

# 3 HOOVER ELEMENTARY

Hoover Elementary provides a comprehensive program for 4-Year-Old Kindergarten, Kindergarten, and 1st through 5th grade students.

BUILDING AREA: 39,360 sq. ft.  
STUDENT POPULATION: 301 STUDENTS  
SITE SIZE: 5.16 ACRES; 49% IMPERVIOUS SURFACE  
GRADES SERVED: 4-YEAR-OLD KINDERGARTEN,  
KINDERGARTEN, GRADES 1<sup>ST</sup>-5<sup>TH</sup>  
PARKING: 45 STALLS (2 HANDICAP, 43 REGULAR)  
BUS QUANTITY: 0 BUSES / 0 BUS ROUTES

# HOOVER ELEMENTARY: BUILDING EVOLUTION

Hoover Elementary was originally constructed in 1952. An addition in 1958 was built, with the most recent addition in 1996.

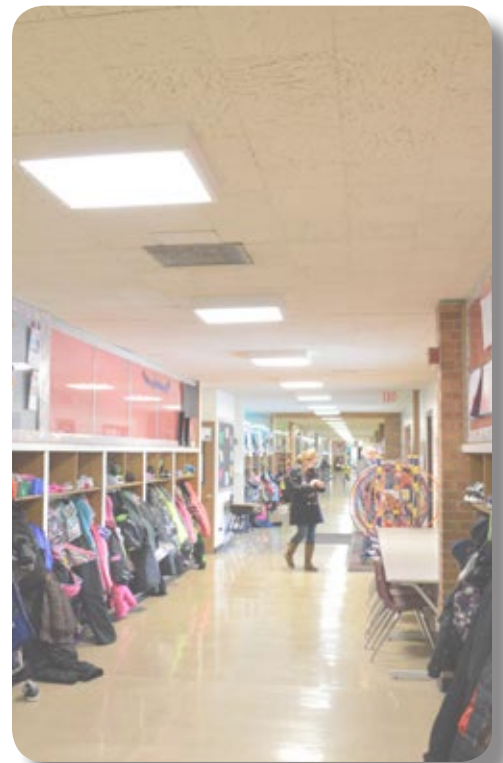
The following building evolution diagram outlines the additions made to the original building over time due primarily to student enrollment growth.



Hoover Elementary Main Entrance & Main Office



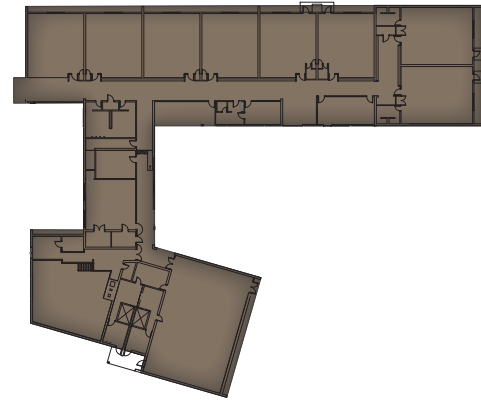
Hoover Elementary Classroom



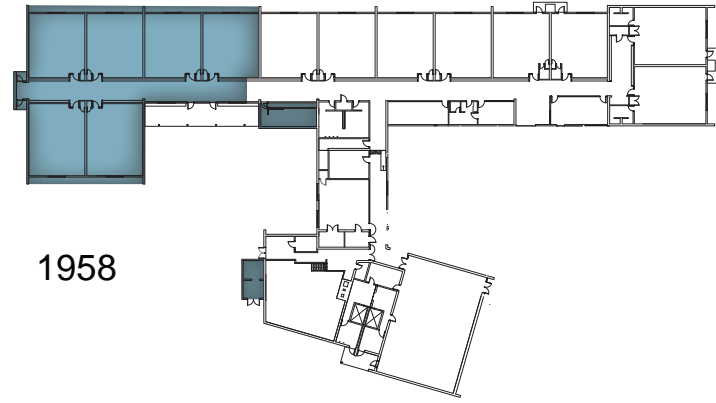
Hoover Elementary Corridor

# HOOVER ELEMENTARY: BUILDING EVOLUTION

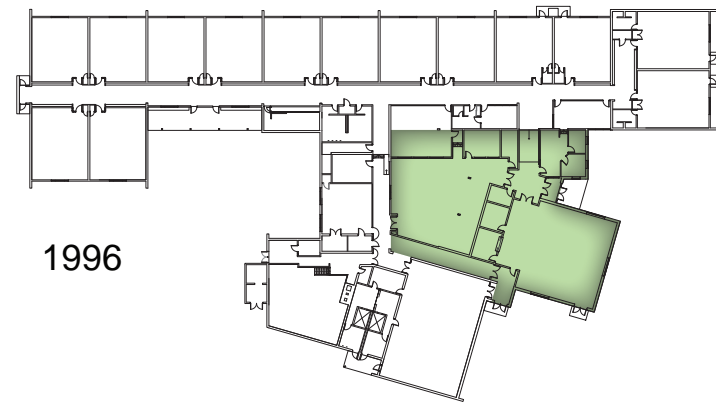
1952



1958



1996



- = 1952 - Original
- = 1958 - Classroom Addition
- = 1996 - Addition





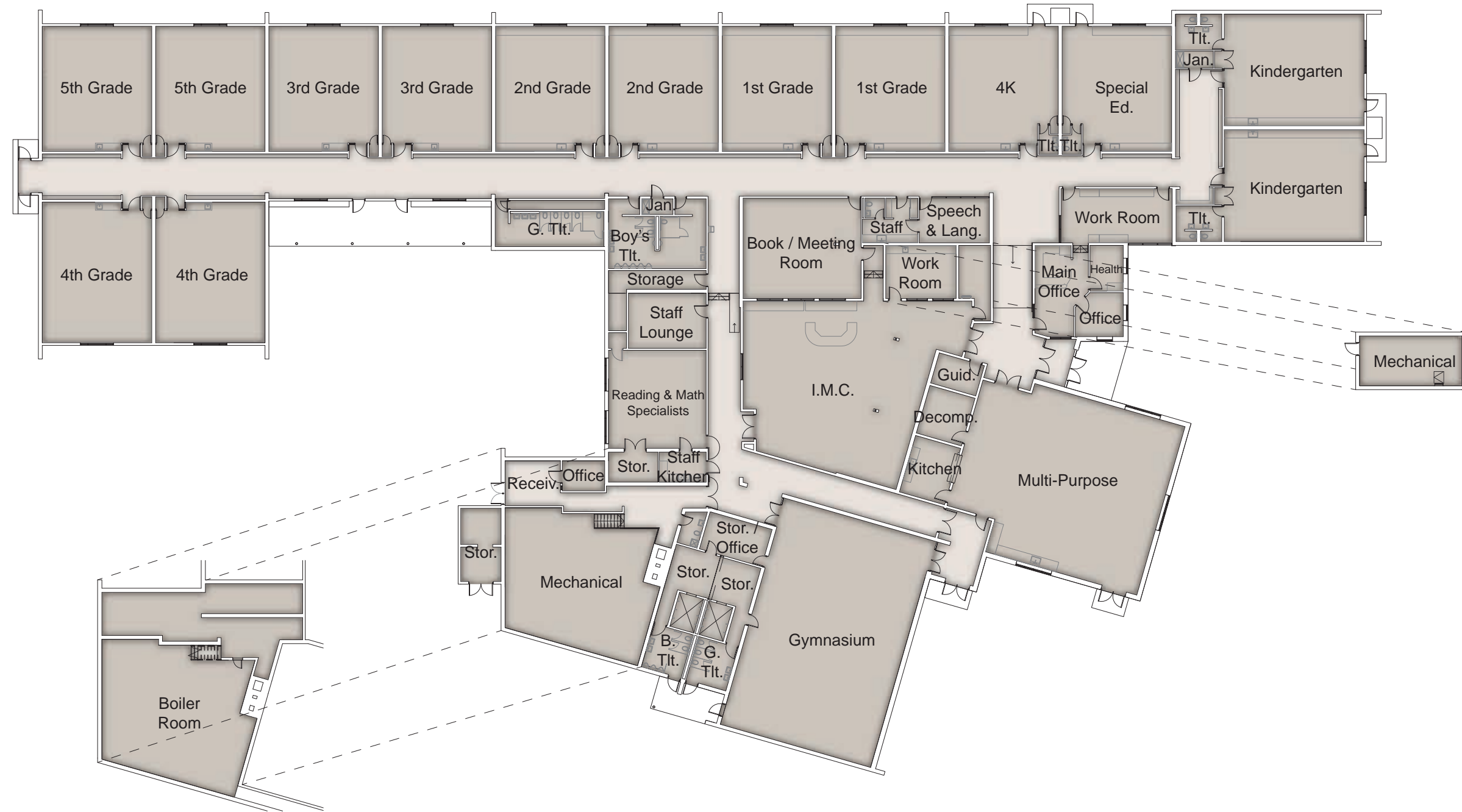
**HOOVER ELEMENTARY: EXISTING SITE PLAN**



