SCHEMATIC DESIGN SUBMITTAL

Design Narratives, Schedule & Program

Navarre K-8

Navarre, FL

SCHOOL DISTRICT OF SANTA ROSA COUNTY

Navarre K-8

PROJECT NO. 17076

March 28, 2018

FOR OWNER REVIEW

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The School District of Santa Rosa County
Navarre K-8

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CIVIL / SITEWORK DESIGN NARRATIVE

CIVIL / SITEWORK DESIGN NARRATIVE

Phase I Design Report
for

New South End K-8 School
Elkhart Drive, Santa Rosa County

Prepared For:

Santa Rosa County District Schools
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March 22, 2018

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ATTACHMENTS

I. GENERAL PROJECT INFORMATION

A. LOCATION

This project is located in the southern portion of Santa Rosa County, west of Navarre and the Holley by the Sea area. More specifically, the project area is comprised of three parcels (ID #09-2S-27-0000-00102-0000, 09-2S-27-0000-00101-0000 and 18-2S-26-1920-00000-0T01) with a total combined area of 50.45 acres.

The property is currently unaddressed, and an address will be assigned by Santa Rosa County during the permitting process.

B. ZONING / FUTURE LANE USE

The property is currently zoned R-1 Single Family Residential and has a Future Land Use of SFR Single Family Residential. A Conditional Use approval is required for the proposed educational facility use within the R-1 zoning district. See Section IV.Permitting Requirements for additional information.

II. EXISTING CONDITIONS

A. SURVEY

A boundary, topographic, wetland line and tree survey of the property was completed. See Attachment A – Topographic Survey.

B. GENERAL CONDITIONS

The property is currently undeveloped and heavily wooded. There are multiple trails present through the woods that appear to be the result of unauthorized ATV access, or similar activities.

C. TOPOGRAPHY

The property generally slopes from southeast to northwest. Elevations on the property range from approximately 22 to 34, with slopes averaging less than one percent in the flatter, southeastern portion of the property and around three percent closer to the northwest property line.

D. ENVIRONMENTAL CONDITIONS

A Jurisdictional Wetland / Other Waters Assessment was completed by others and identified approximately 3.5 acres of wetland areas. Subsequent field verification and coordination with the Northwest Florida Water Management District resulted in the final wetland delineation reflected on the survey drawing. See Attachment B – Jurisdictional Assessment for additional details.

E. SANTA ROSA COUNTY DRAINAGE EASEMENT

There is a 50’ wide drainage easement granted to Santa Rosa County that extends south to north along the entire length of the property north of the Yorkwood Street right-of-way.

F. GULF POWER EASEMENT

There is a 150' wide easement granted to Gulf Power that extends southwest to northeast across the entire width of property. The easement splits the property into an approximate one third southeast section and an approximate two thirds northwest section.

III. DESIGN CRITERIA

A. PAVEMENTS

1. Asphalt

We anticipate utilizing both standard and heavy-duty asphalt paving sections on this project. The standard section will be utilized is areas where light-to-medium vehicle loads are anticipated, primarily the teacher and guest parking lots. The heavy-duty section will be utilized in areas where medium-to-heavy vehicle loads are anticipated, such as the bus loop and kitchen delivery areas.

We anticipate the standard section will be comprised of 1.5" SP-12.5 asphalt friction course, 6" base course and 12" stabilized subgrade. We anticipate the heavy-duty section will be comprised of 2.5" SP-12 asphalt friction course, 8" base course and 12" stabilized subgrade.

As an opportunity for cost savings, we propose using an Optional Base Group designation, as defined by the Florida Department of Transportation, as opposed to specifying one specific base material that must be utilized. This designation allows the contractor to bid from multiple base material types and thicknesses that all have an equivalent structural value. These materials include limerock, recycled concrete, graded aggregate, and full depth asphalt, among others.

2. Concrete

We anticipate concrete paving will only be utilized for areas in which a heavy-duty section would be applicable – dumpster pads, delivery drives, etc. We anticipate the heavy-duty concrete paving section will be comprised of 7" of 4,000 psi (compressive) / 750 psi (flexural) concrete and 24" of compacted free-draining subgrade.

B. SITE UTILITIES

1. Domestic Water

Based on preliminary estimates of student and worker populations and number of showers, we anticipate an average demand of 14,000 gallons per day and a peak demand of 45 gallons per minute. These demands can likely be served by a 3" diameter water service line and a 2" water meter.

2. Fire Protection

Depending on the required fire flow demands as determined by others, we anticipate a 6" to 8" diameter fire protection main. In preliminary discussions with Midway Water System (MWS), MWS has indicated they have an 8" water main on the west side of Edgewood Drive with capacity to serve the new school's fire and domestic water demands. See Section III.H.2. Water for additional details.

3. Sanitary Sewer

Due to lack of available gravity flow sewer infrastructure in proximity to the property, we anticipate a sanitary lift station will be utilized. Sanitary lines within the school campus will flow in gravity piping to a lift station, which will be located on the site to provide ease of maintenance, adequate security, and adequate separation/isolation from the students and workers.

In preliminary discussions with South Santa Rosa Utilities System (SSRUS), it was noted that a new residential subdivision currently under construction adjacent to the property includes a new 4" force main that will provide a point of connection to a public system. See III.H.3. Sanitary Sewer for additional details. Additional information has been requested regarding the design and operating characteristics of the off-site force main. Until this information can be confirmed, at least on a preliminary basis, it is difficult to estimate the size of pumps that will be required at the new school's lift station.

We recommend consideration of either a grinder or solids handling vortex pumps.

C. GRADING AND DRAINAGE

As previously noted, the property generally slopes between one and three percent from southeast to northwest. We anticipate the proposed site features will mimic the existing terrain so as to limit the amount of earthwork necessary. Preliminary estimates are for fill beneath building pads to be on the order of two feet.

To the greatest extent possible, surface flow will be utilized to convey storm water to collection and conveyance infrastructure. This will allow a reduction of pipe and drainage structures to the greatest extent possible.

We anticipate utilizing concrete collection structures across the site. Concrete structures are better suited for the anticipated high groundwater conditions and tend to be more easily maintained during construction when exposed to construction traffic.

As an opportunity for cost savings, we propose using an Optional Pipe Material designation, as defined by the Florida Department of Transportation, as opposed to specifying one specific pipe material that must be utilized. This designation allows the contractor to bid from multiple pipe material types that all have an equivalent conveyance and performance characteristics. These materials include reinforced concrete (RCP), polyethylene (HDPE), and polyvinyl-chloride (PVC), among others.

D. STORM WATER MANAGEMENT

We anticipate high groundwater conditions on the property. As such, we anticipate utilization of one or more wet retention ponds for storm water management. These ponds have a permanently wet pool and typically include wetland-type plantings around their perimeter. Wet ponds typically require more surface area than a more conventional dry pond, and we do not see that as presenting any particular challenges due to the amount of space available on the property.

We anticipate the wet pond(s) will be located in the lower-lying northwest upland portions of the property. Adequate separation from the building courtyard areas will be provided along with all necessary perimeter fencing or other safety features to ensure the permanently wet ponds to not present a hazard for students or workers.

E. EROSION AND SEDIMENT CONTROL

We anticipate conventional erosion and sediment control measures will be proposed for this project. Temporary measures will include stabilized construction ingress/egress points, reinforced silt fence along environmentally sensitive areas and nonreinforced silt fence elsewhere on the site, inlet protection measures, etc. Permanent measures will include stabilized surfaces with pavement, sod or other landscaping, energy dissipation where necessary such at pond inlets/outlets, etc.

F. LANDSCAPING

We anticipate, at a minimum, landscaping will consist of sod, shrubs and trees as necessary to satisfy the code-minimum requirements of Santa Rosa County. The site will be cleared to the minimum extend required to facilitate the proposed construction and to provide adequate site lines for security. We recommend a landscape architect be consulted as part of the project design team such that more qualified recommendations can be made regarding aesthetically pleasing landscape features that require the least amount of irrigation and maintenance over the long.

G. IRRIGATION

We anticipate installation of a well to provide irrigation water supply as opposed to having a metered connection to the public water service. Similar to landscaping, we recommend a landscape architect be consulted regarding details of the proposed irrigation system.

H. OFF-SITE IMPROVEMENTS

1. Roadway

We anticipate off-site improvements to the County's rights-of-way will be required, including and not limited to, paving, widening, signing and marking upgrades and reconnection of existing driveways. Elkhart Drive is currently a dirt road and will require paving, likely from the end of its existing paved section at Yorkwood Street, north to its terminus at Codell Street. The connecting east-west local roads (Codell, Hartland, Fairmont, Federal and Yorkwood Streets) may require widening to meet present day County standards, as their existing widths are approximated to vary from 18' to 20'. Present day County standards for residential streets require a minimum width of 24'.

2. Water

In preliminary discussions with MWS, the utility has indicated that this project will require a new 8" main be extended from the existing 8" main on the west side of Edgewood Drive to the site. Unless otherwise specified by MWS, we anticipate the extension will be installed along either Yorkwood Street or Federal Street, depending on which route presents the least number of potential conflicts and results in the lowest cost of installation. Preliminary review shows the north right-of-way of Federal Street to include the lowest number of existing residences and driveways. In any case the length of off-site 8" water main is anticipated to be +/- 1050 linear feet (LF).

3. Sanitary Sewer

In preliminary discussions with SSRUS, it was noted that a new residential subdivision currently under construction adjacent to the property includes a new 4" force main that will provide a point of connection to a public system. See Attachment C – Heather's Place Utility Plan for details of this force main. Preliminary estimates are that the length of force main required to extend to this point of connection is +/- 2500 LF. To reduce the amount of clearing and grubbing required, we propose the force main be installed within the already cleared Gulf Power easement if allowed by Gulf Power. Guidance on that authorization has been requested from Gulf Power.

A utility easement will be required between the southern boundary line of the site and the point of connection to the off-site 4" force main. The current owner of the property across which this easement will be necessary is SRC DEVELOPMENT LLC, which public records reflect as being managed in-part by Edwin Henry. Mr. Henry is also noted to be the developer of Phase I of Heather's Place Subdivision, and available plans reflect a future phase of Heather's Place to be constructed on the property across which the easement is necessary. An approximate location of the necessary easement is reflected in Attachment D – Off-Site Utility Easement Exhibit.

IV. PERMITTING REQUIREMENTS

A. LOCAL PLANNING AND ZONING

This project falls under the jurisdiction of Santa Rosa County (County). More specifically, the County has jurisdiction over planning, zoning, access, off-site rights-of-way, and storm water aspects of this project. A Site Plan Application will be required through the County's Development Services Department.

As discussed in I.B. Zoning / Future Lane Use, this project will require a Conditional Use Approval for the proposed educational facility use within the R-1 Single Family Residential zoning district. The application for this approval will be reviewed by Staff, who will then present their findings to the County's Zoning Board of Adjustments. If approved by the Zoning Board, final recommendation for approval will be made by the Zoning Board to the Board of County Commissioners, who will then consider final approval.

A pre-application meeting with the County will be scheduled, pending preliminary completion of the proposed site and building layout.

B. STORM WATER AND ENVIRONMENTAL

This project falls under the jurisdiction of the Northwest Florida Water Management District (NWFWMD) and the Army Corps of Engineers (ACOE). More specifically, the NWFWMD has jurisdiction over storm water and wetland aspects of this project. An Environmental Resource Permit Application will be required.

The ACOE has jurisdiction over impacts to non-isolated wetlands within the site. We do not anticipate impacts to the large wetland area the northern property line. There is a 0.61 acre isolated wetland within the proposed building footprint for which a non-jurisdictional request has already been submitted to the ACOE. With approval, the ACOE will confirm that it does not have jurisdiction over this isolated wetland. There is also a surface water ditch that extends north-south across the entire eastern portion of the property. In order to access the site, three crossings will be proposed with impacts to this ditch. These crossings will likely be permitted under the ACOE Nationwide Permit procedures, which apply to impacts of less than 0.50 acres within the property.

Preliminary coordination is underway with NWFWMD, and a formal pre-application meeting will be scheduled after completion of the preliminary site and building layout plan.

C. WATER FRANCHISE

This project falls under the jurisdiction of Midway Water System (MWS). More specifically, MWS has jurisdiction over the off-site water main and any appurtenances (valves, hydrants, residential reconnections, etc.) that are installed between the point of connection to the existing main and the property. Further, MWS has jurisdiction over any facilities on the property up to the point of the owner's isolation valve. This valve will be located on the project side of the domestic water meter ahead of the backflow assembly, and the street side of the fire protection line's backflow assembly, as that line will not include a meter.

Preliminary coordination is underway with MWS, and a formal pre-application meeting will be scheduled after completion of the preliminary site and building layout plan.

D. SANITARY SEWER FRANCHISE

This project falls under the jurisdiction of South Santa Rosa Utilities System (SSRUS). More specifically, SSRUS has jurisdiction over the off-site sewer main and any appurtenances (valves, etc.) that are installed between the point of connection to the existing force main and the property.

Preliminary coordination is underway with SSRUS, and a formal pre-application meeting will be scheduled after completion of the preliminary site and building layout plan.

E. WATER AND SEWER SYSTEM EXTENSIONS

This project falls under the jurisdiction of the Florida Department of Environmental Protection (FDEP). More specifically, FDEP has jurisdiction over improvements to and extensions of public water and sanitary sewer systems. A Notice of Intent to Use the General Permit for Construction of a Water Main Extension and an Application for Constructing a Domestic Wastewater Collection/Transmission System will be required through FDEP's Water Resource Management Division.

F. FIRE PROTECTION DISTRICT

This project falls under the jurisdiction of Midway Fire District (MFD). More specifically, MFD has jurisdiction over the fire protection and life safety aspects of this project.

Preliminary coordination is underway with MFD, and a formal pre-application meeting will be scheduled after completion of the preliminary site and building layout plan.

STRUCTURAL DESIGN NARRATIVE

STRUCTURAL DESIGN NARRATIVE

Structural Design Analysis

PHASE I

Navarre K-8 School
Navarre, Florida

Prepared by: Berube Leonard, LLC
(28 March 2018)

Project Description

A new kindergarten through eighth-grade school is planned for south Santa Rosa County where the School District intends to provide a modern education facility for approximately 1,200 students. This new approximately 160,000 SF facility will be located in the Navarre community at a currently vacant property on Elkhart Drive and Federal Street.

Applicable Publications

A. FBC: Florida Building Code, 6th Edition (2017.)

B. ASCE 7-10: Minimum Design Loads for Buildings and Other Structures.

C. ACI 318-14: American Concrete Institute (ACI) Building Code Requirements for Structural Concrete and Commentary.

D. ACI 315-11: American Concrete Institute (ACI) Manual of Standard Practice for Detailing Reinforced Concrete Structures

E. ACI 530-13: Building Code Requirements for Masonry Structures.

F. ACI 530.1-13: Specifications for Masonry Structures

G. ANSI/AISC 360-10: Specification for Structural Steel Buildings

H. ANSI/SDI RD1.0-10: Standard for Steel Roof Deck

I. ANSI/SDI NC1.0-10: Standard for Non-composite Steel Floor Deck

J. ANSI/SDI C-2011: Standard for Composite Steel Floor Deck Slabs

K. ANSI/SJI K-10: Standard Specification for Open Web Steel Joists, K-Series

L. AISI S100-12: North America Standard for Cold-Formed Steel Structural Members, 2012

Applicable Building Codes

The Florida Building Code (FBC) 6th Edition (2017) is the base building code that governs the structural design. Design load cases and load combinations are determined in accordance with ASCE 7-10. Concrete, masonry, and steel structural elements are analyzed, designed, and detailed in accordance with their current respective codes.

FBC Chapter 4, State Requirements for Educational Facilities, includes restrictions for the construction type of school facilities as well as wind speed determination and public shelter design criteria. The construction type restrictions limit structural materials options for the facility to non-combustibles. Structural loads are required to be based on the Risk Category III & IV wind speed determination maps. Lastly, a written waiver has been received from the Santa Rosa County Emergency Management for the enhanced hurricane protection areas (EHPAs) for public shelter design criteria.

Design Loads

A Dead:
1. Calculated weight of building structure.
2. 10 psf minimum.

B Live: FBC-B, Table 1607.1
1. Roofs: 20 psf (Reducible in accordance with FBC)
2. Elevated Floors:
    a. 80 psf Corridors, Public Areas and Lobbies
    b. 55 psf Classrooms and Administration (includes 15 psf partition load)
    c. 150 psf Library Stack Rooms
    d. 60 psf Library Reading Rooms
3. Stairs: 100 psf
4. First Floor: 100 psf
5. Stage Floors: 150 psf

C Wind:
1. ASCE 7-10 Ultimate Wind Speed = 160 mph; Wind-borne Debris Region
2. Exposure C
3. Risk Category III
4. Enclosed Building; Internal Pressure Coefficient = +/-0.18

Minimum Material Properties

A. Concrete Foundations: $f'_c = 3{,}000$ psi
B. Concrete Slabs and Walls: f'c = 4,000 psi
C. Reinforcing Steel for Concrete: $F_y = 60{,}000$ psi
D. Structural Steel Angles, Channels and Plates: $F_y = 36$ ksi
E. Structural Steel W-Shapes: $F_y = 50$ ksi
F. Structural Steel Hollow Structural Sections: $F_y = 46$ ksi
G. Common Bolts: ASTM A1554, Grade 36
H. High Strength Bolts: ASTM A325, ¾" min. diameter

Structural Systems – General

Affordability, functionality and constructability are primary considerations in selecting the optimal building structural systems following building code compliance. This selection will benefit from giving attention to the simplest solutions meeting the project requirements. Simple solutions are generally the most common and therefore proven and familiar.

Estimates show that a two-story building configuration has an affordability advantage over single-story while not sacrificing functionality and constructability. The savings associated with essentially doubling the square footage under one roof on one footprint exceeds the additional costs of the larger foundations, elevated floor and vertical access to the elevated floor. Other benefits beyond the structural affordability include more economical site work and building services installations.

Structural Systems – Vertical Construction

Walls and columns make up the vertical construction which supports loads from the roof and floor to the foundation. Vertical construction also supports lateral loads to the roof and floor. Viable options for vertical construction are: structural steel column framing with metal stud infill or curtain wall; grout filled concrete block; concrete filled insulated forms (ICF); and precast concrete.

Concrete block has been the most widely employed construction in Santa Rosa County School District's building projects. Block construction is very functional providing good load resistance, excellent fire resistance, a durable inside wall finish, an effective outside surface for waterproofing and support for brick veneer. Although block construction has many pros, the Navarre K-8 project will be more demanding on the available labor force due to the project's size and scope which lessens the constructability and affordability of block construction.

ICF construction pros and cons are similar to block construction. In addition, a solid concrete wall does have structural strength advantages over block and the Styrofoam form system provides excellent insulation properties. These advantages come at added costs in comparison to block construction. And, there are similar if not greater labor force concerns with ICF construction.

Steel framing with metal stud infill or curtain wall has the constructability and affordability advantage while being competitive in functionality. Structural steel is fabricated offsite and delivered in large pieces to be erected on site with a crane. A smaller on site labor force is therefore able to complete more construction in less time compared to block and ICF wall systems. Metal stud installation with gypsum sheathing wall finish does not require a special skilled work force and moves quickly in comparison to block and ICF construction. Gypsum sheathing wall surfaces are not as naturally durable in comparison but this can be overcome with sheet good materials intended for impact and/or moisture resistance.

Precast concrete wall panels, whether tilt-up or plant fabricated precast, are durable and enable construction to move more quickly. It is also an affordable option with an available experienced workforce. Regrettably, precast wall construction is not well established locally and consequently, there is not a substantial experienced workforce available. This may have some bearing on why the District has not used precast concrete wall construction for their projects in the past. In addition, the District is happy with brick veneer exterior finish construction which does not fit well with precast concrete wall construction.

Structural Systems – Horizontal Construction

Roofs and floors make up the horizontal construction which supports gravity loads to the vertical construction. The roofs and floors also support lateral loads from the vertical construction. Floors support considerably more gravity loads than roofs. While viable construction options are similar, roof construction is usually much lighter weight due to the loading. Therefore, heavy construction options such as cast-in-place or precast concrete that are viable for floors are an unnecessary expense for roofs.

Roof construction will be sloped to shed water. Low sloped roofs are common on larger buildings. Steeper roof slopes add unnecessary height leaving a large building top-heavy in consideration of lateral loading and appearance. Steel deck, joist and beam roof framing is commonly used for low sloped roof construction. Heavier steel joists and/or fabricated structural steel trusses are needed for longer span construction, beyond 45-feet, which adds to the costs. Another roof construction option is steel roof deck on prefabricated engineered metal trusses. This option has fewer benefits with lower sloped roofs on larger buildings. Also, the District has not employed this type of roof construction on their school buildings in the past.

Floors will be concrete slab construction. The first floors will be concrete slabs on compacted fill. Viable options for the elevated, second level floors are: cast-in-place concrete in steel decking on steel framing; and cast-in-place concrete topping over precast concrete floor planks on steel framing. There are different construction methods for these options that provide affordability, functionality and constructability advantages and disadvantages.

Cast-in-place concrete in steel decking over steel framing may be constructed conventionally with a thinner slab in form deck over closely spaced steel joist framing. Concrete may also be placed in composite steel floor decking over steel framing with shear studs. The composite systems will have a thicker slab and deeper deck profile than the conventional floor construction. Composite floors are typically supported on structural steel beam framing. Steel joist framing composite floor systems are also available. In comparison, composite floors require about 25 percent less depth from top of floor to bottom of structure compared to conventionally framed floors. Also, floor vibration is more difficult to dampen with the thinner concrete slabs in form deck. Slab thickness is further critical for the installation of services, namely conduits that are within the floor slab. Considering the advantages of less overall floor construction depth and thicker slab, the composite floor construction is better suited to meet the project requirements and considerations. Composite steel beam and composite steel joist framing are very much alike in the advantages. A significant difference between the two is that the composite steel joists are predominately available from a joist fabricator's proprietary system.

Precast plank floor construction is another feasible option for the elevated second floors. It installs more quickly than the cast-in-place floor construction options. Unfortunately, the precast plank floor system is much heavier and, more critically, does not as well accommodate the installation of services. The typically 2-inch depth of concrete topping over the planks does not provide adequate depth to cover the conduit and other services that need to be installed within the floor. In addition, all plumbing and mechanical through floor openings should be fabricated into the planks beforehand. Finally, services that are hung beneath the floor, including ceilings, require more problematic installation with precast plank than with the steel decking and framing.

Lateral Force Resisting Structural System

The lateral system consists of horizontal roof and floor diaphragms supported by a combination of the vertical structural systems, shear walls, and steel bracing. Diaphragms, shear walls and bracing deliver horizontal loads to the foundation. These loads also result in additional compression and uplift loads on the building structure and foundation.

Foundations

The building foundation will be based on recommendations in the project Report of Geotechnical Investigation. Shallow spread footings are anticipated and will be designed with reinforced concrete masonry stem wall on continuous concrete footings supporting the bearing walls. Isolated shallow concrete spread footings will provide support for concrete and steel columns. If there are inadequate bearing soils and deep foundations are recommended, spread footings will become pile caps and continuous wall footings will become grade beams supported on pile caps. Pile foundations would add considerably more labor and material costs than shallow foundations.

Prefabricated Engineered Metal Building System

A metal building system is not a suitable option for this project without alteration of the typical system components and design criteria. For example, stiffer wall materials are needed in place of the typical system's more flexible metal wall siding and girts in order to support the brick veneer finish. Block masonry or sheathed metal stud framing are stiffer wall material options for supporting loads to the metal building's rigid frames. This substitution requires the addition of wind beams to support the walls. Nonstandard building system connections are also necessary between walls, beams and frames. Insulation and roofing are other metal building system components that will require upgrades. Further, the metal building system design criteria needs to be more stringent than typical if used for this facility. Additional stiffness is necessary in the main wind force resisting systems to limit lateral displacement. This stiffness is accomplished through stronger structural framing and bracing. Altering system components and restricting overall building flexibility design criteria lessens the benefits of an engineered metal building system.

