



**DAYTONA**  
**STATE COLLEGE**

---

Deltona Campus  
Master Plan Draft  
2019



# Executive Summary | 01



# Executive Summary

---

*The DSC Deltona Campus Master Plan synthesizes the College's strategic goals, needs and desires with the unique opportunities associated with the Campus's physical setting and visionary Leadership.*

DSC Deltona's 2019 Master Plan is the product of a ten-month comprehensive effort grounded in consensus building, design and the integration of the College's Strategic Plan. The Going for the Gold Strategic Plan, adopted by Daytona State College for the years 2017-2020, includes a mission, vision, values and strategic priorities, all of which influenced the development of the Campus Master Plan. The plan is intended to be implemented incrementally with an emphasis on a 5-Year planning horizon together with a long-term Legacy vision for the Deltona Campus. The Legacy plan is primarily aspirational in nature with its focus on creating a framework for coordinated long-term campus and facility development.

One of the key elements that permeated the master planning process is the recognition of the DSC Deltona's potential as a growing campus destination, envisioned to align its academic offerings with developing industries in Flagler and Volusia counties. The campus's visibility and frontage opportunities along Providence Boulevard is a potential fundamental asset to the Deltona Campus. The correlation between the Strategic Plan and the master planning process yielded a specific emphasis focusing on the site geography, space planning and presence along Providence Boulevard as primary elements in the creation of the vision for the Campus Master Plan.

The master planning process emphasized the qualities of the DSC Deltona Campus from a functional and aesthetic perspective, through quantitative physical analysis and qualitative assessment. These qualities are integrated with the College's goal, needs and State-mandated requirements to create a comprehensive approach to campus and facility development. An engagement process with College Leadership, faculty, students, and administration was the foundation for furnishing relevant information that would inform the development of the Master Plan.



**Legacy Master Plan** (*DSC Deltona*)

# Campus Master Plan Goals and Objectives

---

Initiating the Daytona State College (DSC) Deltona campus planning process entailed a dual track process. The first track focused on analyzing the campus elements from a site conditions perspective while concurrently deploying a process to obtain applicable information related to campus needs, desires and a vision. The second track utilized a series of qualitative interviews, investigations and targeted discussions utilizing questionnaires and interviews aimed at formulating the Campus Master Planning Goal and Objectives. The Campus Master Plan Goal is a single statement intended to define the overall focus of the planning effort tempered by the College's Strategic Plan and its correlating values in supporting: Community, Integrity, Excellence, Diversity, Innovation and Student Success.

Through discussions with Daytona State College Leadership, the Campus Master Plan Goal and Objectives are applicable to the entire enterprise. This allows for consistency across all campuses, while the supporting strategies are elements specific to each campus. Below is the Campus Master Plan Goal along with the 5 supporting Objectives. See pages 48-49 for the DSC Deltona Campus Strategies.

## Goal:

*The Daytona State College: Deltona Master Plan shall be an enduring and actionable approach to facilities growth that positions the College as the regional destination for higher education.*

- 01** **Ensure that the quality, integrity, innovation and achievement offered at Daytona State College is visible and attainable.**
- 02** **Enhance elements of the student experience.**
- 03** **Incorporate measures that support campus safety needs.**
- 04** **Incorporate short and long-term measures for successful and efficient implementation of new assets.**
- 05** **From the facilities standpoint, align the State of Florida's Performance Funding Measures with Daytona State College's Strategic Plan.**





# Existing Conditions and Data | 02

# Location, Context and Existing Conditions

## Location and Context

Daytona State College is part of the Florida College System and is unified through the State's Division of Florida Colleges. The Deltona Campus currently offers an Academic Support Center (ASC), which is one of six offered by Daytona State College.

Located along Providence Boulevard with approximately 2,900 linear feet of frontage, the DSC Deltona Campus shares boundaries with Lyonia Preserve, the City of Deltona's City Hall complex, and residential developments to the north. Of the total 100 acres of DSC Deltona property, 29.3 acres are developed as of 2019, including the City of Deltona parcel.

DSC Deltona shares proximity with several elementary and middle schools, the Daytona Regional Library, and Lyonia Preserve and Environmental Center, which offers existing hiking trails and circuits. The Campus will also share adjacency with a multi-use pedestrian and cyclist trail planned by Volusia County; this will occur north-south along Providence Boulevard.

## Composite Existing Physical Conditions

The Existing Conditions Map (Figure 3) illustrates the current existing conditions at the DSC Deltona Campus. The Campus currently includes 1 building and 3 modular structures with a range of uses. Fathi Hall (Building 1) is a 2-story structure including classroom, laboratory, office and study spaces. Fathi Hall currently exists as the dominant structure on campus and supports the majority of student and staff operations at DSC Deltona. In addition, 3 modular relocatable structures consisting of 7 facilities

Figure 1  
Regional Context (Deltona Campus)

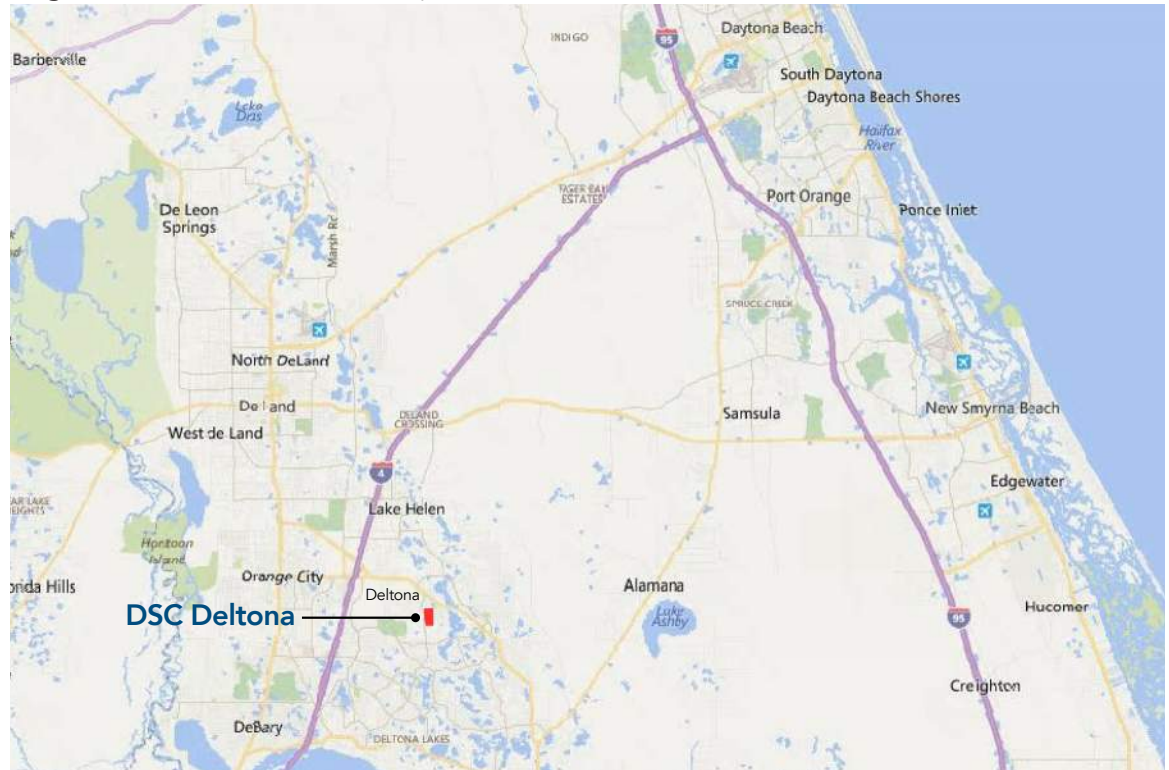
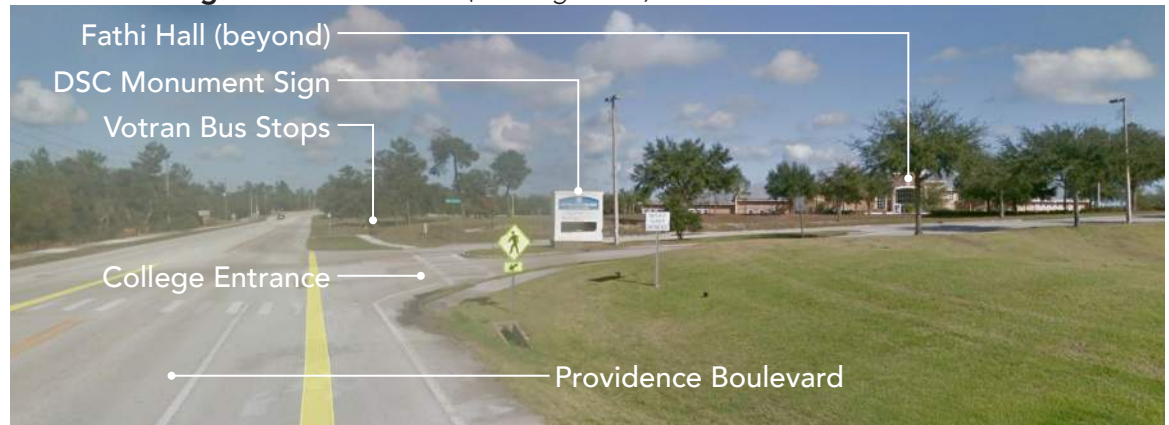


Figure 2  
Presence along Providence Blvd. (Looking North)



# Existing Conditions Map

## Legend

- CLEARED LANDSCAPE (DSC DELTONA)
- MAINTAINED LANDSCAPE (DUKE ENERGY EASEMENT)
- UNDISTURBED VEGETATION
- SIDEWALKS
- VEHICULAR PAVING
- EXISTING ACADEMIC BUILDINGS
- DEMOLISHED MODULARS
- EXISTING CITY OF DELTONA BUILDINGS
- FUTURE MULTI-USE TRAIL (VOLUSIA CTY.)
- EXISTING OFFSITE HIKING TRAILS
- PROPERTY LINE
- OFFSITE PARCEL LINES
- VOTRAN ROUTE 22 (DELTONA CITY HALL)
- VOTRAN ROUTE 21 (DELTONA CITY HALL)



Figure 3

currently provide additional classroom, laboratory, study and office spaces for students, faculty and staff. The campus is outside the 100-year flood zone per FEMA FIRM panel 12127C0640K dated September 29, 2017.

## Regional Workforce Information

This section generally focuses on regional economic and workforce topics. The approach is to connect discussions and objectives derived from the master planning process with published economic data to support the case for the College's facilities needs regionally.

To maintain consistency with previous discussions with Daytona State College Leadership (August and September 2015), a targeted focus on the regional workforce as a developing resource is pursued, with particular emphasis placed on the escalation in the manufacturing, biotechnology, mechatronics, and other applicable industries. Further, the need to support the expanding healthcare industry within the region is a continued point of focus in terms of current and future educational needs. Above all, the creation of flexible environments and the facilities to support the transition from college to workforce is fundamental to address employment trends and diversity within the region.

## General Economic Environment

According to the Volusia County Division of Economic Development in 2019, population growth in Volusia County increased by an estimated 8.3% between 2010 and 2018, from 494,593 to 535,884, growing by approximately 41,291 residents.<sup>1</sup> Additionally, the median household income for Volusia County rose 6.1% from \$46,901 in 2017 to \$50,361 in 2018, outpacing Florida's 2.8% growth in the same period.<sup>2</sup> Further, overall employment trends as of 2018 indicate that Volusia County employment has grown over 17% since 2010, an increase of over 36,000 jobs, and year-to-date average unemployment rate is the lowest since 2007.<sup>3</sup>

## Occupational Growth

Detailed discussion and coordination with the City of Deltona Economic Development Office has indicated the growth of several key regional industries. As mentioned above, the primary growth industry in Deltona today is healthcare, which is expected to continue to prosper in the region. The following are significant examples of upcoming healthcare industry employment opportunities in Volusia County:<sup>4</sup>

- 1** **New Halifax Health/UF Medical Hospital plans to open a 6-story bed tower in December 2019, along with a 55,000 square foot medical office building anticipated in 2020. A new medical facility on the east side of the City is also under discussion**
- 2** **AdventHealth, whose large Deltona medical office building opened in 2017, plans to open a freestanding emergency room in 2019**
- 3** **Family Health Source is expanding an existing clinic (2,200 square feet) on the east side of the City, as well as opening a 24,800 square foot clinical facility on the west side of the City, offering greatly expanded services**
- 4** **Various individual medical offices and clinics have opened in 2019. This trend is expected to continue as large and small health services providers look to expand into the various medical arts districts in the City of Deltona**

<sup>1</sup>Volusia County Demographics: [www.floridabusiness.org](http://www.floridabusiness.org), accessed 2019/10/01

<sup>2</sup>Volusia County: *On the Economic Scene, September 30, 2019*: [www.floridabusiness.org](http://www.floridabusiness.org), accessed 2019/10/01

<sup>3</sup>Volusia County Economic Development Office: [www.floridabusiness.org/data/workforce](http://www.floridabusiness.org/data/workforce), accessed 2019/10/01

<sup>4</sup>City of Deltona Economic Development Office email and phone coordination, accessed 2019/09/26

