

KARNS CITY AREA SCHOOL DISTRICT

1446 KITTANNING PIKE KARNS CITY · PENNSYLVANIA 16041

PHYSICAL NEEDS ASSESSMENT



KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

TABLE OF CONTENTS

Section I - Assessment and Evaluation

Chicora Elementary School

- Chicora Elementary School Site PlanI-1
- Chicora Elementary School Floor PlansI-2
- Chicora Elementary Assessment and EvaluationI-3 - I-11

Karns City Junior Senior High School

- Karns City Area Junior Senior High School Site PlanI-12
- Karns City Area Junior Senior High School Ground Level Floor PlanI-13
- Karns City Area Junior Senior High School First Level Floor PlanI-14
- Karns City Area Junior Senior High School Assessment and Evaluation.....I-15 - I-23

Attachment A

- Pennsylvania Department of Education Enrollment Projections

Section II - Scenarios

- District Scenarios.....II-1
- Scenario A.....II-2 - II-8
 - Scenario A Description
 - Scenario A Chicora Elementary Site Plan
 - Scenario A Chicora Elementary Floor Plans
 - Scenario A Karns City Junior Senior High School Site Plan
 - Scenario A Karns City Junior Senior High School Ground Level Floor Plan
 - Scenario A Karns City Junior Senior High School First Level Floor Plan
 - Scenario A Probable Construction Costs
- Scenario B.....II-9 - II-15
 - Scenario B Description
 - Scenario B Chicora Elementary Site Plan
 - Scenario B Chicora Elementary Floor Plans
 - Scenario B Karns City Junior Senior High School Site Plan
 - Scenario B Karns City Junior Senior High School Ground Level Floor Plan
 - Scenario B Karns City Junior Senior High School First Level Floor Plan
 - Scenario B Probable Construction Costs
- Scenario C.....II-16 - II-23
 - Scenario C Description
 - Scenario C New Elementary School Site Plan
 - Scenario C New Elementary School First Floor Plan
 - Scenario C New Elementary School Second Floor Plan
 - Scenario C Karns City Junior Senior High School Site Plan
 - Scenario C Karns City Junior Senior High School Ground Level Floor Plan
 - Scenario C Karns City Junior Senior High School First Level Floor Plan
 - Scenario C Probable Construction Cost
- Scenario D.....II-24 - II-28
 - Scenario D Description
 - Scenario D Site Plan
 - Scenario D New Athletic
 - Scenario D New Maintenance Garage Floor Plan

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Section III – Summary of Scenarios

- Summary of ScenariosIII-1
- Summary of Probable Construction CostsIII-2

Section IV – Project Team

- Project TeamIV-1
- Resumes–Canzian/Johnston & Associates, LLCIV-2 - IV-4
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 - Heather Werkeiser
 - Dante Cicconi, PLA
- Resumes – AJC Professional Services – MEP ConsultantIV-5
 - Eric Horvat, PE, LEED AP

Section I Assessment and Evaluation

KARNS CITY AREA SCHOOL DISTRICT

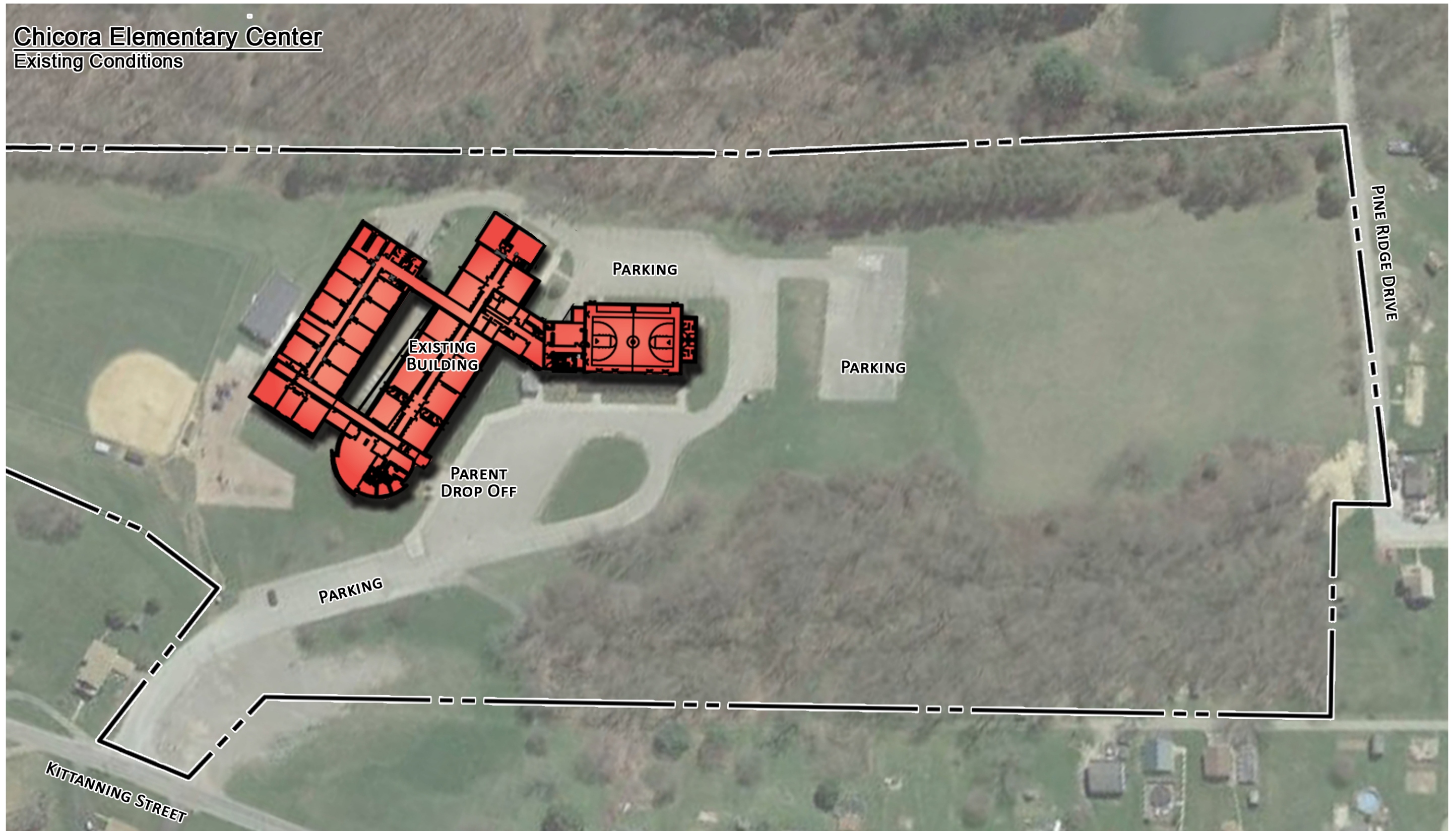
Physical Needs Assessment

Chicora Elementary School

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Chicora Elementary Center
Existing Conditions



Chicora Elementary Center
Existing Conditions



ASSESSMENT: *Chicora Elementary School*

I GENERAL DESCRIPTION

- Chicora Elementary School is a one story building constructed in 1960. The original building consisted of 11 classrooms and ancillary spaces. The first addition was added in 1975 with a major addition in 1996, bringing the building to the current size. The roof was replaced on the original structure in 1999. The District’s softball field was added in 2001 and the primary play equipment in 2007 and 2009.
- The site contains 19.65 acres.
- Asbestos has been removed from the building.

• Building Area: Lower Level (classroom and mechanical)	5,005 sq. ft.
First Floor	53,769 sq. ft.
<hr/>	
Building Total	58,774 sq. ft.

II SUMMARY OF SPACES

- 19 Regular Classrooms
- 3 Kindergarten Classrooms
- 4 Special Education Classrooms
- 3 Computer Rooms
- 1 Library
- 1 Multi-Purpose Room
- 1 Kitchen
- 1 Health Suite
- 1 Administration Suite
- 1 Faculty Room
- Locker Rooms
- Restrooms
- 1 Modular Classroom Building (currently housing art and music classrooms)

III SITE DESCRIPTION

The site is gently rolling with many highs and lows. Paved parking areas flank the building to the north and west for daytime visitors. A paved driveway and student drop off/bus loading area connect the two parking areas. Larger paved parking areas are located to the west and southwest of the multipurpose room and are generally used for evening activities and overflow parking. Handicapped parking spaces are not provided for daytime visitors.

The High School softball field is located to the east of the building and doubles as part of the elementary play yard. The softball field has roughly a four foot change in elevation from plate to center field. The modular classroom building and the play equipment are located on the east side of the elementary building between the 1996 addition and the softball field.



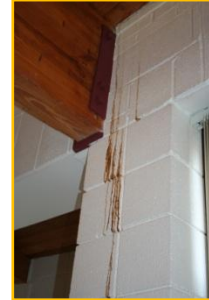
IV STRUCTURE AND COMPONENTS

The last major project to occur at Chicora Elementary was the addition and renovations in 1996 with partial roof replacements in 1999 and 2012.



With the inception of full day Kindergarten in 2004, a modular classroom building was installed to quickly provide the required additional space. The modular classroom currently houses the art and music classes. Students travel outside to attend one of the specials.

The structure is sound, however, the roof on the 1996 portion of the building has leaked since the original installation. There are numerous locations throughout the building with continual roof leaks, however, the District has performed mold testing and mold has not been found as a result of the roof leaks. Plastic laminate counters in the Library are delaminating from the recurrent moisture problems and supplies located in the main storage room in the administration suite have been ruined from the wetness. The canopy roofs are also leaking and the soffit falls when saturated and heavy. The roof should be fully replaced.



Additionally, there are further upgrades that should be addressed. The casework and classroom doors original to the building were not replaced as part the 1996 project. Instead, they were painted and are now chipped and unsightly. The sinks associated with the casework are not used in many rooms because they do not turn off and water is constantly dripping. The large sidelights adjacent to the doors have been broken in many instances and the glass has been replaced with an opaque plexi-glass. The school is divided into the upper elementary wing and the primary wing. The classroom cubbies in the upper elementary wing are undersized for the larger students and therefore are lacking adequate space for their coats and belongings. The Kindergarten Suite on the first floor and the Head Start Suite on the lower level are both comprised of two classrooms with shared toilet spaces. The classrooms are not separated by a wall/door assembly and therefore sound travels between the classrooms. The stair to the Head Start Suite is located within the Kindergarten Suite.

Building security is a major concern. Not only is the main entrance not signed at the exterior, the building lacks current security standards such as the 'mouse trap' approach that is currently one of the design practices for primary school entrances. The Elementary School's main entrance lacks a closed vestibule. Once a visitor enters through the front doors, he or she gains access to the entire building. Most exterior doors do have a key fob / card reader.



With a re-design of the front entrance to provide security, privacy between faculty and administration should be addressed. The front/main entrance also lack toilet facilities. There are no facilities for building administration or public use near the main entrance.

The multi-purpose room not only serves many functions including cafeteria, gymnasium and auditorium at Chicora Elementary, but Junior High sports utilize the space as well. The kitchen is adequate for the number of students currently enrolled at Chicora Elementary, however, storage is inadequate. The tables are currently stored in an alcove when not in use and the storage room is used by multiple personnel. The washer and dryer are located in the kitchen corridor.



Maintenance garage space is limited and overcrowded. Parking is adequate although not utilized to the fullest extent due to the distance away from the main entrance and lack of handicap accessibility.



LACK OF SEPARATION
BETWEEN
KINDERGARTEN
CLASSROOMS



TOILET ROOM FLOOR TILE



RE-FINISHED CASEWORK



PAINTED CLASSROOM DOOR



CLASSROOM ENTRANCE WITH OPAQUE
PLEXI-GLASS



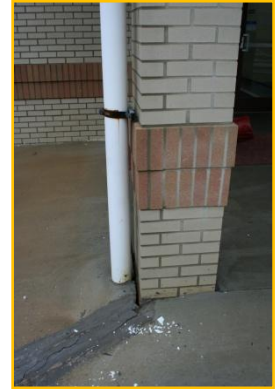
MULTIPURPOSE ROOM STORAGE
ALCOVE

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment



EXTERIOR CONCRETE AT MODULAR CLASSROOM



EXTERIOR CONCRETE AT MODULAR CLASSROOM



LACK OF HANDICAPPED ACCESSIBLE PARKING



LACK OF HANDICAPPED ACCESSIBLE PARKING



UNDER UTILIZED COURTYARD

V MECHANICAL, PLUMBING, AND ELECTRIC

HVAC

Chicora Elementary is heated and cooled using a two-pipe system for hot water and chilled water. The two-pipe system precludes the simultaneous heating and cooling of multiple spaces in the swing seasons. For instance, a heavily used interior space such as the library/computer room cannot be cooled while an exterior classroom space is being heated. The existing piping systems are showing signs of degradation due to numerous leaks over the past several years. The insulation is also compromised because it was reportedly never upgraded for the conversion to chilled water. A chilled water system requires insulation with a vapor barrier to prevent humid air from reaching the cold piping in the cooling seasons. The lack of a vapor barrier in the insulation is also contributing to the degradation of the piping and the instances of “leaks” and ruined ceiling tiles as water condenses on the piping and drips during the humid cooling seasons.

Hot water is generated from two natural gas fired, copper fin tube boilers which were installed during the building renovation of 1996. With a standard life expectancy of 25 years, the boilers are approaching the end of their life expectancy. Chilled water is produced by a 120-ton, outdoor, air-cooled chiller installed approximately 7 years ago and within its expected service life of 20 years. The chilled water system once contained glycol to allow for operation year-round however the glycol was removed due to the maintenance costs associated with adding glycol after repairing the numerous leaks in the system. Hot and chilled water is pumped throughout the system using base-mounted hot water pumps installed in 1996. Both pumps show surface rust but are functional, and are approaching their 20-year expected service life.

Air is distributed within the classrooms and cafeteria primarily with unit ventilators, which were installed as part of the 1996 renovation. This equipment has a typical life expectancy of 15-20 years. The equipment is well maintained but at or near the end of its expected usable life. An air handling unit heats and ventilates the multipurpose room, however this room is not air conditioned. Corridors are heated with cabinet radiation. In addition, maintenance and storage type areas are conditioned using suspended unit heaters. A separate direct expansion condensing unit provides additional air conditioning to the office server area, however a hallway closet is being used for additional server space for the small computer lab, camera system and security system which is not cooled. Reportedly, several rooms experienced a severe, stale “smell” for a period of one month in the fall. Remediation measures included adding drainage to the window wells below the air intakes. Instances such as this can be corrected through an overall ventilation system as opposed to the current individual ventilation systems at the unitary equipment.

Heating and cooling is controlled using pneumatic thermostats and a combination of the original control system and components installed in 1996. An air compressor operates year round to provide makeup air for the pneumatic system. Pneumatic control systems are outdated and have higher operating and maintenance costs associated with operating the air compressor and system/thermostat calibration. It should be replaced with a modern DDC control system. General building exhaust and kitchen exhaust is accomplished using rooftop mounted exhaust fans installed in 1996. With a life expectancy of 15-20 years, the exhaust equipment is at the end of its expected usable life although it is well maintained which tends to extend these life expectancies. Existing exhaust hoods in the kitchen serve the cooking and dishwashing areas and are inspected yearly and within compliance. In the past, the kitchen staff had reported that the hoods did not seem to be operating correctly.

Plumbing

The building is served with domestic water from the local water authority. The building utility water service does not currently include a fire service sprinkler connection, nor is the existing service piping sized such that a fire service can be installed without costs such as upgrading the service, adding a fire pump, adding storage, etc. It is likely the building will require the installation of some form of a fire sprinkler system as part of a significant renovation/addition, as the current Code requires fire sprinkler protection. Domestic hot water is produced using a standard, glass-lined commercial natural gas storage-type water heater. The domestic hot water system was recently installed in 2008 and is in the final third of its life expectancy of 12 years.

There are three central restroom facilities, boys and girls, boys and girls locker rooms, staff men's and women's restroom, and several smaller toilet rooms within special areas such as the kindergarten and kitchen. Plumbing fixtures are white vitreous china, flush valve style and were installed as part of the 1996 renovation. Plumbing fixtures are likely not water conserving models and have a life expectancy of approximately 25 years. They are currently nearing the end of their expected useful life.

Building sewage is conveyed to the public sanitation authority's system. Much of the original sanitary drainage piping is cast iron which has been cracking longitudinally along the top of the piping. While it hasn't necessarily contributed to leaks, it has added to odors in the spaces. Where identified, this piping has been replaced with PVC piping. A unitary grease interceptor is installed on the kitchen waste drainage line at the three-bowl sink prior to connecting with the sanitary waste. Several sump pumps are in operation in various parts of the building. A natural gas service supplies the buildings heat, domestic hot water and powers the majority of the kitchen cooking equipment. An emergency gas shutoff is located in the egress path for the kitchen equipment.

Roof drainage consists of roof drains and rain leaders piped to a separate storm water system. The roof drainage has been a source of constant maintenance problems in certain locations such as the canopy and library. Storm water is then conveyed to the existing storm water system.