PROGRAM

PROGRAM

Program
PHASE I

Navarre K-8
Santa Rosa County School District
Navarre Florida

Prepared by: DAG Architects, Inc.
(22 March 2018)

I. PROGRAM:

The program of spaces was based on the allowable spaces and areas set forth in Chapter 6 of the 2014 State Requirements for Educational Facilities and the 5-year survey. Through meetings and discussions with the following educators, staff, and other stake holders the program was adjusted to fit the budget and SREF requirements and recommendations were adjusted to fit the needs of a 21st century K-8 education facility and the operational requirements of the Santa Rosa County School District.

Joey Harrell (Assistant Superintendent for Administrative Services)
Bill Emerson (Assistant Superintendent of Instructional Services)
Richard Laing (Supervisor of Building Maintenance)
Ruffus Phillips (Maintenance Forman)
Floyd Smith (Director - Middle Schools)
April Martin (Director - Elementary Education)
Carol Boston (School Board Member – District 3, Vice Chairperson)

We extend our sincere appreciation to these contributors in taking time from their busy schedules to assist us in this programming effort. We know their time is extremely valuable.
The following pages provide a summary of the recommended program spaces with general comments and a spreadsheet detailing the allowable SREF spaces for a 1182 student station K-8 based on those recommendations.

NEW SRCSD Navarre K-8 SCHOOL - CLASSROOM SUMMARY

ELEMENTARY SCHOOL

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total	Related Spaces	Student Stations
001	PK3	Primary Classroom*	18	49	882	25	22,050	808,811,813,814	450
002	4-8	Intermediate/Middle Classroom*	22	39	858	8	6,864	808,811,815,816	176
010	PK3	Primary Skills Lab	18	49	882	2	1,764	808,813,814	0
011	4-8	Intermediate/Middle Science Lab*	22	39	858	0	0	808,815,816	0
021	4-8	Intermediate/Middle Science Demonstration CR	22	37	814	0	0	808, 812	0
040	PK-12	Resource Room*	10	29	290	3	870	808	0
050	PK-5	Art, Elementary*	22		1,000	1	1,000	808,812	0
055	PK-5	Music, Elementary*	22		1,000	1	1,000	808,812	0
		Subtotal					41,273		626

ESE

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total	Related Spaces	Student Stations
060	PK	ESE Pre-K*	5	95	475	6	2,850	808,813,817	30
061	PK-12	ESE Part Time*	15	65	882	3	2,646	808,813,815,816	45
062	PK-12	ESE Full Time*	10	95	950	3	2,850	808,813,815,816,817	30
063	PK-12	ESE Vocational*	12	95	1,140	1	1,140	808,815,816	12
063	PK-12	ESE Vocational*	12	95	1,140	1	882	808,815,816	12
064	PK-12	ESE PT/OT	5	95	475	1	475	808, 813, 817	0
065	PK-12	ESE Resource*	4	95	380	3	1,140	808.813	0
066	PK-12	ESE Supplementary Instruction*	2	50	120	3	360	808.813	0
067	PK-12	ESE Observation Booth*	1	150	150	1	150	808.813	0
068	PK-12	ESE Time Out Room*	1	40	40	1	40	808.813	0
		Subtotal					15,148		129

MIDDLE SCHOOL

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total	Related Spaces	Student Stations
002	4-8	Intermediate/Middle Classroom*	22	39	858	12	10,296	808,811,815,816	264
021	4-8	Intermediate/Middle Science Lab	22	51	1,122	3	3,366	808,812	66
040	PK-12	Resource Room	10	29	290	2	580	808	0
051	4-8	Art, Intermediate/Middle*	30	42	1,260	1	1,260	805,808,812	30
076	6-12	Band Classroom*	45		2,000	1	2,000	806, 808, 830, 831, 832,	45
055	PK-5	Music	22		1,000	1	1,000	808,812	0
110	6-12	PE Multi-Purpose Room (Middle-Sr High)	1	1,050	1,050	1	3,456		0
240	6-9	Technology/Industry Exploration Lab*	22	95	2,090	1	2,090	808, 849, 851, 852	22
		Subtotal					32,060		427
		Total Student Stations							1182

NEW SRCSD Navarre K-8 SCHOOL

3/28/18

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total	Number of Rooms Deleted	SF Removed per Space	Total SF Removed from Program	Related Spaces	Staff	Student Stations	Room Use	SREF Notes	Notes
ELEMENTARY SCHOOL																
001	**PK3**	**Primary Classroom***	**18**	**49**	**882**	**25**	**22,050**				808,811,813,814	25	**450**			
808		Storage			85	25	2,125	1	15	475					26 vs. 25	
811		Storage, Outside			40	25	1,000	1	10	290					26 vs. 25	combined into shared rooms
813		Storage, Student			40	25	1,000	1	40	40					26 vs. 25	
814		Student Restrooms, Male/Female			60	25	1,500	1	10	310					26 vs. 25	
002	**4-8**	**Intermediate/Middle Classroom***	**22**	**39**	**858**	**8**	**6,864**				808,811,815,816	8	**176**			
808		Storage			85	8	680		15	120						
811		Storage, Outside			50	8	0		50	400						
815		Student Restrooms, Male			35	4	140	2	35	70					6 vs. 8	1 male & 1 female RR shared between classes
816		Student Restrooms,Female			35	4	140	2	35	70					6 vs. 8	
010	**PK3**	**Primary Skills Lab**	**18**	**49**	**882**	**2**	**1,764**	1	882	882	808,813,814		**0**	STEAM LAB		Counters can be intermediate height, 1 room may be for flexible classroom use
808		Storage			85	2	170	1	15	130						
813		Storage, Student			40	2	80	1	40	40						
814		Student Restrooms, Male/Female			60	2	120	1	60	60						
013		**Elementary PE Storage**			**315**	0	0	1	315	315						Alternate 1
014		**Elementary Covered Play**	**103**	**36**	**3,708**	0		1	3,672	3,672					3708 COFTE?	Alternate 1
021	**4-8**	**Intermediate/Middle Science Demonstrati**	**22**	**37**	**814**	**0**	**0**				808, 812		**0**			3 in Middle School
808		Storage			100	0	0									
812		Storage, Project (Small)			150	0	0									
040	**PK-12**	**Resource Room***	**10**	**29**	**290**	**3**	**870**				808		**0**			Used for pull-out, small group, carpet, white board, casework
808		Storage			100	2	200								3 vs. 2	
050	**PK-5**	**Art, Elementary***	**22**		**1,000**	**1**	**1,000**	2	1,000	2,000	808,812	1	**0**			Access to exterior patio, sinks & counters, Discuss adj.
808		Storage			100	1	100	1	100	100						Supply storage
812		Storage, Project (Small)			150	1	150	2	150	300						
814		Student Restrooms, Male/Female			50	1	50									
055	**PK-5**	**Music, Elementary***	**22**		**1,000**	**1**	**1,000**	1	1,000	1,000	808,812	1	**0**			1 room moved to MS for Chorus
806		Reference			100	1	100	1	100	100						
808		Storage			100	1	100	1	100	100						
831		Music Practice Room			70	1	70	1	70	70						
814		Student Restrooms, Male/Female			50	1	50									
		Subtotal					**41,273**			10,544		35	**626**			

ESE

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total				Related Spaces	Staff	Student Stations	Room Use		Notes
060	**PK**	**ESE Pre-K***	**5**	**95**	**475**	**6**	**2,850**		**200**	**1,200**	808,813,817	12	**30**		Combining	Combine & use dividers or partitions (review)
808		Storage			85	5	425		**15**	**75**					5 vs.6	
813		Storage, Student			40	2	80								2 vs. 6	cubbies in room
817		Student Restroom & Bath			110	2	220								2 vs 6	shared, with changing table
061	**PK-12**	**ESE Part Time***	**15**	**65**	**882**	**3**	**2,646**		**93**	**279**	808,813,815,816	9	**45**			Reduced size, 1 per P, I, M
808		Storage			85	3	255		**15**	**45**						
813		Storage, Student			40	3	120									
815		Student Restrooms, Male			35	3	105									
816		Student Restrooms, Female			35	3	105									
062	**PK-12**	**ESE Full Time***	**10**	**95**	**950**	**3**	**2,850**				808,813,815,816,817	9	**30**			Behavior/Autism, Self Contained, 1 per P, I, M
808		Storage			85	3	255		**15**	**45**						
813		Storage, Student			40	3	120									
815		Student Restrooms, Male			35	3	105									
816		Student Restrooms, Female			35	3	105									
817		Student Restroom & Bath			110	3	330									share RR w/ ESE Part Time
063	**PK-12**	**ESE Vocational***	**12**	**95**	**1,140**	**1**	**1,140**				808,815,816	6	**12**			MS, restroom nearby
808		Storage			85	1	85		**15**	**15**					1 vs.2	
815		Student Restrooms, Male			35	1	35									
816		Student Restrooms, Female			35	1	35									
063	**PK-12**	**ESE Vocational***	**12**	**95**	**1,140**	**1**	**882**		**258**	**258**	808,815,816	6	**12**			ES
808		Storage			85	1	85		**15**	**15**						
814		Student Restrooms, Male/Female			50	1	**50**									
064	**PK-12**	**ESE PT/OT**	**5**	**95**	**475**	**1**	**475**				808, 813, 817	1	**0**			Restroom nearby
808		Storage			100	1	100									
813		Student Storage						**1**	**40**	**40**						
817		Student Restroom & Bath			110	1	0	**1**	**110**	**110**						
065	**PK-12**	**ESE Resource***	**4**	**95**	**380**	**3**	**1,140**				808.813	3	**0**			Small Group, 1 per Primary, Intermediate, Middle
808		Storage			100	1	0	**3**	**100**	**300**						
813		Student Storage						**3**	**40**	**120**						
066	**PK-12**	**ESE Supplementary Instruction***	**2**	**50**	**120**	**3**	**360**				808.813	3	**0**			1 per Primary, Intermediate, Middle
808		Storage			100	1	0	**3**	**100**	**300**						
067	**PK-12**	**ESE Observation Booth***	**1**	**150**	**150**	**1**	**150**				808.813		**0**			
068	**PK-12**	**ESE Time Out Room***	**1**	**40**	**40**	**1**	**40**				808.813		**0**			
		Subtotal					**15,148**			**2,802**		49	**129**			

MIDDLE SCHOOL

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total				Related Spaces	Staff	Student Stations			Notes
002	**4-8**	**Intermediate/Middle Classroom***	**22**	**39**	**858**	**12**	**10,296**				808,811,815,816	12	**264**			3 Science, 3 ELA, 3 Math, 3 SS with some flex.
808		Storage			85	10	**850**		**15**	**150**					**12 vs. 10**	
811		Storage, Outside			50	10	**0**		**50**	**500**					**12 vs. 10**	
815		Student Restrooms, Male			35	10	350								12 vs. 10	gang restrooms
816		Student Restrooms, Female			35	10	350								**12 vs. 10**	gang restrooms
021	**4-8**	**Intermediate/Middle Science Lab**	**22**	**51**	**1,122**	**3**	**3,366**				808,812	3	**66**			locate next to science classroom, share storage
812		Storage			250	3	750								not in survey	Combined 808 & 812 into 1 storage room
040	**PK-12**	**Resource Room**	**10**	**29**	**290**	**2**	**580**				808		**0**			1 each MS wing
808		Storage			100	1	100									
315	**N-PS**	**Teacher Planning Office**	**103**	**20**	**400**	**2**	**800**									1 each MS wing, 400 SF each
051	**4-8**	**Art, Intermediate/Middle***	**30**	**42**	**1,260**	**1**	**1,260**				805,808,812	1	**30**			access to outside
		Instructional darkroom						**2**	**100**	**200**						
805		Kiln			60	2	120									share w/ elementary
808		Storage			100	1	100	**1**	**100**	**100**						
812		Storage, Project (Small)			150	1	150	**1**	**150**	**150**						
076	**6-12**	**Band Classroom***	**45**		**2,000**	**1**	**2,000**				806, 808, 830, 831, 832,	1	**45**			
806		Reference			100	1	125							Office		Window to Classroom, added stor from 836
808		Storage			100	1	100									Add space to Band classroom
830		Ensemble			300	1	250		**50**	**50**						Reduced space
831		Practice, Music			70	1	70									
832		Storage, Instrument			600	1	150		**450**	**450**						Add space to band classroom With lockers
834		Uniform Storage			300			**1**	**300**	**300**						
835		Music studio			180			**1**	**180**	**180**						
836		Sheet music storage			150			**1**	**150**	**150**						
837		Music equipment storage			400			**1**	**250**	**250**						Add 150 sf to vocal ensemble (storage)
055	**PK-5**	**Music**	**22**		**1,000**	**1**	**1,000**				808,812	1	**0**	Vocal/Chorus	**change to 075?**	could adjust fish code for support
806		Reference			100	1	100							Office		Window to classroom
808		Storage			100	1	250							Ensemble		Added space from Music equip. storage
831		Music Practice Room			70	1	70									can be shared with band (2 total)
90	**6-12**	**PE Dressing Room, Male**	**51**	**12**	**612**	**1**	**612**						**0**			
91	**6-12**	**PE Dressing Room, Female**	**51**	**12**	**612**	**1**	**612**						**0**			
92	**6-12**	**PE Locker Room, Male**	**51**	**2**	**102**	**1**	**102**						**0**			200 lockers- 12" x 12"- add space to locker room
93	**6-12**	**PE Locker Room, Female**	**51**	**2**	**102**	**1**	**102**						**0**			200 lockers- 12" x 12"- add space to locker room
315		**PE Coach**			**125**	**2**	**250**									taken out Teacher Planning, windows to locker room
94	**6-12**	**PE Shower, Male**	**51**	**2**	**102**	**1**	**50**		**52**	**52**			**0**			
95	**6-12**	**PE Shower, Female**	**51**	**2**	**102**	**1**	**50**		**52**	**52**			**0**			
815	6-12	Student Restrooms, Male	**51**	**2**	**102**	**1**	**102**									
816	6-12	Student Restrooms, Female	**51**	**2**	**102**	**1**	**102**									
96	**6-12**	**PE Drying Area, Male**	**51**	**2**	**102**	**1**	**102**						**0**			move some space to locker room
97	**6-12**	**PE Drying Area, Female**	**51**	**2**	**102**	**1**	**102**						**0**			move some space to locker room
98	**6-12**	**PE Storage (Middle-Sr High)**	**51**	**9**	**459**	**1**	**459**						**0**			
99	**6-12**	**PE Teachers Shower, Male**	**1**	**22**	**22**	**1**	**22**						**0**			
100	**6-12**	**PE Teachers Shower, Female**	**1**	**22**	**22**	**1**	**22**						**0**			
110	**6-12**	**PE Multi-Purpose Room (Middle-Sr High)**	**1**	**1,050**	**1,050**	**1**	**3,456**					2	**0**		**added from 361**	to match other MS- 2406 taken from 361 Multipurpose
120	**6-12**	**Gymnasium Storage**	**51**	**3**	**153**	**1**	**153**						**0**			Outside shed to be added in future for K-5 PE
240	**6-9**	**Technology/Industry Exploration Lab***	**22**	**95**	**2,090**	**1**	**2,090**				808, 849, 851, 852	2	**22**	CTE Class	dividing	Divide into 2-Computer Labs for Certifications
808		Storage			100	1	85		**15**	**15**						
849		Vocational project storage						**1**	**310**	**310**						
851		Vocational tool storage						**1**	**310**	**310**						
852		Technology Resource Center			800	1	**400**		**400**	**400**				Resource		Reduced
		Subtotal					**32,060**			**3,619**		22	**427**			

ADMINISTRATION

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total				Related Spaces	Staff	Student Stations			Notes
300	PK-VE	Principal's/Director's Office	1	250	250	1	250					1				
308		Principal Storage				1	30									
821		Principal Restroom				1	50									
301	PK-VE	Asst Principal/Media/Admin/Guidance Off	1	175	175	4	700					4				2 AP, 2 Guidance
302	N-PS	Bookkeeping Office	1	125	125	1	125					1				
303	N-PS	Secretarial Space	1	158	125	1	125		23	23		1		Data Entry		
304	N-PS	General Administrative Reception Area	51	17	867	1	867					2				Includes secure lobby
305	N-PS	Production Workroom	51	8	408	1	408					2				large copiers
306	N-PS	Conference Room	51	14	714	1	594									seats 25, divided (120 for ISS next to AP)
306	N-PS	Conference Room	51	14	714	1	120							ISS		Elementary, window to AP
307	N-PS	Clinic	51	6	306	1	306					1				review shower, bed requirements
308	N-PS	General School Storage	51	10	510	1	480									divided (510 total allowed) use some for textbooks
309	N-PS	Records Vault/Student Records	51	6	306	1	90							Vault		divided
309	N-PS	Records Vault/Student Records	51	6	306	1	216							Records		divided
310		School store						1	102	102						
311	N-PS	Student Activities Area	51	10	510	1	510							meeting/work		not on masterkey- testing storage when needed
312	N-PS	Computer Area	51	3	153	1	153							Parent Involvement		Computer Station
313	N-PS	Careers Room	51	6	306	1	125					1		Guidance Scheduling		divided
313		Careers Room				1	125					1		Dean		divided
314	N-PS	Itinerant Office	1	125	125	3	375					3				SRO, Itinerants
315		Teacher planning Office		2,060				1	835	835						located in other departments, divided
316	N-PS	Teacher Lounge/Dining	103	4	412	1	412									Mailboxes
819		Restrooms, Staff, Male	51	4	204	1	204									Restrooms at each wing
820		Restrooms, Staff, Female	51	4	204	1	204									Restrooms at each wing
		Subtotal					6,469			960		17	0			

KITCHEN & CAFETERIA/STAGE

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total				Related Spaces	Staff	Student Stations			Notes
330	N-PS	Custodial Receiving	103	15	1,545	1	400		1,145	1,145		2				reduced SF
333		Flammable storage						1	155	155						
334	N-PS	Equipment Storage	1	500	500	1	100		250	250						reduced SF, floor buffer, added to Rec. & closets
331#		Custodial Service Closets			25	6	150									
340	N-PS	Dining Area	103	40	4,120	1	5,929								added from 341 &361	Serve 400 students, 3 shifts, some space from 341 & 361
341	N-PS	Serving	103	44	4,532	1	1,100					7				reduce size, add 1022 to dining
341		Kitchen					1,500									
342#		Dry Storage					150									
350#		Cooler					200									
350#		Freezer					200									
343#		Office					90									
		Staff Restrooms					60									
		Staff Storage					50									
350#		Kitchen Custodial					60									exterior can wash?
		Kitchen Receiving					100									store pallets temporarily, double door to ext.
349	N-PS	Kitchen Chair Storage	51	4	204	1	204									locate AV equip.
361	N-PS	Multipurpose Room	103	31	3,193	1	0								added to 340 & 110	shared between (787) dining and mini-gym (2406)
362	N-PS	Chair Storage	103	2	206	1	206									
363	N-PS	Stage	1	990	990	1	990									
364	N-PS	Storage	103	5	515	1	515									Stage Storage
		dressing room male						1	255	255						
		dressing room female						1	255	255						
		control booth/projection room						1	100	100						
822		Public Restrooms, Male	51	2	102	1	102									
823		Public Restrooms, Female	51	2	102	1	102									
		Subtotal					12,208			2,160		9	0			

SUPPORT

Fish Code	Grade/ Group	Facility Space Name	Recommended Occupants	NSF/ Occupants	Allowable NSF per Classroom	Number of Rooms	Allowable NSF Total				Related Spaces	Staff	Student Stations			Notes
368	N-PS	Textbook Storage Area	51	10	357	1	357								510 SF COFTE #?	Divide, locate throughout school
		student personal storage						1	515	515						
815		Student Restrooms, Male			102	18										additional 1328 SF available, RR throughout project
816		Student Restrooms, Female			102	18										additional 1328 SF available, RR throughout project
		Subtotal					357			515		0	0			

MEDIA CENTER

301	PK-VE	Media Office	1	175	175	1	175					1				
380	P-PS	Reading Room Stacks	103	37	3,811	1	3,811									10 books per student
381	P-Ps	Technical Processing Area	103	4	412	1	412									workroom w/sink
		Professional library						1	412	412						
		AV storage						1	618	618						
		Periodical storage						1	206	206						
385	P-PS	Closed Circuit TV	103	7	721	1	400		321	321				Studio		
386	P-PS	Closed Circuit Storage Area	103	5	515	1	100		415	415						
		media production lab						1	515	515						
		media copyig room						1	206	206						
389	P-PS	Small Group Room (View & Preview)	51	2	102	1	102							Control Room		View into CCTV
		media maintenance repair						1	102	102						
390	P-PS	Group Projects & Instruction	103	5	515	1	515							Flexible Instruction		ISS, ESOL, divideable partition
		Subtotal					5,515			2,795		1	0			

			Estimated NSF				113,030			23,395		133	1182			
			6% utilities space				6,782			1,404						
			32% circulation space				38,340			7,936						
			Estimated GSF				158,152			32,734						

		Miscelllaneous Exterior														
701		Covered Walkway					5,000									
702		Central Energy Plant					1,200									
703		Emergency Generator					240									

ALTERNATES

013	PK-5	Elementary PE Storage			315	1	315				808, 812		0			Alternate #1
315		Teacher Planning					125							Office		
014	PK-5	Elementary Covered Play Area	103	36	3,708	1	3,708				808, 812		0		3672 COFTE ?	Alternate #1

			Estimated NSF				4,148					0				
			6% utilities space				249									
			32% circulation space				1,407									
			Estimated GSF				5,804									

ARCHITECTURAL DESIGN NARRATIVE

ARCHITECTURAL DESIGN NARRATIVE

Architectural Design Narrative
PHASE I

Navarre K-8
Santa Rosa County School District
Navarre Florida

Prepared by: DAG Architects, Inc.
(28 March 2018)

I. PROJECT OVERVIEW AND SCOPE:

The new Navarre K-8 School for the Santa Rosa County School District is to be located approximately 1 mile north of Hwy 98 in the Holley By the Sea Subdivision off Edgewood drive. The project is situated on approximately 48.65 acres which includes 3.52 acres of wetlands.
The site is bounded by residential / Elkhart Drive to the East, undeveloped property and East Bay to the North and West, and residential to the South.
The main access to the site is Elkhart Drive and a portion of the road is currently unpaved and will need to be paved as part of this project.
There is also a stream / drainage easement along the East side of the property along Elkhart drive that will need to be crossed for access to the site. Civil / Environmental are coordinating with the various agencies that have jurisdiction to this easement and will design crossings that will meet their requirements and guidelines.
There is also a power line easement located at the southeast corner of the site and will be another factor in the location of the school. The desire is to keep the classroom wings as far away from the transmission lines as possible.
The primary entrance to the school, along with the major support spaces will be off and face Elkhart Drive which will allow for good visibility and security.
The parking and front entrance drive / parent pick up will be designed to accommodate a queuing lane for up to 200 cars to help minimize traffic backups on the residential streets.
The design also incorporates a separate bus loop (to accommodate up to 18 buses) and service entrance to the kitchen.
As instructed by SRCSD and Santa Rosa County Emergency Management, this facility will not be designed as a hurricane shelter.

During the Phase 1 process, the design team looked at many classroom configurations and site locations and the pros and cons associated with each option. As mentioned earlier the wetlands and powerline easement presented some challenges.