## Fast Growers

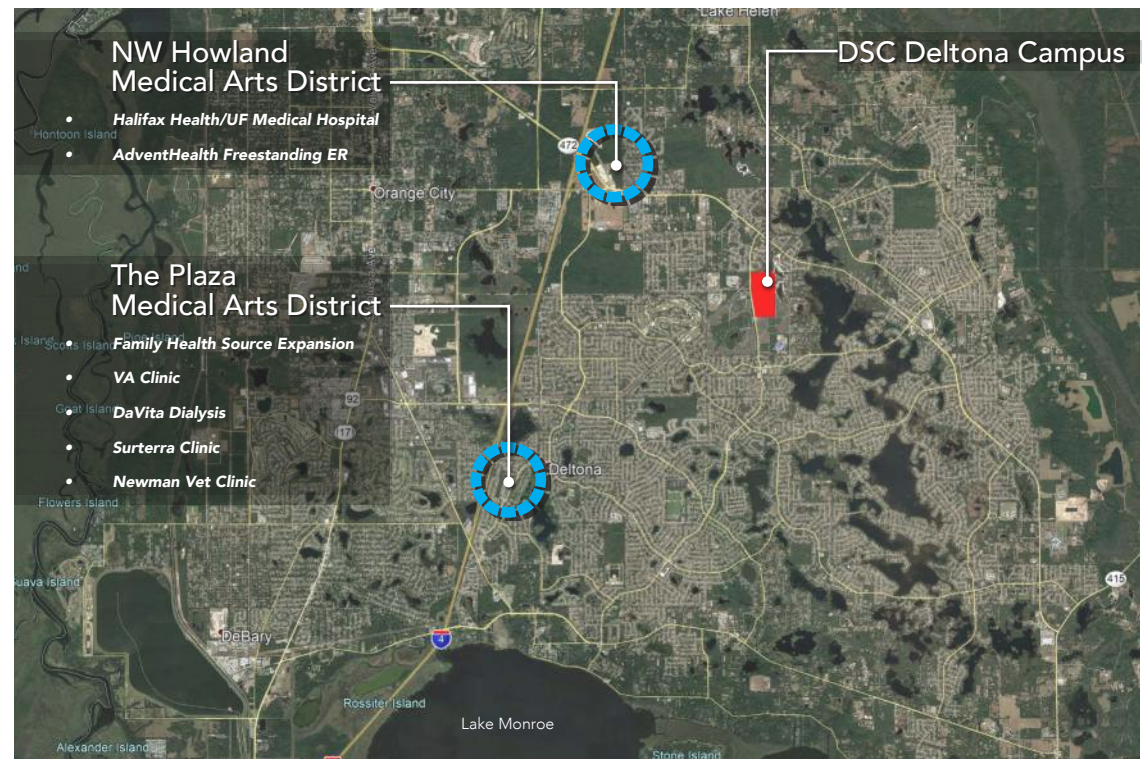
In discussion with the City of Deltona Economic Development Office, the 5 fastest-growing employers in and around Deltona include the following:

- 1 **Halifax Health/UF Health**
- 2 **Advent Health**
- 3 **Portland Industrial Park:  
Future Distribution Center**
- 4 **Publix**
- 5 **RaceTrac Convenience**

## Future Job Opportunities

Based on conversation with the Volusia County Division of Economic Development in 2019, the region is anticipating the growth of several employment **districts**, which will increase potential employment offerings for DSC Deltona graduates. Focused primarily on the healthcare industry, the **NW Howland Medical Arts District** features the new The Halifax Health/UF Medical (new hospital with a 6-story bed tower and a 55,000 square foot medical office building), and the Advent Health freestanding emergency room facility. **The Plaza Medical Arts District**, part of the City's CRA, will encompass various healthcare-centered businesses, including the VA Clinic, DaVita Dialysis, Surterra Clinic, Newman's Vet Clinic, and the expansion of Family Health Source.

It should be noted that current and future programmatic offerings should take into account the recent and planned employment opportunities as a method of increasing enrollment and student success after graduation.



---

## Existing Conditions: Topography and Land Cover

The DSC Deltona Campus varies in terrain and landcover. Site topography (Figure 4) can be generally described as rolling with a general overall sloping direction from the southwest corner of the site down to the northeast corner. Terrain consists of sandy ridges with sand hill/scrub landcover including low vegetation and short oaks, with occurrences of open sandy areas and very few established trees. This creates a valuable ecosystem for various native flora and fauna.

The existing topography is viewed as a critical aspect in understanding drainage patterns, conservation efforts, in addition to physical and experiential implications on future development. Existing topographical conditions are considered a critical factor in determining physical strategies in the development of the Campus Master Plan.

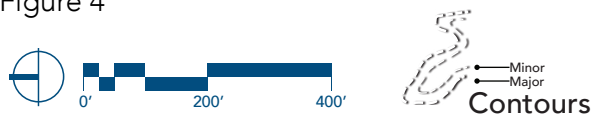
DSC Deltona campus covers approximately 15-acres of Paola fine sands located centrally in the ±600-acre property owned by Volusia County School Board in the City of Deltona, Florida. The primary topography on the site flows from south to north and drops approximately 20 feet from the high point at 60' to around 40' above sea level on the western corner of the campus.

With approximately 30% of the 100 acre parcel currently developed, the majority of the site is covered with low shrub and Sand Pine habitat. In addition, the northwest portion of the site hosts approximately 8.5 acres of xeric oak stands, freshwater marsh and ephemeral pond.

# Existing Site Topography



Figure 4



---

## Existing Conditions: Elevation Analysis

An elevation analysis (Figure 5) was performed to gain clear understanding of the potential opportunities and constraints of the existing site. In classifying by color the elevations in ranges of 10 feet, the campus property began to reveal its topographical character. Hills, small ridges, and valleys characterize the terrain which assisted in determining the physical formulation of the Master Plan from the standpoint of design, environmental impact, and cost.

The elevation analysis was utilized as a tool for prioritizing site improvements and acted as a decision-making guide in planning and phasing the Campus Master Plan. Future site improvements and requirements contemplate the existing terrain, which assists in planning cost-cognizant program and phasing. Planning decisions and strategies as informed by the elevation analysis include:

### *Stormwater Retention and Detention Areas*

Utilize low-laying areas or depressions suited for cost-effective grading and drainage.

### *Recreation Areas*

Target proximity to wetland, hammock, and other low-laying preserve areas as passive recreation areas or potential greenway connections to other outdoor amenities. These lower-elevation areas will see less development impact by nature of their terrain and proximity to protected areas.

### *Overall Site Circulation*

Plan roads, trails and parking effectively to minimize grading intervention and capitalize on existing topographical offerings from a design perspective.

### *Siting of Future Buildings*

Create a built environment demonstrating visual interest, intuitive orientation and navigation. Examples include siting buildings on high points or clustering structures to avoid overly impactful grading measures.



# Elevation Analysis

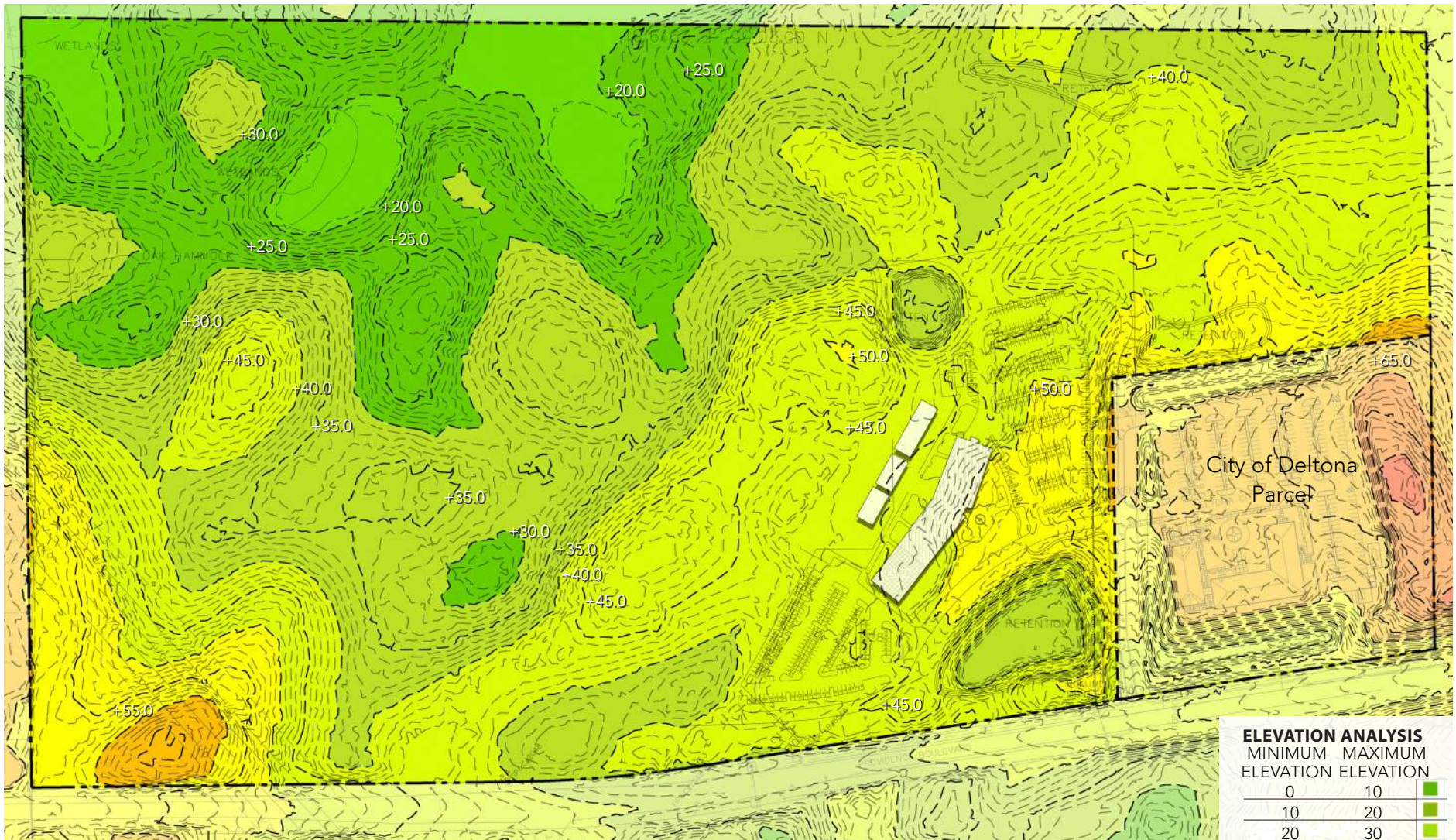
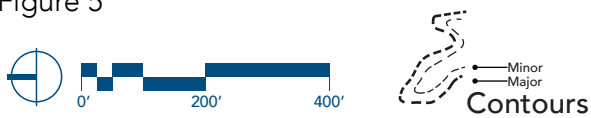


Figure 5



---

## Existing Conditions: Slope Analysis

A slope analysis (Figure 6) was performed to further clarify existing conditions. Slopes were classified in 2% intervals as a means of identifying areas best suited for buildings, ideal paths of circulation, and areas designated for lower impact development. Areas greater than or equal to a 15% slope, or 1 foot of vertical rise over 15 feet of horizontal distance, are considered steep slopes.

Slope analysis played a critical role in informing the Campus Master Plan. Steep slope areas were greatly influential in the location of buildings and open spaces, acknowledging their potential implication on cost, engineering, and infrastructure.

Particular attention is given to this analysis as it relates to road layout and open spaces, the design of which seeks to balance development impact with design intent. Roads, sidewalks, large gathering spaces, quads, and plazas are deeply informed by this analysis to ensure accessibility and logical relationships with the terrain.