SITE PLAN  
not to scale



**HOOVER ELEMENTARY: EXISTING FLOOR PLAN**



**FIRST FLOOR PLAN**  
*not to scale*



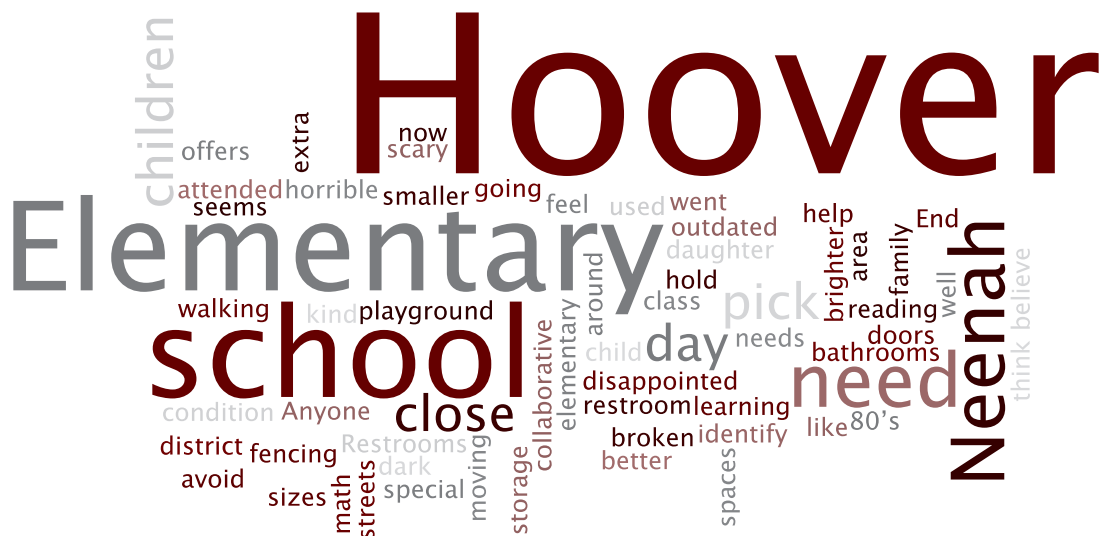
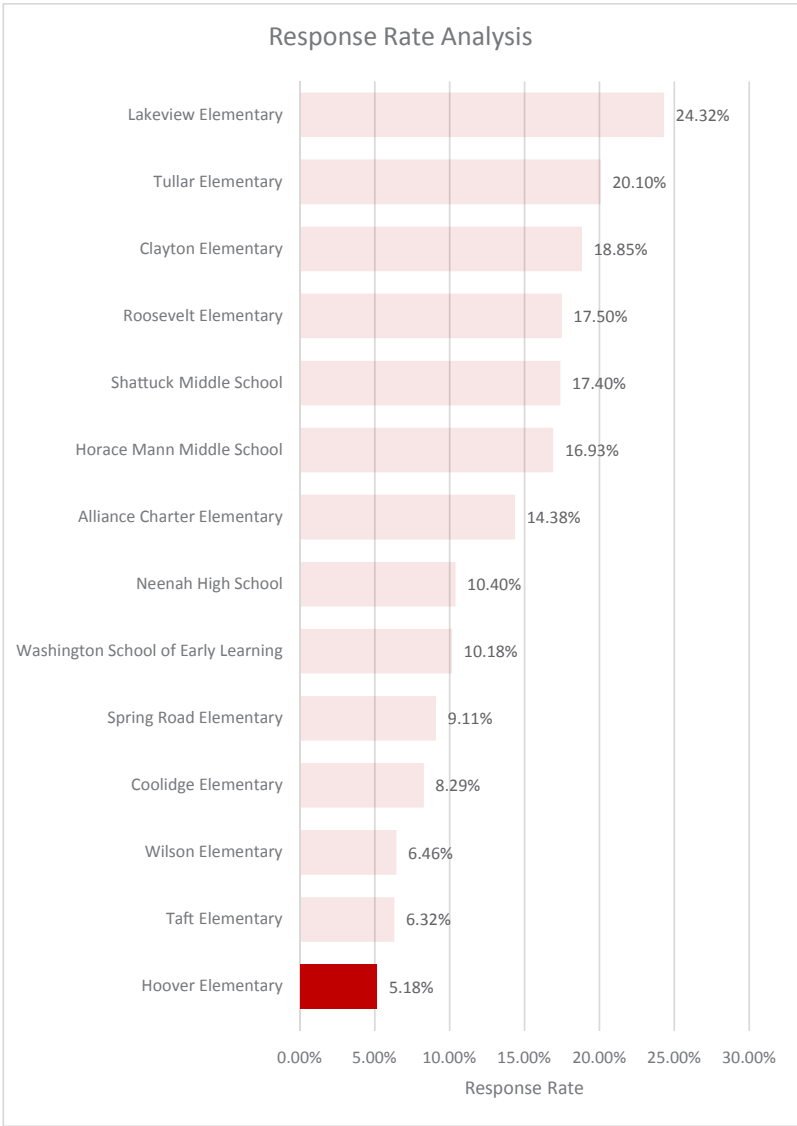
# HOOVER ELEMENTARY: PARENT SURVEY FEEDBACK

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.

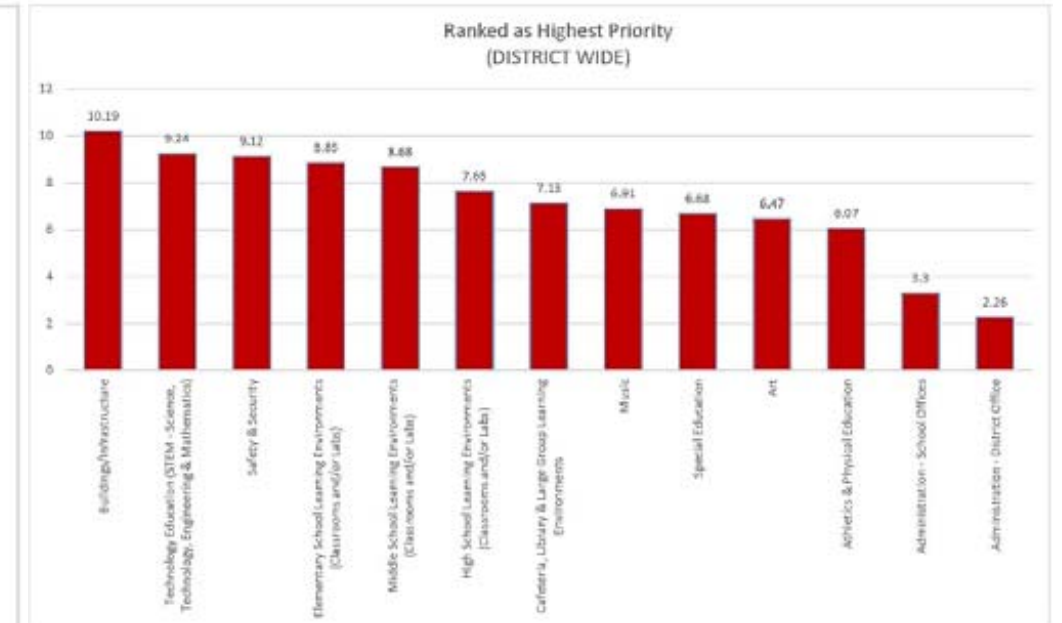
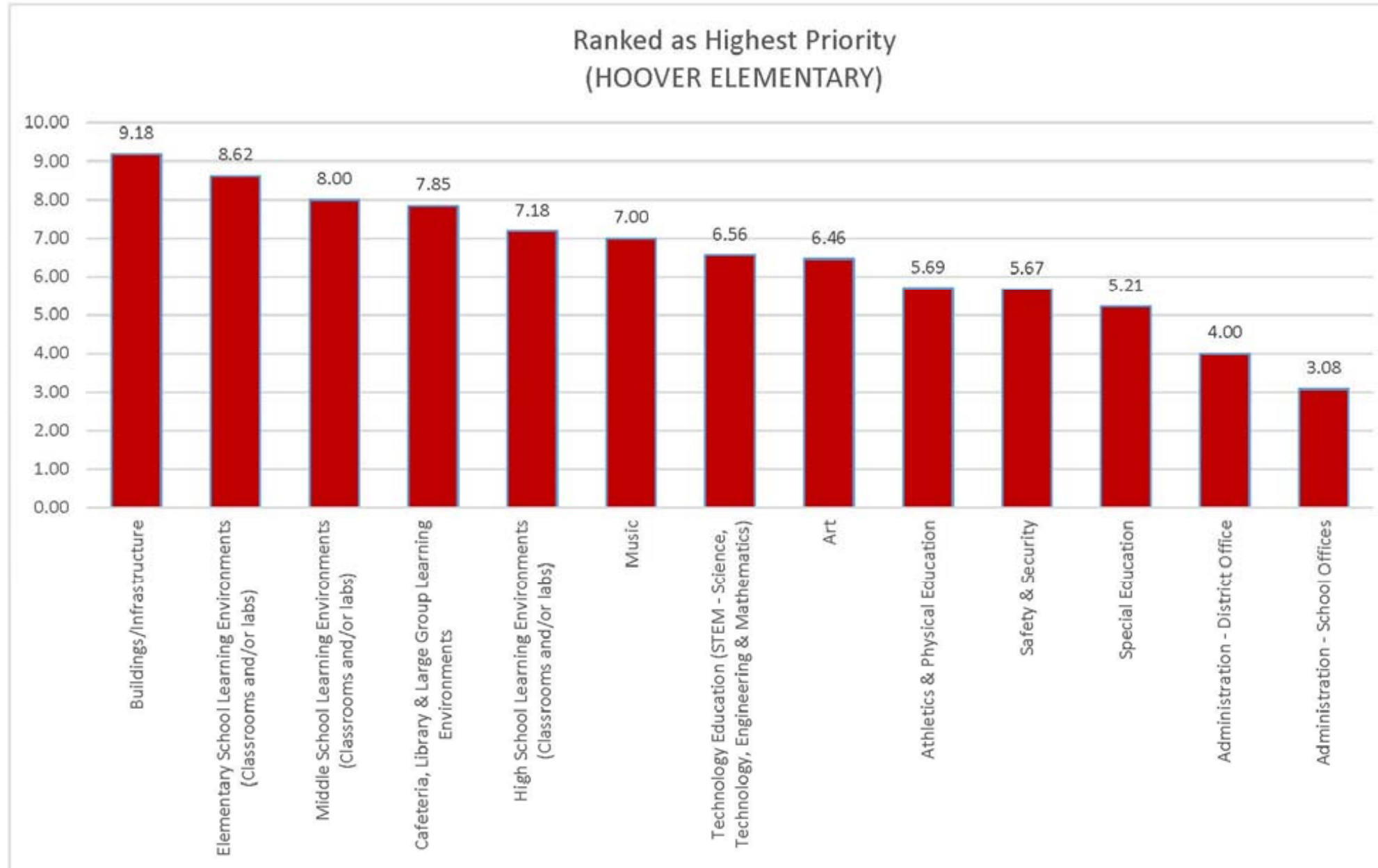
The following information reflects feedback and response rate for Hoover Elementary.

