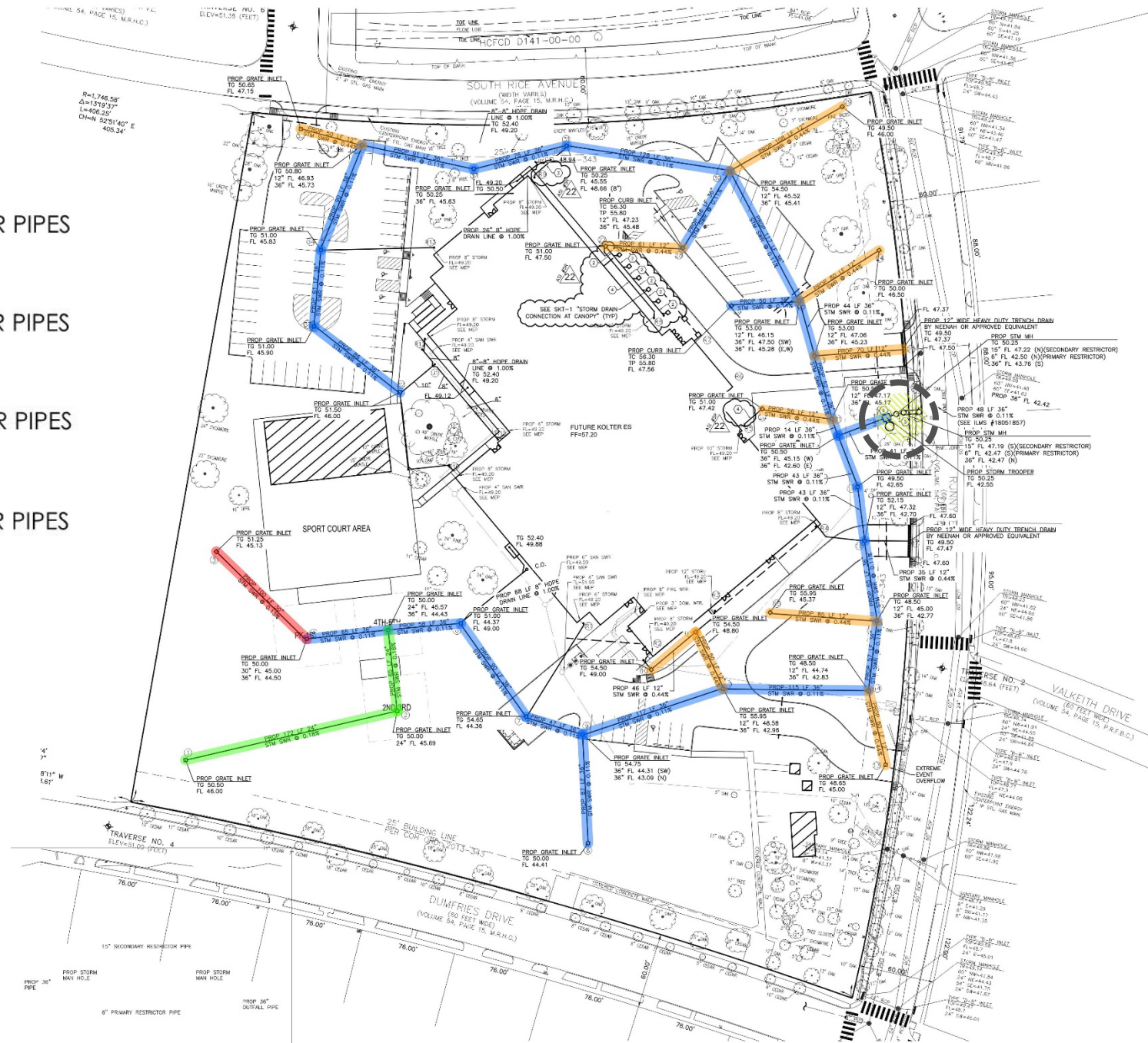
24" STORMWATER PIPES



12" STORMWATER PIPES



STORMTROOPER



DETENTION

Dec 6, 2018 12:23:30 PM

Dec 19, 2018 3:24

Dec 6, 2018 8:32:29 AM

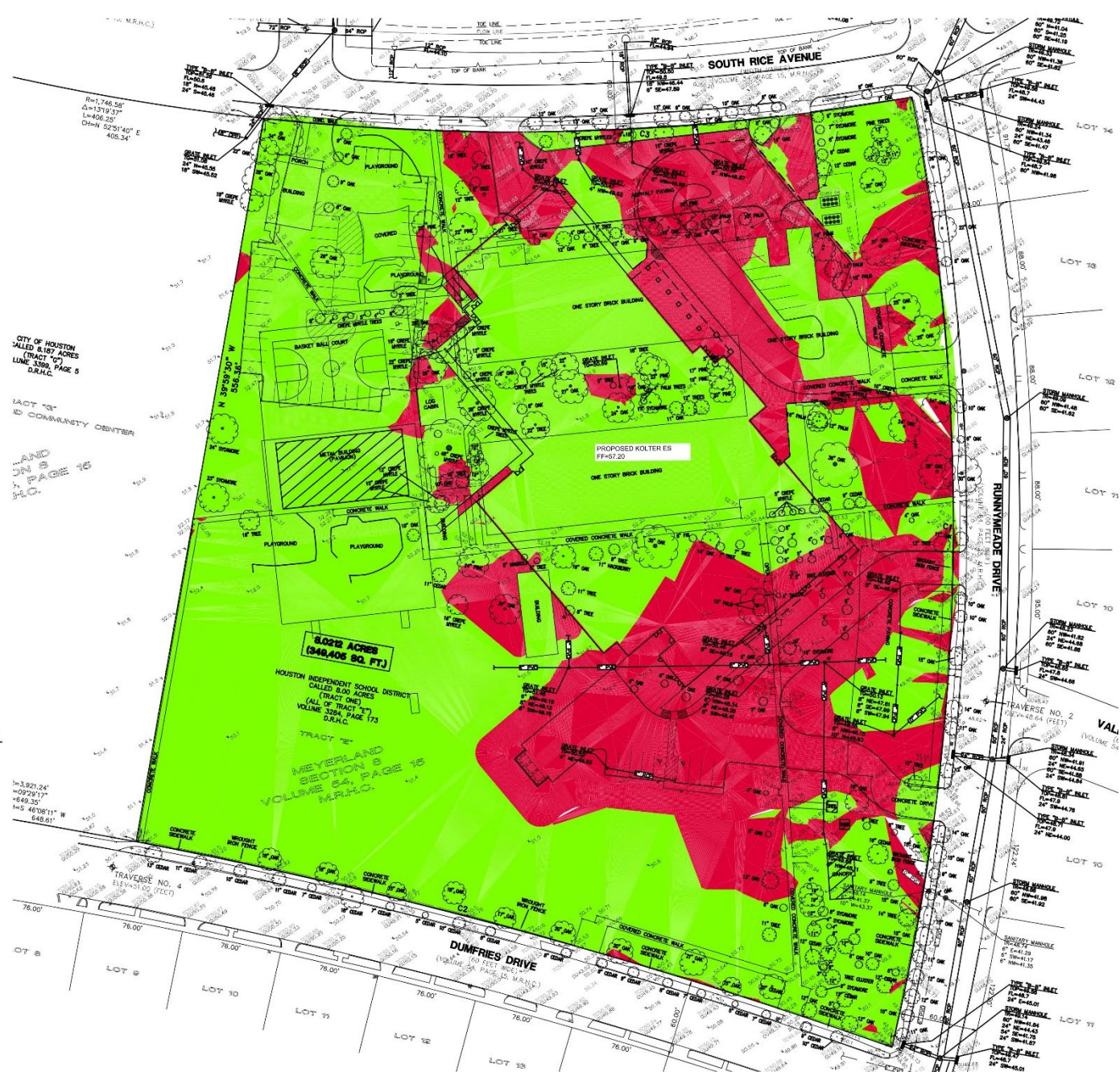
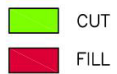
MITIGATION

Balancing the site

MITIGATION SUMMARY

1. TOTAL CUT = 6792.36 CY
2. TOTAL FILL = 7883.43 CY
3. TOTAL PIER FILL BELOW BFE = 164.98 CU YD
4. TOTAL FILL + PIER FILL BELOW BFE - TOTAL CUT = TOTAL NET FILL
 $7883.43 + 164.98 - 6792.36 = 1256.05 \text{ CY FILL}$
5. TOTAL NET FILL - FILL ABOVE BFE = MITIGATION
 $1256.05 - 1636.72 = -380.67 \text{ CY FILL (380.67 CY CUT)}$
6. $380.67 \text{ CY} \times 27 \text{ CF} = 10,278.09 \text{ CF CUT}$
7. $10,278.09 \text{ CF} / 43560 \text{ CF} = 0.24 \text{ AC-FT CUT}$

