

JARRELL INDEPENDENT SCHOOL DISTRICT |
High School Additions and Renovations

May 18th, 2022

SCHEMATIC DESIGN PRESENTATION



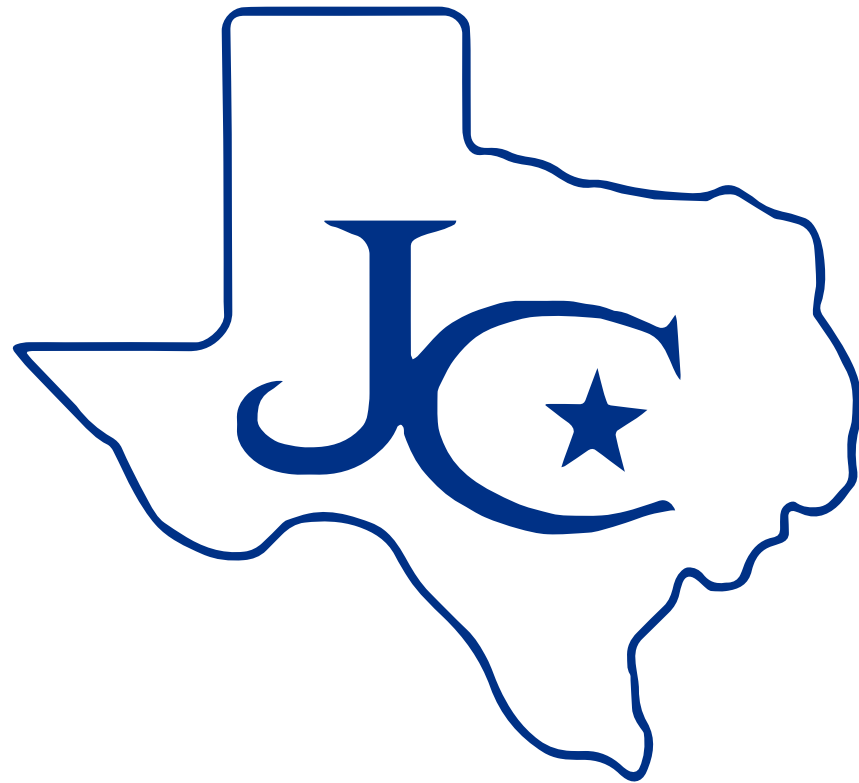


JARRELL INDEPENDENT SCHOOL DISTRICT
HIGH SCHOOL ADDITIONS & RENOVATIONS

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JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS



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Marty Murr

PROGRAM MANAGEMENT

ESC Region 13

Sledge Engineering, LLC

PROJECT TEAM

LaShae Baskin, RID
Director of Austin, Huckabee

Michael Morow, AIA
Principal, Huckabee

Mike Hall, AIA
Director of Design, Huckabee

Tina Alford, AIA
Project Architect, Huckabee

Jesus Rodriguez,
Architectural Associate, Huckabee

Anna Abascal,
Interior Designer, Huckabee

CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE

Langan
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MEP ENGINEERING

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FOOD SERVICE

Foodservice Design Professionals
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JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS

Introduction

Jarrell High School was elected to receive improvements facilitating a 300 student capacity increase as part of the 2021 Bond Election for a capacity of 1,258 students. Through multiple meetings with the Design Committee and responding to their input a series of additions and renovations were developed to accomplish the need of this campus. A new two story classroom addition with the inclusion of a teacher work area that brings a teacher workspace closer to the classrooms. The fine arts program will include an addition for a new band hall with practice rooms, offices and storage as well as renovations to the existing choir and band hall rooms to allow realignment of the choir and art spaces. To help serve the increased student population the kitchen will receive a new addition to allow for more serving lines and food preparation area while also increasing the student dining areas. Administration will also receive additions and renovations which include new offices, reception, increased clinic area, dedicated AP suite and a reworked counselor space to better serve the growing population. The field house will also receive an addition to include two new locker rooms with showers and restrooms.

Paving Improvements

Access to the existing site will be provided using existing drives and fire lanes currently constructed within the campus. The new site pavement and flatwork is anticipated to be reinforced concrete pavement. The necessary subgrade treatment is unknown pending the final geotechnical investigation.

Water Improvements

Fire flow and domestic water service is currently provided for the site with an internal network of 6" and 8" water mains. Improvements to the existing system are anticipated with a goal of decommissioning the existing water storage tank and providing a connection to the City of Jarrell water line located in FM 487. Other improvements and relocations may be necessary in order to accommodate the proposed additions and existing services.

Wastewater Improvements

Sanitary sewer service is currently provided to the campus through various gravity mains that terminate at an on-site lift station. The lift station conveys wastewater to the City of Jarrell wastewater system. The additions are planned to utilize the existing on-site wastewater system. Improvements and relocations may be necessary in order to accommodate the proposed additions and existing services.

Drainage Improvements

The site currently utilizes a combination of underground and surface- discharge drainage elements to convey water to the existing detention and water quality pond located to the northwest. Modifications to grate inlets, roof drains, and other existing collection infrastructure will be necessary to accommodate the proposed Additions. Existing on-site storm lines will likely require replacement / increase in size to convey the proposed flow.

Water Quality

The site is located within the Edwards Aquifer Recharge Zone and water quality permitting will be required through the TCEQ. Expansion / modification to the ponds is not anticipated.

Gas Service

The site is currently served by private on-site propane storage. At the time of this narrative, it is expected that the school will continue to utilize the existing propane system and upgrade or relocate as necessary. The District might consider discussing Natural Gas service options, if available.

Electric Service

Existing services will continue to be utilized.

Landscape & Irrigation Improvements

Plantings will be geared to satisfy District and governing requirements. Areas disturbed by construction will be turf stabilized with either sod or seed. Irrigation will be provided where necessary to support required plant material.

Structural

The structural design will be made in accordance with the following codes:

- International Building Code, 2021 Edition.
- Structural Steel: 'Specification for Structural Steel Buildings', The American Institute of Steel Construction, Fifteenth Edition.
- Structural Concrete: "Building Code Requirements for Structural Concrete ACI 318-19", The American Concrete Institute.
- Steel Joists: Steel Joist Institute, 2018.
- Metal Deck: Steel Deck Institute, 2018.
- Welding: Structural Welding Code – Steel, Latest Edition, American Welding Society (AWS D1.1 and AWS D1.3).

Foundation and Floor Framing

The foundation design will be in accordance with the geotechnical engineering report. Due to the amount of overexcavation and select fill required for a soil supported foundation, it is our experience that a suspended foundation would be more economical. Expansion joints will be necessary between new and existing construction. This type of foundation and floor framing system will occur at all new additions.

There are two options to accomplish this. The first option is to have the floor framing constructed using a suspended two-way flat slab on carton forms supporting steel columns. We anticipate column and pier spacing to be approximately 25'-0" o.c.e.w. Based on the PVR mentioned in the geotechnical report, we recommend an 18" (min.) Void beneath the slab and all beams constructed. An 18" void under a 22" wide x 36" deep perimeter beam will be enclosed by 3" thick pre-cast concrete retainer blocks. Drilled piers will support the columns and slab system. Column capitals will be placed under interior columns.

The second option is to have the floor framing constructed using a suspended pan joist slab system over a well-ventilated crawl space. Generally speaking, the concrete joists will be 7" wide x 24 5/8" deep and be spaced at 6'-1" o.c. A 4 5/8" thick slab will span between the joists. The pan-joist elements will be supported by widened, interior beams, generally 42" wide x 24 5/8" deep. Perimeter beams will be 22" wide x 36" deep. 3" thick concrete retainer blocks will be installed along the perimeter of the building to create an 18" void space directly under the perimeter beam. Retainer blocks will be waterproofed. Both interior and exterior beams will be supported by drilled piers.

At the cafeteria/kitchen addition, demolition of the existing mechanical yard wall and foundation is required. This includes the CMU wall, concrete beam, and cutting the existing piers to 5'-0" below grade.

Second Floor

The second floor framing of the classroom addition will consist of steel wide flange framing with headed studs. The wide flange system will support a 5" concrete slab on composite metal deck. Steel columns will continue through the second floor to support the roof framing.

Roof Framing – Steel bar joists will be spaced at 5'-0" o.c. In all areas. Steel wide flange beams will support the bar joists. 1 1/2", type B,, 20 gauge metal deck will be supported by the bar joists.

Lateral force resisting system: The main lateral force resisting system will consist of steel bracing, such as, chevron or knee bracing.

