



8 TULLAR ELEMENTARY

Tullar Elementary provides a comprehensive program for Kindergarten and 1st through 5th grade students.

BUILDING AREA: 45,295 sq. ft.

STUDENT POPULATION: 399 STUDENTS

SITE SIZE: 8.05 ACRES; 34% IMPERVIOUS SURFACE

GRADES SERVED: KINDERGARTEN, GRADES 1ST-5TH

PARKING: 100 STALLS (5 HANDICAP, 95 REGULAR)

BUS QUANTITY: 4 BUSES / 4 BUS ROUTES

TULLAR ELEMENTARY: BUILDING EVOLUTION

Tullar Elementary was originally constructed in 1953. Four major additions were added: one in 1957, another in 1960, a third in 1966, and its fourth in 2009.

The following building evolution diagram outlines the additions made to the original building over time due primarily to student enrollment growth.



Tullar Elementary Main Entrance



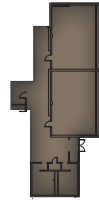
Tullar Elementary Classroom



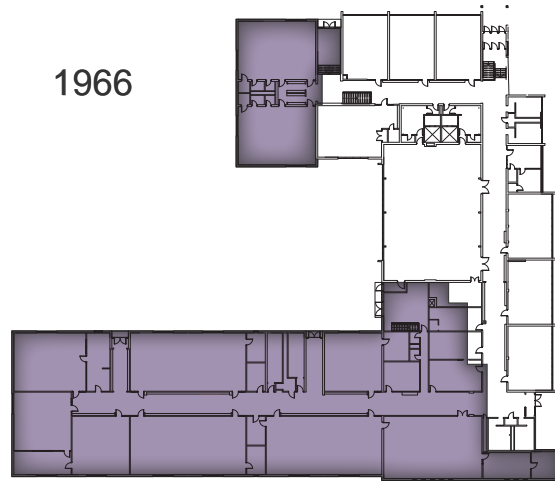
Tullar Elementary Corridor

TULLAR ELEMENTARY: BUILDING EVOLUTION

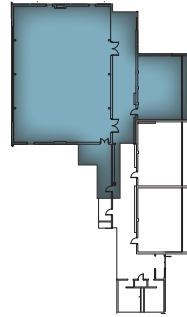
1953



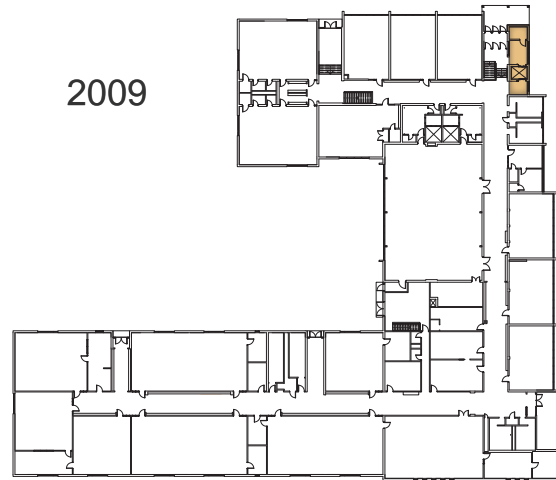
1966



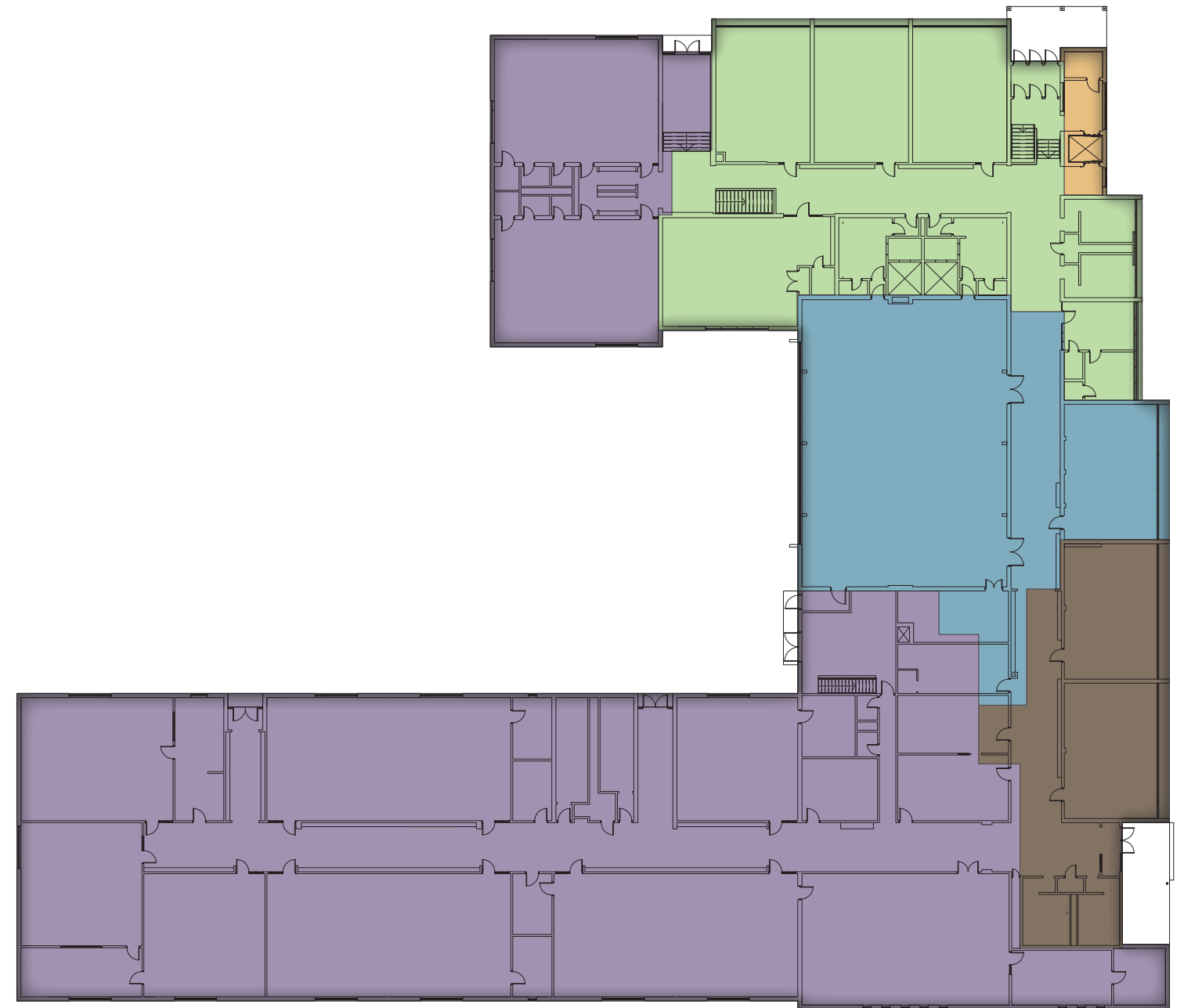
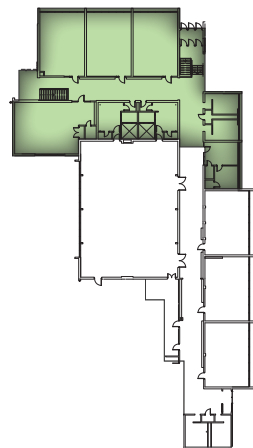
1957