**TOTAL PARENTS TO RECEIVE SURVEY: 309**  
**TOTAL NUMBER OF RESPONSES: 16**  
**RESPONSE RATE: 5.18%**

- ADDITIONAL NOTES
- Hoover Elementary had the lowest response rate in the District
  - Hoover Elementary accounts for 2.79% of all parent survey feedback



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# HOOVER ELEMENTARY: SUMMARY OF STAFF SURVEY FEEDBACK

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The following is a summary of potential improvements at Hoover 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
- Flexible/movable and updated furniture desired that can accommodate students of multiple ages, as well as adults
- Adequate wall space and/or cabinets desired that allow for ease of hanging posters, anchor charts, etc.
- Permanent/built-in storage desired
  - Possibly upper cabinets or raised storage to allow for maximum use of floor space
  - Currently utilize bookcases or teachers purchase their own storage
- Ability to collaborate within the classroom desired
  - Doors, movable walls, etc.
- Additional storage desired within the classroom
- Access to natural daylight for all classrooms desired
- Sound-proof walls between classrooms desired
- Pod/house configuration of classrooms desired to better support curriculum
- Additional outlets desired

### CONFERENCE ROOMS & LARGE/SMALL GROUP INSTRUCTION

- Large/ small group instruction space(s) desired
  - Conference rooms for meetings, volunteer tutors, etc. that are located near classrooms

### MUSIC

- Separate, dedicated classroom desired; current location in the cafeteria limits class time, scheduling, and teacher prep
- Additional storage desired

### ART

- Separate, dedicated classroom desired; current location in the cafeteria limits class time, scheduling, and teacher prep

### GYMNASIUM & PHYSICAL EDUCATION

- Undersized
  - Large enough space to accommodate large groups and indoor activities (Running club - 80+ students)
- Additional storage desired for P.E. equipment
- Presentation equipment desired; projector, speakers, etc.

### SPECIAL ED.

- Dedicated sensory and cool-down rooms/space desired

### SUPPORT/ STAFF

- Additional space for staff lounge, staff support desired

### LIBRARY/MEDIA LAB

- Undersized, additional room for library activities desired
- Updated media lab space that allows for project based learning/ maker space desired
- Dedicated quiet areas

## 2. Facility & Site Improvements:

### TECHNOLOGY

- Smartboard
- Better access to laptop technology for all students

### INFRASTRUCTURE

- Roof
  - Roof leaks in a variety of locations, including the Library and bathrooms
- Finishes - Flooring, Walls, etc.
  - Newly painted walls desired
  - Various floor finishes with in the classroom to support activities; tile/carpet

### BUILDING SYSTEMS

- Lighting
  - Updated, energy efficient lighting desired
- HVAC
  - Consistent temperatures/heating/cooling throughout the building desired
  - Loud equipment is distracting for students and staff

### SITE

- Updates and improvements to recess grounds, equipment, fencing, sidewalks, paving, etc. desired
- Playground is in need of maintenance and updating
  - Rotted log between the rocky and paved area at the front playground
  - Additional sand needed for the sandbox
  - Gravel on the paved blacktop areas is a tripping hazard
  - Paving is cracking and is in need of repaving

### MISCELLANEOUS

- Additional access to natural daylight desired
- Bathrooms
  - Updated/ additional staff bathroom desired
- Overall appearance of the building is a concern, especially when bringing in potential new students and families
- Outdoor workspaces/classrooms desired
- Additional storage space for student belongings desired (lockers, hooks, etc.)
- Improved building entry, parent pick-up/drop-off, bus pick-up/drop-off sequence

# HOOVER ELEMENTARY: SUMMARY OF STAFF INTERVIEW FEEDBACK

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The following is a summary of potential improvements at Hoover 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

- Additional storage desired within classroom; upper and lower cabinets, breakfast is served in classrooms
- Additional outlets and ample power desired
- Ability to collaborate within the classroom desired
  - Doors, movable walls, etc.
- Large group collaboration spaces desired
- Tile preferred with small carpet space for reading
- 4K program desired off-site; due to scheduling and half day program

### CONFERENCE ROOMS & LARGE/SMALL GROUP INSTRUCTION

- Conference rooms desired; can be part of main office

### MUSIC

- Separate, dedicated classroom desired; current location in the cafeteria limits class time, scheduling, and teacher prep

### ART

- Separate, dedicated classroom with kiln desired; current location in the cafeteria limits class time, scheduling, and teacher prep

### GYMNASIUM & PHYSICAL EDUCATION

- Locker rooms are used for storage and have outdated toilets
- Additional restrooms desired
- Space for temporary stage desired
- Undersized

### SPECIAL ED.

- ADA accessible toilet desired
- Two classrooms desired; currently sharing one
- Dedicated OT/PT space desired
- Decompression/sensory room desired
- Dedicated E.L.L space desired

### CAFETERIA

- Dedicated cafeteria desired
- Four sections of 60 students desired; larger sections ok if staffing increased

### SUPPORT/ STAFF

- Larger staff lounge with sink desired
- Separate work room from lounge desired

### MAIN OFFICE

- Dedicated in school suspension rooms desired
- Dedicated health room with restroom desired

### LIBRARY/MEDIA LAB

- Better visibility for supervision desired
- Green Screen
- Updated media lab space that allows for project based learning/ maker space desired

## 2. Facility & Site Improvements:

### TECHNOLOGY

- Additional outlets/power desired
- Better access to laptop technology for all students

### INFRASTRUCTURE

- Roof
  - Roof leaks and stains, mold is a concern
- Finishes - Flooring, Walls, etc.
  - Newly painted walls desired
  - Various floor finishes with in the classroom to support activities; tile/carpet
- Doors
  - New doorknobs desired; must be ADA

### SITE

- Updates and improvements to recess grounds, equipment, fencing, sidewalks, paving, etc. desired