Structural Members and Design: Load Assumptions

Dead Loads – loads actually calculated. Live Loads

- Roof 20 PSF
- Classrooms 75 PSF
- Corridors 100 PSF
- Assembly areas 100 PSF
- Mechanical spaces 150 PSF
- Wind speed 120 MPH
- Member Stresses:

Concrete – 28 day ultimate compressive strength

- Drilled piers 3000 PSI
- Suspended floor system 4000 PSI
- Pre-cast concrete retainer blocks 3000 PSI
- Concrete reinforcing steel 60,000 PSI

Structural steel

- Joists Fy = 50,000 PSI
- Beams Fy = 50,000 PSI
- HSS Columns Fy = 46,000 PSI
- Metal Deck Fy = 33,000 PSI



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS

Mechanical

The HVAC system shall be designed with energy efficient quality equipment, ease of maintenance and equipment accessibility in mind. The system will be designed to control the interior temperature and humidity to uniform comfort conditions. Large spaces may be zoned separately by exposure and space function. This will allow for controlling a specific area (zone) by temperature and run time to provide maximum energy efficiency.

New Areas: New areas will be conditioned using high-efficiency multi-stage rooftop units (RTU's) unless otherwise noted. The space will be zones using separate units for exterior and interior to provide for better space comfort and control. These units will also be provided with hot gas reheat for humidity control as space type dictates. **Classroom Addition:** New classrooms shall have a separate unit and thermostat for individual control. RTU's will be used for classrooms. **Field House/Locker Room Expansion:** Provide Daikin split system heat pumps appropriately zoned for expansion. Split system makeup air system with energy recovery ventilators (ERV's) will be provided for outside air and exhaust to space. **Technology Rooms:** All MDF and IDF data rooms will have separate air conditioning systems for 24/7 control.

Ventilation Requirements and Pressure Relationships; All floors of the building will have ventilation rates per IMC 2015 and ASHRAE 62.1 and the building will be under positive pressure. IAQ procedure will also be used for outside air requirements. **Outside Air:** A makeup air unit (MAU) shall be used to provide neutral ventilation air to classrooms. Large spaces and low occupant load space may have raw OA through damper, less than 10% of unit load.

Controls and EMS; Provide a direct digital electronic automatic temperature control system for the entire complex. The system shall consist of direct digital control (DDC) systems for the HVAC equipment, an operator's terminal with keyboard for communication with and programming of the distributive memory in the direct digital controllers, and shall incorporate all equipment necessary to provide the sequence of operation. This system shall use electronic temperature sensors, interfaced through. Control system shall have graphics indicating building floor plan, equipment identification and equipment indication and monitoring. Brand Basis of Design for DDC shall be: Alerton/Climatec.

Ductwork, unless otherwise specified herein, shall be constructed of new, prime grade, continuous hot dip mill galvanized, lock forming quality steel sheets and shall have a galvanized coating of 1-1/4 ounces total for both sides per square foot. The gauges of metal to be used and the methods of duct construction shall conform to the requirements for the class of work involved as set forth in the latest edition of "Standard Practice in Mechanical Sheet Metal" as published by SMACNA. Each sheet shall be stenciled with the gauge and manufacturer's name. If coil steel is used, coils shall be stenciled throughout on ten foot (10') centers with the gauge and manufacturer's name.

Rectangular Ducts, Where special rigidity or stiffness is required, construct ducts of metal two gauge numbers heavier. Ducts larger than 30" and larger to have Ductmate 35 slide on connections. Use metal cleats, metal corner cleats for non-breakaway joints, use plastic cleats for breakaway joints, ductwork 440 tape, #795 duct sealer and 5511M sealant.

Ductwork shall be internally lined with acoustical liner with antimicrobial coating for sound attenuation at discharge of units. Ductwork shall be externally insulated as follows: The Contractor may use a 3/4, 1 or 1-1/2 pound density product with a minimum thickness of two inches (2") and a minimum installed R-value of 6.0. Density, thickness and installed R-value to be clearly indicated on submittal. Installed R- value must be 6.0 or higher. Fiberglass duct wrap insulation is to have a factory FSK or FRK facing which acts as the vapor barrier. Maximum permeability rating is 0.02 perms. Use only labeled Type UL181AP tape. Maintain a complete vapor barrier throughout all ductwork insulation applications. All return air boots to be internally lined with acoustical liner. **Flexible Duct:** Only above suspended or hard ceilings: Provide duct listed as UL-181 Class I air duct, and constructed in compliance with NFPA 90A. ATCO Series 36. Maximum length five feet (5'). Install with not more than one (1) 90 full radius degree bend. Make joints with Nashua brand UL181A-P duct tape and 1/2" wide positive locking panduit straps. Exterior skin is to be tough vapor barrier reinforced metalized polyester jacket, tear and puncture resistant. Airtight inner core with no fiberglass erosion into airstream. R-Value: 6.0 at 75 degrees F. Mean temperature.

Power Monitoring shall be provided for project on all new construction. CT's by Veris or equal and all controllers, software and programming for owner to view power consumption in Total Building, HVAC, Lighting, Receptacles. Power monitoring will not be provided for remodel areas.

All air filters to be listed as Class 2 by Underwriters Laboratory, Inc., Building Materials Directory. Air Cleaning Performance: Minimum MERV 11. Provide and install all fire dampers in all ductwork which passes through any rated egress pathways, as required by Local Building and Fire Safety Codes. All dampers UL approved and of type required by NFPA 90A. All dampers shall have a UL555S leakage classification of II. Sleeves for fire dampers shall be of gauge as described in NFPA 90A and as a minimum of 18 gauge for dampers up to thirty-six inches (36") wide and fourteen (14) gauge for dampers which exceed thirty-six (36") in width. **Manufacturers:** Ruskin, Air Balance, Arrow, Nailor or approved equal.

Support all duct work to prevent sag, undue play and swing. Provide a hanger within twelve inches (12") from unit supply and return. **Low Pressure Ductwork:** **Ducts 40" and Less:** Provide with 1" x 18 gauge straps fastened to ductwork and to building construction. Space not more than eight feet (8') on center. Hanger straps shall lap under duct a minimum of one inch (1") and have a minimum of one (1) fastening screw on the bottom and two (2) on the side. **Ducts Over 40":** Provide mild steel rods fastened to angle iron stiffeners with nuts and to building construction with appropriate inserts, flanges or clamps. Space not more than four feet (4') on center with rods and angle supports. Use minimum twelve (12) gauge wire with saddle for support of flex duct. Maximum permissible sag is 1/2" per foot of spacing between supports. Use one inch (1") strap (minimum) for all round sheetmetal runouts; minimum 8'-0" o.c.

Plumbing

A new underground domestic cold water service will be provided to the building, supplied from a site water main. Where the domestic water service enters the building a shut-off valve will be provided. Throughout the building, domestic cold water will be routed to plumbing fixtures. The piping system will be sized based on the Plumbing Code requirements. The piping system will be insulated to prevent condensation from occurring on the exterior of the pipe. Service valves will be provided at each branch line serving two or more plumbing fixtures.

All plumbing fixtures and equipment connections will be provided with local stop valves. Additional service valves will be provided, to isolate the system for maximum maintainability. Access panels will be provided with adequate space to operate the valves in walls and non-accessible ceilings. Shock arrestors will be provided on all water rough-ins serving plumbing fixtures. Domestic hot water will be generated using two natural gas fired water heaters with integral storage tanks. The storage tanks will be constructed of unlined duplex alloy stainless steel. The units will be insulated, in compliance with ASHRAE 90.1 for thermal efficiency, and will have a minimum efficiency of 90%. The water heaters will generate and store hot water at 140°F. Point-of-use thermostatic mixing valves will reduce final delivery temperatures of hot water to the building plumbing fixtures to 110°F. The hot water piping system will have in-line circulation pumps to maintain the hot water temperature to within 10 degrees of the supplied temperature. The domestic hot water piping system will be sized similar to the domestic cold water system. The hot water supply and return piping will be insulated to minimize heat loss.

A complete waste and vent system will be provided to collect sanitary waste from all plumbing fixtures, floor drains, and any other equipment, in accordance with the Plumbing Code, unless indicated otherwise. The drainage piping system will be designed with a minimum slope of 1/4-inch per foot for pipe sizes less than 3-inch and 1/8-inch per foot for sizes 3-inch and larger. The building will have sanitary sewer lines discharging to the site sanitary sewer system. Floor and wall cleanouts will be strategically placed to avoid being located in sensitive areas. Floor drains will be provided for each air handling device, equipment requiring drains, Toilet rooms with water closets, and mechanical equipment rooms. A floor drain will be provided at each emergency shower unit. Each floor drain will be provided with a p-trap and a trap primer.

The roof drainage system shall be sized based on 6 inches per hour rainfall rate, according to the Plumbing Code. Majority of roof drainage is planned to be handled by collector and downspouts by Architect. Overflow drains (if required) will be provided to protect the roof in case of a primary roof drain blockage. The overflow drain lines will be piped separate from the roof drainage system extending to downspout nozzles on the exterior of the building. The roof drainage system will be insulated to prevent condensation from occurring on the exterior of the pipe. Roof drain bodies, overflow drain bodies and the horizontal piping from each drain will be insulated, extending to the first vertical drop and any horizontal offsets that occur (if needed).