LEGEND



MITIGATION

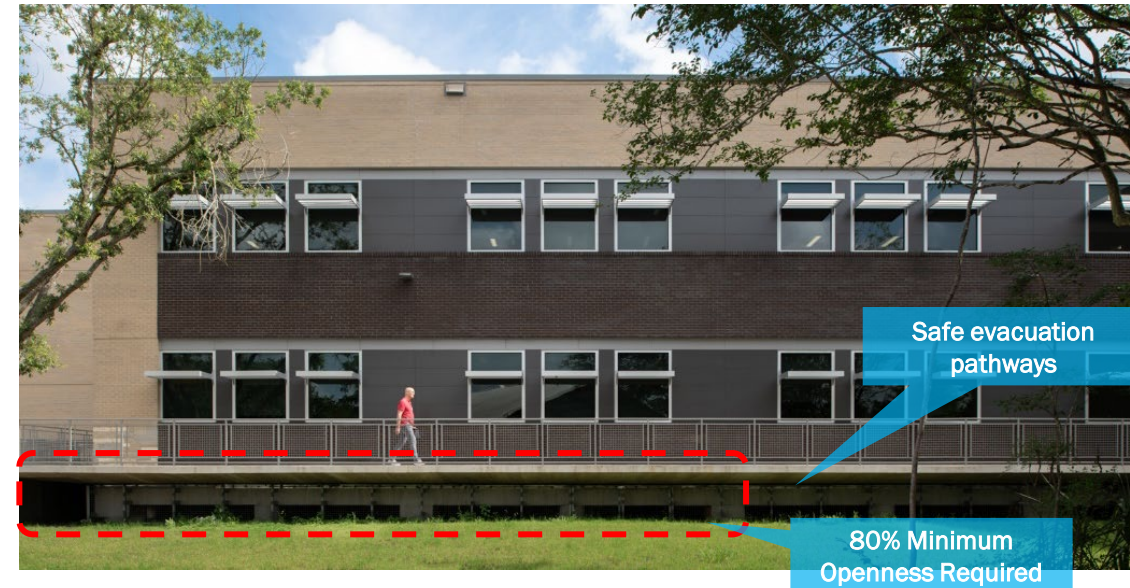