### MISCELLANEOUS

- Additional access to natural daylight desired
- Bathrooms
  - Updated/ additional staff bathroom desired
- Outdoor workspaces/classrooms desired

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# HOOVER ELEMENTARY: NEEDS ASSESSMENT

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The following is a summary of potential improvements at Hoover 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. There is a lot of dated wood paneling on interior walls throughout the building

### WINDOWS

- b. Staff indicated that most windows are in satisfactory condition, although the window cranks are constantly being replaced due to wear and age of the windows

### DOORS

- c. Some interior doors have transfer grilles within and sometimes also above the door, resulting in undesirable noise and smell transfers between classrooms and corridor as identified by staff

### CEILING

- d. Ceiling tiles are dated, with some tiles stained/showing signs of water damage and many bowing, bending and separating from the ceiling grid; there are a mix of tile types throughout the building
- e. There are areas of ceiling in the Library near the circulation desk, in which staff reported water to have leaked into the building; staining and/or paint peeling is present at these locations

### FLOORING

- f. Carpeting in the Kindergarten classrooms is dated, worn and stained
- g. Much of the tile flooring throughout the building is dated, worn, stained, and cracking, especially in corridors and at the Cafeteria, where the flooring is heaving; tile flooring at the exterior doors is chipped/missing pieces of tile

## 2. Building Envelope:

### WALLS

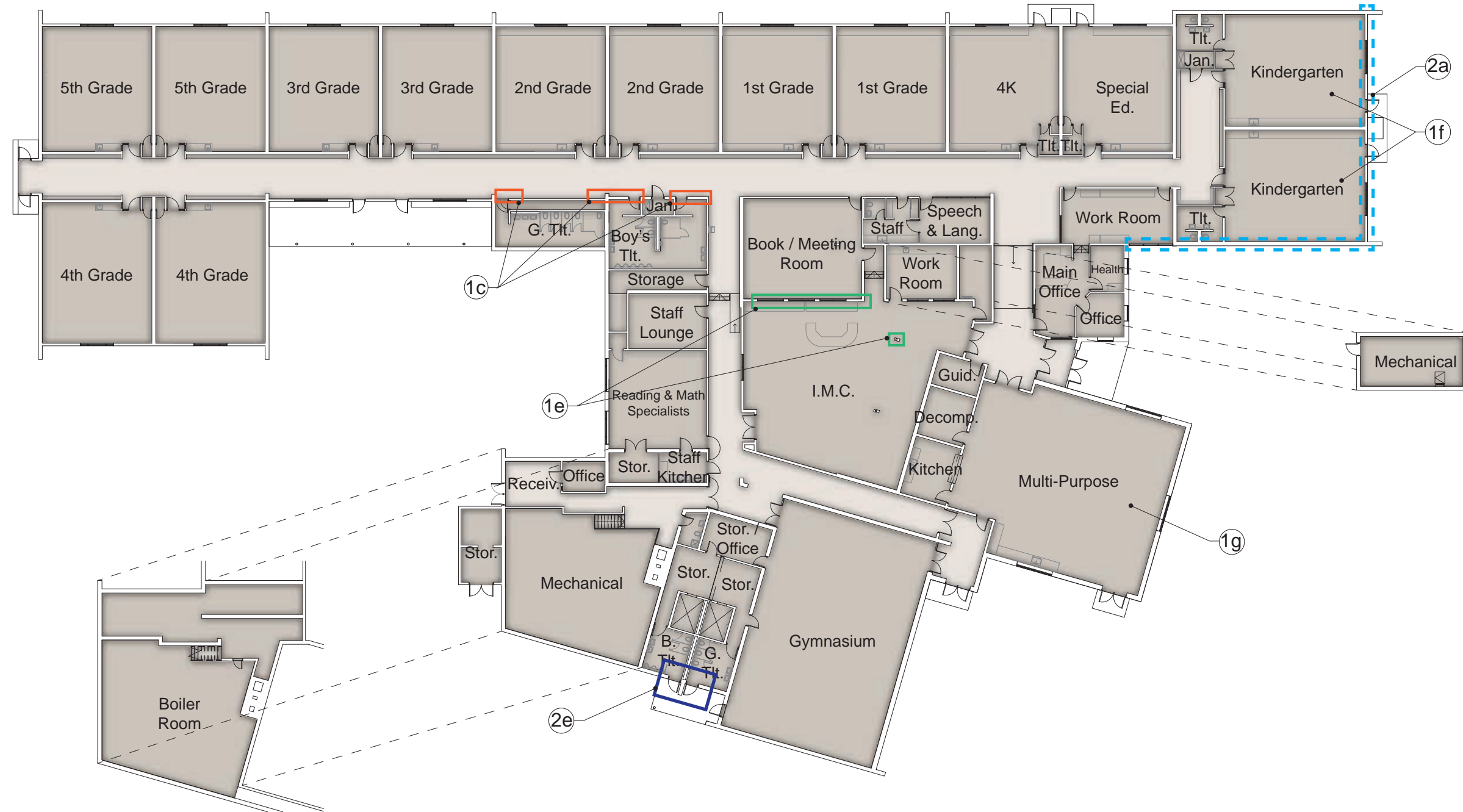
- a. Exterior wood siding is worn, its paint is peeling/flaking off, especially at soffit areas and at the South wall, and there are panels near the foundation that have pieces chipped off
- b. Exterior brick is crumbling/cracking, especially at building corner conditions, and there are some areas where tuckpointing is present
- c. Some areas of exterior wall are stained, possibly due to water damage and especially at areas near roof fascia and at the chimney
- d. 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

### DOORS

- e. Exterior doors at the locker rooms are no longer accessible, and have been blocked off by furniture/storage on the interior of the building
- f. Exterior doors to exterior storage rooms are worn and rusting

### ROOFS

- g. Staff indicated that while some portions of roof have been remediated/redone, there are areas of roof that have yet to be addressed and currently have problems with water leaking into the building



FIRST FLOOR PLAN  
not to scale



# HOOVER ELEMENTARY: BUILDING SYSTEMS SUMMARY

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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 3" water service connected to the Municipal water system and is unable to support future additions; new additions or major renovation would require a new larger water service.
- Water distribution piping in the original building and 1958 addition is copper tube and fittings with some galvanized pipe and fittings, is in fair condition, and 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 fire suppression 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. Sanitary sewer systems in the original building and 1958 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.
- Prep kitchen has a 2-compartment sink with no disposal nor grease interceptor.
- Classroom sinks do not have solids traps installed on the waste piping.
- Roof water is collected by internal roof drains and conductors, which connect to the Municipal storm sewer system.
- The duplex clearwater sump pump is in fair to good condition and should be monitored and repaired/replaced as necessary.
- Storm sewer systems in the original building and 1958 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 water heater and circulation pump were installed in 2011 and appear to be 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 and some of the fixtures having been replaced with newer water efficient and ADA compliant fixtures. Showers have been abandoned. Water closets, urinals, and lavatories should be replaced with new water conserving and ADA compliant fixtures, and drinking fountains should be replaced with new ADA compliant fixtures with a bottle filler. Faucets on classroom sinks should be replaced with new ADA compliant faucets.

## HVAC:

- Boiler plant was installed in 1953, is in poor condition, has exceeded its estimated life expectancy of 30 years, and has two Kewanee steam boilers that are fired with natural gas and have some reserve capacity as indicated by owner. Continue preventative maintenance on the system and plan for the eventual replacement of the steam boilers with hot water boilers; any additions or construction may require the addition of boiler capacity.
- Heat exchanger and hot water pumps appear to be in fair condition and seem to have exceeded the estimated life expectancy; if new steam boilers are installed in lieu of hot water boilers, plan for the eventual replacement of the aging heat exchanger and hot water pumps.
- Unit ventilators in the gymnasium and 1958 classrooms are original to the building and have exceeded their estimated life expectancy of 25 years; plan for its eventual replacement.
- Variable air volume air handling unit serving the 1996 addition was installed in 1996, is in good condition, and has an estimated life expectancy of 30 years.
- Constant volume air handling unit serving the 1953 classrooms was installed in 1953, is in fair condition, and has exceeded its life expectancy of 30 years; plan for its eventual replacement.
- 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 emergency egress.
- 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.



# HOOVER ELEMENTARY: BUILDING SYSTEMS SUMMARY

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## Electrical:

- Main electric service has been recently replaced, is in good working condition, and has capacity for 3 additional breakers; 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 a pad mounted transformer adjacent to the building with an underground 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.
- Schedule exterior light fixtures with LED equivalents and control via existing timeclock/photocell controls.
- 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. Currently 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.
- 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.
- 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 15 more cameras to the system in the future; provide new cameras where additional coverage is necessary.
- Simplex fire alarm system is 15 years old and in good working condition, but lacking in notification coverage; 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.