# Slope Analysis

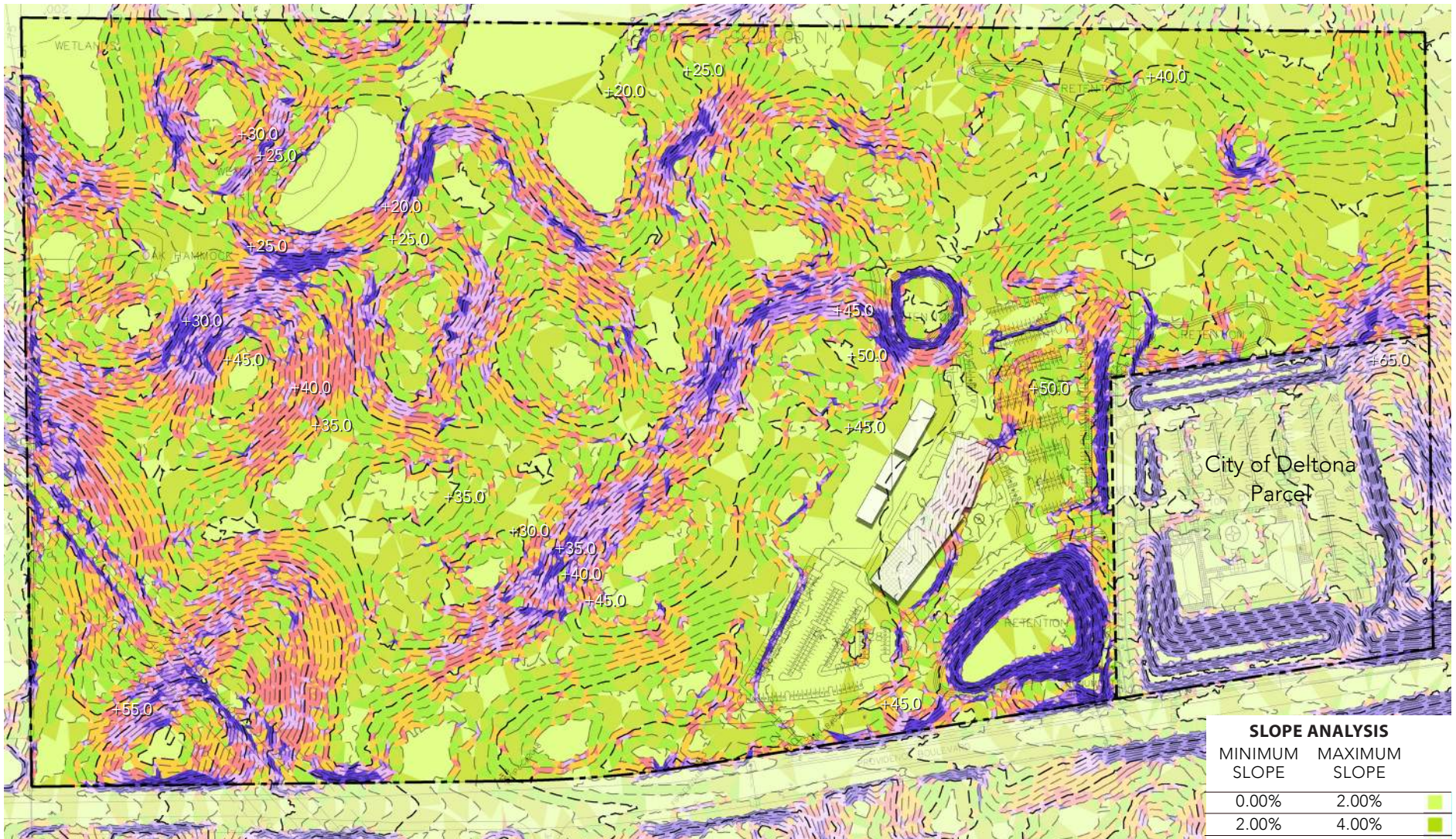
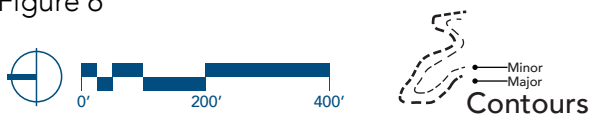


Figure 6



## Existing Conditions: Parking and Circulation

Parking is provided at the DSC Deltona Campus through two designated unassigned surface parking lots (Figure 8). There is no fee for parking on campus for students, faculty, staff or visitors. Quantities taken off of the most currently available site aerial identified 341 paved parking spaces and 8 total ADA compliant parking spaces.

Based on the requirement generated by the analysis of current student, faculty, staff, and contractor populations, DSC Deltona currently provides more than adequate parking as indicated in the below Figure 7, and proximity to Fathi Hall is satisfactory. The quantitative aspects of the parking analysis were built from ratios derived from SREF. The visitor parking ratio was derived from previous DSC planning studies and is provided as a relative ratio of 5% of the student population.

## Public Transportation



Volusia County provides public bus transit services throughout the region through Votran. The DSC Deltona Campus has a bus stop (serviced by routes 21 and 22) located on Providence Boulevard (northbound and southbound stops), which jointly provides access to the City of Deltona City Hall building (adjacent parcel).

Figure 7: Parking Model (SREF)

	Current				
	Users				
Face to Face\Hybrid Enrollment	343				
Faculty	3				
Adjuncts\Non-Faculty\Total	5	20	25		
<b>Total Non-Student Staff</b>	<b>28</b>				
Parking Use (spaces:user)	Parking Req.	Ex. cond.	Parking Loss/Add	Adjusted Total	Need / Surplus
Faculty/Employee/Contractor (1:1)	28	—	—	—	—
Student Parking Required (1:2)	172	—	—	—	—
Visitor Parking Assumption (1:20)	9	—	—	—	—
<b>Total Required/Existing/ Estimated Need</b>	208	349	—	349	<b>-141</b>

## Existing Circulation and Parking Map

### Legend

- VEHICULAR CIRCULATION
- VEHICULAR CIRCULATION (OFFSITE)
- PEDESTRIAN CIRCULATION
- PEDESTRIAN CIRCULATION (OFFSITE)
-  VOTRAN ROUTE 22 (DELTONA CITY HALL)
-  VOTRAN ROUTE 21 (DELTONA CITY HALL)

### Paved Parking Inventory

Lot ID	Spaces ADA	Total
Lot A	212	218
Lot B	129	131
Sub.	341	8
<b>Total</b>		<b>349</b>



Figure 8

NOTE: Existing conditions information is based on the best available information.



## Distinct Count of Students by Hour

DSC Deltona maintains data which indicates the quantity of students on campus by day and hour. This number is based on the anticipated attendance of students in enrolled classes. Per the data, the DSC Deltona on-site student population is generally highest between 9:00am and 01:00pm Monday through Thursday of each week, with an additional influx between 05:00pm and 07:00pm Monday through Thursday when the semester is in session. During these days, the Tuesday period between 12:00pm and 01:00pm reflects the peak of on Campus student population. Most students attend Campus on a Monday and Wednesday or Tuesday and Thursday class schedule format (see Figures 9 and 10). It should be noted that existing parking is more than adequate in supporting the largest influx of students on campus (Tuesdays, 12pm-1pm, see Fig. 9).

Figure 9

### Distinct Count of Students by Hour

(Fall 2019)

	Mon	Tues	Wed	Thur	Fri
06:00 - 07:00	1	1	1	37	39
07:00 - 08:00	1	1	1	25	11
08:00 - 09:00	34	62	72	62	1
09:00 - 10:00	<b>228</b>	212	<b>272</b>	179	1
10:00 - 11:00	203	127	221	127	1
11:00 - 12:00	115	219	151	176	59
12:00 - 13:00	146	<b>326</b>	189	<b>232</b>	<b>60</b>
13:00 - 14:00	54	157	52	95	1
14:00 - 15:00	15	1	13	28	28
15:00 - 16:00	15	1	1	25	11
16:00 - 17:00	15	77	1	44	13
17:00 - 18:00	144	120	144	120	1
18:00 - 19:00	150	31	210	31	1
19:00 - 20:00	1	90	1	90	1
20:00 - 21:00	1	41	1	41	1
21:00 - 22:00	1	1	1	1	1
22:00 - 23:00	1	1	1	1	1
23:00 - 24:00	1	1	1	1	1

### DSC Deltona Students on Campus by Time<sup>5</sup> (Fall 2019)

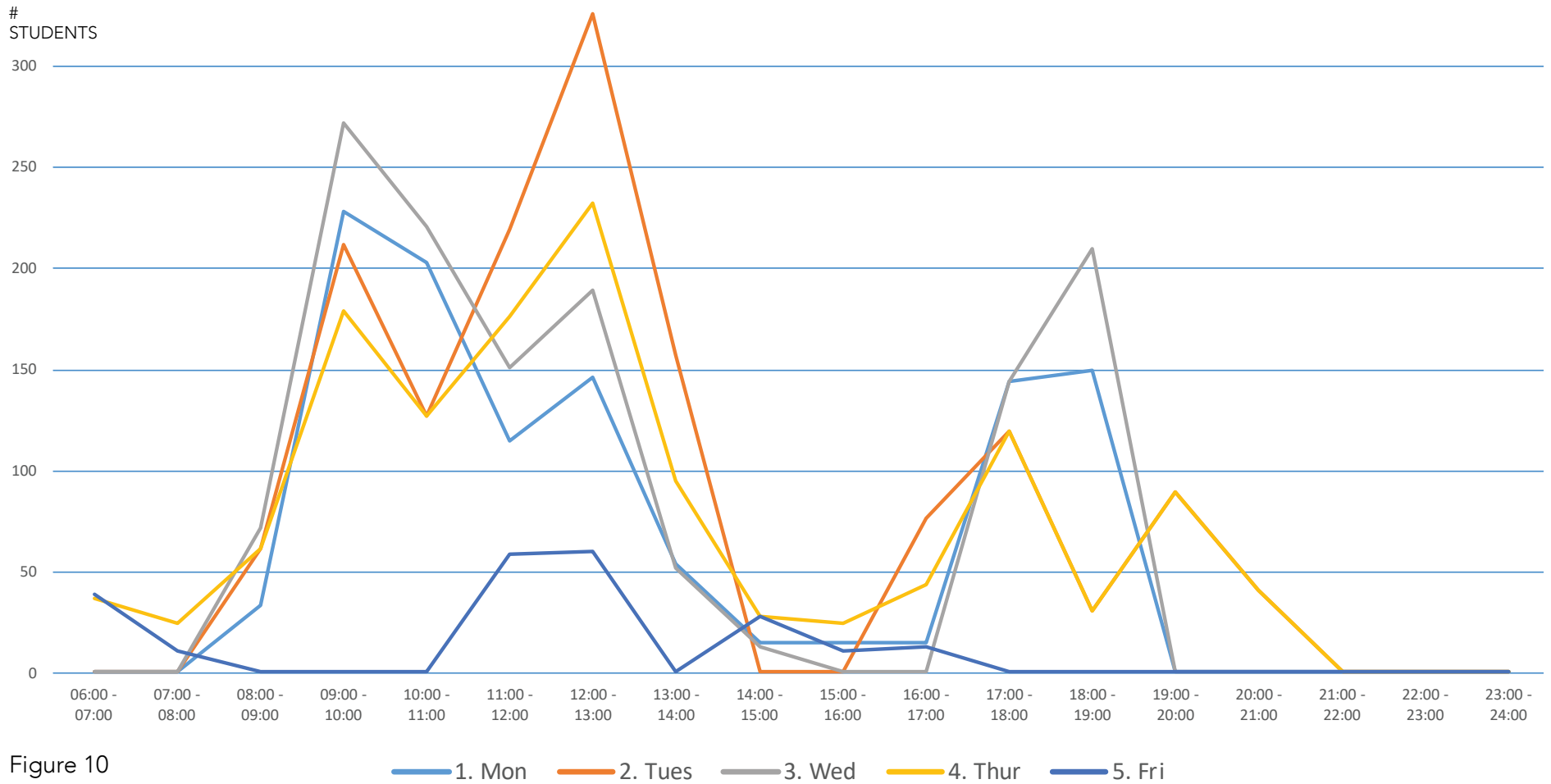


Figure 10

<sup>5</sup>Data provided by DSC Office of Institutional Research, 2019/09/25.

# General Infrastructure

---

## Stormwater Management: Existing Conditions

As previously mentioned, the DSC Deltona campus covers approximately 15-acres of Paola fine sands located centrally in the ±600-acre property owned by Volusia County School Board in the City of Deltona, Florida. The primary topography on the site flows from south to north and drops approximately 20 feet from the high point at 60' to around 40' above sea level on the western corner of the campus.

The campus is bound on the west side by Providence Boulevard, to the south by The City of Deltona Administration Building, and to the north and east by undeveloped lands (Figure 11). Stormwater in the existing parking lots and school building are collected via underground pipe systems and discharged into and treated by two dry retention basins. The main basin (±1-acre) located on the southwest collects most of the stormwater for the development and a supporting basin (±0.5-acre) on the northeast collects the rear portion of the southern parking lot. When the College added modular buildings, a swale was installed to collect the additional runoff that connects to the existing main drainage system.

The existing drainage system and stormwater treatment facilities were permitted with the St. Johns River Water Management District (SJRWMD). The SJRWMD has regulatory responsibility for stormwater discharge, consumptive use and surface water management permits in this region of the State of Florida. In reviewing the existing permits for the campus with the SJRWMD, the two (2) dry treatment ponds and the drainage collection system under the parking lots were originally permitted

in 2009, and the modulars and rear swale were permitted a year later.

The current individual environmental resource permits (ERP) should be maintained and modified as required during the detailed design phases to provide the best benefit to DSC. Prior to initiation of any campus improvements, a revised permit will be required to be submitted and approved by the SJRWMD. The revised permit application should include all scheduled program elements. Future development beyond the campus core will require modifications to current ERP permits or issuance of a collective or multiple new permits.

The campus resides outside the 100-year flood zone per FEMA FIRM panel 12127C0640K dated September 29, 2017.



## Existing Stormwater Map

### Legend

- SWALE COLLECTOR
- STORMWATER PIPE
- ROOF DRAIN SYSTEM
- DRY POND



Figure 11

NOTE: Existing conditions information is based on the best available information.