Plumbing fixtures will be Grade A commercial quality and will be low water consumption type fixtures. Water closets will be dual flush type with 1.28 gallon per flush fixtures. The urinals will be 0.125 gallon per flush fixtures. Lavatories will have 0.50 gpm faucets and the sinks will have a 1.5 gpm flow control devices. Water closets will be floor mounted and urinals will be wall hung and provided with concealed support carriers. Lavatories, mop sinks, laboratory sinks and kitchen sinks will be provided with domestic hot and cold water. All vitreous china fixtures will be white in color. Where applicable, fixtures will be in compliance with the Americans with Disabilities Act. Wall hydrants will be provided on the exterior walls to provide wash down of entries, and other exterior areas around the building. Hydrants will be freeze-proof recessed type with hinged door, integral vacuum breakers and loose key.

Huckabee

JARRELL INDEPENDENT SCHOOL DISTRICT

NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION.
MICHAEL A. MOROW, TX REGISTRATION #25557, 05/18/2022

NARRATIVES

2.2



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS

Fire Protection Systems

The building will be provided with an automatic fire protection sprinkler system. A fire water service supply will be extended into the building. Dry type sprinkler systems will be provided for areas where the sprinkler heads and piping will be exposed to freezing condition external to the buildings. The dry type sprinkler systems will include air compressor, dry pipe valve, air maintenance device, etc. The wet and dry sprinkler systems will be hydraulically designed in accordance with the requirements of all agencies having jurisdiction. System will include piping, sprinklers, wet and dry alarm valve assemblies, tamper switches, flow switches, valves, drains, inspector test, test drains, fire department connections, sprinkler heads, roof manifolds, etc.

Sprinkler heads in light hazard finished areas with suspended ceiling will be quick response, flush concealed with white cover plates. Heads in non-finished areas such as Mechanical Equipment Rooms, Electrical Rooms, etc., will be chrome-plated brass. (Verify for use in Electrical rooms).

The sprinkler systems will conform with all applicable provisions of the Owner's Insurance, NFPA Standards 13, 14 and other appropriate NFPA Standards, state and local codes.

A fire pump is not anticipated to be required.

Pre-action, double interlock wet pipe system to be used in server room and IT machine room.

Electrical Systems

The existing service to the building is 480Y/277V, 3-phase, 4-wire on the secondary of the building pad mount transformer. MSB is located in Main Electric Room in Section 5. Lighting will be served at 277V and motors larger than 1/2 horsepower will be served at 480V, 3-phase. Energy-efficient, low voltage, indoor, dry-type transformers that are DOE 2016 compliant will be used inside the building electrical rooms or mezzanines to transform down to 208Y/120V for convenience receptacles and other small loads for all additions.

Building surge suppression systems will be installed in the building at the main switchgear, 480Y/277V distribution panels, and 208Y/120V branch circuit panelboards for protection of building loads from surges both from lightning and utility transients as well as building witching transients.

Interior Electrical Distribution System; Furnish all labor, testing, supplies and materials, including but not limited to, installation of light fixtures, cutting and chasing, coordination with other trades on the job, etc, necessary for the installation of complete electrical systems. Include temporary electrical power and lighting to satisfy OSHA requirements. Verify all conditions and measurements at site. Separate dedicated electrical rooms shall be provided as required for addition to the school. These rooms shall be strategically and centrally located within the building to minimize voltage drop problems. The electrical rooms will have branch circuit panelboards, DOE 2016 compliant dry type transformers and 208Y/120 Volt branch circuit panelboards. Separate dedicated 480 Y/ 277 Volt panelboards for HVAC equipment and lighting branch circuits shall be provided.

DOE 2016 complaint, aluminum windings dry type transformers shall be provided to serve all non-linear load branch circuit panelboards.

Interior Lighting Systems; LED lighting will be utilized throughout the building.

Building interior lighting control schemes shall comply with the requirements of IECC 2015 Edition. All offices and classrooms shall be provided with dual technology occupancy sensors, and switches for a dimming lighting control system. Lighting control schemes will be further discussed with the Owner as the design progresses. All lighting will be provided with a color temperature of 3500°K and a color rendering index of 85 (CRI = 80). Emergency lighting and means of egress lighting shall be provided in accordance with NFPA Life Safety Code (NFPA 101) and shall all be served by wall mounted "frog-eye" battery packs. All exit light fixtures shall be LED type. Illumination levels shall comply with the requirements set forth by IES, allowable power densities, and the building program requirements unless otherwise indicated by the Owner. Footcandle levels shall be minimized in areas where task lighting is used. All exterior lighting shall be LED type lighting in weatherproof fixtures mounted on poles, walls, or soffits as required to meet lighting requirements. All exterior lighting shall be time clock and photocell with motion-controlled dimming. All exterior fixtures shall be full cutoff design. Provide life-safety lighting in all exit paths in accordance with IES minimum foot-candle recommendations and AIA guidelines. All requirements of IECC 2015 Edition will be adhered to during the design of the lighting, this will include the use of automatic shut-off via time of day schedule, occupancy sensors and/or dual level switching. All specialty lighting will be coordinated with Architect.

Fire Alarm System; A digital, addressable voice alarm closed circuit, electrically supervised automatic and manual fire detection alarm system shall be provided. The system will consist of manual pull stations and audio-visual devices at means of egress throughout corridors, area smoke detectors, heat detectors in equipment rooms and smoke detectors in storage rooms. Duct mounted detectors in supply and return duct of air handling equipment for air handling system shutdown as required by code. The fire alarm system design will comply with the Americans with Disabilities Act regulations, and Texas Accessibility Standards (TAS), and the National Fire Protection Association NFPA 101, and NFPA 72, and the International Building Code (IBC). Existing building Fire Alarm System will be replaced with new Voice Evacuation System to meet current code to the extent required by the Authority Having Jurisdiction (AHJ).

Foodservice

The foodservice facility at Jarrell High School is to consist of all necessary foodservice functions to provide meals to the students. We will design for a total population of 2000 students at 85% participation. Functional areas will include office, janitor, locker/toilet, preparation, production, holding, servery and warewash. Each of these functions will be configured to maximize operational efficiencies and minimize cross traffic within the kitchen. The main storage areas will be sized to the population and participation level of the campus. Standard preparation and vegetable preparation tables will be provided. These preparation functions will be adjacent the storage areas. Production equipment will be designed to accommodate the District's menu and student capacity. Exhaust hoods and fire suppression equipment will be provided over all production equipment. Adjacent the production equipment will be setup tables to stage food prior to loading into the holding cabinets. Serving lines will be designed to allow for maximum menu flexibility.

There will be 2 to 3 lunch periods, number of serving counters will be determined on the number of lunch periods and Owner's direction. Typically this size of school would require Five (5) to Six (6) counters at Three (3) lunch periods. The warewash area equipment will include a three compartment sink with disposer, a soiled dishtable, dishmachine and a clean dishtable with drying racks. Taking all of the above into account, the new facility will be around 5,000 sq. Ft..

Technology

The scope of work for premise distribution shall include new fiber optic cabling and termination hardware utilizing Passive Optical Networking (PON) from Tellabs in the new classroom addition. Renovated areas of the school including the admin areas, band hall addition, and library will utilize an extension of the existing copper cabling systems. The fiber network system design shall include passive fiber optic splitters located in the existing telecommunications spaces, Optical Network Terminals (ONT's) installed in ceilings shall provide poe and network connectivity to wireless access points, surveillance cameras, voip handsets and standard data cabling connectivity. The Optical Line Terminal (OLT) will be installed in the admin IDF room. The admin IDF shall also support the centralized power supply for the building.

Fiber Network Design: All fiber shall be Single Mode, manufacturer is to be selected from a list of acceptable options in the specifications. Copper cabling shall be designed between all ONT devices and their supported connections to include all wireless access points, voip handsets, displays, projectors, computers, printers, access control panels, building management systems and surveillance cameras. The admin IDF shall support the OLT and fiber termination hardware and all power for the PON system shall be centralized in this space. All equipment racks, back boards, ladder rack, and grounding bars are existing and will be used for this addition and renovation scope.

Copper Network: Category 6 cabling will be used for all outlets except wireless access points. Category 6A will be used for all wireless access point outlets.

Termination support equipment, MDF and IDF rooms – One existing MDF and multiple existing IDF rooms will be used for this project. All racks, termination hardware etc. Are existing and have capacity to support the new equipment.

Grounding – All equipment in the MDF and IDF(s) will be properly bonded and grounded per TIA standards and BICSI best practices. Existing bus bars will be used to ground any new equipment.