2009




1960



 = 1953 - Original Addition

 = 1966 - Classroom Addition

 = 1957 - Gymnasium/Classroom Addition

 = 2009 - Addition

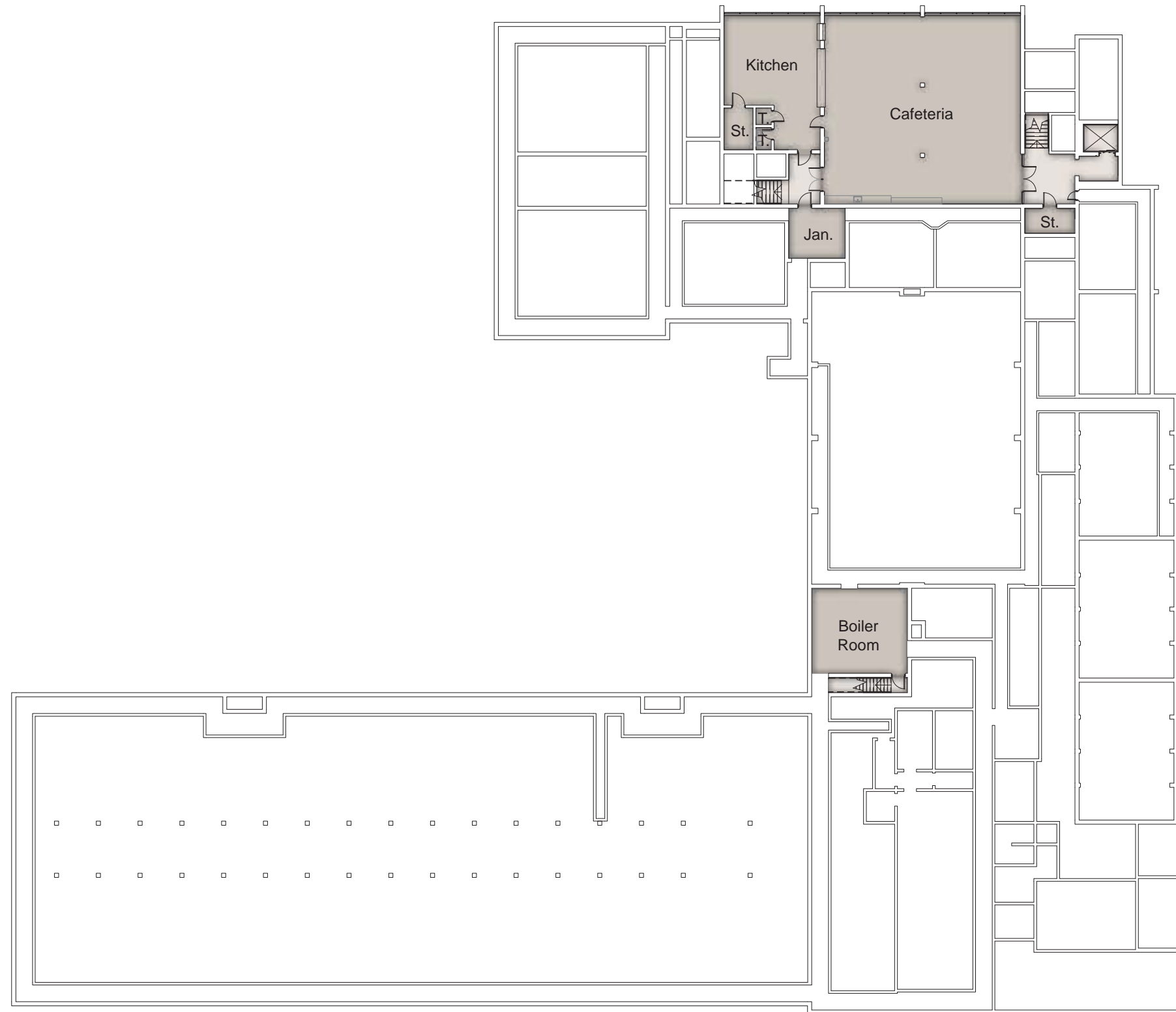
 = 1960 - Office/Classroom Addition



TULLAR ELEMENTARY: EXISTING SITE PLAN



SITE PLAN
not to scale



LOWER FLOOR PLAN
not to scale

TULLAR ELEMENTARY: EXISTING FLOOR PLAN



FIRST FLOOR PLAN
not to scale



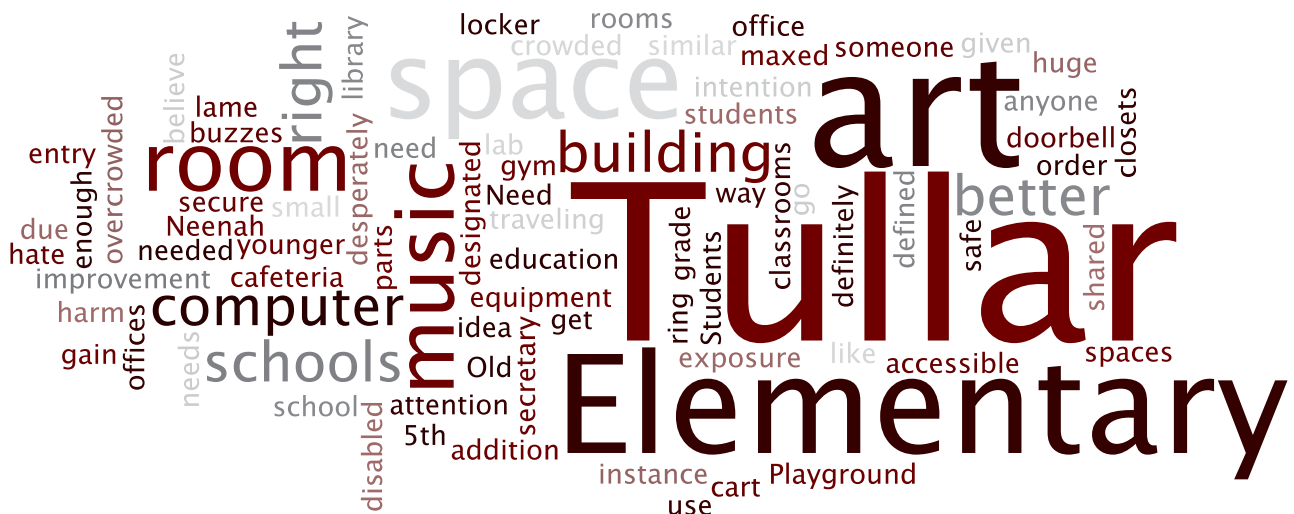
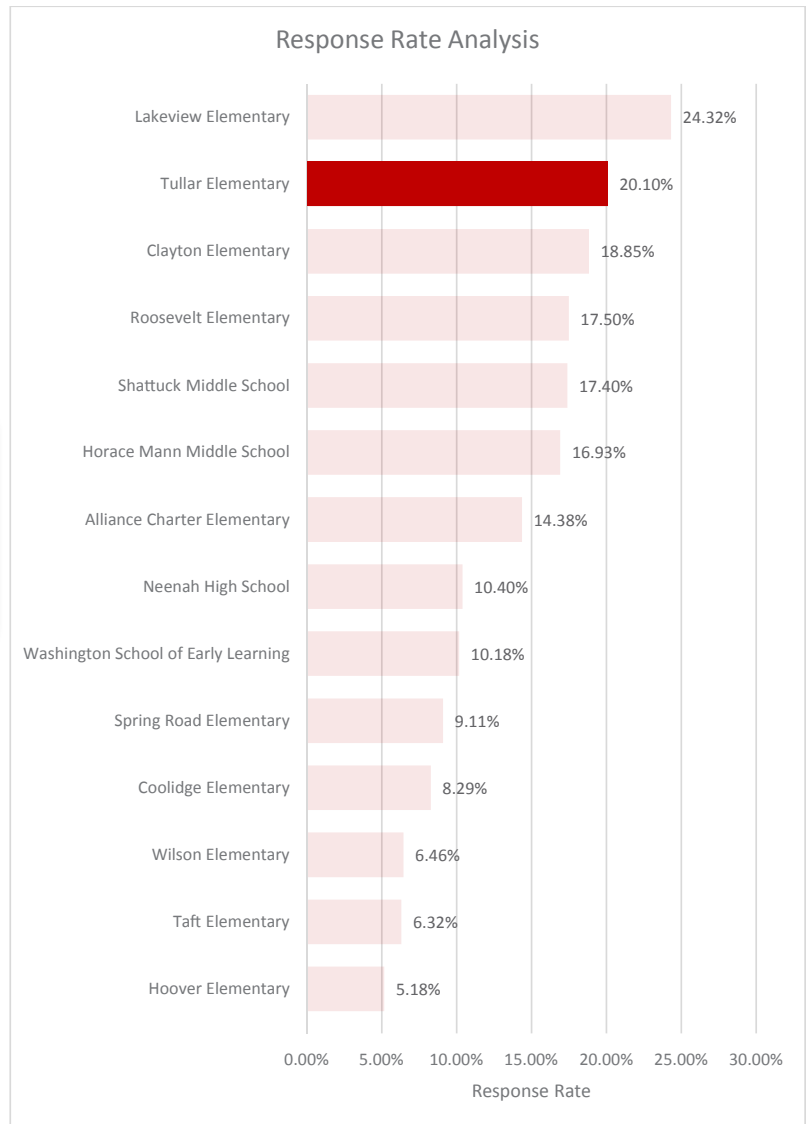
TULLAR ELEMENTARY: PARENT SURVEY FEEDBACK

In February 2017, the District sent out a survey via email to all parents of students within the District with the focus on identifying and prioritizing needs at each school. Parents were asked to respond to a series of questions, as well as provide open-ended comments if desired.

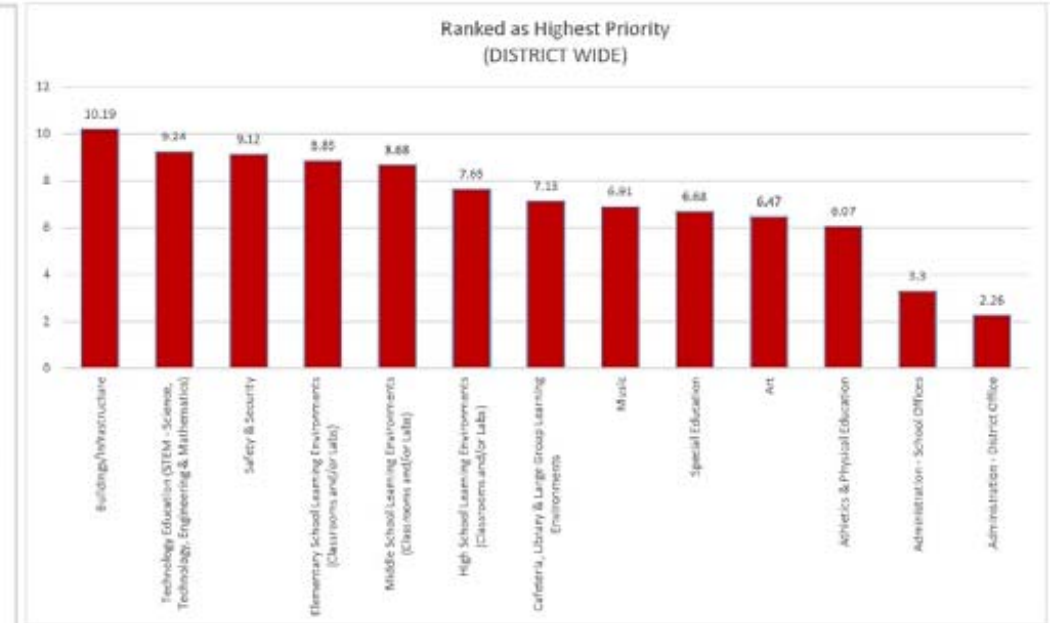
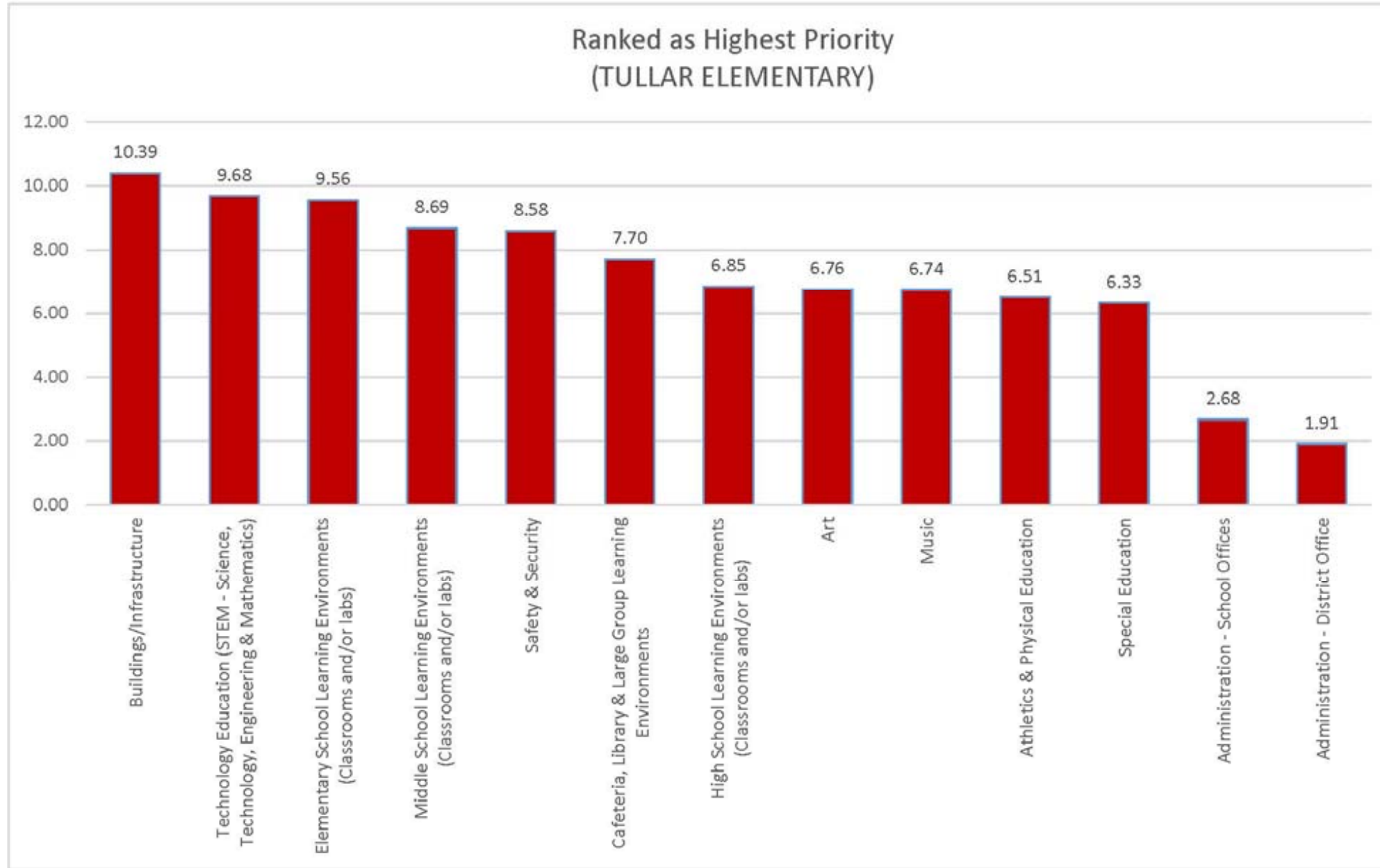
The following information reflects feedback and response rate for Tullar Elementary.

TOTAL PARENTS TO RECEIVE SURVEY: 403
 TOTAL NUMBER OF RESPONSES: 81
RESPONSE RATE: 20.10%

- ADDITIONAL NOTES**
- Tullar Elementary had the second highest response rate in the District
 - Tullar Elementary accounts for 14.14% of all parent survey feedback



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TULLAR ELEMENTARY: SUMMARY OF STAFF SURVEY FEEDBACK

The following is a summary of potential improvements at Tullar Elementary. This is not intended to be a comprehensive list, but a summary of possible upgrades as identified by staff. The following information was obtained from staff survey responses and numerous meetings and listening sessions held by district leadership and Bray Architects with the objective of casting a broad net to try and gather as much feedback regarding needs as possible.

1. Academic & Educational Improvements:

CLASSROOMS

- Undersized; especially for working with small groups within the classroom
- Space/ability to collaborate between classrooms desired
- Lack of classrooms requires having to share classroom space between multiple teachers and results in loss of teacher prep time
- Consistent, upgraded technology within all classrooms desired
- Adequate whiteboard space desired; current Smartboard setup does not allow for adequate whiteboard space
- Additional storage/updated cabinets and shelving desired within the classroom for supplies, book storage, etc.
 - Current lack of classroom storage has resulted in storage being housed in the corridors
 - Existing shelving is undersized/too narrow
- Flexible/movable and updated furniture desired; seating area desired within the classroom
- Additional outlets and charging stations desired
- Additional bulletin boards desired

SCIENCE

- Adequate space for experiment based learning desired that accommodates necessary material and supply storage

CONFERENCE ROOMS & LARGE/SMALL GROUP

INSTRUCTION

- Dedicated rooms/space for small group instruction desired, located amongst classrooms
- Dedicated conference/meeting rooms desired for teacher/parent meetings and staff collaboration
- Dedicated computer lab desired
- Large group instruction/multi-purpose/commons space desired
 - Additional large group meeting space desired that can accommodate multiple classrooms
 - Additional gym space/adequate space to accommodate indoor recess and wellness
 - Stage desired
- Outdoor classroom/teaching space desired

CAFETERIA

- Undersized
- Separate, dedicated cafeteria room/space desired; currently the cafeteria also serves as teaching space for Art and Band
- More accessible location desired that allows for natural light; currently the cafeteria is in the basement
- Separation from classrooms; noise can be distracting

MUSIC

- Undersized
- Separate, dedicated classroom with ample space for Music desired; currently Band is taught in the cafeteria

ART

- Dedicated classroom desired that is adequately sized to accommodate both large class and group work
- Flexible/movable and updated furniture desired
 - Workable surfaces for student projects; individual desks are not preferred
- Adequate wall/bulletin space desired for displaying materials, posters, student work, etc.
- Adequate storage and drying racks for clay projects

SPECIAL ED.