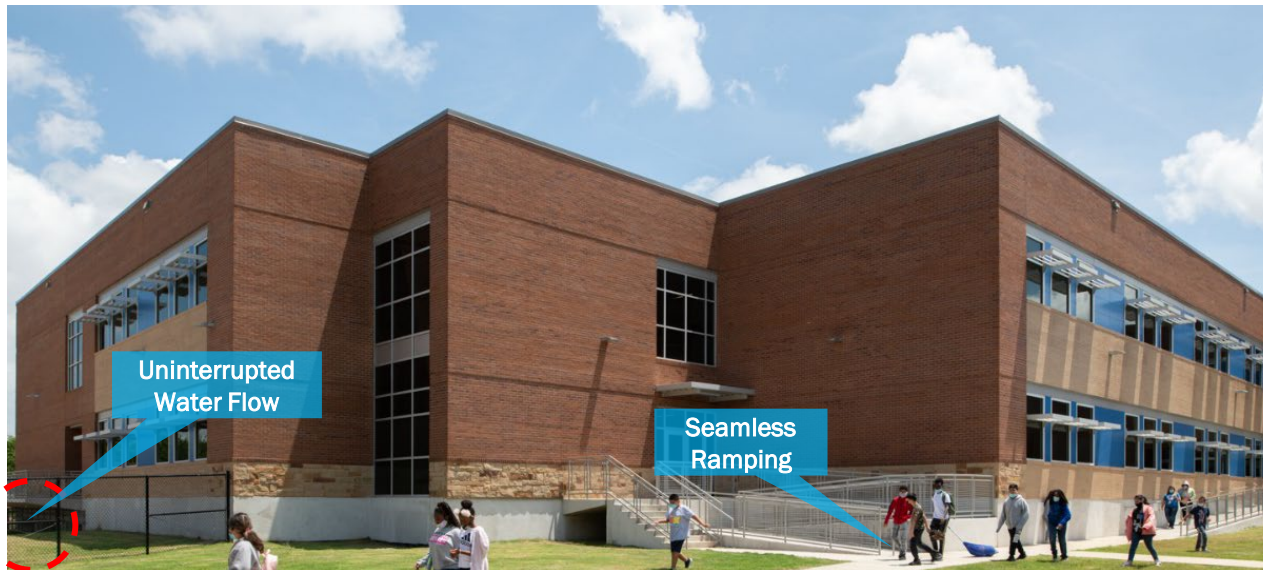
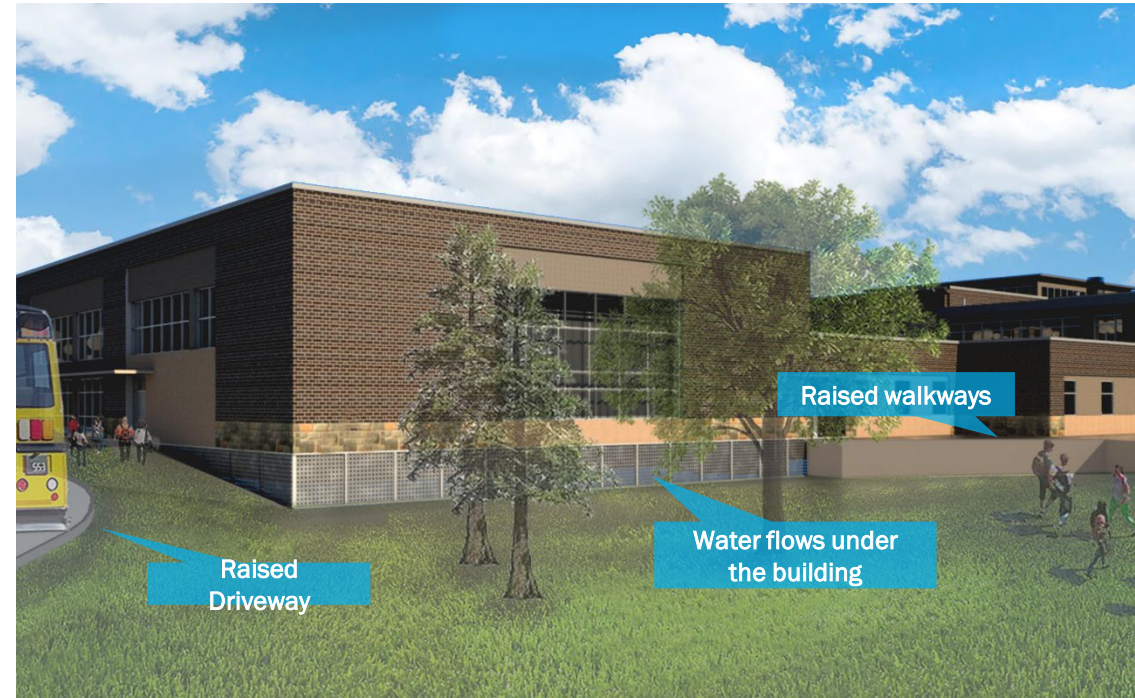