Area network requirements – No new connectivity is required as the school is existing and currently functional.

Backbone cabling – No new backbones are required as we are using existing MDF and IDF rooms for this project.

Digital signage locations will receive network cabling as required for functionality.

Wi-Fi – General: Wireless access point locations will receive network cabling as required. Wireless access points will be furnished and installed by Jarrell ISD IT.

Pathways: Will consist of j-hooks and/or basket tray in corridors and accessible ceiling spaces. Conduits and sleeves will be required for locations with inaccessible ceilings such as clear story/high volume, hard lid/gypsum, etc.



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Network Electronics, Wireless Access Points and UPS Equipment: JISD IT shall furnish and install active electronics for network connectivity such switches, routers, bridges, and wireless access points.
The complete phone system will be furnished and installed by JISD IT.

Public Address System: Extend existing Extron global viewer intercom system into new corridors, classrooms, reception/office area, dining, and locker rooms. Intercom speakers shall be added to newly added and renovated spaces. Exterior speakers are required on all sides of the building. Two at each corner and every 100ft in between.

Classrooms: Video system to be Owner furnished, and Contractor installed wall-mounted ultra-short throw interactive projector with OFE wireless presentation device. Wall plate HDMI and USB connections at teacher station. Audio system to include a small amplifier located in projector mount to feed (2) in-ceiling speakers for local audio.

Conference Rooms: Video system to be Owner furnished, and Contractor installed wall wall-mounted flat panel display. HDMI transmitter in floor box underneath conference table. Audio system to include built-in display speakers.

Integrated AV systems TBD

Security

Access control and/or door monitoring shall be provided as follows: ACS system manufacturer is Verkada. Card reader manufacturer is Verkada. Door hardware manufacturer is Allegion. Door monitoring via Door Position Sensor will be at all exterior door locations and roof hatches. Request to exit (REX) devices will be used on all exterior doors. Door hardware will have integrated REX wired into the panic hardware. Card readers shall be deployed to areas identified by the Owner including main entry, staff entry, cafeteria staff entry and athletics. A new secure vestibule will be included in the admin area as part of the renovation scope. Existing secure vestibule doors will be demolished. New door hardware, card readers, video intercom and other devices will be included as necessary to bring the vestibule up to current JISD security standards. Wall mounted access control panels shall be installed in the existing MDF and IDF(s) as needed to support the ACS. Additional credentials and other consumables shall be determined by the Owner during the design phase.

Video surveillance system: Video management server manufacturer is Verkada. Camera manufacturer is Verkada. Camera types (fixed, PTZ, etc.): Fixed domes and bullet style cameras will be used. Typically, interior cameras are domes and exterior cameras are bullets. Interior cameras shall observe the following: Corridors, entries/exits, gathering spaces and the main office. Exterior cameras shall observe the following: Drop-off and pickup areas, garden/outdoor learning spaces and other areas as directed by Jarrell ISD IT. Existing cameras that are affected by the project have been noted in demo plans and will be reused in new and renovated areas..

There are no pole mounted cameras in this project.. Video programming requirements to match JISD standards. Storage in the Verkada solution is cloud-based. Storage is included on each camera and video footage is available via the Verkada cloud. Licenses to be furnished by the contractor for each new camera in-scope.

Intrusion functionality is included in the Verkada solution. In areas where cameras are present, the cameras will serve as motion detectors in the Verkada system



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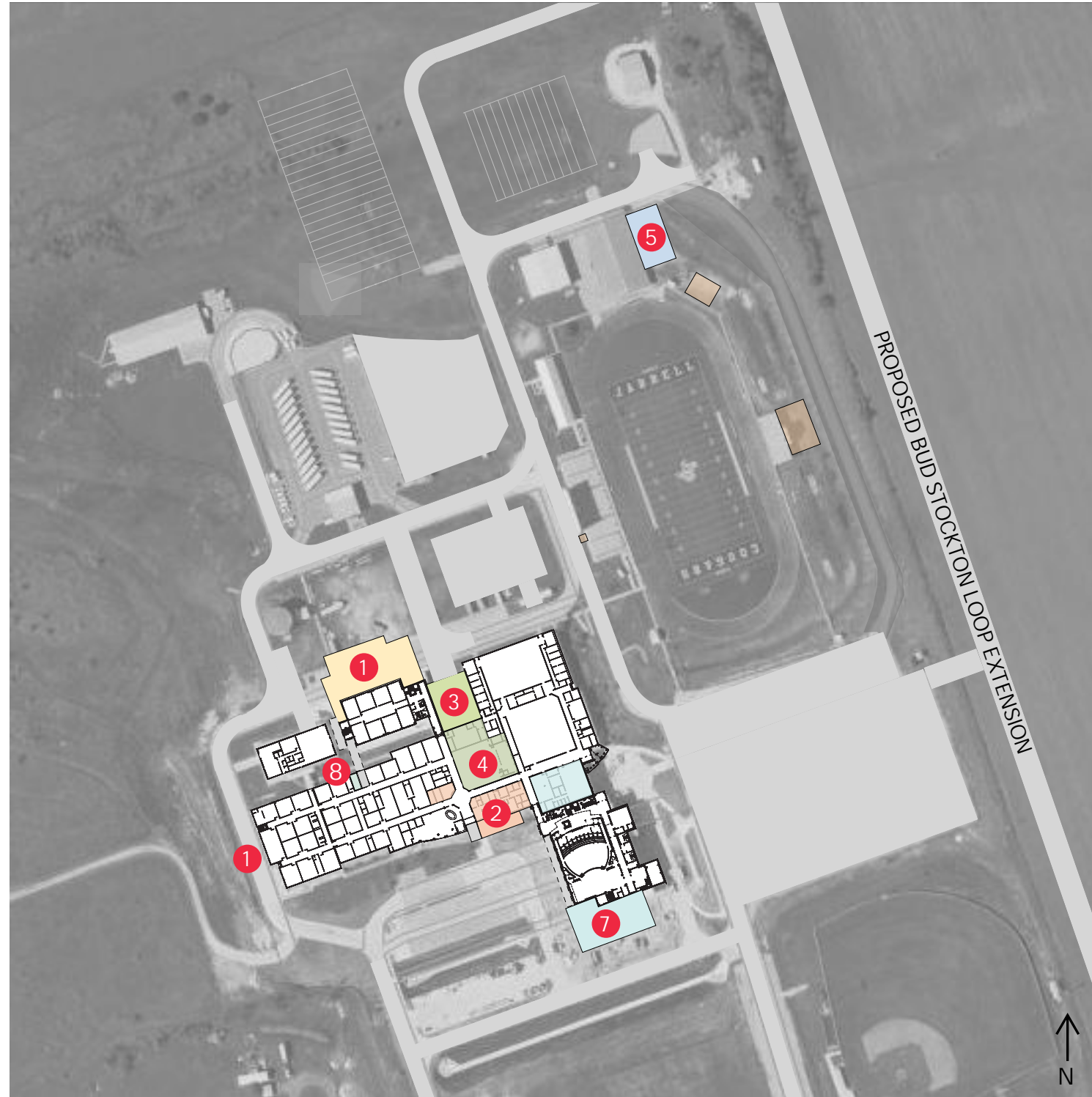
Jarrell ISD							SD 05/18/2022
2021 Bond: High School Renovation/Addition		Requested Program					
Additional 300-student capacity (1258 total)	# of spaces	Capacity Per Space	Net Capacity	Area per space (S.F.)	Net Area (S.F.)	Remarks	
INSTRUCTIONAL SPACES					23,525		
Additions					23,525		
Instructional Spaces					21,875		
General Classroom	13	25	325	775	10,075		
Specialized Instruction/ Lab/ CTE	2	25	50	1,600	3,200		
Collaboration Area	2	0	0	750	1,500		
Teacher Planning	2	0	0	400	800		
Band Hall	1	25	25	5,000	5,000	Existing Band Hall becomes Choir or Orchestra	
Ensemble/Practice Rooms/Offices	1	0	0	1,300	1,300		
Instructional Support					200		
Storage Room	2			100	200		
Restrooms					1,450		
Student Toilets	4			325	1,300		
Teacher Toilet	3			50	150		
CORE SPACES					9,340		
Library					840		
Additional reading room/ stack space	1			840	840	Reading/Reference areas dispersed throughout campus	
Cafeteria					8,500		
Additional dining space	1			3,500	3,500	Existing café seats 380; new capacity is 613 (3 lunches)	
New Kitchen	1			5,000	5,000		
PHYSICAL EDUCATION					1,470		
Locker Rooms					1,470		
Locker Rooms	2			425	850	80 lockers minimum; 2 tier 18x18x36	
Coach Office	2			60	120		
Restrooms/ Showers	1			500	500		