- Undersized; currently (3) staff members and (16) students utilize (1) classroom
- Dedicated sensory and cool-down rooms/space desired
- Dedicated OT/PT room/space desired that allows for more/large equipment and activities
- Dedicated storage for large equipment desired
- Variety of flexible/movable furniture desired; larger chairs desired
- Larger portion walls/ability to partition Special Ed. rooms to allow for more privacy and improved sound separation between spaces
- FM system desired for Speech/Resource room
- Connection between Special Ed. and K/1 wing

INSTRUCTIONAL SUPPORT SPACES

- Dedicated room/office for Guidance desired
- Dedicated room/office for E.L.L. desired
- Additional Math and Reading Resource/support spaces desired, G.T. room

MAIN OFFICE

- Location near main entrance desired; safety concern of not having clear visibility and check-in of visitors
- Updated/new main office desired
- Dedicated health room/space for ill students desired

STAFF LOUNGE

- Undersized; larger space desired

STORAGE

- Additional coat room storage desired
- Lockers/updated, larger student storage desired

TULLAR ELEMENTARY: SUMMARY OF STAFF SURVEY FEEDBACK

GYMNASIUM

- Undersized

SUPPORT

- Dedicated work/support space for teachers, specialists, staff desired

2. Facility & Site Improvements:

TECHNOLOGY

- Updated PA system desired
 - Current system is difficult to hear, especially in the cafeteria
- FM Microphone system
- Additional copy machines and printers throughout the building
- Audio/video recording capabilities in some small group instruction areas desired
- Additional computer carts desired
- Additional lap-top/tablet technology for all students desired ("one to one")

BUILDING SYSTEMS

- Lighting
 - Updated, energy efficient lighting desired; current fluorescent fixtures are undesirable
- HVAC
 - Air conditioning desired
 - Air quality/filtration desired
- Plumbing
 - Existing drain pipe condensation/water leaks into one classroom

INFRASTRUCTURE

- Windows
 - New/updated window screens desired
 - Operable windows desired; current windows are difficult to open
 - Operable blinds desired; current blinds are difficult to operate
- Doors
 - New/replaced old or failing doors desired
- Finishes - Flooring, Ceiling, etc.
 - New ceiling tiles desired
 - Newly/brightly painted walls desired
 - Carpeting desired in classrooms or part of classrooms
 - Updated flooring throughout the building desired

SITE

- Larger, improved paved playground areas desired
- Safe, updated playground equipment desired
- Improved drainage and terrain, especially at the playground area, where there are many recessed areas where water collects during wet seasons

MISCELLANEOUS

- Additional tackable cork boards/strips/surfaces desired in the corridors to allow for additional display of student work
- Bathrooms
 - Hot water desired
 - Updated staff bathrooms desired
- Adequate/updated water fill stations and drinking fountains desired
- Improved security desired
- Improved handicap accessibility throughout the building desired
- Noise control/reduction
 - Replacement of operable partition walls between classrooms (4/5) with a permanent wall

TULLAR ELEMENTARY: SUMMARY OF STAFF INTERVIEW FEEDBACK

The following is a summary of potential improvements at Tullar Elementary. This is not intended to be a comprehensive list, but a summary of possible upgrades as identified by staff. The following information was obtained from staff interviews and numerous meetings and listening sessions held by district leadership and Bray Architects with the objective of casting a broad net to try and gather as much feedback regarding needs as possible.

1. Academic & Educational Improvements:

CLASSROOMS

- Dedicated storage desired
- Sinks with warm water desired
- Additional outlets with adequate power supply desired
- Tackable wall space desired
- Flexible/movable furniture/seating desired
- Smartboards/whiteboards desired over chalkboards
- Kindergarten rooms are undersized
- Additional storage in Kindergarten spaces desired
- Dedicated locker/cubby area

CONFERENCE ROOMS & LARGE/SMALL GROUP INSTRUCTION

- Dedicated rooms/space for small group instruction desired, located amongst classrooms
- Dedicated conference/meeting rooms desired for teacher/parent meetings and staff collaboration
- Large group instruction/multi-purpose/commons space desired
 - Additional large group meeting space desired that can accommodate multiple classrooms
 - Additional gym space/adequate space to accommodate indoor recess and wellness

CAFETERIA

- Undersized
- Separate, dedicated cafeteria room/space desired; currently the cafeteria also serves as teaching space for Art and Band
- More accessible location desired that allows for natural light; currently the cafeteria is in the basement
- Separation from classrooms; noise can be distracting

HEALTH ROOM

- Dedicated space with sink, fridge, and locked cabinets
- Dedicated restroom desired
- Privacy desired for students who are ill or have special needs

GYMNASIUM

- Undersized
- Dedicated gymnasium only space desired

SUPPORT

- Dedicated work/support space for teachers, specialists, staff desired

MUSIC

- Undersized
- Separate, dedicated classroom with ample space for Music desired; currently Band is taught in the cafeteria

ART

- Dedicated classroom with kiln desired that is adequately sized to accommodate both large class and group work
- Adequate storage for art materials, and student work

SPECIAL ED.

- Undersized; currently (3) staff members and (16) students utilize (1) classroom
- Dedicated sensory and cool-down rooms/space desired
- Dedicated OT/PT room/space desired that allows for more/large equipment and activities
- Carpeting desired
- Additional classrooms desired

INSTRUCTIONAL SUPPORT SPACES

- Dedicated room/office for Guidance desired
- Dedicated room/office for E.L.L. desired
- Additional Math and Reading Resource/support spaces desired, G.T. room

MAIN OFFICE

- Location near main entrance desired; safety concern of not having clear visibility and check-in of visitors
- Better security for main entrance
- Dedicated health room/space for ill students desired
- Larger main office space desired

STAFF LOUNGE

- Undersized; larger space desired
- Additional copy/print spaces
- Dedicated separate teacher work and break rooms

STORAGE

- Additional coat room storage desired
- Lockers/updated, larger student storage desired

LIBRARY/COMPUTER LAB

- Undersized; larger space desired
- Green screen space desired
- Flexible seating/furniture desired
- Computer lab adjacent

2. Facility & Site Improvements:

TECHNOLOGY

- Updated PA system desired
- Additional lap-top/tablet technology for all students desired (“one to one”)

BUILDING SYSTEMS

- Lighting
 - Updated, energy efficient lighting desired; current fluorescent fixtures are undesirable
- HVAC
 - Air conditioning desired
 - Air quality/filtration desired

INFRASTRUCTURE

- Windows
 - New/updated window screens desired
 - Operable windows desired; current windows are difficult to open
 - Operable blinds desired; current blinds are difficult to operate
- Doors
 - New/replaced old or failing doors desired

SITE

- Larger, improved paved playground areas desired
- Safe, updated playground equipment desired
- Improved drainage and terrain, especially at the playground area, where there are many recessed areas where water collects during wet seasons
- Improved pick-up/drop-off sequence

MISCELLANEOUS

- Additional tackable cork boards/strips/surfaces desired in the corridors to allow for additional display of student work
- Bathrooms
 - Hot water desired
 - Additional/updated staff bathrooms desired
- Adequate/updated water fill stations and drinking fountains desired
- Improved security desired
- Improved handicap accessibility throughout the building desired
- Drinking fountains with bottle fillers desired

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TULLAR ELEMENTARY: NEEDS ASSESSMENT

The following is a summary of potential improvements at Tullar Elementary. This is not intended to be a comprehensive list. The following information was obtained through notations made by Bray Architects at extensive tours of the building and grounds, as well as needs identified by school maintenance personnel.

1. Interior Infrastructure/Maintenance:

WALLS

- a. Some walls are cracking and have paint peeling, but staff reported there are no known current concerns

WINDOWS

- b. Glazing panels within the transom windows between corridor and classroom have been removed in the South classroom wing; staff reported that this was done in an effort to assist with air circulation and smell remediation, but resulted in creating little control for noise transfer between classrooms and the corridor

CEILING

- c. Pipe coming in from the ceiling in one Kindergarten classroom was reported by staff to often condensate and leak water into the classroom; staff believes this may be due to improper insulation at the roof drain connected to this pipe
- d. There are multiple areas of ceiling tile which appear to have been patched/filled in at one point in time; staff indicated these might be areas where skylights were removed/enclosed

FLOORING

- e. Much of the flooring throughout the building is dated, worn, stained, and is cracking. Tile flooring in the North and East corridors show excessive wear and cracking/heaving
- f. Vinyl base is dated, worn and peeling off in some instances

MISCELLANEOUS

- g. Old Locker Rooms are now used for storage and small group instruction space; however, these rooms lack any HVAC or climate control

2. Building Envelope:

WALLS

- a. Some brick is cracking/crumbling and chipped
- b. Some areas of exterior wall are stained, possibly due to water damage and especially at the areas of brick near the base of the building
- c. There are instances where water pools at the foundation wall, and the foundation wall is corroding/chipping away at these areas; staff indicated there are no known concerns with water leaking into the building at these areas

WINDOWS

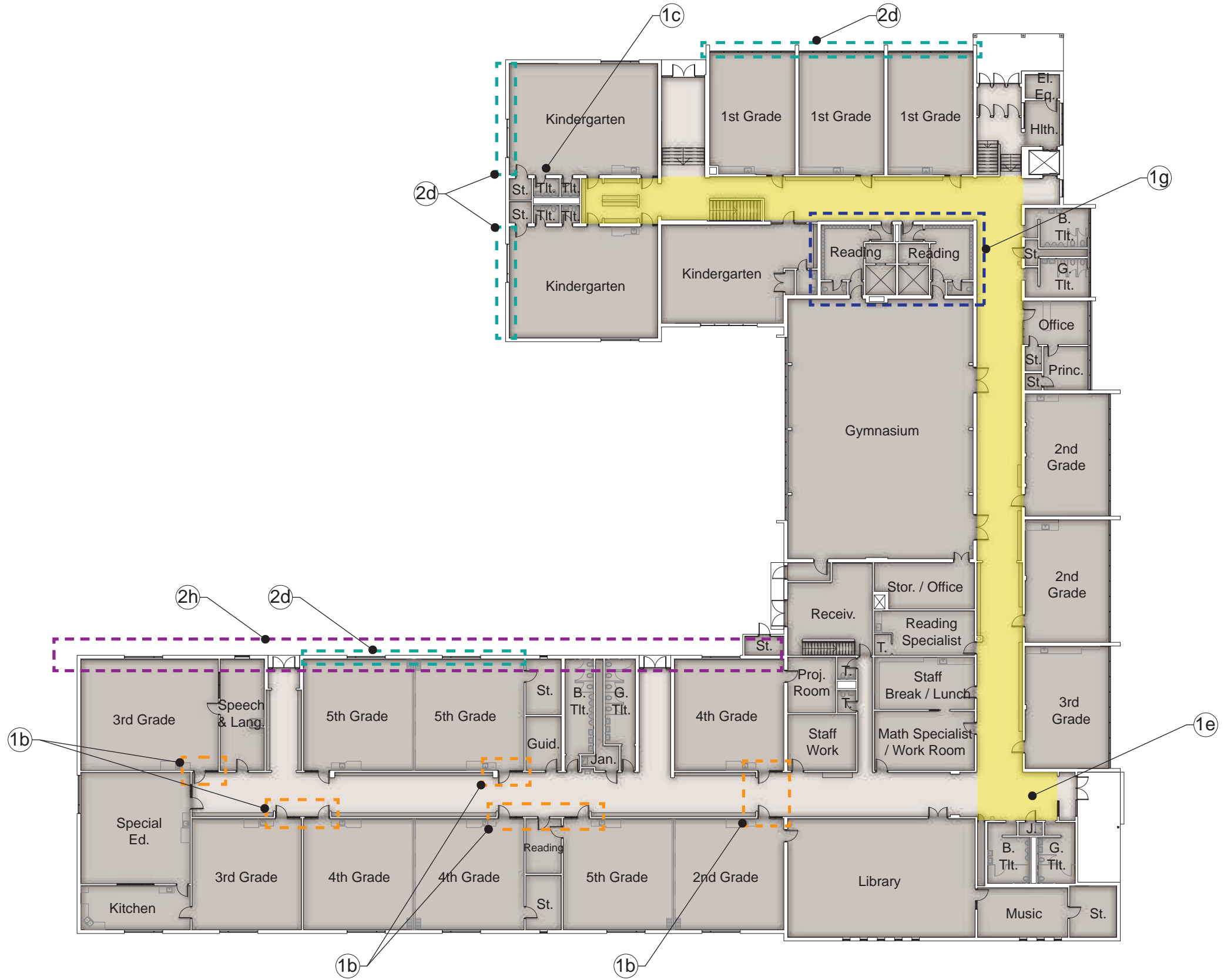
- d. Windows at the Kindergarten classrooms and classrooms along the North side of the building were indicated by staff as drafty and often leaking water and/or having condensation present at the glazing
- e. Many window screens are damaged/dented

DOORS

- f. All doors except the main entrance doors are original to the building, are damaged/dented, have large gaps in the frames, and were reported by staff to often leak water and have trouble opening/closing
- g. Main (front) entrance doors were replaced decades ago as reported by staff, but are dated, damaged, and were reported by staff to be drafty and leak water

ROOFS

- h. Gutter downspouts appear to have been removed along the North wall of the South classroom wing, allowing water to drain to grade uncontrollably at these locations and resulting in large areas where water pools and ices over in winter
- i. Undersides of roof overhangs are worn, rotting, and stained, possibly due to water damage
- j. Roof fascia is worn and damaged/dented, especially at the corner conditions



FIRST FLOOR PLAN
not to scale

TULLAR ELEMENTARY: BUILDING SYSTEMS SUMMARY

The following is summary of Plumbing, HVAC and Electrical needs. This is not intended to be a comprehensive list, but a summary of existing building system needs and possible recommendations as identified by the engineering team. Full engineers' reports are located later in this document.