---

## Potable Water: Existing Conditions

Potable Water: The DSC Deltona Campus is served by facilities provided by the City of Deltona's Water Department (Deltona Water). An existing 12-inch City of Deltona potable water main along Providence Boulevard that feeds both the college and the City of Deltona Administration Office. An 8-inch potable main tapped at the entrance drive intersection serves as the primary source of potable water to the campus. The 8-inch master meter and backflow preventer are located adjacent to the sidewalk at the entrance drive. The water main runs parallel along the main campus drive and splits by Fathi Hall (Fig. 12) – one run to the north parking lot and the other heading east on the south parking lot, terminating by the dumpster. These terminals should allow for future expansions. The 2-inch Potable (with backflow preventer) and 6-inch Fire service to Fathi Hall and services to the modular buildings are connected to the eastern run of the 8-inch main line. The northern run of the line currently does not serve any potable demands. Fire hydrants serving the campus are located near each end of the building (northwest and southeast).

### Chilled Water

The campus has a chiller plant that serves Fathi Hall, located southeast of the buildings. The plant is served through the potable connection to the hall, with a 1-1/4-inch line, and feeds the building through two (2) connections in the rear. The chilled water lines also have stub-outs for future expansions.

### Existing Regulations Related to the Potable Water System:

**Federal Regulations:** The Federal Safe Drinking Water Act (Public Law 93-523) establishes operating standards and quality controls for the protection of public water supplies. As directed by this Act, the Environmental Protection Agency (EPA) has established minimum drinking water standards, to which every public water supply system must conform. Included are "primary" standards required for public health, and "secondary" standards which are recommended to attain a higher aesthetic quality of water.

**State Regulations:** In accordance with federal guidelines, the Florida Safe Drinking Water Act (Sections 403.850 -403.864, F.S.) has been adopted, which designates the Florida Department of Environmental Protection (DEP) as the state agency responsible for the regulation of drinking water. The DEP has therefore promulgated rules classifying and regulating public water systems, including mandatory water treatment criteria (Chapter 17-550. F.A.C.). The DEP enforces both the primary and secondary water quality standards for public water supplies in Florida.

**Local Regulations:** As a Department of Education facility, Daytona State College at Deltona is subject to the State Uniform Building Code for Public Educational Facilities and exempt from local regulations. Section 6A-2.012, F.A.C. states,

"All educational facilities constructed by a board ...are hereby exempt from all other state, county, district, municipal, or local building codes, interpretations, building permits and assessments of fees for building permits, ordinances and impact fees or service availability fees."

Rule 6A-2.001(48), F.A.C., however, states that educational facilities are not exempt from assessments "...for that length and size of line actually needed to service the educational or ancillary plant on that site".

The City of Deltona (Deltona Water) also has implemented backflow prevention standards and cross connection control standards that are to be implemented on all new connections to the City's public water supply.

## Existing Water Map

### Legend

- POTABLE WATER
- OFFSITE POTABLE WATER
- FIRE LINE
- CHILLED WATER
- METER LOCATION

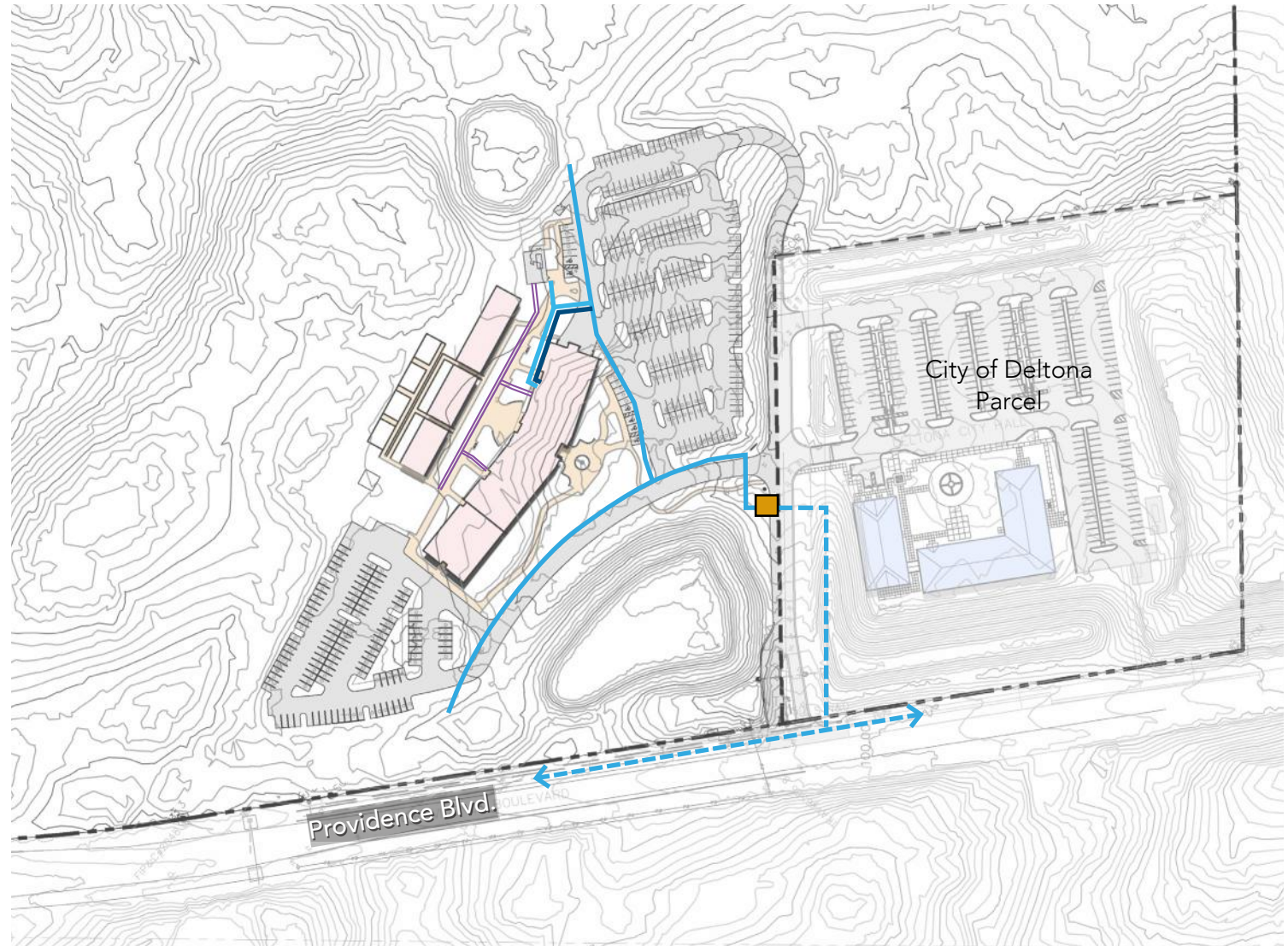


Figure 12

NOTE: Existing conditions information is based on the best available information.



---

## Sanitary Sewer: Existing Conditions

Sanitary demands from Fathi Hall (Fig. 13), existing modular buildings and the chiller plant are primarily served via 8-inch gravity sewer lines that discharge sanitary flows into a lift station located between the east side of Fathi Hall and the chiller plant. The sanitary lift station then discharges the flow through a long line of 4-inch force main, traveling from the south parking lot then west parallel of the shared drive, into the 10-inch City of Deltona-owned force main along Providence Boulevard. Offsite wastewater is then transmitted to the City's lift station which ultimately pumps the sewage to the City's wastewater treatment plant.

Depending on the demand and location of future expansions, the proposed buildings may possibly connect sanitary discharges into the existing lift station. This will require improvements/upgrades to the existing pump system and possible trenching in the parking lot. Proposed programming may require another alternative, which is to provide future structures their own lift station that connects directly to the City of Deltona-owned 10-inch force main along Providence Boulevard.

### *Existing Regulations Related to the Sewer System:*

**Federal Regulations:** The Federal Pollution Control Act (PL 92-500) is the controlling national legislation relating to the provision of sanitary sewer service. The goal of this act is the restoration and/or maintenance of the chemical, physical and biological integrity of the nation's waters. The act established the national policy aimed at implementing area-wide waste treatment and management programs to ensure adequate control of pollutant sources.

**State Regulations:** At the State level, the Florida Department of Environmental Protection (DEP) is responsible

for compliance with federal and state regulations within Florida. Florida's Safe Drinking Water Act provides for the regulation of public water systems. The act is administered under Chapter 17-22, F.A.C. which contains State standards for potable water.

**Local Regulations:** As a Department of Education facility, Daytona State College at Deltona is subject to the State Uniform Building Code for Public Educational Facilities and exempt from local regulations. Section 6A-2.012, F.A.C. states,

"All educational facilities constructed by a board...are hereby exempt from all other state, county, district, municipal, or local building codes, interpretations, building permits and assessments of fees for building permits, ordinances and impact fees or service availability fees."

Rule 6A-2.001(48), F.A.C., however, states that educational facilities are not exempt from assessments "...for that length and size of line actually needed to service the educational or ancillary plant on that site". The City of Deltona (Deltona Water) controls all sewer service for the campus.

## Existing Sewer System Map

### Legend

- SANITARY FORCE MAIN
- - - OFFSITE SANITARY FORCE MAIN
- SANITARY GRAVITY
- ▲ SANITARY LIFT STATION

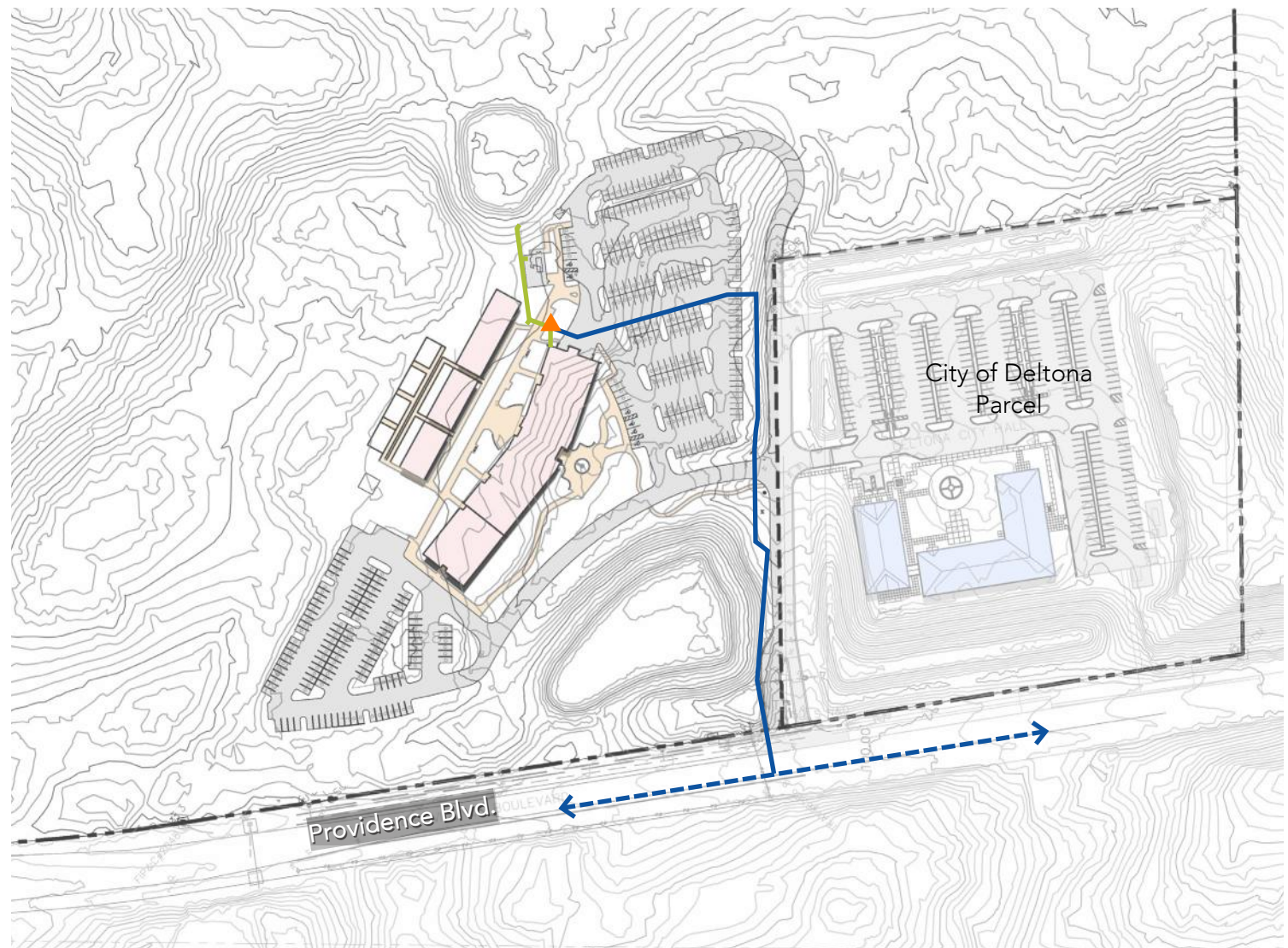


Figure 13

NOTE: Existing conditions information is based on the best available information.



# Enrollment and Campus Statistics

## Existing Facilities

The Campus Master Plan is based on the synthesis of the physical attributes of the DSC Deltona Campus, its context, needs assessment, and the previously identified goal and objectives. The campus findings informs the master planning process and becomes the primary influence for the development of the conceptual diagrams that will lead to the creation of the 5-Year and the Legacy Campus Master Plan approved by the Daytona State College Facility Planning Advisory Council and the Board of Trustees.