Electrical

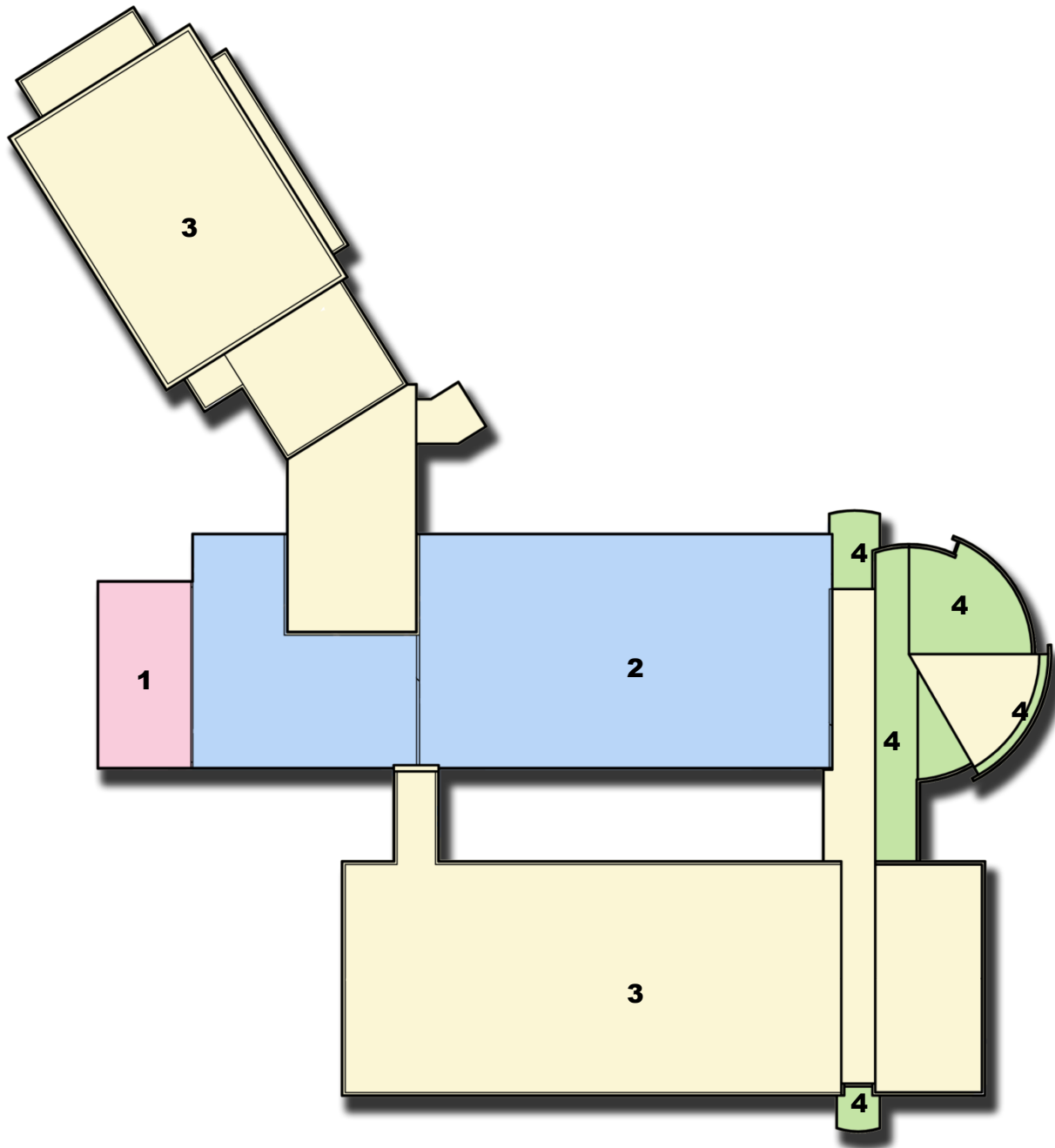
The building is served by a 1600A, 208/120V, 3-phase, 4-wire underground service from a pad mount transformer located outside the building. Ground fault equipment on the main service switch was not evident, which is required per the current Code. The distribution equipment is General Electric and was installed as part of the 1996 building renovation. The equipment has a life expectancy of 30 years and is still within its expected life. Emergency lighting is accomplished through a 225A, 208V automatic transfer switch and 60 kW natural gas generator installed in 1996. In addition to lighting, the buildings heat, phone and PA systems, as well as the kitchen freezer and cooler, are also on emergency backup power. Life expectancy for a standby, natural gas generator is approximately 25 years meaning the generator is nearing the end of its expected useful life. General power receptacles in classroom areas are largely wiremold type systems installed when the building was renovated. The library and kitchen areas lack adequate countertop power receptacles.

Interior lighting is largely accomplished by 24-cell, 2' x 4', parabolic fluorescent fixtures which have been retrofitted by the District with T-8 lamps as part of a State grant. In addition, occupancy sensors have also been purchased by the District and are being installed as time permits. Lighting control in the classrooms is limited to a single switch control, which does not provide the ability to reduce the lighting levels during projector and/or Promethean board use. Dual switching for reduced lighting levels is also a current Code requirement. The cafeteria lighting has been renovated with T-5 high bay fluorescent fixtures. The lighting systems are reasonably up to date with these changes. Lighting fixtures generally have a 20 year expected service life, and the majority of fixtures were installed in the 1996 renovation, however with the re-lamping the fixture life has been somewhat extended. Exterior lighting is a mixture of building mounted floodlights and pole mounted area lights, which use incandescent and HID lamps. Exterior fixtures are controlled by a timeclock.

A fire alarm control panel is located in the mechanical room and an annunciator is located at the main entrance outside the office. Horn/strobes are located in the occupied spaces and strobe only units are located in the restrooms. Manual pull stations are located at the exits and dedicated phone lines are installed to dial out in case of an alarm condition. Generally, the system is in compliance with the current Code.

The building is secured using key fobs at the main access points however the magnetic door locks at the main entrance have been disabled. The clock systems are independent, battery units. Telephones are located in each classroom and office areas. There are no classroom television units, nor are the classrooms cabled. A one-way PA system serves the building

ROOF PLAN: *Chicora Elementary School*



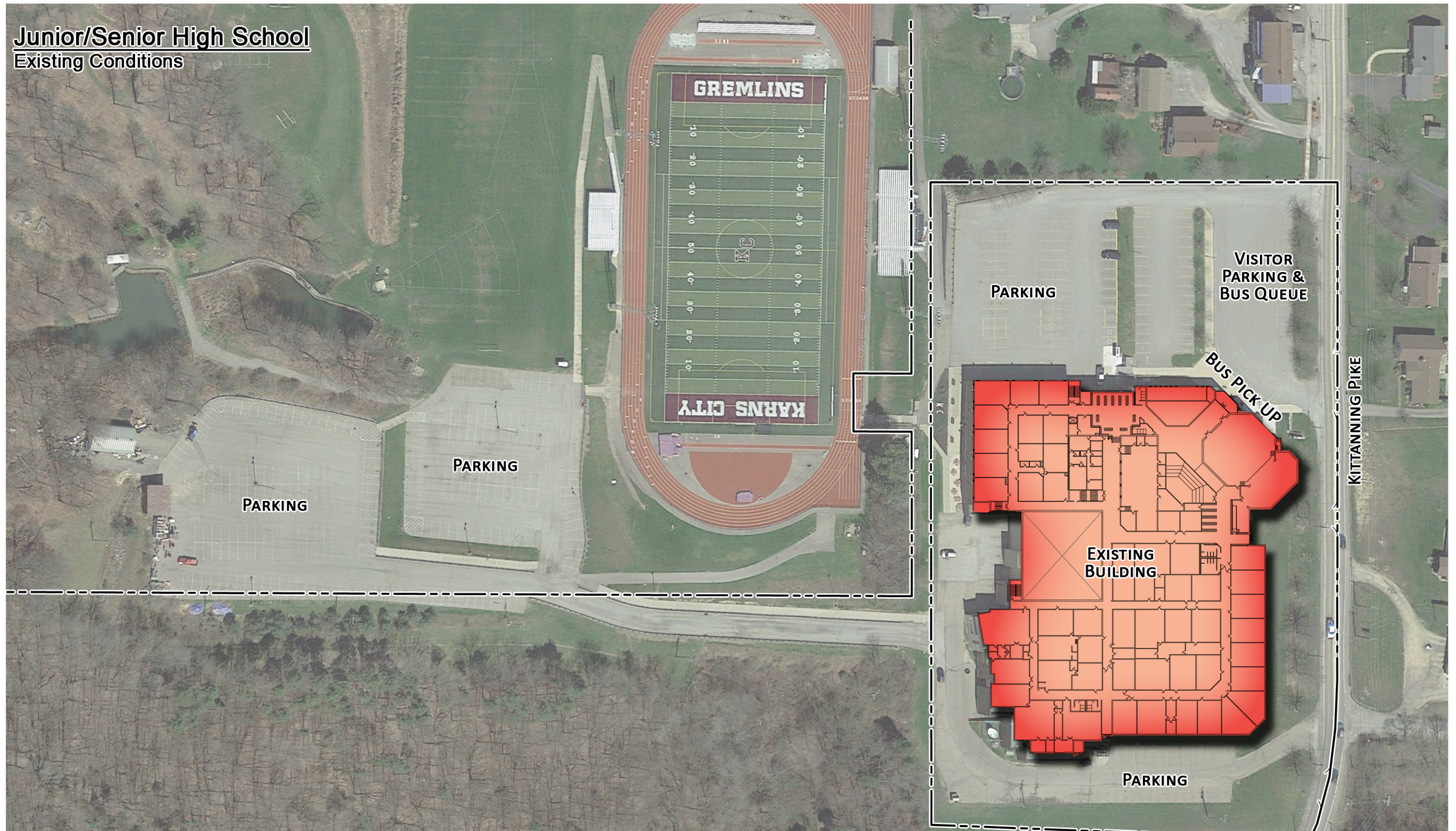
- 1** Existing Garland Roof Warranty Expired 2007
- 2** Existing Garland Roof Warranty Expired 2014
- 3** Existing Siplast Mineral Surface Roof, Expired
- 4** Existing Garland Roof Warranty Expires 2037

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

**Karns City Area
Junior Senior High School**

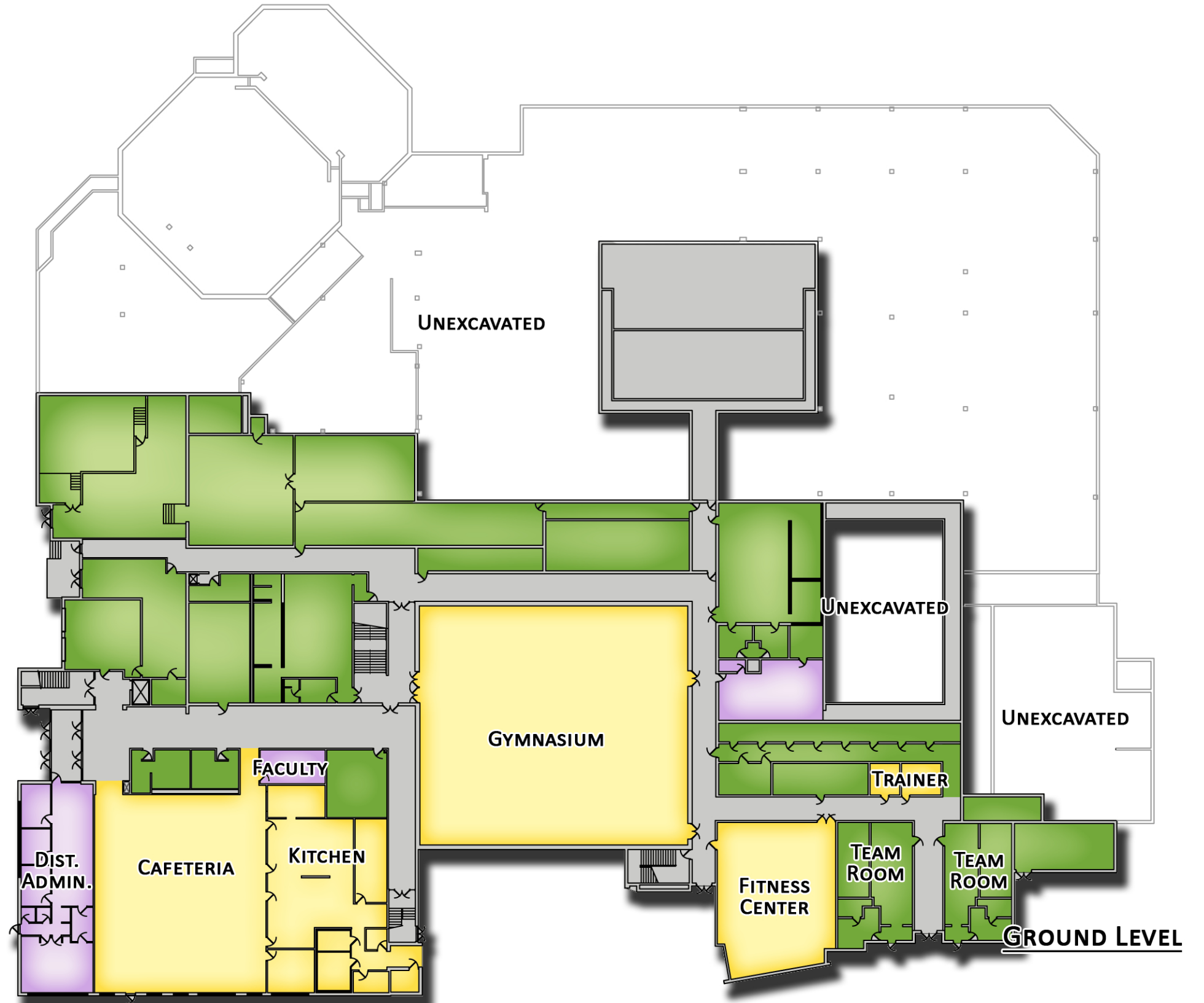
Junior/Senior High School
Existing Conditions



Junior/Senior High School
Existing Conditions

LEGEND

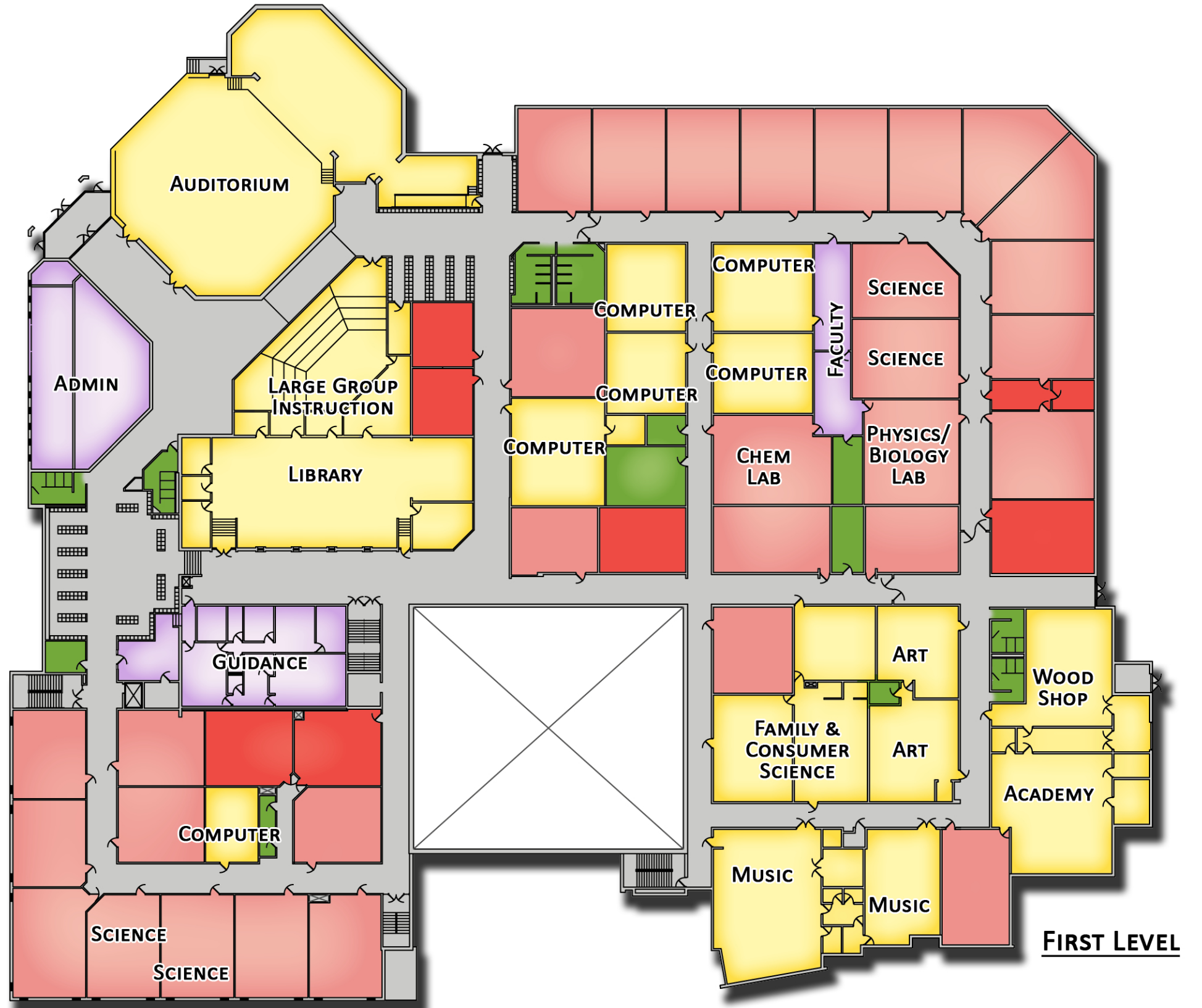
- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



Junior/Senior High School
Existing Conditions

LEGEND

Grey	EGRESS & CIRCULATION
Green	MECHANICAL & TOILET ROOMS
Light Red	CLASSROOM
Dark Red	SPECIAL EDUCATION
Purple	ADMIN AND FACULTY
Yellow	SPECIAL



KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

ASSESSMENT: Karns City Junior Senior High School

I GENERAL DESCRIPTION

- Karns City Junior Senior High School is a two story building originally constructed in 1962. Major additions were constructed in 1981 and 1996.
- The Junior Senior High School site contains 6.44 acres however the District owns 74.69 total acres encompassing the High School Property.
- Asbestos is present in the 9" vinyl floor tile and mastic and in the science lab benches and sinks.
- Building area:

Lower Level -	57,265 Square Feet
First Floor -	95,373 Square Feet
Building Total -	152,638 Square Feet

II SUMMARY OF SPACES

- 26 Regular Classrooms
- 4 Special Education Classrooms
- 4 Science Classrooms
- 3 Science Labs
- 5 Computer Rooms
- 1 Learning Lab
- 1 Library
- 3 Family and Consumer Science Classrooms
- 1 Large Group Instruction
- 1 Auditorium / Stage
- 2 Band Room
- 1 Chorus Room
- 2 Art Room
- 1 Wood Shop
- 1 Academy
- 1 Gymnasium
- 1 Fitness Center
- 1 Kitchen
- 1 Cafeteria
- 1 Health Suite
- 1 Guidance Suite
- 1 Administration Suite
- 1 District Administration Suite
- 1 Faculty Room
- 2 Locker Rooms
- 2 Team Rooms
- Restrooms
- Mechanical / Maintenance
- Storage

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

III SITE DESCRIPTION



The Junior Senior High School site runs along the west side of Route 268. Although relatively flat with a gentle parallel to the road, the site beyond Route 268 is multi-level. A double tiered parking lot greets visitors as they enter the site. The upper lot is utilized by the Junior Senior High School and the lower lot for district Administration and Maintenance. As one continues around the building to the west, the earthen bowled track colored in red is available for viewing. The track has grandstands on two sides complete with a pressbox closest the building.