Plumbing:

- Water is supplied by a 2" water service which connects to the Municipal water system; new additions or major renovation would require a new larger water service.
- Water distribution piping is mostly copper tube and fittings with some galvanized pipe and fittings in the original building, and piping in the original building, 1953 addition and 1957 addition is at the end of its life expectancy; replacement of existing pipe and fittings with new type "L" copper tube and fittings is recommended.
- There is no sprinkler system; if a complete fire sprinkler system is desired, a new 6" water service is required.
- Sanitary waste flows by gravity out of the building and connects to the Municipal sanitary sewer system, and sanitary waste and vent piping appear to be in good condition with no reported challenges. Sanitary sewer systems in the original building, 1954 addition and 1957 addition are nearing the end of their life expectancy; inspection of the existing sewer located below the floor is recommended; replacement pending outcome of scope.
- Prep kitchen has a 2-compartment pot sink with floor mounted grease interceptor, (2) additional sinks with a grease interceptor under the sink, no disposal, and a commercial dishwasher; all appear to be in good condition with no reported challenges.
- Roof water is collected by a mix of internal roof drains and conductors and gutter and downspout which connect to the Municipal storm sewer system.
- There are multiple clearwater sump pumps in fair to good condition, some of which have been replaced with new pumps; monitor and repair/replace as necessary.
- Storm sewer systems in the original building, 1954 addition, and 1957 addition are nearing the end of their life expectancy, and inspection of the existing sewer located below the floor is recommended; replacement pending outcome of scope.
- The domestic hot water system providing hot water to the building was installed in 2014, is 80% efficient, and in good condition.
- Domestic water is not softened.

- Plumbing fixtures are a combination of various styles and ages, with most of the fixtures original to the building age they were installed. Water closets and urinals should be replaced with new water conserving and ADA compliant fixtures, and lavatories and associated floor operators should be removed and replaced with new water conserving and ADA compliant fixtures. Drinking fountains should be replaced with new ADA compliant fixtures with a bottle filler, and faucets on classroom sinks should be replaced with new ADA compliant faucets. Showers and associated piping should be removed and wall finishes repaired, as they are reportedly not active.

HVAC:

- Boiler plant was installed in 2010, is in good condition, has some reserve capacity, and has two Smith cast iron boilers that are fired with natural gas. A hot water circuit with base mounted pump serves the two wings of the building, while a steam circuit and heat exchanger serve the remainder of the building; while the age of the heat exchanger and hot water pumps are unknown, they appear to be in fair condition and seem to have exceeded their estimated life expectancy. Continue preventative maintenance on the system; any future additions or construction may require the addition of boiler capacity to serve the additional spaces. Plan for the eventual replacement of the aging heat exchanger and hot water pumps.
- Unit ventilators in the gymnasium and most of the classrooms are original to the building and have exceeded their estimated life expectancy, while the units in the cafeteria and three eastern classrooms are approximately 5 years old; plan for the eventual replacement of the aging unit ventilators.
- Constant volume air handling unit serving the AV office, LD room and staff lounge was installed in 1960 and has exceeded its estimated life expectancy of 30 years; plan for its eventual replacement.
- Plan for the installation of a ventilation system for the offices, as they currently are heated by fin pipe radiation but do not have fan powered fresh air, and current WI code does not allow fresh air via operable windows.
- With any renovation, plan to replace the door transfer grille relief system with a code approved system, as door transfer grilles are currently used to transfer relief air from the offices to the corridor, and current building code does not allow transfer air into a path of egress.

TULLAR ELEMENTARY: BUILDING SYSTEMS SUMMARY

- The building has a mixture of pneumatic and digital temperature controls. The pneumatic control system has limitations that result in comfort complaints and requires frequent calibration to maintain accuracy; continue to maintain and operate the system as long as the current mechanical equipment remains. When renovations to the existing equipment are made, a changeover to digital controls is strongly recommended.

Electrical:

- Main electric service has been recently replaced, is in good working condition, and has capacity for 1 additional breaker; exercising of circuit breakers and performing thermal imaging analysis for predictive maintenance purposes is recommended. Provide surge suppression, as none exists.
- Panelboards vary in age, with some nearing the end of their useful lifespan, and some having been replaced or added during the most recent service upgrade and are in good condition; vintage circuit breaker panelboards should be scheduled for replacement within the next 5-8 years.
- Utility service consists of pole mounted transformers with an overhead electrical service.
- Provide a new emergency generator system if desired, as there is no emergency backup power available in the building.
- Ensure proper working clearances are maintained in front of all panelboards at all times by using safety tape to physically indicate clearances on floor/wall around panelboards.
- Much of interior lighting throughout the building consists of a variety of T8 fluorescent or incandescent light fixtures that range in age and are in good condition, while the gymnasium has high bay metal halide fixtures; replace fixtures with LED equivalents and provide dimming controls and occupancy sensors to maximize on energy savings.
- General lighting controls in rooms consist of toggle switches with no occupancy sensors or dual level lighting, most classrooms utilize split area zones, and corridors have toggle switches with no occupancy sensors. Provide corridors with occupancy sensors and remove light switches.
- If new LED lighting is provided, emergency lighting should be provisioned through back up batteries to normal light fixtures through egress paths and rooms with an occupant load greater than 50 people. An alternative option would be to provide a new emergency generator system.
- Replace existing 15A rated receptacles with 20A rated type and provide additional receptacles throughout working spaces as necessary, as there is currently a general lack of receptacles throughout the building. **Replace existing receptacles within 6'-0" of plumbing fixtures with GFI protected type.**
- Shoretel IP based phone system is in good working condition; no recommendations.
- Data service is provided via fiber optic utility service, is in good working condition, and fiber optic wiring interconnects all schools to the main district network. While it is unknown if the facility has ceiling plenums, riser rated data cabling should be replaced with plenum rated cabling if there are plenums in the ceiling.
- Data cabling consists of a variety of Cat5e and Cat6 cabling, in plenum and riser rated varieties, and the 1 data rack has spare rack capacity for future needs. Data cabling at the data rack should be reinstalled in a clean workmanlike manner with proper labeling.
- Provide a UPS battery backup system to provide battery backup power to the data rack, as there are no provisions for backup power.
- Keyless entry system is in good working condition; access controlled doors are controlled via electric strikes and card readers, and none of the exterior doors have door position contacts. Provide door monitor contacts on all exterior doors to help monitor and control access to the facility.
- Dukane intercom system is nearing the end of its useful lifespan and does not have the capacity to cover the entire school, intercom speakers are nearing the end of their useful lifespan, and staff reported faulty call-in switches getting stuck in the "call" position. Bell schedule system is controlled via timeclock and has no reported issues. Schedule the existing intercom system for full replacement with a new IP-based intercom system, schedule speakers for replacement, and provide additional speakers in areas lacking coverage.
- CCTV system has 2 cameras, seems to be in good working condition, and the District plans to add about 12 more cameras to the system in the future; provide new cameras where additional coverage is necessary.
- Vintage fire alarm system is nearing the end of its useful lifespan, is not monitored, and is lacking in notification coverage by today's standards; provide additional fire alarm notification devices in areas where coverage is lacking.

Electrical (cont.):

- Add a security system to control and monitor access to the facility, as none exists.
- Replace existing clocks with a synchronized clock system such as a GPS wireless clock system.
- Building has a monitoring system to ensure boilers in the facility are operational.

TULLAR ELEMENTARY: SITE SUMMARY

The following is a summary of potential improvements at Tullar Elementary. This is not intended to be a comprehensive list, but a summary of possible upgrades as identified by Bray Architects and the engineering team. The following information was obtained through notations made by architects and engineers at extensive tours of the building and grounds, as well as needs identified by maintenance personnel.

4. Site Improvements:

AREA 1 - STAFF PARKING, NORTH OF SCHOOL

- Distresses Present:
 - Fatigue cracking due to base failure
 - Surface weathering
 - Depressions due to base settling
 - Patch failure
- Recommended Repair:
 - Remove existing pavement and 12 inches of base and/or subgrade
 - Place 12 inches of base aggregate dense
 - Tie downspouts into storm sewer
 - Pave 3 inches of asphaltic pavement
 - Paint all pavement markings for a parking lot

AREA 2 - STUDENT DROP-OFF; STAFF/VISITOR PARKING

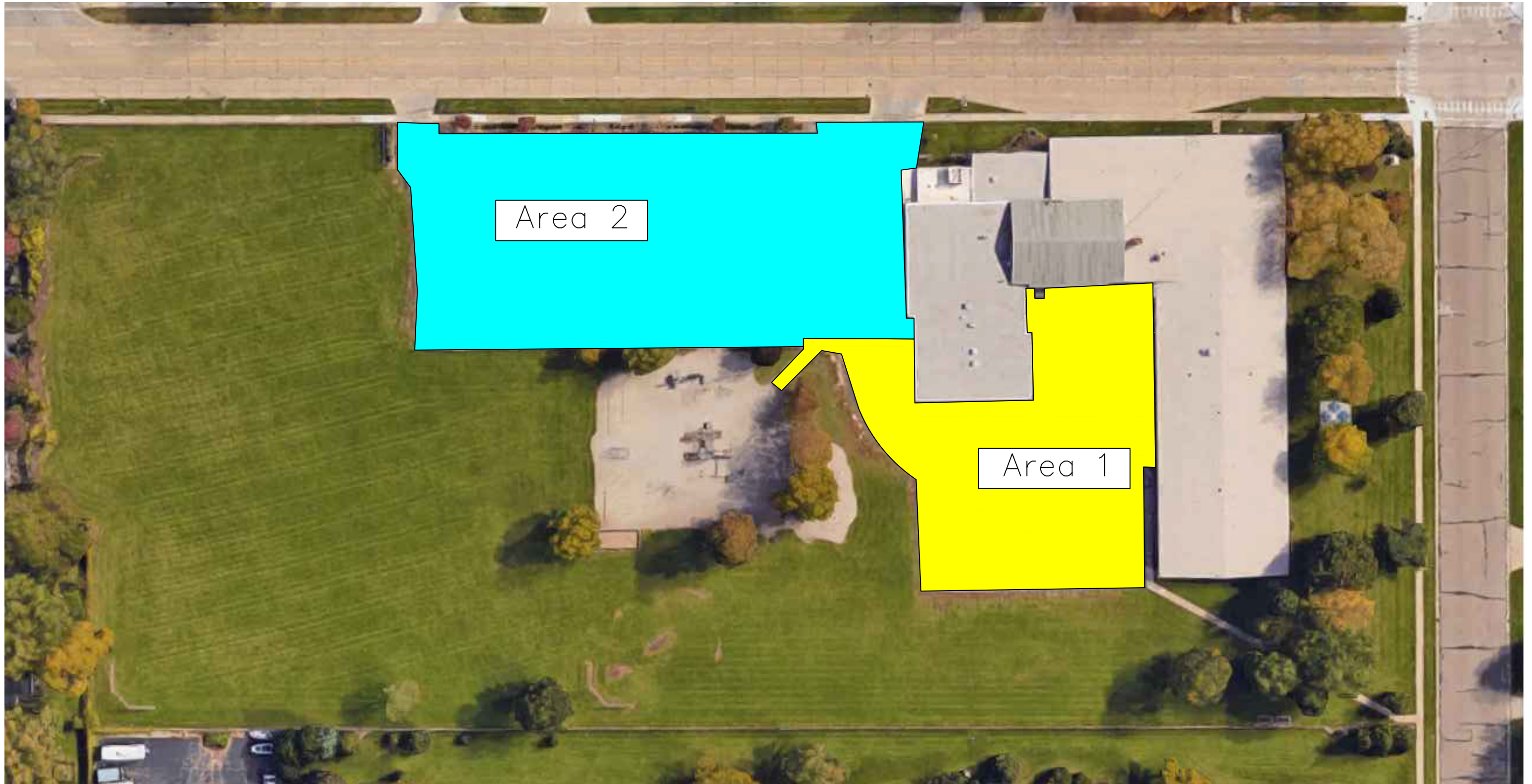
- Distresses Present:
 - Block cracking
 - Surface weathering
 - Depressions due to base settling
- Recommended Repair:
 - Remove existing pavement and 12 inches of base and/or subgrade
 - Place 12 inches of base aggregate dense
 - Pave 4 inches of asphaltic pavement
 - Paint all pavement markings for a parking lot