The 100 acre DSC Deltona Campus parcel is comprised of 29.3 developed acres, which includes the Deltona City Hall parcel and buildings and the existing DSC Deltona campus facilities. These facilities include Fathi Hall (Building 1) and 3 relocatable structures containing 7 separate classroom and office facilities. With approximately 49,488 gsf of enclosed space, the DSC Deltona campus represents a compact assemblage of building and facility assets. Classrooms, laboratories and associated support space comprises the majority of facility use at 54.3 percent (26,888 sf) of the DSC Deltona campus. As the

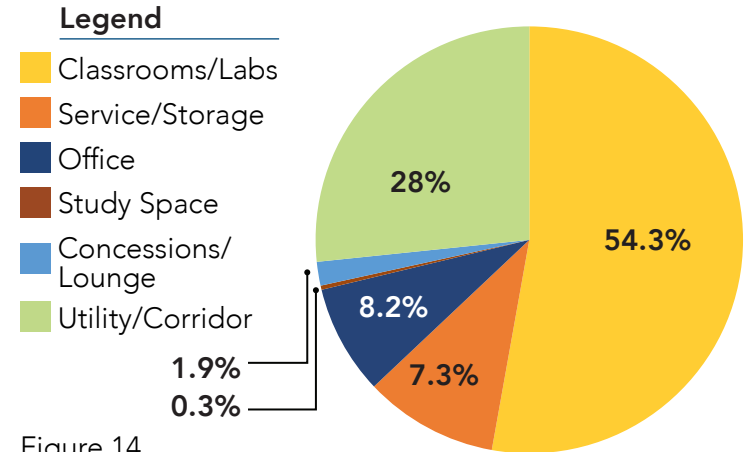


Figure 14  
Existing Campus Facility Uses<sup>6</sup> (Deltona Campus)

Figure 15  
2016/2017: Duplicated Headcount by Instructional Method<sup>6</sup>  
(All Campuses)

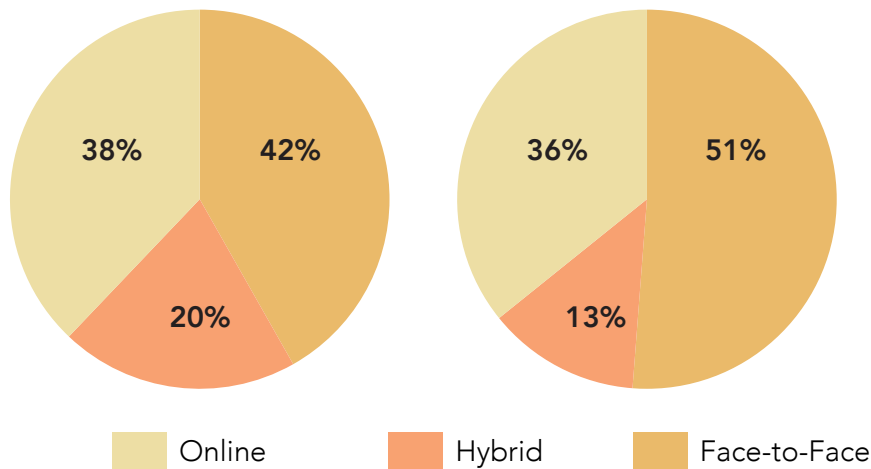


Figure 16  
2016/2017: Base FTE by Instructional Method<sup>6</sup>  
(All Campuses)

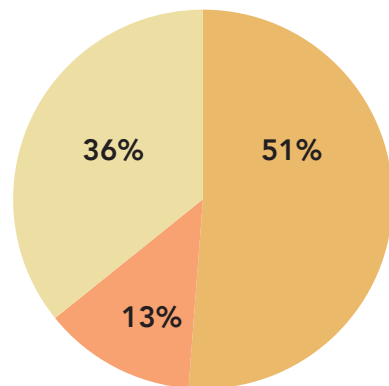


Figure 17  
2018/2019: Duplicated Headcount by Instructional Method<sup>7</sup>  
(Deltona Campus)

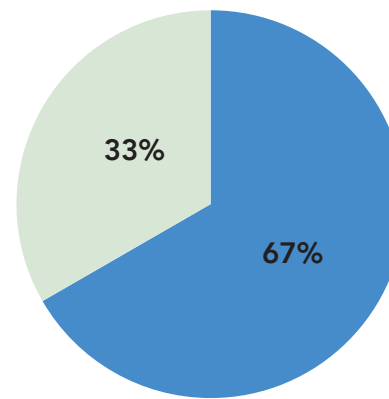
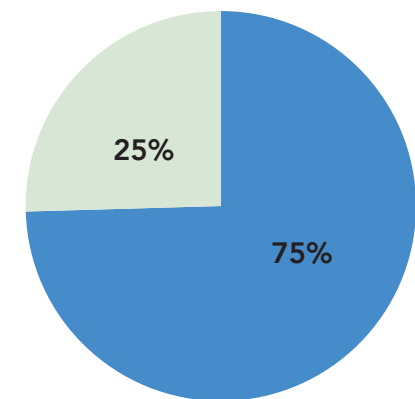


Figure 18  
2018/2019: Base FTE by Instructional Method<sup>7</sup>  
(Deltona Campus)

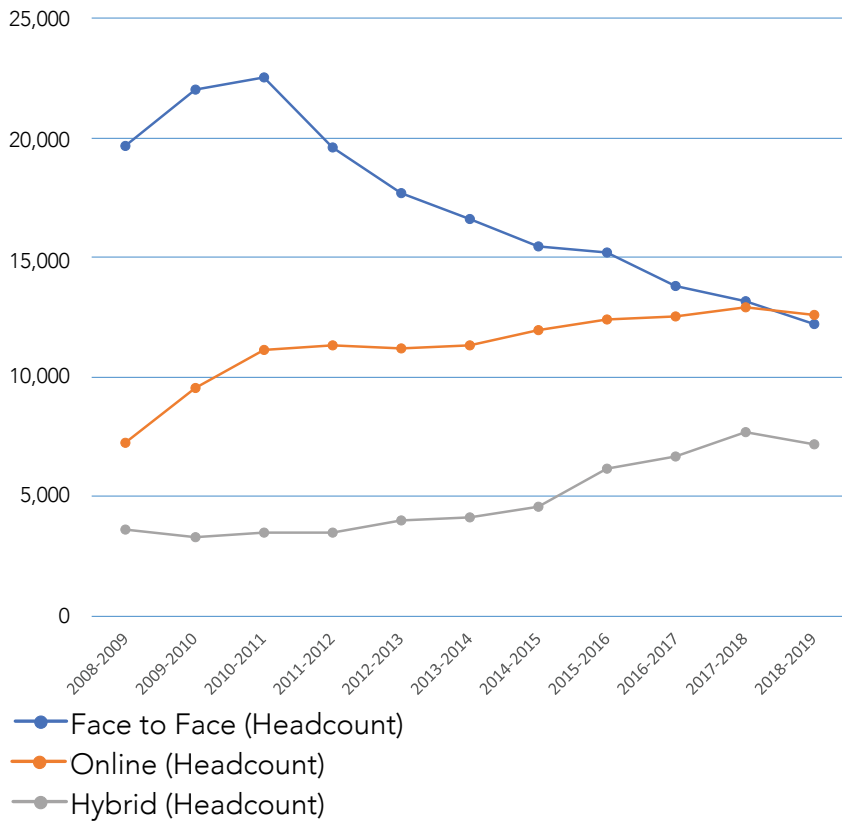


<sup>6</sup>Data provided by DSC Office of Institutional Research, 2019.

<sup>7</sup>Per phone and email coordination with DSC Deltona Staff, online enrollment is attributed to Main campus and is not inventoried on a campus-specific basis. Data provided by DSC Office of Institutional Research, 2019.

Figure 19

**Daytona State College Enrollment Trend by Instructional Method<sup>8</sup> (All Campuses)**



largest on-campus facility, Fathi Hall includes an Academic Support Center (ASC), consisting of classroom and laboratory space. The allocation of space on the DSC Deltona Campus by type is depicted in Figure 14.

**Enrollment Summary**

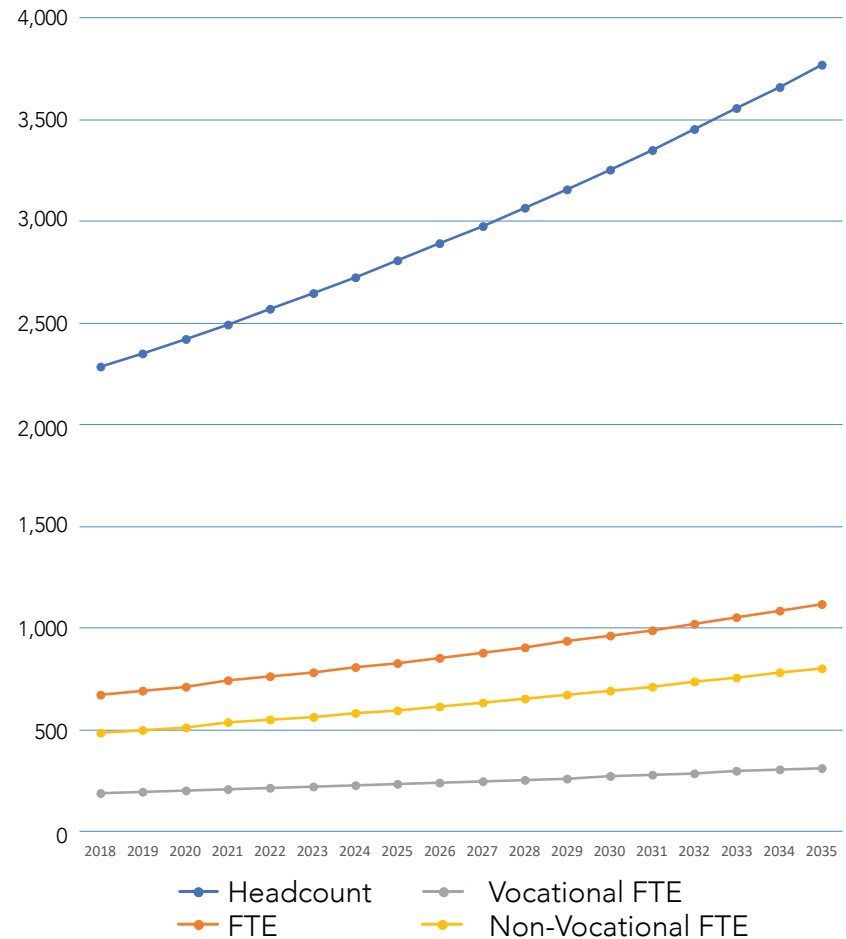
Unduplicated enrollment for all Daytona State College campuses in 2016/2017 amounted to 26,217 students.

**Instructional Methods: All Campuses**

Of the duplicated headcount of all Daytona State College Campuses, 42% of students are face-to-face by instructional method (Fig. 15), while FTE students

Figure 20

**DSC Deltona Campus Enrollment Projection (Per DSC Deltona)**



*Daytona State College leadership has established a goal to increase enrollment annually by 3 percent for the Deltona Campus.*

<sup>8</sup>Daytona State College: Core Performance Indicators, 2014; Daytona State College: Core Performance Indicators, 2019, accessed 2019.

(full-time equivalent) amount to 51% enrollment by face-to-face instructional method (Figure 16).

### Instructional Methods: DSC Deltona Campus

Of the duplicated headcount of the DSC Deltona Campus (Fig. 17), 67% of students are face-to-face by instructional method, while FTE students (full-time equivalent, Fig. 18) amount to 75% enrollment by face-to-face instructional method. For DSC Deltona, both instructional method scenarios demonstrate a higher ratio of face-to-face students when compared against all combined campuses.

