School Facilities Referendum Planning Task Force Recommendation

Katy Independent School District

Project	Year to Complete	Cost	LUZ MAP
New Facilities			
Elementary (LUZ 74H, Falcon Landing Blvd)	2012	$ 23,181,966	More Info
Elementary (LUZ 51B, Firethorne)	2012	$ 23,181,966	More Info
Elementary (LUZ 74G, Cinco Far West)	2012	$ 23,181,966	More Info
Junior High (LUZ 74B, SLHS Campus)	2012	$ 39,767,508	More Info
High School (LUZ 67A)- Including 9th Grade Center	2013	$ 137,416,997	More Info
Wolfe Replacement Project (500 student capacity) K - 5	2012	$ 16,996,828	More Info
Property Acquisition	N/A	$ 13,200,000	More Info
Infrastructure (Required Utilities for New Sites/Schools)	N/A	$ 5,200,000	More Info
Subtotal New Facilities		**$ 282,127,231**	
Existing Facilities -Comprehensive Renovations			
Katy HS West Campus - Demolish & Reconstruct New and Katy HS Main Campus Kitchen Renovation	2013	$ 25,710,750	More Info
MCHS Central Plant - New Building & Equipment	2012	$ 3,958,500	More Info

School Facilities Referendum Planning Task Force Recommendation

Katy Independent School District

Project	Year to Complete	Cost	LUZ MAP
MCJH - Comprehensive Renovation (including Mech, Elect, Plumb, Structural, Restrooms, Finishes and Additional Administration Space)	2013	$ 18,135,661	More Info
THS Pool Renovation	2012	$ 2,436,923	More Info
THS Comprehensive Academic & Athletic Area Renovations (including Mech, Elect, Plumb & Finishes Original Campus)	2013	$ 28,845,863	More Info
WMJH - Comprehensive Renovation (including Mech, Elect, Plumb, Restrooms, Finishes and Additional Administration Space)	2013	$ 19,756,257	More Info
Subtotal Comprehensive		**$ 98,843,953**	
Existing Facilities - Facility Expansion			
South Transportation Bus Parking Expansion	2012	$ 472,500	More Info
Raines HS Shell Space Classroom Build Out	2012	$ 1,291,126	More Info
Subtotal Facility Expansion		**$ 1,763,626**	

School Facilities Referendum Planning Task Force Recommendation

Katy Independent School District

Project	Year to Complete	Cost	LUZ MAP
Existing Facilities - Component Replacement/ Plant Infrastructure			
Roof/Building Envelope Projects - Fielder Elementary	2011	$ 1,071,383	More Info
Roof/Building Envelope Projects - Mayde Creek High School	2011	$ 2,131,442	More Info
Replacement Chillers - Fielder Elem	2011	$ 707,616	More Info
Replacement Chillers - Hayes Elem.	2011	$ 707,616	
Replacement Chillers - Beck JH	2011	$ 917,280	
Cimarron Kitchen Renovation	2012	$ 672,977	More Info
Nottingham Country Kitchen Renovation	2012	$ 672,977	More Info
High School Campus T5 Lighting Retrofits for Gymnasiums- CRHS, KHS, MCHS, MRHS, SLHS	2011	$ 903,000	More Info
Replacement of Fire Alarm, Intercom, Generators at Various Campuses	2011	$ 2,500,000	More Info
Replacement of Degrading Parking & Athletic Light Poles	2012	$ 350,000	More Info
Main Entry Security Improvements - RAE, BCE, SCE, FE, GE, JHE, HE, KE, MCE, PME, SE, JWE, MDJH, MPJH, CRHS, MCHS, KHS	2012	$ 1,505,047	More Info

School Facilities Referendum Planning Task Force Recommendation

Katy Independent School District

Project	Year to Complete	Cost	LUZ MAP
Construction of Fences at Elementary Schools for Safety (RAE, FES, GE RRE, SES, SE, JWE, DWE)	2011	$ 367,500	More Info
Replacement of Elementary Cafeteria Floors (CE, JEE, FE, JHE, KE, PME, PE)	2012	$ 865,402	More Info
Student Locker Replacements at - Katy Junior High	2011	$ 212,940	More Info
Student Locker Replacements at - McDonald Junior High	2011	$ 236,250	
Rhoads Elem Parking Lot Expansion	2011	$ 407,453	More Info
Kilpatrick Elem Front Drive Widening	2011	$ 310,196	More Info
Replacement of Deteriorating Turf at Rhodes Stadium	2012	$ 614,250	More Info
KHS Pool Renovation	2012	$ 1,218,462	More Info
MPJH Track Reconstruction	2011	$ 104,022	More Info
Athletic and PE Locker Replacement at MCHS	2011	$ 426,825	More Info
Performing Arts Centers (PAC) Retrofits - KHS, THS, MCHS, CRHS	2012	$ 1,966,125	More Info
Subtotal Component		**$ 18,868,762**	

School Facilities Referendum Planning Task Force Recommendation

Katy Independent School District

Project	Year to Complete	Cost	LUZ MAP
Technology			
Campus Retrofit	N/A	$ 19,500,000	More Info
Copier/Printer Lifecycle Retrofit	N/A	$ 2,698,000	More Info
Campus Standard Changes	N/A	$ 2,000,000	More Info
Server Infrastructure Lifecycle	N/A	$ 750,000	More Info
Server Infrastructure Growth	N/A	$ 750,000	More Info
Campus Cabling Lifecycle	N/A	$ 2,705,000	More Info
Core Network/Wireless Infrastructure	N/A	$ 6,997,245	More Info
Subtotal Technology		**$ 35,400,245**	

School Facilities Referendum Planning Task Force Recommendation

Katy Independent School District

Project	Year to Complete	Cost	LUZ MAP
Other			
Portables 30 for 2011 - 2012 School Year	N/A	$ 2,550,000	More Info
Buses (69 Replacement Buses , 41 Buses for Growth)	N/A	$ 10,838,675	More Info
Bond Costs	N/A	$ 2,000,000	More Info
Pre-construction Architectural/Engineering Services E36, JH14, JH15, HS8	N/A	$ 7,353,600	More Info
Pre-construction Architectural/Engineering Services Ag Barn for HS7	N/A	$ 45,000	More Info
Subtotal Other		**$ 22,787,275**	
New Facilities		**$ 282,127,231**	
Existing Facilities - Comprehensive Renovation		**$ 98,843,953**	
Existing Facilities - Facility Expansion		**$ 1,763,626**	
Existing Facilities - Component		**$ 18,868,762**	
Technology		**$ 35,400,245**	
Other		**$ 22,787,275**	
Grand Total		**$ 459,791,092**	

Return to Matrix

Project Name: **Elementary in LUZ 74H**

Total Project Cost*: **$23,181,966**

Construction Cost: **$18,653,859**

Project Description:

Prototype elementary school designed for 1030 students in LUZ 74, Falcon Landing Blvd. (Refined repeat of Stan Stanley Elementary)

Background/Justification:

Growth in the southwest quadrant of the District continues on an annual basis.

The opening of this campus in 2012 will accommodate students currently attending the following campuses:

- Griffin Elementary (MGE)
- Kilpatrick Elementary (OKE)

Student Projections for the Southwest Quadrant of Katy ISD

(without the construction of additional schools)

School	Capacity	2010-11	2011-12	2012-13	2013-14	2014-15	Portables
Griffin Elementary	1,030	943	990	1,142	1,300	1,437	-
Holland Elementary	1,030	1,025	1,032	1,057	1,073	1,084	2
Kilpatrick Elementary	1,030	1,307	1,337	1,372	1,383	1,396	8
Rylander Elementary	1,030	1,248	1,259	1,283	1,309	1,349	7
Stanley Elementary	1,030	1,188	1,491	1,833	2,186	2,594	7
WoodCreek Elementary	1,030	1,267	1,482	1,718	2,010	2,402	7

*Total project cost includes not only the construction dollars but other costs associated with utilities, consultants, architects, engineers, testing, furniture, equipment & technology.

Return to Matrix

Project Name: **Elementary in LUZ 51B**

Total Project Cost*: **$23,181,966**

Construction Cost: **$18,653,859**

Project Description:

Prototype elementary school designed for 1030 students in LUZ 51B, the Firethorne subdivision. (Refined repeat of Stan Stanley Elementary)

Background/Justification:

The opening of this campus in 2012 will accommodate students currently attending WoodCreek Elementary (WCE).

Student Projections for the Southwest Quadrant of Katy ISD

(without the construction of additional schools)

School	Capacity	2010-11	2011-12	2012-13	2013-14	2014-15	Portables
Griffin Elementary	1,030	943	990	1,142	1,300	1,437	-
Holland Elementary	1,030	1,025	1,032	1,057	1,073	1,084	2
Kilpatrick Elementary	1,030	1,307	1,337	1,372	1,383	1,396	8
Rylander Elementary	1,030	1,248	1,259	1,283	1,309	1,349	7
Stanley Elementary	1,030	1,188	1,491	1,833	2,186	2,594	7
WoodCreek Elementary	1,030	1,267	1,482	1,718	2,010	2,402	7

*Total project cost includes not only the construction dollars but other costs associated with utilities, consultants, architects, engineers, testing, furniture, equipment & technology.