Above the track to the west is an additional double tiered parking lot. To the north of the parking lot is a memorial garden and science and nature reserve complete with pond, gazebo and wetlands. A maintenance storage shed flanks the western portion of the parking lot. Beyond the parking lot is acres of natural, undeveloped, rolling land that eventually meets Fairmont Road. A junior senior high school parking lot is waiting for visitors on the south side of the building as well.

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

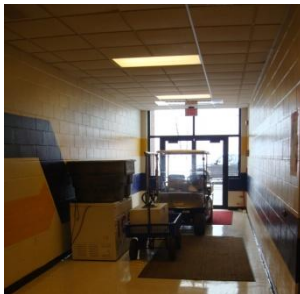
IV STRUCTURE AND COMPONENTS

The last major work to the Karns City Junior Senior High School was completed in 1996. The structure appears sound and well maintained however is in need of a few updates.

There are many areas throughout the Junior Senior High School Building that do not meet current accessibility guidelines. The gymnasium locker rooms, coaches toilet facilities, public toilet facilities, the library, district administration, door hardware and the ramp outside the cafeteria are a few of the locations throughout the building that require accessibility upgrades.

The gymnasium, although original to the structure with little improvements over the decades, remains in decent shape. The divider curtain and hoops date to 1962. The gymnasium floor has been sanded three times and has outlived its life expectancy. By current standards it is considered too small for many tournaments but serves the physical education program adequately. An auxiliary gymnasium would aid the Physical Education department's need. Batting practice occurs in the gymnasium which is aging the gymnasium quickly. Glazing in doors have been broken and the newer synthetic bleachers have been cracked. The locker rooms serving the gymnasium are adequate in size and location but have also had few improvements over the years. The gang shower facilities have curbs which negate all accessibility guidelines. Hot water takes many minutes to arrive at the point of discharge which wastes gallons of water every year. The painted block walls are peeling. The toilet facilities are not accessible and there are no doors on the boy's water closet stalls. The corridor leading to the boy's locker room has the feeling of a back or service corridor with horrible acoustics and limited finishes. The Athletic Director's office also serves as the in-school suspension room. Team rooms contain no lockers instead have concrete benches with wall hooks, The Athletic trainer appears cramped in space allotted and utilizes the corridor for additional space.

It is recommended that the bleachers located at the football field be inspected for missing bolts and connectors. Portions of the bleachers give when stepped on. The pressbox is in need of electrical and finish updates.



District wide storage occurs throughout the Junior Senior High School campus. There are a multitude of unorganized, overcrowded storage rooms as well as many nooks, crannies and corridors being utilized as storage. The district golf cart is currently stored in an egress corridor and the ancillary maintenance storage building is being utilized as district storage. In turn, the maintenance department is lacking much needed garage space for vehicle storage, repair and cleaning. Building cleaning supplies are scattered throughout as opposed to being inventoried in one central location.

Exterior conditions on the Junior Senior High School Campus also are in need of updates. Exterior concrete work in some areas should be replaced, the lower parking lot should be repaved, exterior site lighting, although is adequate, is very inefficient.

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment



OVERCROWDED STORAGE ROOM



STAIRS WITH CRACKED TREADS



CRACKED BLEACHER FACE



CROWDED MAINTENANCE GARAGE

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment



NON ACCESSIBLE
TOILET ROOM



BROKEN FIRE
EXTINGUISHER COVER



ART KILN UTILIZED
AS STORAGE ROOM



CRACKED FLOOR TILE



MISSING TILE AT STAIRS



SINK WITH DELAMINATED EDGE



SCIENCE LAB WITH HUMIDITY SAGGED
CEILING TILE (roof above has been repaired)

V MECHANICAL, PLUMBING, AND ELECTRIC

- *HVAC*

Karns City Junior-Senior High School is conditioned with several different systems, including steam, hot water, chilled water and direct expansion refrigeration. Steam from two, 1981-era, 125-HP, tri-fuel, fire-tube boilers is used to generate hot water. The fuel oil system has been disconnected and the boilers fire mainly on natural gas. A coal bin supplies coal to the boilers which haven't been fired on coal for over 14 years according to staff. There is no automatic method for removing coal ash from the boilers. Ash is removed using manual labor and an overhead crane system. The boilers expected life is 20-25 years and they have been able to exceed their life expectancy through careful maintenance. In the past year, the boiler controls, gasketing, seals and tubes have been upgraded with the hopes of extending the boiler system life by 5 years.

Steam is piped to two shell and tube heat exchangers, one installed in 1981 and the other in 1996. Steam terminal equipment is limited to the gymnasium air-handling unit and several small radiators. In addition, condensate pumps, boiler feedwater pumps, chemical treatment, etc are also required to operate the steam generating plant. This equipment also has life expectancies that do not extend past 25 years. Hot water is distributed to the 1981 addition with 7½ HP, lead/lag base mounted pumps installed with the addition. The 1996 expansion uses 5 HP base mounted pumps. Base mounted pumps have a life expectancy of 20 years. The steam condensate pump in the 1996 mechanical room is currently leaking.

A 90-ton chiller with two remote condensing units, installed in 1981, provides cooling for some of the interior classrooms. Life expectancy for this equipment is 20 years, which has been exceeded largely due to proper maintenance. Chilled water is circulated by a single, 5 HP base mounted pump installed in 1981 and is available year round. A significant number of 2- to 5-ton DX split systems installed in 1981 supply cooling to upper level spaces in conjunction with cabinet ventilators. Reasonable life expectancy for a direct expansion split system is 15 years. The gymnasium is not currently air-conditioned. During the walkthrough, a significant amount of ceiling tiles were sagging/drooping which could be caused by elevated humidity levels in the building.

Steam, hot water and chilled water piping systems are also a combination of systems from the original building construction and the two renovations. As a general rule, existing piping was not replaced during the previous renovations, therefore a significant portion of the piping systems are 35-55 years old. Generally, the life expectancy of piping systems is 25-40 years, with steel steam piping being on the shorter end of life expectancy. Main piping systems are at the end of their usable life.

Air is distributed within the classrooms and cafeteria primarily with hot water heating cabinet ventilators which were installed as part of the 1981 and 1996 renovations. Many of these also serve interior classrooms and have rooftop mounted DX condensing units. This equipment has a typical life expectancy of 15-20 years. The equipment is well maintained but has met and exceeded its expected usable life. An air handling unit heats and ventilates the multipurpose room, however this room is not air conditioned. Corridors are heated with convector radiation. In addition, maintenance and storage type areas are conditioned using suspended unit heaters. A separate direct expansion condensing unit provides additional air conditioning to the office server area. A hallway closet is being used for additional server space for the small computer lab, camera system and security system which is not cooled.

Heating and cooling is controlled using pneumatic thermostats and a combination of control system components installed in 1981 and 1996. Two air compressors operate year round to

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

provide makeup air for the pneumatic system. Pneumatic control systems are outdated and have higher operating and maintenance costs associated with operating the air compressor and system/thermostat calibration. It should be replaced with a modern DDC control system.

General building exhaust and kitchen exhaust is accomplished using rooftop mounted exhaust fans and gravity ventilators installed in 1981 and 1996. With a life expectancy of 15-20 years, the exhaust equipment is at the end of its expected usable life although it is well maintained which tends to extend these life expectancies. Existing exhaust hoods in the kitchen serve the cooking and dishwashing areas and are inspected yearly and within compliance, however, this equipment was also installed in the 1981 renovation. The ceiling grid in the dishwashing room is visually rusty, indicating high humidity levels and possible inefficient/failing hood operation. Additionally, a clothes dryer in that space vents within the space instead of to the exterior. The kitchen area is also significantly negatively pressured in comparison to the exterior as was evidenced by the breeze when one of the concession windows was opened. In addition, hoods are located in the science and art classrooms. The wood shop utilizes a negatively pressured dust collection system and several independent, recirculation smoke eaters.

- *Plumbing*

The building is served with domestic water from a private company's well system located within the property boundaries. An old, unused cistern was recently filled. The domestic water piping system service entrance is PVC and does not include a backflow preventer or an expansion tank. The water service pressure is inadequate and requires a booster system and a 1,500 gallon storage tank. The pressure is boosted by a pump skid consisting of three 3 HP vertical pumps. Installed in 1981, the storage tank has a life expectancy of 35 years, and the pumps have already begun to be replaced. In addition, the domestic water system includes a water softener tank installed in 2011 and an iron filter installed in 1981. In 2015, a new 8" piping connection was extended from the Utility along the highway into the mechanical room. This line is currently capped within the mechanical room and has not yet been placed in service. The building does not currently include a fire protection sprinkler system as required by the current Code.

Domestic hot water is produced for the 1981 addition by two natural gas, condensing water heaters with a 500-gallon commercial storage tank. The domestic hot water system was recently installed in 2008 and is well within its life expectancy. In the 1996 addition, locker rooms and restrooms receive domestic hot water from a natural gas, hot water heater with a glass-lined storage tank replaced in 2014 and is well within its life expectancy.

There are three central restroom facilities, boys and girls, boys and girls locker rooms, staff men's and women's restroom, and several smaller toilet rooms within special areas such as the coaches room, nurse's suite and kitchen. Sinks are located in specialty classrooms such as science and art. Plumbing fixtures are wall mounted, flush valve style and were installed as part of the 1981 and 1996 renovations. Plumbing fixtures are likely not water conserving models and have a life expectancy of approximately 25 years. The plumbing fixtures in the 1981 renovation have exceeded their usable life and repair parts are becoming difficult to obtain, especially with the shower fixtures. Mixing valves for the shower rooms are located in each individual shower room. Hot water is not recirculated to this equipment, therefore considerable time is required for hot water flow at the shower.

Building sewage is conveyed to the public sanitation authorities system. Neutralization tanks and acid piping is installed for the science rooms. A grease interceptor is not evident in the kitchen sanitary waste plumbing. Several sump pumps are in operation in various parts of the building. A natural gas service supplies the building heat, domestic hot water and powers the majority of the kitchen cooking equipment. In addition, gas service is available in the science classrooms. Classroom shutoff valves are located in the science prep room which is not consistent with current Code. An emergency gas shutoff in the egress path for the kitchen equipment was not

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

evident. Roof drainage consists of roof drains and rain leaders piped to a separate storm water system.

- *Electrical*

The building is served by an 800A, 480/277V, 3-phase, 4-wire underground service from a pad mount transformer located outside the building. Ground fault equipment on the main service switch was not evident, which is required per the current Code. Multiple dry-type transformers provide 208/120V power for utilization throughout the building. The distribution equipment is a combination of General Electric and Square D, depending on which renovation the gear was installed. A portion of the main service entrance gear is original to the building and at approximately 50 years in operation is beyond its 30 year expected life.

A 180 kW, 480V, 3-phase diesel generator provides emergency power through a 225-amp transfer switch. An annunciator panel is located at the main administrative office entrance. The emergency power system is used for emergency lighting, the buildings heat, phone and PA systems, as well as the kitchen freezer and cooler, are also on emergency backup power. Life expectancy for a standby, natural gas generator is approximately 25 years. General power receptacles in classroom areas are largely wiremold type systems installed when the building was renovated. The kitchen equipment is powered solely by electric at this time.

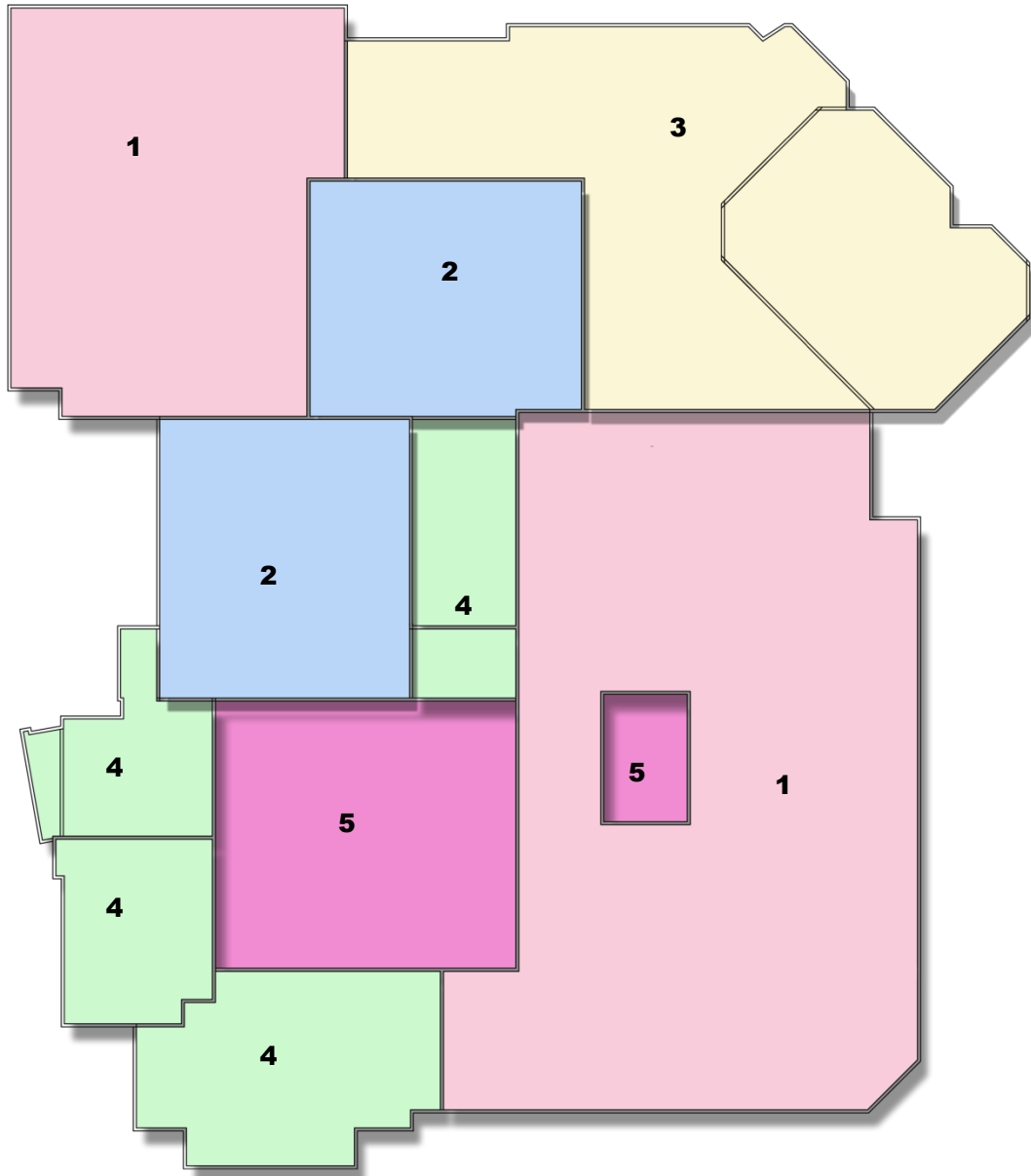
Interior lighting is largely accomplished by 2' x 4' fluorescent fixtures with parabolic lenses in the classrooms and prismatic lenses in the general spaces. These lights have been retrofitted by the district with T-8 lamps as part of a State grant. In addition, occupancy sensors have also been purchased by the District and are being installed as time permits. Lighting control in the classrooms is limited to a single switch control, which does not provide the ability to reduce the lighting levels during projector and/or promethean board use. Dual switching for reduced lighting levels is also a current Code requirement. Utility rooms largely utilize T-12 fluorescent lighting, and high-wattage quartz lights are also minimally located throughout the building, for instance in the Senior High locker area. Gymnasium lighting has been renovated with T-5 high bay fluorescent fixtures and is controlled with a lighting control panel for several dimming levels. The lighting systems are approaching their general life expectancy of 20 years, although the re-lamping has extended their life somewhat. Although fixtures have been retrofitted, the 1981 addition fixtures are beyond their life expectancy. Lighting systems for the stage are capable of dimming for theatrical productions, however one of the dimming systems is original and component breakers are no longer available. Exterior lighting is a mixture of building mounted floodlights and pole mounted area lights, which use incandescent and HID lamps. Exterior fixtures for general lighting are controlled by a timeclock. The athletic field is also lighted and is controlled manually.