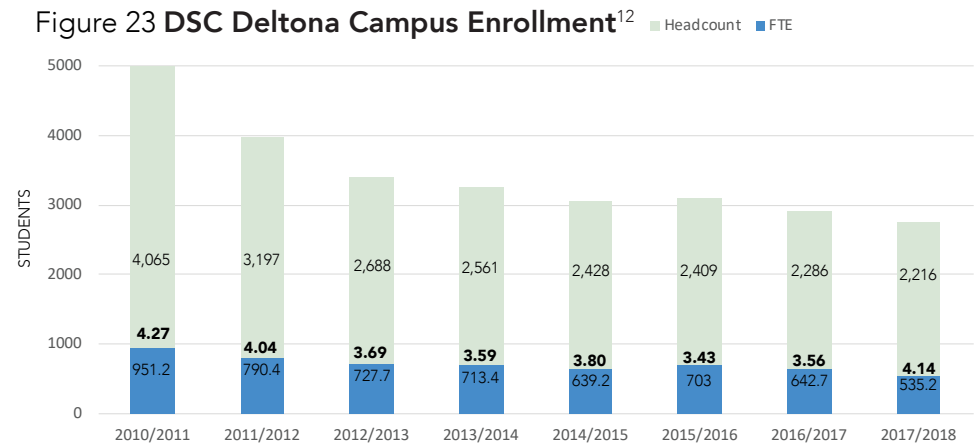
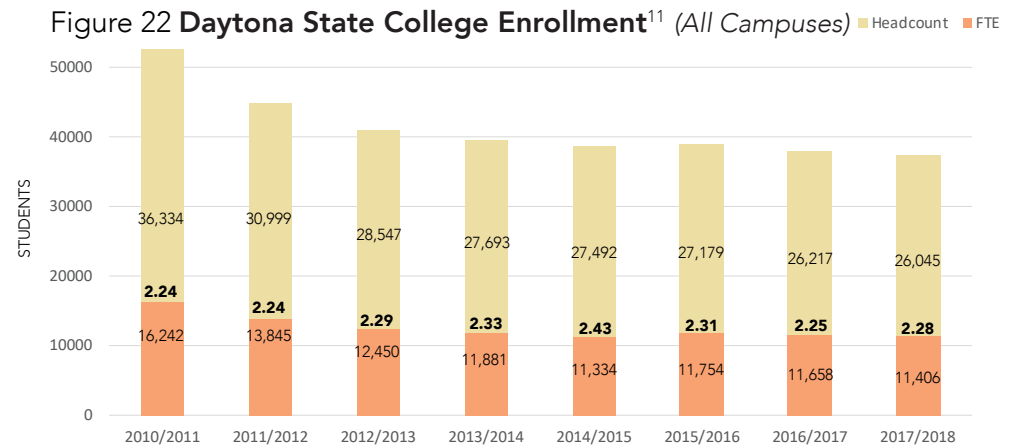
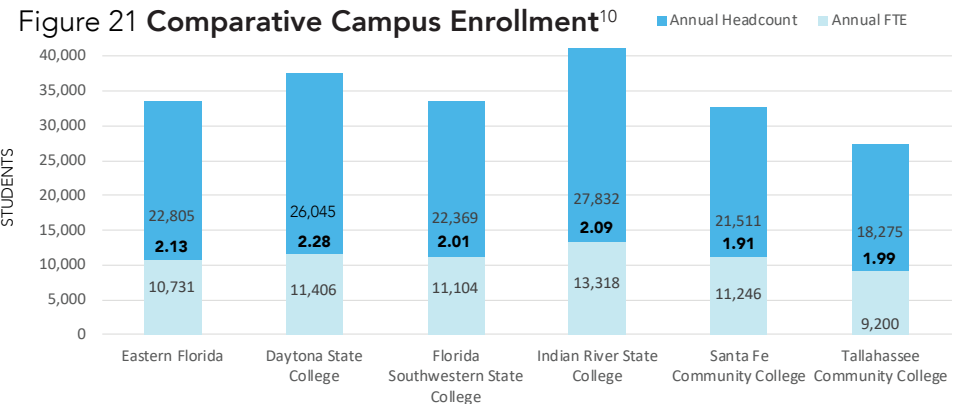
## Comparative Enrollment Data

Headcount to FTE is a relevant planning tool when analyzing student enrollment and facility needs. According to Chris Meinzer of the ATS Commission on Accrediting, the gap between headcount and FTE indicates that students are taking fewer classes on an individual basis, reducing the overall contribution towards FTE per student.<sup>9</sup> In other words, if FTE growth is not commensurate with headcount growth, utility of built resources can be strained in addition to possible funding implications. It is noted that the higher the ratio, the greater the potential for resource deficiencies.

In reviewing comparative State Colleges in Florida (Figure 21), the average ratio of academic year 2017/2018 equated to 2.07 students (headcount) per FTE. This is an overall increase from the 2016/2017 average of 1.96 of the same institutions.

In the same period (2017-2018), the ratio for all Daytona State College Campuses (Figure 22) is calculated at 2.28 students per FTE. Averaged over the past 8 years, this ratio equated to 2.30 students per FTE. This ratio remains the same as the preceding year average up to and including 2016/2017.

DSC Deltona Campus equated to 4.14 average students per FTE for the same period (2017-2018, Fig. 23). This ratio demonstrates a slight increase from the previous academic year's average of 3.56 students





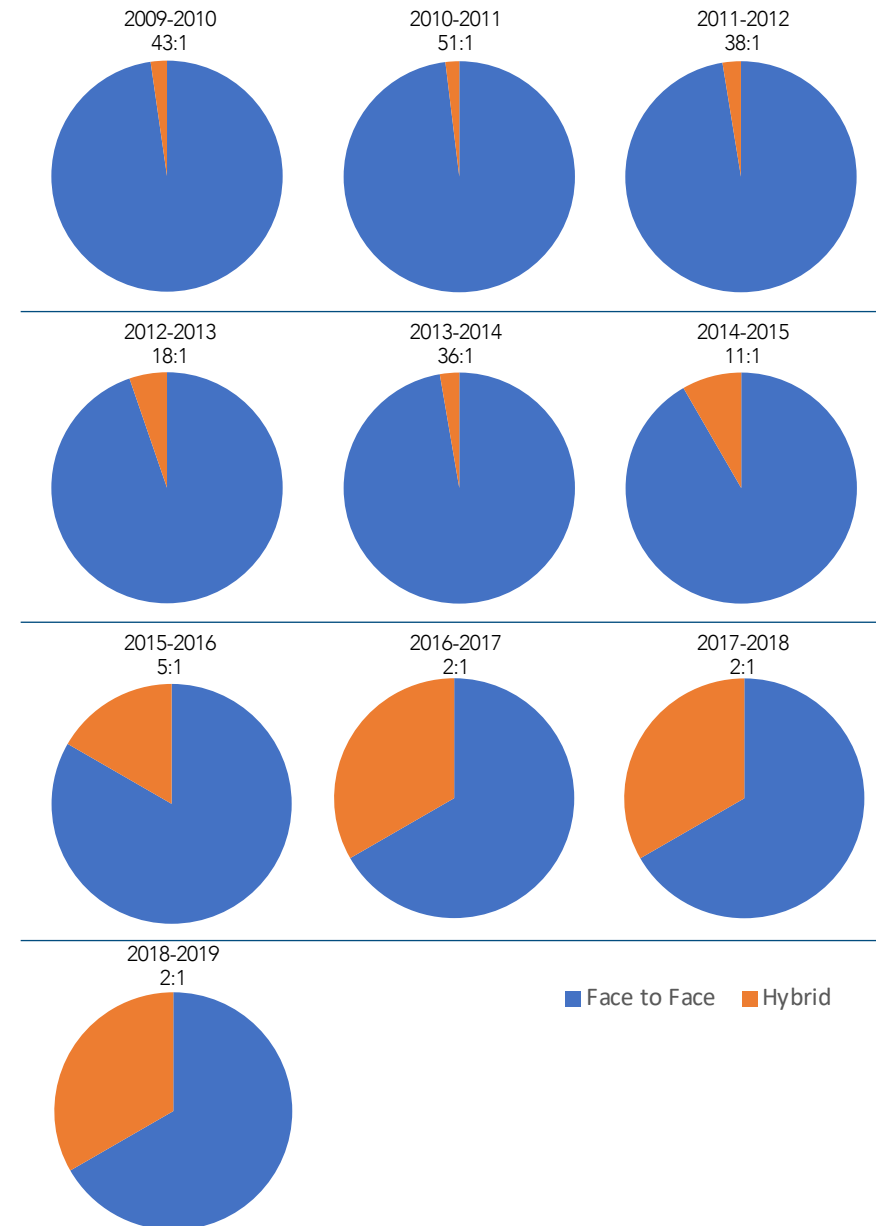
## Headcount by Instructional Method Over Time

As indicated by the Daytona State College Office of Institutional Research in 2019, DSC Deltona campus has experienced an increase in hybrid enrollment (Figure 23). This trend has narrowed the face-to-face/hybrid ratios, particularly over the past 5 years, suggesting that online course offerings and enrollment among DSC Deltona students has increased.

per FTE in 2016/2017. Averaged over the past 8 years, DSC Deltona's ratio is calculated at 3.82 students per FTE.

Developing and monitoring an enrollment plan to decrease the headcount to FTE ratio at DSC Deltona campus is a recommended action to enhance resource stewardship.

Figure 24  
DSC Deltona Headcount by Instructional Method Ratios<sup>13</sup>



<sup>9</sup>Meinzer, Chris: *Maximizing the Margin: The Impact of Headcount and Full-Time Enrollments on Institutional Resources*, accessed 2019.

<sup>10</sup>Derived from FCS 2019 Fact Book, provided by FLDOE Department of Research and Analytics, 2019.

<sup>11</sup>Data by DSC Office of Institutional Research, *Annual\_Headcount\_by\_Campus.pdf*; *Annual\_FTE\_History.pdf*, accessed 2019.

<sup>12</sup>Data by DSC Office of Institutional Research, *Annual\_Headcount\_by\_Campus.pdf*; *Annual\_FTE\_by\_Campus.pdf*, accessed 2019.

<sup>13</sup>Data provided by DSC Office of Institutional Research, 2019.

---

## Utilization Analysis<sup>14</sup>

### *Existing Asset Utilization Analysis*

Using current information, classrooms are categorized into 4 groups for comparison and analysis purposes. As indicated by the Percentage of Seats by Class Type analysis (Fig. 25), a preliminary process of data evaluation revealed that classrooms of the 11-20 seat category are utilized the most, but are among the fewest in existence on the DSC Deltona Campus. It should be noted that despite the highest utilization, there is still considerable seating capacity available for classrooms of the 11-20 seat category during the defined week.

### *Course Schedule Analysis*

Weekly Room Utilization (Fig. 26) uses the same categorization as the classroom sizes. Taking into account all classroom size categories, it became evident through the preliminary analysis that classrooms in the 11-20 seat category are also utilized the most, in terms of hours, throughout the defined week. For the purposes of this analysis, it is estimated there are a total possible 75 schedule hours per week (15 periods, 5 days a week).

Figure 27 indicates that the majority of existing classrooms fall within the 31-40 seat capacity category, while enrolled classes sized 31-40 demand just over 4% of course scheduling (Fig. 28). Further, classrooms sized with 40+ seat capacity represent nearly 30% of all existing classrooms, yet classes with 40+ enrollment represent just over 1% of all class size categories. Further examination of class size and scheduling should be conducted to optimize use of underutilized classroom spaces.

<sup>14</sup>This analysis operates on several assumptions due to inadequacies:

*Additional data is needed regarding any classes scheduled in Building 97 and Building 1 Room 107; no stations are shown for these on the facility schedule. There are a number of courses scheduled for schools of Nursing, Adult Education and Psychology that have enrollments over the actual facility class size limit. More information is needed regarding these programs. For the purposes of this analysis, these enrollments were assumed as true class size and categorized accordingly- clarification is needed.*

*Class schedule and existing asset data provided by DSC Facilities Planning + Operations and Office of Institutional Research.*

Figure 25

Percentage of Seats Utilized by Class Type (DSC Deltona Campus)

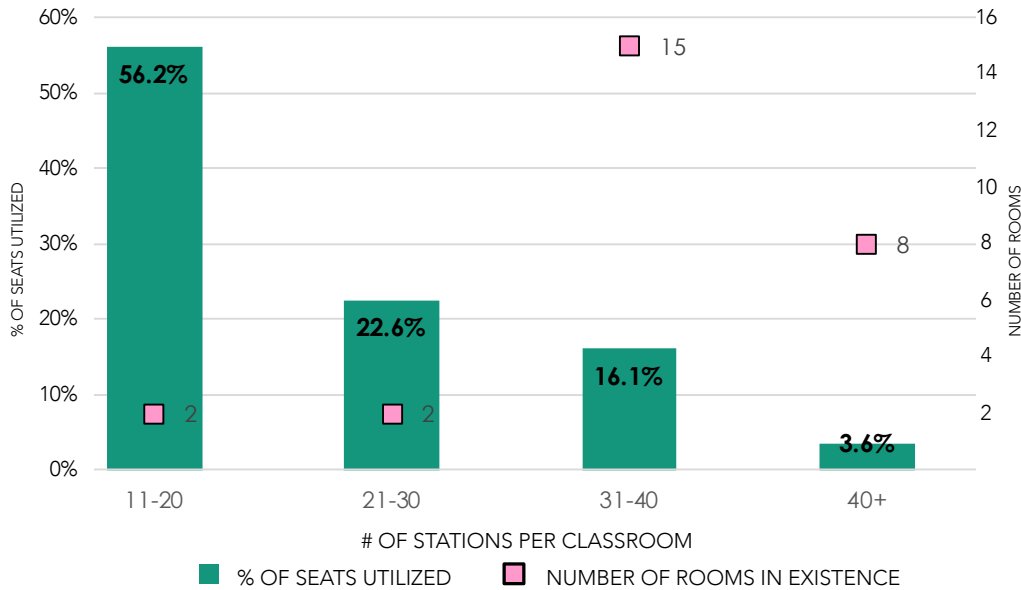


Figure 26

Weekly Room Utilization (DSC Deltona Campus)