SITE CONCRETE

- Distresses Present:
 - Spalling at edges of sidewalk in areas
 - Large cracks in sidewalk that poses a tripping hazard
 - Rebar is showing on the stairs at the Southwest Entrance on Tullar Road
- Recommended Repair:
 - Remove and replace the areas of sidewalk that have spalling or cracked
 - Remove and replace stairs

ADDITIONAL NOTES

- Playground equipment is dated and breaks often, as indicated by staff; staff reported the existing swing-set is to be removed, and new equipment with a poured-in-place playground surface may be installed
- Basketball hoops are dated and rusted
- There is no dumpster enclosure



SITE PLAN
not to scale

TULLAR ELEMENTARY: ADA ACCESSIBILITY ASSESSMENT

The following is an analysis of Tullar Elementary in regards to meeting building code requirements under the Americans with Disability Act (ADA) and regulated by the American National Standard (ANSI) Accessible and Usable Buildings and Facilities. This is not intended to be a comprehensive list, but an analysis as identified by Bray Architects and engineers gathered through extensive tours and assessment of the existing building facility.

1. Building Entrance:

There is at least (1) accessible route of travel. Entry at grade level or ramps with slope no greater than 1:12, and has 5'-0" long landings every 30'-0".

1a. This criteria does not apply to this level.

2. ADA Parking:

Designated/marked ADA stalls are located near the entrance of the building and have 5'-0" access aisles between stalls (502.4.1; 502.4.2).

2a. This criteria does not apply to this level.

3. Ramps & Lifts:

There is at least (1) accessible route to each floor level. Changes in level greater than 1/2" in height shall be ramped (303); ramps have a slope no greater than 1:12 and have 5'-0" long landings every 30'-0" (405.2).

3a. There is at least one accessible route to this level that meets the above criteria.

4. Railings:

Handrails shall be provided on both sides of stairs and ramps, except for aisle stairs and ramps, which may be provided with a handrail either at the side or within the aisle width (505.2). Ramp runs with a rise greater than 6 inches shall have handrails (405.8).

Ramp handrails shall extend horizontally above the landing 12 inches minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or floor, or shall be continuous to the handrail of an adjacent ramp run.

Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs, except for handrails in aisles serving seating (505.3).

At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches minimum beginning directly above the nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.2).

At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the bottom tread nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.3).

4a. There are handrails that do not meet the above criteria for accessibility standards.

5. Maneuvering, Thresholds, & Push/Pull:

On the pull side, a minimum clearance of 18" is required parallel to the doorway. On the push side, a minimum of 12" is required parallel to the doorway (404.2.3.1). Distance between two hinged or pivoted doors in series shall be 48" minimum plus the width of any door swinging into the space (404.2.5). Doors have a minimum 32" wide clearance. Maneuvering clearances on either side of the door are a minimum of 60" from the pull side and 48" from the push side.

Thresholds at doorways shall be maximum 1/2" high otherwise a ramp is required (303.2; 303.3).

5a. There are areas where the requirements for push/pull meets the above criteria for accessibility standards.

5b. There are areas where the requirements for maneuvering meets the above criteria for accessibility standards.

5c. There are areas where the requirements for thresholds meets the above criteria for accessibility standards.

6. Door Hardware & Panic Hardware:

Doors have open, lever-styled hardware (no round/knob hardware) (404.2.6). Egress doors have panic hardware.

6a. There are doors that do not meet the above criteria for accessibility standards

7. Restrooms:

Public restrooms have at least 5'-0" clearance space for a wheelchair to turn around, at least (1) ADA accessible stall (sized 60" min. depth x 56" min. width, for wall-mounted stalls, and 59" min. depth for floor-mounted stalls) with 5'-0" clearance (604.3.1), and at least (1) sink at a 34" maximum height (606.3). The compartment door clearance between the door side of the compartment and any obstruction shall be 42" minimum. Compartment doors shall not swing into the required minimum area of the compartment (604.9.3)

There is at least (1) unisex restroom per floor level, and unisex restrooms have at least 5'-0" clearance space for a wheelchair to turn around, as well as a sink/counter-top height at a maximum of 34".

Mirrors located above the sink or counter shall have the bottom edge at a maximum height of 40" above the floor. Mirrors not located above a sink or counter shall have a bottom edge at a maximum height of 35" above the floor (603.3).

Fixed stall grab bars shall be 42" minimum in length located 12" maximum from the rear wall. Vertical fixed grab bars shall be 18" minimum in length, the bottom edge of the bar shall be 39" to 41" above the floor, and 39" to 41" from the rear wall (604.5.1). Rear fixed grab bars shall be 36" minimum in length and extend 12" from the centerline of the toilet. Rear grab bars shall be 24" minimum in length centered from where wall space doesn't permit 36" grab bar (604.5.2).

Bottom edge of urinals shall be 17" maximum above the floor (604.10.4).

ADA showers shall be 36" by 36" minimum with an entry of 36" by 48" minimum. A 36" minimum depth shall be provided adjacent to the open face of the compartment (608.2.1). A roll in shower shall be 60" x 30" minimum with a 60" minimum opening adjacent to the stall (608.2.2). A seat shall be 24" minimum to 36" maximum in length shall be provided at the entry side of the compartment (608.2.3).

Horizontal shower grab bars shall be provided across the control wall and on the back wall to a point 18" from the control wall (608.3.1.1). Vertical shower grab bars shall be 18" minimum in length on the control wall and 3" minimum to 6" maximum above the horizontal grab bar and 4" maximum inward from the front edge of the shower (608.3.1.2).

7a. There are restrooms that do not meet the above criteria for accessibility standards.

8. Drinking Fountains & Protruding Objects:

At least (1) fountain has a clear foot space of at least 30" x 48" in front and has a spout height at a maximum of 36" off the ground. Children's fountain spout shall be 30" maximum above the floor. Wheelchair fountain spout shall be 36" maximum and standing 38" to 43" above the floor (602.4).

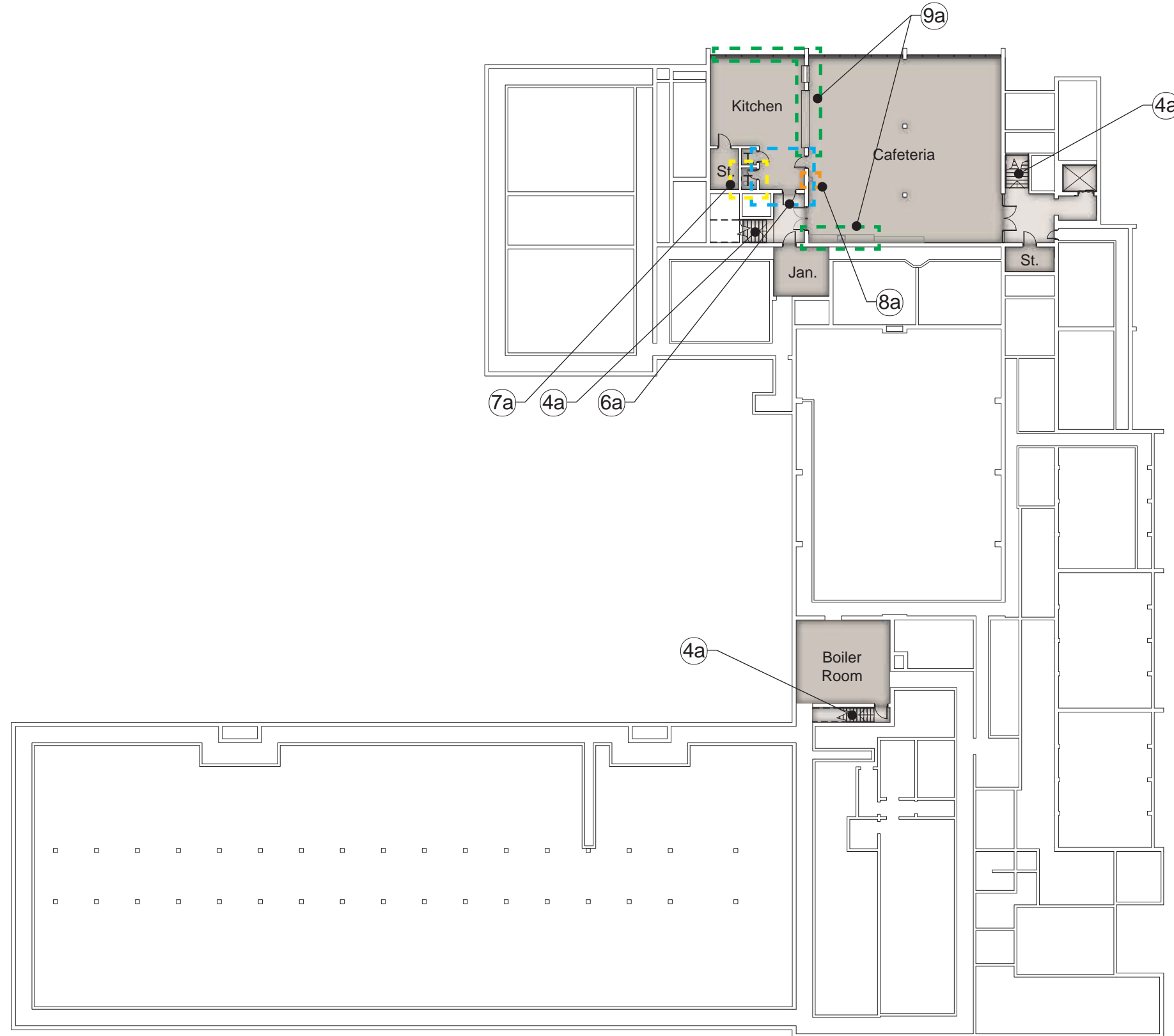
Objects more than 27" and not more than 80" above the floor shall protrude 4" maximum into the circulation path (307.2). Objects shall not reduce clear width required for accessible routes (307.5). Guardrails or other barriers shall be provided where object protrusion is beyond the limits allowed, and where the vertical clearance is less than 80 inches above the floor. The leading edge of such guardrail or barrier shall be 27 inches maximum above the floor (307.4).

8a. Drinking fountains do not meet the above criteria for meeting accessibility standards.

9. Casework, Transaction Counters, & Counters with Sinks:

Counter-tops have a maximum 34" height, and transaction counters have an accessible portion that is at a maximum 34" height for wheelchair accessibility (606.3). Counters and work surfaces for children's use shall be 26" minimum and 30" maximum above the floor (902.4.2).

9a. There are counter-tops that do not meet the above criteria for meeting accessibility standards.



LOWER FLOOR PLAN
not to scale

TULLAR ELEMENTARY: ADA ACCESSIBILITY ASSESSMENT

The following is an analysis of Tullar Elementary in regards to meeting building code requirements under the Americans with Disability Act (ADA) and regulated by the American National Standard (ANSI) Accessible and Usable Buildings and Facilities. This is not intended to be a comprehensive list, but an analysis as identified by Bray Architects and engineers gathered through extensive tours and assessment of the existing building facility.

1. Building Entrance:

There is at least (1) accessible route of travel. Entry at grade level or ramps with slope no greater than 1:12, and has 5'-0" long landings every 30'-0".

1a. The building has multiple accessible entrances at this level that meet the above criteria.

2. ADA Parking:

Designated/marked ADA stalls are located near the entrance of the building and have 5'-0" access aisles between stalls (502.4.1; 502.4.2).

2a. The site contains marked ADA stalls located near the nearest accessible entrance.