CONVEYANCE

Harvey submerged all four schools in up to 7' of water

water must be able to flow unimpeded in its natural direction

water must flow beneath the structure



CONVEYANCE



COMMUNITY CONCERNS

CONCERN: Road flooding – parents could have limited access to schools in high water conditions.

RESPONSE: Students and staff will remain safe (and fed) in schools – safe haven. Generators were upsized and located above flood plain to power the kitchen, cafeteria, and gymnasium.

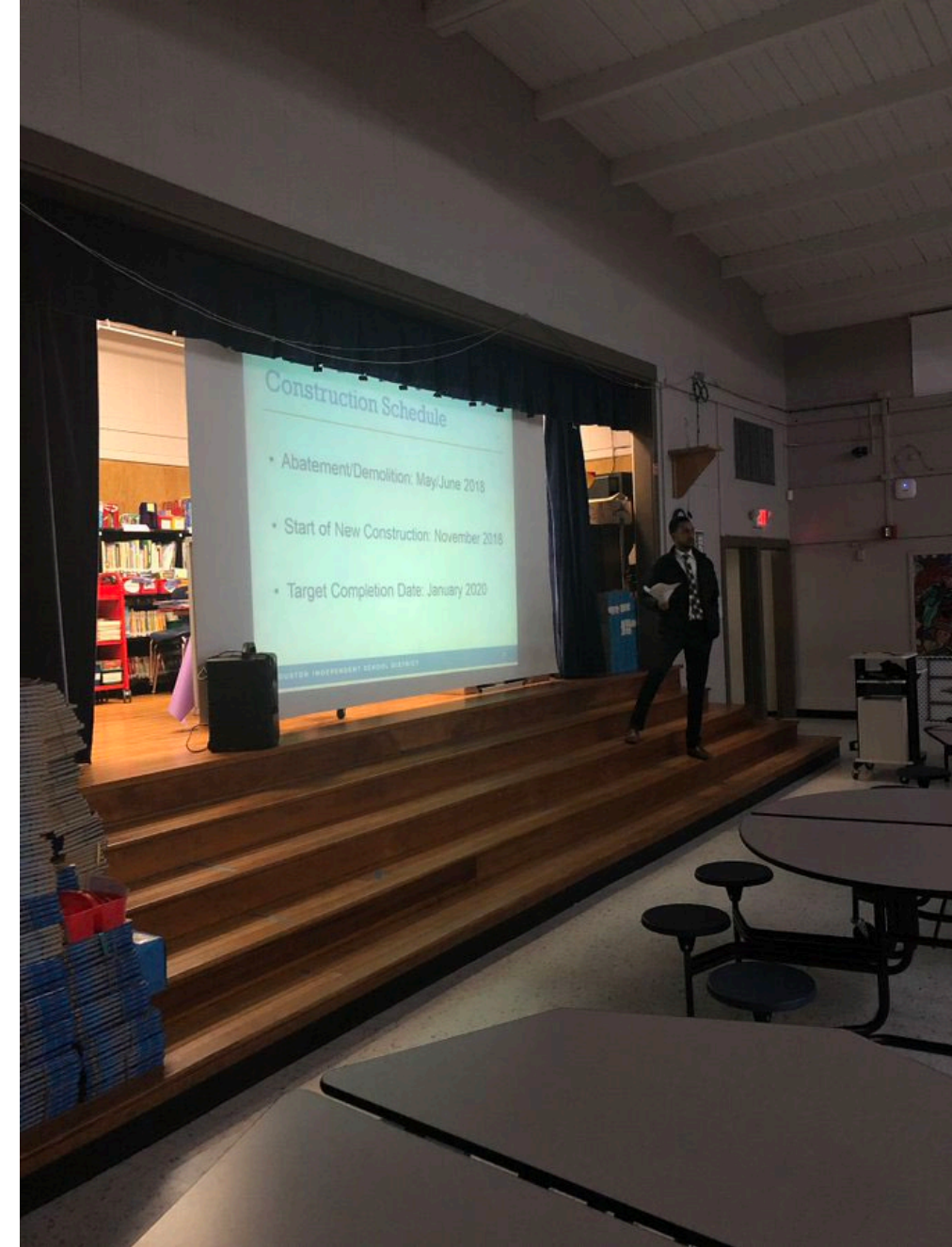


COMMUNITY CONCERNS

CONCERN: Water could back up or stand on site and flood the adjacent neighborhood.

- where's the retention pond?
- aren't you going to shed on us?

RESPONSE: Underground catch basins and a series of oversized stormwater pipes, hold water and release it slowly into City infrastructure.



PLANNING SCHEDULE

14 Dec '17

Board Approval to
Replace 4 Elementaries



22 Jan '18

Tour Newer facilities for
parity at new schools



24 Jan '18

Design Charrette:
Building Design



7 Feb '18

Contractor on Board



27 Apr '18

Civil/Site Drawings
(Phase 2) Out to Bid



5 Nov '18

Phase 2
Construction Begins



17 Dec '17

Board Approved Program for
750 & 1000 Student Schools



23 Jan '18

Design Charrette:
Site Planning



2 Feb '18

Schematic Design
Completed



20 Apr '18

Abatement & Demolition
of Existing Campus
(Phase 1)