Return to Matrix

Project Name: **Elementary in LUZ 74G**

Total Project Cost*: **$23,181,966**

Construction Cost: **$18,653,859**

Project Description:

Prototype elementary school designed for 1030 students in LUZ 74G, Cinco Ranch, far west area. (Refined repeat of Stan Stanley Elementary)

Background/Justification:

The opening of this campus in 2012 will accommodate students currently attending Stan Stanley Elementary (SSE).

Student Projections for the Southwest Quadrant of Katy ISD

(without the construction of additional schools)

School	Capacity	2010-11	2011-12	2012-13	2013-14	2014-15	Portables
Griffin Elementary	1,030	943	990	1,142	1,300	1,437	-
Holland Elementary	1,030	1,025	1,032	1,057	1,073	1,084	2
Kilpatrick Elementary	1,030	1,307	1,337	1,372	1,383	1,396	8
Rylander Elementary	1,030	1,248	1,259	1,283	1,309	1,349	7
Stanley Elementary	1,030	1,188	1,491	1,833	2,186	2,594	7
WoodCreek Elementary	1,030	1,267	1,482	1,718	2,010	2,402	7

*Total project cost includes not only the construction dollars but other costs associated with utilities, consultants, architects, engineers, testing, furniture, equipment & technology.

Return to Matrix

Project Name: **Junior High in LUZ 74B (Seven Lakes HS site)**

Total Project Cost*: **$39,767,508**

Construction Cost: **$32,787,909**

Project Description:

Prototype junior high school designed for 1400 students in LUZ 74B, adjacent to the Seven Lakes HS campus. (Refined repeat of WoodCreek JH)

Background/Justification:

The opening of this campus in 2012 will accommodate students currently attending the following campuses:

- Beckendorff JH (BDJH)
- WoodCreek JH (WCJH)

Student Projections for the Southwest Quadrant of Katy ISD

(without the construction of additional schools)

School	Capacity	2010-11	2011-12	2012-13	2013-14	2014-15	Portables
Beckendorff Junior High	1,403	1,491	1,562	1,627	1,651	1,664	4
Cinco Ranch Junior High	1,400	1,035	1,039	1,017	1,022	1,012	-
WoodCreek Junior High	1,403	1,517	1,889	2,458	2,809	3,243	5

*Total project cost includes not only the construction dollars but other costs associated with utilities, consultants, architects, engineers, testing, furniture, equipment & technology.

Return to Matrix

Project Name: **High School in LUZ 67A**

Total Project Cost*: $137,416,997

Construction Cost: $115,589,250

Project Description:

Prototype high school designed for 3000 students in LUZ 67A, at the intersection of Falcon Landing Blvd and Gaston Road (Refined repeat of Seven Lakes HS)

Background/Justification:

The opening of this campus in 2013 will accommodate students from the Seven Lakes HS campus. The cost of this facility also includes funding for site infrastructure.

Student Projections

(without the construction of additional schools)

High School	Capacity	2010-11	2011-12	2012-13	2013-14	2014-15	Portables
Cinco Ranch	3,000	2,988	3,040	3,112	3,174	3,137	1
Katy	3,000	2,723	2,833	2,939	3,243	3,521	-
Mayde Creek	3,000	2,812	2,853	2,891	2,959	3,001	1
Morton Ranch	3,000	3,086	3,173	3,271	3,484	3,654	13
Seven Lakes	3,000	3,461	3,632	3,669	3,730	4,074	10
Taylor	3,000	2,710	2,883	3,052	3,205	3,207	3
Total	18,000	17,780	18,414	18,934	19,795	20,594	

*Total project cost includes not only the construction dollars but other costs associated with utilities, consultants, architects, engineers, testing, furniture, equipment & technology.

Return to Matrix

Project Name: **Wolfe Elementary Replacement School**

Total Project Cost*: $16,996,828

Construction Cost: $13,383,328

Project Description:

Replacement elementary school for Wolfe Elementary (WE) to house grades K – 5 for 500 students.

Background/Justification:

Wolfe Elementary is the second oldest elementary campus in KISD built in 1969. Roof replacement funding was allocated for in the 2006 bond, but the funds were not utilized because there was discussion to use the money for continued repairs or replace the entire school. There are issues with not only the building envelope (roof) but the mechanical, plumbing and electrical systems as well.

The current enrollment is in excess of 400 students and the building has exceeded its useful life. Replacement is a less expensive option than renovation. A 500 capacity elementary school will accommodate growth along the I-10 corridor.

*Total project cost includes not only the construction dollars but other costs associated with utilities, consultants, architects, engineers, testing, furniture, equipment & technology.

Return to Matrix

Project: **Property Acquisition**

Project Cost: $13,200,000

Project Description:

Background & Justification:
Required to enable the acquisition of property for future schools and support facilities including specific parcels of property currently in negotiations.

Recognizing the development occurring within the District, this will allow the district to acquire available property now in required locations for future school district facilities.

The budget identified is comparable in proportion to final allocated property acquisition budgets of previous bond authorizations.

Project: **Infrastructure**

Project Cost: $5,200,000

Project Description:

Background & Justification:
Required provision and connection of utility work and facilities (i.e., water, sewer, drainage, road, communication) to serve the school sites and associated new schools. Specific work may be doneas part of property acquisition well in advance of school opening.

Return to Matrix

Project Name: **Katy HS West Campus**

Project Cost: $25,710,750 **(includes Katy HS Main Campus Kitchen Renovation)**

Project Description:

Provide for a replacement facility either in the current location or closer to the main campus

Replacement of the facility in the current location would dictate relocating of students & staff into a temporary classroom "village" during construction.

Replacement of the facility closer to the main campus, as supported by campus administration, provides some options. First, there would be no need to displace either students or staff during construction. They could remain housed in the existing facility during construction. Also, based upon the current estimate to replace the facility in the current location, we feel there may some options in regards to the replacement of the wrestling room, brigade gym and original auditorium. Savings achieved by not constructing the temporary classroom village and efficiency in planning could potentially fund these options.

Background & Justification:

This original portion of Katy HS opened in 1951. To the best of our knowledge, the air conditioning was not installed until 1965. The building foundation is pier & beam – no concrete on grade but elevated with a crawlspace for piping runs. The building integrity is beyond its useful life in regards to the building shell - roof, windows and mechanical systems.

A review of the area by an outside engineering consultant noted the following:

"Return air is thru louvers within the classroom doors.
Three Central plants, (1) DX chiller and (2) Chilled water systems.
(3) Multizone air handling units.
(5) Single Zone air handling units.
All mechanical equipment is well beyond its useful life.
Building does not warrant a renovation to bring up to code due to design and construction materials used.

Due to the reasons above, a renovation would not be cost effective in light of the realm of component replacement in addition to asbestos abatement and potential water intrusion remediation.

Return to Matrix

Main Campus Kitchen

Project Description:

Provide for the renovation of the kitchen on the main campus.

Background & Justification:

The kitchen at Katy High Main Campus has not been upgraded since the kitchen was built. Equipment has been added to try to accommodate feeding a growing student population. The electrical functions are inadequate to handle the amount of equipment that has been added. The hot water heater has continued capacity concerns. The serving lines and snack bar are not effective. The cooking equipment is inadequate for the amount of students. The storage space is split into many different areas. The kitchen is a good size, but space is not being utilized to the fullest extent.

- Inadequate freezer and cooler space to handle the needs of the campus.
- Floor to the cooler is rusted and caves in when walked on.
- Additional reach in coolers and freezers have been added in the kitchen to increase refrigerated space due to the inadequate freezer. This is a strain on the electrical system and is inefficient for inventory control.
- There are many reach-in coolers, warmers and freezers, but they have been removed from other schools and are either old, missing shelves or do not adequately maintain temperature.
- Four ovens to cook the amount of food at a high school are inadequate.
- Reconfiguration and upgrade of snack bar and three serving lines to better serve students. The reconfiguration would also resolve the issue of food being cooked in the main kitchen and moved to the snack bar area.
- Hot water heater continues to not meet the capacity needs of the kitchen.
- Four storage rooms located throughout the kitchen area are not efficient for inventory control.
- Convections ovens are inadequate. Black bakery ovens need to be removed and replaced with usable equipment.
- Sewer back up concerns.
- Back of the kitchen area needs a permanent ramp instead of the wooden structure so food and garbage can easily move to/from the kitchen area.
- Upgrade of above ceiling components which include mechanical, electrical, plumbing, lights.

Return to Matrix

Note: There is an opportunity to perform this work in two phases – the first phase would consist of the new freezer cooler work and snack bar. In order to provide for a larger freezer cooler, the building will need to be expanded. The second phase would entail the main kitchen & serving lines.

Return to Matrix

Project Name: **Mayde Creek HS Central Plant**

Project Cost: $3,958,500

Project Description:

Provide for the construction of a new chilled water plant and renovations to the existing hot water plant.