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# HOOVER ELEMENTARY: SITE SUMMARY

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The following is a summary of potential improvements at Hoover 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.

## Site Improvements:

### AREA 1 - CONCRETE WALK TO 4K PLAY AREA

- Concerns:
  - No pavement present
  - Custodian shovels path on grass which then freezes, posing a safety (slip) hazard
  - Becomes very muddy once snow melts in spring
- Recommended Action:
  - Grade the area
  - Place 8 inches of base
  - Install a 4 inch concrete walk

### AREA 2 - TIMBER BORDER ON 4K PLAY AREA

- Distresses Present:
  - Timbers are at different heights where they meet and pose a tripping hazard
- Recommended Repair:
  - Remove timber border
  - Install 6 inch wide concrete border

### AREA 3 - PLAY AREA FOR 4K

- Distresses Present:
  - Thermal cracking
  - Surface weathering
- Recommended Repair:
  - Crack fill
  - Seal coat
  - Paint all pavement markings for four square, etc.

### AREA 4 - STAFF/VISITOR PARKING

- Distresses Present:
  - Fatigue cracking due to base failure (throughout area)
  - Thermal 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 required pavement markings for a parking lot

### AREA 5 - DELIVERY AREA/STAFF PARKING

- Distresses Present:
  - Thermal cracking
  - Surface weathering
- Recommended Repair:
  - Crack fill
  - Seal coat
  - Paint all pavement markings for a parking lot

### AREA 6 - ASPHALT PLAY AREA

- Distresses Present:
  - Fatigue cracking due to base failure (throughout area)
  - Thermal cracking
  - Surface weathering
  - Depressions due to base settling
- Recommended Repair:
  - Removal of existing pavement and 12 inches of base and/or subgrade
  - 12 inches of base aggregate dense
  - Pave 4 inches of asphaltic pavement
  - Paint all markings for four square, etc.

### AREA 7 - AREA BETWEEN DUMPSTERS AND SCHOOL

- Distresses Present:
  - Fatigue cracking due to base failure (throughout area)
  - Thermal cracking
  - Surface weathering
  - Depressions due to base settling
- Recommended Repair:
  - Removal of existing pavement and 12 inches of base and/or subgrade
  - 12 inches of base aggregate dense
  - Pave 4 inches of asphaltic pavement

### AREA 8 - TIMBER BORDER ON PLAYGROUND NORTH OF SCHOOL

- Distresses Present:
  - The timbers come together at different heights and are bowed upwards posing a tripping hazard
- Recommended Repair:
  - Removal of timbers
  - 6 inch wide concrete border

### AREA 9 - ASPHALT TO CONCRETE ALONG NORTH SIDE OF SCHOOL

- Distresses Present:
  - Thermal cracking
  - Surface weathering
  - Depressions due to base settling
- Recommended Repair:
  - Removal of existing pavement
  - Place 4 inch thick concrete sidewalk

## Site Improvements (cont.):

### SITE CONCRETE

#### • Distresses Present:

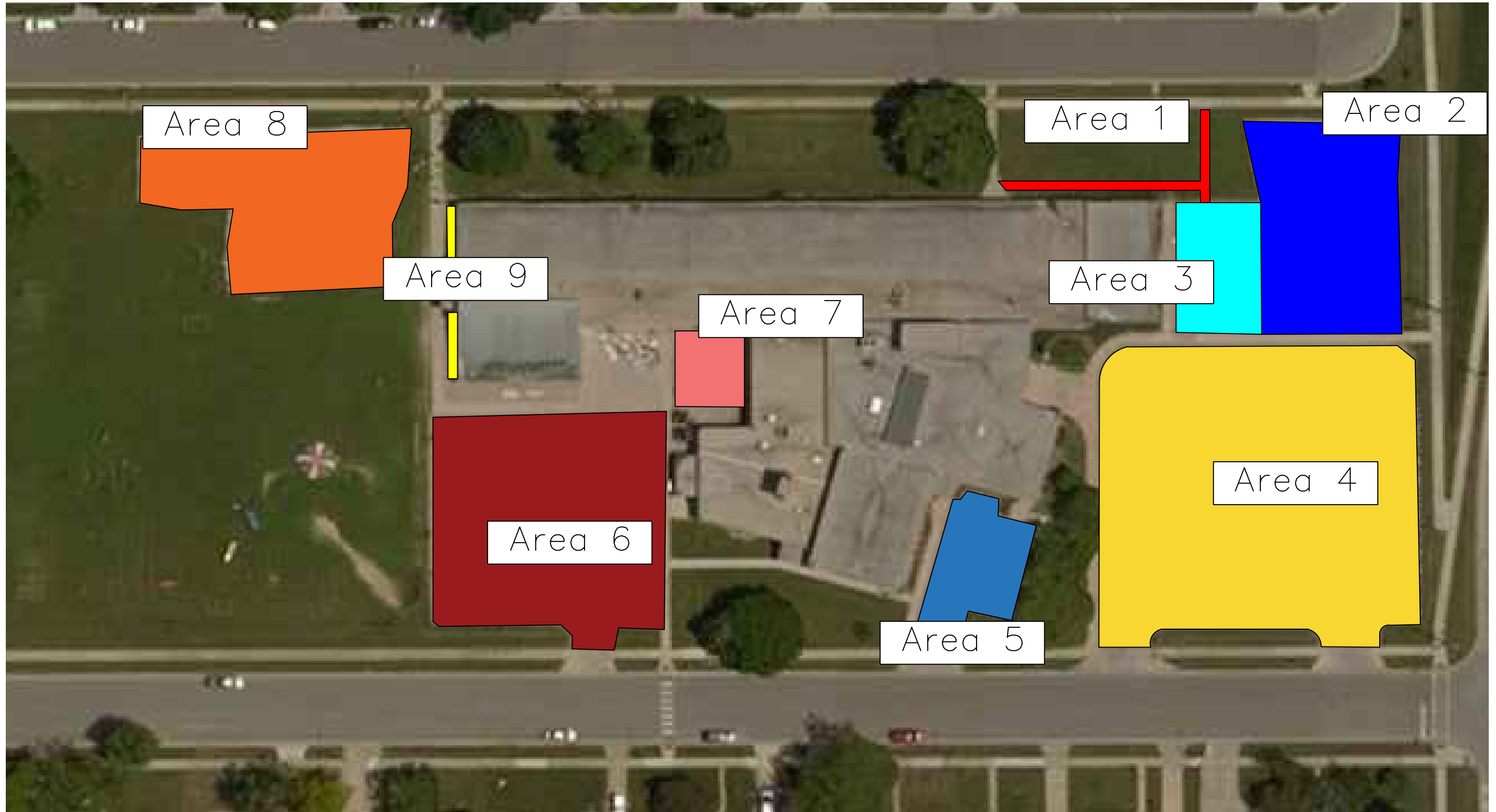
- Spalling on the edges of some sections of sidewalk and areas with large cracks
- ADA panels need to be added to where the sidewalk ramps down to the parking lot
- Sidewalk near south side of gym has curb an inch above existing pavement, poses a tripping hazard
- Concrete in front of entrance to 4K rooms is spalling badly

#### • Recommended Repair:

- Remove and replace the areas of sidewalk that have spalling or cracked
- Add ADA panels where needed
- Replace sidewalk on south side of gym with thickened edge sidewalk (curb integrated into sidewalk cross section)
- Replace concrete in front of 4K entrance (concrete is connected to school foundation)

### ADDITIONAL NOTES

- Metal benches on site are dated, worn, and rusted/stained



SITE PLAN  
not to scale

# HOOVER ELEMENTARY: ADA ACCESSIBILITY ASSESSMENT

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The following is an analysis of Hoover 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 do not meet 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)

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. Restrooms do not meet one or more of the above criteria for meeting 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).