The **first** option as shown on **Sheet A100A (Building / Site Concept – Single Story)**

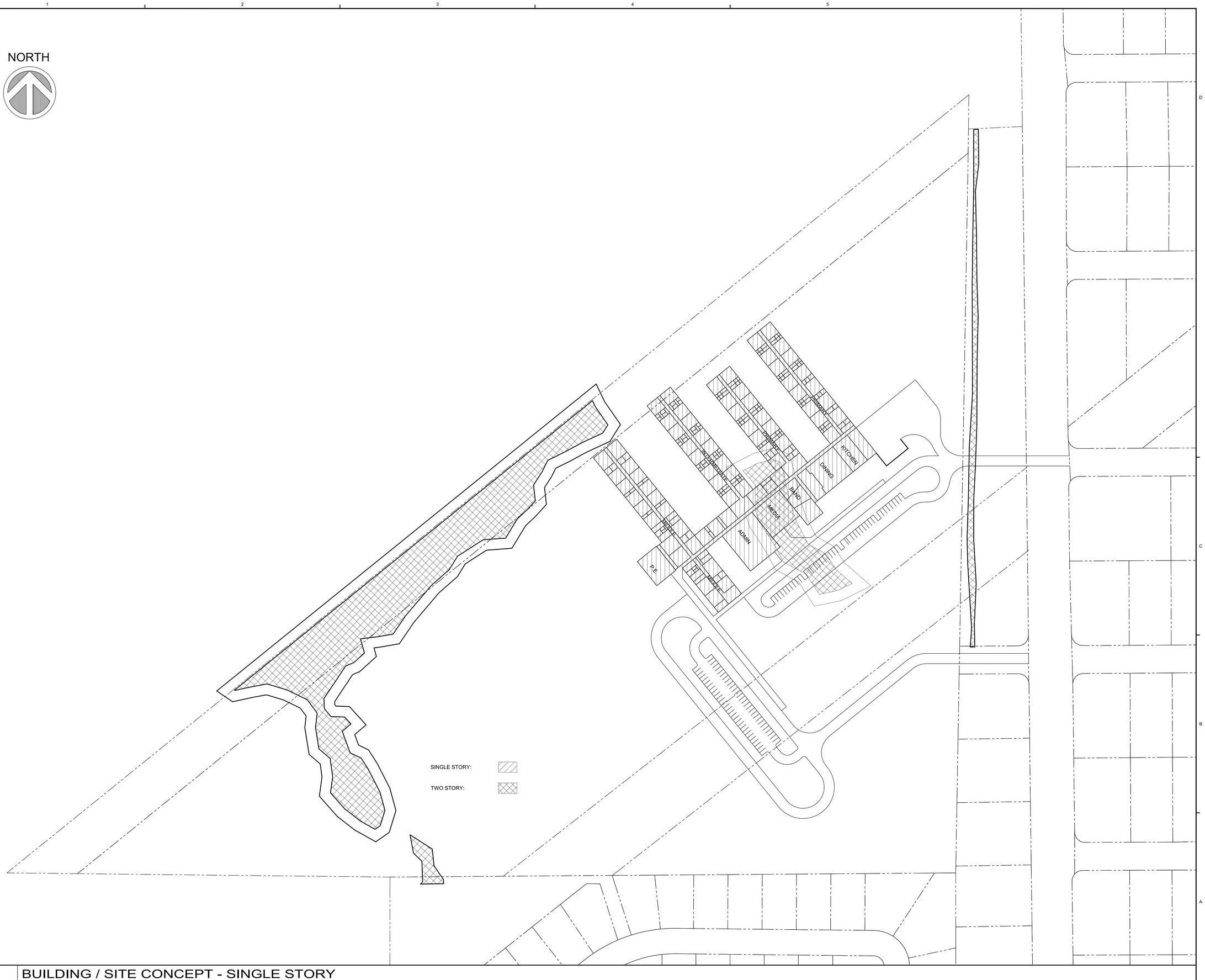
Pros:

- Eliminates the need for stairs and elevator
- Single story option allows for greater flexibility to convert classrooms between age groups as needed.
- Classroom wings are located away from the transmission lines.

Cons:

- Increased circulation and longer corridors
- Longer runs for mechanical, electrical, plumbing, fire protection, telecom
- Larger impervious area which will require larger retention ponds
- Larger impact on site. More fill will be required.
- Classroom configuration not as conducive to keep age groups separated.
- More roof area.
- Classrooms are further away from Admin., Cafeteria, Media, etc.
- Due to the size of the footprint the building must be oriented NE/ SW. N/S is a better solar orientation.
- Visibility / security is not as good from Elkhart Road.
- School Entrance faces transmission line

NORTH



A1 BUILDING / SITE CONCEPT - SINGLE STORY

SCALE: 1"=80'

DAG Architects, Inc.
40 South Palafox Place - Suite 201
Pensacola, Florida 32502
Ph: 850-429-9004
www.dagarchitects.com
AA-C000745

SANTA ROSA COUNTY SCHOOL DISTRICT

NEW NAVARRE K-8 SCHOOL

NAVARRE, FLORIDA

Revision

Date:	No.	Description:
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Drawn By: -
Checked By: -

Date: February 6, 2018

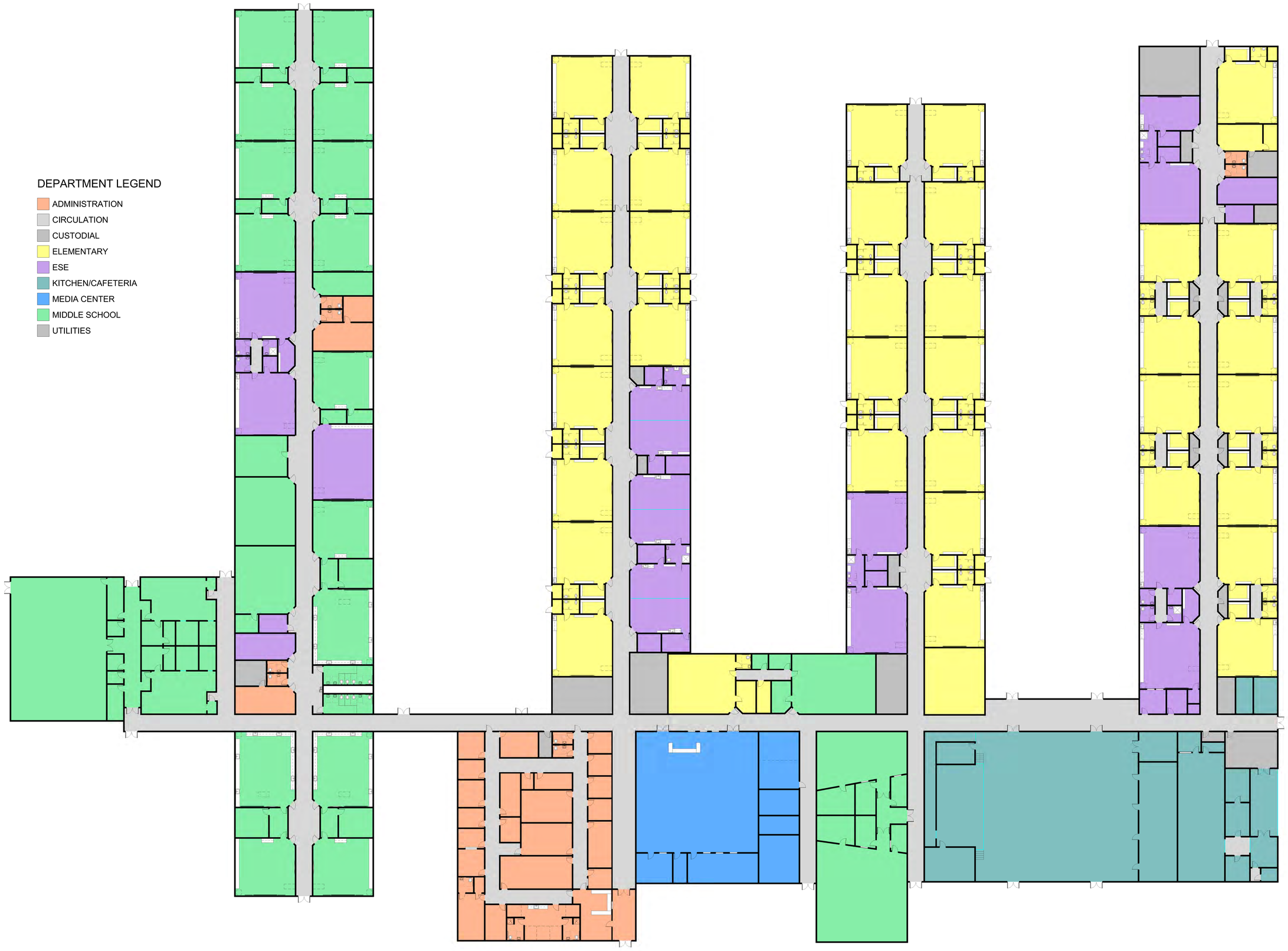
Project No.: 17076

Drawing Title:
OVERALL SITE STUDY

Drawing No.: A100A

DEPARTMENT LEGEND

- ADMINISTRATION
- CIRCULATION
- CUSTODIAL
- ELEMENTARY
- ESE
- KITCHEN/CAFETERIA
- MEDIA CENTER
- MIDDLE SCHOOL
- UTILITIES



1 OVERALL FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

Navarre K8 School
DAG Architects Inc.
February 28, 2018

0' 8' 16' 32' 64'

FIRST FLOOR PLAN - SCHEME A (COLORED)

A.1

The **second** option as shown on **Sheet A100B (Building / Site Concept – Two Story – Middle School Only - Second Floor)**

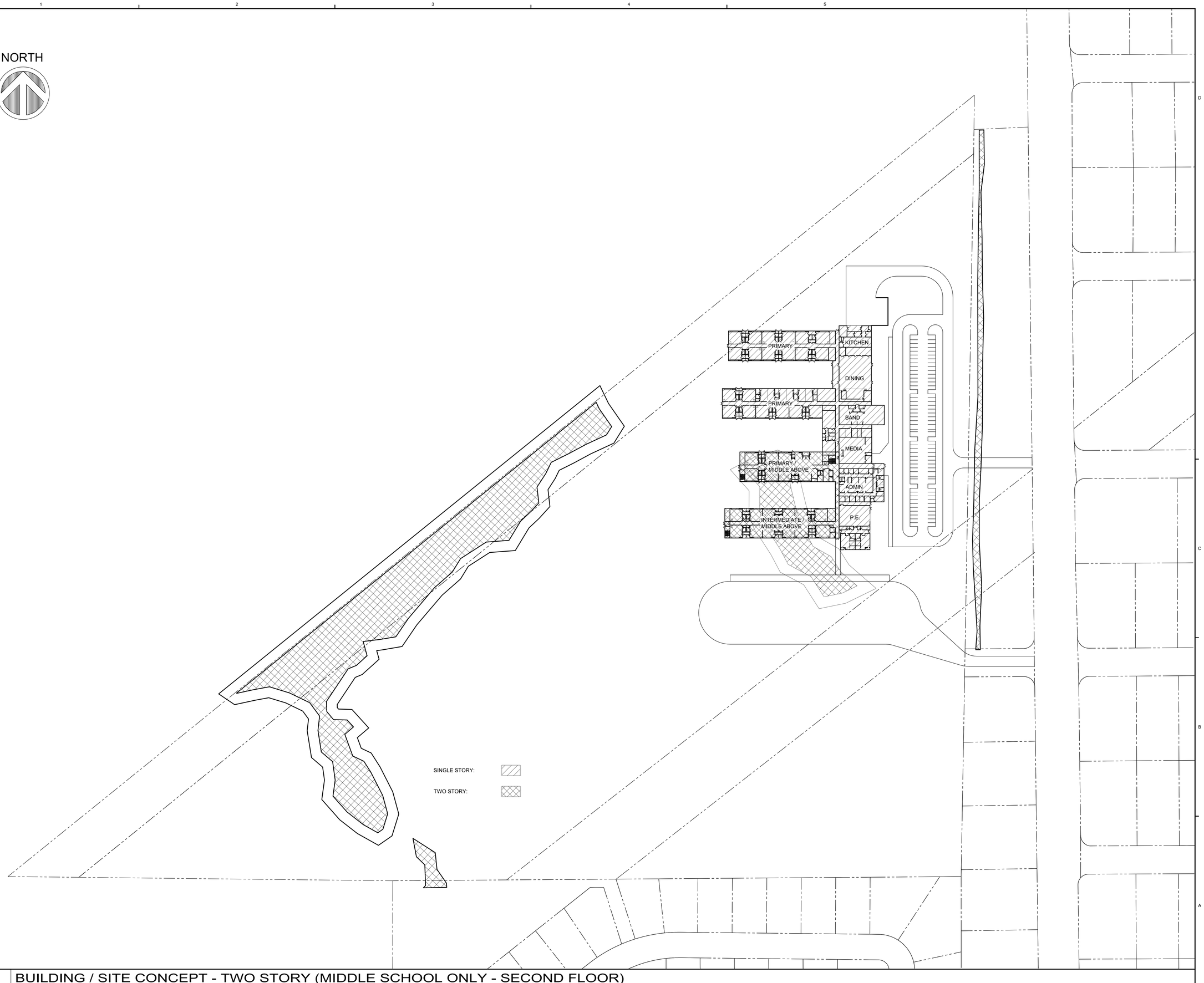
Pros:

- Smaller Footprint than Option A
- Less Roof Area than Option A
- Allows for N/S orientation which provides better solar/shading control
- Smaller retention Pond Required due to reduced roof area/footprint
- Less Circulation space than Option A
- Classrooms are in closer proximity to Admin, Media, Cafeteria.
- Shorter runs for MEP / Fire Protection reduce cost
- Common Spine that connects support spaces (can be monitored easier by staff)
- Better visibility / security from main road / entrances and from admin
- Locates Middle School classrooms on 2nd floor for clear separation from Elementary students

Cons:

- Stairs / Elevator required
- Less Flexibility to convert classrooms between age groups

NORTH



A1
SCALE: 1"=80'

BUILDING / SITE CONCEPT - TWO STORY (MIDDLE SCHOOL ONLY - SECOND FLOOR)

DAG Architects, Inc.
40 South Palafox Place - Suite 201
Pensacola, Florida 32502
Ph: 850-429-9004
www.dagarchitects.com
AA-C000745

SANTA ROSA COUNTY SCHOOL DISTRICT

NEW NAVARRE K-8 SCHOOL

NAVARRE, FLORIDA

Revision

Date:	No.	Description:
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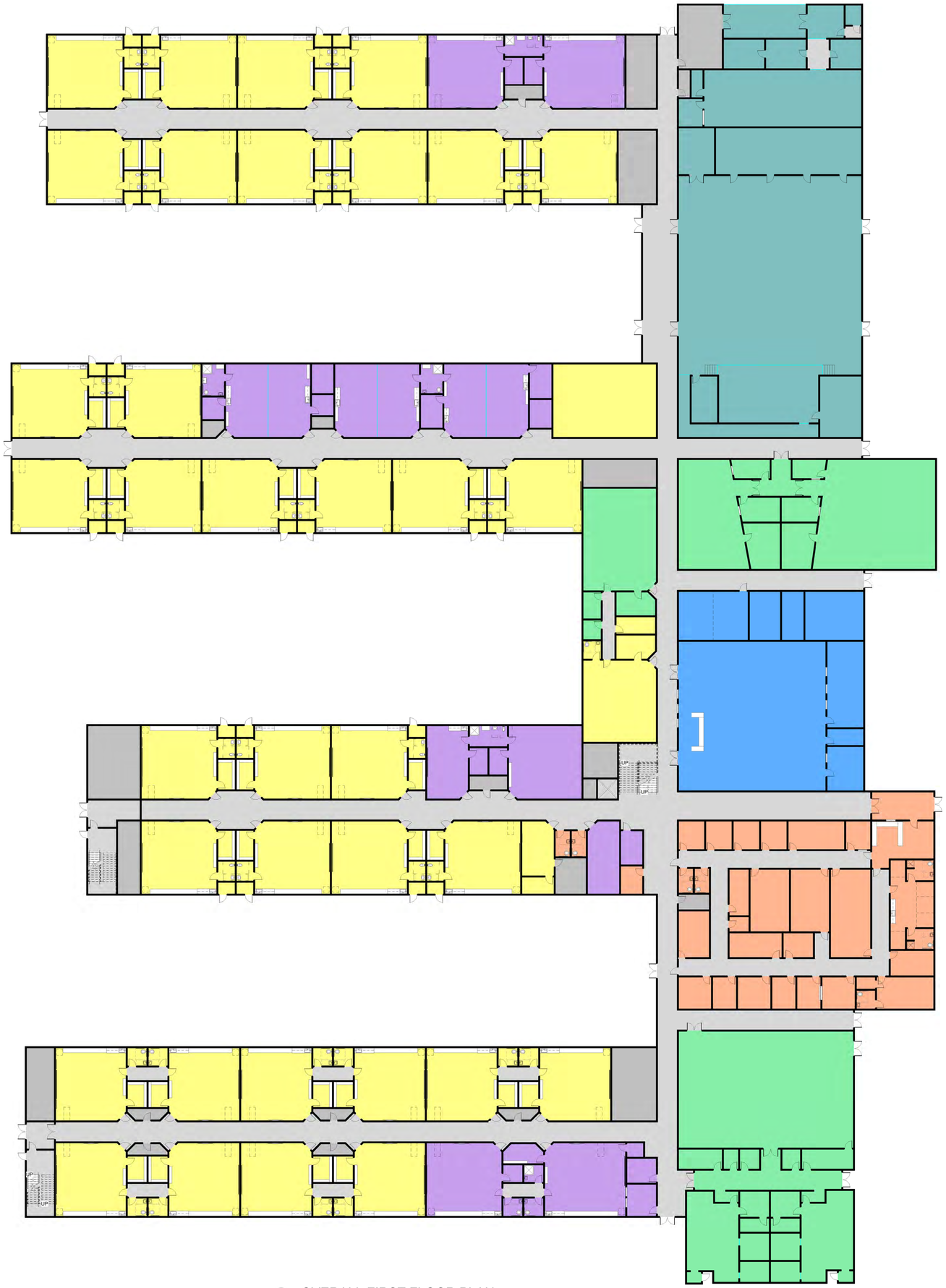
Drawn By: -
Checked By: -

Date: February 6, 2018

Project No.: 17076

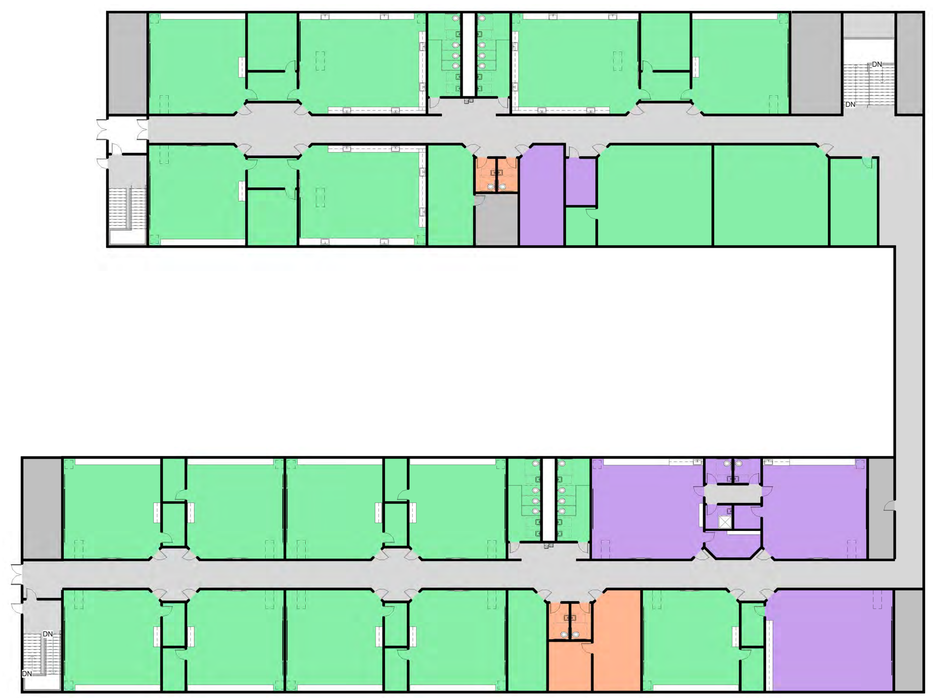
Drawing Title:
OVERALL SITE STUDY

Drawing No.: A100B



DEPARTMENT LEGEND

- ADMINISTRATION
- CIRCULATION
- CUSTODIAL
- ELEMENTARY
- ESE
- KITCHEN/CAFETERIA
- MEDIA CENTER
- MIDDLE SCHOOL
- UTILITIES



Navarre K8 School
DAG Architects Inc.
February 28, 2018

1 OVERALL FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"

2 OVERALL SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

0' 8' 16' 32' 64'

FIRST & SECOND FLOOR
- SCHEME B (COLORED)

The **third** option as shown on **Sheet A100C (Building / Site Concept – Two Story – Intermediate and Middle School on Second Floor)**

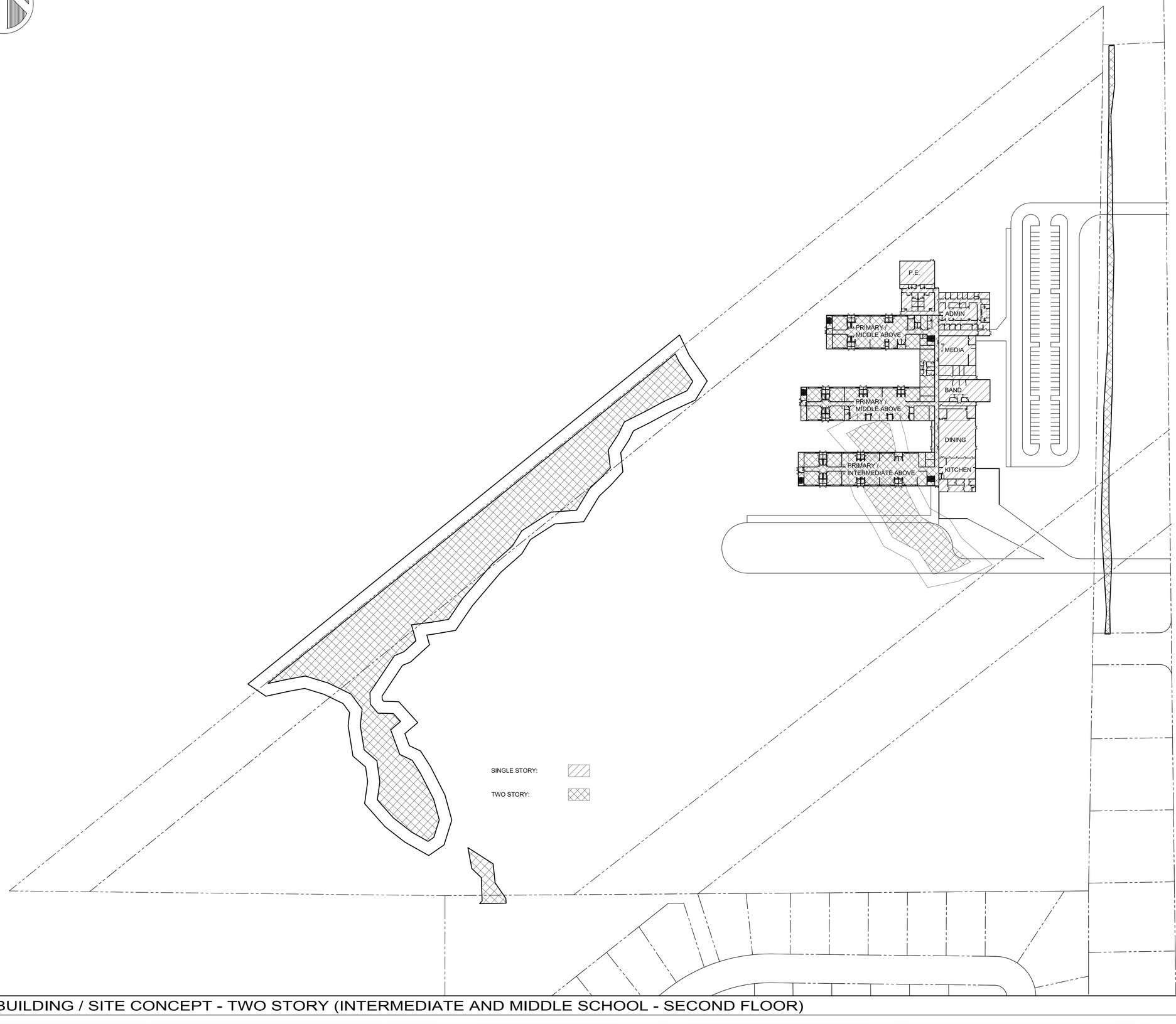
Pros:

- Smaller Footprint than Option A-B
- Less Roof area than Option A-B
- Allows for N/S orientation which provides better solar/shading control
- Smaller retention Pond Required due to reduced roof area/footprint
- Less Circulation than Option A-B
- Classrooms are in closer proximity to Admin, Media, Cafeteria.
- Shorter runs for MEP / Fire Protection reduce cost
- Common Spine that connects support spaces (can be monitored easier by staff)
- Better visibility / security from main road / entrances and from admin

Cons:

- Stairs / Elevator required
- Less Flexibility to convert classrooms between age groups

NORTH



A1 BUILDING / SITE CONCEPT - TWO STORY (INTERMEDIATE AND MIDDLE SCHOOL - SECOND FLOOR)

SCALE: 1"=80'

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Pensacola, Florida 32502
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AA-C000745

SANTA ROSA COUNTY SCHOOL DISTRICT

NEW NAVARRE K-8 SCHOOL

NAVARRE, FLORIDA

Revision

Date:	No.	Description:
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Drawn By: -
Checked By: -

Date: February 6, 2018

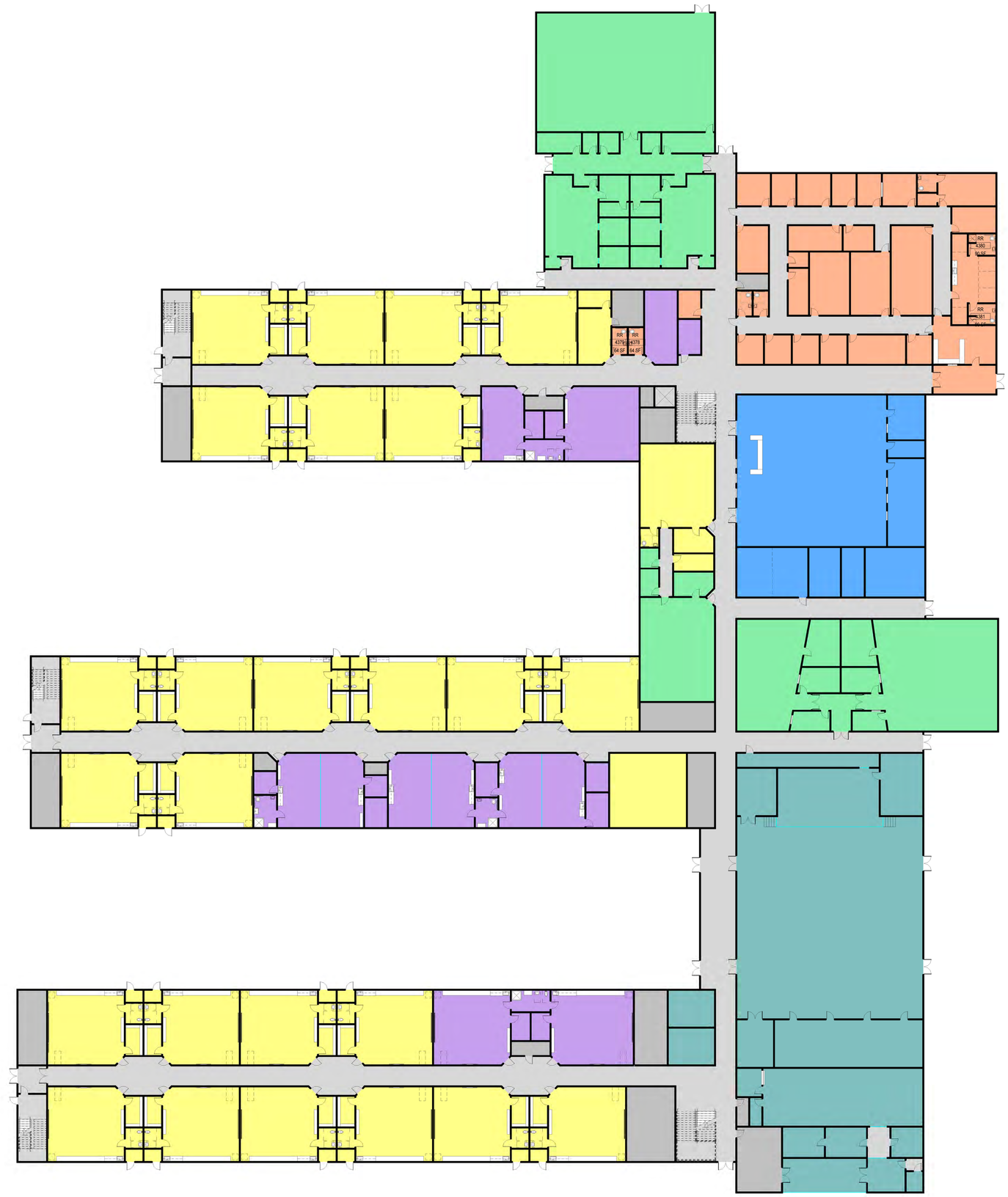
Project No.: 17076

Drawing Title:
OVERALL SITE STUDY

Drawing No.: A100C

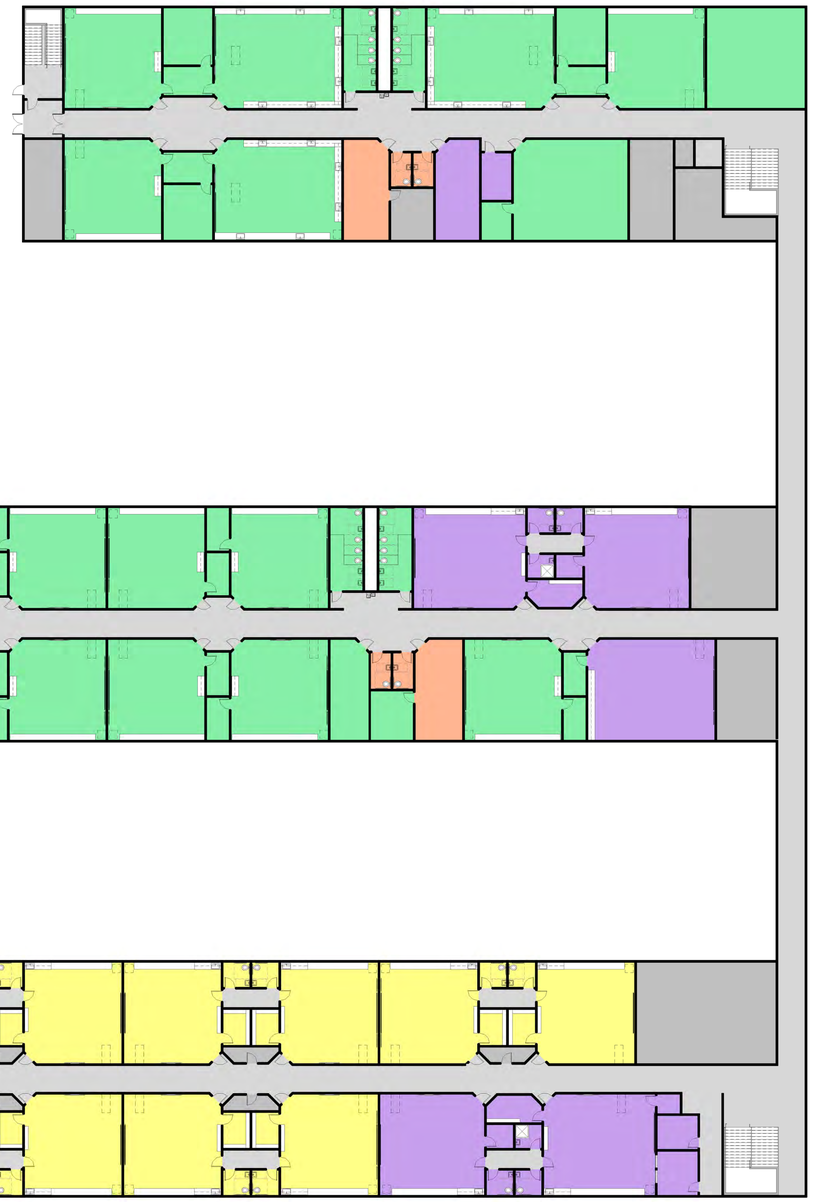
DEPARTMENT LEGEND

- ADMINISTRATION
- CIRCULATION
- CUSTODIAL
- ELEMENTARY
- ESE
- KITCHEN/CAFETERIA
- MEDIA CENTER
- MIDDLE SCHOOL
- UTILITIES



1 OVERALL FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"



2 OVERALL SECOND FLOOR PLAN

SCALE: 1/16" = 1'-0"

0' 8' 16' 32' 64'

Navarre K8 School
DAG Architects Inc.
February 28, 2018

FIRST & SECOND FLOOR
- SCHEME C (COLORED)

C.1

The **fourth** option as shown on **Sheet A100D (Building / Site Concept – Two Story Pinwheel – Intermediate and Middle School on Second Floor)**

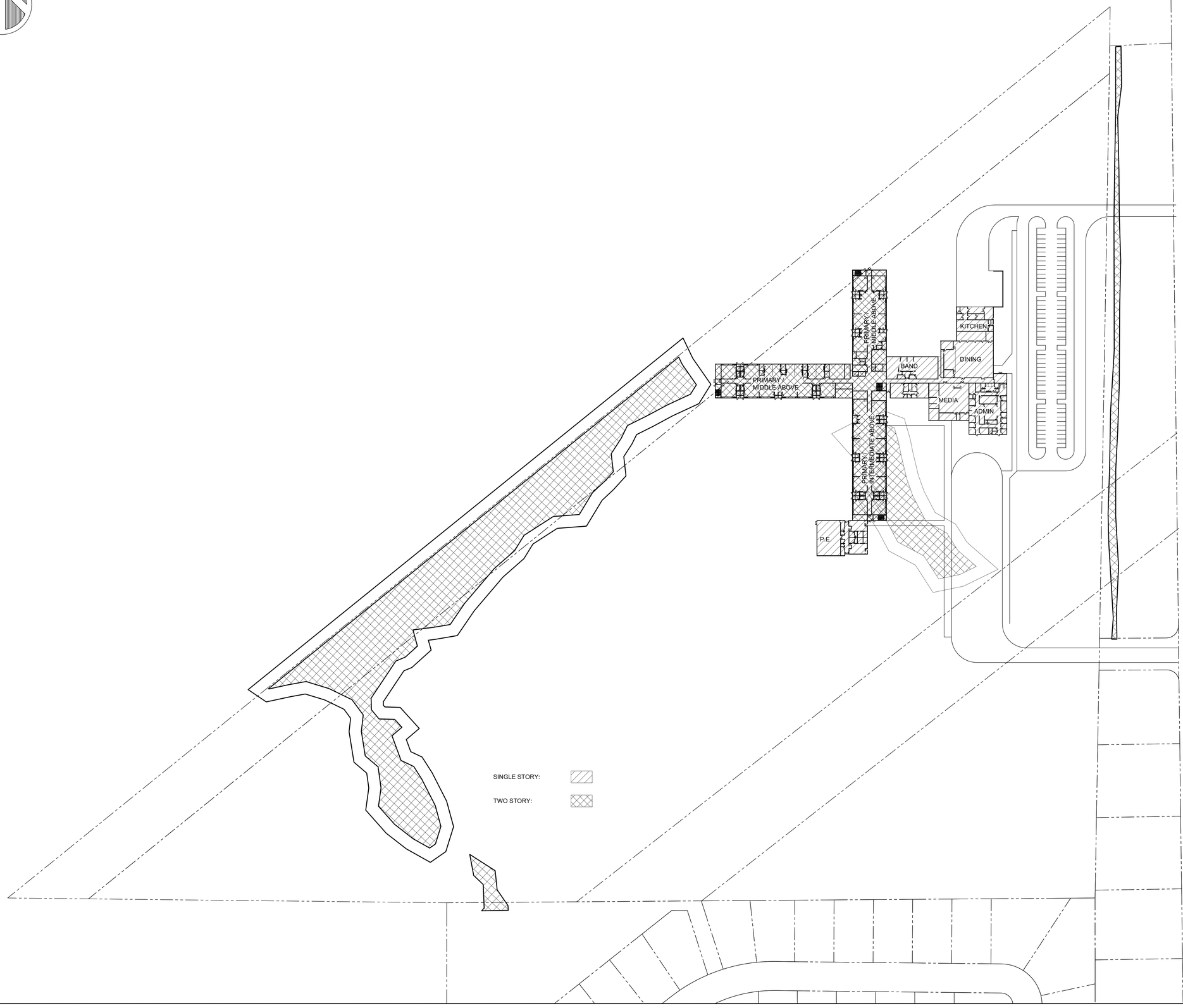
Pros:

- Smaller Footprint than Options A-C
- Less Roof area than Options A-C
- Smaller retention Pond Required
- Less Circulation space than Options A-C
- Classrooms are in closer proximity to Admin, Media, Cafeteria.
- Shorter runs for MEP / Fire Protection
- Common Spine that connects support spaces (can be monitored easier by staff)
- Better visibility / security from main road / entrances and from admin

Cons:

- Stairs / Elevator required
- Not as compact
- Solar Orientation not as good, some classes face East/West
- Less Flexibility to convert classrooms between age groups

NORTH



A1 BUILDING / SITE CONCEPT - TWO STORY PINWHEEL (INTERMEDIATE AND MIDDLE SCHOOL - SECOND FLOOR)

SCALE: 1"=80'

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SANTA ROSA COUNTY SCHOOL DISTRICT

NEW NAVARRE K-8 SCHOOL

NAVARRE, FLORIDA

Revision

Date:	No.:	Description:
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Drawn By: -
Checked By: -

Date: February 6, 2018

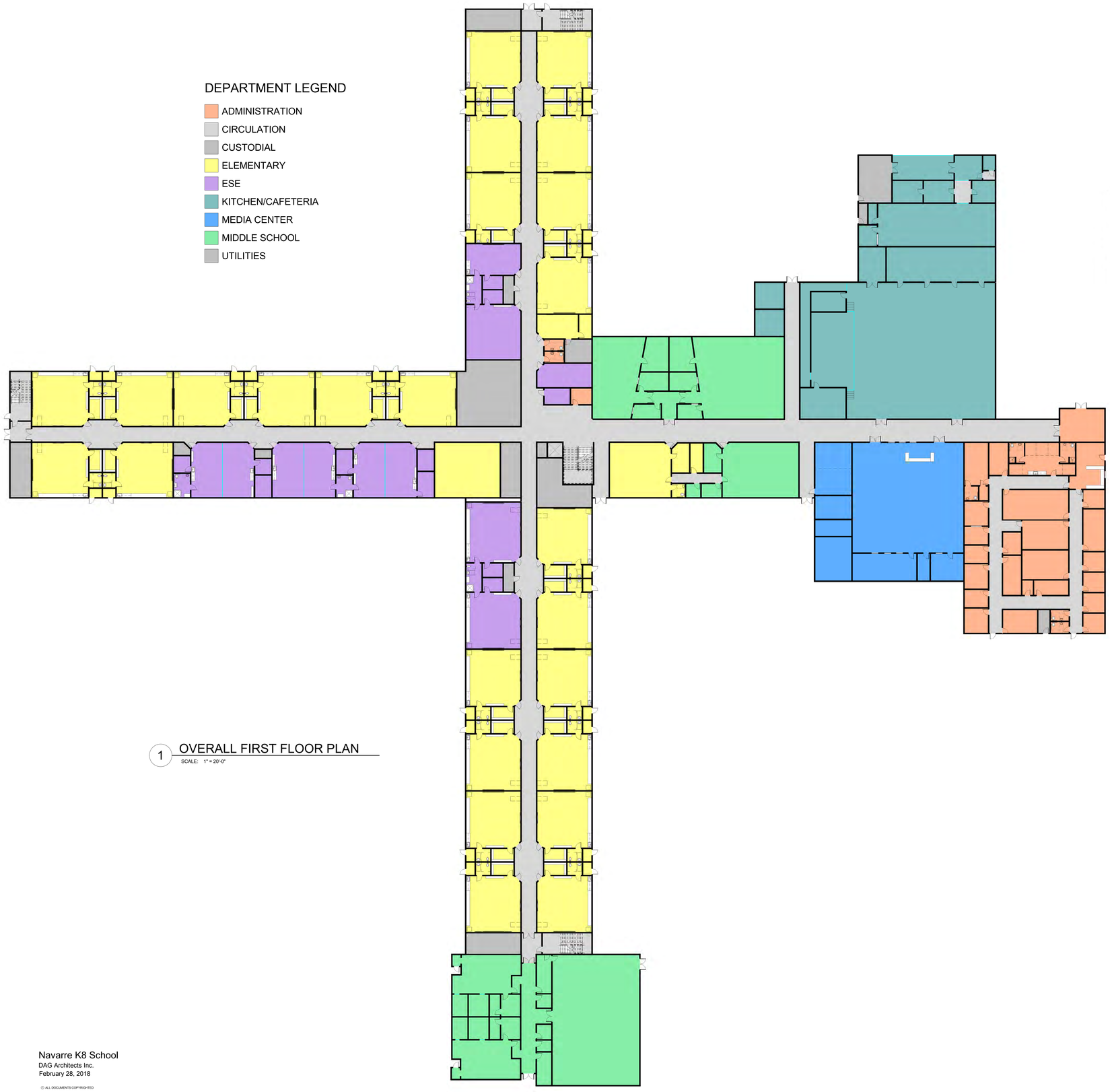
Project No.: 17076

Drawing Title:
OVERALL SITE STUDY

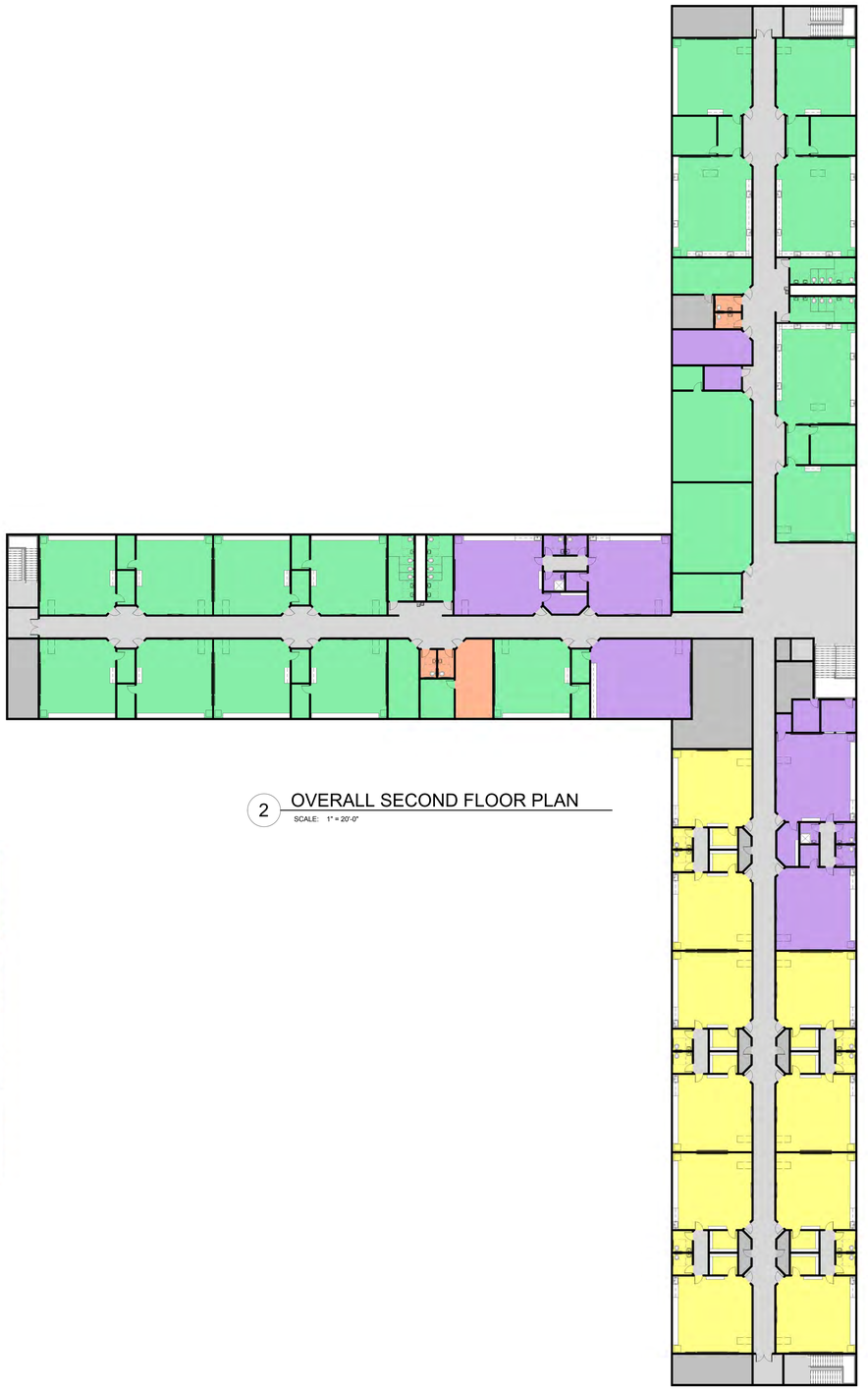
Drawing No.: A100D

DEPARTMENT LEGEND

- ADMINISTRATION
- CIRCULATION
- CUSTODIAL
- ELEMENTARY
- ESE
- KITCHEN/CAFETERIA
- MEDIA CENTER
- MIDDLE SCHOOL
- UTILITIES



1 OVERALL FIRST FLOOR PLAN
SCALE: 1" = 20'-0"



2 OVERALL SECOND FLOOR PLAN
SCALE: 1" = 20'-0"

Navarre K8 School
DAG Architects Inc.
February 28, 2018

0' 10' 20' 40'

FIRST & SECOND FLOOR PLAN - SCHEME D (COLORED)

D.1

The **fifth** option as shown on **Sheet A100E (Building / Site Concept – Two Story Pinwheel – Intermediate and Middle School on Second Floor)**

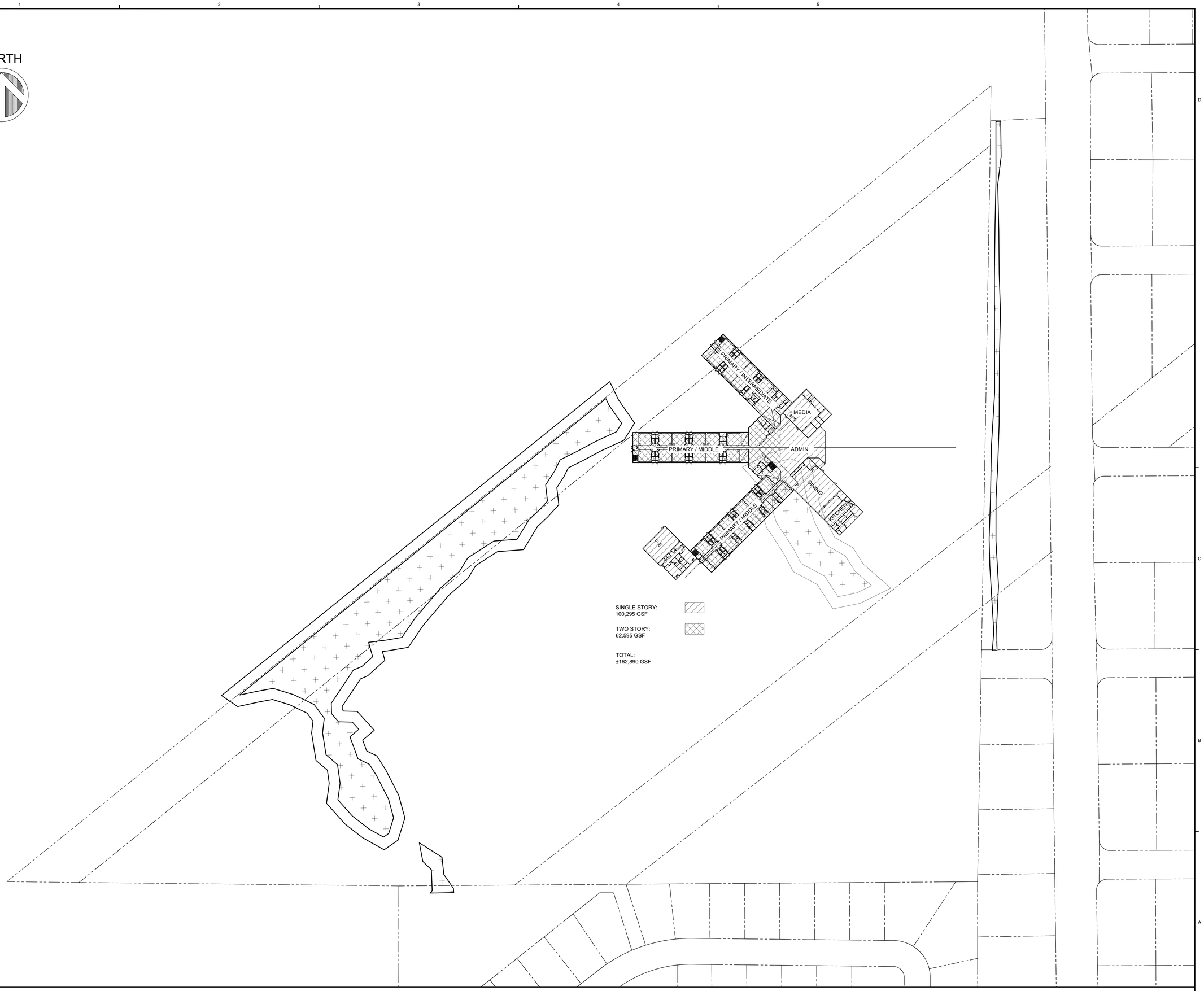
Pro's:

- Smaller Footprint than Options A-C
- Less Roof area than Options A-C
- Smaller retention Pond Required
- Less Circulation Space
- Admin, Media, Cafeteria. is the central hub with classrooms extending out from a central atrium
- Shorter runs for MEP / Fire Protection
- Central Atrium connects support spaces (can be monitored easier by staff)
- 2nd floor circulation is open to central atrium provides connection and visual monitoring
- Better visibility / security from main road / entrances and from admin
- Very Compact floor plan
- Older students are located on the second floor and design allows for circulation to the common areas without much interaction between age groups

Con's:

- Stairs / Elevator required
- Solar orientation somewhat compromised

NORTH



A1 — BUILDING / SITE CONCEPT - TWO STORY PINWHEEL (INTERMEDIATE AND MIDDLE SCHOOL - SECOND FLOOR)

SCALE: 1"=80'

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SANTA ROSA COUNTY SCHOOL DISTRICT

NEW NAVARRE K-8 SCHOOL

NAVARRE, FLORIDA

Revision

Date:	No.	Description:
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Drawn By: -
Checked By: -

Date: February 28, 2018

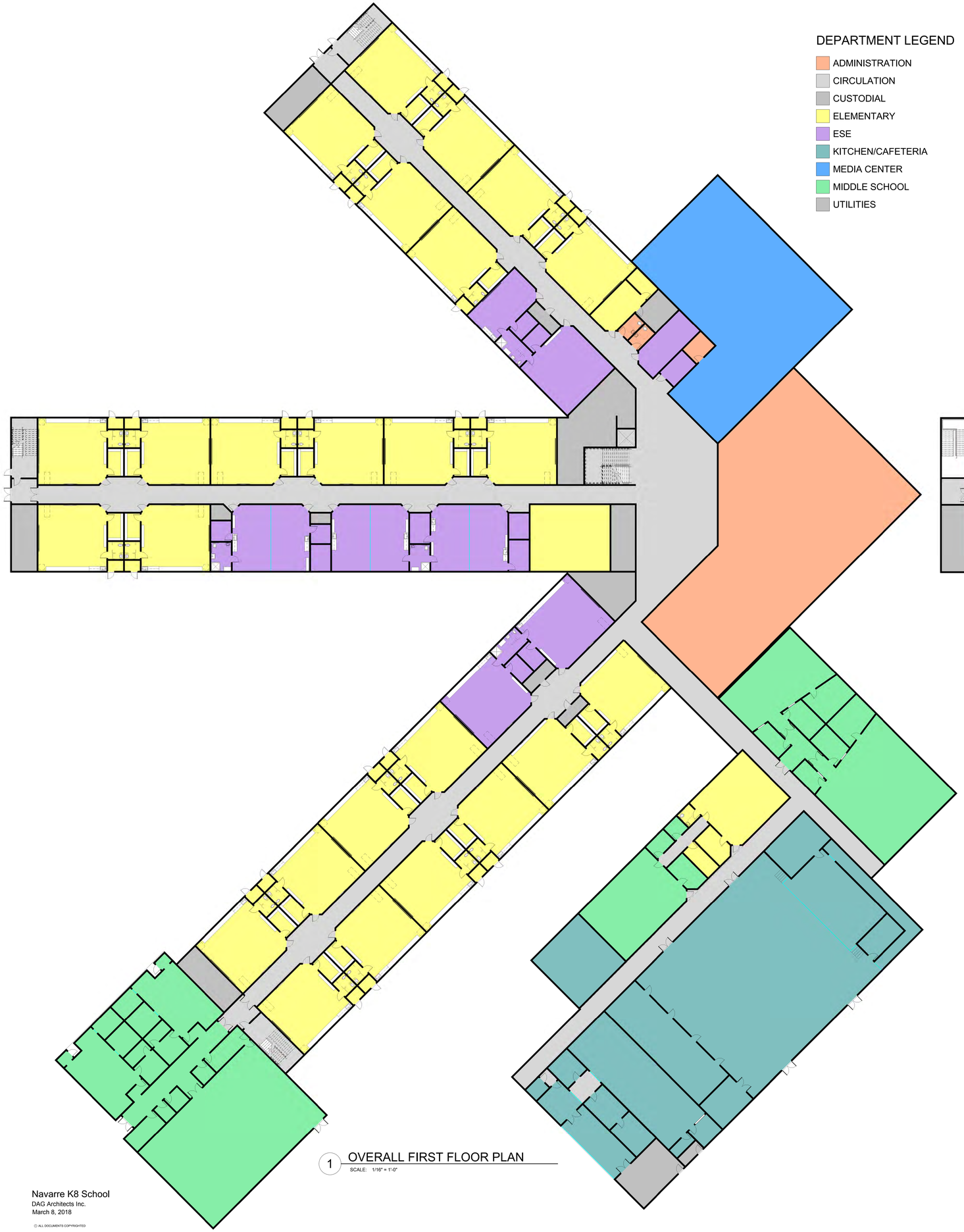
Project No.: 17076

Drawing Title:
BUILDING & SITE
CONCEPT STUDY

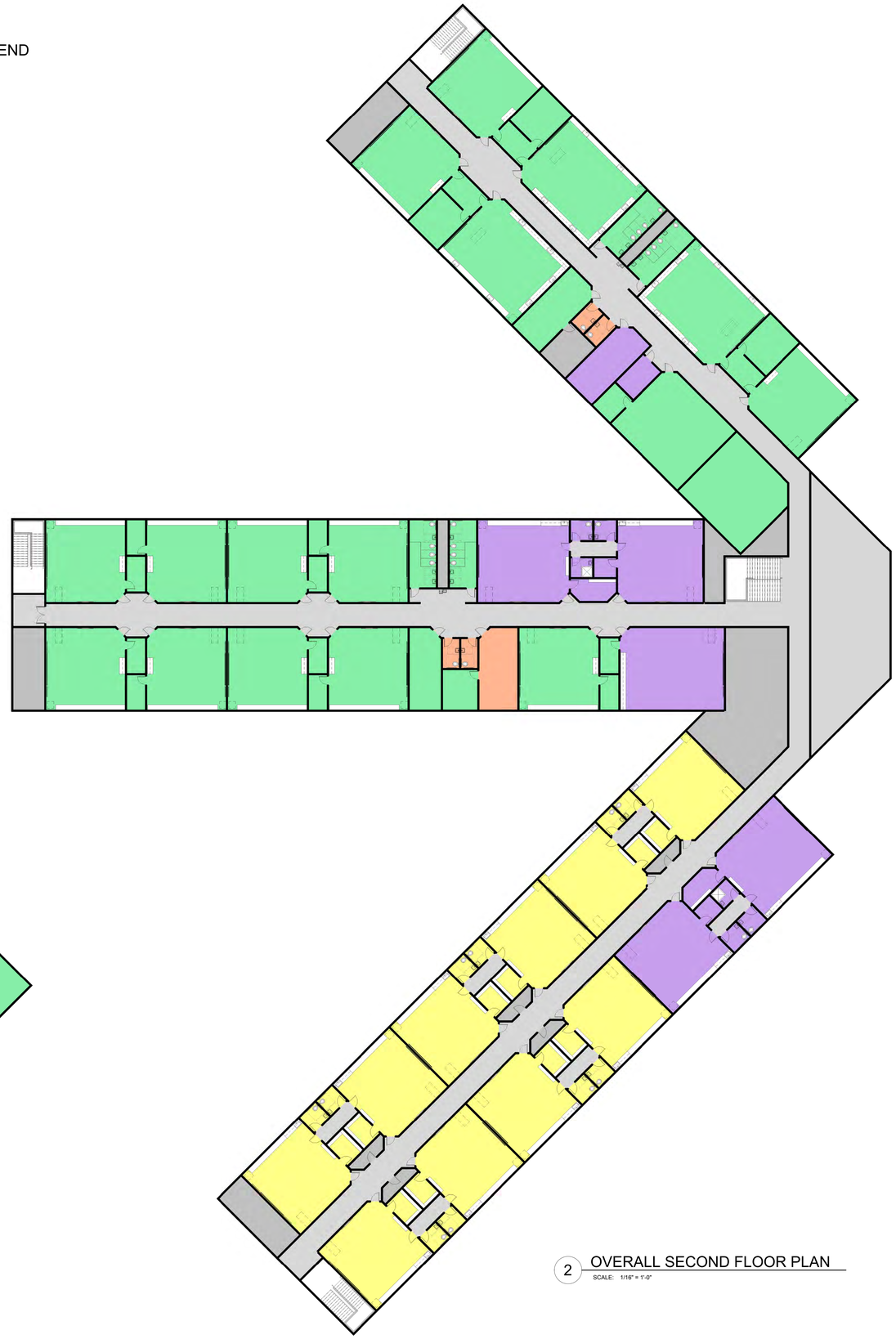
Drawing No.: A100E

DEPARTMENT LEGEND

- ADMINISTRATION
- CIRCULATION
- CUSTODIAL
- ELEMENTARY
- ESE
- KITCHEN/CAFETERIA
- MEDIA CENTER
- MIDDLE SCHOOL
- UTILITIES



1 OVERALL FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



2 OVERALL SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

Navarre K8 School
DAG Architects Inc.
March 8, 2018

0' 8' 16' 32' 64'

FIRST & SECOND FLOOR PLAN - SCHEME E (COLORED)

E.1

The project is being designed for flexibility and technology in the curriculum spaces. This includes extensive structured cabling and WIFI infrastructure throughout the school. It is proven that natural light stimulates activity and promotes learning, so there are windows utilized throughout the design to flood instructional and circulation spaces with natural light.

CPTED principles have also been applied for safety and security which will be addressed in more detail further in this design analysis.

<u>The following are defining principles that were communicated to the design team</u>:

1. Project designed so that different age groups/grade levels are kept in separate wings.
2. Building design allows for grade levels to dismiss to the cafeteria and gym without crossover.
3. The prototype primary classroom has a student restroom in the classroom. The prototype intermediate classroom module is a pair of classrooms with one male and one female toilet room shared between the classrooms allowing direct surveillance of students using them. Middle school students will be served by gang toilet facilities located within each wing.
4. Design that will maintain visibility and supervision of students always.
5. Design allows for future expansion of classroom wings.
6. The spaces that will be utilized more for public events such as the cafetorium, media center and gym, are easily accessible from the visitor and staff parking lot.
7. Each classroom will be designed with flexibility in mind for multimedia and for future technology. The design team will meet with the technology group and Mike Thorpe to insure the design incorporates and the necessary conduit and rough ins required. Each classroom will be fitted for a laptop charging cart (COW).
8. Courtyards between classroom wings to be used for outdoor instructional space as possible.

II. BUILDING SIZE - GROSS SQ. FOOTAGE:

The 5-year survey allows for 192,000 s.f. However, the current student station cost will not allow the district to build what is allowed. During the design process and working out the adjacency and spatial details of the floor plan, the design team worked with the stakeholders and came up with a program that deleted some spaces that was not required and looked at several different floor plan options that could also reduce circulation space and ultimately generated a very compact and efficient layout at approximately 160,000 s.f.

III. BUILDING PLAN LAYOUT:

DAG has intentionally placed a priority focus on resolving the building plan, size and space adjacencies through a multitude of meetings prior to beginning any building massing or exterior design. Our architectural philosophy for school design is for form to follow function. Meeting minutes will illustrate a design focus on resolving the building plan as priority No. 1 through this schematic design submittal.

The following changes were made during the design process that is different from the 5-year survey, for cost control measures to reduce the building size:

IV. ARCHITECTURAL INSPIRATION:

The New K-8 School will be the first new school Santa Rosa County has built in a long time. The school will be built in a well-established neighborhood and should reflect a sense of community. Exterior finishes will be chosen to reflect this as well as those that are maintenance friendly.
The classroom wings radiate out from a central core that house all the support spaces such as the media center, administration offices, cafeteria and a central atrium that can be used for small group events / performances, a space that students and staff can gather for “anytime anywhere learning”. The center atrium also is the center of circulation and pathway to every place in the school. The finishes / color schemes will serve as a wayfinding tool.

The school will be designed as a 50-year school and the design team and the stakeholders will continue to investigate opportunities to refine the design accordingly through the design process.

V. BUILDING DESIGN:

The new K-8 will incorporate 2 story classroom wings, something the district has not done before.
The two-story classroom wings make the floor plan more compact, keeps the age groups segregated, shorter corridors, and is more cost effective to construct.
By building two stories, the design will add vertical circulation (i.e. stairs, elevator) but will be offset by a smaller footprint, which will allow for a decrease in foundations, roof area, shorter mechanical, plumbing, electrical runs, and smaller storm water retention ponds to name a few.
During the Phase two process the design Team will continue to look at the design and determine the most cost-effective solutions.

VI. BUILDING ENVELOPE:

During Phase One, the design team looked at several different options for the building envelope and structural systems.

- Load Bearing CMU / Brick veneer
- Load Bearing ICF / Brik veneer
- Steel frame / Metal stud infill / Gyp. Sheathing / Brick veneer / Metal wall panels
- Standing seam metal roof panels vs. Single ply roof membrane. (R-30 assembly)

The current opinion based on availability of sub-contractors and the labor market and what the design team's opinion of what system will be the most cost efficient and maintained friendly solution, is the steel frame and metal stud infill. However, the team will continue to monitor the estimate and market and if need be, will modify the recommendation. (Refer to structural Narrative)

The building floor-to-floor height is set at 14'-8" and will need to be verified that this will provide adequate clearance to coordinate infrastructure. The goal is to achieve 9'-0" ceilings in classrooms. The following walls will be masonry for structural and rating / constructability:

1. Walls needed for shear
2. Stairwells
3. Elevator shaft

Walls at corridors, between classrooms and at the administration wing will be metal stud with sound attenuation batts extended to the deck above. Walls in the Band, Vocal, Orchestra area are not square to achieve improved acoustics and reduce reverberation.

Building entrances will be aluminum storefront with impact resistant insulated glazing compliant with code requirements for U-value and SHGC properties. Any hollow metal doors and windows will also have the same impact resistant and insulated glazing. For compliance with current codes, windows and storefronts will be thermally broken.

VII. BUILDING INTERIORS:

The interior design will be open and flooded with natural light with visibility throughout multiple spaces within the interior. The primary circulation splines will celebrate circulation with the use of colors and materials that invoke motion and be associated with age groups. Colors will be used for intuitive wayfinding throughout the school.

Floor Finishes: Floor finishes are to be durable and maintained friendly throughout the facility. The design team will work with the staff and define finishes as part of the Phase 2 Submittal.

Interior Walls:

- Provide metal studs and impact resistant drywall at all interior walls / partitions. Prime and paint to accommodate low maintained (eggshell finish at a min.)
- Provide CMU walls at stairwells, elevator shaft and shear walls as required by structural
- Provide wall tile in restrooms with high-performance epoxy paint above
- Provide solid plastic (HDPE) toilet partitions in restrooms.

Ceilings:

- Exposed structure painted in some areas of the circulation spline.

- Exposed structure in the gym and potentially in some of the band areas with suspended acoustical panels. Further development will occur with the Acoustical Engineer at Design Development.
- Acoustical panel ceilings in all other areas (classrooms, admin, corridors, etc.).
- Design intent for 9' ceilings in the classrooms.

Doors:

- Galvanized steel exterior doors and frames at certain openings. All exterior doors to have a view lite or a min. peephole.
- Impact-resistant glass at exterior doors and storefront entrances.
- Solid core interior wood doors, red oak veneer, with steel frames. Provide rated door assemblies as required.

Equipment:

- The equipment is programmed for each space within the facility in accordance with input from the end users.

Safety:

- Fire extinguishers, fire alarm and smoke detectors as required by code.
- Design concepts include Florida Safe School and CPTED principles.

Site Circulation and Parking:

- Exterior parking and building lighting will be LED uniform lighting for a white light source.
- Bus and vehicular parking are separated per SREF requirements.

Other Considerations:

- The School District will furnish and the Contractor shall install all soap dispensers, paper towel dispensers, and toilet paper holders in rest rooms.

DISCUSSION ITEMS FOR PHASE II REVIEW:

1. Location of the central communications closet.
2. Finishes
3. Cost Control Measures

SANTA ROSA COUNTY SCHOOL DISTRICT

NAVARRE K8 SCHOOL

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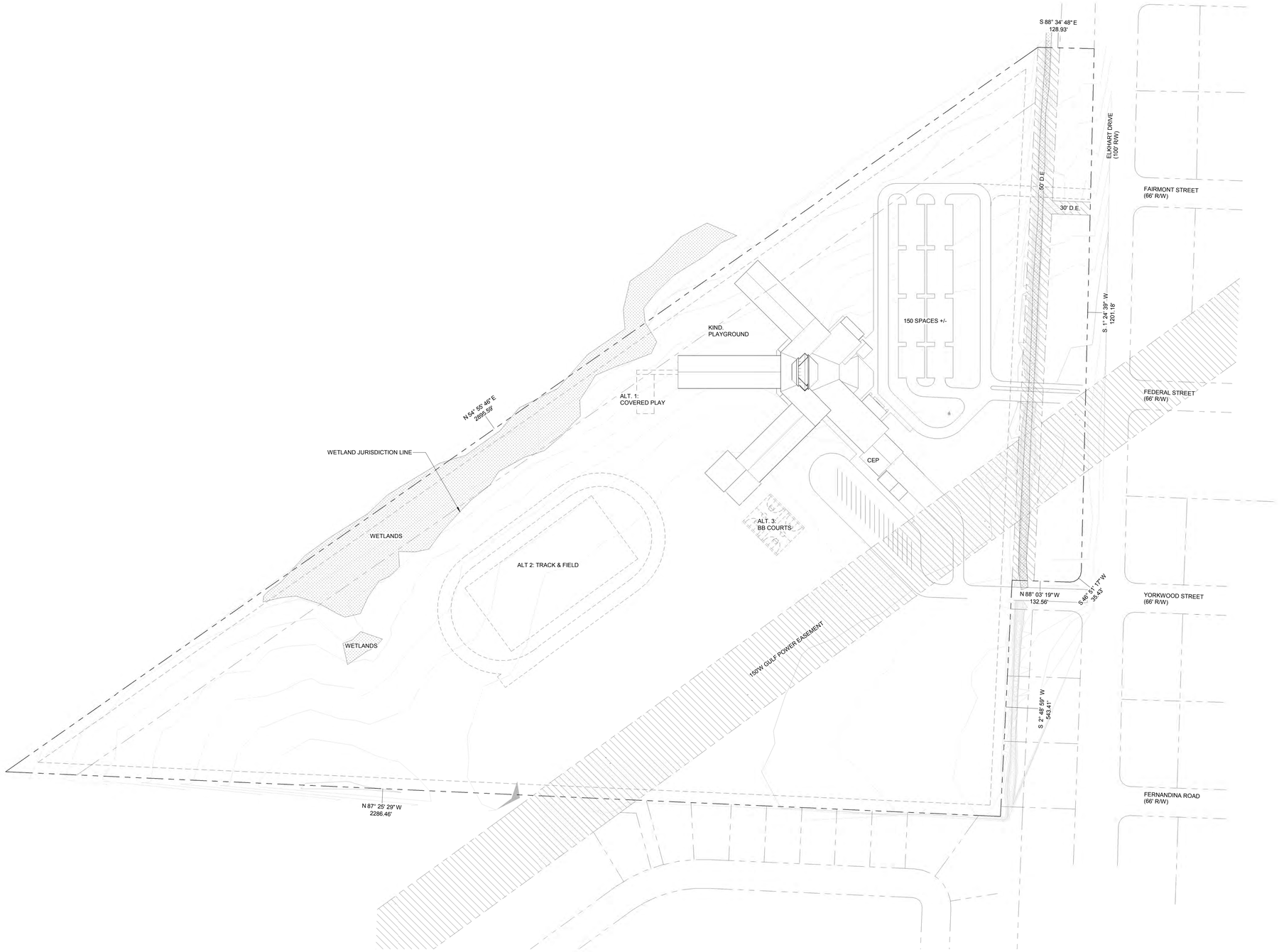
40 South Palafox Place, Suite 201 Pensacola, FL 32502
850.429.9004
AAC000745

PHASE I
March 28, 2018



1 ARCHITECTURAL SITE PLAN

SCALE: 1" = 100'-0"

NORTH

NAVARRE K8 SCHOOL

DAG Architects Inc.