Background & Justification:

This original central plant serves the large majority (approx. 75%) of the teaching and administrative spaces. There is a critical concern that this plant is beyond its designated life with a potential negative impact on the campus should it fail. "Band Aid" maintenance repairs no longer will ensure its viability.

Per the comments from an outside engineering consultant:

"Review of the existing Trane AHU's
Units are 28 years old and show signs of cabinet rust, drain pan corrosion, bearing wear. These single wall constructed units will warrant replacement within the next two years or additional maintenance cost will be required to keep units operational. Spare parts may not be available.
Recommendation is to replace all existing air handling units.

The lack of induced ventilation air into these mechanical rooms should be increased to improve Indoor air quality.
Recommendation is to increase outside air quantities into mechanical room air handling units.

Review of mechanical mezzanine (Central plant) shows air handling units, refrigerant machinery and gas fired equipment within same area. This is not consistent with current codes.
Recommendation is to remove refrigerant machinery from this space and separate the gas fired equipment from the air handling equipment by construction of a separate room within the existing space.

Review of existing chillers.
Units are piped in series and only two of the three chillers are operational. Units' life expectancy is approximately 25 years. The refrigerant used by these machines has been discontinued.
Recommendation is to replace these chillers with high efficiency chillers and building new central plant. This is to resolve code violations in mechanical mezzanine. Provide a variable primary pumping system.

Return to Matrix

Review of the existing boilers:
Units are fire tube boilers and not efficient to operate.
Recommendation is to replace these boilers with multiple high efficiency boilers to reduce gas consumption. Build room around boilers to separate gas fired equipment from HVAC equipment.

Review of Existing Electrical System, The electrical equipment is at the end of its life expectancy and replacement parts may not be available. The electrical system has been expanded to its limits. Additional circuit space is required.
Recommendation is to replace all electrical equipment to provide future capacity.

Return to Matrix

Project Name: **Mayde Creek JH Renovation**

Project Cost: $18,135,661

Project Description:

Provide a comprehensive renovation to the original areas of Mayde Creek JH.

Components of a Comprehensive Renovation

In the last few years, Katy ISD has developed a comprehensive renovation approach regarding older school district facilities. The first priority is the roof and building envelope (brick, windows, doors). Once we have ensured that the facility has been secured from water intrusion, we focus on the interior of the building.

The next level of upgrade is within the building in which we review the mechanical, electrical, and plumbing (MEP) systems. In regards to each discipline:

- Mechanical – air conditioning/heating. As the equipment ages the levels of performance for operation and air quality tend to diminish.
- Electrical – as our programs have evolved, so have our demands for electricity particularly in the area of technology. A review of lighting levels for student performance and energy efficiency is also evaluated.
- Plumbing – in older buildings, piping deteriorates affecting the quality and efficiency of the plumbing. A side effect could result in hidden leaks affecting the integrity of the walls including the introduction of mold.

Changes to the MEP systems affect the interior finishes – flooring, painting of walls. At that same time, we review the existing spaces in the building and determine if they support the current curriculum and legislative requirements. Areas to be considered would be the restrooms, classroom needs, clinic, and administrative.

At this same time, we review whether or not a classroom addition at the campus is warranted. The MEP upgrade would take into consideration the need to support a building addition at a later date.

When determining the priority of campuses and the total building upgrades, we evaluate the campuses within the context of roof, building envelope, MEP and program. Any immediate campus issues are addressed through our work order system.

Return to Matrix

Background & Justification:

This campus opened in 1980.

Comprehensive renovation, per the comments from an outside engineering consultant:

Review of the existing galvanized domestic water piping. This piping warrants replacement due to leaks throughout the building.
Recommendation is to replace the existing galvanized piping with copper piping throughout the building including above ceiling, utility pipe chases and inside wall to the final connection.

Review of Existing Electrical System, The electrical equipment is at the end of its life expectancy and replacement parts may not be available. The electrical system has been expanded to its limits. Additional circuit space is required.
Recommendation is to replace all electrical equipment to provide future capacity.

Review of building temperature controls and reason why the air compressor runs continuously.
Recommendation is to replace all pneumatic controls with Direct Digital Controls and remove air compressors.

Review of the existing air handling units (ahu) are 29 to 30 years old and show signs of cabinet rust, drain pan corrosion and bearing ware. These single wall constructed units will warrant replacement within the next two years or additional maintenance cost will be required to keep units operational. Spare parts may not be available.
Recommendation is to replace all existing air handling units.

Reviews of the HVAC systems indicate the building has two separate chilled water plants. Some of the mechanical equipment is nearing the end of its life expectancy.
Recommendation is to replace all original HVAC equipment and to consolidate all plants into one central plant to reduce the maintenance cost

Review of the existing lighting systems indicates the original fixtures are in poor condition. Classrooms do not have dual level lighting. Building does not meet energy code.
Recommendation is to replace all original light fixture including exterior fixtures and add dual level lighting to all classroom, Add motion detection to all areas to increase energy efficiency

Review of the existing special systems: FIRE ALARM, COMMUNICATION SYSTEM, CLOCK SYSTEM, SECURITY SYSTEM, and SECURITY CAMERAS.
Recommendation is to replace all original systems that have not been upgraded from original construction, or recent renovations.

Review of the existing student and staff restrooms and plumbing fixtures.

Recommendation is to replace all original plumbing fixtures. The new fixtures will reduce water usage and maintenance cost.

Review of the existing drinking fountains.
Recommendation is to replace all original drinking fountains. The new fixtures will reduce water usage and maintenance cost. The existing fixture use refrigerant has been discontinued.

Review of existing electrical system. The electrical equipment is at the end of its life expectancy and replacement parts may not be available. The electrical system has been expanded to its limits. Additional circuit space is required.
Recommendation is to replace all electrical equipment to provide future capacity.

Review of the existing cooking lab. The exhaust systems need to be replaced to keep smells from migrating thru the rest of the building. Plumbing fixtures are from the original construction.
Recommendation is to replace all exhaust fans, ductwork and plumbing fixtures throughout this room.

Return to Matrix

Project Name: **Taylor HS Pool Renovation**

Project Cost: $2,436,923

Project Description:

Renovation of the existing pool and natatorium space at Taylor HS in regards to safety and deteriorated physical plant components.

Background & Justification:

Since the opening of this campus, no major renovations have been done to this area of the school.

A review of the area by an outside engineering consultant noted the following:

"Pool Equipment Room has damaged electrical systems, conduit and wiring due to chlorine environment.
Recommendation is to replace all original conduits, wiring electrical panels and equipment. Provide exhaust system to prevent damage to systems.
Review of Natatorium's lighting system.
Recommendation is to replace all lighting due to the lighting being installed over the pool as this makes maintenance difficult.
Review of Natatorium's HVAC system.
Recommendation is to replace the exhaust system and provide a pool HVAC system to ensure proper temperature, humidity and environment. Replace existing ductwork with new fiber ductwork."

- The pool equipment has outlived its useful life. (Repairs & some component replacement have been done but the system continues to fail.)
- The pool area is the only facility that lacks any air conditioning/heating, resulting in numerous humidity related problems.
- The pool requires replastering, as well as a ceiling renovation including new improved lighting.
- The pool deck warrants repair followed by the application of a non-slip resistant surface.
- The locker rooms warrant renovations also due in part to humidity. The age and humidity damage have resulted in a majority of the lockers lacking complete function.
- Coach is unable to supervise because there is no office in this area.

Return to Matrix

- Past flooding in the pool equipment room has led to damage in adjacent athletic areas, i.e., the gym

Return to Matrix

Project Name: **Taylor HS Renovation**

Project Cost: $28,845,963

Project Description:

Provide a comprehensive renovation to the original areas of Taylor HS.

Components of a Comprehensive Renovation:

In the last few years, Katy ISD has developed a comprehensive renovation approach regarding older school district facilities. The first priority is the roof and building envelope (brick, windows, doors). Once we have ensured that the facility has been secured from moisture intrusion, we focus on the interior of the building.

The next level of upgrade is within the building in which we review the mechanical, electrical, and plumbing (MEP) systems. In regards to each discipline:

- Mechanical – air conditioning/heating. As the equipment ages the levels of performance for operation and air quality tend to diminish.
- Electrical – as our programs have evolved, so have our demands for electricity particularly in the area of technology. A review of lighting levels for student performance and energy efficiency is also evaluated.
- Plumbing – in older buildings, piping deteriorates affecting the quality and efficiency of the plumbing. A side effect could result in hidden leaks affecting the integrity of the walls including the introduction of mold.

Changes to the MEP systems affect the interior finishes – flooring, painting of walls. At that same time, we review the existing spaces in the building and determine if they support the current curriculum and legislative requirements. Areas to be considered would be the restrooms, classroom needs, clinic, and administrative.

At this same time, we review whether or not a classroom addition at the campus is warranted. The MEP upgrade would take into consideration the possibility of a building addition at a later date.

When determining the priority of campuses and the total building upgrades, we evaluate the campuses within the context of roof, building envelope, MEP and program. Any immediate campus issues are addressed through our work order system.