3. Ramps & Lifts:

There is at least (1) accessible route to each floor level. Changes in level greater than 1/2" in height shall be ramped (303); ramps have a slope no greater than 1:12 and have 5'-0" long landings every 30'-0" (405.2).

3a. There are areas of limited accessibility where the building does not meet the criteria for accessibility standards.

4. Railings:

Handrails shall be provided on both sides of stairs and ramps, except for aisle stairs and ramps, which may be provided with a handrail either at the side or within the aisle width (505.2). Ramp runs with a rise greater than 6 inches shall have handrails (405.8).

Ramp handrails shall extend horizontally above the landing 12 inches minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or floor, or shall be continuous to the handrail of an adjacent ramp run.

Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs, except for handrails in aisles serving seating (505.3).

At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches minimum beginning directly above the nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.2).

At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the bottom tread nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.3).

4a. There are handrails that do not meet the above criteria for accessibility standards.

5. Maneuvering, Thresholds, & Push/Pull:

On the pull side, a minimum clearance of 18" is required parallel to the doorway. On the push side, a minimum of 12" is required parallel to the doorway (404.2.3.1). Distance between two hinged or pivoted doors in series shall be 48" minimum plus the width of any door swinging into the space (404.2.5). Doors have a minimum 32" wide clearance. Maneuvering clearances on either side of the door are a minimum of 60" from the pull side and 48" from the push side.

Thresholds at doorways shall be maximum 1/2" high otherwise a ramp is required (303.2; 303.3).

5a. There are areas where the requirements for push/pull do not meet the above criteria for accessibility standards.

5b. There are areas where the requirements for maneuvering meets the above criteria for accessibility standards.

5c. There are areas where the requirements for thresholds do not meet the above criteria for accessibility standards.

6. Door Hardware & Panic Hardware:

Doors have open, lever-styled hardware (no round/knob hardware) (404.2.6). Egress doors have panic hardware.

6a. There are doors that do not meet the above criteria for accessibility standards

7. Restrooms:

Public restrooms have at least 5'-0" clearance space for a wheelchair to turn around, at least (1) ADA accessible stall (sized 60" min. depth x 56" min. width, for wall-mounted stalls, and 59" min. depth for floor-mounted stalls) with 5'-0" clearance (604.3.1), and at least (1) sink at a 34" maximum height (606.3). The compartment door clearance between the door side of the compartment and any obstruction shall be 42" minimum. Compartment doors shall not swing into the required minimum area of the compartment (604.9.3)

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7a. There are restrooms that do not meet the above criteria for accessibility standards.

8. Drinking Fountains & Protruding Objects:

At least (1) fountain has a clear foot space of at least 30" x 48" in front and has a spout height at a maximum of 36" off the ground. Children's fountain spout shall be 30" maximum above the floor. Wheelchair fountain spout shall be 36" maximum and standing 38" to 43" above the floor (602.4).

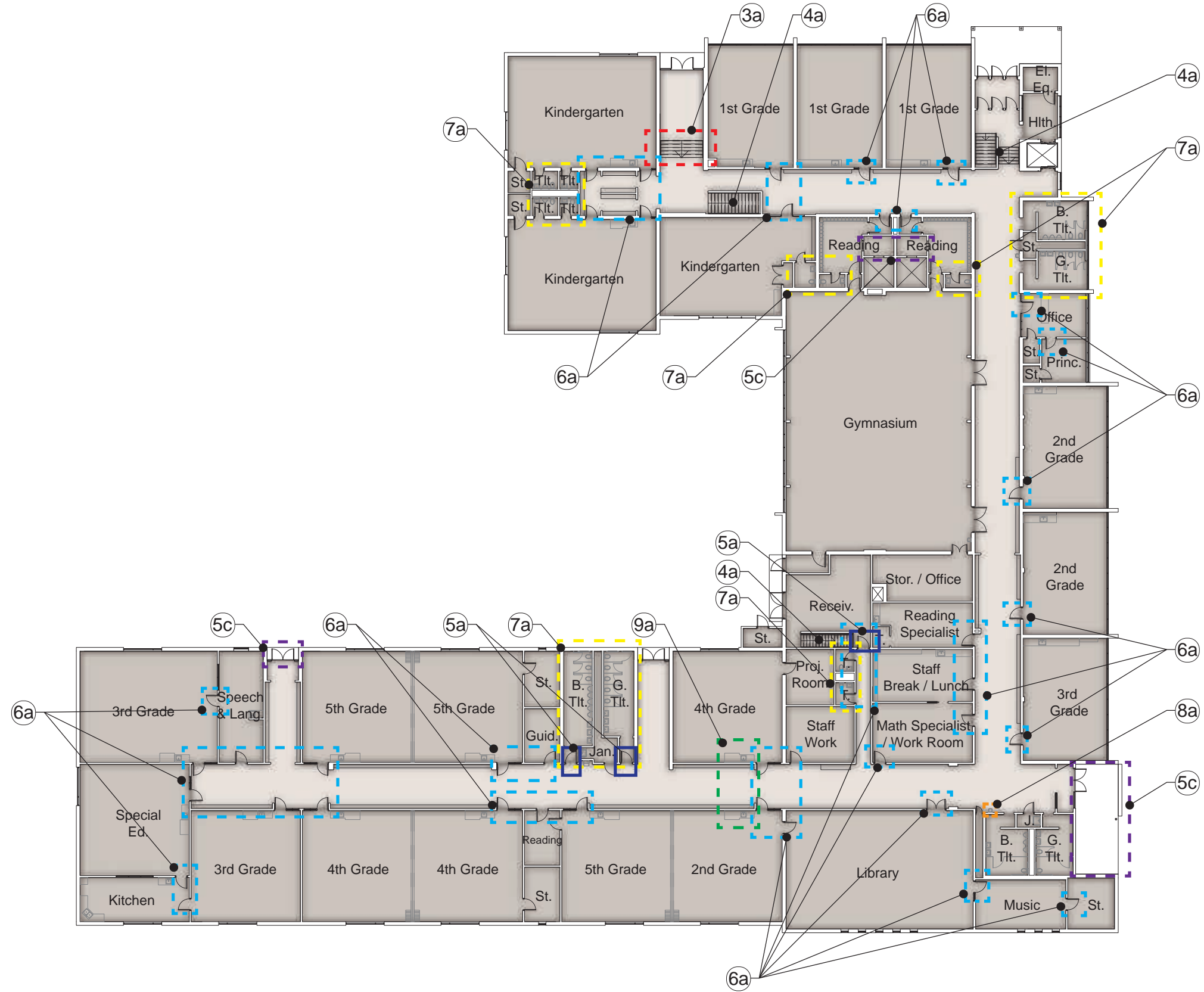
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9a. There are counter-tops that do not meet the above criteria for meeting accessibility standards.

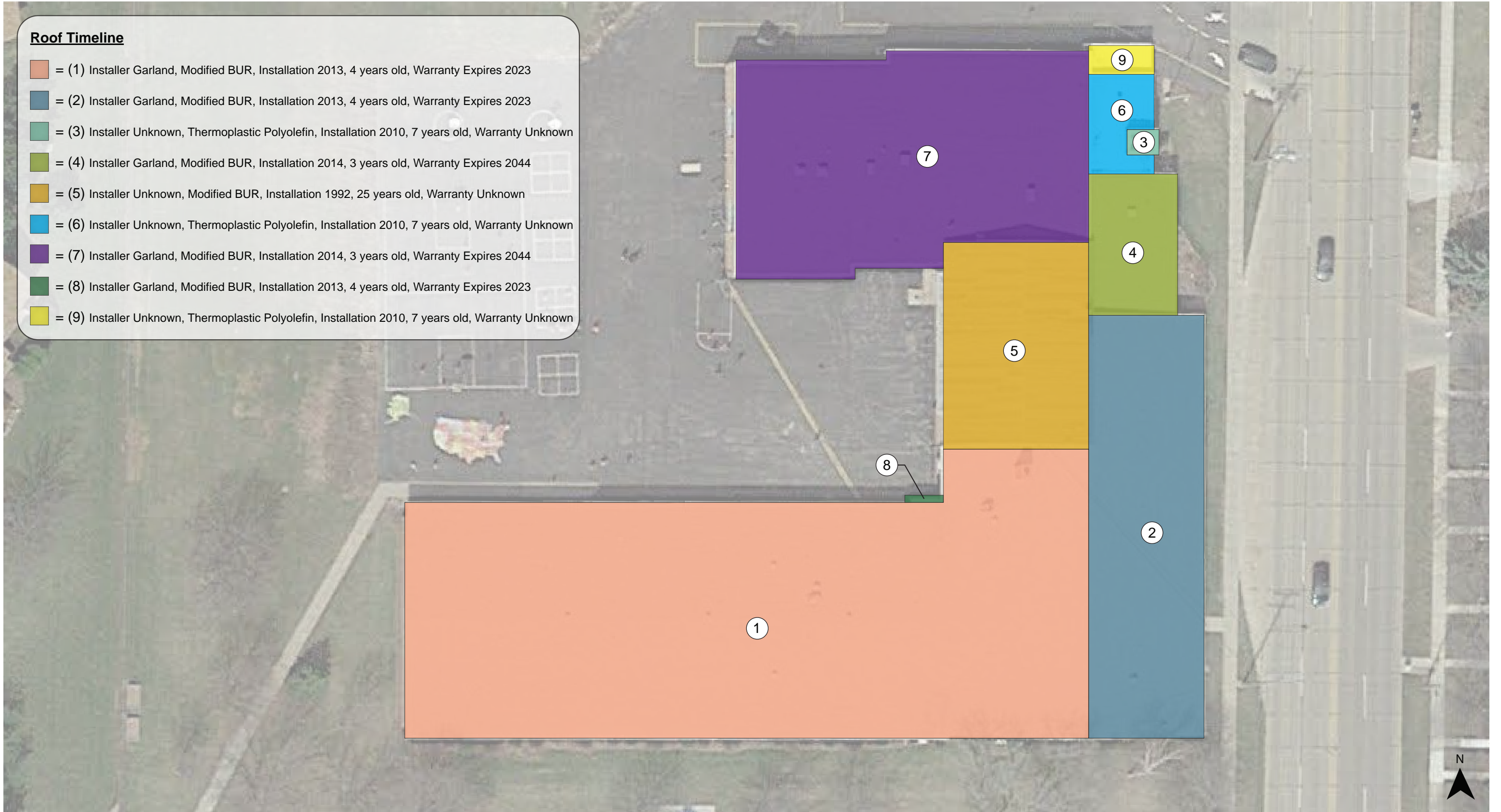


FIRST FLOOR PLAN
not to scale

TULLAR ELEMENTARY: ROOF PLAN

Roof Timeline

- = (1) Installer Garland, Modified BUR, Installation 2013, 4 years old, Warranty Expires 2023
- = (2) Installer Garland, Modified BUR, Installation 2013, 4 years old, Warranty Expires 2023
- = (3) Installer Unknown, Thermoplastic Polyolefin, Installation 2010, 7 years old, Warranty Unknown
- = (4) Installer Garland, Modified BUR, Installation 2014, 3 years old, Warranty Expires 2044
- = (5) Installer Unknown, Modified BUR, Installation 1992, 25 years old, Warranty Unknown
- = (6) Installer Unknown, Thermoplastic Polyolefin, Installation 2010, 7 years old, Warranty Unknown
- = (7) Installer Garland, Modified BUR, Installation 2014, 3 years old, Warranty Expires 2044
- = (8) Installer Garland, Modified BUR, Installation 2013, 4 years old, Warranty Expires 2023
- = (9) Installer Unknown, Thermoplastic Polyolefin, Installation 2010, 7 years old, Warranty Unknown



ROOF PLAN
not to scale

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TULLAR ELEMENTARY: EXTERIOR DOOR ANALYSIS

No.	Door Type	Frame Type
1	Hollow Metal	Hollow Metal
3	Wood	Wood
4	Aluminum	Aluminum Storefront
5	Aluminum	Aluminum Storefront
5A	Hollow Metal	Hollow Metal
6	Hollow Metal	Hollow Metal
7	Hollow Metal	Hollow Metal
8	Aluminum	Aluminum Storefront