MAIN ADMINISTRATION					4,970	
Administrative Spaces					4,970	
Reception	1			600	600	
Principal	1			180	180	
AP	3			150	450	AP Suite with Conference Room
Office	4			130	520	Attendance, Registrar, Secretary, SRO
Counselor	4			160	640	
Conference Room	3			250	750	
Clinic Expansion	1			800	800	
New Work Room	1			850	850	
Vault	1			90	90	
Wellness	1			90	90	
BUILDING SUPPORT SPACES					820	
Custodial					160	
Custodial Closet	2			80	160	
MEP					500	
Electrical	3			100	300	
Mechanical	2			100	200	
Technology					160	
IDF	2			80	160	

Capacity Totals	400	75% (utilization) = Capacity of	300	
SUBTOTAL NET AREA (s.f.)				40,125
Additional Common Area (walls, circulation)				15,248
Circulation Factor				38%
TOTAL GROSS AREA (s.f.)				55,373



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS

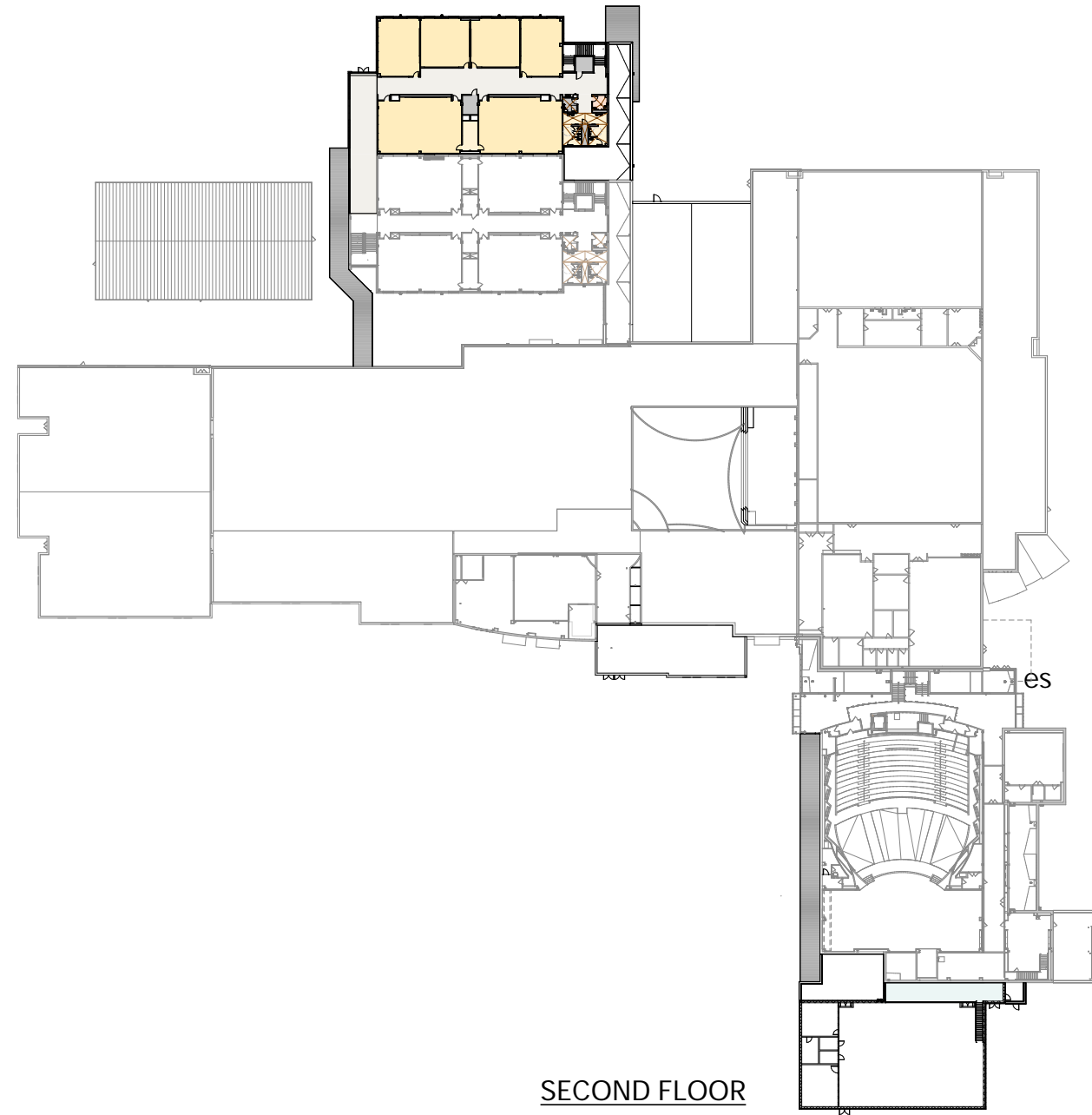


SITE PLAN KEY

- 1 Classroom Addition & Renovation (1258 Student Capacity)
- 2 Administrative Addition & Renovation
- 3 Dining Renovation
- 4 Kitchen Addition
- 5 Additional Locker Rooms
- 6 Band Hall Addition
- 7 Fine Arts Renovation
- 8 Library Renovation