12 Jul '18

Construction
Drawings (Phase 3)
Out to Bid



4 Mar '19

Phase 3
Construction Begins





SCARBOROUGH



MITCHELL



KOLTER



BRAEBURN

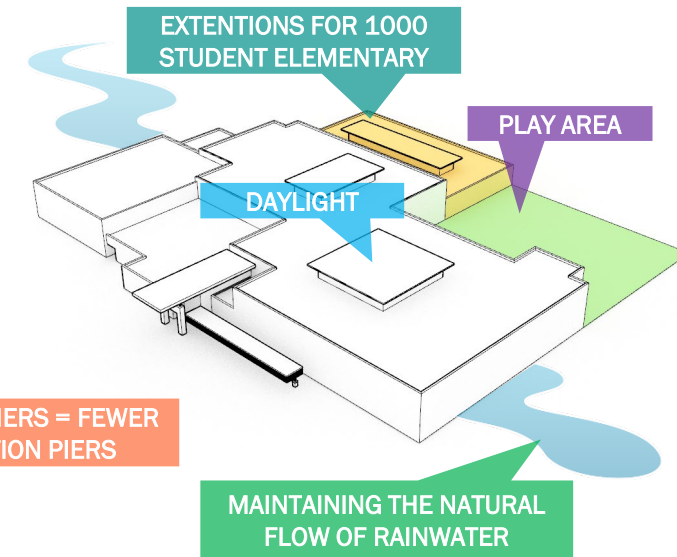
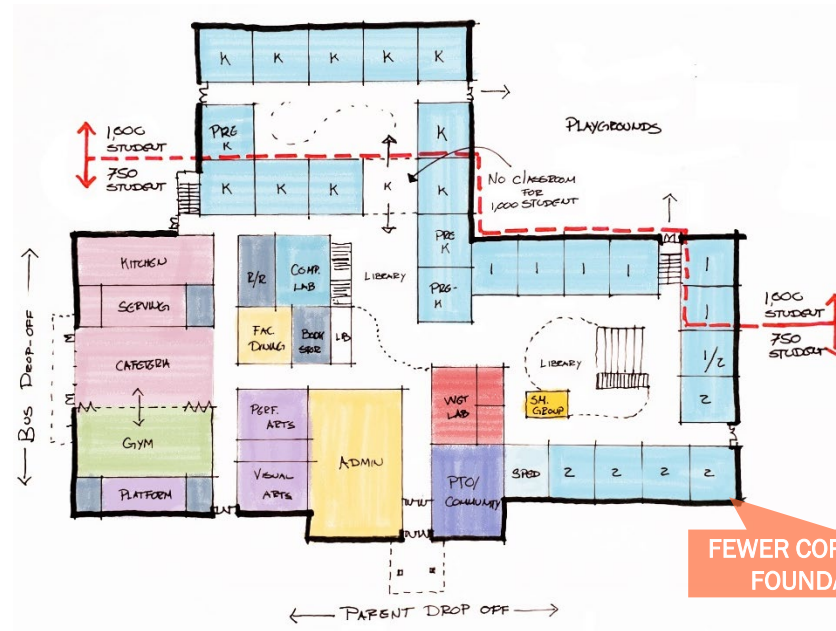
SIMPLE SOLUTIONS TO GREAT CHALLENGES

Aggressive city regulations with no
precedence

Site limitations & restrictions

compact with more educational
space into a smaller footprint

simple design that was easily
understood and helped expedite
the review process



DESIGN APPROACH

connectivity / transparency

inclusivity

informal supervision

adaptable

scalable

Seamless Growth for future expansion is pre-planned into the 750-student design.

Combined Circulation allows for alternate activities outside of the classroom.

Alternate Learning setting allows for co-teaching and supports diverse communities.

Cafeteria & Gym can accommodate larger student activities or community groups.

Small Collaboration helps develop and nurture social skills.



FLOOR PLANS – 1000 STUDENT LAYOUT



FIRST FLOOR



SECOND FLOOR

FLOOR PLANS – 750 STUDENT LAYOUT



FIRST FLOOR



SECOND FLOOR

THE SUN WILL SHINE AGAIN

the silver lining was these neighborhood schools—not scheduled for updating—would be replaced





RE-IMAGINING THE CONCEPT OF A LIBRARY



“The library is sort of spread all throughout campus, It’s nice to see that, everywhere you go, there are books. This is a print-rich campus. The kids get to see books everywhere they go.”

- School Librarian-



A PLACE OF MOVEMENT

physical activity is
integrated

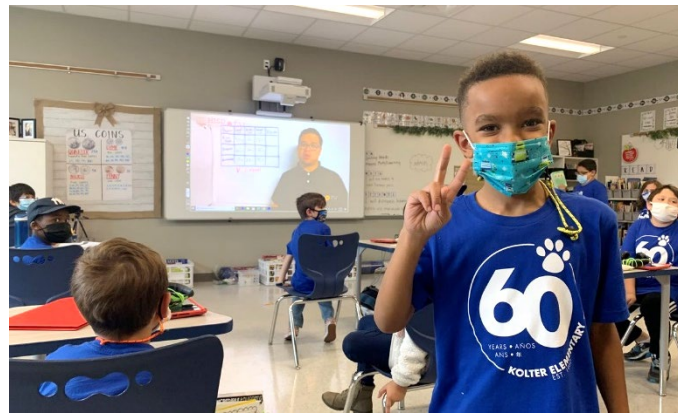
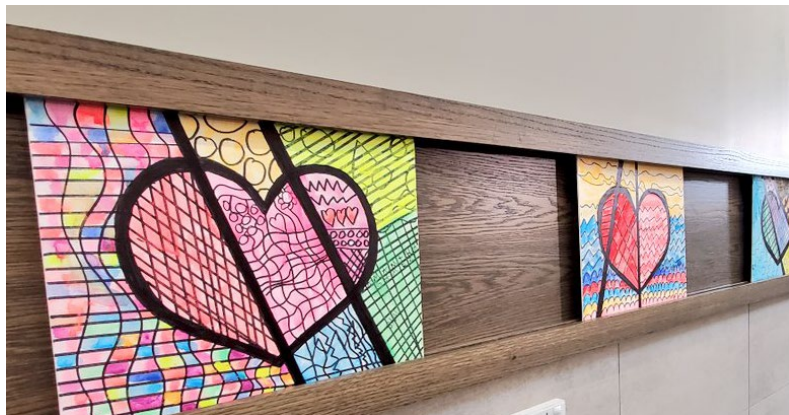
foundation of
movement and
activity