Return to Matrix

Background & Justification:

During the public input on facilities phase in December 2009/January 2010; several comments online and at the workshop indicated that renovations to the campus were warranted.

The following are comments offered by an outside engineering consultant:

Review of the existing galvanized domestic water piping. This piping warrants replacement due to leaks thru out the building.
Recommendation is to replace the existing galvanized piping with copper piping throughout the building including above ceiling, utility/pipe chases and inside wall to the final connection.

Review of existing electrical system, the electrical equipment is at the end of its life expectancy and replacement parts may not be available. The electrical system has been expanded to its limits. Additional circuit space is required.
Recommendation is to replace all electrical equipment to provide future capacity.

Review of the existing main switchboard from the original construction.
Recommendation is to replace all original electrical equipment to provide future capacity.

Review of building temperature controls, and air compressor.
Recommendation is to replace all pneumatic controls with Direct Digital Controls and remove air Compressor.

Review of the existing 56 original Air Handling Units (AHU's) Units are 32 years old and show signs of cabinet rust, drain pan corrosion, bearing wear. These single wall constructed units will call for replacement within the next two years or additional maintenance cost will be required to keep units operational. Spare parts may not be available.
Recommendation is to replace all existing air handling units.

The lack of induced ventilation air into these mechanical areas should be increased to improve Indoor air quality.
Recommendation is to increase outside air quantities into mechanical room air handling units.

Review of the existing lighting systems indicates the original fixtures are in poor condition. Classrooms do not have dual level lighting. Building does not meet energy code. Replace existing lighting in stairs.
Recommendation is to replace all original light fixtures including exterior fixtures and add dual level lighting to all classroom, Add motion detection to all areas to increase energy efficiency.

Return to Matrix

Review of the existing student and staff restrooms and plumbing fixtures.
Recommendation is to replace all original plumbing fixtures. The new fixtures will reduce water usage and maintenance cost.

Recommendation is to replace all original drinking fountains. The new fixtures will reduce water usage and maintenance cost. The existing fixture use of refrigerant has been discontinued.

Return to Matrix

Project Name: **West Memorial JH Renovation**

Project Cost: $19,756,257

Project Description:

Provide a comprehensive renovation to West Memorial JH.

Components of a Comprehensive Renovation

In the last few years, Katy ISD has developed a comprehensive renovation approach regarding older school district facilities. The first priority is the roof and building envelope (brick, windows, doors). Once we have ensured that the facility has been secured from water intrusion, we focus on the interior of the building.

The next level of is within the building in which we review the mechanical, electrical, and plumbing (MEP) systems. In regards to each discipline:

- Mechanical – air conditioning/heating. As the equipment ages the levels of performance for operation and air quality tend to diminish.
- Electrical – as our programs have evolved, so have our demands for electricity particularly in the area of technology. A review of lighting levels and energy efficiency is also evaluated.
- Plumbing – in older buildings, piping deteriorates affecting the quality and efficiency of the plumbing. A side effect could result in hidden leaks affecting the integrity of the walls including the introduction of mold.

Changes to the MEP systems affect the interior finishes – flooring, painting of walls. At that same time, we review the existing spaces in the building and determine if they support the current curriculum and legislative requirements. Areas to be considered would be the restrooms, classroom needs, clinic, and administrative.

At this same time, we review the need for a classroom addition at the campus. The MEP upgrade would take into consideration the need to support a building addition at a later date.

When determining the priority of campuses and the total building upgrades, we evaluate the campuses within the context of roof, building envelope, MEP and program. Any immediate campus needs are addressed through our work order system in order to ensure a safe facility.

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Background & Justification:

Campus opened in 1976.

Comprehensive renovation, per the comments from an outside engineering consultant:

Review of the existing galvanized domestic water piping. This piping is in need of replacement due to leaks thru out the building.
Recommendation is to replace the existing galvanized piping with copper piping throughout the building including above ceiling, chases and inside wall to the final connection.

Review of existing electrical system. The electrical equipment is at the end of its life expectancy and Replacement parts may not be available. The electrical system has been expanded to its limits. Additional circuit space is required.
Recommendation is to replace all original electrical equipment to provide future capacity.

The administration area is being expanded and will need additional HVAC of the addition.
Recommendation of the central plant will enable the additional HVAC for this area.

Review of the existing twenty one (21) DX roof mounted single zone air handling units with terminal pinch-off boxes.
Recommendation is to replace all existing air handling units and terminal boxes.
Replacement may include roof mounted chilled water air handling units with piping located on roof.

Review of existing ductwork and terminal units.
Recommendation is to replace all existing ductwork and terminal units.

Review of the existing DX HVAC system.
Recommendation is to replace all existing DX systems serving main building with one central plant to reduce the operational cost and maintenance. This will include replacement of exhaust fans.

Review of the existing lighting systems indicates the original fixtures are in poor condition. Classrooms do not have dual level lighting. Building does not meet energy code. Replace existing lighting in stairs.
Recommendation is to Replace all original light fixture including exterior fixtures and add dual level lighting to all classroom, Add motion detection to all areas to increase energy efficiency.

Replacement of all special systems, including FIRE ALARM, COMMUNICATIONS, CLOCK SYSTEM, SECURITY SYSTEM, NEW CAMERAS.

Review of the existing student and staff restrooms and plumbing fixtures.
Recommendation is to replace all original plumbing fixtures. The new fixtures will save on water usage and maintenance cost.

Recommendation is to replace all original drinking fountains. The new fixtures will save on water usage and maintenance cost. The existing fixture uses a refrigerant that has been discontinued.

Review of existing emergency lighting and generator.
Recommendation is to replace all emergency lighting and original generator. The new emergency fixtures and generator will save on maintenance cost.

The kitchen renovation phase:
Recommendation is to replace all electrical panels that serve this area and provide new gas piping to serve all gas appliances.

Library renovation phase:
During this renovation phase the lighting will be changed and additional electrical added.

Stage renovation:
During the renovation stage lighting and sound system will be replaced.

Industrial Arts Building:
Recommendation is to replace all electrical panels and DX HVAC systems that serve this area.

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Project Name: **South Transportation Bus Parking Expansion**

Project Cost: $472,500

Project Description:
Expansion of bus parking at the South Transportation facility would accommodate approximately 50 buses.

Background & Justification:

Katy ISD currently has two transportation centers serving the district- the East Center, north of Mayde Creek High School, and the West Center, north of Hutsell Elementary off of Franz Road in the City of Katy. The West Center is at parking capacity; the East Center is nearly at parking capacity. In recent years, it has been necessary to relocate bus runs previously served out of the West Center to the East Center due to the lack of parking.

The need for a third transportation center in the southwest sector of the District was identified both in the 2002 Long Range Facilities Plan and in the 2006 bond planning discussions to address the growth of the District and the operational efficiencies a center in that area can provide because of the time and distance required to service that area. The site was identified on property owned by the District adjacent to Rylander Elementary. However, funding for the construction of the South Center was withdrawn from consideration by the 2006 Bond Planning Committee in its final deliberations.

From savings in other construction projects, construction of Phase I of the South Center was approved in 2009. Use of this facility, which will have parking for approximately 70 buses, is targeted to begin in the 2010/11 school year. In addition to establishing a transportation center presence in the southwest part of the District, Phase I will provide some routing efficiencies for this high-growth area.

The funds allotted in this recommendation are expected to create parking for approximately 40-45 more buses. The additional bus parking creates routing efficiencies and operational cost savings for this sector of the District.

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Project Name: **Raines HS – Shell Space Classroom Build**

Project Cost: $1,291,126

Project Description:
Build out the existing 10,000 SF of shell space for approximately 8 -10 classrooms.

Background & Justification:
Shell Space Build Out:

- RHS opened in August 2008. The school needs to be able to grow to meet the needs of our growingly diverse population, especially as students need 26 credits for graduation.
- RHS is currently unable to consider expanding to accept reclassified 9th grade students, and can only serve a relatively small number of 10th grade students. Additional classroom space will allow for serving a broader grade range of students. Of the 500+ students who meet the criteria of being at-risk of not graduating within four years of high school, the majority of these students are reclassified 9th graders. At this time, a student must remain on the home campus through their second year as a 9th grader.
- All current classrooms are designed as computer labs. This does not allow for flexible arrangement for a variety of learning modalities. There is no work space or classroom space available for intervention classes.
- Current space is being used to the maximum extent. There is no available space to include another science classroom to accommodate additional lab-based sciences for graduation credits.
- RHS has two teachers without a designated classroom. Teachers are limited as to how many students they can tutor in their area of expertise because they have a full class of students working at the computers.
- Additional flexibly arranged finished spaces would provide area for confidential records and file retention, common planning space, technology storage and teacher work space.

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Project Name: **Roof/Building Envelope – Fielder Elementary**

Project Cost: $1,071,383

Project Description:

Replacement of roof

Background & Justification:

The built up roof system with gravel surface was installed 1993. The material warranty ended 2003. Five entry areas are pre-finished standing seam metal. Numerous leaks have been addressed around the metal entries, expansion joints, thru-wall and penetrations. The roof edge and gutters are in poor condition. Several areas on the field of the roof are exposed felt only; possibly due to directional weather conditions. Interior repairs have been made multiple times in multiple locations.