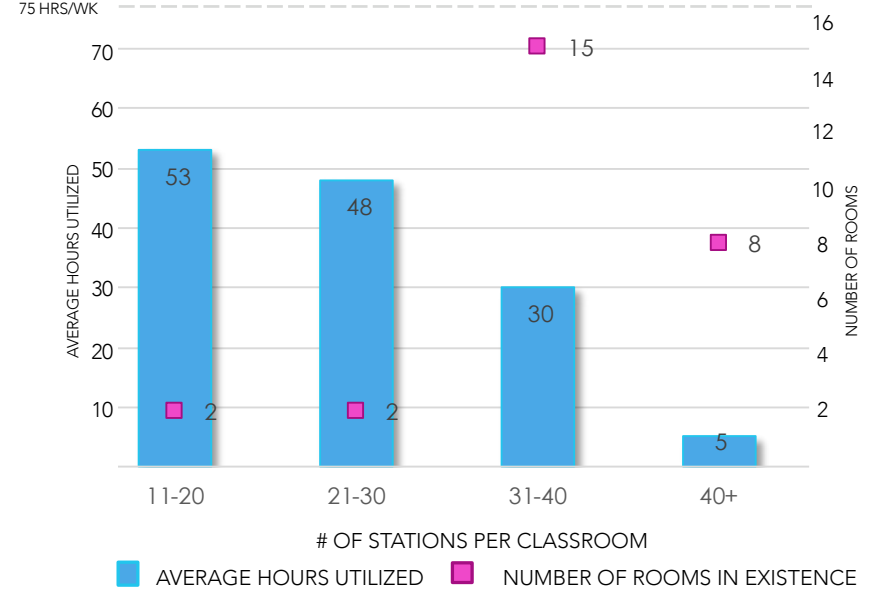


Figure 27

Classroom Capacity Distribution (DSC Deltona Campus)

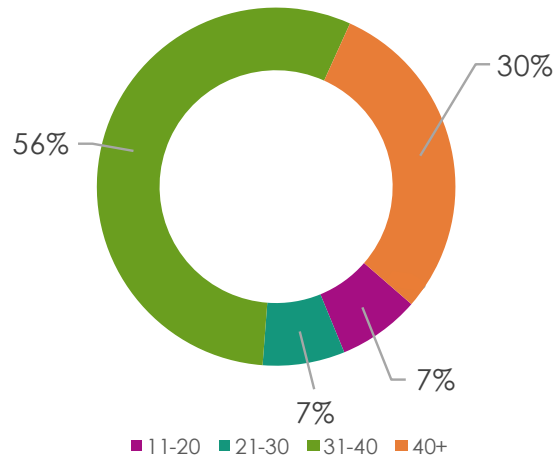
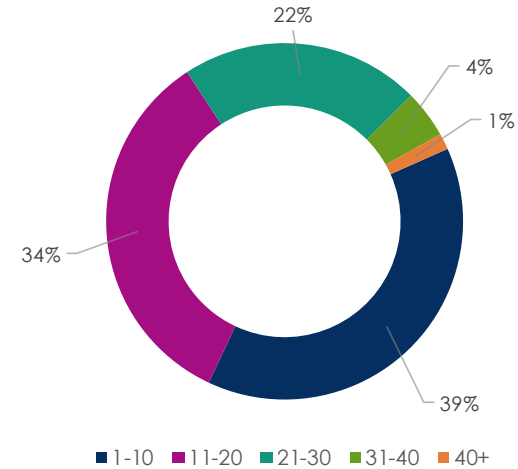


Figure 28

Class Enrollment Size Distribution (DSC Deltona Campus)





# Analysis and Campus Findings | 03

# Analysis and Campus Findings

---

The existing conditions information and campus data were integrated through interviews and a quantitative analysis to derive the Campus Findings. The Campus Master Plan was derived by the integration of a quantitative and qualitative analysis, tempered by developing a conceptual carrying capacity of assets owned by DSC Deltona. It represents a synthesis of relevant information translated into a planning approach that guides the implementation of facility development on the DSC Deltona Campus.

## Interviews and Targeted Discussions

Commencement of the planning effort for the Campus Master Plan entailed gathering key information from interviews and targeted discussions with College faculty, staff, leadership and administration. Information gathered from questionnaires was also conducted. The output of this process resulted in the identification of needs and directives from the Campus community and Leadership.

## Enrollment Growth and Space Needs

An extensive analysis and categorization of existing facilities was conducted to evaluate the current allocation of use and space utilization on the Campus. This information was integrated into a facility space planning model to assist in identifying space needs based on projected enrollments. The data compares two multipliers to clarify space needs in the future: the Campus Facilities Inventory (CFI) produced by the Society of College and University Planners (SCUP) and the multipliers as provided by the SREF Manual (2014). In this section, the facility space planning model analyzes needs in 5-Year and 20-Year (Legacy) comparison to the current Campus condition. All area figures throughout this document assume Net Assignable Square Footage (NASF).

The figures derived from these analyses provide a framework for projecting space needs based on enrollment estimates. **This information should be viewed as a general expression of potential space needs, assuming a 3 percent annual student headcount enrollment growth.** The findings for the Campus Master Plan in the 5-Year and Legacy period are derived from SCUP's CFI and SREF metrics. The findings indicate that facility requirements through 2023, based on enrollment projections and underlying assets, will generate a need for additional classrooms, study space, athletic facilities and special use areas (*see Figures 29 and 30*). **Please note Figures 29 and 30 do not account for future construction.**

Figure 29: 5-Year and Legacy Estimated Space Needs (SCUP CFI)\*\*

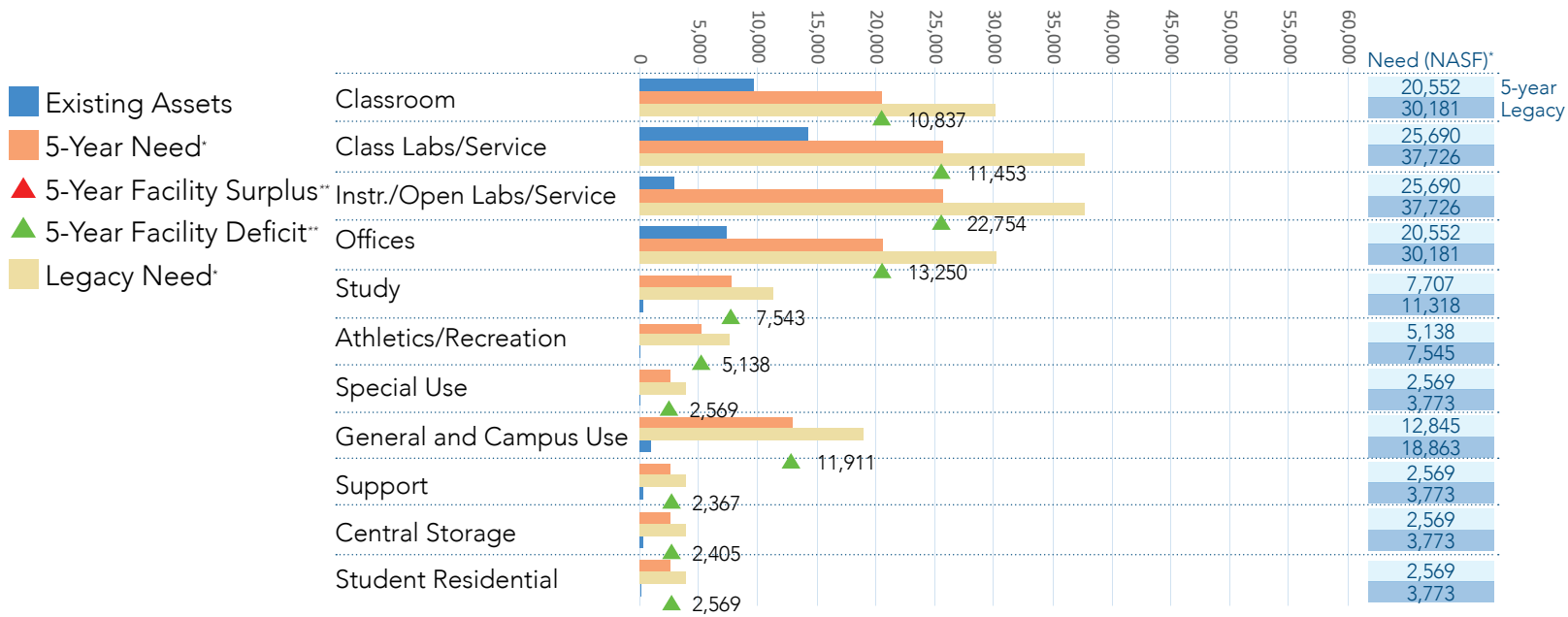
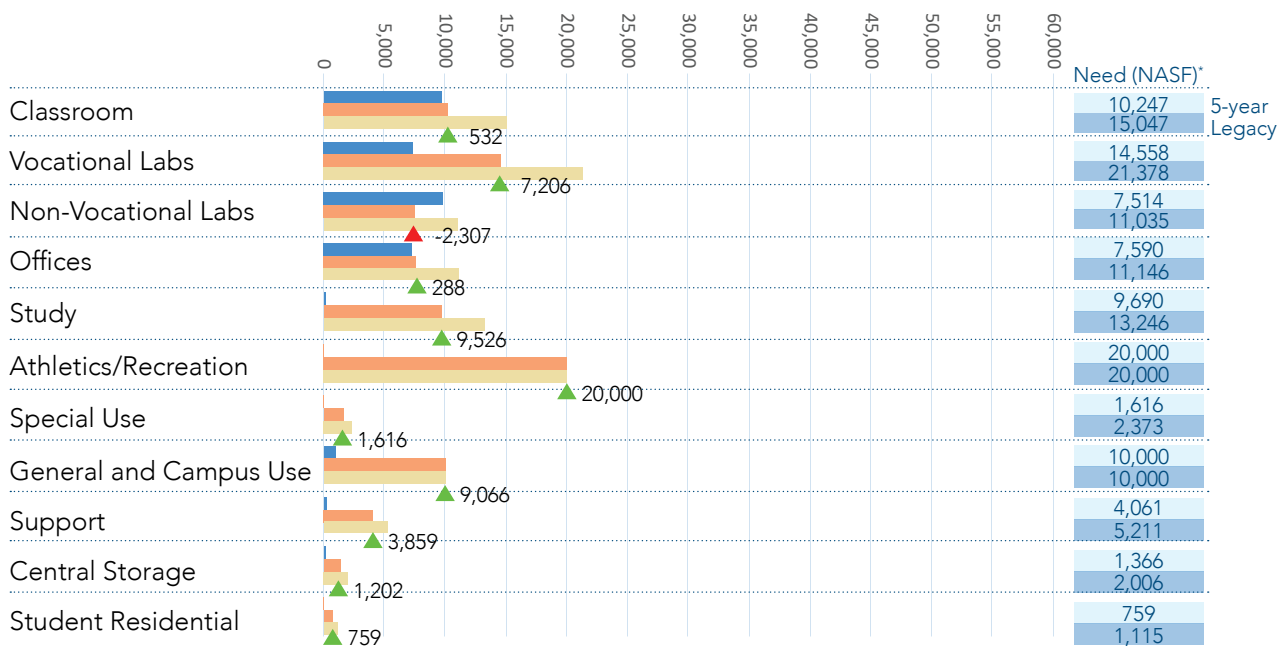


Figure 30: 5-Year and Legacy Estimated Space Needs (SREF)\*\*



\*Space requirements before consideration of existing spaces and future spaces

\*\*Difference as determined in comparison to existing space assets.

\*\*\*Corridor and support spaces not represented.

---

## Facility Needs

A facility needs assessment model was completed to determine the campus improvements required to support student enrollment projections simultaneously as new facilities are phased in. Two models were developed, the first utilizing the SCUP CFI multipliers and the second utilizing SREF standardized requirements. For the purpose of this analysis, SREF is used as a baseline and the SCUP CFI is the top end of the required range.

Although these models provide an understanding of projected facility needs, these figures should be considered preliminary and for use at the master planning level only. Moreover, these assessments are a framework and should be analyzed further with additional detailed building needs assessments and programming information during the building design phase.

### *Existing Asset Utilization*

Existing asset utilization must be considered with examining the potential space needs in 5 years. For example, the results of the SCUP CFI model for class lab space indicate an estimated need of 25,690 NASF in the 5-Year Plan (see Fig. 32). However, with the planned addition of the funded STEM Building (2019) in addition to existing assets, the class lab requirement drops, reducing the need to 1,453 NASF at the 5-year mark.

The analysis under SCUP CFI estimated no space surplus after the construction of the STEM Building in a 5-year window. SREF's estimated space needs (Fig. 33) estimate space surpluses after the construction of the STEM Building, but enrollment growth beyond the 5-year mark would eventually extinguish these surpluses. Based on projected enrollment growth of 3% per year, the vocational laboratory surplus would reduce and convert to a deficit (space need) after 2027, the non-vocational laboratory in 2055, and office in 2029.