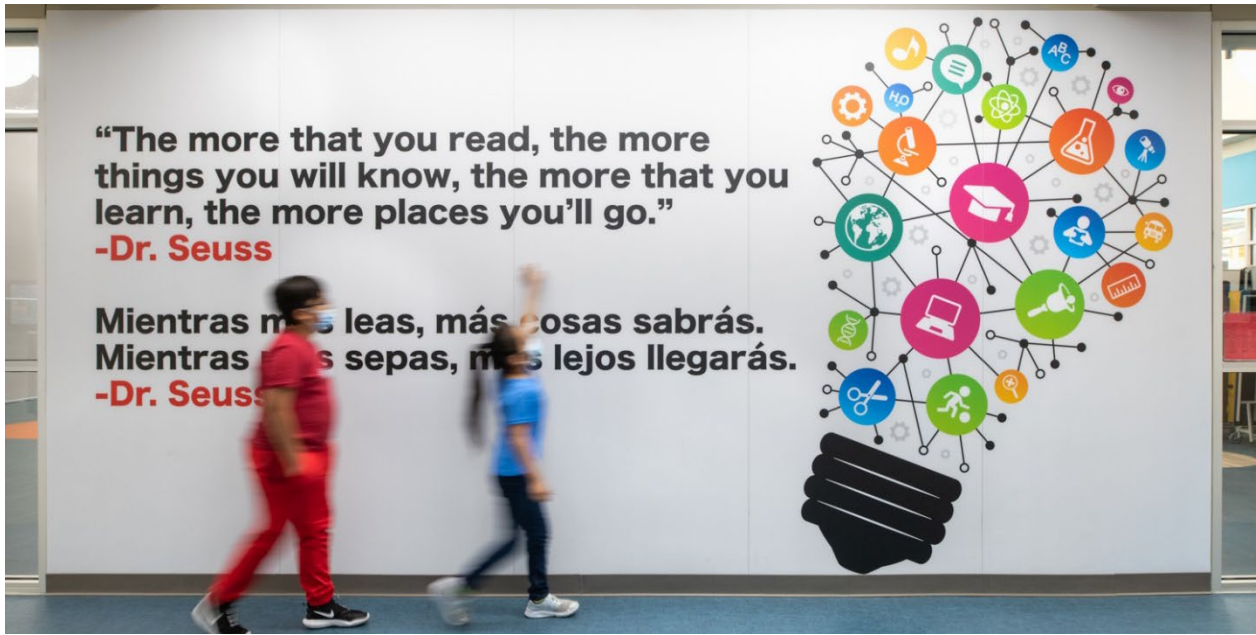
ECONOMY OF SCALE

single contractor / expedited construction time / greater value





“the school is my classroom”



“This building symbolizes the spirit of this community and our hopes for the future,”

- District Board Member -





STUDENTS SHAPING THEIR NEW SCHOOL



COMMUNITY ENGAGEMENT

“It’s been powerful, it’s been emotional, and at times, it’s been overwhelming, but it also brought our community together. It’s going to be exciting for them to be back home.”

- Superintendent-



Students, staff, and community participated in school construction updates.



Parents re-built a school garden located on one of the campuses.



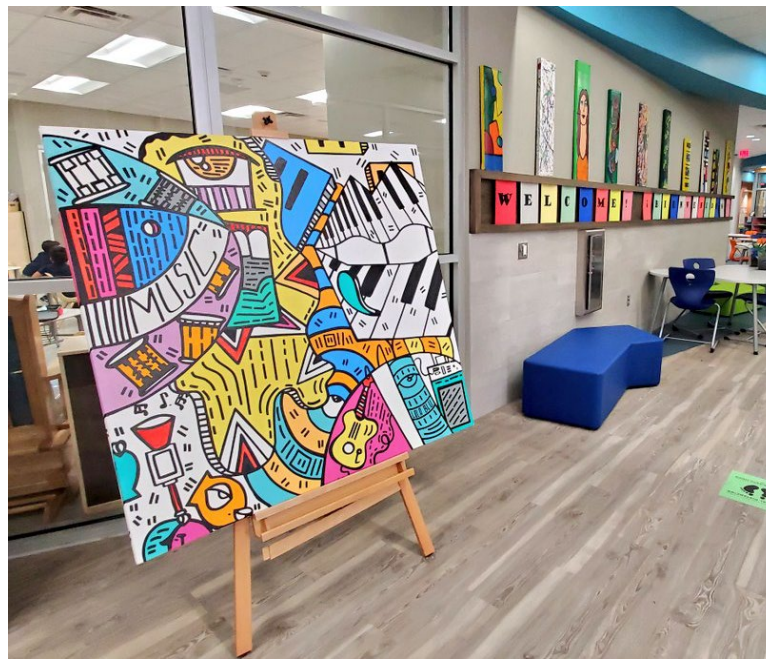
Corporations came together to donate materials and supplies for all students.