The fire alarm systems are a combination of systems from the 1981 and 1996 renovations. A fire alarm control panel is located in the upper level server room and an annunciator panel is located in the vestibule of the upper main entrance. Generally, the fire alarm system from 1981 is deficient in several areas with respect to current Code requirements, such as locations of pull stations, lack of horns and strobe units in restrooms, classrooms and offices, etc. The 1996 system is generally still in compliance with the current Code. The kitchen hood suppression system is not currently connected to the building wide fire alarm system which does not meet the current Code requirements. The building is secured using swipe cards at the main access points. A one-way PA system serves the building. The science classrooms are provided with Wi-Fi and the computer classrooms have hard-wired internet access.

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

ROOF PLAN: Karns City Junior Senior High School



- 1** Existing Garland Roof, Warranty Expired 2013
- 2** Existing Garland Roof, Warranty Expired 2011
- 3** Existing Garland Roof, Warranty Expired 2012
- 4** Existing Siplast Surface Roof, Unknown Warranty
- 5** Existing Garland Roof Warranty Expires 2037

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

**Attachment a
Pennsylvania
Department of Education
Enrollment Projections**

Karns City Area SD 1-04-10-360-3

YEAR	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
2007-2008	92	141	152	146	130	128	132	127	158	173	125	140	119	1763
2008-2009	90	106	131	149	138	133	129	130	128	168	143	114	130	1689
2009-2010	125	99	97	129	149	130	132	130	128	143	141	120	122	1645
2010-2011	93	144	96	102	133	149	132	139	126	145	114	122	123	1618
2011-2012	131	92	132	96	95	129	143	139	135	142	124	100	123	1581
P R O J E C T I O N S														
2012-2013	97	104	86	133	94	93	128	151	137	150	118	108	101	1500
2013-2014	92	97	97	86	130	92	92	135	148	152	124	103	109	1457
2014-2015	106	92	90	97	84	128	91	97	133	164	126	108	104	1420
2015-2016	93	105	86	90	95	83	127	96	95	148	136	110	109	1373
2016-2017	91	92	98	86	88	93	82	134	94	105	123	119	111	1316
2017-2018	89	91	86	98	84	87	92	86	132	104	87	107	120	1263
2018-2019	87	89	85	86	96	83	86	97	85	147	86	76	108	1211
2019-2020	85	87	83	85	84	94	82	91	95	94	122	75	77	1154
2020-2021	83	85	81	83	83	83	93	86	89	105	78	107	76	1132
2021-2022	81	83	79	81	81	82	82	98	85	99	87	68	108	1114

Various Grade Groupings of the Enrollment Projections

YEAR	K-4	K-5	K-6	K-7	K-8	K-9	K-12	5-8	6-8	7-8	6-9	7-9	7-12	8-12	9-12	10-12
2011-2012	546	675	818	957	1092	1234	1581	546	417	274	559	416	763	624	489	347
2016-2017	455	548	630	764	858	963	1316	403	310	228	415	333	686	552	458	353
2021-2022	405	487	569	667	752	851	1114	347	265	183	364	282	545	447	362	263
2011-2012 to 2021-2022																
Change	-141	-188	-249	-290	-340	-383	-467	-199	-152	-91	-195	-134	-218	-177	-127	-84
Percent	-25.8	-27.9	-30.4	-30.3	-31.1	-31.0	-29.5	-36.4	-36.5	-33.2	-34.9	-32.2	-28.6	-28.4	-26.0	-24.2

- Notes:
1. Excludes students in full-time out-of-district special education, comprehensive AVTSs, charter schools, state-owned schools, consortium-operated alternative high schools, and juvenile correctional institutions.
 2. Enrollment projections beyond five years are subject to errors in the lower grades resulting from inconsistencies between actual and projected live births and should be reviewed closely.
 3. Four year old kindergarten students, if any, added to K enrollments.
 4. Elementary and secondary ungraded students were distributed among the grades. Therefore, enrollments by grade may differ from those reported by the local education agencies.

- Sources:
1. Public School Enrollment Report (ESPE) and Pennsylvania Information Management System (PIMS)
 2. Resident Live Birth file, 2010, supplied by the Division of Health Statistics, Pennsylvania Department of Health. The Department of Health specifically disclaims responsibility for any analyses, interpretations or conclusions.

Karns City Area SD 1-04-10-360-3

Retention Rates by Grade by Year

Birth to K	1		2		3		4		5		6		7		8		9		10		11		
	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	Birth	to	
2007-2008 to 2008-2009	0.78261	0.94643	0.92908	0.98026	0.94521	1.02308	1.00781	0.98485	1.00787	1.06329	0.82659	0.91200	0.92857										
2008-2009 to 2009-2010	0.97656	0.86087	0.91509	0.98473	1.00000	0.94203	0.99248	1.00775	0.98462	1.11719	0.83929	0.83916	1.07018										
2009-2010 to 2010-2011	0.77500	1.12500	0.96970	1.05155	1.03101	1.00000	1.01538	1.05303	0.96923	1.13281	0.79720	0.86525	1.02500										
2010-2011 to 2011-2012	1.16964	0.76667	0.91667	1.00000	0.93137	0.96992	0.95973	1.05303	0.97122	1.12698	0.85517	0.87719	1.00820										

Rates Used in Projection Enrollments

0.92595	0.92474	0.93263	1.00413	0.97689	0.98375	0.99385	1.05303	0.98323	1.11006	0.82956	0.87340	1.00798
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Average Retention Rates for All Years

0.92595	0.92474	0.93263	1.00413	0.97689	0.98375	0.99385	1.02466	0.98323	1.11006	0.82956	0.87340	1.00798
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Year	Births	Year	Births	Year	Births	Year	Births
2002	112	2003	115	2004	128	2005	120
2007	105	2008	99	2009	114	2010	100
2012	96	2013	94	2014	92	2015	90
				2016	88		

Section II Scenarios

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

District Scenarios

The goal of this assessment is to evaluate the District's existing educational facilities and help to determine how well they serve the needs of the Karns City Area School District.

At the initial scoping meeting, the project team discussed the District as it is currently structured and the need to save maintenance costs. It was decided at that meeting that Sugarcreek Elementary School would not be included in this study as it will ultimately be closed. The assessment was focused on Chicora Elementary School, the Junior Senior High School and a possible single campus District.

At the initial scoping meeting and throughout the course of preparing this assessment, the project team discussed the merits of possible differing scenarios. Of the scenarios considered, three were felt to have merit and were explored in depth. These scenarios are not intended to be followed exactly but were merely viewed as a means to understand the District's concerns at hand.

Areas of review included architectural components such as security, finishes, circulation, capacity and enrollment projections, mechanical, electrical and plumbing systems, and site constraints.

Scenario A maintains the current grade alignment. Chicora Elementary School is expanded to receive all elementary students. The Junior Senior High School is renovated.

Scenario B realigns the grade levels. Chicora Elementary School is expanded to receive all elementary students in grades K-5. The Junior Senior High School is renovated. Through scheduling, the Administration feels no additional classrooms are needed to accommodate sixth grade. A gymnasium is added to the existing Junior Senior High School to replace the Sugarcreek Elementary gymnasium.

Scenario C accommodates a single campus District by adding a new K-6 Elementary Center on property near the existing Junior Senior High School and closing Chicora Elementary School. The existing Junior Senior High School is renovated.

Scenario D does not address the educational facilities however it considers some of the extracurricular needs of the District. Scenario D introduces a new maintenance garage and fieldhouse to the District.

It is important to note the Board is not limited to scenarios explored in this document. Through discussions generated by review of this study, the Board may come upon other options or combinations of these scenarios that it wishes to consider. Canzian/Johnston & Associates LLC stands ready to provide an analysis of any additional options that the Board feels may have merit.

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Scenario A

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Scenario A

Chicora Elementary School – District Wide K-6

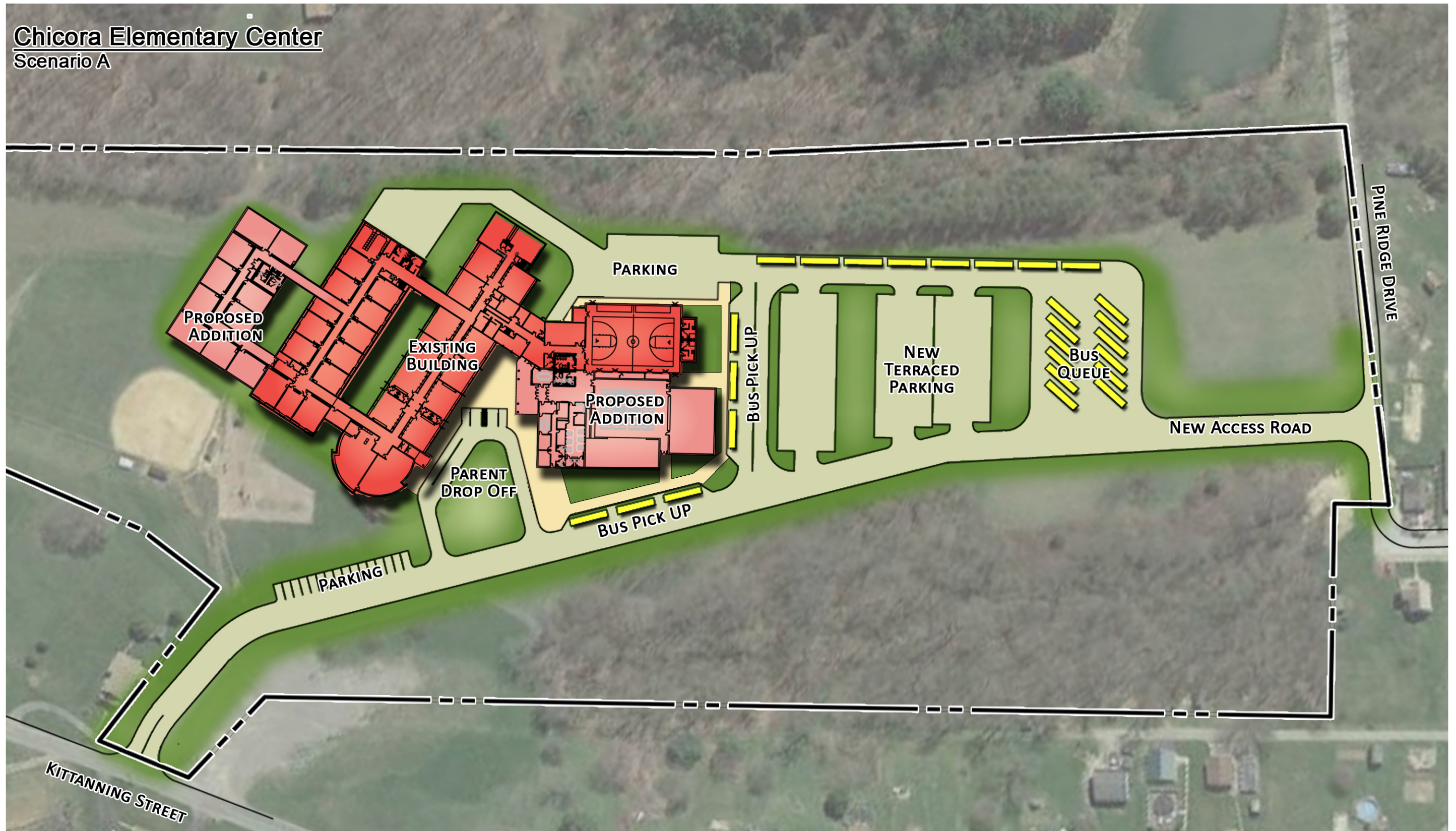
Enlarge the existing building to include:

- 5 Kindergarten Classrooms
- 5 First Grade Classrooms
- 5 Second Grade Classrooms
- 4 Third Grade Classrooms
- 4 Fourth Grade Classrooms
- 4 Fifth Grade Classrooms
- 4 Sixth Grade Classrooms
- 6 Special Education Rooms
- 1 Science Lab
- 1 Art Room
- 1 Computer Classroom
- 1 Music Classroom
- 1 Media Center
- 1 Steam Center
- 1 Cafetorium
- 1 Stage / Band Room
- 1 Gymnasium
- Administration Suite
- Health Suite
- Guidance Offices
- Faculty Lounges
- Kitchen
- Toilet Facilities / Mechanical / Storage

Karns City Area Junior Senior High School

Renovate the existing building to bring up to current standards.