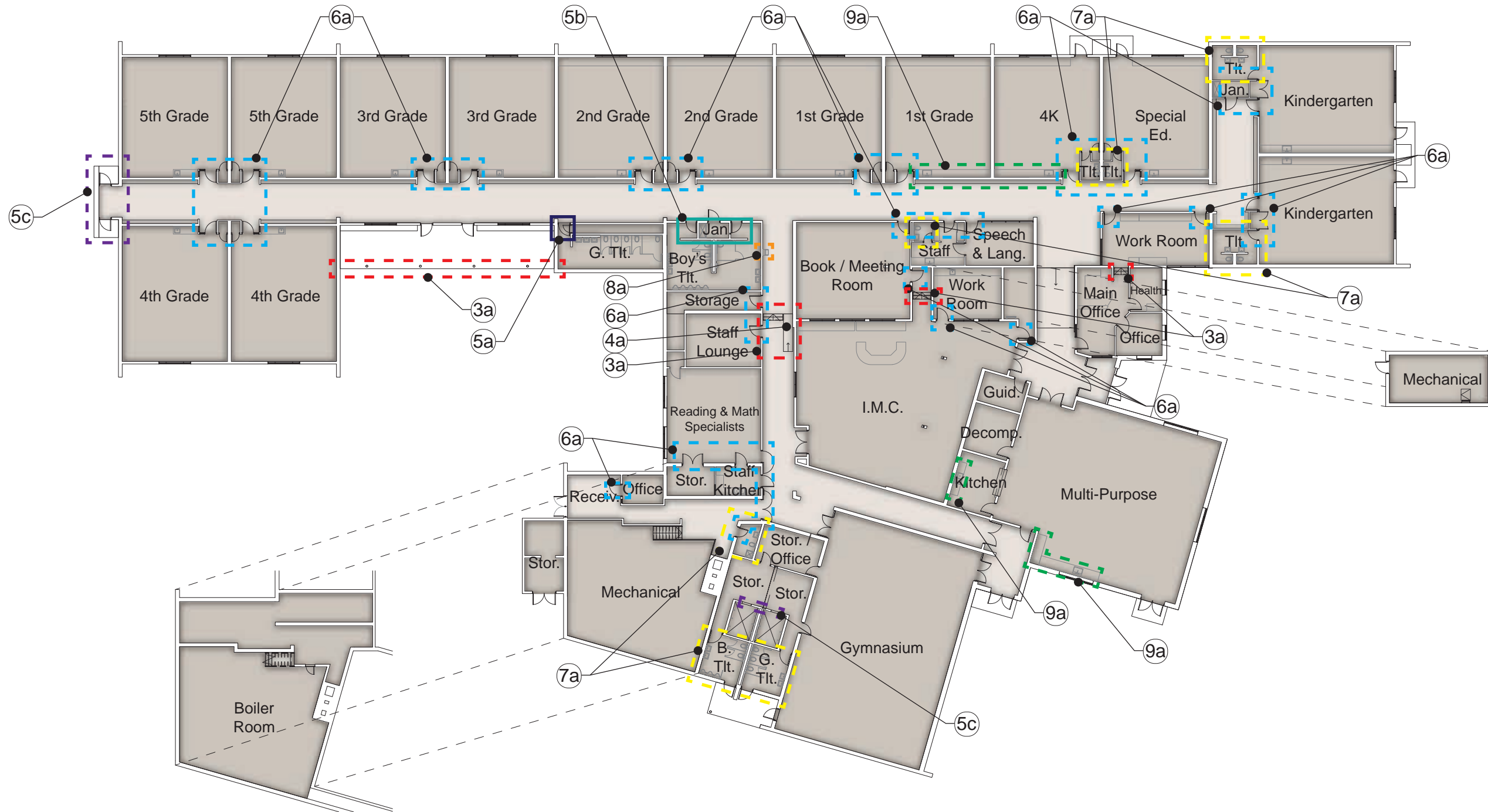
Objects more than 27" and not more than 80" above the floor shall protrude 4" maximum into the circulation path (307.2). Objects shall not reduce clear width required for accessible routes (307.5). Guardrails or other barriers shall be provided where object protrusion is beyond the limits allowed, and 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.



FIRST FLOOR PLAN  
not to scale

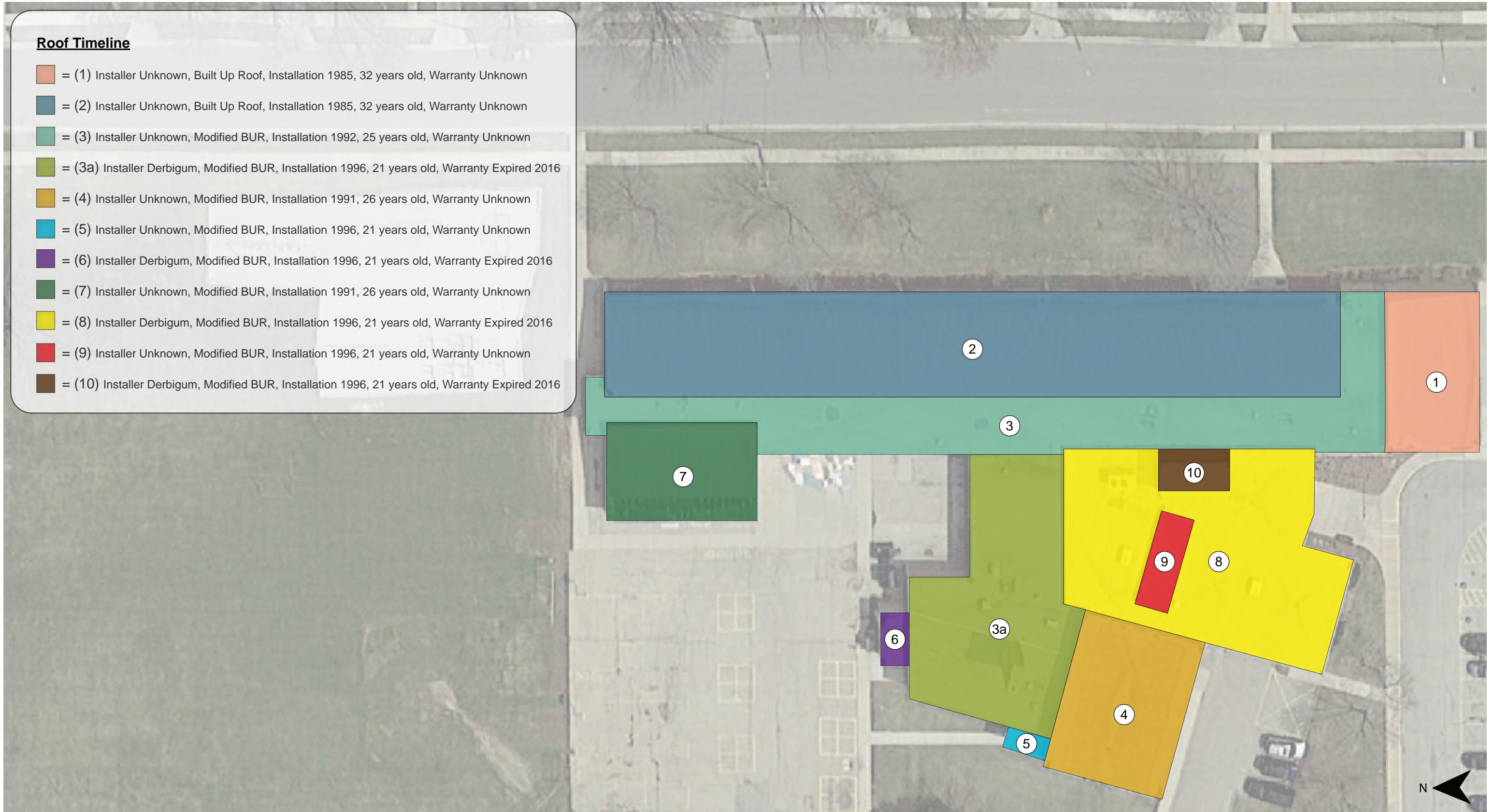




# HOOVER ELEMENTARY: ROOF PLAN

## Roof Timeline

- = (1) Installer Unknown, Built Up Roof, Installation 1985, 32 years old, Warranty Unknown
- = (2) Installer Unknown, Built Up Roof, Installation 1985, 32 years old, Warranty Unknown
- = (3) Installer Unknown, Modified BUR, Installation 1992, 25 years old, Warranty Unknown
- = (3a) Installer Derbigum, Modified BUR, Installation 1996, 21 years old, Warranty Expired 2016
- = (4) Installer Unknown, Modified BUR, Installation 1991, 26 years old, Warranty Unknown
- = (5) Installer Unknown, Modified BUR, Installation 1996, 21 years old, Warranty Unknown
- = (6) Installer Derbigum, Modified BUR, Installation 1996, 21 years old, Warranty Expired 2016
- = (7) Installer Unknown, Modified BUR, Installation 1991, 26 years old, Warranty Unknown
- = (8) Installer Derbigum, Modified BUR, Installation 1996, 21 years old, Warranty Expired 2016
- = (9) Installer Unknown, Modified BUR, Installation 1996, 21 years old, Warranty Unknown
- = (10) Installer Derbigum, Modified BUR, Installation 1996, 21 years old, Warranty Expired 2016