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS

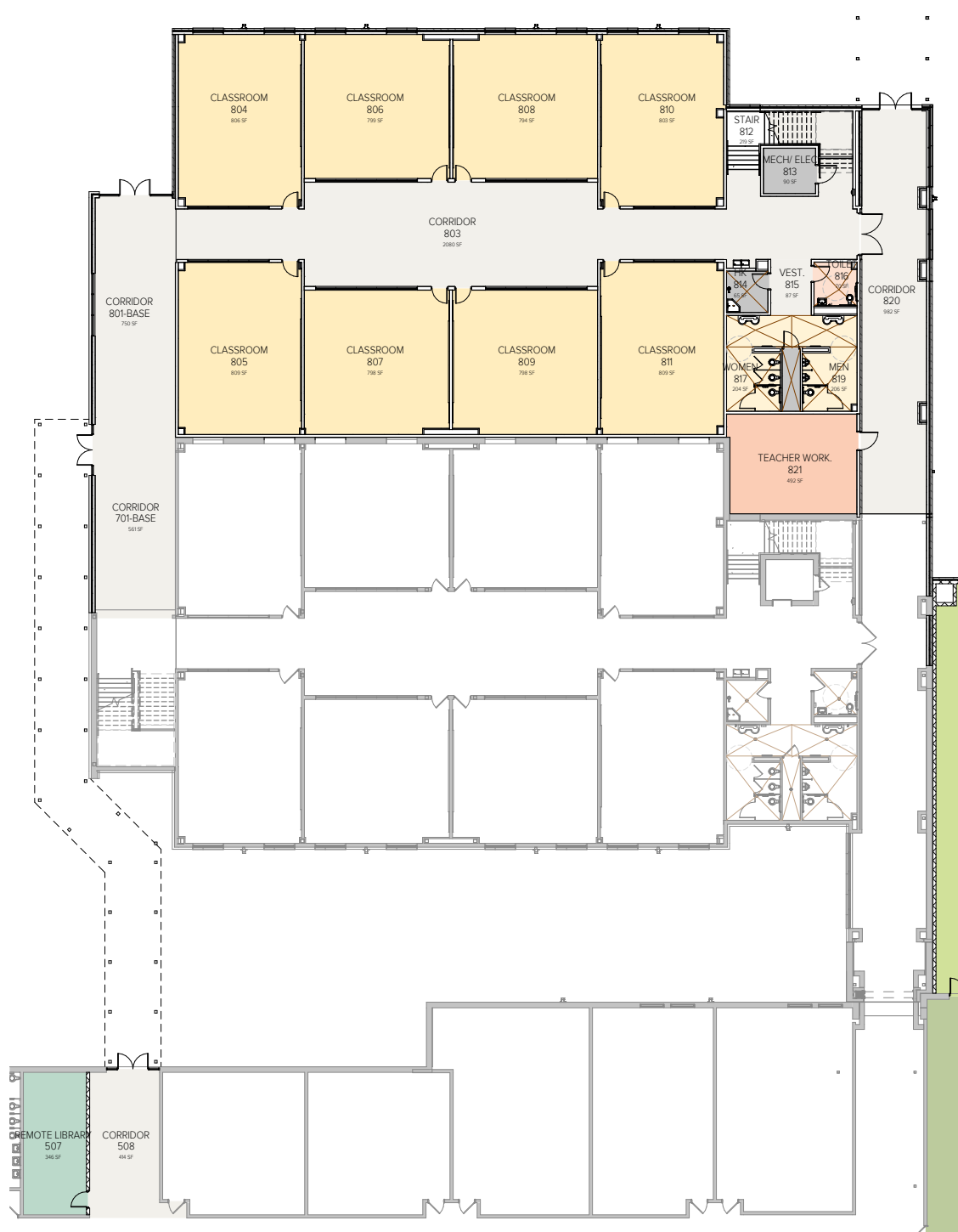


COLOR LEGEND

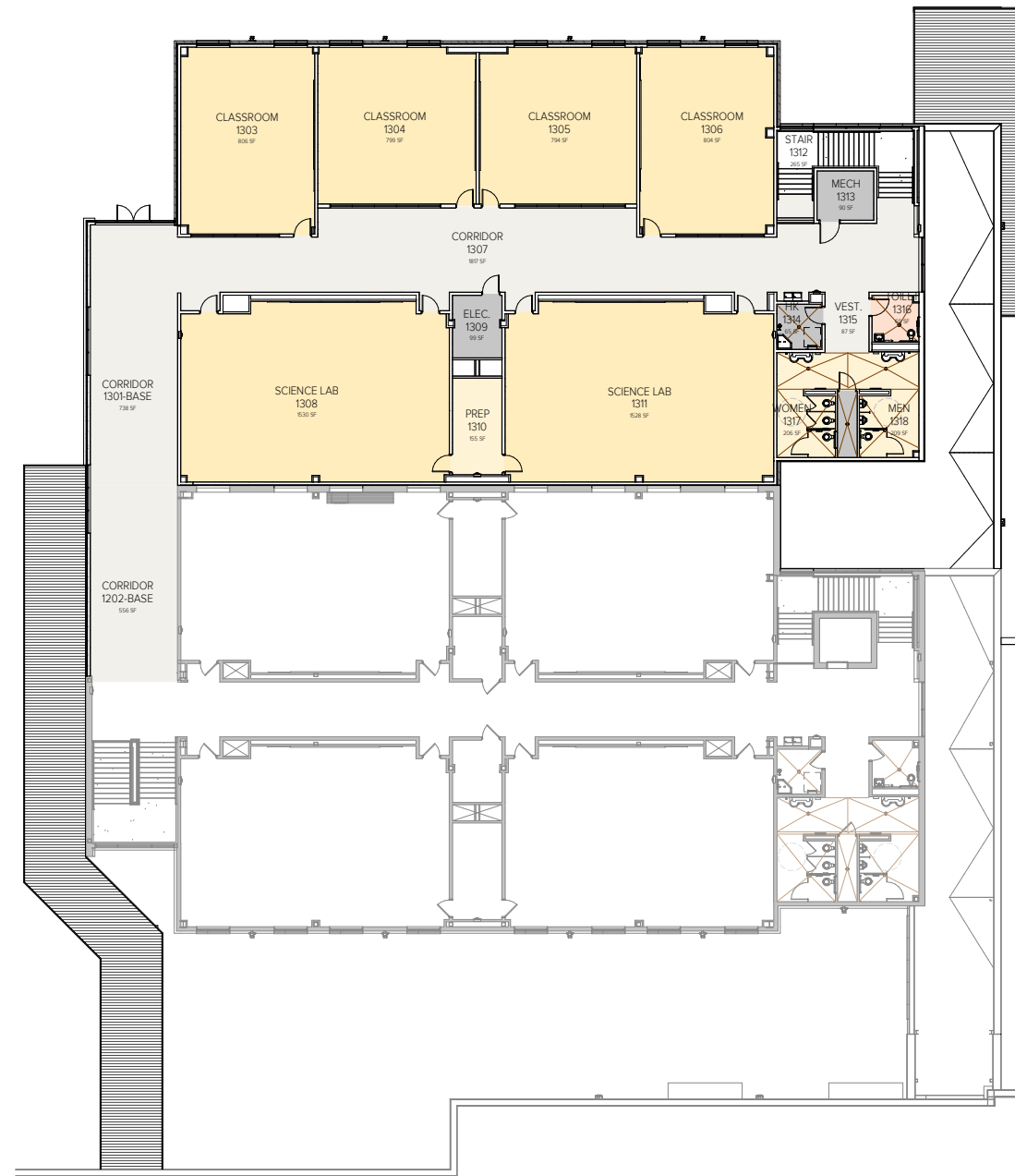
- Administration
- Administrative Support
- Academic
- Academic Support
- Library
- Library Support
- Dining
- Athletic
- Athletic Support
- Circulation
- Restrooms/Support Spaces



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS



FIRST FLOOR



SECOND FLOOR

COLOR LEGEND

- Administration
- Administrative Support
- Academic
- Academic Support
- Library
- Library Support
- Dining
- Athletic
- Athletic Support
- Circulation
- Restrooms/Support Spaces

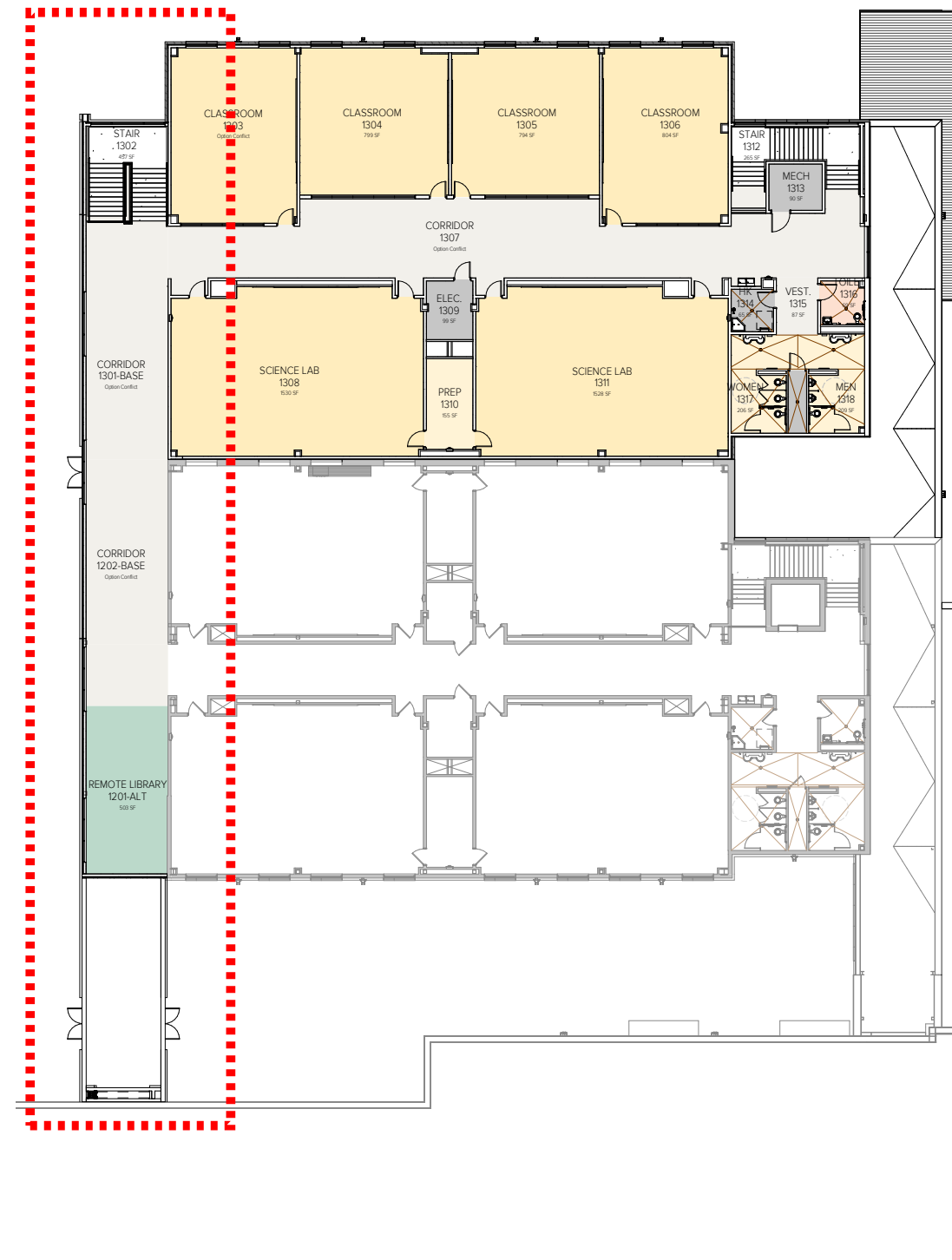
Huckabee

JARRELL INDEPENDENT SCHOOL DISTRICT
NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION.
MICHAEL A. MOROW, TX REGISTRATION #25557, 05/18/2022