March 28, 2018

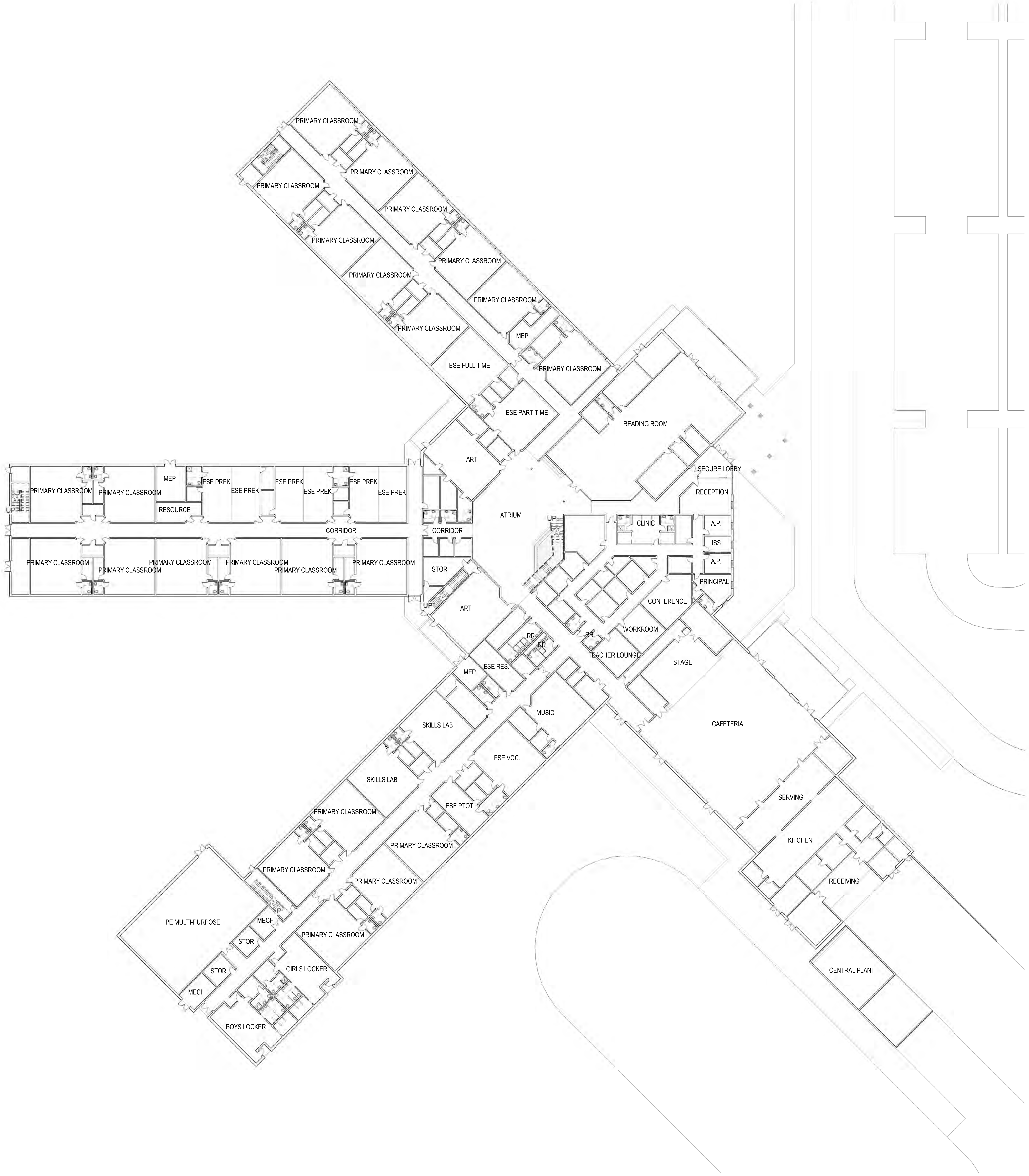
SANTA ROSA COUNTY SCHOOL DISTRICT

Joey Harrell, Assistant Superintendent for Administrative Services

Bill Emerson, Assistant Superintendent of Instructional Services

Floyd Smith, Director for Middle Schools

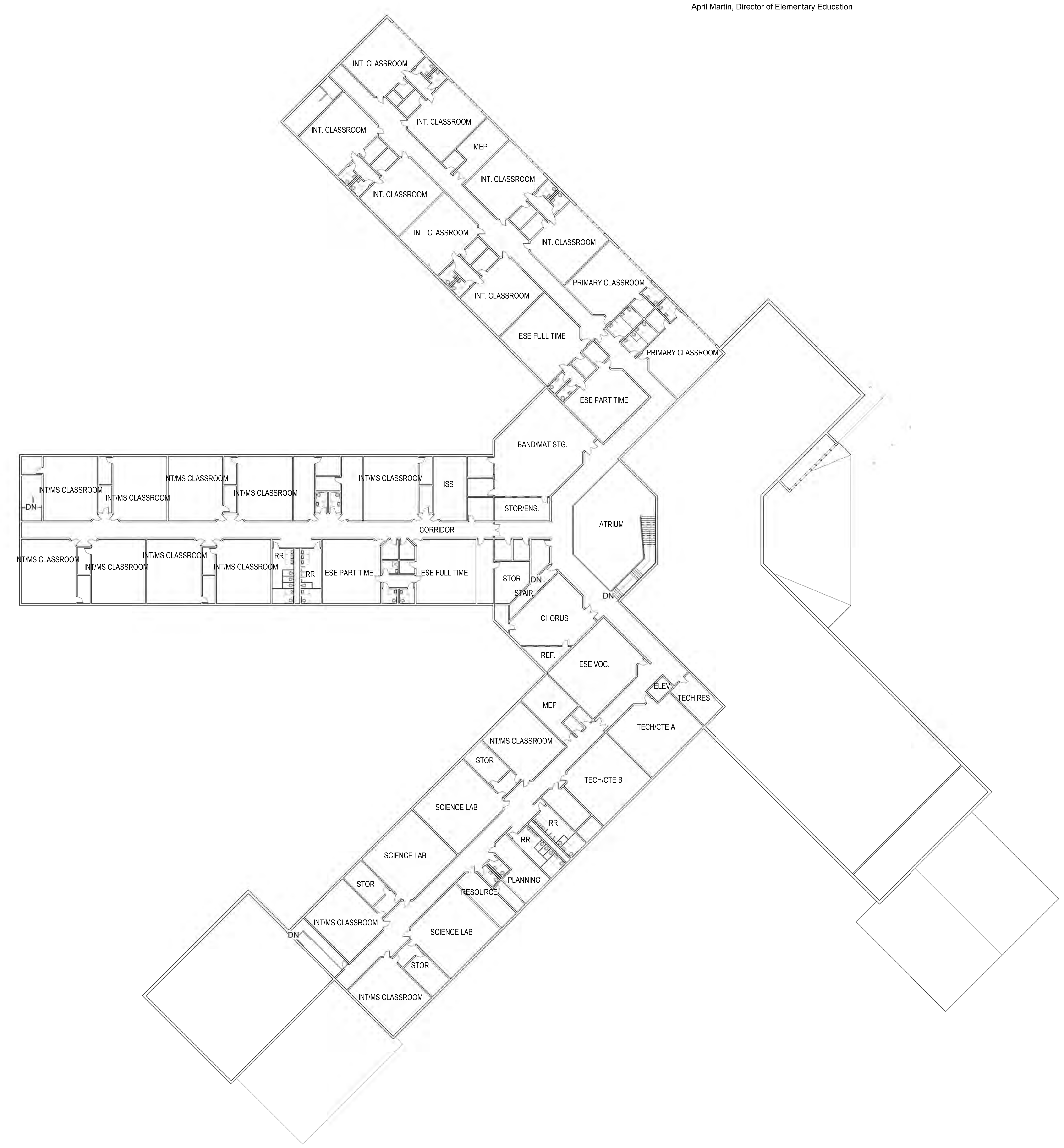
April Martin, Director of Elementary Education



1 OVERALL FIRST FLOOR PLAN

SCALE: 1" = 30'-0"

NORTH



2 OVERALL SECOND FLOOR PLAN

SCALE: 1" = 30'-0"

NORTH

NAVARRE K8 SCHOOL

DAG Architects Inc.

March 28, 2018

0' 15' 30' 60' 90'

OVERALL FIRST & SECOND FLOOR PLANS

A101

1 OVERALL FIRST FLOOR PLAN

SCALE: 1" = 30'-0"

NORTH

2 OVERALL SECOND FLOOR PLAN

SCALE: 1" = 30'-0"

NORTH

NAVARRE K8 SCHOOL

DAG Architects Inc.

March 28, 2018

0' 15' 30' 60' 90'

OVERALL FIRST & SECOND FLOOR PLANS (COLORED)

A102

1 FIRST FLOOR PLAN - ADMIN. & MEDIA

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

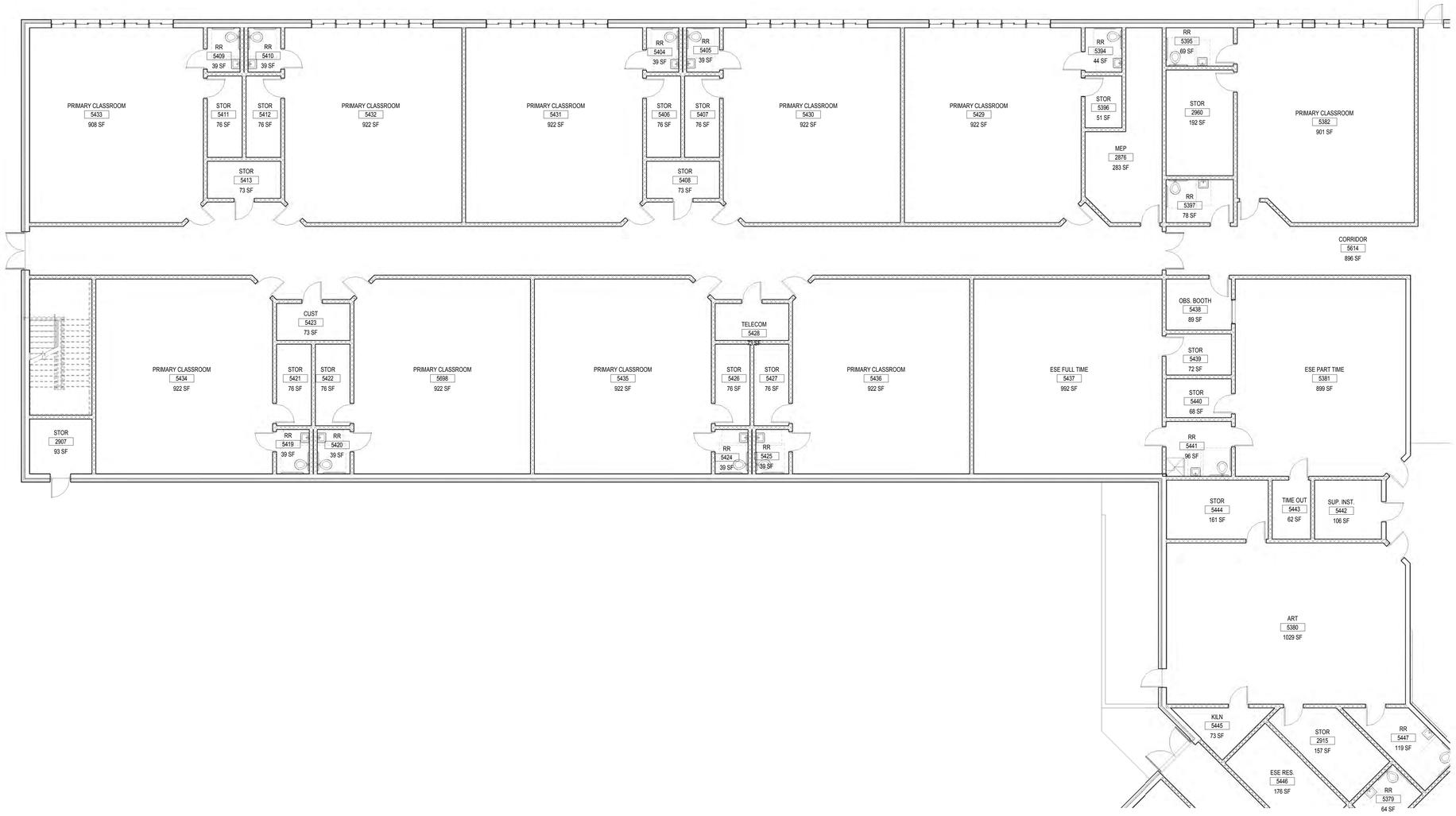
DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

FIRST FLOOR PLAN - ADMIN. & MEDIA

A110



1 FIRST FLOOR PLAN - PRIMARY WING 1

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

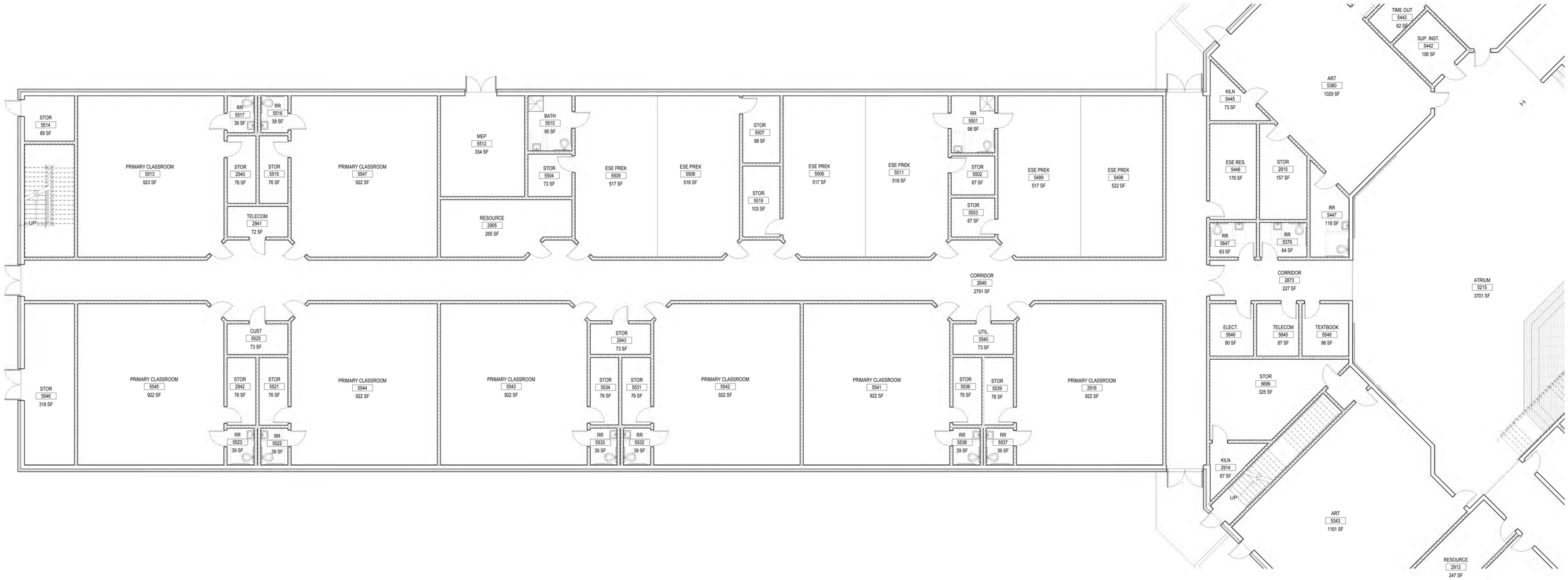
DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

FIRST FLOOR PLAN - PRIMARY WING 1

A111



1 FIRST FLOOR PLAN - PRIMARY WING 2

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

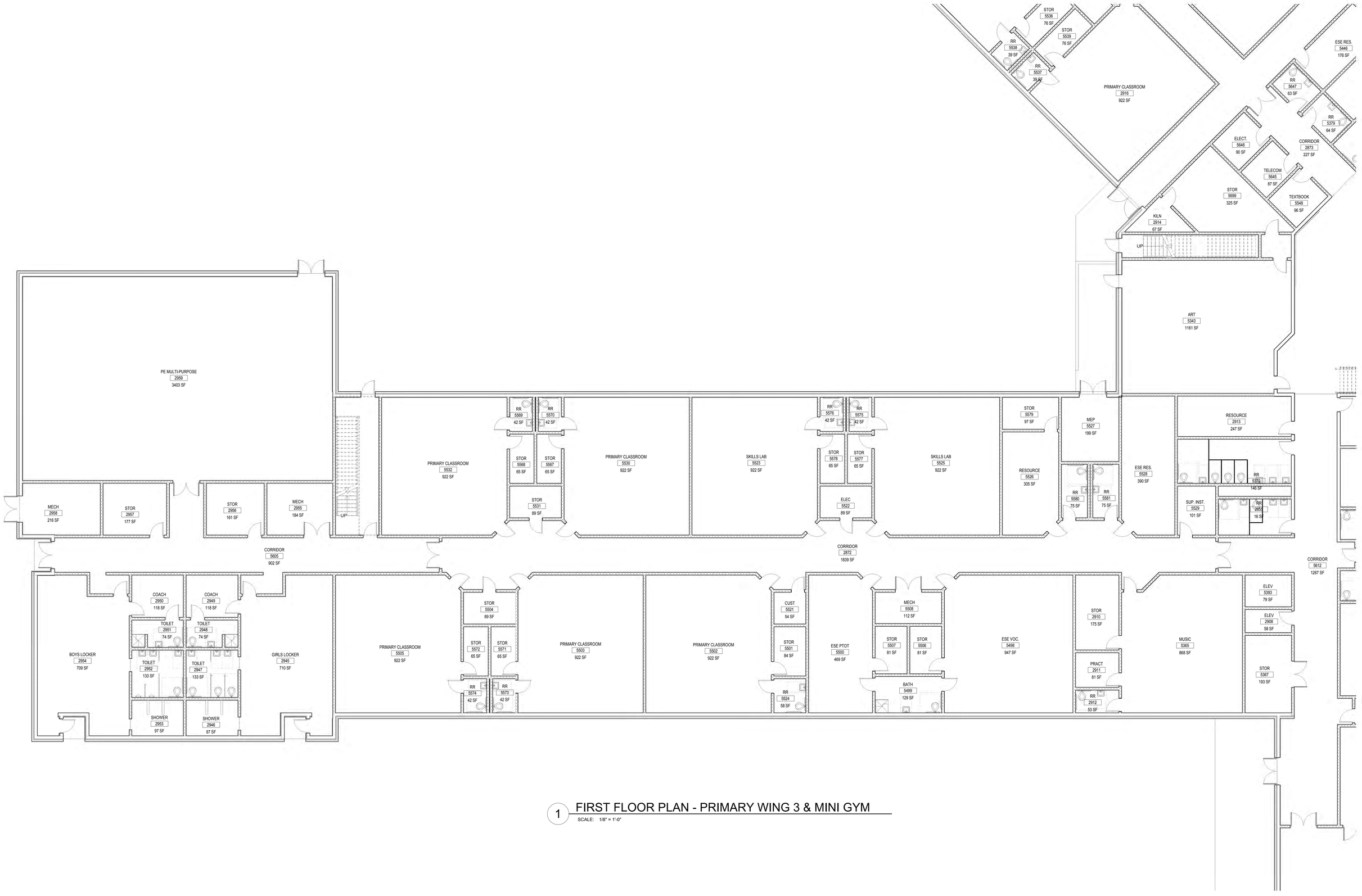
DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

1 FIRST FLOOR PLAN - PRIMARY WING 2

A112



1 FIRST FLOOR PLAN - PRIMARY WING 3 & MINI GYM

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

DAG Architects Inc.
March 28, 2018

0' 4' 8' 16' 32'

FIRST FLOOR PLAN -
PRIMARY WING 3 & MINI GYM

A113

1 FIRST FLOOR PLAN - CAFETERIA & KITCHEN

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

FIRST FLOOR PLAN - CAFETERIA & KITCHEN

A114

1 SECOND FLOOR PLAN - INTERMEDIATE WING

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

SECOND FLOOR PLAN - INTERMEDIATE WING

A120

1 SECOND FLOOR PLAN - MIDDLE SCHOOL WING 1

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

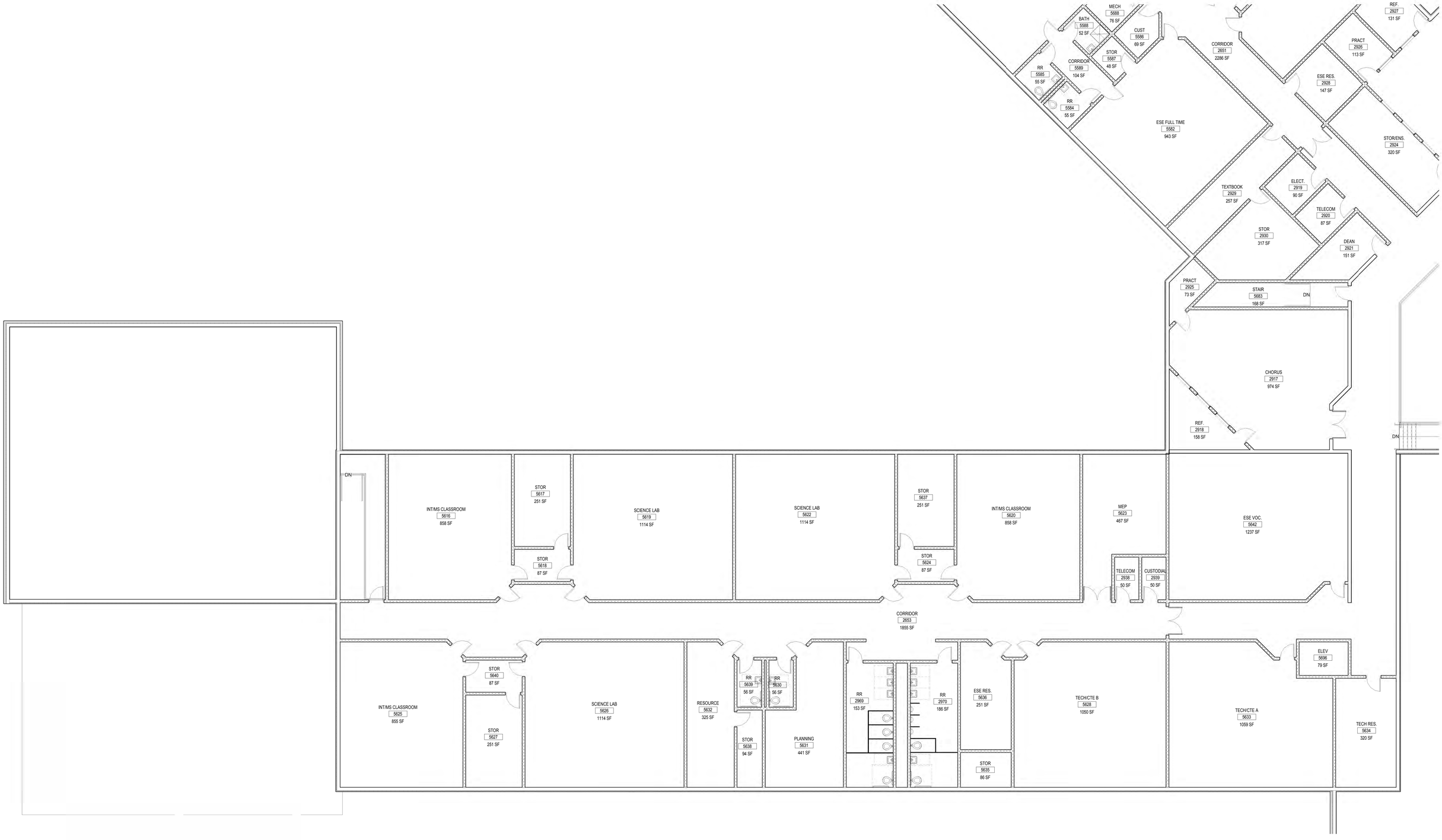
DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

1 SECOND FLOOR PLAN - MIDDLE SCHOOL WING 1

A121



1 SECOND FLOOR PLAN - MIDDLE SCHOOL WING 2

SCALE: 1/8" = 1'-0"

NAVARRE K8 SCHOOL

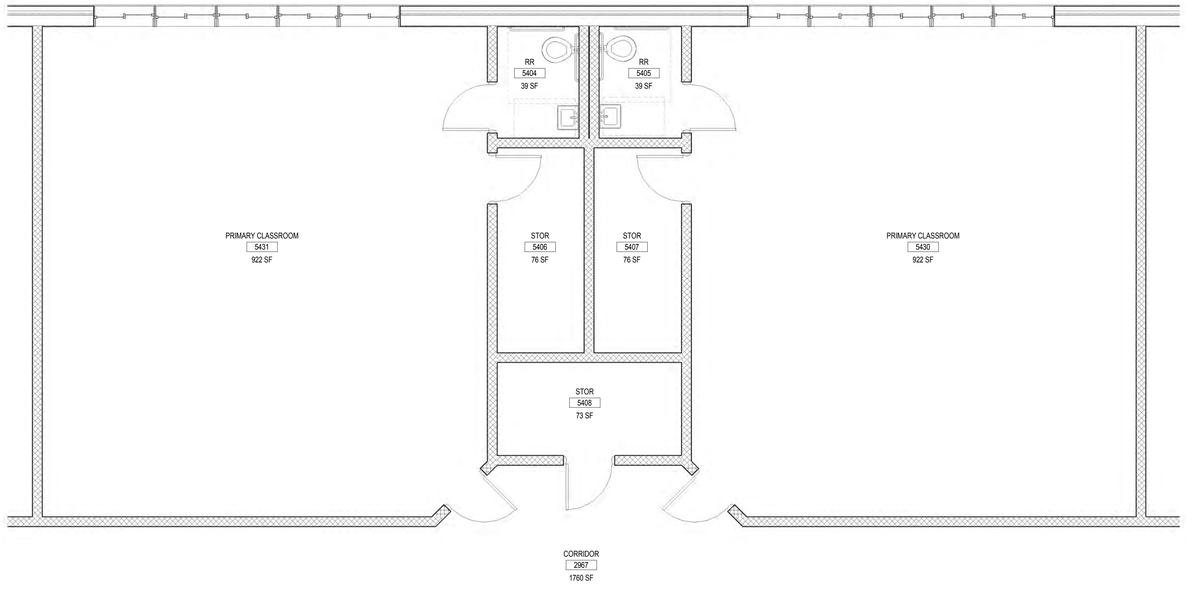
DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