ROOF PLAN  
not to scale

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# HOOVER ELEMENTARY: EXTERIOR DOOR ANALYSIS

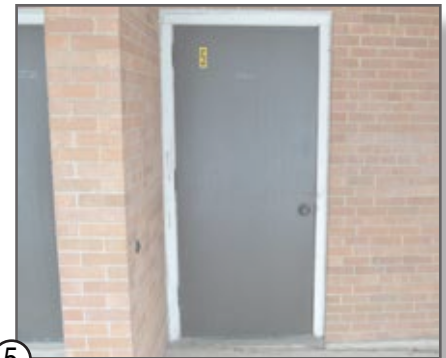
No.	Door Type	Frame Type
1	Aluminum	Aluminum Storefront
2	Hollow Metal	Hollow Metal
3	Aluminum	Aluminum
4	Aluminum	Aluminum
5	Wood	Wood
6	Wood	Wood
6A	Hollow Metal	Hollow Metal
7	Hollow Metal	Hollow Metal
8	Aluminum	Aluminum
9	Aluminum	Aluminum
10	Aluminum	Aluminum
11	Aluminum	Aluminum
12	Aluminum	Aluminum
13	Aluminum	Aluminum
14	Aluminum	Aluminum



① ALUMINUM DOORS & ALUMINUM STOREFRONT



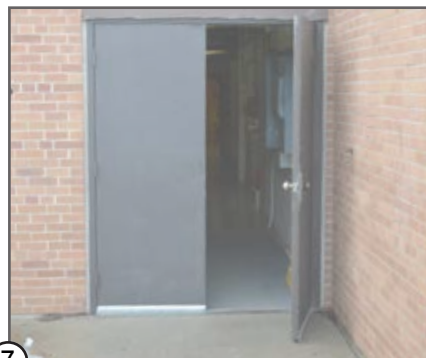
② HOLLOW METAL DOORS & HOLLOW METAL FRAME



⑤ WOOD DOOR & WOOD FRAME



⑬ ALUMINUM DOOR & ALUMINUM FRAME

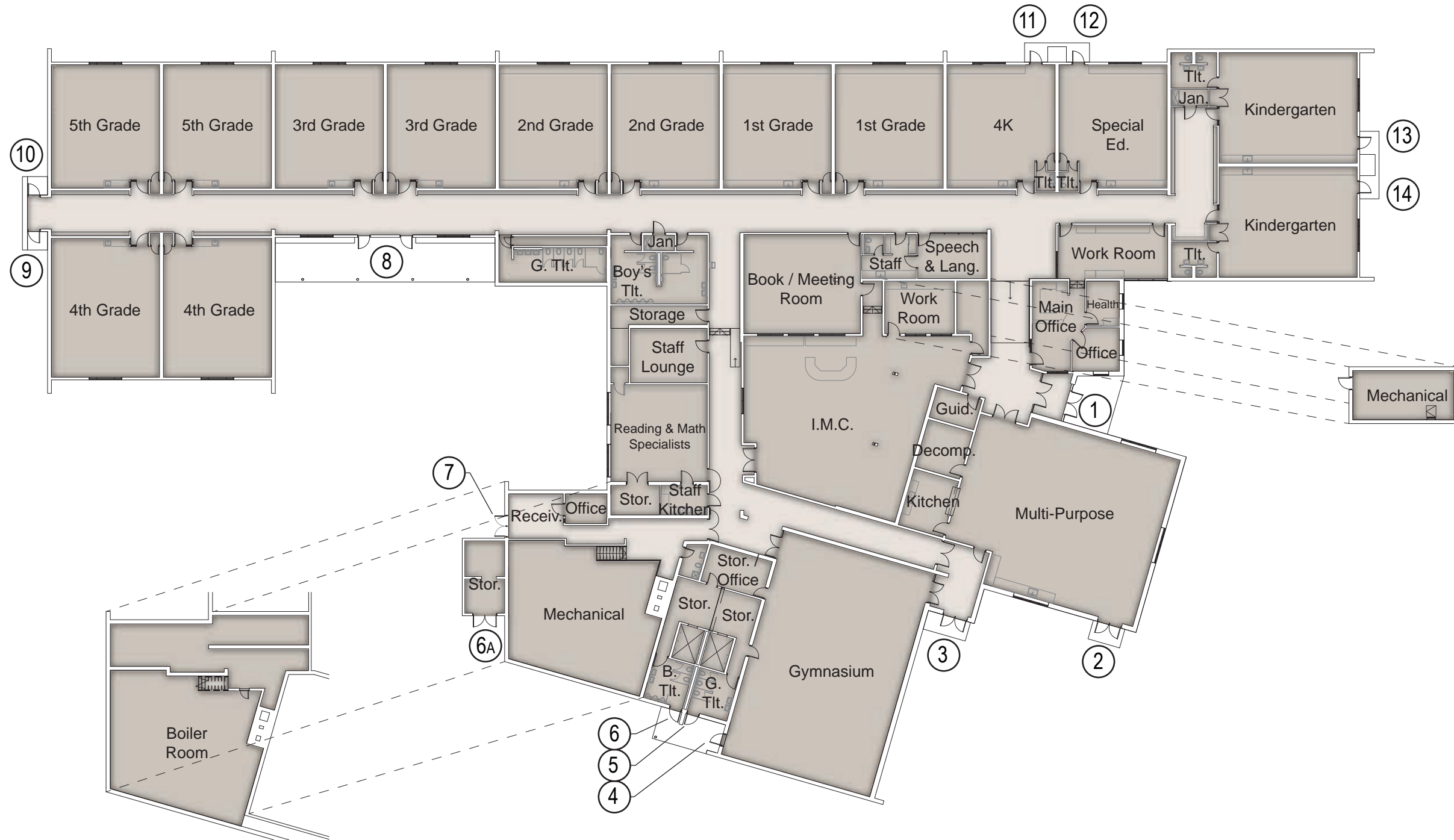


⑦ HOLLOW METAL DOORS & HOLLOW METAL FRAME



⑥A HOLLOW METAL DOORS & HOLLOW METAL FRAME

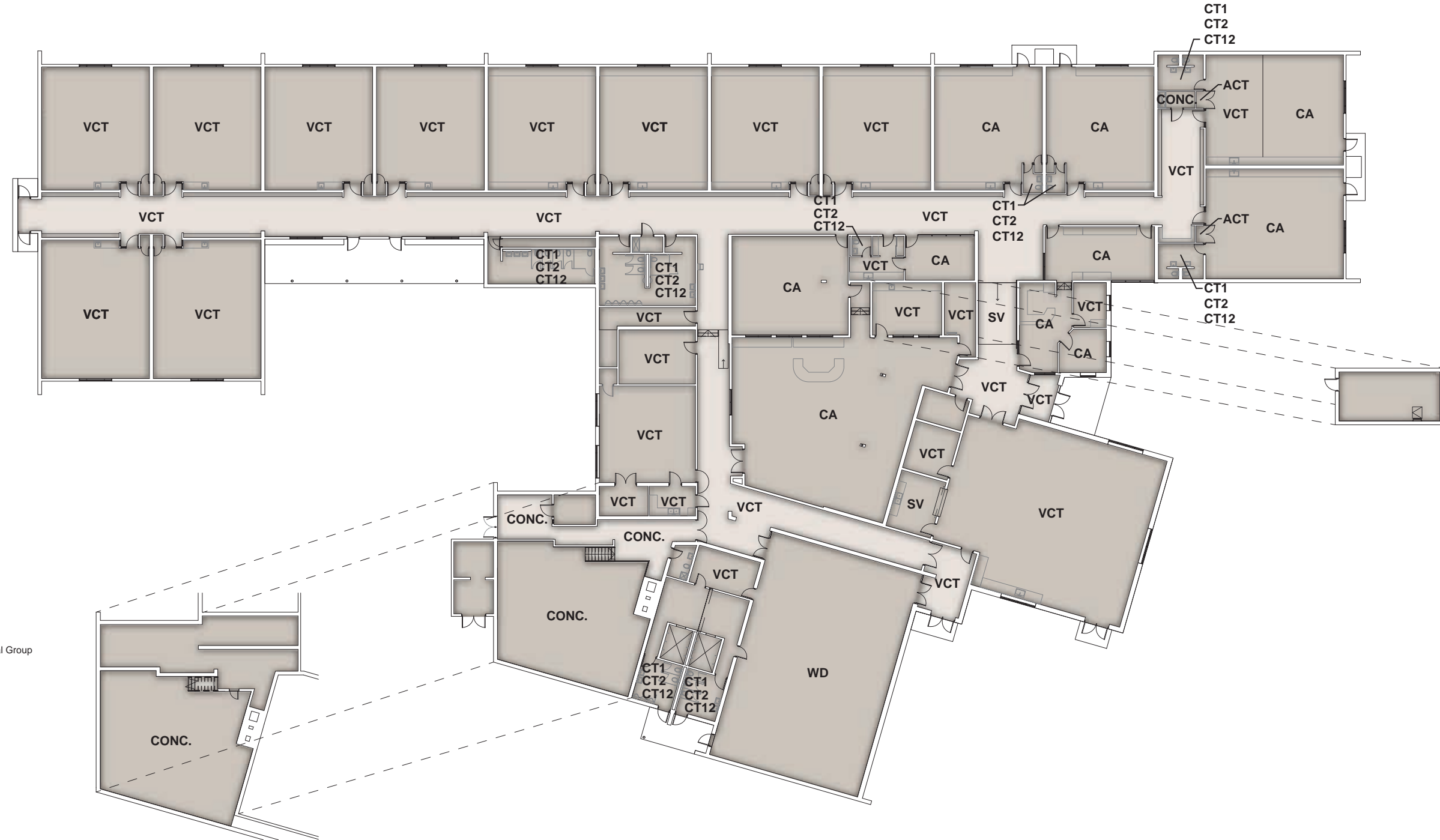
**HOOVER ELEMENTARY: EXTERIOR DOOR ANALYSIS**



# HOOVER 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

# HOOVER ELEMENTARY: ENGINEER REPORT - PLUMBING

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## **Plumbing System Review:**

The following report is the result of a site visit by Leslie Fry of Muermann Engineering, LLC that occurred in January 20, 2017. Site observations and interviews with staff were used in the preparation of this report.