① HOLLOW METAL DOORS & HOLLOW METAL FRAME; STAFF INDICATED CONCERN



③ WOOD DOORS & WOOD FRAME



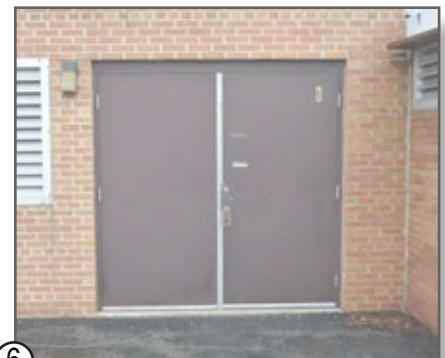
④ ALUMINUM DOORS & ALUMINUM STOREFRONT



⑧ ALUMINUM DOORS & ALUMINUM STOREFRONT



⑦ HOLLOW METAL DOOR & HOLLOW METAL FRAME



⑥ HOLLOW METAL DOORS & HOLLOW METAL FRAME

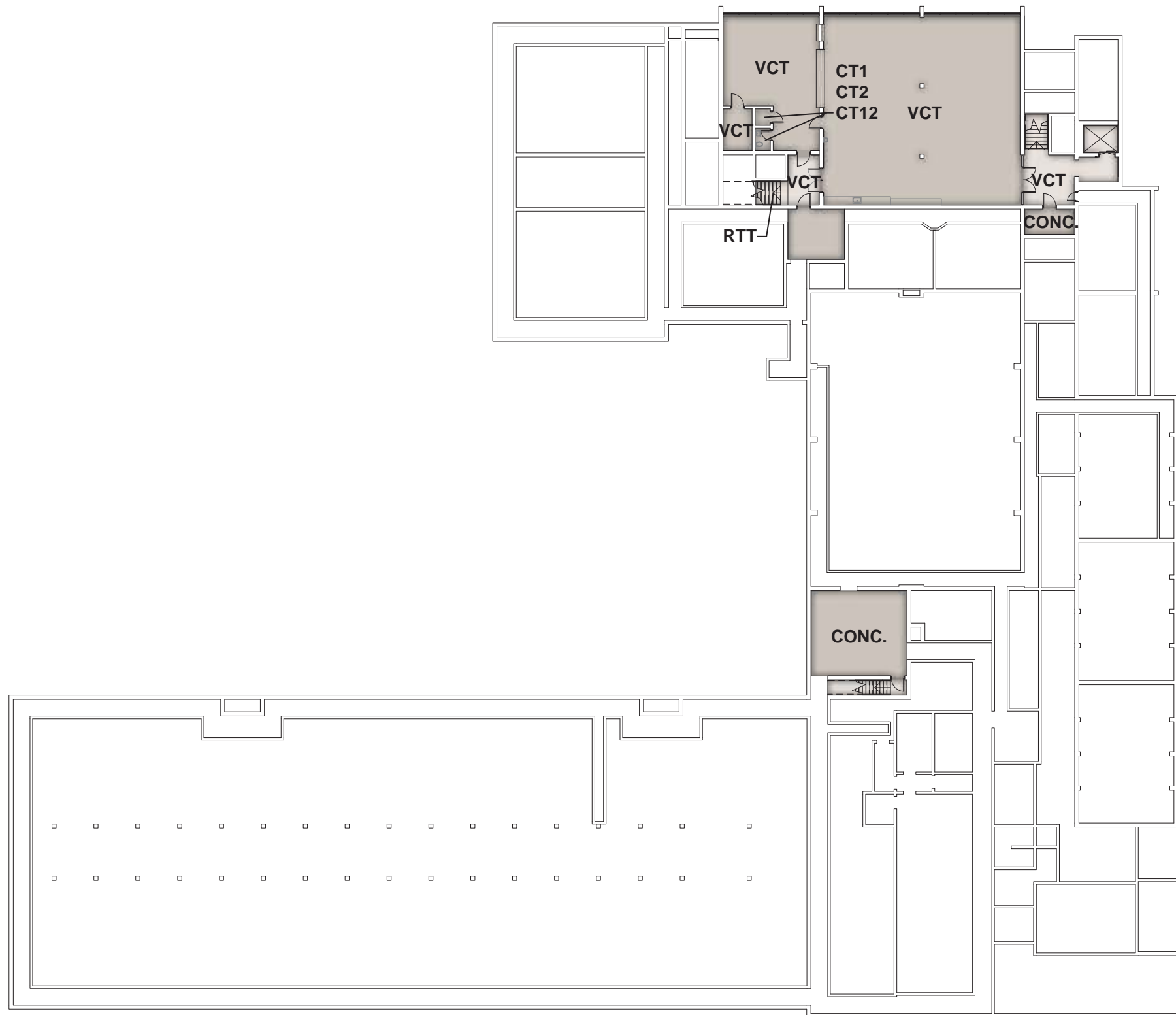
TULLAR ELEMENTARY: EXTERIOR DOOR ANALYSIS



TULLAR ELEMENTARY: FLOORING ANALYSIS

- ACT - 9x9 (Asbestos)
- ACT1 - 12x12 (Asbestos)
- ACT2 - 6x6 (Asbestos)
- CA - Carpet Broadloom
- CAT - Carpet Tile
- CT1 - 1x1 Ceramic Tile
- CT2 - 2x2 Ceramic Tile
- CT12 - 1x2 Ceramic Tile
- CTH - Hex Ceramic Tile
- CONC. - Concrete
- PT - 8x8 Paver Tile
- PT1 - 6x6 Paver Tile
- PT2 - 3x3 Paver Tile
- PT3 - 3x6 Paver Tile
- RT - Rubber Tile
- RTT - Rubber Tile Tread
- SS - Seamless Synthetic
- SV - Sheet Vinyl
- TER - Terrazzo Tile
- TER1 - 12x12 Terrazzo Tile
- VCT - 12x12
- WD - Wood
- WDP - 4x4 Wood Parquet
- WM - Walk-off Mat

* Flooring Types Identified by Gries Architectural Group

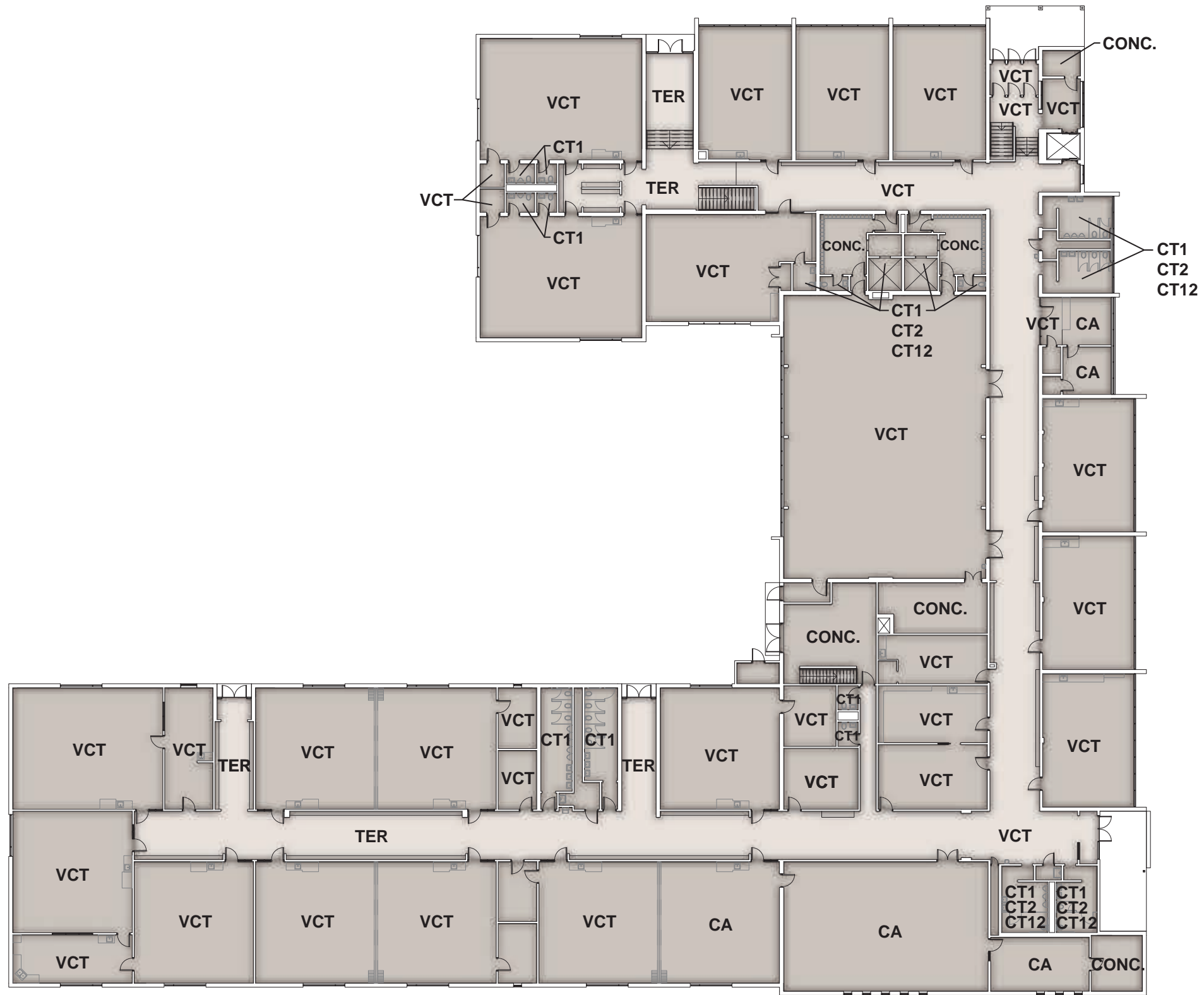


LOWER FLOOR PLAN
not to scale

TULLAR ELEMENTARY: FLOORING ANALYSIS

- ACT - 9x9 (Asbestos)
- ACT1 - 12x12 (Asbestos)
- ACT2 - 6x6 (Asbestos)
- CA - Carpet Broadloom
- CAT - Carpet Tile
- CT1 - 1x1 Ceramic Tile
- CT2 - 2x2 Ceramic Tile
- CT12 - 1x2 Ceramic Tile
- CTH - Hex Ceramic Tile
- CONC. - Concrete
- PT - 8x8 Paver Tile
- PT1 - 6x6 Paver Tile
- PT2 - 3x3 Paver Tile
- PT3 - 3x6 Paver Tile
- RT - Rubber Tile
- RTT - Rubber Tile Tread
- SS - Seamless Synthetic
- SV - Sheet Vinyl
- TER - Terrazzo Tile
- TER1 - 12x12 Terrazzo Tile
- VCT - 12x12
- WD - Wood
- WDP - 4x4 Wood Parquet
- WM - Walk-off Mat

* Flooring Types Identified by Gries Architectural Group



FIRST FLOOR PLAN
not to scale

TULLAR ELEMENTARY: ENGINEER REPORT - PLUMBING

Plumbing System Review:

The following report is the result of a site visit by Leslie Fry of Muermann Engineering, LLC that occurred in January 19, 2017. Site observations and interviews with staff were used in the preparation of this report.

The original building was built in 1941 with additions completed in 1953, 1957, 1960, and 1965.

Domestic Water

Observations

- A. Water is supplied to the building by what appears to be 2" water service which connects to the Municipal water system. There is a water meter located in a storage room that has no heat source. The water service is at its limit and could not support any future additions.
- B. The majority of the water distribution piping in the building appears to be copper tube and fittings with some galvanized pipe and fittings in the original building. The water distribution piping appears to be in fair condition.
- C. The existing building has no fire sprinkler system.



Recommendations

- D. The water distribution piping in the original building, 1953 and 1957 additions are at the end of their life expectancy. We would recommend replacing the existing pipe and fittings with new type "L" copper tube and fittings.
- E. If there are any new additions or major remodeling planned, a new larger water service will need to be provided.
- F. If a complete fire sprinkler system is preferred for the building, a new 6" water service will need to be provided.

Sanitary and Storm Piping

Observations

- A. The sanitary waste from the building flows by gravity out the building and connects to the Municipal sanitary sewer system.
- B. The sanitary waste and vent piping appear to be in good condition with no reported challenges.
- C. The building has a prep kitchen with a 2-compartment pot sink with floor mounted grease interceptor. Additional (2) sinks a grease interceptor under the sink. There is no disposal. A commercial dishwasher is in place. All appear to be in good condition with no reported challenges in operation.
- D. The existing roof water is collected by mix of internal roof drains and conductors and gutter and downspout which flow by gravity out the building and connect to the Municipal storm sewer system.
- E. There are multiple clearwater sump pumps located in the basement level for removing groundwater. Some of the



pumps have been replaced with new pumps. The sump systems appear to be in fair to good condition.

Recommendations

- A. The sanitary sewer system in the original building, 1954 addition and 1957 addition are nearing the end of their life expectancy. We would recommend the existing sewer located below the floor be inspected with a camera and may need to be replaced pending outcome of the scope.
- B. The storm sewer system in the original building, 1954 addition, and 1957 addition are nearing the end of their life expectancy. We would recommend the existing sewer located below the floor be inspected with a camera and may need to be replaced pending outcome of the scope.
- C. The existing clearwater sump pumps should be monitored and repaired or replaced as necessary.