Chicora Elementary Center
Scenario A



KARNS CITY AREA SCHOOL DISTRICT

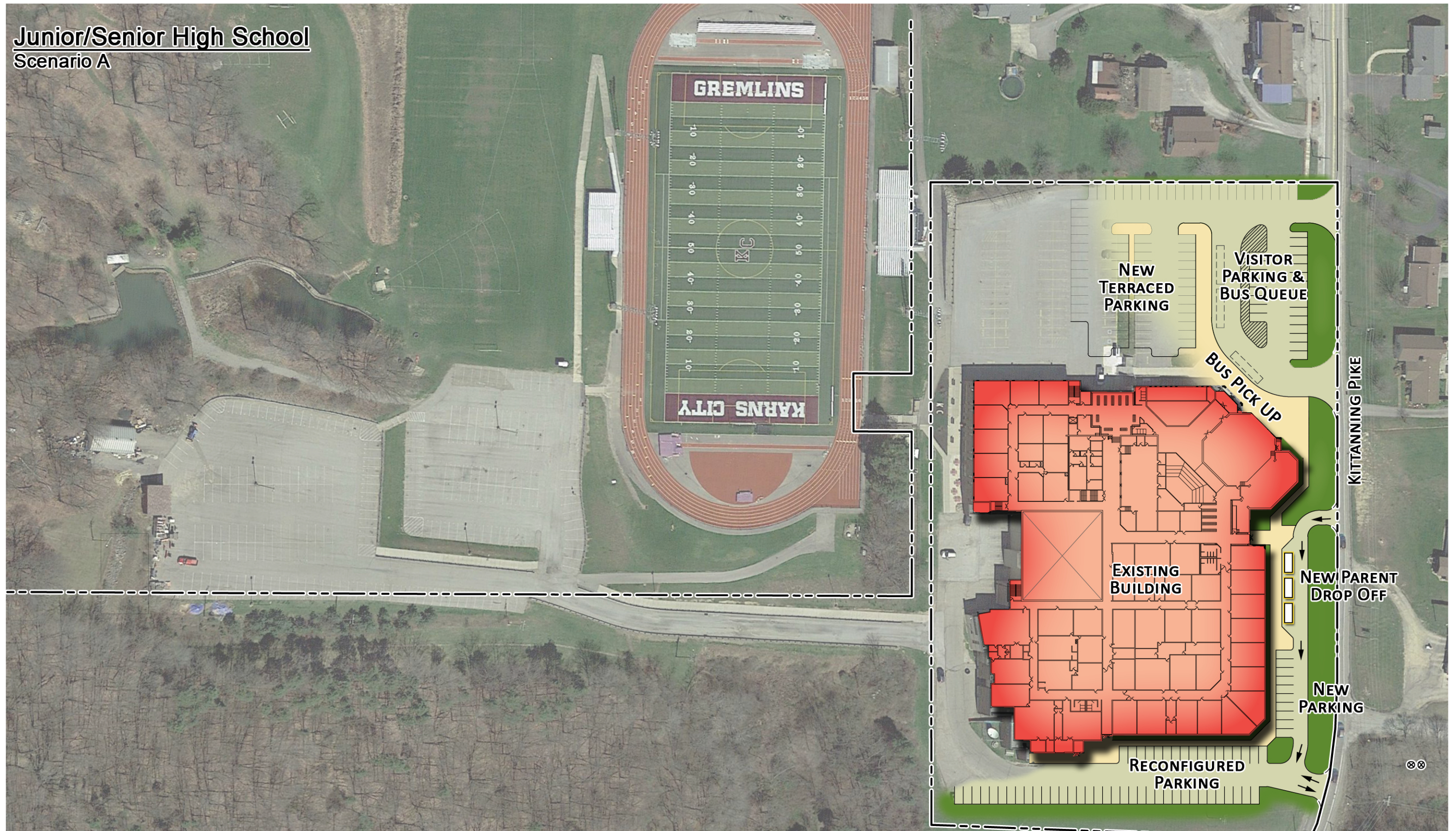
Physical Needs Assessment

Chicora Elementary Center
Scenario A

LEGEND	
	EGRESS & CIRCULATION
	MECHANICAL & TOILET ROOMS
	CLASSROOM
	SPECIAL EDUCATION
	ADMIN AND FACULTY
	SPECIAL



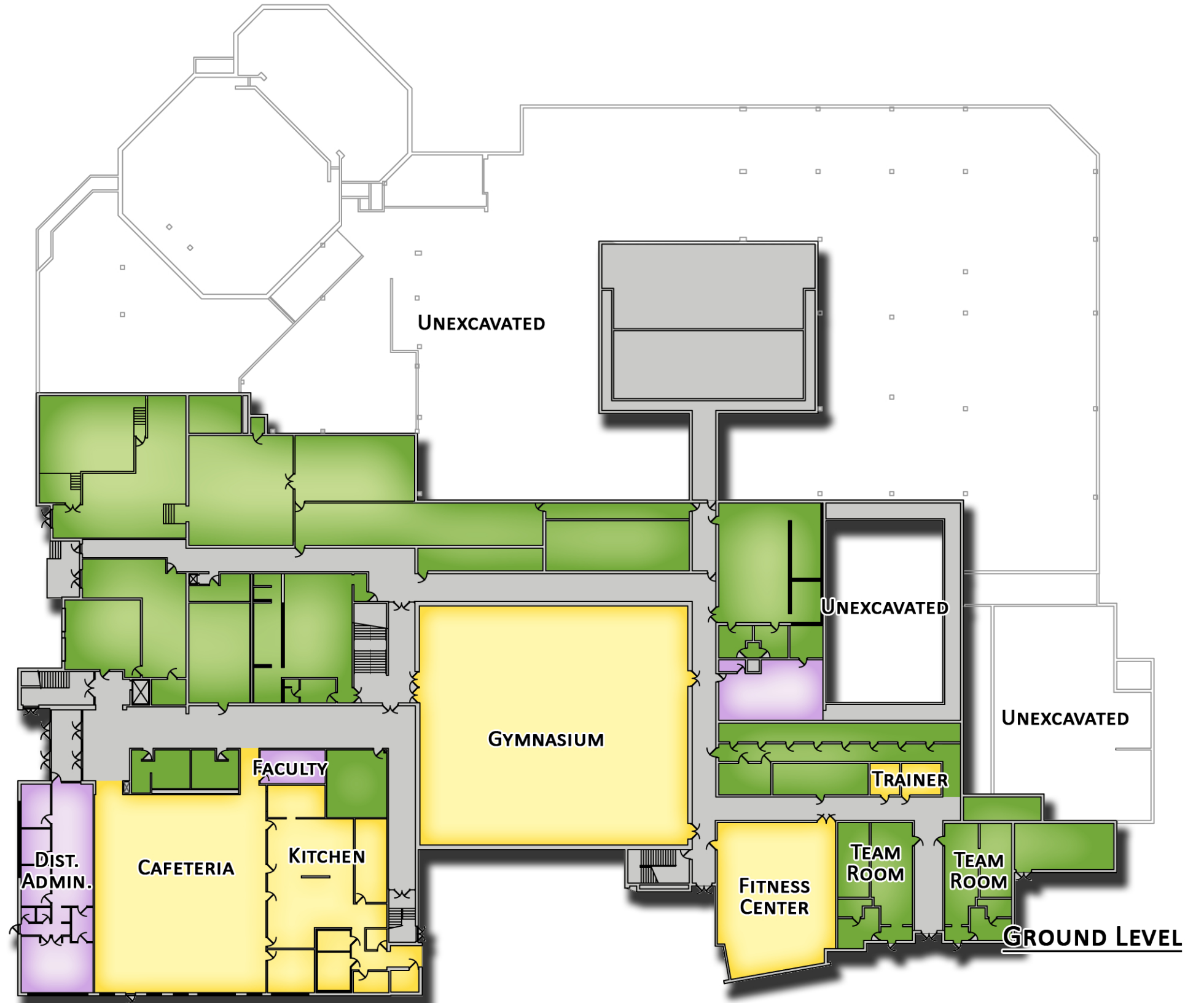
Junior/Senior High School
Scenario A



Junior/Senior High School
Scenario A

LEGEND

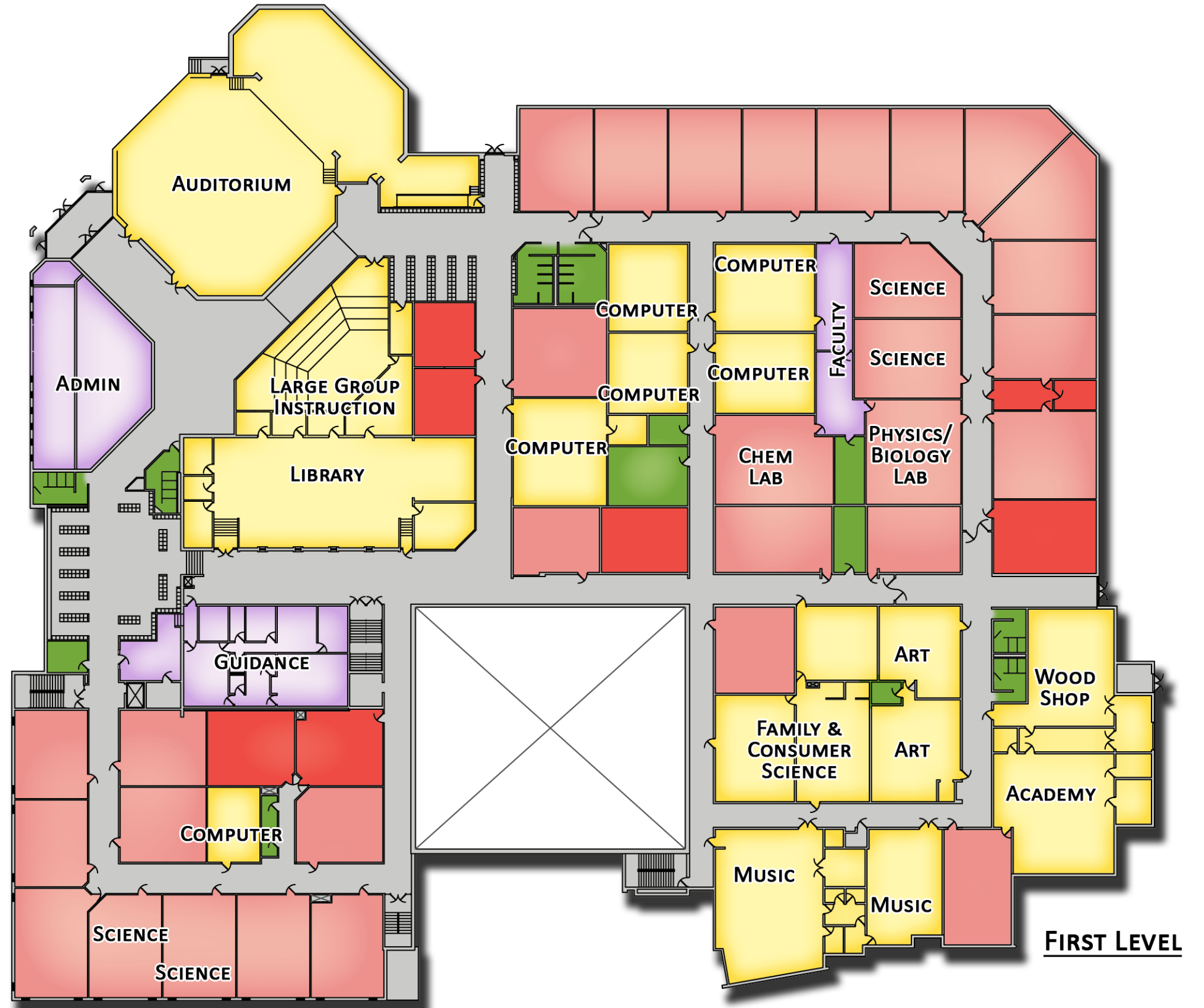
- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



Junior/Senior High School
Scenario A

LEGEND

Grey	EGRESS & CIRCULATION
Green	MECHANICAL & TOILET ROOMS
Light Red	CLASSROOM
Red	SPECIAL EDUCATION
Purple	ADMIN AND FACULTY
Yellow	SPECIAL



KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

SCENARIO A		AREA (SF)			SF COST		ESTIMATED PROBABLE COST		
					LOW	HIGH	LOW	HIGH	
PROBABLE CONSTRUCTION COSTS	CHICORA K-6	GENERAL CONSTRUCTION	EXISTING 58,774sf	ADDITION 29,704sf	NEW 88,478sf	\$152	\$169	\$13,490,000	\$14,990,000
		MECHANICAL				\$25	\$28	\$2,200,000	\$2,450,000
		ELECTRICAL				\$17	\$19	\$1,490,000	\$1,650,000
		PLUMBING/FIRE PROTECTION				\$16	\$18	\$1,420,000	\$1,575,000
		TOTAL						\$18,600,000	\$20,665,000
	JR SR HIGH SCHOOL 7-12	GENERAL CONSTRUCTION	EXISTING 152,638sf	ADDITION 0sf	NEW 152,638sf	\$116	\$128	\$17,695,000	\$19,575,000
		MECHANICAL				\$30	\$34	\$4,650,000	\$5,150,000
		ELECTRICAL				\$23	\$26	\$3,555,000	\$3,950,000
		PLUMBING/FIRE PROTECTION				\$19	\$22	\$2,900,000	\$3,325,000
		TOTAL						\$28,800,000	\$32,000,000
PROBABLE CONSTRUCTION COSTS SUB TOTAL						\$47,400,000	\$52,665,000		
SOFT COSTS					\$8,532,000	\$9,479,700			
	TOTAL ESTIMATED PROJECT COST						\$55,932,000	\$62,144,700	

Note: Stated "Soft Costs" include costs for the architecture and engineering fees, permitting fees, surveys, test borings, printing, financing, bond council, construction contingencies, etc. Not included are fees for a construction manager. No escalation factor has been built into probable costs.

Scenario B

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Scenario B

Chicora Elementary School – District Wide K-5

Enlarge the existing building to include:

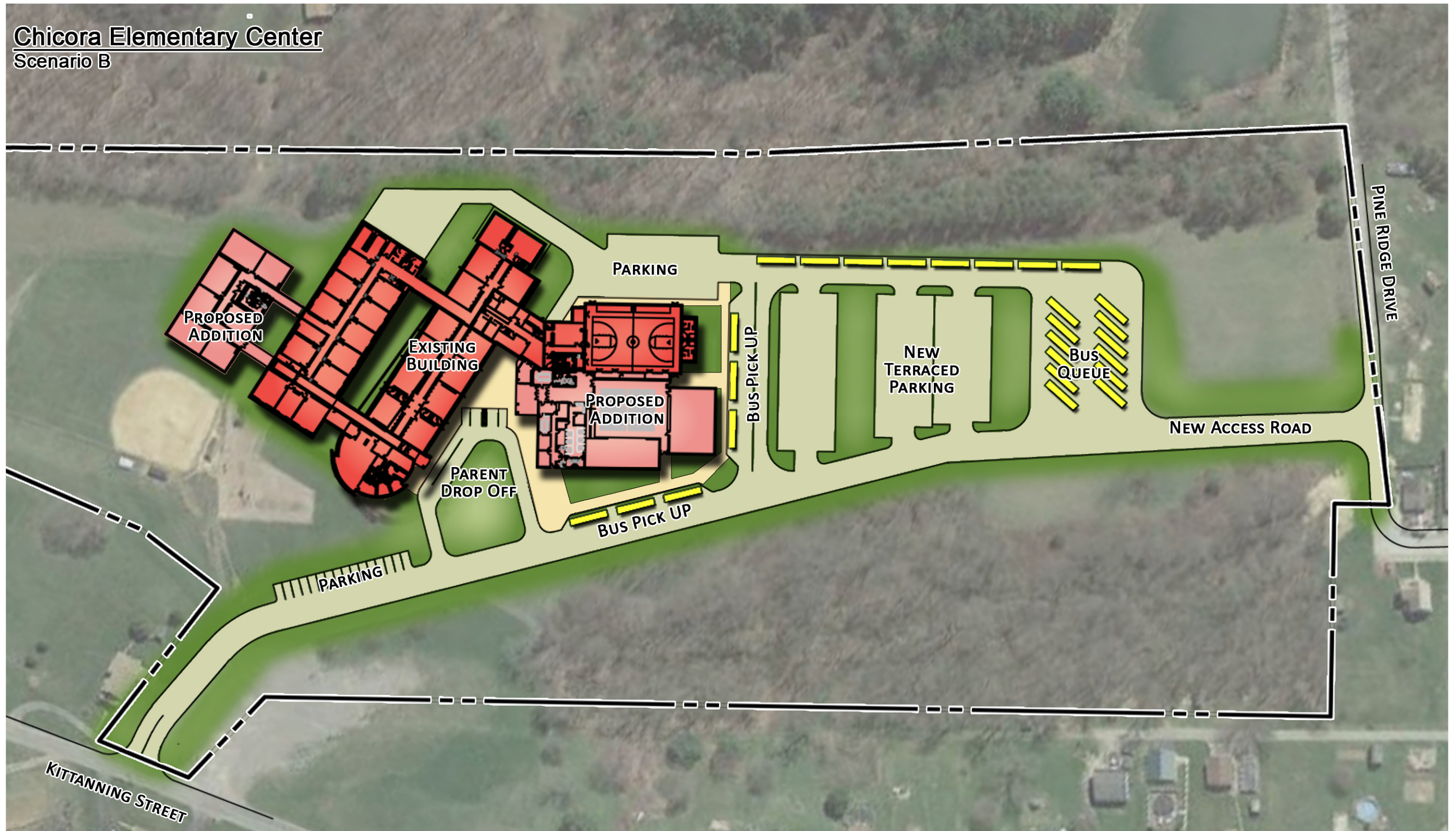
- 5 Kindergarten Classrooms
- 5 First Grade Classrooms
- 5 Second Grade Classrooms
- 4 Third Grade Classrooms
- 4 Fourth Grade Classrooms
- 4 Fifth Grade Classrooms
- 6 Special Education Rooms
- 1 Science Lab
- 1 Art Room
- 1 Computer Classroom
- 1 Music Classroom
- 1 Media Center
- 1 Steam Center
- 1 Cafetorium
- 1 Stage / Band Room
- 1 Gymnasium
- Administration Suite
- Health Suite
- Guidance Offices
- Faculty Lounges
- Kitchen
- Toilet Facilities / Mechanical / Storage

Karns City Area Junior Senior High School

Renovate the existing building to bring up to current standards.

Add additional Gymnasium to replace the Sugarcreek Elementary Gymnasium.