CLASSROOM ADDITION



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS

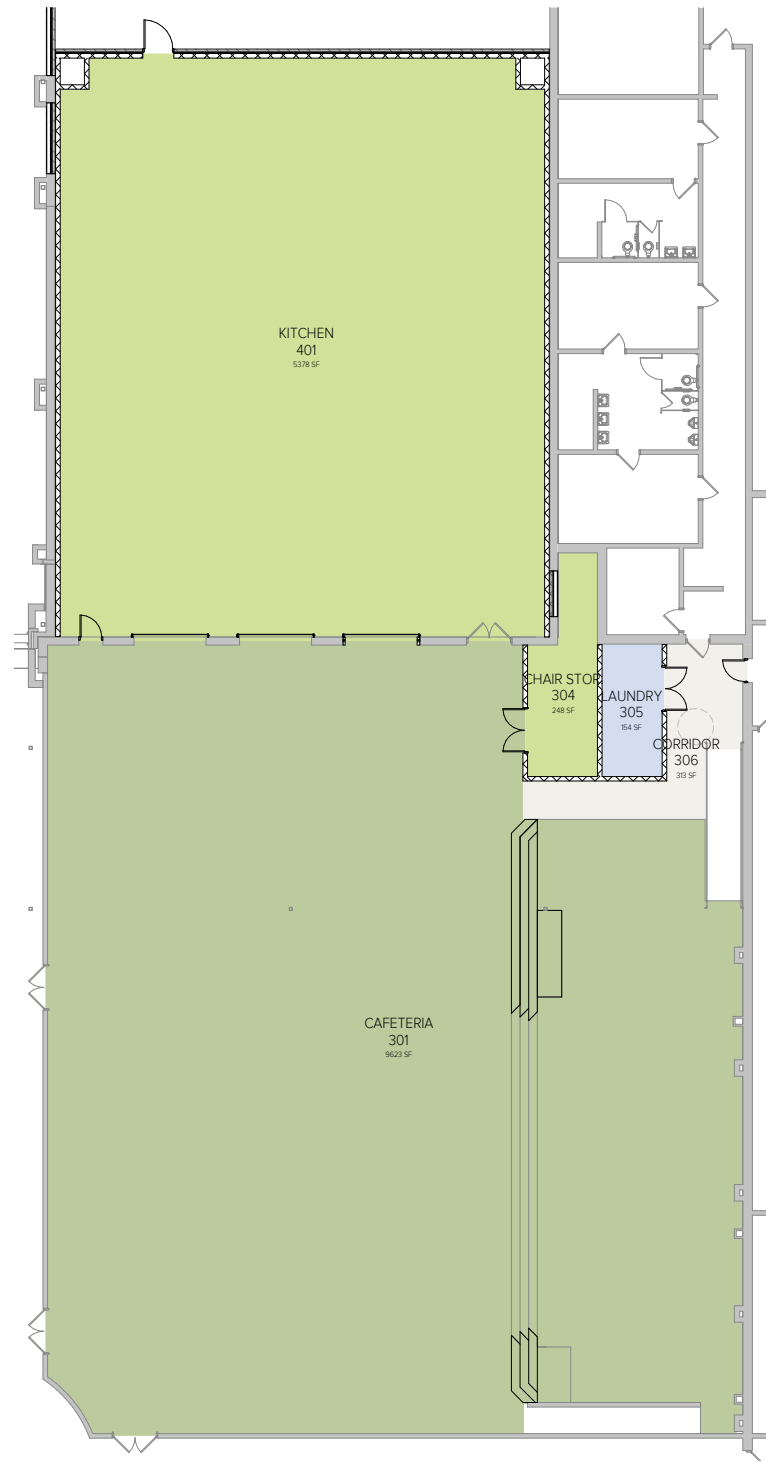


COLOR LEGEND

- Administration
- Administrative Support
- Academic
- Academic Support
- Library
- Library Support
- Dining
- Athletic
- Athletic Support
- Circulation
- Restrooms/Support Spaces



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS



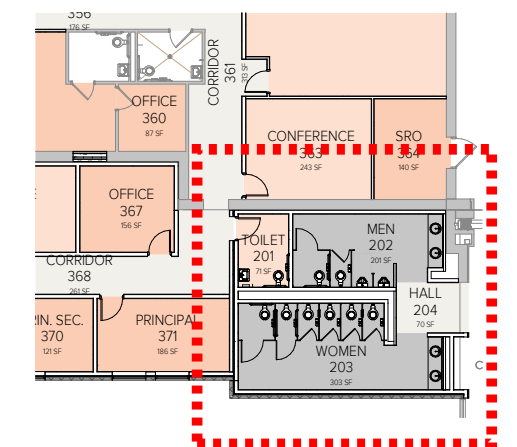
DINING & KITCHEN



ADMINISTRATION

COLOR LEGEND

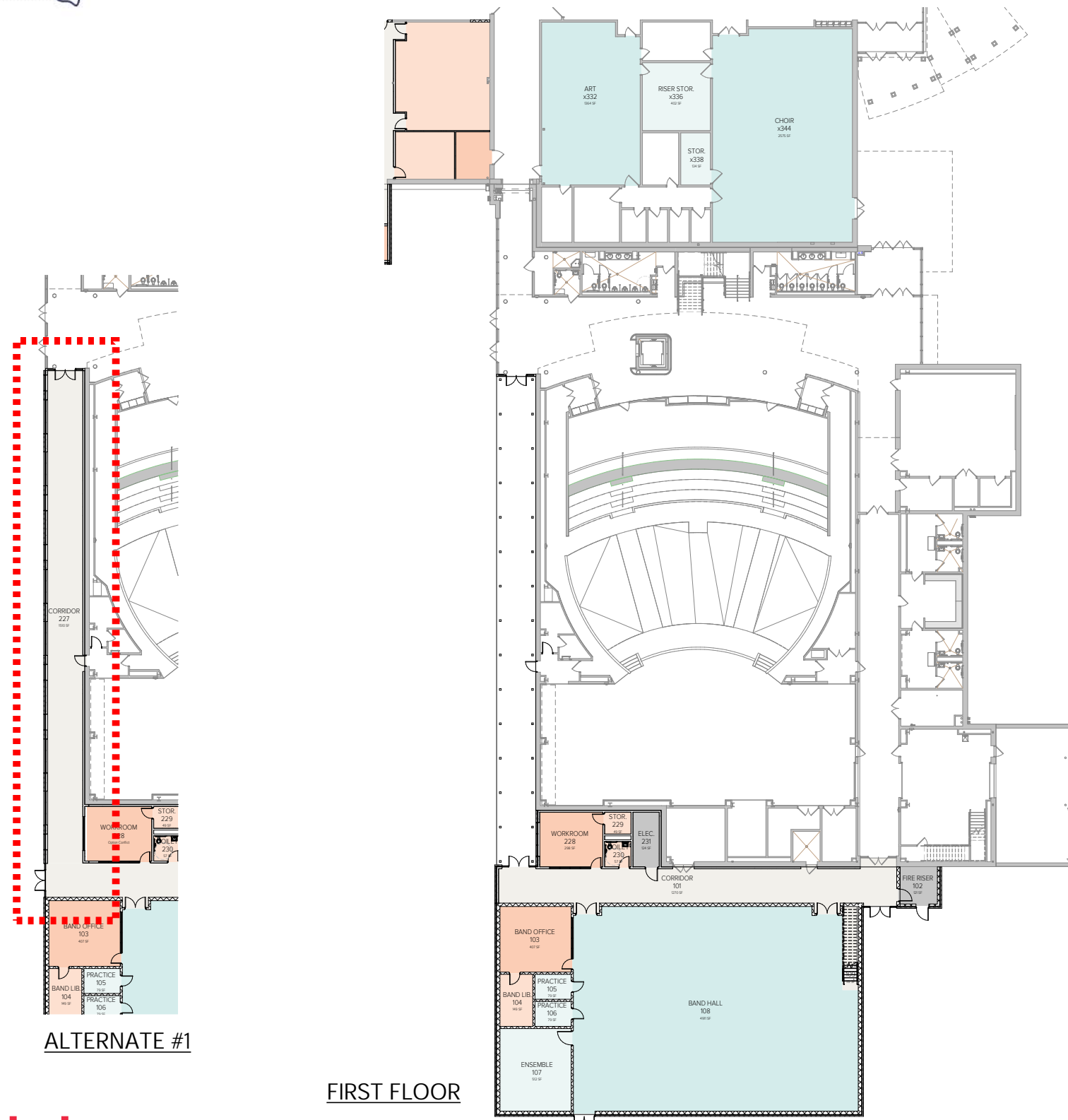
- Administration
- Administrative Support
- Academic
- Academic Support
- Library
- Library Support
- Dining
- Athletic
- Athletic Support
- Circulation
- Restrooms/Support Spaces



ALTERNATE #3



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS



COLOR LEGEND

- Administration
- Administrative Support
- Academic
- Academic Support
- Library
- Library Support
- Dining
- Athletic
- Athletic Support
- Circulation
- Restrooms/Support Spaces