The above information is not only supported by District staff but an outside roofing consultant.

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Project Name: **Roof/Building Envelope – Mayde Creek HS**

Project Cost: $2,131,442

Project Description:

Replacement of roof

Background & Justification:

This is a built up roof with gravel surface. The roof areas to be replaced at Mayde Creek High are 27 years old. The roof is failing. Large repairs have been made in the field of the roof. The vent curbs are deteriorated and expansion joints and roof drains leak. Leaks have been so numerous and over such an extended period of time that interior damage has resulted.

Phase 1 2010:

Remove and replace the roof areas B1-B18, remove and replace the translucent wall panels around the gyms at area C4-C5 and the translucent skylight panels at area C3. This included exterior waterproofing, replacement of through wall flashings and A/E fees. A roof plan with the referenced area designations has been attached.

Future Bond - Phase 2- recommended year:

Remove and replace the roof areas C1-C15 and D1. This included exterior waterproofing, replacement of through wall flashings and A/E fees. The above information is not only supported by District staff but an outside roofing consultant.

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Project Name: **Replacement Chillers – Jeannette Hayes Elementary**

Replacement Chillers – Fielder Elementary

Replacement Chillers – Beck Junior High

Project Cost: Fielder ES - $707,616
Hayes ES - $707,616
Beck JH - $917,280

Project Description:

Replacement of mechanical equipment – Chillers (2) at each location

Background & Justification:

FE - The Carrier chiller was manufactured in1994.
JHE - The Carrier chiller was manufactured in 1995.
BJH- the McQuay chiller was manufactured in 1996.
The life cycle of this air – cooled chillers are typically in the 15-20 year range.

The six chillers all have similar detrimental conditions. These chillers provide the air conditioning for the entire building and could compromise indoor air quality (IAQ).

Continual issues on the chillers include condenser fan motor failure, compressor failure, condenser coil deterioration, and discharge pressure problems. There has been a greater than average compressor failure rate on the chillers over the last several years. When a single compressor has a catastrophic failure, it tends to send debris into the other attached compressors in the same refrigerant circuit causing a shortened life expectancy and additional compressor failures.

Coil deterioration is a large factor on these chillers equating to a loss of energy efficiency. While we are in need of reliable chillers, but there is also the opportunity to reduce our energy consumption with modern energy efficient chillers.

When a situation arises and one unit is down during an outside temperature of 92 or above and cannot be repaired in a timely manner, there are options we work with during this situation. Options include having the building run 24/7 to help control the temperature but this option has a cost - “High Energy Consumption.” Another option is to shut down the outside air units short term to help reduce the load on the chillers but this can only be a short term remedy due to potential IAQ issues.

R-22 refrigerant is being phased out by the chemical manufacturers as of January 1, 2010. While R-22 is at the start of the phase out process and there will be available parts for the short term future, KISD needs to acknowledge this phase out, upgrading our refrigerant to the new technology.

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These units as they progress in age require additional labor to keep functional as well as increased cost for parts. While the cost of a new chiller is high the repair cost on these chillers will increase. Recently there were 3 compressor failures at 2 of the locations at an estimated cost $15,000 for replacement.

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Project Name: **Cimarron Elementary Kitchen Renovation**

Project Cost: $672,977

Project Description:

Provide for the renovation of the kitchen.

Background & Justification:

The kitchen at Cimarron Elementary has not been upgraded since the school was built in 1980. A majority of the kitchen equipment is original to the school. The kitchen has moisture and humidity problems in the dish machine area, and some drainage concerns are also noted.

- Conveyor belt serving system is past its life cycle. Parts for the conveyor belt are either unavailable or very hard to find. This system will be replaced with a conventional serving line.
- Exhaust hood in dish room works intermittently.
- Under sized air handler system does not produce enough cool air for the kitchen space.
- Three compartment sink leaks.
- Reach in warmer and reach in cooler need to be replaced to maintain proper temperatures and hold enough product, which would eliminate the current need to use ovens and the cooler for these purposes.
- Ovens are old, barely functional, and are beyond economical repair
- Floor tile is cracked.

The renovated design of this kitchen will be similar, but with one serving line, to the Sundown, Mayde Creek & Winborn Elementary kitchen renovations completed in 2008 from a combination of funds from the 2006 Bond Referendum and Food Service funds.

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Project Name: **Nottingham Country Elementary Kitchen Renovation**

Project Cost: $672,977

Project Description:

Provide for the renovation of the kitchen.

Background & Justification:

The kitchen at Nottingham Country Elementary has not been upgraded since the school was built in 1981. The freezer/cooler and dish machine have all been replaced in the last five years. The major concerns at Nottingham are the conveyor belt and the reach in coolers and warmers. The conveyor belt serving system is outdated.

- Parts for the conveyor belt are either unavailable or very hard to find. The conveyor belt serving system is past its life cycle.
- Reach in warmer and reach in cooler are inadequate to hold product at proper temperatures.
- Ovens are old, barely functional, and beyond economical repair.
- Consistent gas smell in kitchen due to gas equipment not being used.

The renovated design of this kitchen will be similar to Sundown, Mayde Creek & Winborn elementary schools as completed in 2008 from the 2006 Bond Referendum.

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Project Name: **T5 Lighting Retrofit at High School Campus Gyms**

Project Cost: $903,000

Project Description:

Provide for change out of existing metal halide lighting to T5 lighting at six (6) campus gymnasiums:

*THS (3) Gyms

MCHS (4) Gyms

*KHS (2) Gyms

CRHS (3) Gyms

SLHS (4) Gyms

MRHS (4) Gyms

*(Pending on acceptance of total renovation)

Background & Justification:

The district currently has retrofitted four gyms to the T-5 HO with great success. Gyms retrofitted include CRHS competition, KHS Gym 1, 2, 3 and THS gym 1. The District has also made the T-5 the new lighting standard for all gymnasiums in new facilities. The T-5 fixtures increase the lighting level to meet U.I.L. Guidelines and provide a quality environment as well as energy savings. 400 watt metal halide light fixtures typically are turned on in the early morning and not shut off until the day is over, due to the re-strike time of approximately 15-20 minutes. T-5 lights do not have the re-strike time disadvantage and are occupancy sensor friendly.

We are currently using the following method controlling the T-5 fixtures in the gymnasiums retrofitted with (6) lamp fixtures.

1. Occupancy sensors operate the light only when occupied.
2. During practice the fixture can operate at 33% of capacity.
3. During game conditions the fixture is switched to 100% capacity.
   Note: Each step reduces energy consumption.

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Metal Halide to T-5 energy comparison

Watt Metal Halide (455 Watts) **T-5HO {6 Lamps} (351 Watts)**

Example: Assuming an estimated 19 gyms @ 40 fixtures per gym needing this upgrade and running 4000 hours total per year (2000 hours a year at a reduction of 104watts per fixture at 100% capacity), (1500 hours a year at a reduction of 339 Watts at 33% capacity) and (500 hours per year of additional off time for occupancy control) at a reduction of 455 watts per fixture.

Energy Savings Equals Dollars	
Annual Operating hours 100%	**2,000**
Utility Rate ($/Kwh)	**x.11**
Energy Savings per Fixture (Watts)	**x 104**
Conversion from Watts to Kilo Watts	**÷ 1000**
Annual Cost Savings per Fixture (Sub –Total)	**$ 22.88**
Annual Operating hours 33%	**1,500**
Utility Rate ($/Kwh)	**x.11**
Energy Savings per Fixture (Watts)	**x 339**
Conversion from Watts to Kilo Watts	**÷ 1000**
Annual Cost Savings per Fixture (Sub –Total)	**$55.94**
Occupancy Sensor 500 hours Extra (Off)	**500**
Utility Rate ($/Kwh)	**x.11**
Energy Savings per Fixture (Watts)	**x 455**
Conversion from Watts to Kilo Watts	**÷ 1000**
Annual Cost Savings per Fixture (Sub –Total)	**$25.03**
Annual Cost Savings per Fixture (Total)	**$103.85**
Annual Cost Savings per Gym (40 Fixtures)	**$4,154.00**
Annual Energy Savings (19) Gyms	**$78,926.00**

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Project Name: **Replacement of fire alarms, intercoms, and generators**

Project Cost: $2,500,000

Project Description:

Provide for replacement of fire alarms, intercoms, and generators as noted below.

Background & Justification:

The components listed below are related to life safety functions at each campus. These components must be reliable and meet current standards and codes.