Chicora Elementary Center
Scenario B



KARNS CITY AREA SCHOOL DISTRICT

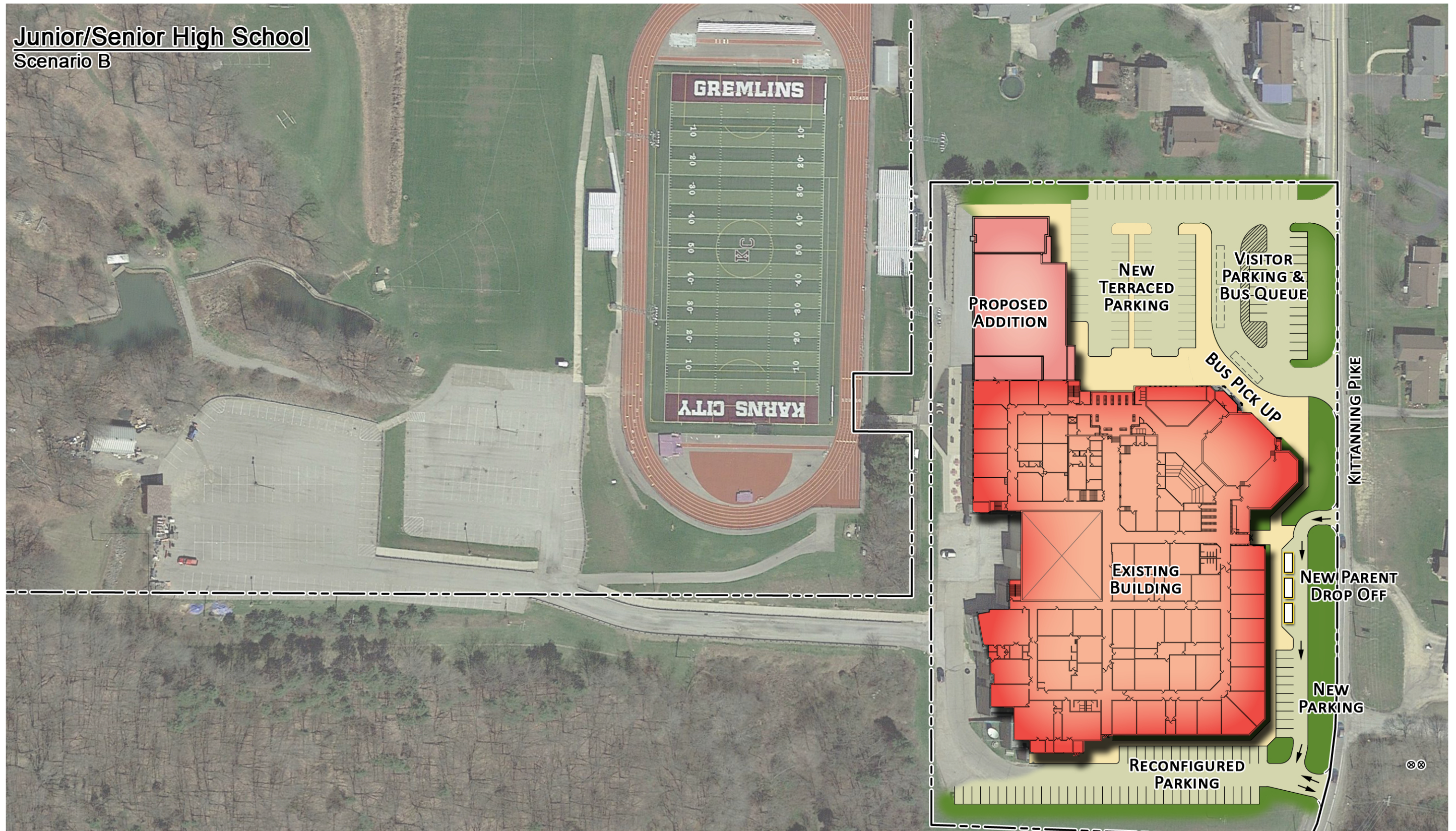
Physical Needs Assessment

Chicora Elementary Center

Scenario B



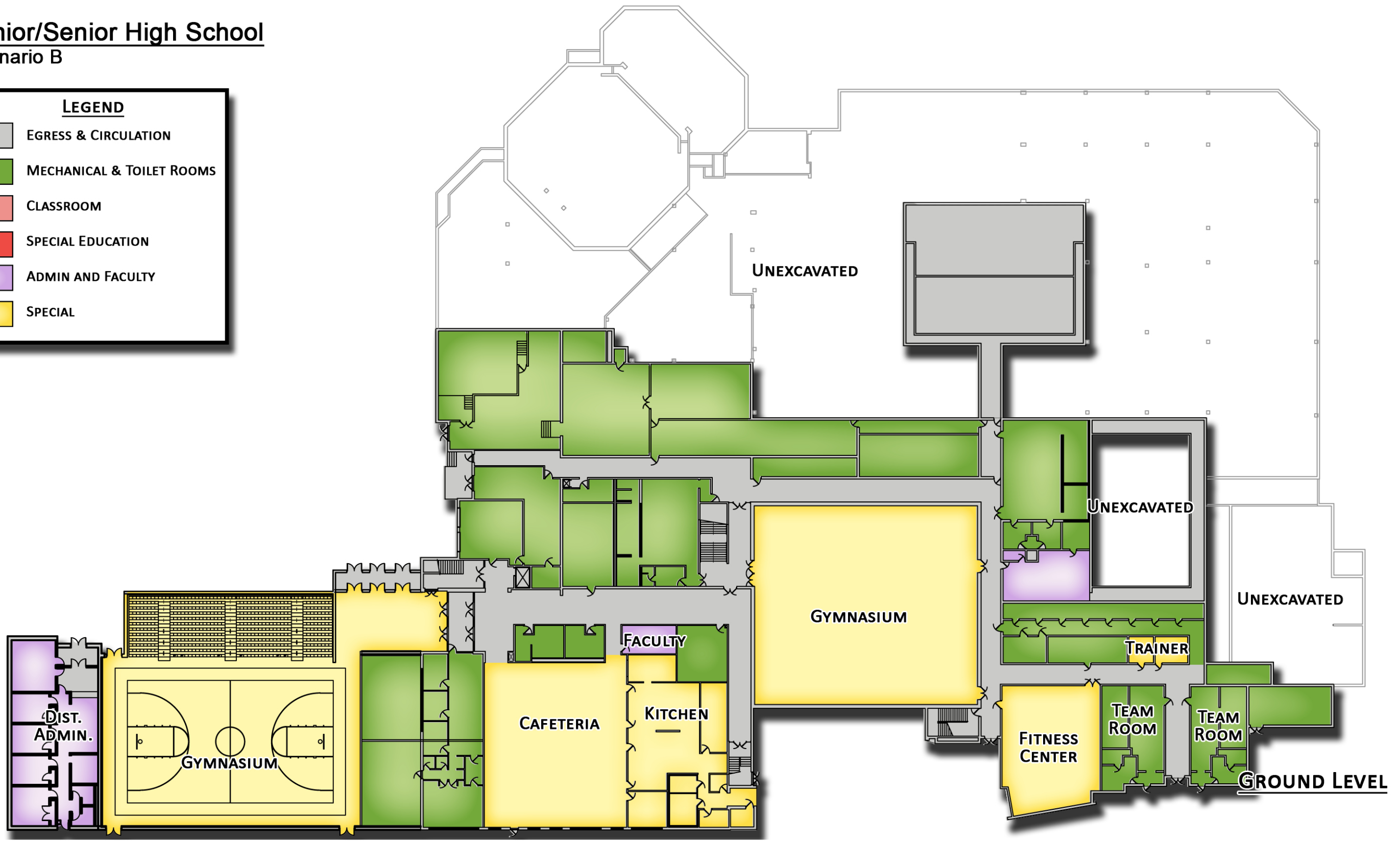
Junior/Senior High School
Scenario B



Junior/Senior High School
Scenario B

LEGEND

- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



Junior/Senior High School
Scenario B

LEGEND

Grey	EGRESS & CIRCULATION
Green	MECHANICAL & TOILET ROOMS
Light Red	CLASSROOM
Red	SPECIAL EDUCATION
Purple	ADMIN AND FACULTY
Yellow	SPECIAL



KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

SCENARIO B		AREA (SF)			SF COST		ESTIMATED PROBABLE COST		
					LOW	HIGH	LOW	HIGH	
PROBABLE CONSTRUCTION COSTS	CHICORA	GENERAL CONSTRUCTION	EXISTING 58,774sf	ADDITION 26,361sf	NEW 85,135sf	\$143	\$160	\$12,210,000	\$13,625,000
		MECHANICAL				\$27	\$29	\$2,300,000	\$2,500,000
		ELECTRICAL				\$19	\$21	\$1,580,000	\$1,750,000
		PLUMBING/FIRE PROTECTION				\$17	\$19	\$1,460,000	\$1,625,000
		TOTAL						\$17,550,000	\$19,500,000
	JR SR HIGH SCHOOL	GENERAL CONSTRUCTION	EXISTING 152,638sf	ADDITION 15,664sf	NEW 168,302sf	\$135	\$150	\$22,750,000	\$25,250,000
		MECHANICAL				\$29	\$33	\$4,900,000	\$5,500,000
		ELECTRICAL				\$22	\$25	\$3,750,000	\$4,150,000
		PLUMBING/FIRE PROTECTION				\$19	\$21	\$3,150,000	\$3,500,000
		TOTAL						\$34,550,000	\$38,400,000
PROBABLE CONSTRUCTION COSTS SUB TOTAL							\$52,100,000	\$57,900,000	
SOFT COSTS							\$9,378,000	\$10,422,000	
	TOTAL ESTIMATED PROJECT COST						\$61,478,000	\$68,322,000	

Note: Stated "Soft Costs" include costs for the architecture and engineering fees, permitting fees, surveys, test borings, printing, financing, bond council, construction contingencies, etc. Not included are fees for a construction manager. No escalation factor has been built into probable costs.

Scenario C

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Scenario C

New Elementary School – District Wide K-6

New Building to include:

- 5 Kindergarten Classrooms
- 5 First Grade Classrooms
- 5 Second Grade Classrooms
- 4 Third Grade Classrooms
- 4 Fourth Grade Classrooms
- 4 Fifth Grade Classrooms
- 4 Sixth Grade Classrooms
- 6 Special Education Rooms
- 1 Science Lab
- 1 Art Room
- 1 Computer Classroom
- 1 Music Classroom
- 1 Media Center
- 1 Steam Center
- 1 Cafetorium
- 1 Stage / Band Room
- 1 Gymnasium
- Administration Suite
- Health Suite
- Guidance Offices
- Faculty Lounges
- Kitchen
- Toilet Facilities / Mechanical / Storage

Karns City Area Junior Senior High School

Renovate the existing building to bring up to current standards.

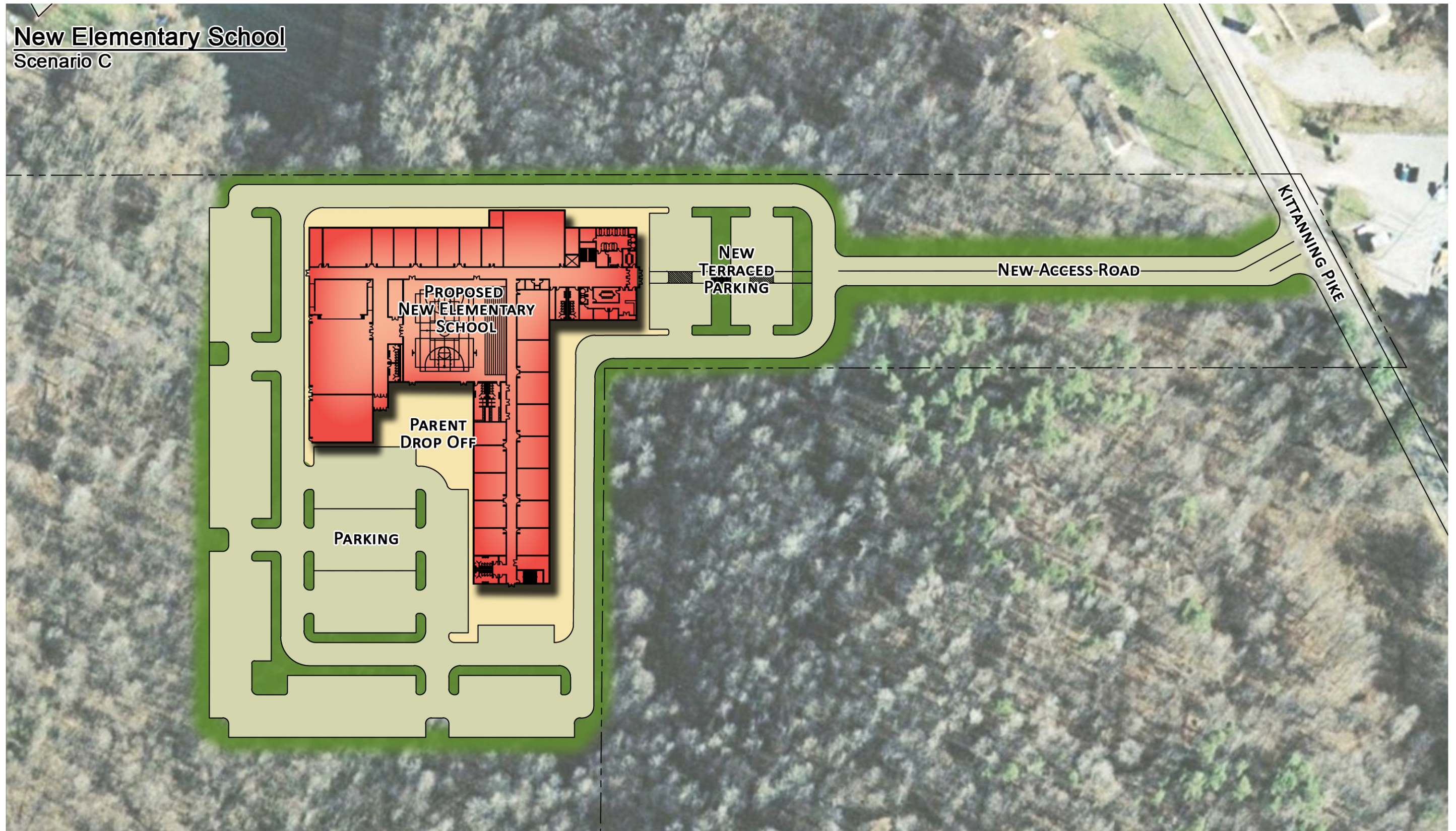
Enlarge the existing building to include:

- New Gymnasium
- New District Administration Suite

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

New Elementary School
Scenario C



KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

**New Elementary School
Scenario C**

LEGEND

- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL

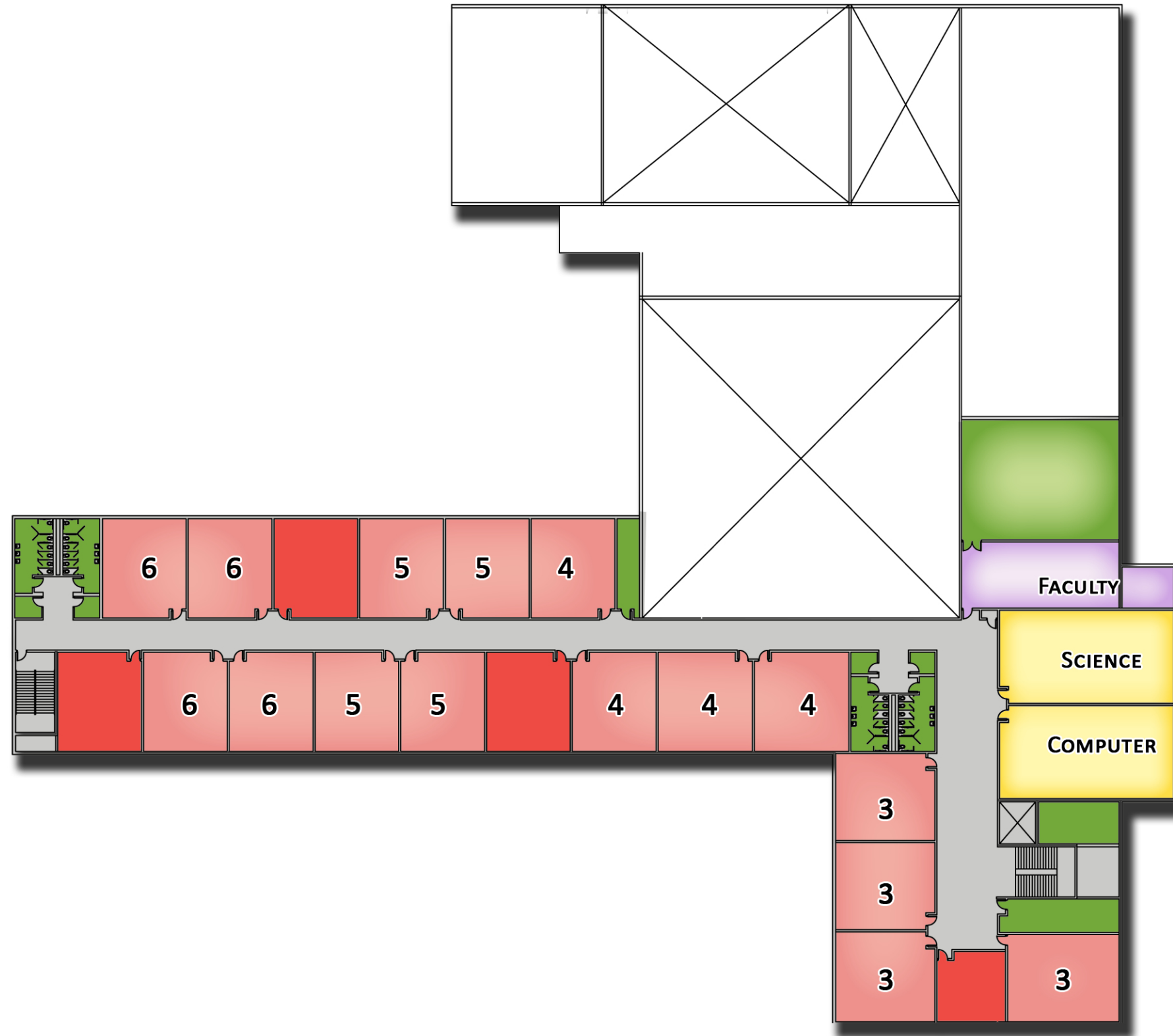


FIRST LEVEL

New Elementary School
Scenario C

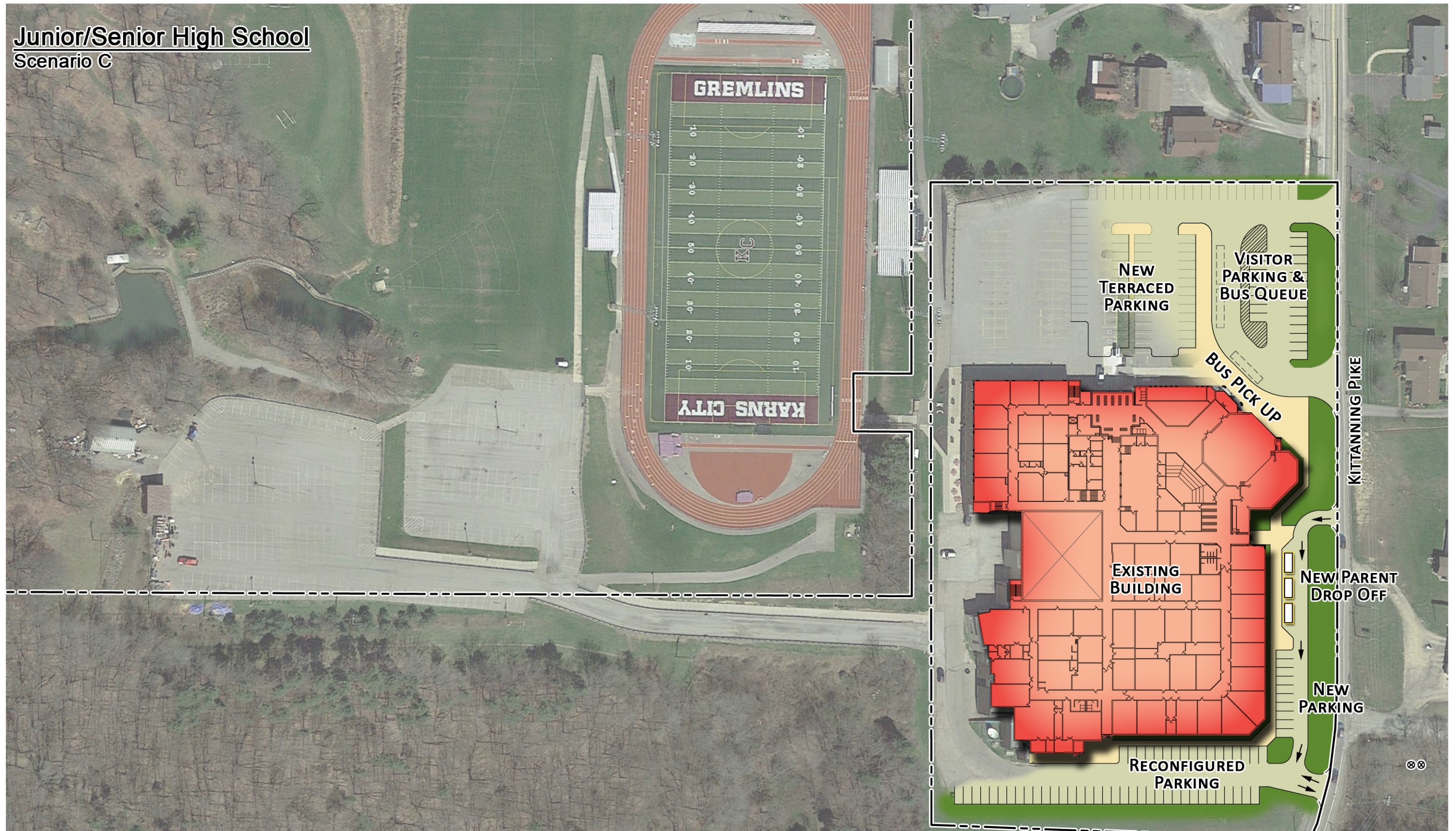
LEGEND

- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



SECOND LEVEL

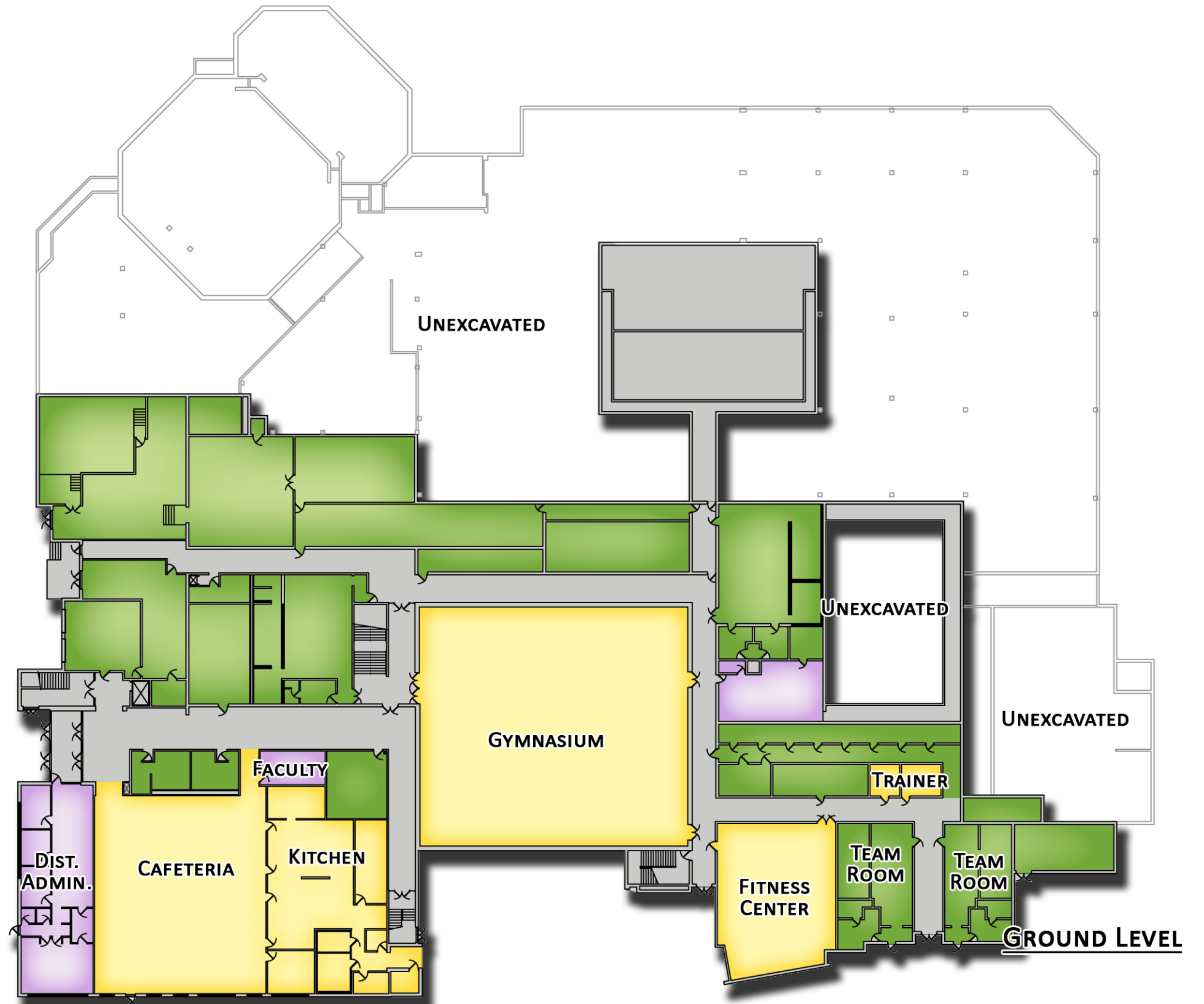
Junior/Senior High School
Scenario C



Junior/Senior High School
Scenario C

LEGEND

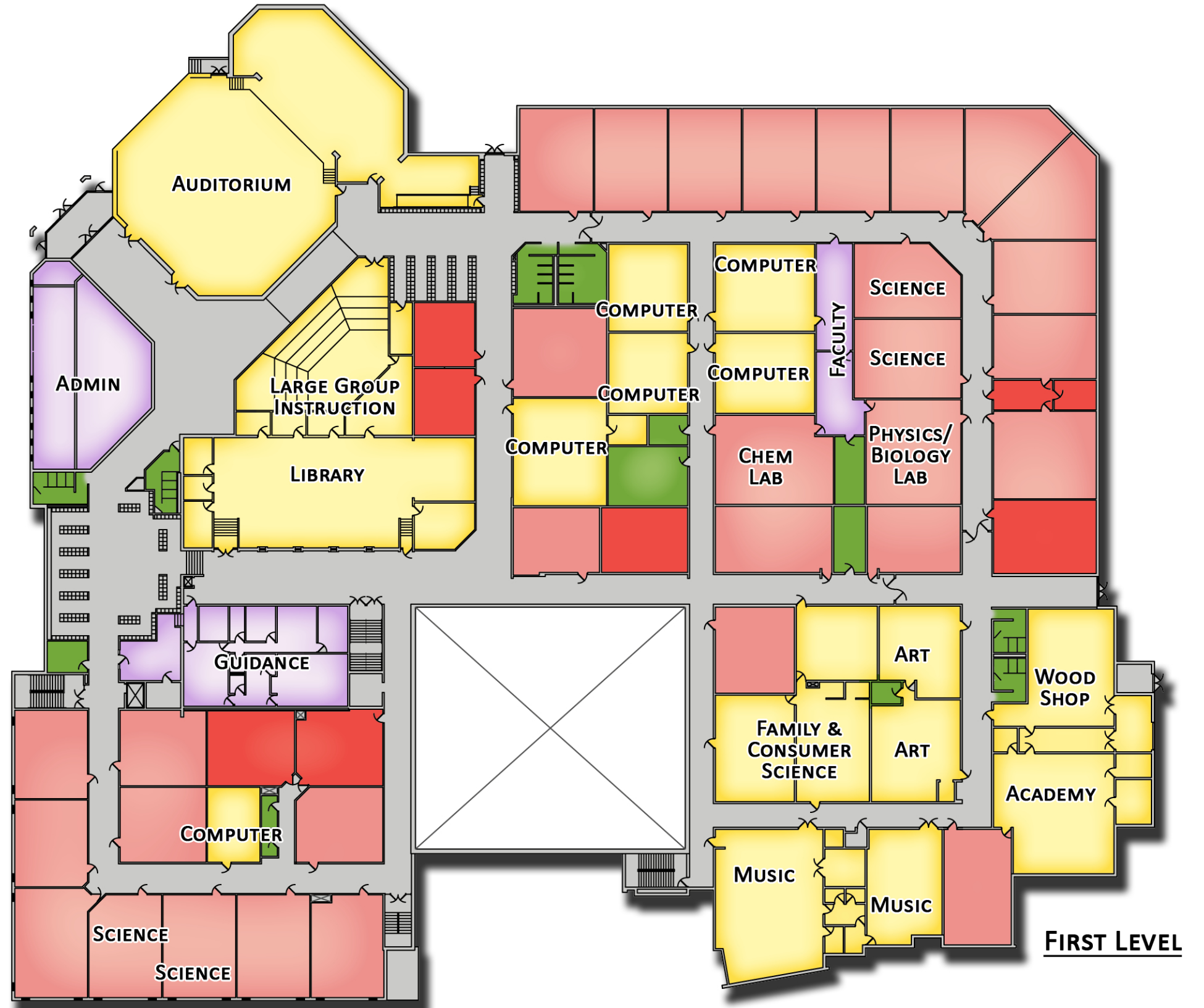
- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



Junior/Senior High School
Scenario C

LEGEND

- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

SCENARIO C		AREA (SF)		SF COST		ESTIMATED PROBABLE COST	
				LOW	HIGH	LOW	HIGH
PROBABLE CONSTRUCTION COSTS	NEW K-6	NEW 108,528sf	GENERAL CONSTRUCTION	\$225	\$262	\$24,450,000	\$28,475,000
			MECHANICAL	\$23	\$26	\$2,550,000	\$2,800,000
			ELECTRICAL	\$17	\$19	\$1,850,000	\$2,025,000
			PLUMBING/FIRE PROTECTION	\$15	\$17	\$1,650,000	\$1,800,000
			TOTAL			\$30,500,000	\$35,100,000
	JR SR HIGH SCHOOL 7-12	EXISTING 152,638sf ADDITION 0sf NEW 152,638sf	GENERAL CONSTRUCTION	\$116	\$128	\$17,695,000	\$19,575,000
			MECHANICAL	\$30	\$34	\$4,650,000	\$5,150,000
			ELECTRICAL	\$23	\$26	\$3,555,000	\$3,950,000
			PLUMBING/FIRE PROTECTION	\$19	\$22	\$2,900,000	\$3,325,000
			TOTAL			\$28,800,000	\$32,000,000
PROBABLE CONSTRUCTION COSTS SUB TOTAL						\$62,700,000	\$69,600,000
SOFT COSTS					\$11,286,000	\$12,528,000	
	TOTAL ESTIMATED PROJECT COST				\$73,986,000	\$82,128,000	

Note: Stated "Soft Costs" include costs for the architecture and engineering fees, permitting fees, surveys, test borings, printing, financing, bond council, construction contingencies, etc. Not included are fees for a construction manager. No escalation factor has been built into probable costs.

Scenario D

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Scenario D

New Maintenance Garage

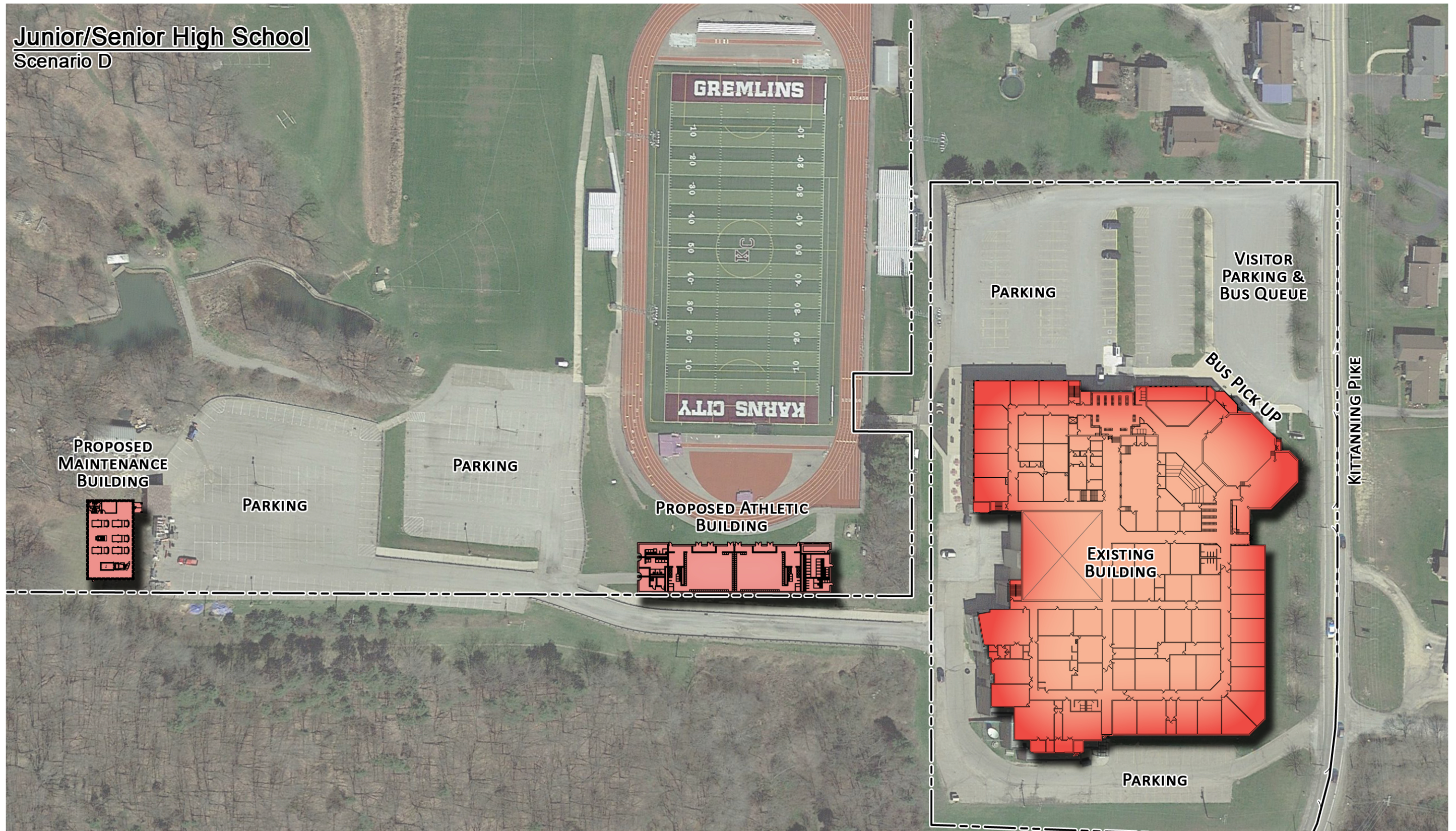
New Garage shall accommodate five vehicles, golf cart and forklift

New Fieldhouse

New Building to include:

- Locker Rooms
- Public Toilet Facilities
- Small Concession Stand
- Indoor Batting Cages
- Weight Room