After Hurricane Harvey, all student material was lost. Donated books meant students had new stories & adventures to explore.



Artifacts from previous building displayed in the new schools.



CULTURAL EXPRESSION

"When we saw the blueprint for our new school, we almost couldn't believe that we would get to learn in such a beautiful building"

- 4th grade teacher-



GUIDING PRINCIPLES



Campus Community



Personalized

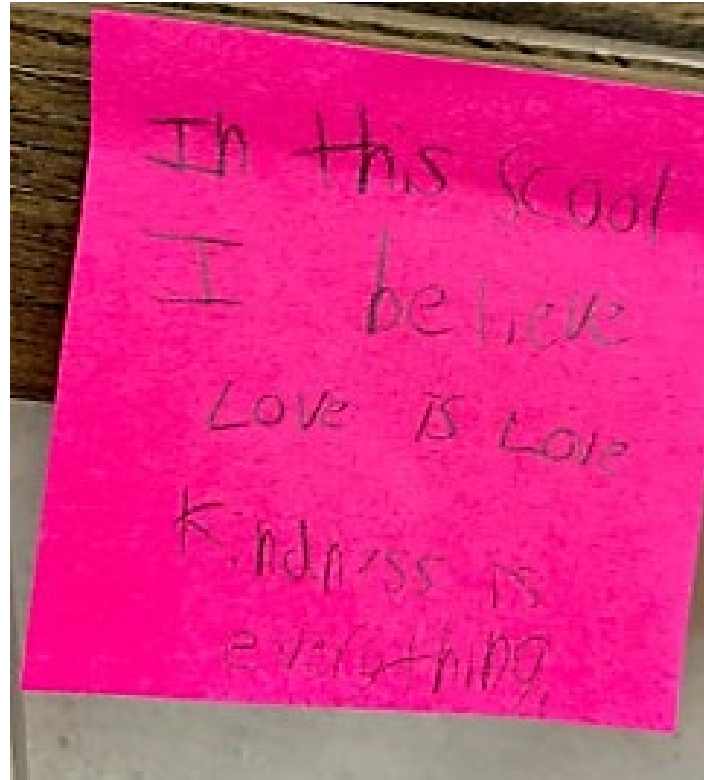


Project-based



Collaborative

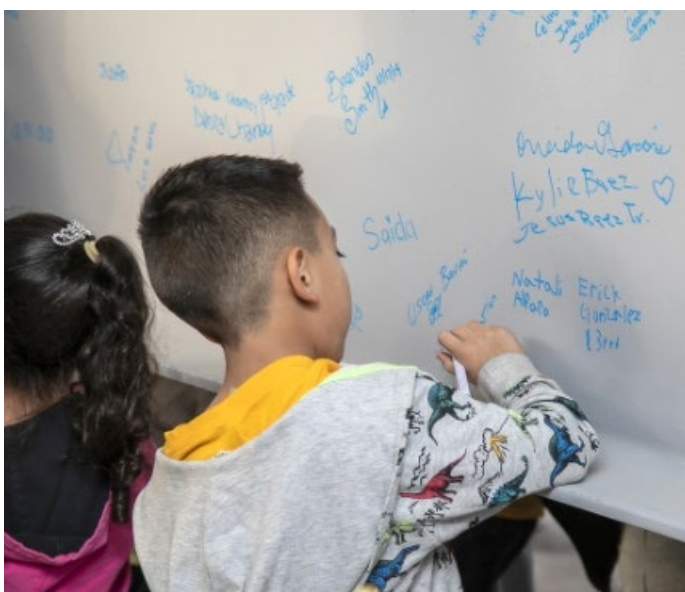
strengthening connections and
reinforcing community values



“These kids have been through so much the past few years. To see their excitement over returning to this new building is really great.”

-a faculty member





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