Elementary schools:

Fielder	generator, fire alarm, PA/intercom, clock system
Golbow	generator, fire alarm, PA/intercom, clock system
Katy	generator, fire alarm, PA/intercom, clock system
Nottingham Country	fire alarm, PA/intercom, gym sound system
Pattison	generator, fire alarm, PA/intercom, clock system
Memorial Parkway	generator, PA/intercom
Cimarron	fire alarm field devices

Junior high schools:

Katy	generator, fire alarm, gym sound system
Beck	fire alarm, gym sound system
Cinco Ranch	cafeteria sound system
Memorial Parkway	generator
McDonald	generator, fire alarm

High schools:

Cinco Ranch	clock system
Katy	clock system - hall “A”
Mayde Creek	gym sound system, clock system all halls

Pending the final referendum recommendation, we have made an allowance for the replacement of necessary components of the life safety systems (generators, fire alarms, PA/intercoms, clock systems) at Taylor High, Katy High 9th Grade Center, Mayde Creek Jr. High and West Memorial Jr. High.

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Project Name: **Parking & Athletic Light Pole Replacements**

Project Cost: $350,000

Project Description:

Provide for replacement of parking lot and athletic field light poles at various facilities

Background & Justification:

The Maintenance & Operations Department is currently having all parking lot and athletic field light poles in the District identified for inspections to assess the structural integrity of the poles. The inspections will be used to develop a prioritized list of poles requiring repair or replacement.

Prior to the end of this school year, a Mayde Creek Jr. High School tennis court light pole fell due to corrosion of the interior walls of the steel pole. This corrosion was not visible from the outside of the pole. Maintenance has since replaced all 6 light poles on those courts. A similar situation recently occurred at Memorial Parkway Elementary with a parking lot light pole in the front circle drive. This pole was repaired by Maintenance as well. Fortunately, in both instances there was no one hurt and no property damaged by the deficient poles.

Pole inspections are not yet complete, however the following is a preliminary, partial list of poles identified for further assessments:

West Memorial Jr. High – tennis

McMeans Jr. High – tennis

Katy Rodeo Arena

Mayde Creek High School – tennis

Beckendorff Jr. High – tennis

Katy High School – football

Katy High School – tennis

Katy Jr. High – tennis

McDonald Jr. High – tennis

Beck Jr. High - tennis

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Project Name: **Main Entry Security Improvements**

Project Cost: $1,505,047

Project Description:

Provide for the construction of main entry vestibules for security improvements at specific campuses as noted below.

Background & Justification:

KISD Safety & security audits identified these schools for secure campus entrances. Vestibules enable schools to keep all exterior doors locked and direct the public to come in through one monitored entrance. School personnel can then visually inspect and interact with each visitor and ensure that every visitor is logged into RAPTOR. Secure vestibules are the standard for new school construction.

This is generally achieved by construction of glass storefronts and doors with appropriate electronic door devices.

Elementary schools:

Alexander, Bear Creek, Creech, Fielder, Golbow, Hayes, Hutsell, Katy, Mayde Creek, McRoberts, Sundown, Williams

Junior high schools:

Mayde Creek, McDonald, Memorial Parkway

High schools:

Cinco Ranch, Mayde Creek and Katy

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Project Name: **Construction of Fences at Elementary Schools for Safety**

Project Cost: $367,500

Project Description:

Provide fences to improve safety and security at specific elementary schools.

Background & Justification:

1. Alexander Elementary (RAE) – has a community walking and bike path on two sides of the playground. The public uses these paths throughout the day and the public use can create conflicts with school operations and student safety.
2. Franz Elementary (FES) – this school has a problem with a sidewalk that is used by secondary students. The secondary students from Morton Ranch, who are dismissed an hour before the elementary, walk through the school grounds disrupting any outdoor activities at Franz Elementary.
3. Golbow Elementary (GE) – this school has a flood control ditch on the south side of the playground.
4. Rylander Elementary (RRE) – this school has open access on the parking lot side of the playground allowing access to students on the playground and access to the temporary buildings. The delivery area for the school is on the open side of the playground. This also allows access to the temporary buildings.
5. Schmalz Elementary (SES) – is the same situation as Rylander.
6. Sundown Elementary (SE) – access can be gained from the parking area as described for Rylander.
7. Williams Elementary (JWE) – is the same situation as Rylander.
8. Winborn Elementary (DWE) – the issue here is the temporary buildings which are very close to the road.

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Project Name: **Replacement of Elementary Cafeteria Floors**

Project Cost: $865,402

Project Description:

Subsequent to the opening of the campuses noted below, additional construction control joints need to be added along with replacement flooring to eliminate cracks. These campuses include Cimarron, Exley, Fielder, Hayes, Katy, McRoberts and Pattison elementary schools.

Background & Justification:

These floors have been damaged due to expansion joint issues which appeared after construction. This has resulted in cracked floors causing existing tiles to come unglued or sometimes split, causing a tripping hazard. Until the additional expansion joints can be added, replacing tile on an ongoing basis would not be a viable solution.

The floors would be replaced with vinyl synthetic flooring (recently installed at Stanley elementary) which saves maintenance hours and dollars, as no finish is necessary. Vinyl synthetic flooring also prevents and reduces injuries due to slipping.

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Project Name: **Student Locker Replacements at Katy and McDonald Junior High Schools**

Project Cost: $212,940 (Katy JH)

$236,250 (McDonald JH)

Project Description:

Provide for replacement of student lockers as noted below

Background & Justification:

Due to the age and condition of the lockers at these campuses, replacement is recommended. Parts availability is becoming a problem. Finding proper replacement doors and panels is difficult, thus making it difficult to keep student items secure. In addition, conditions exist where there are sharp and/or broken edges making them unsafe.

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Project Name: **Rhoads Elementary Parking Lot Expansion**

Project Cost: $407,453

Project Description:

Rhoads Elementary fronts on Clay Road on the north side of KISD. Standard parking was constructed when this campus opened in 2004. Subsequently, it has been determined that additional parking is required at this facility to support the campus. Space is available to add approximately 50,000 SF of paving on the southwest side of the campus.

Background & Justification:

When planning for our elementary campuses, a standard number of parking spaces for the public are provided. Parking for overflow events (i.e., open house, awards, etc) is generally achieved via offsite parking in the surrounding neighborhood. Frequently, this severe parking problem causes back-ups onto Clay Road which, in turn, creates an unsafe traffic situation. Rhoads Elementary is somewhat unique in that off-street parking is limited due to the Clay Road boundary and limited availability in the adjoining subdivision.

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Project Name: **Kilpatrick Elementary Front Drive Widening**

Project Cost: $310,196

Project Description:

Kilpatrick Elementary opened in 2002. The front driveway to the campus was built per the standard at the time, single lane of traffic coming off of Cinco Ranch Blvd. This project would provide for two lanes of traffic to exist from Cinco Ranch Blvd and travel to the front of the campus as do our current prototype elementary campuses.

Background & Justification:

Kilpatrick was one of the earlier renditions of our elementary prototype. It was noted that providing for two lanes of traffic to travel to the front of the school, it allows visitors to park in front of the school during peak travel times (i.e., dismissal) when parents are lined up coming to pick up students.

The addition of this drive would also provide access for emergency vehicles approaching the front of the campus. There has been a situation at this campus in which an ambulance could not access the front office because of parent traffic.

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Project Name: **Replacement of Deteriorating Turf at Rhodes Stadium**

Project Cost: $614,250

Project Description:

The turf at Rhodes Stadium was last replaced in 2003. At that time, recommended replacement was 8 to 10 years.

Background & Justification:

Based upon both the manufacturer and consultant recommendation, the "carpet" portion of this turf is due to be replaced. There are tears and splitting in the field at the seams that have become a tripping/safety hazard. There are also problems with the stitching at the yard line markers, out of bound lines and at the numbers. In addition, the turf is matted down resulting in a loss of resilience.

The costs involved in this work include:

- Removal & disposal of existing turf/"carpet"
- 85,000 SF of new turf/"carpet" including markings & logo
- Repair of the subsurface E layer from damage during carpet removal
- Repair to stone base also resulting from the carpet removal

Final cost will also be contingent on the type of replacement turf/carpet.

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Project Name: **KHS Pool Renovation**

Project Cost: $1,218,462

Project Description:

Due to age & use, various improvements would be completed on the Katy HS pool to maintain its functionality.

Background & Justification:

Katy High School Swim Center is the district's only large capacity aquatic facility (elevated spectator seating and deck space to accommodate teams). Therefore, all large events (Katy Invitational, Duel in the Pool, JV District, District, etc) are held at that facility. The facility scoreboard is outdated. Most of the timing equipment is in working order.

The pool plaster is in disrepair and it is recommended to be replaced.

KHS pool has gravity sand filters. Backwashing these filters require great amounts of water and loss of chemicals.

The existing two story pump room and the space available needs to be reconfigured to provide for secure storage for equipment and chemicals.

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Project Name: **MPJH Track Reconstruction**

Project Cost: $104,022

Project Description:

The existing track at MPJH would go through a total reconstruction. The current track has deteriorated and no longer provides an acceptable running surface.

Background & Justification:

It s recommended that the entire track be reconstructed, including demolition to the natural subsurface to provide a solid foundation. Previous funding only provided for repairs.

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Project Name: **Athletic & PE Locker Replacement at Mayde Creek HS**

Project Cost: $426,825

Project Description:

Replacement of athletic & PE lockers at Mayde Creek HS (MCHS).