The original building was built in 1953 with additions completed in 1958 and 1996.

## **Domestic Water**

### Observations

- A. Water is supplied to the building by what appears to be 3" water service which connects to the Municipal water system. The water meter is located in a fan room adjacent to the Boiler Room. 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. There is not fire suppression system in the building.

### Recommendations

- A. The water distribution piping in the original building and 1958 addition 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.
- B. If there are any new additions or major remodeling planned, a new larger water service will need to be provided.
- C. 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 piping in the building is below ground and could not be identified. There are no reported challenges.
- C. The building has a prep kitchen with a 2-compartment sink with no disposal. There is no grease interceptor.
- D. The classroom sinks do not have solids traps installed on the waste piping.
- E. The existing roof water is collected by internal roof drains and conductors which flow by gravity out the building and connect to the Municipal storm sewer system.
- F. There is a duplex clearwater sump pump located in the basement level for removing groundwater. The sump systems appear to be in fair to good condition.

### Recommendations





# HOOVER ELEMENTARY: ENGINEER REPORT - PLUMBING

- A. The sanitary sewer system in the original building and 1958 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 and 1958 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 pump should be monitored and repaired or replaced as necessary.

## Plumbing Equipment

### Observations

- A. The building has one domestic water heater with circulation pump that was installed in 2011. It appears to be in good condition.
- B. The domestic water is not softened.

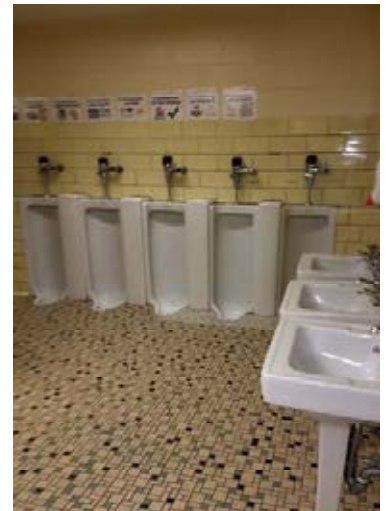
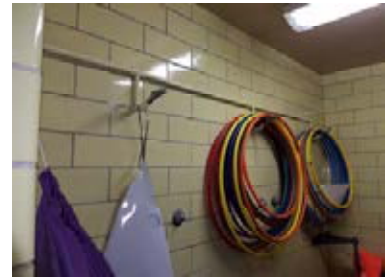
## Plumbing Fixtures

### 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. Some of the fixtures have been replaced with newer water efficient and ADA compliant fixtures.
- B. The water closets are floor set, flush valve type fixtures. The fixtures are old and in fair condition.
- C. The urinals in the building are floor set with sensor operated flush valves. The fixtures are old and are in fair condition.
- D. The lavatories in the building are wall hung with pedestals with multiple styles of faucets. They do not appear to be water conserving or ADA compliant and are in fair condition.
- E. The showers in the building have been abandoned.
- F. The drinking fountains in the building are either vitreous china drinking fountains or wall hung electric water coolers. They are not ADA compliant and are in fair condition. The fixtures are in good condition.
- 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.



## HOOVER ELEMENTARY: ENGINEER REPORT - PLUMBING

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- B. The urinals should be replaced with new water conserving and ADA compliant fixtures.
- C. The lavatories should be replaced with new water conserving and ADA compliant fixtures.
- D. The drinking fountains should be replaced with new ADA compliant fixtures with a bottle filler.
- E. 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 1953, with additions being constructed in 1958 and 1996.

### 1.1 Heating System

#### A. Existing Data

1. The boiler plant, installed in 1953, consists of two Kewanee steam boilers, each fired with natural gas. Each boiler has a capacity of 3,000,000 btu.
2. A hot water circuit serves the building. A heat exchanger on the steam side is used to transfer heat to the hot water circuit.
3. A base mounted pump (and a stand-by pump) pumps hot water throughout the building.

#### B. Observations

1. According to information obtained by the Owner, the boiler plants have some reserve capacity at this point as only one boiler is needed to heat the building for much of the winter.
2. The boiler plant is in poor condition. It has exceeded the estimated life expectancy of 30 years.
3. While the age of the heat exchanger and hot water pumps is 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 steam boilers. At the time of replacement, it is recommended that hot water boilers be installed in lieu of steam boilers. (The district has plans to replace the boilers in the summer of 2017.)
4. If new steam boilers are installed in lieu of hot water boilers, then 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 three systems that provide ventilation for the facility. The three systems are unit ventilators, variable air volume air handling systems and constant volume air handling systems.
2. The gymnasium is ventilated using unit ventilators. Unit ventilators house a fan, heating coil, fresh air damper, return air damper and controls in a single cabinet mounted in the space. Hot water piping is run to each unit.



3. The 1958 classrooms are ventilated using unit ventilators. Unit ventilators house a fan, heating coil, fresh air damper, return air damper and controls in a single cabinet mounted in the space. Hot water piping is run to each unit.
4. The 1996 addition is ventilated by variable air volume air handling systems. A variable air volume air handling unit consists of a central supply fan, hot water heating coil, DX cooling coil, roof mounted condensing unit, fresh air damper, return air damper and relief fan. Hot water variable air volume boxes are added to the ductwork to provide individual room temperature control.
5. The 1953 classrooms 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, fresh air damper and return air damper. The air is supplied into the tunnel and a booster coil in the tunnel provides individual room temperature control. Air cabinets are located along the perimeter wall in each classroom.

## **B. Observations**

1. The unit ventilators are original to the building. The units have exceeded the estimated life expectancy of 25 years.
2. The variable air volume air handling unit was installed in 1996 and is in good condition. The unit has an estimated life expectancy of 30 years.
3. The constant volume air handling unit was installed in 1953 and is in fair condition. The unit has exceeded the estimated life expectancy of 30 years.
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. 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.

# HOOVER 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 1953, with additions occurring in 1958 and 1996.

## Electric Service

### Observations

- A. The facility has a 600-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 3 additional breakers 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 a pad mounted transformer adjacent to the building with an underground 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

### 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.



Old Panelboard



C/T Cabinet & Utility Transformer

## 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.



XXXXX





# HOOVER ELEMENTARY: ENGINEER REPORT - ELECTRICAL

- 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.



Gymnasium Lighting



Exterior Wall Pack

## 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 4 receptacles in the whole room.

### 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.



## 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 (1) data rack, which has spare rack capacity for future needs. Data cabling management at the rack is run in a disorganized fashion with no labeling. There are also no provisions for backup power.

### 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 rack in the event of power loss.



Data Rack

## 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.

### 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 Box at Main Entrance

## 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

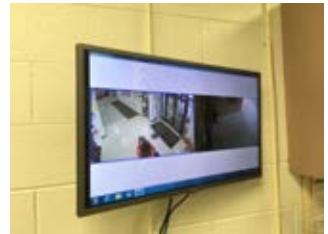
### Recommendations

- 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 15 more cameras to the system in the future.



CCTV Monitor

### Recommendations

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

## Fire Alarm System

### Observations

- A. The building has a Simplex fire alarm system that is about 15 years old and is in good working condition.
- B. The system is monitored and dials out to the fire department during a fire alarm event.
- C. Notification coverage is lacking by today's standards.

### Recommendations

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



Fire Alarm Control Panel

## Other Low Voltage Systems

### Observations

- A. The building does not have a security system.



## HOOVER ELEMENTARY: ENGINEER REPORT - ELECTRICAL

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- 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.