ALTERNATE #1

FIRST FLOOR

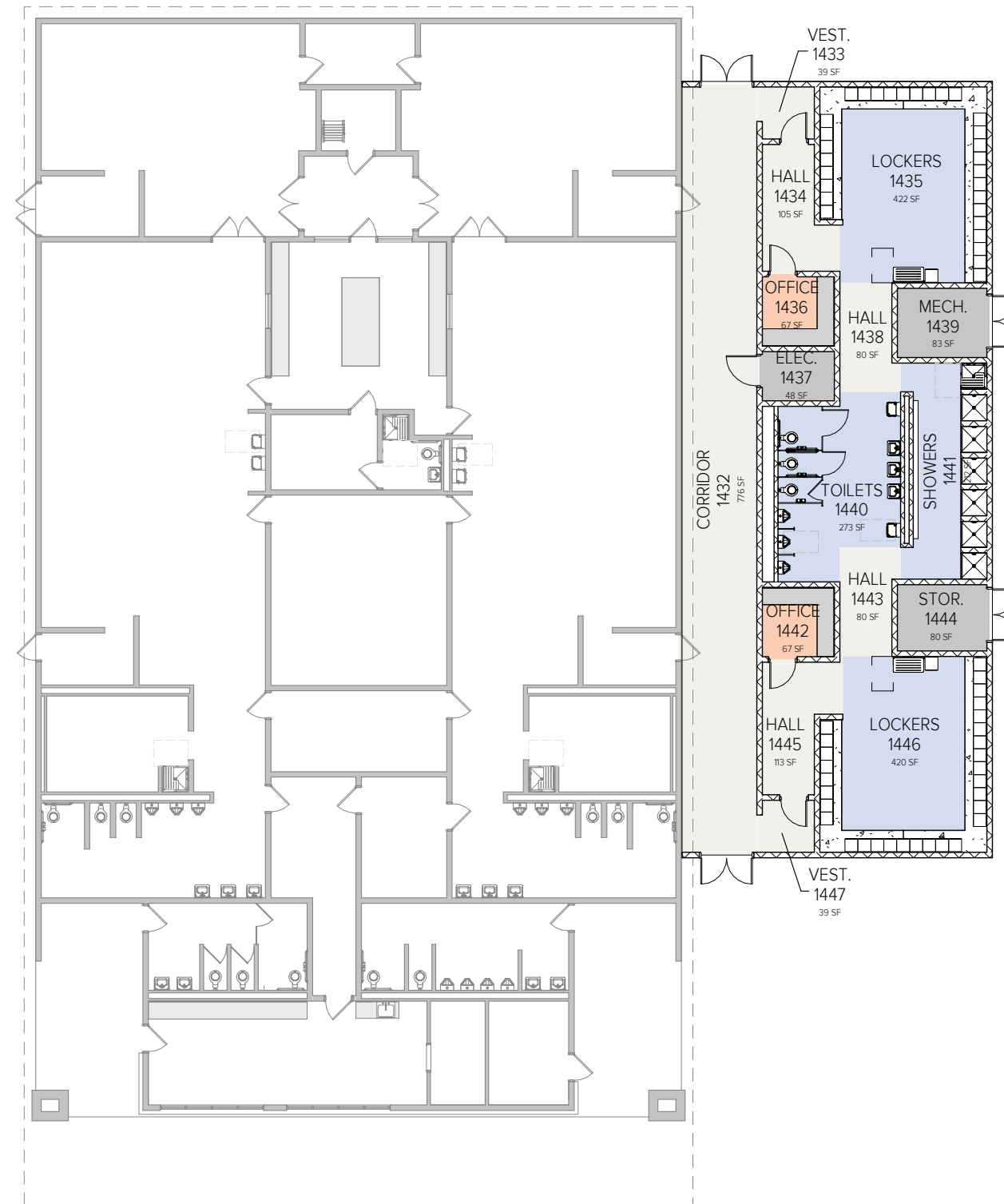
SECOND FLOOR

BAND HALL ADDITION





JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS



COLOR LEGEND	
■	Administration
■	Administrative Support
■	Academic
■	Academic Support
■	Library
■	Library Support
■	Dining
■	Athletic
■	Athletic Support
■	Circulation
■	Restrooms/Support Spaces



JARRELL INDEPENDENT SCHOOL DISTRICT
HIGH SCHOOL ADDITIONS & RENOVATIONS

Bond Construction Budget: \$22,500,000

Opinion of Probable Cost: \$21,300,000

(Beginning Construction December 2022)

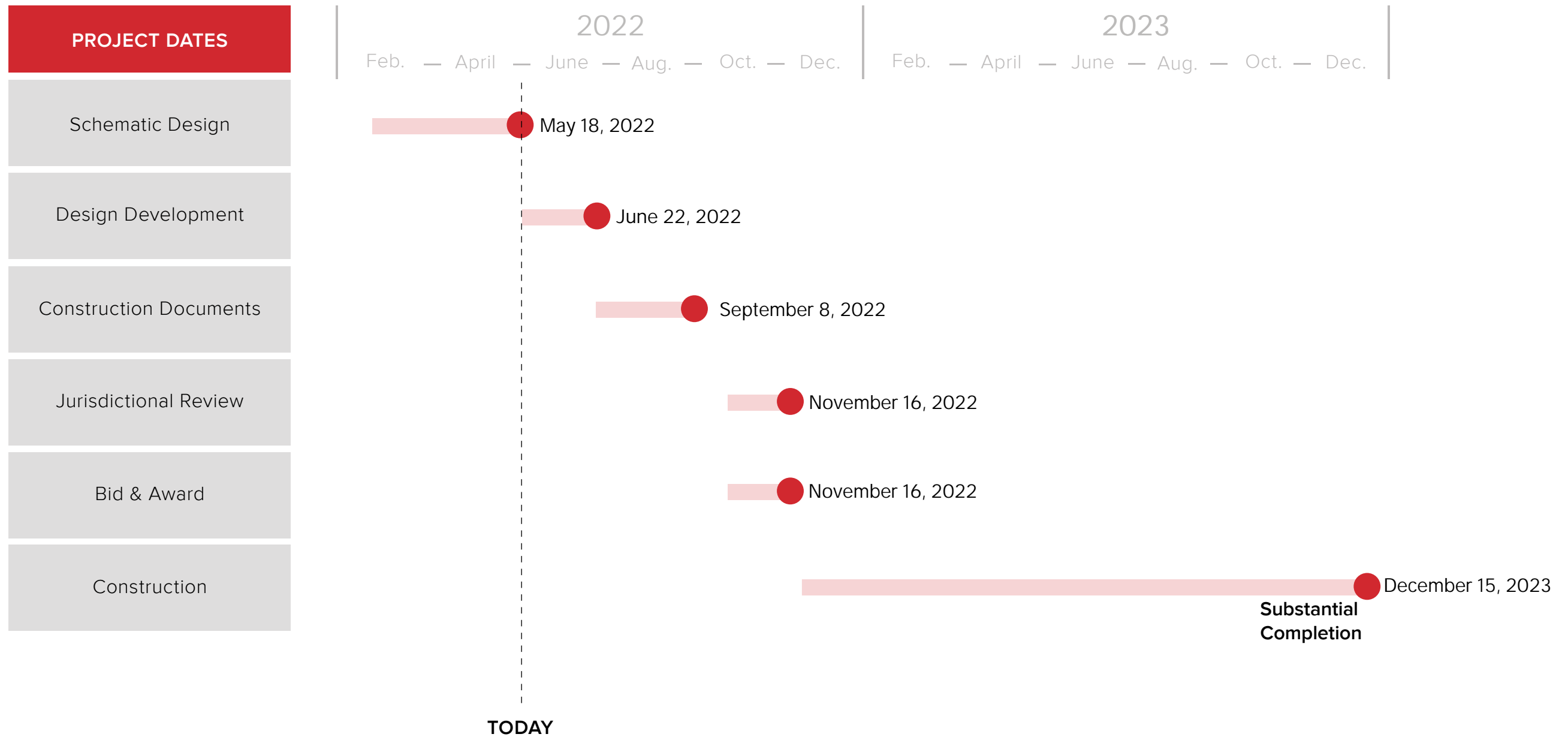
Alternate #1: Fine Arts Corridor+\$595,000

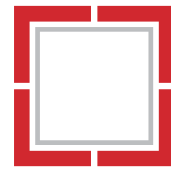
Alternate #2: Classroom Corridor+\$1,004,000

Alternate #3: Fine Arts Restrooms+\$290,000



JARRELL INDEPENDENT SCHOOL DISTRICT HIGH SCHOOL ADDITIONS & RENOVATIONS





MORE THAN ARCHITECTS