Background & Justification:

The athletic lockers at MCHS were the original lockers installed with the building. The lockers are showing signs of age & excessive use, consistently requiring repairs. District funds have been spent nearly every year on these locker repairs. The deteriorated condition reduces the effectiveness of securing the athlete's personal items. There were some locker replacements in 2001 to the PE area but only a small portion ($22,142).

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Project Name: **Proposed Upgrades/Retrofit Recommendations to the Performing Arts Centers (PAC)**

Project Cost: $1,966,125

Project Description:

Retrofit to the PACs at KHS, THS, MCHS, CRHS

Background/Justification:

The retrofits apply to the original performing arts centers that opened in 2002. Subsequent to these original designs, the following improvements align with current standards (like MRHS, SLHS). The majority of expense with this project is in the replacement and repositioning of technology components which are not covered through the Technology Department scope of work. Additional components are addressed in accordance with safety and student/user risk of injury or application.

A. Performance Lighting:

- Purchase of new lighting control console and additional performance lighting fixtures including new LED fixtures.
    1. Current console is out dated, no longer manufactured with limited support/parts from manufacturer.
    2. Current console technology is 8 years old. It does not provide students with skills required by higher education and professional work environments, therefore limiting their preparation in this field.
    3. Current fixture inventory shared between 2-3 performance spaces, limiting lighting design quality by student designers when all spaces are used simultaneously. Students are spending more time removing/re-hanging fixtures from space to space, taking away other instructional opportunities. To accomplish this, students work later/longer hours, after class time, relocating and re-hanging fixtures for different events that run consecutively in different spaces during the week. Longer hours are limited due to State Law and UIL extracurricular restrictions, therefore work is limited, or programs will be in violation and subject to penalty.
    4. Installation of identified LED fixtures reduce the amount of heat generated on stage and reduce potential fire hazards.
    5. Installation of identified LED fixtures provide more energy efficient and effective performance lighting, lowering energy consumption (compliant contributor to Texas law of reducing energy consumption).

6. Installation: 96-144 additional dimming units (1-2 dimming racks), 96-144 additional circuits to provide greater range of use for all users (internal and external).
7. Limited dimmers/circuits restricts use of spaces for those that use more lighting and limits creative design/execution of student lighting design application.
8. Frequent school and/or district events and productions in PAC involve the rental of extra lighting equipment to fulfill event/performance conditions.

B. Performance Audio/Video:

- Purchase: New Digital Live Audio Mixer (Venue SC48 with Computer) additional wireless/wired microphones and wireless Intercom System for reasons noted below:
    1. Age, availability of parts and limited service of current components.
    2. Provide current audio technology standards to students for study and practical application.
    3. Provide greater application of student creativity in audio design, recording and playback for accurate assessment of skills and knowledge (TEKS-based) experiences, knowledge of equipment, applications, and problem solving.
    4. Expand the audio functionality of all PAC events; lessen the amount of audio processing hardware needed to run events.
    5. Fulfill expanded Audio requirements from both campus based and community based end users.
    6. Eliminate frequent movement, and positioning problems encountered with wire based intercom and audio systems.
- Replacement of video projectors and video screens. Repositioning of new video projectors and video screens.
    1. Correct the low image quality from current projectors due to 100' projector to screen distance, and wiring infrastructure.
    2. Projector maintenance/repair difficult, dangerous, and expensive at current location.
    3. Current screen positions prevent simultaneous usage of video images and stage action, therefore limiting event capabilities.
    4. Larger screens, closer high image quality projectors will increase usage of video projection system by PAC end users, raise image quality standard required by PAC end users and simplify maintenance and repair of systems by PAC managers and student technicians.

5. Savings to campus programs and district by use and repositioning of newer more efficient projectors, due to elimination of expensive long throw projector lenses and bulbs.
6. Retrofit/updating of Video hardware (Cameras, digital video mixing)
7. Reinstallation of current Video Mixing equipment to practical user-demand location. (Video equipment in the identified PACS is located in areas with no accessible views of the stage.)
8. Reinstallation of equipment to control booth location provides greater visibility of operator and proximity to other systems operators.
9. More students actively engaged in the learning and application of knowledge pertinent to effective and efficient equipment functionality.
10. Will be able to meet the varied requirements of campus and community based end users.

C. Performance Rigging and Draperies:

- Replace existing border/leg curtains with units of extended height and width
    1. Current draperies do not mask the back stage or the fly space effectively.
    2. Present border/leg curtains limit the height of scenery, increases the view of backstage during a show, and provides limited functionality for productions.
    3. Have other existing stage drapes cleaned and recoated with flame retardant.
    4. Reduces fire hazard potential, and provides for a cleaner stage environment.
    5. Need is met to comply with federal, state and local fire code requirements
- Replacement of existing purchase line rigging locks with " JR Clancy Sure Locks"
    1. Increases safety factor by indicating "Out of Balance Loads" and the ability to padlock closed any line set that is being repaired, or adjusted.
    2. Prevent accidental operation of line set by unauthorized individuals.
    3. Reduces risk of student injury and performer (in-district or outside user) injury.
- Replacement of any time specific rigging hardware as determined by outside rigging inspectors.
    1. Identified rigging components need replacement due to general wear, and usage
    2. Prevention of unnecessary wear and damage to other components.
    3. Increase safety of rigging system by eliminating possible component failures.

Return to Matrix

Project Name: **Campus Technology Equipment Retrofit**

Project Cost: **$19,500,000**

Project Description:

Provide for the replacement of desktops, laptops and peripheral equipment

Background & Justification:

Campuses are on a six year retrofit cycle to replace desktops, laptops and peripheral equipment. High School Technology Application computer labs are on a three year retrofit cycle due to the curriculum and software applications utilized to successfully complete the courses.

Campuses:

Mayde Creek High School
Morton Ranch High School
McMeans Junior High School
Memorial Parkway Junior High School
Beckendorff Junior High School
Hutsell Elementary
Williams Elementary
Mayde Creek Elementary
Creech Elementary
Franz Elementary
Exley Elementary
Rhoads Elementary
Rylander Elementary
ESC/Support Services
Seven Lakes High School
Katy High School
Cinco Ranch Junior High School
McDonald Junior High School
Bear Creek Elementary
Nottingham Country Elementary
King Elementary
Schmalz Elementary
West Memorial Elementary
Cinco Ranch HS Tech Apps
Katy HS Tech Apps
Mayde Creek HS Tech Apps
Morton Ranch HS Tech Apps
Seven Lakes HS Tech Apps
Taylor HS Tech Apps

Return to Matrix

Project Name: **Copier/Printer Retrofit**

Project Cost: **$2,698,000**

Project Description:

Provide replacement for an aging fleet of copiers or multifunction printers.

Replacement of printers that are not supported under Windows 7. The replacement printers will allow district control over power settings, print settings such as duplex printing and detailed reporting.

Background & Justification:

There are copiers placed in shared work areas throughout the district. These copiers or multi-function printers (MFP) generate approximately 17 million impressions per month. As the MFP reaches its term of life it is no longer functional and warrants replacement. However, age of unit is not the only factor considered at time of replacement. Replacement criteria includes, install dates, total counter clicks, CBCs (Clicks Between Calls for service), number of service calls, location of unit (heavy traffic area…) only unit for department and service technicians recommendations (as they know the units and how well or poorly they are functioning).

Due to the age, condition and specifications of the district printers, devices that are not performing to current standards would be replaced. Replacing these printers will allow us the ability to control certain aspects of the devices providing insight into what is being printed, power consumption, as well as device settings that can be set at a district level. Over the next couple of years, the district plans to adopt Windows 7 as a standard operating system. A significant number of printers associated with this retrofit are not supported under this operating system.

Return to Matrix

Project Name: **Campus Standard Changes**

Project Cost: **Year one - $1,000,000**

Year two - $1,000,000

Project Description:

Funds allocated to Campus Standard Changes would purchase research-based instructional tools for student use in the learning process.

Background & Justification:

With new Science Texas Essential Knowledge & Skill Objectives coming from the state, instructional technology tools aid students in learning these new objectives. The TI Inspire Calculators display problems in 2 and 3 dimensional shapes and change when the problem changes. Researched based instruction devices provide access to additional technology tools for use in the classroom.

Areas pin-pointed for technological changes include:

- Math & Science
- Web Tools
- Continued Expansion of Mobile Learning Technologies

These funds would be applied to campuses throughout the district.

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Project Name: **Server Infrastructure Retrofit**

Project Cost: $750,000

Project Description:

Provide for replacement of servers that have reached the end of their life cycle.

Background & Justification:

The District has a four year replacement cycle on all server equipment that is no longer covered under HP warranty/support, as well as equipment that is no longer supporting the workload. This cycle will address email gateway servers, web load balancers, network time servers, replacement servers for blade centers, database servers, storage servers, file servers and tape backup devices.

Return to Matrix

Project Name: **Server Infrastructure Growth**

Project Cost: $750,000

Project Description:

Provide for additional server equipment to support growth from student and staff usage.

