New Facilities

PRESENTED BY
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FACILITIES, PLANNING, AND CONSTRUCTION
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Topics

• Capacity - Programs
• New Facilities
• Costs
Capacity - Programs

“With a lot of schools under capacity, why do we need to build more?”

- Design vs. functional capacity
  - There are few empty classrooms across the District
  - Available space is geographically dispersed
- Programs
  - There are a large number of programs that support our student needs that occupy classroom space

Programs and Support Services for Students

Elementary
- PPCD – Preschool Program for Children with Disabilities
- Project TWE
- Community PPCD
- LEAP – Communication Acquisition Program for Preschoolers
- Deaf Education
- ECAP – Early Childhood Autism Program
- YCAP – Young Children Autism Program
- AB – Adaptive Behavior
- Parent Centers (Federal – Title III)
- Two Way Immersion (TWI)
- Bilingual
- Pre-K
- Title I

Secondary
- PASS – Positive Approach for Student Success
- JCAP – Junior High Children Autism Program
- Work Based Learning
- HCAP – High School Children Autism Program
- Newcomers Centers
- PEP

Both
- ESL – English as a Second Language
- Life Skills
- Speech
- ASIP – Autism Spectrum Intervention Program
- TIP – Therapeutic Intervention Program
- Academic Support/Intervention (state level – compensatory education)
- Gifted & Talented (GT)/Challenge
- Dyslexia
- Homebound (Staff only)
- Homeless (Staff only)
- LSSP – Licensed Specialists in School Psychology
- Instructional Coaches
New Facilities

- School Rollout
- Schedule
- School Design

<table>
<thead>
<tr>
<th>Year Opening</th>
<th>New Facility</th>
<th>LUZ</th>
<th>Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Elementary #41</td>
<td>F3J (Cross Creek Ranch)</td>
<td>own</td>
</tr>
<tr>
<td>2019</td>
<td>Elementary #42</td>
<td>vicinity (Elyson)</td>
<td>own</td>
</tr>
<tr>
<td>2019</td>
<td>Junior High #16</td>
<td>F3C (Cross Creek Ranch)</td>
<td>own</td>
</tr>
<tr>
<td>2020</td>
<td>Elementary #43</td>
<td>Northwest Quadrant</td>
<td>need land*</td>
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<tr>
<td>2020</td>
<td>High School #9</td>
<td>F3C (Cross Creek Ranch)</td>
<td>own</td>
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<tr>
<td>2021</td>
<td>Junior High #17</td>
<td>10B (Clay Road)</td>
<td>own</td>
</tr>
<tr>
<td>2021</td>
<td>Elementary #44</td>
<td>10B (Clay Road)</td>
<td>own</td>
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</table>
Schedule

- Schedules are typically based on a campus opening in the fall at the start of the new school year. We therefore work our schedule backwards and typical timeframes for design and construction:
  - Elementary – repeat design - 20 to 22 months
  - Junior High – repeat design - 25 to 28 months
  - High School – repeat design – 36 to 40 months
- Within these time frames are Board of Trustees meetings for contracts and design approvals
New School Designs

A new design was developed in 2014 to reflect 21st century learning

- **Prototypes** - a first model of something from which other forms are developed or copied
- **Refined Repeats** - the original design is modified based on input from various departments to ensure the facility meets students’ needs. The current prototypes developed for the 2014 Bond are:
  - Elementary: Jenks (#38) & Bethke (#39) – previous prototype was repeated 16 times
  - JH: Stockdick (#15) – previous prototype was repeated 5 times
  - HS: Paetow (#8) – previous prototype was repeated 3 times

Elementary
High School
Costs

- Total Project Cost Components
- Cost Reduction Initiatives
- Construction Cost & Drivers
- Building Materials
- Quality Assurance

Total Project Cost Components:

- Design - Architect/Engineer Fees
- Construction Cost/General Contractor
- Non-Contract Cost
- Furniture, Equipment & Technology
Start with Design - Architect

• Architect – Professional Service – by law, Texas Government Code 2269, services cannot be bid

• Why is there a cost at all for a repeat design?
  ○ Unique site conditions must have new civil designs and each require construction administration services by architect and consultants
  ○ Other minor changes and code changes are also reviewed prior to finalizing the construction documents

Construction Cost (by General Contractor)

• Square footage of facility
• Cost/SF applied based upon project scope
• Construction Inflation
• Cost sources:
  ○ Katy ISD historical
  ○ Local (other area school districts)
  ○ Outside resources – i.e., Association of General Contractors (AGC)
Construction Cost Estimates & Energy Code

  - Potential Cost Impacts:
    - Construction $8 - $10/SF
    - Commissioning $1/SF
- Items include: building envelope (roof, walls, windows) and mechanical/electrical/plumbing (MEP)

Elementary Cost/SF

<table>
<thead>
<tr>
<th>Year</th>
<th>District</th>
<th>2014 Cost/SF</th>
<th>2015 Cost/SF</th>
<th>2016 Cost/SF</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>Katy ISD Bond Planning</td>
<td>$160</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lamar ISD (metal bldg.)</td>
<td>$173</td>
<td></td>
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<tr>
<td></td>
<td>CyFair ISD</td>
<td>$176</td>
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<tr>
<td></td>
<td>Spring Branch ISD</td>
<td>$191</td>
<td></td>
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<tr>
<td>2015</td>
<td>Bethke</td>
<td>$176</td>
<td></td>
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<tr>
<td></td>
<td>Fort Bend ISD</td>
<td>$216</td>
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<tr>
<td></td>
<td>Lamar ISD (metal bldg.)</td>
<td>$199</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>AGC Actual</td>
<td>$190</td>
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</tbody>
</table>