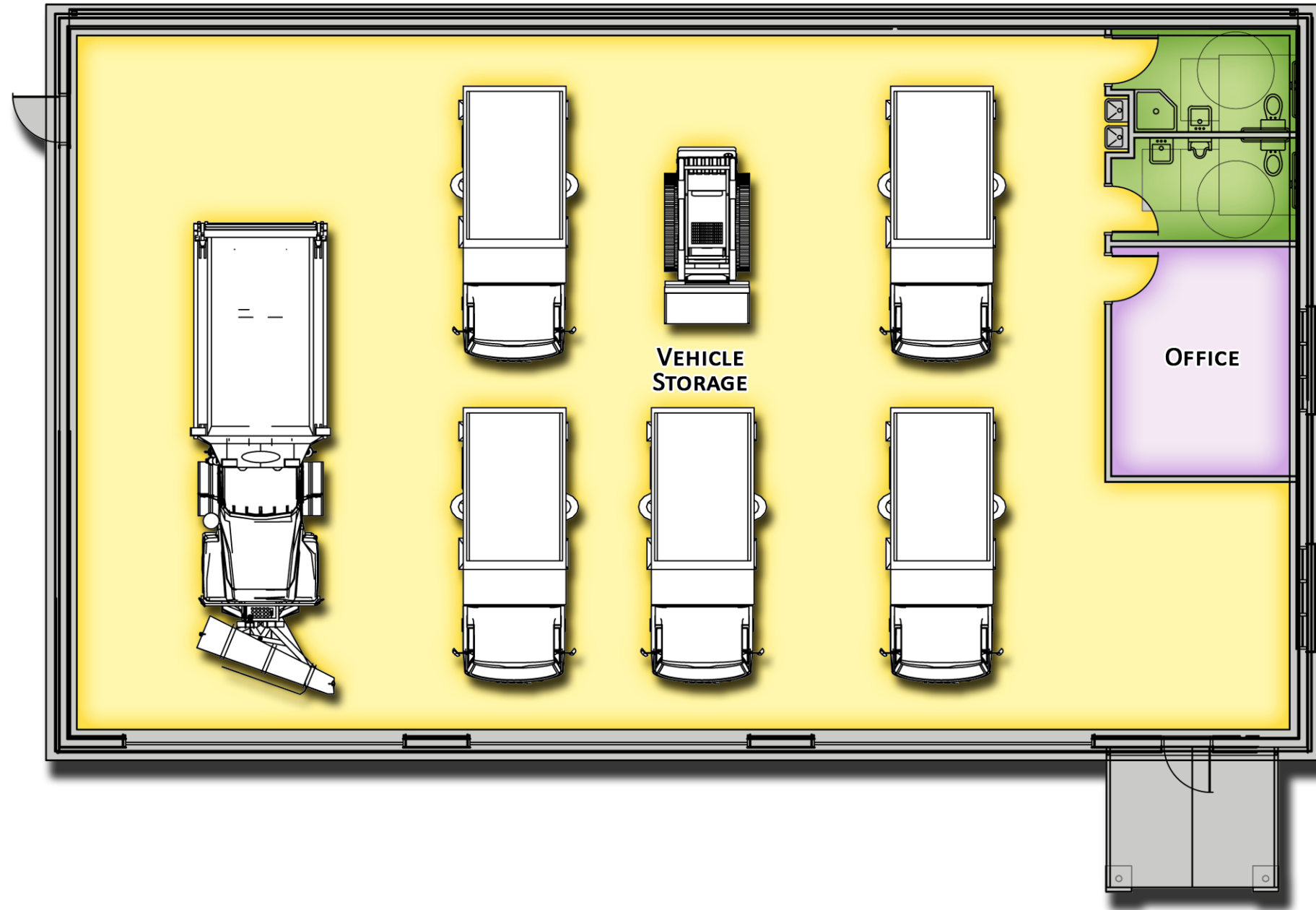
Junior/Senior High School
Scenario D



Junior/Senior High School
Scenario D

LEGEND

- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL

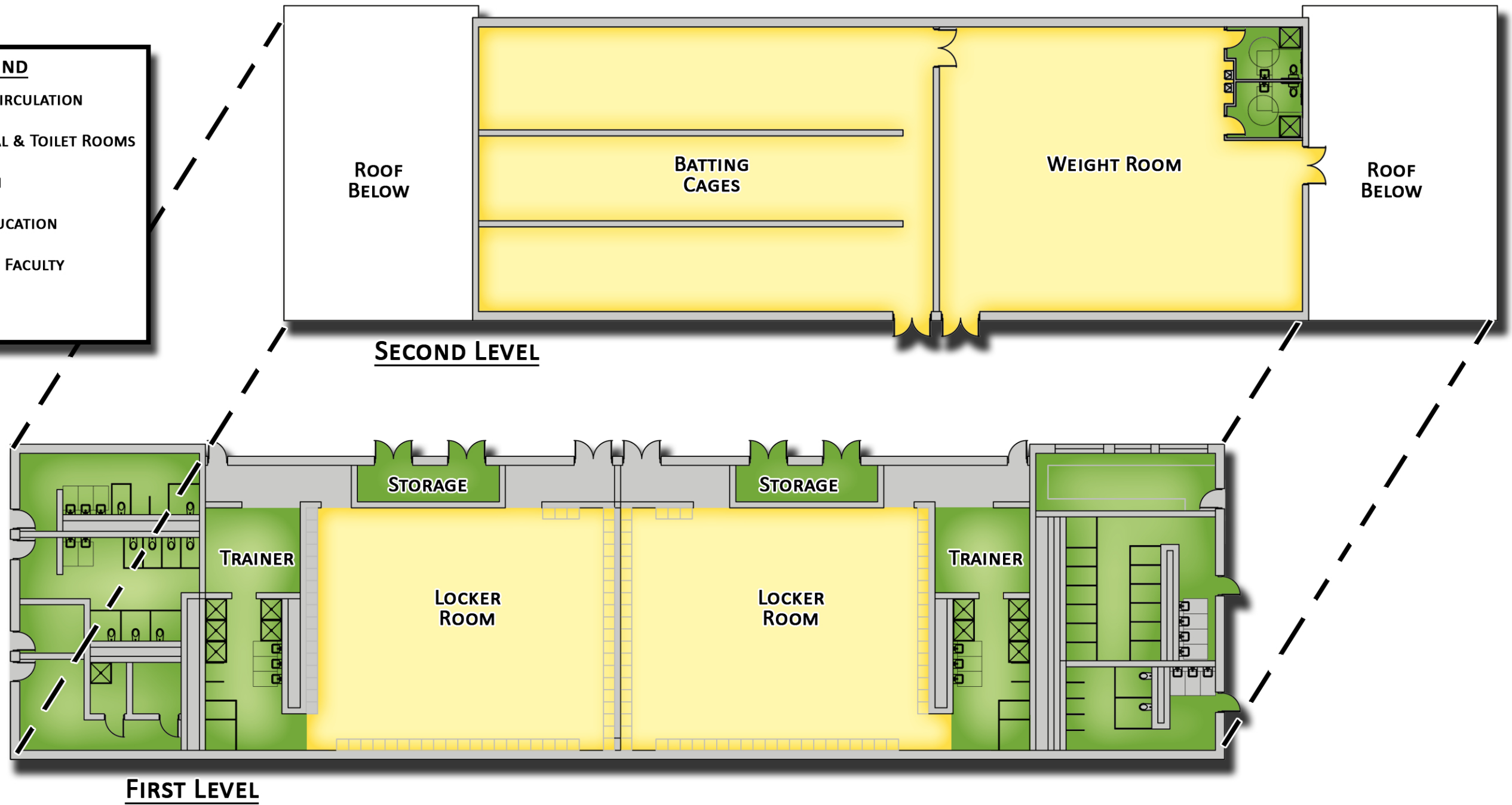


PROPOSED MAINTENANCE BUILDING

Junior/Senior High School
Scenario D

LEGEND

- EGRESS & CIRCULATION
- MECHANICAL & TOILET ROOMS
- CLASSROOM
- SPECIAL EDUCATION
- ADMIN AND FACULTY
- SPECIAL



PROPOSED ATHLETIC BUILDING

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

SCENARIO D		AREA (SF)		SF COST		ESTIMATED PROBABLE COST	
				LOW	HIGH	LOW	HIGH
PROBABLE CONSTRUCTION COSTS	NEW MAINTENANCE BUILDING	NEW 4,050sf	GENERAL CONSTRUCTION	\$160	\$177	\$646,000	\$716,000
			MECHANICAL	\$7	\$8	\$28,000	\$31,000
			ELECTRICAL	\$9	\$10	\$35,000	\$39,000
			PLUMBING/FIRE PROTECTION	\$5	\$6	\$21,000	\$24,000
			TOTAL			\$730,000	\$810,000
	NEW FIELDHOUSE	NEW 17,032sf	GENERAL CONSTRUCTION	\$183	\$207	\$3,120,000	\$3,530,000
			MECHANICAL	\$21	\$23	\$360,000	\$400,000
			ELECTRICAL	\$15	\$16	\$250,000	\$280,000
			PLUMBING/FIRE PROTECTION	\$10	\$11	\$170,000	\$190,000
			TOTAL			\$3,900,000	\$4,400,000
PROBABLE CONSTRUCTION COSTS SUB TOTAL						\$4,630,000	\$5,210,000
SOFT COSTS					\$833,400	\$937,800	
	TOTAL ESTIMATED PROJECT COST				\$5,463,400	\$6,147,800	

Note: Stated "Soft Costs" include costs for the architecture and engineering fees, permitting fees, surveys, test borings, printing, financing, bond council, construction contingencies, etc. Not included are fees for a construction manager. No escalation factor has been built into probable costs.

Section III
Summary of Scenarios
and Project Cost Conclusion

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Summary of Scenarios

The four Scenarios described in this assessment are meant to be a guide to assist the District in making decisions as they relate to the future growth of the Karns City Area School District. The four Scenarios are not meant to be a recipe to be followed exactly, but rather a tool box comprised of puzzle pieces to be constructed to meet the District's needs.

A summary of the four Scenarios is as follows:

Scenario A maintains the current grade alignment. Chicora Elementary School is expanded to receive all elementary students. The Junior Senior High School is renovated.

Scenario B realigns the grade levels. Chicora Elementary School is expanded to receive all elementary students in grades K-5. The Junior Senior High School is renovated. Through scheduling, the Administration feels no additional classrooms are needed to accommodate sixth grade. A gymnasium is added to the existing Junior Senior High School to replace the Sugarcreek Elementary gymnasium.

Scenario C accommodates a single campus District by adding a new K-6 Elementary Center on property near the existing Junior Senior High School and closing Chicora Elementary School. The existing Junior Senior High School is renovated.

Scenario D does not address the educational facilities however it considers some of the extracurricular needs of the District. Scenario D introduces a new maintenance garage and fieldhouse to the District.

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

BUILDING	SCENARIO A	SCENARIO B	SCENARIO C	SCENARIO D
CHICORA ELEMENTARY K-6	\$18,600,000 - \$20,665,000			
CHICORA ELEMENTARY K-5		\$17,550,000 - \$19,500,000		
NEW ELEMENTARY K-6			\$30,500,000 - \$35,100,000	
JUNIOR SENIOR HIGH SCHOOL RENOVATE	\$28,800,000 - \$32,000,000		\$28,800,000 - \$32,000,000	
JUNIOR SENIOR HIGH SCHOOL WITH GYMNASIUM ADDITION		\$34,550,000 - \$38,400,000		
NEW MAINTENANCE GARAGE				\$730,000 - \$810,000
NEW FIELDHOUSE				\$3,900,000 - \$4,400,000
PROBABLE CONSTRUCTION COSTS SUB TOTAL	\$47,400,000 - \$52,665,000	\$52,100,000 - \$57,900,000	\$62,700,000 - \$69,600,000	\$4,630,000 - \$5,210,000
TOTAL ESTIMATED PROJECT COST INCLUDING SOFT COSTS	\$55,932,000 - \$62,144,700	\$61,478,000 - \$68,322,000	\$73,986,000 - \$82,128,000	\$5,463,400 - \$6,147,800

Note: Stated "Soft Costs" include costs for the architecture and engineering fees, permitting fees, surveys, test borings, printing, financing, bond council, construction contingencies, etc. Not included are fees for a construction manager. No escalation factor has been built into probable costs.

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

**Section IV
Project Team**

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Karns City Area School District

**1446 Kittanning Pike
Karns City, Pennsylvania 16041
Phone: 724-756-0521**

Canzian/Johnston & Associates LLC

*361 Main Street, New Kensington, PA 15068
724-339-0511 ; WWW.CJAarchitects.com*

Harold S. Johnston, AIA, LEED AP BD+C
Principal-in-Charge

Heather Werkeiser
Project Manager

Dante Cicconi
Landscape Architect

AJC Professional Services LLC

*MEP, Fire Protection
5125 Hemlock Lane
Murrysville, PA 15668
Phone: 724-515-2215*

Eric Horvat, PE,
Principal, LEED AP
MEP Engineer

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Harold Johnston, AIA, Principal LEED AP BUILDING DESIGN + CONSTRUCTION



Areas of Specialization

Design Development, Project Coordination, Marketing, Contract Administration

Registration

Pennsylvania (EX-7952), West Virginia (#8087), Ohio (#2129), New Jersey (#12937), LEED® Accredited Professional

Affiliations

National Council of Architectural Registration Boards Certificate Holder; American Institute of Architects; The Pennsylvania State University Life Member Alumni Association; Past President, Arnold Chamber of Commerce, Westmoreland Economic Development Initiative for Growth (WEDIG PA) Former Board of Directors; City of Arnold Redevelopment Authority Chairman

Education

Experience

The Pennsylvania State University - Bachelor of Architecture

Partner/Principal in Canzian/Johnston & Associates LLC

42 Years Experience in building design construction, construction technologies and architectural practice.

Principal-in-Charge:

Kiski Area School District, District-Wide Feasibility Study (Nine Buildings), Vandergrift, PA

Kiski Area School District, Elementary School Feasibility Study, Vandergrift, PA

Kiski Area School District, Davis Field Feasibility Study (Stadium), Vandergrift, PA

Karns City Area School District, District Feasibility Study, Karns City, PA

Northern Westmoreland Career and Technology Center, Feasibility Study, New Kensington, PA

Springdale Jr./Sr. High School, Renovations to Jr./Sr. High School, Allegheny Valley School District – Springdale, PA

Springdale Jr./Sr. High School, Additions and Alterations to the Administration Office, Allegheny Valley School District – Springdale, PA

Kiski Area High School, Alterations, Additions and Renovations, Allegheny Township, PA

Kiski Area Upper Elementary, Additions and Alterations, Washington Township, Apollo, PA

Kiski Area East Primary Elementary School, Additions and Alterations, Vandergrift, PA

Kiski Area South Primary School, Additions and Alterations, Mamont, PA

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Heather Werkeiser, Project Manager



Areas of Specialization

Building Design, Interior Design and Marketing.

Registration

National Council of Architectural Registration Board (NCARB) - IDP

Education

Philadelphia College of Textiles and Science (Philadelphia University),
Bachelor of Architecture (1997)

Experience

18 years experience in building, construction technologies, architectural design and planning.

Projects:

Greensburg Salem School District, Feasibility Study, Greensburg, PA

Karns City Area School District, District Feasibility Study, Karns City, PA

Kiski Area School District, District-wide Feasibility Study (Nine Buildings), Vandergrift, PA

Kiski Area School District, Elementary School Feasibility Study, Vandergrift, PA

New Kensington – Arnold School District, Memorial Stadium Feasibility Study, New Kensington, PA

Northern Westmoreland Career and Technology Center, Feasibility Study, New Kensington, PA

Fayette County Area Vocational Technical School, Feasibility Study, Uniontown, PA

Valley Jr/Sr High School, Entrance Modifications, New Kensington, PA

Kiski Area High School, Entrance Modifications, Allegheny Township, PA

Kiski Area High School, Alterations, Additions and Renovations, Allegheny Township, PA

Kiski Area Upper Elementary, Additions and Alterations, Washington Township, Apollo, PA

Kiski Area East Primary Elementary School, Additions and Alterations, Vandergrift, PA

Leechburg Area School District, Lighting Fixture Replacement, Leechburg, PA

Memorial Stadium, Grandstand Renovations, New Ticket Booth, Promenade and Masonry Repair, New Kensington, PA

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment

Dante Cicconi, RLA, Landscape Architect



Areas of Specialization

Site Development, Land Planning, Landscape Design, CAD Drafting

Registration

Pennsylvania (LA003018)

Affiliations

ASLA – American Society of Landscape Architecture, Council of Landscape Architecture Registration Boards (CLARB), New Kensington Promotion and Economic Development Committee, New Kensington Shade Tree Commission

Education

West Virginia University,
Bachelor of Science in Landscape Architecture (2005)

Experience

10 years experience in landscape design.

Projects:

Kiski Area School District, Elementary School Feasibility Study, Vandergrift, PA

Karns City Area School District, Feasibility Study, Karns City, PA

Kiski Area Upper Elementary, Additions and Alterations, Washington Township, Apollo, PA

Kiski Area South Primary School, Additions and Alterations, Mamont, PA

Kiski Area East Primary Elementary School, Additions and Alterations, Vandergrift, PA

Athletic Center, Main Entrance Renovations, Pennsylvania State University (New Kensington Campus – New Kensington, PA

Activities Building, Auditorium Upgrades, Pennsylvania State University (New Kensington Campus) – New Kensington, PA

Springdale Jr./Sr. High School, Renovations and Additions, Allegheny Valley School District – Springdale, PA

Springdale Jr./Sr. High School, Luminaire Replacement, Allegheny Valley School District – Springdale, PA

MacLean Park, New Tennis Courts, Allegheny Valley School District – Springdale, PA

Educational Development/Community Center, New Building, New Kensington-Arnold School District – New Kensington, PA

KARNS CITY AREA SCHOOL DISTRICT

Physical Needs Assessment



Eric Horvat, P.E.

Mechanical/Electrical/Plumbing Project Manager PA – PE077388

(Also licensed in CA, DC, DE, FL, MD, NY, OH, TX, VA, WI, WV)

Education:

BS Architectural Engineering
The Pennsylvania State University (1998)

Mr. Horvat has more than 18 years of experience in the design, construction and commissioning of mechanical, electrical, plumbing, and fire protection systems for K-12 and higher education facilities. Mr. Horvat has designed, analyzed and reviewed systems such as: chilled water; steam and hot water heating; air handling and distribution; building ventilation; automated HVAC controls; domestic plumbing; power distribution; emergency and standby power generation; building lighting; and recreational lighting. Project goals generally include minimizing energy costs, life cycle cost analysis and operational efficiency. Frequently, this work encompasses an entire project life cycle from feasibility review, concept design and design services through construction administration. Past personal and professional experience includes:

Greensburg Salem School District Feasibility Study

Greensburg, Pennsylvania

M/E/P Project Manager/Engineer – Greensburg Salem School District is comprised of three elementary schools, a middle school and a high school. The middle school is an historic building, over 100 years old, and also houses the District offices. AJC performed the feasibility study of the existing buildings' mechanical, plumbing, electrical and fire protection systems. In conjunction with the lead Architect, Mr. Horvat studied several different scenarios including various levels of renovation and new construction and probable construction cost estimates for each scenario.

Kiski Area School District North Elementary

Vandergrift, Pennsylvania

M/E/P Project Manager - To provide greater student security, the elementary schools vestibule and administrative areas were reconfigured to maximize access control. In addition to bullet resistive glazing, door access controls were added to allow administrative personnel to restrict and permit admission as appropriate. Mechanical, electrical, plumbing and fire alarm design services were performed to support the project Architect in the renovation of the entry and administrative areas. Mr. Horvat served as the project manager and lead engineer for this work.

Northern Westmoreland Career Technology Center Vo-Tech Electrical Upgrade

New Kensington, Pennsylvania

Electrical Engineer – The Vo-Tech's welding program received several new 480V, three-phase welding machines for their welding technologies program. However, the existing electrical system did not have enough local capacity to connect and operate the equipment. The existing electrical system was analyzed and a new panelboard, feeder and branch circuitry was designed as necessary to safely connect the new welders into the existing electrical system. Mr. Horvat conducted a field survey, reviewed the existing documents and developed contract documents for bidding and construction.