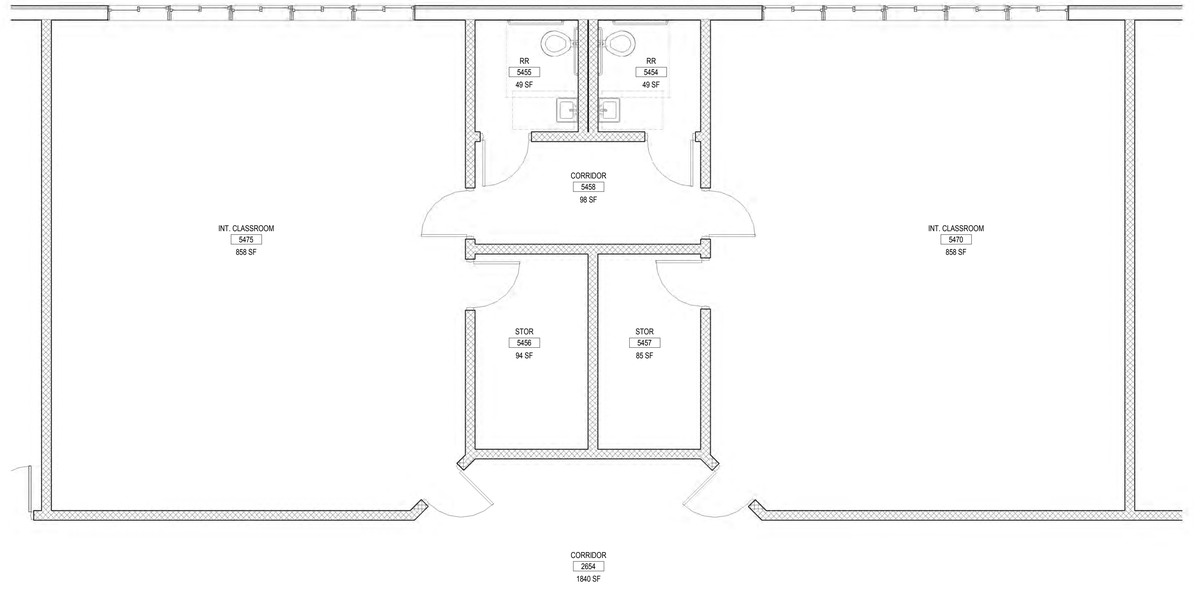
SECOND FLOOR PLAN - MIDDLE SCHOOL WING 2

A122



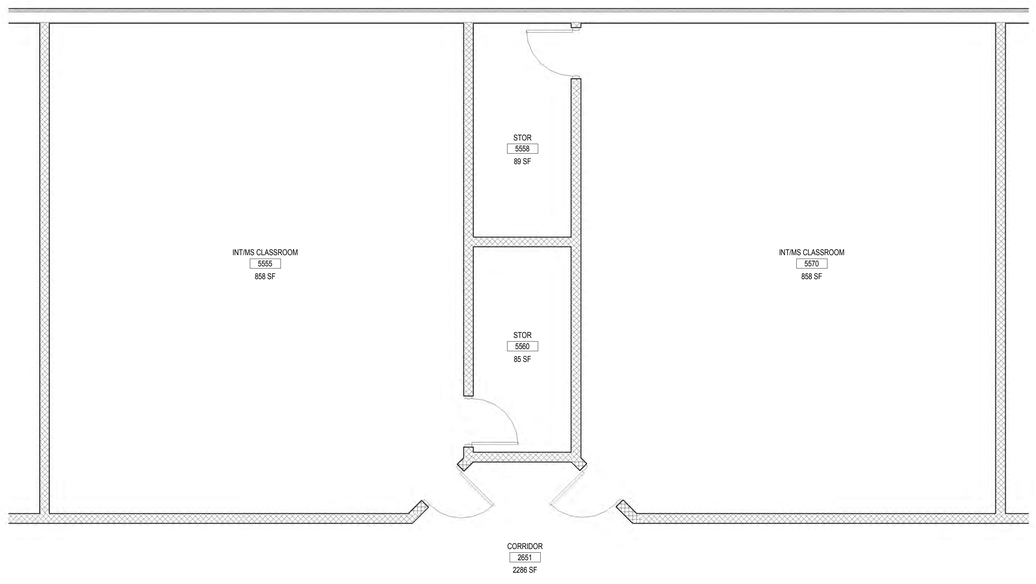
1 TYPICAL PRIMARY CLASSROOM LAYOUT

SCALE: 1/4" = 1'-0"



2 TYPICAL INTERMEDIATE CLASSROOM LAYOUT

SCALE: 1/4" = 1'-0"



3 TYPICAL MIDDLE SCHOOL CLASSROOM LAYOUT

SCALE: 1/4" = 1'-0"

NAVARRE K8 SCHOOL

DAG Architects Inc.

March 28, 2018

0' 4' 8' 16' 32'

CLASSROOM LAYOUT OPTIONS

A600

FIRE PROTECTION, PLUMBING, HVAC DESIGN NARRATIVES

SCHMIDT CONSULTING·GROUP,INC.

Gene I. Schmidt, P.E., CxA, LEED AP | Mechanical/Plumbing
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SANTA ROSA COUNTY NEW K-8 SCHOOL DESIGN NARRATIVE

MECHANICAL

A. HVAC: Mechanical HVAC systems will be provided based on the latest editions of the Florida Building Codes and General Requirements. Codes and standards will include, but not be limited to the following:

• FBC 2017	Florida Building Code 2017
• FMC 2017	Florida Mechanical Code 2017
• FECC 2017	Florida Energy Conservation Code 2017
• ASHRAE Handbooks:	Fundamentals, HVAC Applications and HVAC Systems and Equipment latest editions
• ASHRAE 62.1-2013	Ventilation for Acceptable Indoor Air Quality
• ASHRAE 90.1-2013	Energy Standard for Buildings Except Low Rise Residential Buildings
• NFPA 54	National Fuel Gas Code
• NFPA 90A	Standard for Installation for Air Conditioning and Ventilating Systems
• SMACNA DCS	HVAC Duct Construction Standards, latest editions.

General:
All new equipment for the new school and central energy plant (CEP) will be of the high efficiency type and in compliance with ASHRAE 90.1-2013 minimum efficiency requirements.

The new building expansion will be heated, cooled and dehumidified using the following systems:

1. Four-pipe, hydronic, Variable Air Volume (VAV) air handling units (AHUs) incorporating individual zone VAV air terminal units (ATUs) will be used to condition the support spaces and administrative areas.
2. Four-pipe, hydronic, Single-zone VAV AHUs will be used to condition the corridors, lobby, dining room, band and chorus, and kitchen.
3. Four-pipe, hydronic, Constant Volume Classroom Fan Coil Units (FCUs) will be used to condition the classroom. There will be one unit per classroom. The unit will include a dedicated outside air ventilation chilled and hot water coils to pre-conditioned the outside air before mixing to the primary hydronic coils.
4. Telecom rooms will be each provided with separate, independent, air-cooled, direct-expansion (DX) air conditioning systems.

These systems were selected based on building user input during the pre-design meetings and life cycle cost analysis.

Hydronic cooling and heating equipment (chillers, boilers, pumps) will be located in the central energy plant (CEP). Exact location to be determined during the design. The cooling towers will be located adjacent to the CEP.

Standard Design Conditions:

Outside	
Summer	94.2 °F db / 77.9 °F wb (0.4% ASHRAE MaxDB/MCWB)
Winter	29 °F
Dehumidification	84.7 °F db / 80.7 °F wb (0.4% ASHRAE MaxDP/MCDB)

Inside – Normally Occupied
Summer 74 °F / 50% RH (maximum)
Winter 68 °F

Inside – Central Energy Plant
Summer 80 °F
Winter 55 °F

Ventilation:
Outside air and exhaust air quantities will be provided in accordance with the Ventilation Rate Procedure as defined by ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality", "Ventilation Rate Procedure" as listed in the examples below:

Office space	5 cfm/person	0.06 cfm/ft^2
Classroom	10 cfm/person	0.12 cfm/ft^2
Dining/Kitchen	7.5 cfm/person	0.18 cfm/ft^2
Locker rooms	20 cfm/person	0.06 cfm/ft^2

Outside air quantities will be approximately 10% greater than exhaust air quantities in order to pressurize building spaces and minimize infiltration.

Final filters for the main VAV air handlers shall be minimum MERV-13 with MERV-8 pre-filters. Restrooms and janitor's closets shall be kept at a negative pressure in relation to the rest of the building. Restroom supply air shall not be re-circulated.

Air Distribution:
The building will be provided with fully-ducted supply, return, and outside air systems. Single-zone VAV AHU's will be provided with hydronic cooling and heating coils, with the heating coil in the reheat position.

Multiple-zone VAV AHUs will be provided with hydronic cooling coils. Air terminal units will be pressure-independent, provided with hydronic heating coils, and all provided with factory-mounted electronic controls connected to the new building-wide DDC system. Air terminal units that are provided with heating coils will not be allowed to completely shut-off but will reduce their airflow to a scheduled minimum.

The classroom fan coil units will be provided with ducted system or supply plenum grilles and bottom front return filter grilles.

Medium pressure spiral or flat oval duct will be provided between VAV AHUs and air terminal units. Low pressure, single-wall supply air ductwork will be provided downstream of each ATU. Factory insulated flexible ductwork will be used only for connections to air distribution devices and will have a maximum length of six feet.

All ductwork concealed above ceilings will be externally insulated with mineral fiber insulation with a minimum installed R-value of 6.0 and factory applied, reinforced foil face and vapor barrier. All ductwork exposed in mechanical spaces will

be externally insulated with rigid mineral fiber insulation with a minimum installed R-value of 6.0, and a factory-applied all-purpose jacket with white surface suitable for painting. Each duct takeoff will have a balancing volume damper located near the main duct takeoff.

All new diffusers, registers, and grilles will be constructed from aluminum and will be provided with a factory applied white finish.

New exhaust fans will be in-line centrifugal-type or cabinet type ducted to the building exterior minimum of 10 feet from any outside air inlet. Exhaust air from rest rooms and locker rooms inside the main building will be ducted to one of the energy recovery Outside Air Units (OAUs). Exhaust fans for the kitchen hoods will be located on the roof or sidewall.

Central Energy Plant (CEP):
Approximately two 300 tons, magnetic bearing, water-cooled chillers and three 2,000 MBH, energy-efficient, natural gas-fired high mass condensing boilers will be provided. The boilers and chillers, along with their associated pumps and cooling towers, will serve the new building. The chilled water pumps and hot water pumps will have N+1 redundancy. Emergency chilled and hot water connections will also be provided to be accessible from exterior.

Water Distribution:
Copper or steel chilled, condenser, and hot water piping will be routed above-ground. Outdoor chilled and hot water piping will be insulated and provided with aluminum jacket. Heat trace will be provided for outdoor chilled water piping. Condenser water piping will also be routed above ground to the cooling towers and will be painted to resist corrosion. Indoor chilled and hot water piping will be insulated and provided with a white all-purpose jacket.

Constant Air Volume (CAV) Fan Coil Units:
Separate four-pipe, heating and cooling, constant volume fan-coil units will be provided to heat and cool the CEP.

Direct Expansion Systems:
Separate air-cooled, split-system, ductless cooling-only DX units will be provided to independently condition each of the telecom/IT spaces. These cooling-only units will incorporate inverter technology for higher energy efficiency.

Energy Conservation Measures:
All new equipment for the new school and central energy plant (CEP) will be of the high efficiency type and in compliance with ASHRAE 90.1-2013 minimum efficiency requirements.

Control Systems:
All new HVAC controls will be BACnet. Controls vendor shall be either Siemens or Johnson Controls. DDC controllers, hardware, and software will be provided as required to ensure each piece of HVAC equipment follows its sequence of operation as indicated in the drawings and also to ensure interoperability between the new HVAC equipment and the Santa Rosa County School District-wide HVAC controls integrator. Meters for makeup water and natural gas usage will be provided as part of the DDC system.

Test and Balance:
Testing, balancing and adjusting of all air and water systems, and duct air leakage testing (DALT) will be performed by a certified AABC or NEBB test and balance firm. Southern Balance, Inc will be the TAB contractor.

Commissioning:

After construction and before occupancy, the new HVAC systems will be commissioned.

Optimize Energy Performance:
In accordance with Rule 60D-4.003(1), FAC, the selection of major energy-consuming equipment and architectural components for new and existing state facilities must be made on the basis of a life-cycle cost analysis of alternative designs. The life-cycle cost analysis of alternative designs is required to be performed in accordance with Rule 60D-4.006, FAC.

A life cycle cost analysis was conducted comparing three HVAC system alternatives. The economic analysis and life cycle cost for the choice of the three alternatives outlined below were analyzed and compared using the Trane 700 energy analysis program.

The Alternative 1 or proposed system consists of 4-pipe dual coil fan coil units per classroom and multiple zone VAV air handling units, high efficiency water cooled chillers, cooling towers, condensing gas boilers and variable volume hydronic pumping system.

The Alternative 2 system utilizes the same water side components with alternative 1 with the exception that in lieu of implementing fan coils serving a dedicated classroom, this alternative uses multiple zone VAV air handling units with terminal units and reheat coils per classroom.

The Alternative 3 system utilizes the same air side components and heating plant with alternative 1 with the exception that in lieu of high efficiency water cooled chillers and cooling towers, this alternative uses high efficiency air cooled chillers.

The life cycle cost analysis was conducted using BLCC 5.3-17 Building Life-Cycle Cost software provided by the Applied Economics Office Engineering Laboratory National Institute of Standards and Technology. The analysis followed Rule 60D-4-006 standards:

- The analysis period for the life-cycle cost analysis shall be 25 years.
- End of year discounting convention is followed.
- Constant Dollar Analysis with Real Discount Rate / Inflation equal to 3.0%

The calculations were based on an approximate equipment service life and approximate initial/replacement costs, and are included with this narrative. Alternative 1 was shown to be the most life cycle cost effective system configuration and this design has been selected to proceed forward for this Phase 1 submittal.

B. PLUMBING: Mechanical plumbing systems will be provided based on the latest editions of the Florida Building Code and General Requirements. Codes and standards will include, but not be limited to the following:

• FBC 2017	Florida Building Code 2017
• FPC 2017	Florida Plumbing Code 2017
• FFGC 2017	Florida Fuel Gas Code 2017
• ASHRAE Handbooks:	Fundamentals, HVAC Applications and HVAC Systems and Equipment latest editions
• ASHRAE 90.1	Energy Standard for Buildings Except Low Rise Residential Buildings
• NFPA 54	National Fuel Gas Code

General: The new plumbing systems will be designed in compliance with the International Plumbing code (IPC), latest edition, governing venting of plumbing fixtures, sizing of waste, vents, drains, and water systems. All new shutoff/isolation valves and water hammer arresters will be accessible from the floor level. If installed above hard ceilings, access doors will be provided.

Plumbing fixtures will be commercial grade, water conservation type and as a whole, will be capable of achieving at least 20% water use reduction as compared to EPAct of 1992. All ADA compliant fixtures will conform to ANSI A117.1. No waterless urinals will be provided. Water filters will be provided for all break room sinks and electric water coolers. Electric water coolers will be high-low for ADA compliance and will each be provided with a bottle-filling station. Metering faucet will be provided for gang restrooms sinks. Lever handle will be provided for sink with hot water connection in lieu of wrist blade handle.

Sanitary Waste and Vent Piping:
Schedule 40 PVC piping and fittings will be provided for sanitary waste drainage. PVC piping will be equipped with approved firestopping devices as required by code.

Domestic Water Piping:
Copper; type L for above ground and type K for belowground will be provided for potable water piping. PVC piping are allowed for main domestic cold water line. Shutoff valves will be provided at water supplies to new fixtures and ball valves will be provided at branch piping to fixture groups to provide ease of maintenance. Water hammer arrestors in compliance with PDI WH201 will be provided where required. Tempered hot water will be supplied to plumbing fixtures that require it. Insulation on domestic hot and cold water piping will be mineral fiber. Cold water piping will be provided with vapor barrier. Chrome plated or braided chrome piping will be provided for under sink domestic water piping.

Domestic Water Heaters:
Electric water heaters and water recirculation pumps for domestic hot water will be provided in the following areas:

1. Administrative office areas
2. Kitchen
3. Pre-kindergarten classrooms
4. ESE Pre-Kindergarten classrooms
5. ESE Full Time and Part Time classrooms
6. Clinic
7. Teacher lounge areas.

Tempering valves will be provided either at each heater or at individual fixtures to control water temperature.

Testing and Disinfection:
New domestic water, sanitary and vent piping will be tested per code requirements. Piping under floor slabs will be tested before slabs are poured. Soldered piping which is not tight under tests will be taken down and reassembled. Each new plumbing fixture will be tested for soundness, stability of support and operation. Tests will be made while pipe is exposed to view. Upon completion of the installation and testing, all new potable water piping will be disinfected in compliance with IPC requirements.

C. FIRE PROTECTION: Fire protection systems will be provided based on the latest editions of the Florida Building Code and General Requirements. Codes and standards will include, but not be limited to the following:

- FBC 2017 — Florida Building Code 2017 for fire resistance requirements, allowable floor area, building height limitations and building separation distance requirements.
- ASME A17.1 — American Society of Mechanical Engineers (2007 edition). Code for Elevators and Escalators
- NFPA 1 — Uniform Fire Code
- NFPA 10 — Portable Fire Extinguishers
- NFPA 13 — Automatic Sprinkler Systems
- NFPA 14 — Installation of Standpipe and Hose Systems
- NFPA 25 — Water Based Fire Protection Systems
- NFPA 70 — National Electric Code (NEC)
- NFPA 72 — National Fire Alarm Code
- NFPA 90A — Air Conditioning and Ventilating Systems
- NFPA 101 — Life Safety
- NFPA 291 — Flow Test Procedures

AUTOMATIC WET PIPE SPRINKLERS SYSTEM:

Provide automatic wet pipe sprinkler system throughout the facility. Fire Department connections will be within 150 feet of the nearest fire hydrant. All systems will be electronically supervised with tamper switches on all major valves and provide a signal to the fire department. The Fire Protection Engineer is responsible for obtaining water supply data, developing the hydraulic analysis and developing a code analysis demonstrating compliance with NFPA codes and the model building code utilized prior to initial design submittals.

The Fire Protection Specialist (contractor) will submit the input data, hydraulic analysis, and code analysis from the computer program used to design the sprinkler system along with the design submittal to the Fire Protection Engineer and Authority Having Jurisdiction (AHJ) for review. The computer software will be compatible with FPE software or provide software used by Contractor if not compatible with FPE. Hydraulic calculations will include a safety factor of 5 PSI or 10% (whichever is greater). Hydraulic calculations will be in accordance with the NFPA 13.

It is not anticipated that a fire pump will be required for this facility. This assumption will be verified during the design phase.

The Fire Protection Specialist will conduct additional flow tests to verify flow and pressure available at time of pre-construction. Proposals will include any tanks, fire pumps, etc., as determined from the project Fire Protection Engineer preliminary calculations prior to construction documents submissions. These tests will be conducted in accordance with the procedures contained in NFPA 291.

Construction Drawings will be prepared by a Fire Protection Specialist having obtained a Level III or IV certification as defined by the National Institute for Certification in Engineering Technologies (NICET) in the Automatic Sprinkler System Layout subfield of Fire Protection Engineering Technology in accordance with NICET 1014-7.

Design of sprinkled facilities will be in accordance with NFPA 13 and NFPA 20. The project Fire Protection Engineer will review the 100% design submission of plans and specifications.

Sprinkler rate of application will be

- 0.10 gpm/ft^2 for Light Hazard areas and
- 0.15 gpm/ft^2 for Ordinary Hazard Group 1 areas
- 0.20 gpm/ ft^2 for Ordinary Hazard Group 2 areas

The areas of application for all hazard classifications will be 1,500 ft^2 and will include 100 gpm and 250 gpm respectively for outside hose allowance for Light and Ordinary Hazard areas.

The Fire Protection Specialist will inspect the sprinkler system periodically during installation to assure that the sprinkler system is being provided and installed in accordance with the Construction Drawings. The Fire Protection Specialist will witness the preliminary and final tests. The Fire Protection Specialist will sign the test results. The hydraulic design plate will be engraved to preserve the markings.

Pre-Final Acceptance Test and Final Acceptance Test will be conducted by a Fire Protection Specialist. The Fire Protection Specialist will be regularly engaged in the design and installation of the type and complexity of system specified in the contract documents and will have served in a similar capacity for at least three systems that have performed in the manner intended for a period of not less than 6-months. The Fire Protection Specialist will provide a complete demonstration of the operation of the system.

FIXTURES AND EQUIPMENT:

Concealed heads will be used in the drop ceiling areas. Sprinkler heads will be centered in each direction of the ceiling tiles. Upright heads will be used in mechanical rooms and open ceiling areas.

Inspector test connection will be provided at the most hydraulically remote section of the system. If any portion of the Inspector's test piping extends outside of the building, it will be painted the same color as the adjacent area and a concrete splash block will be provided under the discharge.

Test valves as well as all auxiliary drain valves will be located in accessible areas. Any valves or other mechanical devices that maintenance personnel may need to access will be marked on the ceiling grid with an approved marking system and a laminated index of markings will be placed in the mechanical room.

A double check backflow preventer will be installed at the fire protection water service entrance. The assembly will consist of two positive seating check modules with bronze valve seats. The assembly will meet the requirements of ASSE Std. 1015 and AWWA Std. C510 and be approved by the foundation for Cross-Connection Control and Hydraulic Research (FCCHR-01) at the University of South California. All test cocks will be equipped with 1/4 inch flare adapters to facilitate attachment of test equipment. A poppet replacement kit will be provided with each backflow preventer. Provide with heat tracing as required for freeze protection of the fire protection backflow preventer. A means will be provided downstream of all backflow prevention valves for flow tests at system demand. The full flow test of the backflow prevention valve can be performed with a test header or other connection downstream of the valve.

All fire extinguishers will be housed in fire extinguisher cabinets or hung from brackets sized for type 5 lb. BC fire extinguishers. Location will be in accordance with NFPA code. Fire extinguisher cabinets will not be lockable and will not utilize plastic closers.

The Post and Indicator Valve (PIV) will be the non-supervised, lockable type.

All Fire Department Connections (FDC) will be mounted minimum 36" above grade or finished floor no higher than 48".

Piping for fire suppression systems in this facility will be Schedule 40 steel piping. All sprinkler piping will be concealed. All piping will be marked in accordance with AFOSH 91-501 Chapter 20. Schedule 10 piping will not be allowed on this project.

A dielectric fitting will be installed in the junction where dissimilar piping materials are joined (e.g., copper to steel). Dielectric fittings will not be required in the junction where sprinklers are connected to piping.