Plumbing Equipment

Observations

- A. The building has one domestic hot water system providing domestic hot water to the building.
- B. The building domestic water is not softened.

Recommendations

- A. The existing water heater was installed in 2014 and is 80% efficient. The system appears to be in good condition.

Plumbing Fixtures

Observations

- A. The existing plumbing fixtures in the building are a combination of various styles and ages. Most of the fixtures are original to the building age they were installed.
- B. The water closets are floor set, tank type fixtures. They do not appear to be water conserving or ADA compliant. The fixtures are old and in fair condition.
- C. The urinals in the building are floor set flush tank. The fixtures with the flush tank are not water conserving. The fixtures are old and are in fair condition.
- D. The lavatories in the building are wall hung with multiple styles of faucets. Some floor push button operators are in place but do not work. They do not appear to be water conserving or ADA compliant and are in fair condition.
- E. The existing showers remain with piping but is reportedly not active.
- F. The drinking fountains in the building are wall hung and either vitreous china or stainless steel. They are not ADA compliant and are in fair condition. The fixtures are in good condition.



TULLAR ELEMENTARY: ENGINEER REPORT - PLUMBING

- G. The classroom sinks are single bowl, stainless steel drop-in sinks with gooseneck faucet and separate drinking fountain. The fixtures are not ADA compliant and are in fair condition.

Recommendations

- A. The water closets should be replaced with new water conserving and ADA compliant fixtures.
- B. The urinals should be replaced with new water conserving and ADA compliant fixtures.
- C. The lavatories and associated floor operators should be removed. Lavatories should be replaced with new water conserving and ADA compliant fixtures.
- D. The existing showers and associated piping should be removed and wall finishes repair.
- E. The drinking fountains should be replaced with new ADA compliant fixtures with a bottle filler.
- F. The faucets on the classroom sinks should be replaced with new ADA compliant faucets.



HVAC SYSTEM

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on January 19, 2017. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report

The original building was constructed in 1941, with additions being constructed in 1953, 1957, 1960 and 1965.

1.1 Heating System

A. Existing Data

1. The boiler plant, installed in 2010, consists of two Smith cast iron boilers, each fired with natural gas. The first boiler has a capacity of 1,500,000 btu and the second boiler has a capacity of 1,300,000 btu.
2. There are two heating circuits that serve the building; a steam circuit and a hot water circuit. A heat exchanger on the steam side is used to transfer heat to the hot water circuit.
3. The hot water circuit serves the two “wings” of the school. A base mounted pump (and a stand-by pump) pumps hot water throughout the “wings”.
4. The remainder of the building is served by the steam circuit.

B. Observations

1. According to information obtained by the Owner, the boiler plants have reserve capacity at this point as only one boiler is needed to heat the building.
2. The Smith boiler plant is in good condition. It has an estimate life expectancy of 30 years.
3. While the age of the heat exchanger and hot water pumps in not specifically known, they appear in fair condition and seem to have exceeded the estimated life expectancy.

C. Recommendations

1. Continue preventative maintenance on the system.
2. Any future additions or construction may require the addition of boiler capacity to serve the additional spaces.
3. Plans should be made for the eventual replacement of the aging heat exchanger and hot water pumps.

1.2 Ventilation and Air Conditioning Systems

A. Existing Data

1. There are two systems that provide ventilation for the facility. The two systems are classroom unit ventilators, and constant volume air handling systems.
2. The classrooms, cafeteria and gymnasium are ventilated using classroom unit ventilators. Unit ventilators house a fan, heating coil, fresh air damper, return air damper and controls in a single cabinet mounted in the classroom. Some units are served by steam and condensate piping while the majority of the units are served by hot water piping.



3. The A.V. office, L.D. room and Staff Lounge are served by a constant volume air handling unit. A constant volume system consist of a central supply fan, which contains a hot water heating coil, DX cooling coil, roof mounted condensing unit, fresh air damper and return air damper. A booster coil is installed in the ductwork to provide individual room temperature control by heating the air supplied to the space through use of the booster coil.
4. The offices are heated by fin pipe radiation but do not have any fan supplied fresh air. All fresh air is provided by operable windows.

B. Observations

1. The unit ventilators, in most cases, are original to the building. The units serving the cafeteria and three eastern classrooms are approximately 5 years old. The original units have exceeded the estimated life expectancy of 25 years.
2. The constant volume air handling unit was installed in 1960 and has exceeded the estimated life expectancy of 30 years.
3. Currently the offices are only served by fin pipe radiation. No fresh air is being provided to the space except for operable windows. Current Wisconsin code does not allow operable windows for this type of building.
4. Door transfer grilles are currently utilized to transfer relief air from the offices to the corridor.

C. Recommendations

1. Plans should be made for the eventual replacement of the aging unit ventilators.
2. Plans should be made for the eventual replacement of the aging constant volume air handling unit.
3. Plans should be made for the installation of a ventilation system for the offices to meet current Wisconsin code.
4. With any remodel or renovation, plans should be made to replace the door transfer grille relief system with a code approved system. The current building code does not allow transfer air into a path of emergency egress.

1.3 Control Systems

A. Existing Data

1. A mixture of pneumatic temperature controls and digital temperature controls serve the building.

B. Observations

1. The limitations of the pneumatic system do result in comfort complaints. Pneumatic systems require frequent calibration to maintain accuracy. The newer digital controls are more accurate and more flexible. In addition, the industry has made such a complete changeover to digital controls that it is becoming difficult to find good pneumatic service technicians.

C. Recommendations

1. Continue to maintain and operate the pneumatic control system as long as the current mechanical equipment remains. When any renovations to the existing equipment are made, a changeover to digital controls is strongly recommended.

TULLAR ELEMENTARY: ENGINEER REPORT - ELECTRICAL

Electrical System Review:

The following report is the result of a site visit by Daniel Cedeno of Muermann Engineering, LLC that occurred on January 20, 2017. Site observations, existing plan review and interviews with staff were all used in the preparation of this report. The facility was built in 1941, with additions occurring in 1953, 1957, 1960, and 1965.

Electric Service

Observations

- A. The facility has a 1200-amp, 120/208V 3-phase 4 wire main electric service that has been recently replaced and is in good working condition. The main switchboard has capacity for 1 additional breaker for potential future loads. There is no surge suppression provision on the main electric service.
- B. The electric panelboards throughout the facility vary in age between old circuit breaker panelboards that are nearing the end of their useful lifespan, and some panelboards that were replaced or added during the most recent service upgrade that are in good working condition.
- C. Utility service to the building consists of pole mounted transformers across the street with an overhead electric service terminating at an exterior wall mounted CT cabinet and electric meter.
- D. There is no emergency backup power available in the building.



Main Electric Service



Old Panelboard

Recommendations

- A. The main electric service is in good working condition, recommendations include exercising of circuit breakers and possibly performing thermal imaging analysis for predictive maintenance purposes.
- B. Provide surge suppression to prevent equipment damage in the building during power surges.
- C. Vintage circuit breaker panelboards should be scheduled for replacement within the next 5-8 years.
- D. A possible recommendation is to provide a new emergency generator system to provide backup power and emergency lighting to the building during electric outages.
- E. Ensure proper working clearances are maintained in front of all panelboards at all times. Working clearance area may not be used for storage. Recommendations include using industrial vinyl safety tape to physically indicate clearance on floor/wall around panelboards.



C/T Cabinet & Main Disconnect

Light Fixtures & Controls

Observations

- A. Much of the interior lighting throughout the facility consists of a variety of T8 fluorescent or incandescent light fixtures, including



recessed, surface, and pendant mounted varieties. The fixtures range in age but all are in good working condition.

- B. The gymnasium uses high bay metal halide fixtures to provide general lighting in the space.
- C. General lighting controls in rooms consist of toggle switches with no occupancy sensors or dual level lighting. Most classrooms utilize split area zones to split lighting controls in room.
- D. Corridor lighting controls consist of local toggle switches with no occupancy sensors. Staff indicated they prefer to turn off the corridor lighting circuit breakers to minimize efforts.
- E. There are no provisions for emergency lighting, except for a handful of wall mounted battery packs throughout the facility that provide minimal, non-code compliant light levels.
- F. Exterior lighting consists of high pressure sodium wall packs.
- G. Exterior lighting is controlled via a combination of photocell and time clock controls.



Library Lighting



Gymnasium Lighting

Recommendations

- A. Recommendations to interior lighting include replacing fixtures with LED equivalents, providing dimming controls and occupancy sensors to maximize on energy savings.
- B. Schedule existing exterior light fixtures with LED equivalents and control via existing timeclock/photocell controls.
- C. Corridors should be provided with occupancy sensors and light switches removed to automatically control the lighting and maximize on energy savings.
- D. If new LED lighting is provided, it is recommended that emergency lighting be provisioned through back up batteries integral to the normal light fixtures through egress paths and rooms with an occupant load greater than 50 persons. Alternatively, providing a new emergency generator system would be an alternative option to battery backup.

Wiring Devices

Observations

- A. Most receptacles throughout the facility are 15A rated.
- B. There was a general lack of receptacles throughout the facility. Facility staff indicated they have problems finding available receptacles often. Some classrooms only have 3 receptacles in the whole room.
- C. There are receptacles within 6 feet of plumbing fixtures that are not GFI protected.



Non-GFI Receptacle

Recommendations

- A. Recommendations include replacing existing 15A rated receptacles with 20A rated type.



- B. Provide additional receptacles throughout working spaces as necessary to meet needs of space.
- C. Replace existing receptacles within 6' of plumbing fixtures with GFI protected type.

Phone System

Observations

- A. The facility has a Shoretel IP based phone system that is in good working condition.

Recommendations

- A. No recommendations at this time.

Data System

Observations

- A. Data service is provided via fiber optic utility service. The system seems to be in good working condition.
- B. Fiber optic wiring interconnects all of the schools to the main district network.
- C. General data cabling consists of a variety of Cat5e and Cat6 cabling, both in plenum and riser rated varieties.
- D. The school has (2) data racks, which have spare rack capacity for future needs. Data cabling management at the racks are run in a disorganized fashion with no labeling. There are also no provisions for backup power.



Data Rack

Recommendations

- A. It was unknown at the time of the site visit if the facility has ceiling plenums, but if there are plenums in the ceiling spaces, the riser rated data cabling should be replaced with plenum rated cabling.
- B. Data cabling at the data rack should be reinstalled in a clean workmanlike manner. Proper labeling of data cabling should also be considered to facilitate cable management and traceability.
- C. A possible recommendation is to provide a UPS battery backup system to provide backup power to the data racks in the event of power loss.

Keyless Entry System

Observations

- A. The building has a keyless entry system that is in good working condition.
- B. Access controlled doors are controlled via electric strikes and card readers.
- C. None of the exterior doors have door position contacts to monitor if doors are shut or left open.



Keyless Entry Electric Strike



Recommendations

- A. It is recommended to provide door monitor contacts on all exterior doors to help monitor and control access to the facility at all times.

Intercom System

Observations

- A. The building has a vintage Dukane intercom system that is nearing the end of its useful lifespan.
- B. The intercom system does not have the capacity to fully cover the entire school, various classrooms don't have speakers.
- C. Intercom speakers throughout are nearing the end of their useful lifespan.
- D. Issues reported by secretary with faulty call-in switches getting stuck on "call" position in some rooms.
- E. The bell schedule system is controlled via a timeclock. Staff reported no issues with system.



Intercom System Head-End

Recommendations

- A. The existing intercom system should be scheduled for full replacement with a new IP-based intercom system. Existing speakers should be scheduled for replacement in addition to providing additional speakers in areas lacking coverage.

CCTV System

Observations

- A. The building has a CCTV system consisting of 2 cameras throughout the facility. The system seems to be in good working condition. The district plans to add about 12 more cameras to the system in the future.



CCTV Camera

Recommendations

- A. Provide new CCTV cameras where additional coverage is necessary.

Fire Alarm System

Observations

- A. The building has a vintage fire alarm system that is nearing the end of its useful lifespan.
- B. The system is not monitored.
- C. Notification coverage is lacking by today's standards.



Fire Alarm Pull Station

Recommendations

- A. A possible recommendation would be to provide additional fire alarm notification devices in areas where coverage is lacking.



Other Low Voltage Systems

Observations

- A. The building does not have a security system.
- B. The building has a monitoring system to ensure the boilers in the facility are operational. The system is programmed to dial facility management in the event of a boiler failure.
- C. The building does not have a synchronized clock system.

Recommendations

- A. Other possible recommendations include adding a security system to control and monitor access to the facility.
- B. Replacing the existing clocks with a synchronized clock system such as a GPS wireless clock system may be a recommended upgrade to minimize labor efforts required when updating clocks during daylight savings time changes.



Boiler Monitoring System