Background & Justification:

Every year student and staff usage grows by 20 to 25% as it relates to storage, file, web and email services provided by the district. Storage capacity is closely related to the amount of new staff and students the district acquires each year. In recent years storage needs have accelerated due to student and staff created content, virtualization, rich media, and database growth. The introduction of Dashboards and data warehousing projects required by the state also has a direct impact. This line item expands the capabilities of the current server infrastructure as well as purchasing new units.

We utilize technology that provides an opportunity to re-use the chassis and connection components for two retrofit cycles, resulting in approximately 40% savings. Most existing standalone servers will be eliminated by 2012. This strategy allows us to realize savings in not only equipment replacement costs but operating costs such as power, AC and maintenance.

Return to Matrix

Project Name: **Campus Network/Cabling Retrofit**

Project Cost: **$2,705,000**

Project Description:

Provide network cabling retrofit to campuses with older infrastructure such as Cat 3 or Cat 5 cabling. These projects also provide more bandwidth to the desktops throughout the associated campuses by installing Cat 5e + as well as additional drops to support a growing number of devices that utilize such services.

Background & Justification:

In previous years Katy ISD has installed a limited number of physical cables in each classroom and installed a 3Com jack in the wall that provided (4) network ports. The installation of this 3Com device was used for a number of network devices located in each classroom (i.e., desktops, laptops, projectors, IP telephone, etc.). Due to the amount of the data passed over the network, a growing number of devices and the limited capabilities of the 3Com jacks, a retrofit to the listed campuses would included the current standard of Cat 5e + as well as add additional drops. Each campus listed will also be reviewed for any AC and power issues in the network closets.

The Wireless cabling portion of this project touches all campuses and is would be done in conjunction with the proposed Core Network/Wireless Infrastructure line item within this Bond initiative.

Proposed Campuses

- McMeans Junior High
- McDonald Junior High
- Hutsell Elementary
- Nottingham Country Elementary
- Williams Elementary
- Katy High School
- Memorial Parkway Junior High
- Schmalz Elementary
- Creech Elementary
- King Elementary
- Wireless Cabling (All Campuses)

Return to Matrix

Project Name: **Core Network/Wireless Infrastructure**

Project Cost: **$6,997,245**

Project Description:

Provide for replacement of older network equipment as well as the purchase of new equipment to increase network bandwidth, improve security and upgrade private wireless network allowing for increased speed and additional users. By upgrading the private network the district will also have the ability to create a "public" filtered wireless network allowing for non-district computers/devices to access the Internet.

Background & Justification:

The proposed line item includes the following equipment:

- Replacement of "end of service" routers and switches
- 10gb switch infrastructure for Data Center environment
- 10gb switch infrastructure for campus backbone due to rich media and video over IP
- Increased internet services/network security (additional firewalls, server segmenting)
- Connectivity to athletic fields/press boxes
- Upgrade to 802.11n standard and increase wireless access points
- Additional wireless controllers and switches at data center to support access points.

Return to Matrix

Project Name: Additional Portable Classroom Buildings

Project Cost: $2,550,000

Project Description:

30 additional portable classroom buildings to provide relief for the 2011 – 2012 school year until new facilities open in 2012

Background/Justification:

The following campuses would be furnished additional portable classroom buildings until relief is provided with the projected opening of new facilities in 2012:

High School: Seven Lakes

Junior High: WoodCreek

Elementary: Fielder, Kilpatrick, King, Rylander, Stanley, and WoodCreek

Return to Matrix

Project Name: Buses

Project Cost: $10,838,675

Project Description:

41 buses for growth and 69 replacement buses

Background/Justification:

Growth bus needs

Over the 2-year bond planning period, additional buses are being requested to accommodate student growth. It is expected that 11 regular education routes and 13 special needs routes will be added annually, regardless if new schools are built. This equates to approximately 48 buses with 26 of these identified as being for special needs. However, 17 of these buses are expected to be purchased with previously approved grant stimulus funds which leave 31 buses to be purchased for student growth.

In addition, to meet the requirements of special needs transportation, new schools generally warrant the addition of more special needs buses. Four special needs buses are estimated to address this area. And while new schools alone typically do not result in increased regular education routes, the addition of six buses will address the increased activity trips related to two new JH schools.

A total of 41 buses accommodate student growth and new schools.

Replacement bus needs

The District has identified a targeted replacement cycle beginning with the 2002 authorization. The intent is over time that no bus be older than 16 years old. Currently, there are 34 buses in use older than 20 years and another 35 buses that are 16-19 years old. In addition, there are 57 buses 12-14 years old. Replacement of all buses 16 years or more old are recommended. This equates to a total of 69 buses.

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Project Name: **Required Pre-Construction Architectural/Engineering Services**

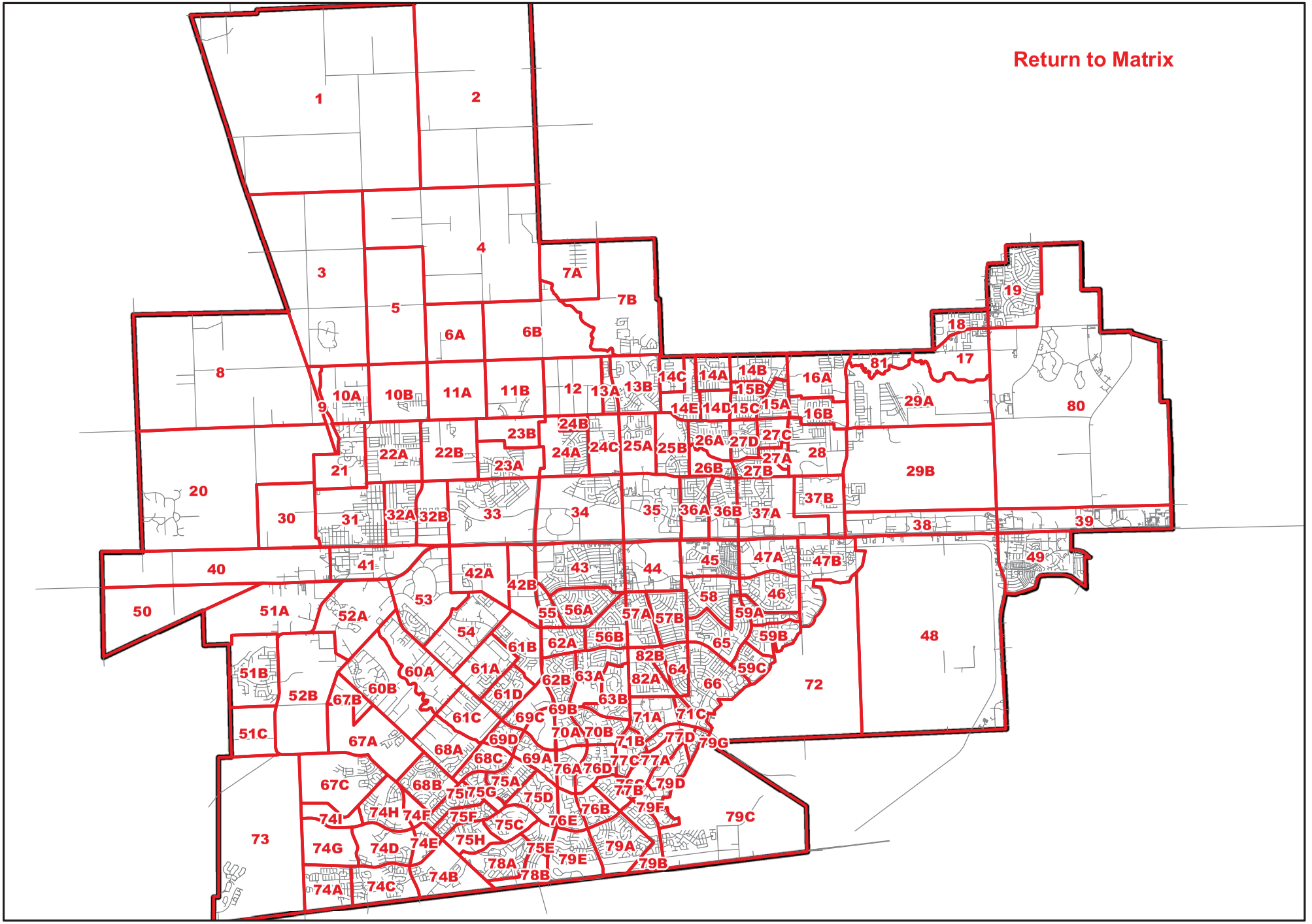
Project Cost: $7,353,600

Project Description:

Architectural/Engineering costs for various future projects to satisfy completion schedules.

Background/Justification:

Current demographic data and the district's Long Range Facilities Plan, indicates the opening of High School #8 (LUZ 6B) in 2015, Junior High #14 (LUZ 67A) and Junior High #15 (LUZ 6B) in 2014, Elementary #38 (LUZ 6B) in 2014, and the Agricultural barn for High School #7 in 2013. Funding provided within this authorization would complete pre-construction architectural and engineering services including, completion of construction documents in advance of the bond authorization in order for construction to commence on these anticipated 2012 authorization projects and meet completion and school opening dates.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