Energy Cost Budget / PRM Summary

By Schmidt Consulting Group

Project Name: SRCSD New K-8	Date: March 26, 2018
City: Navarre, FL	Weather Data: 8760 Pensacola FL

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 WCC+B+VAV+CFCU			Alt-2 WCC+B+VAV AHU			Alt-3 ACC+B+VAV+CFCU		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh	Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh	Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	943.8	10	531	943.8	100	531	943.8	100	531
Space Heating	Electricity	14.5	0	2	10.4	72	2	14.5	100	2
	Gas	3,412.8	34	3,464	2,920.9	86	3,205	3,412.8	100	3,464
Space Cooling	Electricity	1,884.5	19	876	2,420.2	128	1,711	2,692.7	143	1,733
Pumps	Electricity	187.8	2	187	205.8	110	362	100.1	53	95
Heat Rejection	Electricity	723.7	7	95	1,372.4	190	184	316.4	44	183
Fans - Conditioned	Electricity	1,347.0	14	210	1,066.9	79	388	1,347.0	100	210
Receptacles - Conditioned	Electricity	1,406.2	14	943	1,406.2	100	943	1,406.2	100	943
Total Building Consumption		**9,920.2**			**10,346.4**			**10,233.5**		

		* Alt-1 WCC+B+VAV+CFCU	Alt-2 WCC+B+VAV AHU	Alt-3 ACC+B+VAV+CFCU
Total	**Number of hours heating load not met**	3	138	3
	Number of hours cooling load not met	21	0	21

	* Alt-1 WCC+B+VAV+CFCU		Alt-2 WCC+B+VAV AHU		Alt-3 ACC+B+VAV+CFCU	
	Energy 10^6 Btu/yr	Cost/yr $/yr	Energy 10^6 Btu/yr	Cost/yr $/yr	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	6,507.3	157,011	7,425.5	179,165	6,820.6	164,570
Gas	3,412.8	43,684	2,920.9	37,388	3,412.8	43,684
Total	**9,920**	**200,696**	**10,346**	**216,553**	**10,233**	**208,255**

ELECTRICAL DESIGN NARRATIVE

ELECTRICAL DESIGN NARRATIVE

SCHMIDT CONSULTING·GROUP,INC.

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SANTA ROSA COUNTY NEW K-8 SCHOOL DESIGN NARRATIVE

ELECTRICAL

Electrical systems will be provided based on the latest editions of the Florida Building Codes and General Requirements.

General:

The electrical design will include the following systems:

1. Power distribution and branch circuit wiring.
2. Interior and Exterior Lighting
3. Site Lighting
4. Fire Alarm

Electrical Service:

The power for the new facility will be derived from two pad mounted transformer supplied by the local electrical utility. The transformers will be located at least 25 feet from the building outside of the kitchen wing. The service voltage will be 480Y/277 volt. The underground secondary service entrance conductors shall be routed in concrete encased duct-bank from the pad-mounted transformer to the service entrance in the building and the service entrance of the mechanical plant.

One service shall feed the mechanical plant and chillers, while the second service will be a clean service that feeds the main building electrical service. Both services will be metered at the transformers. The electrical service equipment for the mechanical plan will be a 1200A service entrance rated main distribution panelboard configuration. All service disconnects will have ground fault protection to comply with the National Electric Code's requirements. The service equipment will have a meter that will provide the following information: current amp and volt readings (each phase and three phase), peak demand and var, kilowatt hour readings. All bussing within the switchgear shall be copper, including ground and neutral. All circuit breakers greater than 400 Ampere shall have copper lugs.

The main building electrical service will be metered at the transformer. The electrical service equipment will be a 1600A switchgear configuration. All service disconnects will have ground fault protection to comply with the National Electrical Code's requirements. The service equipment will have a meter that will provide the following information: current amp and volt readings (each phase and three phase), peak demand and var, kilowatt hour readings. All bussing within the switchgear shall be copper, including ground and neutral. All circuit breakers greater than 400 Ampere shall have copper lugs.

The main building and mechanical plant electrical service ground shall be designed for low impedance. The grounding system will consist of a ground grid with three ¾"x20' ground rods on 20' centers, building foundation, building steel and cold water service. Each step-down transformer will be provided with a dedicated ground rod and bonding to the electrical system grounding conductor and building steel.

A generator will be provided to support all life safety requirements, administration areas, kitchen cooler/freezer, communications equipment and other items that would be desirable to have backup power. The generator will have a double walled sub-base diesel fuel tank capable of operating the generator at full load for 48 hours. A remote annunciator will be provided in the office area to monitor the generator status. A life safety automatic transfer switch will be provided to serve all life safety equipment including emergency lighting. A non-essential automatic transfer switch will be provided to serve all non-essential equipment such as the administration areas and kitchen cooler/freezers.

Design/Installation Criteria:

The electrical system will be designed and installed in compliance with the 2014 edition of the National Electrical Code (NFPA 70). The lighting and lighting control system will be designed to the 2013 edition of ASHRAE 90.1. The fire alarm system design will be in accordance with applicable sections of NFPA 13, NFPA 70, NFPA 72, NFPA 90A, and NFPA 101.

The electrical system will be designed as follows:

1. All electrical circuits will be copper conductors with dedicated ground conductors.
2. All conduits above grade shall be metallic.
3. Minimum PVC conduit below grade shall be ¾".
4. All exposed conduit through building slab shall be rigid metal conduit.
5. All circuits shall be designed for a maximum voltage drop of 3% from panel to end of run, and a maximum of 5% total voltage drop from service entrance to end of circuit.

Site Work:

The electrical utility will provide underground service to the facility. Concrete encased duct-bank will be provided for the secondary conductors from the pad-mount transformer to main service entrance disconnect. The project scope will include lighting all parking areas and access sidewalks. All exterior lighting fixtures will be LED. The lighting levels will comply with the Illumination Engineering Society (IES) requirements for parking areas (RP-20). All exterior lighting poles shall be color-impregnated concrete. The building exterior lights will be controlled by a photocell. The parking area lighting will be controlled by a photocell – time clock arrangement. In addition all exterior lighting will be provided with integral motion controls. Lighting will also be provided for all building signage.

Power Distribution:

1. The building service voltage will be 480Y/277 volt three phase. All major loads and lighting will be served at the service voltage.
2. Panelboards: All panelboards will be provided with copper buses and bolt-on circuit breakers. Lighting and receptacle panelboards shall be provided with 10% spare breakers and 10% spare space. All panelboards will be fully rated for the available fault current.
3. Transient voltage surge suppression (TVSS) will be provided on the service entrance panelboard and all 208 volt distribution panelboards and branch panelboards serving computer and communication loads. The TVSS will be mounted within the panelboard/switchboard enclosure.
4. The feeders will be THHN/THWN copper conductors in EMT, IMC, RGS and PVC conduits. PVC will only be used below grade. IMC or RGS will be used in all exposed locations subject to damage. Minimum PVC conduit size will be ¾".
5. Dry type transformers: 115 degree C rise, aluminum windings.
6. All panelboards shall have door-in-door construction to all easy maintenance.
7. All electrical equipment shall be fully rated. Series ratings will not be used.
8. All safety switches shall be non-fused.

Lighting:

The interior lighting will be LED type lighting fixtures. Exit signs shall be LED type. Emergency lighting will be tied into the generator. Lighting controls shall meet the requirements of the 2013 edition of ASHRAE 90.1. Occupancy sensors will be provided in all corridors, offices, classrooms, meeting and storage areas

The lighting levels are as follows:

1. Classrooms – 60 footcandles average maintained.
2. Offices – 50 footcandles average maintained.
3. Corridors – 20 footcandles average maintained.
4. Restrooms – 30 footcandles average maintained.
5. Auditorium – 30 footcandles average maintained with dimming capability.
6. Gymnasium – 75 footcandles average maintained, with multilevel switching. This design will comply with IES RP6 Sports Lighting criteria. Maximum to minimum ratio to be 2 to 1 or less.
7. Kitchen – 60 footcandles average maintained.
8. Media Center – 60 footcandles average maintained (direct/indirect lighting).

Wiring Methods:

Branch circuits, feeders, and final connections will be provided to support all furnished equipment. Non-fused disconnect switches as required by NEC or equipment manufacturer will be provided for all equipment. All line voltage and low voltage wiring will be in metallic raceway above grade. Below grade line voltage wiring will be in PVC. All conductors will be copper, with 90 degrees C THHN/THWN insulation.

Fire Alarm:

The fire alarm/voice evacuation system will comply with the required and advisory portions of NFPA 72, the UL listings or Factory Mutual approvals, and the recommendations of the equipment manufacturer. The system will be fully addressable with each device having a unique address. All devices and circuits will be monitored. Activation of any manual station, smoke detector or sprinkler system flow switch shall cause the building alarm devices to sound, the actuation of the station alarm reporting system and the associated air handling units within that building to shut down. The main panel will be provided with 80 character programmable alpha-numeric displays. The main fire alarm panel will be provided with fan shutdown bypass switches. When operated, the switch will bypass the automatic fan shutdown capabilities of each zone. Operation of the switches will cause the operation of the system trouble signal. An alphanumeric remote annunciator will be provided in the school office. The remote annunciator panel will be capable of alarm silence and reset functions by operation of a keyed switch. The keys will match that of the fire alarm control cabinet. Detectors consisting of smoke detectors, duct smoke detectors and heat detectors will be provided. Spot smoke detectors and heat detectors will be provided with twist lock base with wiring connections made in the base. All circuits will be wired Class A and will be in conduit. All wiring will be splice free and all connections will be made under screw terminals.

TELECOMMUNICATION

A telecommunications room will be provided on each floor of each wing for all voice and data functionality. The rooms will be located as shown on plans. A telecommunications backboard will be provided on all walls of each telecommunications room. A system of conduit sleeves and ladder tray will be provided. All racks, cable management, patch panels, horizontal cabling LAN/Desktop switches and patch cords will be owner furnished/owner installed.

A server room will be provided. The room will be located as shown on plans. A telecommunications backboard will be provided on all walls. A system of conduit sleeves and ladder tray will be provided. All racks, cable management, patch panels, horizontal cabling LAN/Desktop switches and patch cords will be owner furnished/owner installed.

Rough-in will be provided for Telecommunications outlets. A 4x4"x2" square box with one 1" conduit will be routed from each outlet to cable tray and/or serving Telecommunications room. The sum of the horizontal and the vertical distance from any outlet to the telecommunications room will not exceed 295'.

A system of ladder tray will be installed for the distribution medium for all owner furnished/owner installed telecommunications and horizontal cabling.

Access Control and Intrusion Detection will be rough-in only which includes conduits, back boxes, and pull strings.

Intercom will be rough-in only which includes conduits, back boxes, and pull strings back to intercom head-end equipment located in administration area.

Communications Systems Grounding: Telecommunications systems grounding will comply with the NEC and EIA/TIA-607, Grounding and Bonding Requirements for Telecommunications. A grounding bus bar will be provided on the telecommunications backboard and within demarcation room. The telecommunications main grounding bus bar shall be bonded to the building main electrical service ground with #4/0 AWG insulated (green) copper grounding conductor. All conduits, etc. will be bonded to the telecommunications main grounding bus bar with a #6 AWG insulated (green) copper grounding conductor. Looping grounds will not be permitted.

SANTA ROSA COUNTY DISTRICT SCHOOLS

PRELIMINARY PROJECT SCHEDULE

SCHEDULE

DESIGN AND BID SCHEDULE
New Southend K-8
Phase I Update
March 27, 2018

PHASE/DURATION	COMPLETION/DUE DATE
Kick-off	Jan. 12, 2018
Submit Wetland Isolation Request to ACOE	February 23, 2018
Site Survey for topo, utilities, ROW, etc.	March 14, 2018
Phase 1 Review SD Drawings, Preliminary Opinion of Cost	March 28, 2018
Submit wetland ditch crossing submittals to ACOE	
Phase 1 School Board Workshop/Approval	**April 5, 2018**
Meet with DOE	
Pre-application meetings with regulatory agencies (Santa Rosa County, NWFWMD, South Santa Rosa Utilities, Midway Water, Midway Fire, FDOT)	
Phase 2 Review 50% documents, Opinion of Cost	May 23, 2018
Phase 2 School Board Approval	**June 7, 2018**
Initial site permit submittals Comments received Comments Resolved Meet with SRC Permitting/Tobin Faciane	July 1, 2018 August 1, 2018 September 1, 2018
Phase 3 Review 100% documents, Opinion of Cost	October 3, 2018
Formal response to comments and final site Permit submittals	October 5, 2018
Submit to County & Health Dept. Plan Review: Signed & Sealed Drawings & Energy Forms	October 5, 2018
Phase 3 School Board Approval	**October 16, 2018**
ACOE confirmation of wetland isolation (8 months from 2/23/18)	October 23, 2018

Print Bid Documents/Site permit approvals issued	Nov. 9, 2018
Project Advertise Dates:	November 10, 2018 November 17, 2018 November 24, 2018
ACOE approval for wetland ditch crossing	November 24, 2018
Mandatory Pre-bid meeting .	November 20, 2018
Bid Opening 2 p.m.	**December 6, 2018**
School Board Approval of Contract	December 13, 2018
Notice to Proceed (16 months)	January 2, 2019
Access to Site	January 2, 2019
Substantial Completion	**May 1, 2020**
Final Completion (allows 60 days for rain days) Owner Move In (4 weeks)	**June 1, 2020**
Owner Operations start	August 1, 2020

BUDGET

PRELIMINARY PROJECT BUDGET

March 28, 2017

Mr. Joey Harrell
Assistant Superintendent, Admin Services
Santa Rosa County School District
6544 Firehouse Road
Milton, FL 32570

Re: Phase 1 Approval /Opinion of Cost
New Southend K-8

Dear Joey:

Throughout the design process for the K-8, we have consistently held the DOE cost per student station up as the filter for all decisions that have been made. The project started with a plant survey recommendation of 192,000 sq. ft. Our experience with other school projects is that often the plant survey recommendations include spaces that are not required to achieve the programmed curriculum for the school. So, in collaboration with SRCSD, we began the design process to review every single space in the plant survey that did not generate student station costs and identify areas where spaces could be reduced or eliminated. Through that process and detailed reviews building plan layouts, the building was reduced by 17%, nearly 33,000 sq. ft. while still meeting the program needs of the school.

In addition to this thorough space-by-space review process, we developed four different building plans to evaluate including a one-story structure, partial two-story, complete two-story and a two-story option in a pinwheel configuration. Through evaluating these options, it was determined that the two-story pinwheel option offered the most compact plan that helped to minimize exterior wall and roof area. It also has brings additional benefits of reduced length of H/C water lines for the HVAC system, reduced foundation costs, less roof area which translates into less stormwater to control and a smaller retention pond and a central atrium which gives better administrative control of the school in the event of any undesired activities.

The project has also undergone site development design options with the wetland impact and the decision made, for the long-term benefit of the District and expansion of the campus, to pursue a non-jurisdictional ruling on the isolated wetland. This allows the District to fill the wetland that is in the middle of the site thereby moving the school closer to Elkhart Drive. This

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reduces the amount of roads and pavement into the site which translates into reducing the stormwater impact.

As the design team and District have undergone all of these design decisions, we have also been evaluating the cost of construction with other similar projects throughout Northwest Florida. The following schools and construction costs have been identified as cost data to evaluate. Please note that these costs do not separate out offsite improvements or soil corrections and they DO NOT include A/E fees, legal and admin fees nor Furniture, Fixtures and Equipment (FFE) as is required by the DOE formula.

School:	Size (SF):	Total Cost:	Cost/SF:	Students stations:	Cost/SS:	Site Cost:	GMP/Bid Date:
Jackson County K-8	389,768	$67,840,969	$174	2,454	$27,645	$6,000,000 (incl. in Total)	Jun-18
Holmes	220,940	$37,547,630	$170	1,350	$27,813	$3,192,261 (incl. in Total)	Aug-15
Hamilton County	137,543	$23,074,623	$168	938	$24,600	$2,554,625 (incl. in Total)	Apr-16
Dixie Middle/High Schools	161,122	$34,525,000	$214	1,070	$32,266	$4,975,968 (incl. in Total)	May-15
Beulah Middle School	204,200	$44,901,888	$220	1,204	$37,294	$7,565,828 (incl. in Total)	Oct-15
Chumuckla CR Addition (classrooms only)	7,000	$1,092,000	$156	72	$15,167	(incl. in Total)	Apr-17

Note: The DOE cost/student station for SRCSD New Southend K-8 project is $25,572 per student.

The last project above is shown simply to indicate that when building a project that is purely classroom space, it is much easier to comply with the cost/student station because all of the spaces generate construction dollars. In a new school, there are many spaces that do not generate construction dollars including the cafeteria, music areas, administration and media centers...all of which are large spaces.

The costs for offsite improvements, utilities, environmental remediation, required improvements for soil conditions and development of the retention pond are NOT included in the cost per student station.

Assessment of the Construction Climate:

The southeast region and especially Northwest Florida are benefitting from strong economic growth right now. Many developers that have been stagnant have engaged their projects. The result is a labor shortage for many of the trades. Many of the local contractors lose manpower simply from one project promising more pay per hour. Reliability of labor to be on site when scheduled has been challenging. In addition to this, rising material prices from recently implemented tariffs and just now taking effect and will cause a spike in construction costs that has not yet been realized.

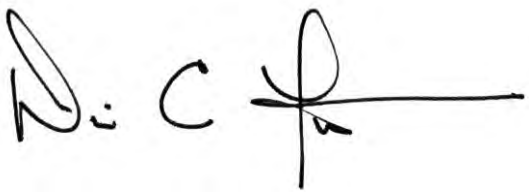
Supporting these positions are two articles in the past two weeks regarding the labor shortage and material cost increases in the appendix.

The attached spreadsheet formulates $134/SF available for building construction after backing out soft costs, sitework and FFE. A conceptual site development cost is in the range of $5,003,880 that includes a 20% contingency. Taking into account these escalation factors, we believe the cost to build this school will be in the range of $185-200/SF (including sitework) for a total construction budget of $32,000,000. This places the building cost around $167/SF. Soft costs and FFE will be in addition to this construction budget bringing the total project budget cost of on site development to approx. $34,300,000 / 1182 = $29,018 per student station. Off-site improvements are in addition in the estimated amount of approx. $1,575,000 for a total conceptual project cost of $35,875,000.

Given this analysis, we believe it will be best to make an appointment with DOE and meet with them in order to review this analysis and present the intentional design decisions that the team has made to reduce costs prior to proceeding into Phase II Documents.

We welcome the opportunity to discuss this opinion of cost and answer any questions.

Sincerely,



Owen Gipson, RA
Project Manager/Assoc Principal

David C. Luttrell, RA, FCP, CSI, LEED AP
Associate Principal

Copy: Mr. Jack Baker, File

SANTA ROSA COUNTY DISTRICT SCHOOLS

Holley-by-the-Sea K-8
3/28/2018
PHASE I - BUDGET SUMMARY

	Description			
	Student Stations			1182
	Middle School Student Station Cost			$25,572
A	Maximum Project Cost (Including Fees, FF&E, Site Utilities, etc.) according to DOE			**$30,226,104**
	Costs INCLUDED in the cost/SS:			
B	Site Development/Site Improvements			$5,003,880
	(Bldg pad, fill, curb/gutter, fencing, landscape, site utilities, pavement, fields, irrigation)			
C	Legal & Administrative Costs			$0
D	A/E fees (Basic Services - Soft Costs)	6.30%		$1,523,396
E	A/E fees (Additional Services - Soft Costs) - Estimated			$536,250
F	**Subtotal**		$23,162,578	
G	FF&E **(F x 7.5%)**	7.50%		$1,737,193
	Subtotal for Building		**(A - (B+C+D+E+G)**	**$21,425,385**
	Building Cost based on Current GSF	160,000	**$134**	(Based on above)
			Available	
	Other Costs NOT included in cost/SS:			
	Hurricane Shelter Costs			N/A
	Cost to Purchase Site			$0
	Drainage, Mitigate and fill wetlands, offsite utilities and road improvements)			$1,575,000
TOTAL				**$31,801,104**

Building Construction Budget:	Gross SF:	Cost/SF:	Budget:
Plant Survey	192,000	$111.59	$21,425,385
Reduced	180,000	$119.03	$21,425,385
Reduced	170,000	$126.03	$21,425,385
Reduced	160,000	$133.91	$21,425,385
Reduced	150,000	$142.84	$21,425,385

Engineer's Opinion of Construction Costs - Phase I

Project No. 170069 - SRCSD South End K8
Santa Rosa County, Florida

****Note: This opinion of cost does not include "soft" costs such as professional services, permit application fees, utility impact/tap fees, etc. unless listed****

****Note: Items highlighted in purple represent costs not counted towards cost per student station****

Section 01 00 00 General Requirements

Description	Quantity	Unit	Unit Price	Extension
Mobilization, Bond, etc.	1	LS	$ 100,000.00	$ 100,000.00
Wetland Mitigation (for impacts to isolated area and east ditch crossings)	1	LS	$ 25,000.00	$ 25,000.00
			Section Sub-Total	$ 125,000.00

Section 31 00 00 Earthwork

Description	Quantity	Unit	Unit Price	Extension
Clearing & Grubbing	1	LS	$ 225,000.00	$ 225,000.00
Earthwork	1	LS	$ 900,000.00	$ 900,000.00
Remove & Replace Unsuitables	1	LS	$ 100,000.00	$ 100,000.00
Erosion & Sediment Control	1	LS	$ 75,000.00	$ 75,000.00
			Section Sub-Total	$ 1,300,000.00

Section 32 10 00 Bases, Ballasts and Paving

Description	Quantity	Unit	Unit Price	Extension
Asphalt (for drives, parking areas, etc.)	18500	SY	$ 13.00	$ 240,500.00
Base Material	18500	SY	$ 17.00	$ 314,500.00
Stabilized Subgrade	20900	SY	$ 6.00	$ 125,400.00
On-Site Signing and Pavement Markings	1	LS	$ 40,000.00	$ 40,000.00
Off-Site Right-of-Way Improvements (roadway, shoulders, etc.)	1	LS	$ 1,000,000.00	$ 1,000,000.00
			Section Sub-Total	$ 1,720,400.00

Section 32 30 00 Site Improvements

Description	Quantity	Unit	Unit Price	Extension
Concrete Curb & Gutter	10000	LF	$ 21.00	$ 210,000.00
Concrete for Sidewalks, Pads, etc.	1	LS	$ 175,000.00	$ 175,000.00
Fencing & Gates, Bollards, Misc.	1	LS	$ 87,000.00	$ 87,000.00
Landscaping & Irrigation (including supply well)	1	LS	$ 500,000.00	$ 500,000.00
			Section Sub-Total	$ 972,000.00

Section 33 10 00 Water Utilities

Description	Quantity	Unit	Unit Price	Extension
On-Site Service Line and Appurtenances	1	LS	$ 65,000.00	$ 65,000.00
On-Site Fire Main and Appurtenances	1	LS	$ 80,000.00	$ 80,000.00
Off-Site Main Extension (tap, restoration, service reconnections, pipe, etc.)	1200	LF	$ 150.00	$ 180,000.00
			Section Sub-Total	$ 325,000.00

Section 33 30 00 Sanitary Sewerage

Description	Quantity	Unit	Unit Price	Extension
Gravity Collection & Conveyance Piping and Structures	1	LS	$ 75,000.00	$ 75,000.00
On-Site Force Main (clearing, trenching, pipe, etc.)	2150	LF	$ 100.00	$ 215,000.00
Off-Site Force Main (clearing, trenching, directional drill, pipe, etc.)	350	LF	$ 150.00	$ 52,500.00
Lift Station Package (wet well, pumps, valving, panel, etc.)	1	LS	$ 100,000.00	$ 100,000.00
			Section Sub-Total	$ 442,500.00

Section 33 40 00 Stormwater Utilities

Description	Quantity	Unit	Unit Price	Extension
General Dewatering for Excavation, Backfill and Compaction	1	LS	$ 200,000.00	$ 200,000.00
Wet Pond (including dewatering, grading, clay core, plantings, etc.)	1	LS	$ 250,000.00	$ 250,000.00
Pond Inlet, Outlet Control and Discharge Structures	1	LS	$ 20,000.00	$ 20,000.00
Collection Structures	20	EA	$ 3,750.00	$ 75,000.00
Smaller Diameter Collection Pipe	2100	LF	$ 30.00	$ 63,000.00
Larger Diameter Conveyance Pipe	2400	LF	$ 80.00	$ 192,000.00
Pipe and End Treatments for East Ditch Crossing	3	EA	$ 20,000.00	$ 60,000.00
			Section Sub-Total	$ 860,000.00

Cost minus blue text items:
$5,744,900 - $1,575,000 = $4,169,900
Phase I Contingencies (20%) $ 833,980
Total Ph I Opinion of Cost $5,003,880

Sub-Total	**$ 5,744,900.00**
Phase I Contingencies & Misc. (20%)	**$ 1,149,000.00**
Grand Total Phase I Opinion of Cost	**$ 6,893,900.00**