2016
- Bryant $180
- Lamar ISD (metal bldg.) $195
- AGC Actual $195

2017*
- Elem #41 $171
- AGC Projection $203 – $220

Elem Bond Planning $171

*Energy Code Impacts
### Junior High Cost/SF

<table>
<thead>
<tr>
<th>Year</th>
<th>Project</th>
<th>Cost/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Katy ISD Bond Planning</td>
<td>$170</td>
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<tr>
<td></td>
<td>Tays JH</td>
<td>$173</td>
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<tr>
<td>2015</td>
<td>Stockdick</td>
<td>$200</td>
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<tr>
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<td>Magnolia ISD</td>
<td>$171</td>
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<tr>
<td></td>
<td>Dickinson ISD</td>
<td>$216</td>
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<tr>
<td></td>
<td>AGC Actual</td>
<td>$207</td>
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<td>2017*</td>
<td>AGC Projection</td>
<td>$216 - $234</td>
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<tr>
<td></td>
<td>JH Bond Planning</td>
<td>$230</td>
</tr>
</tbody>
</table>

*Energy Code Impacts

### High School Cost/SF

<table>
<thead>
<tr>
<th>Year</th>
<th>Project</th>
<th>Cost/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>Katy ISD Bond Planning</td>
<td>$190</td>
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<tr>
<td></td>
<td>CyFair ISD #11</td>
<td>$240</td>
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<td>2015</td>
<td>Paetow HS</td>
<td>$211</td>
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<td>Klein ISD HS #5</td>
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<td>CyFair ISD #12</td>
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<td>AGC Actual</td>
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<tr>
<td>2016</td>
<td>AGC Actual</td>
<td>$241</td>
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<td>2017*</td>
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<td>$251 - $263</td>
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<tr>
<td></td>
<td>HS Bond Planning</td>
<td>$260</td>
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</tbody>
</table>

*Energy Code Impacts
Construction Delivery Methods

Based upon the Texas Government Code 2269 and the nature of the project (i.e., new school vs. renovation), the following are construction delivery methods typically utilized:

• Competitive Sealed Proposal (CSP) – Contractor selected once construction documents are fully complete
• Construction Manager at Risk (CMaR) – Contractor involved early with design team to address project complexities

Non-Contract Costs (not covered under General Contractor)

Construction Non-Contract:
• Builders Risk Insurance Premium
• Costs associated with Moving Portable Buildings
• MUD fees
• Utility connection fees
• Utility costs for project
• Maintenance items – fire extinguishers, soap dispensers
• Contingency
• Owner held contracts – turf, tracks, shade structures
• Asbestos abatement
• Permits

Architect/Engineering (A/E) Non-Contract:
• Geotechnical
• Environmental consultant
• Other consultants – traffic engineer for traffic study
• Materials Testing
• Test and Air Balance
• 3rd party code review
• Texas Dept. of Licensing & Regulation (TDLR) review
• Contingency
• Survey
• Plat Fees
Furniture, Equipment & Technology

- Desks, library materials, lab materials, musical instruments, program materials
- Technology – computers, copiers, cameras, interactive devices

Cost Reduction Initiatives

- Architect Fees for Design: typical for new construction is 6%; typical for refined repeat design is 3.5%. Percentage based off of construction cost
- Material selection and design to minimize on-going maintenance
- Direct purchase on specific equipment
- Bundling of projects when appropriate
- Timing of bidding projects
- Elementary #41 items: removal of parapets; reduced interior and exterior stone and brick; metal stud framing in lieu of CMU in some areas; modifications to storefront and curtainwalls
Construction Costs & Drivers

Hard Construction Costs
• Labor
• Material
• Margins
• Production Rates

Drivers

Inflation
• Supply / Demand

Code / Regulations
• 2015 IECC (Energy Code)
• Silica Regulations (OSHA)
• Commissioning (Project Duration)
• Manufacturers

Curriculum
• Collaborative Learning, Adaptability, Flexibility

2017 #1 Driver Is Code Changes

• House Bill 5 – “Career Ready”
• Mobile vs. Stationary Casework (FFE or Construction Budget)

Design (New Stuff)
• Finishes
• Technology
• Aesthetics

Society/Multi-Culture Changes

Building Materials

• Flooring – less maintenance, 20 year warranty
• Wall Coverings: vinyl, painted markerboards
• LED lighting
• Natural Light – Solatubes
• Glass – low E insulated double pane
• Reclaimed materials – KHS learning Stair
Quality Assurance

Once the project has been bid and construction starts, Katy ISD continues to:

- Review all estimates & change requests in depth
- Review project billings in depth each month to ensure we are not being overbilled
- Review documents continuously for efficiency in construction and dollars including cost reduction initiatives
- Schedule weekly or bi-weekly meetings to track progress of schedule and document approval: school opening dates cannot move
- Track schedule milestones for utility connections and move-in of furniture & equipment prior to staff occupancy

Thank you