Figure 32: 5-Year and Legacy Estimated Space Needs (SCUP CFI)\*\*

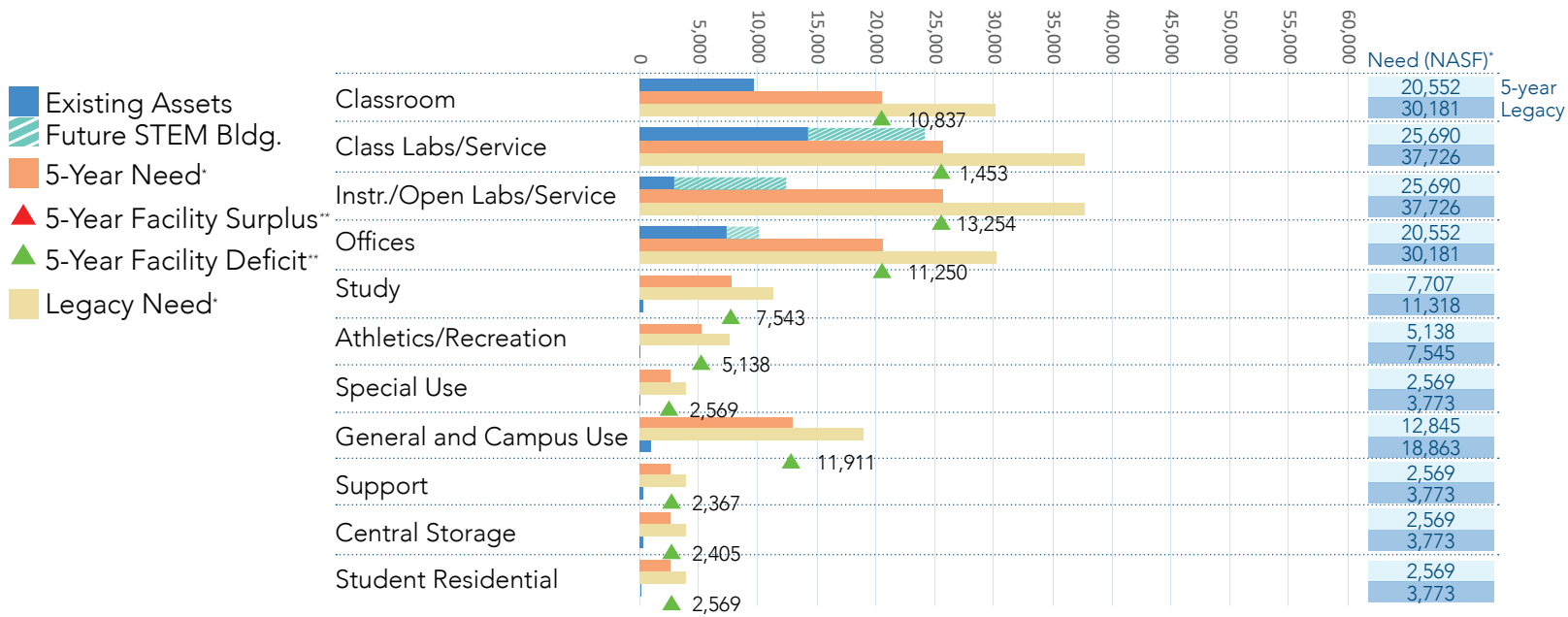
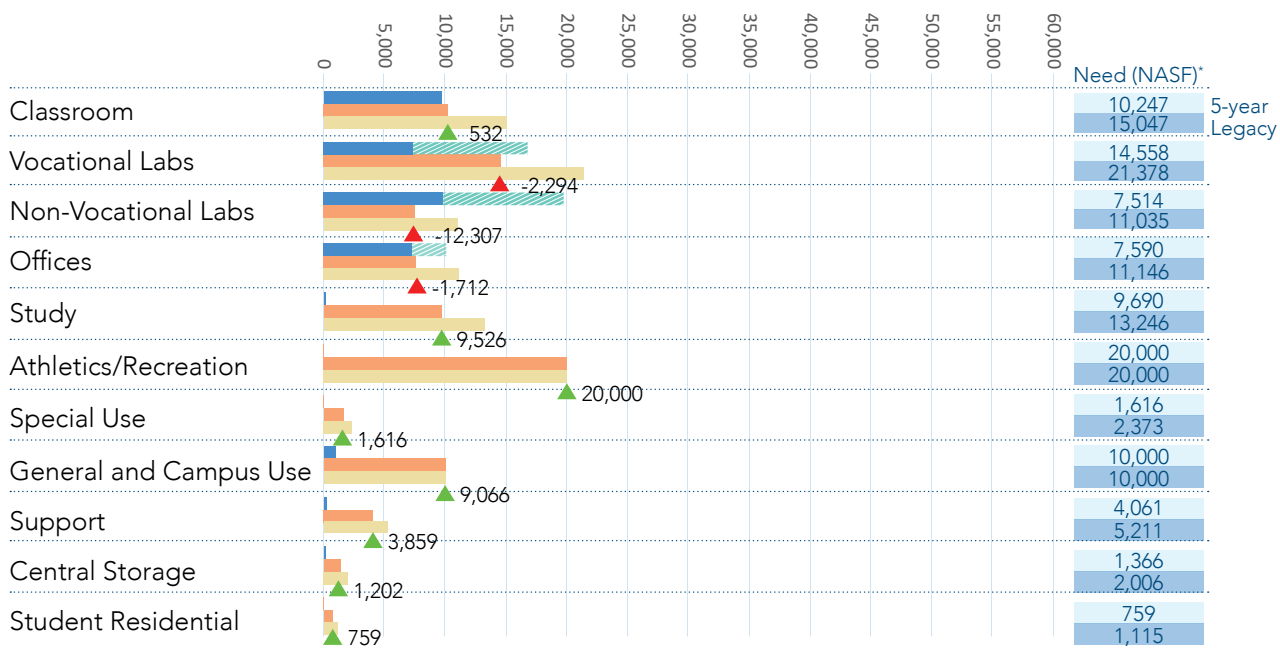


Figure 33: 5-Year and Legacy Estimated Space Needs (SREF)\*\*



\*Space requirements **before** consideration of existing spaces and future spaces

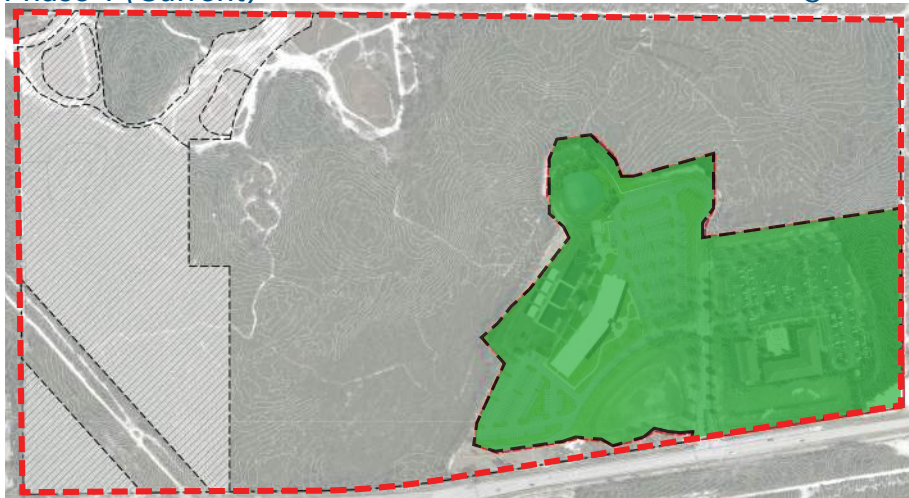
\*\*Difference as determined in comparison to existing space assets.

\*\*\*Corridor and support spaces not represented.

# Scrub Jay Analysis

Phase 1 (Current)

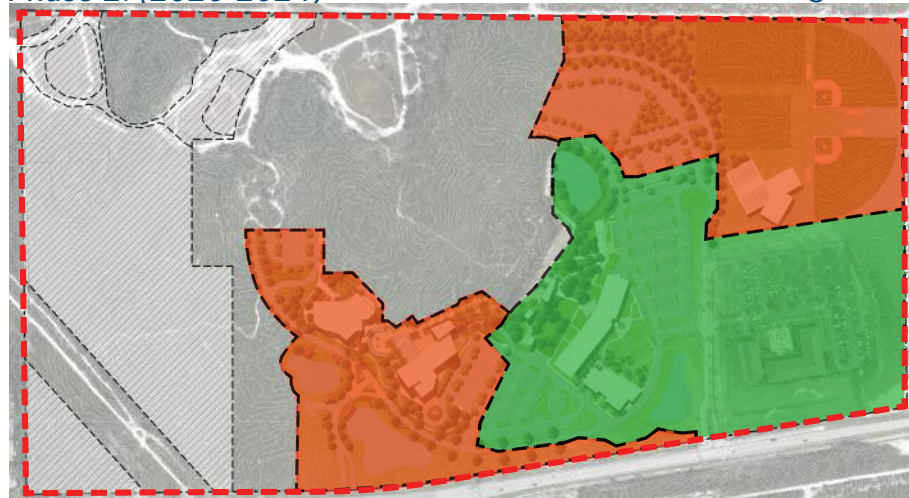
Figure 34



Phase	1				
Developed (acres)	29.3				
Undeveloped (acres)	70.7				
Total	100				

Phase 2: (2020-2024)

Figure 35



Phase	1	2			
Developed (acres)	29.3	56.1			
Undeveloped (acres)	70.7	43.9			
Total	100	100			

## Safe Harbor Agreement: Enrolled Property

Per the current Safe Harbor Agreement and Permit, of the 100 acres of DSC Deltona Campus property, 18.9 acres are to be ultimately dedicated as an upland management area for the Scrub Jay (see Figures 34-38).

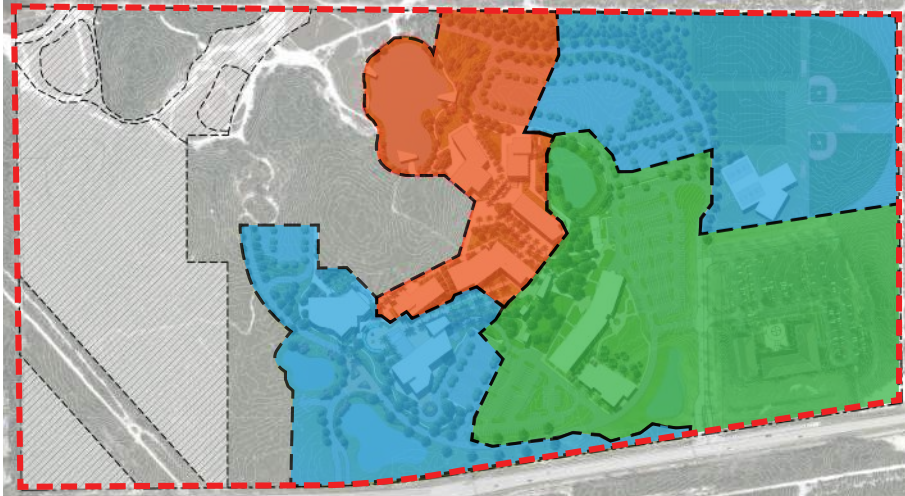
Critical in phasing for area development of the DSC Deltona Master Plan, an in-depth understanding of the current Safe Harbor Agreement as it applies to the Deltona Campus Property was undertaken. This discovery process entailed gathering key information from the Safe Harbor Agreement in place at the time of preparation of the conceptual master plan, pertinent phasing and maintenance details, along with interviews and coordination with College faculty, staff, leadership and administration. The process culminated in the identification of critical timelines and safe harbor maintenance requirements of DSC Deltona as it relates to the enacted preservation requirements of DSC Deltona's subject property.

## Current Master Plan

Figures 34-38 are generally responsive to the Legacy Master Plan for purposes of pairing area requirements by phase to the plan. Each phase contemplates critical planning elements including circulation, service and general grading implications. At the time of this report's preparation the Safe Harbor Agreement and Permit were in the process of modification. Therefore, phasing, as dictated by the Safe Harbor Agreement and Permit, will need to be studied intensively beyond these diagrams to ensure compatibility with the Plan.

Phase 3: (2025-2030)

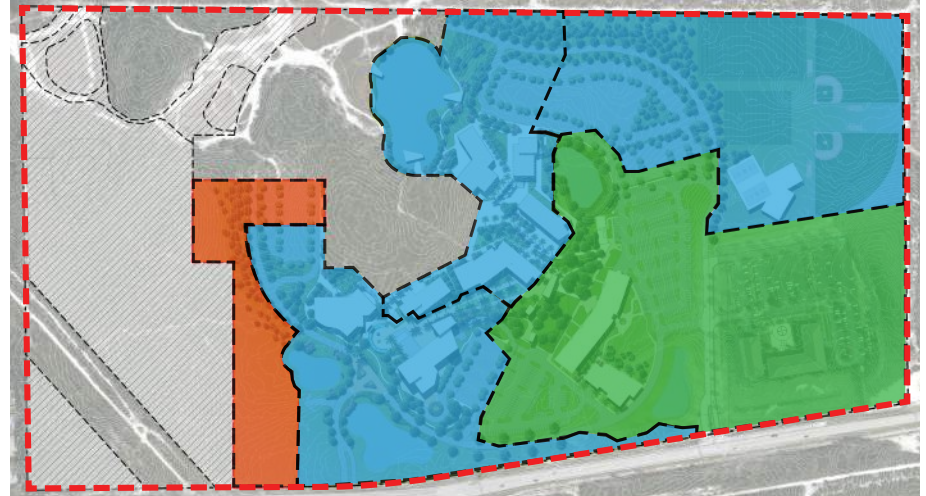
Figure 36



Phase	1	2	3		
Developed (acres)	29.3	56.1	66.1		
Undeveloped (acres)	70.7	43.9	33.9		
Total	100	100	100		

Phase 4: (2031-2035)

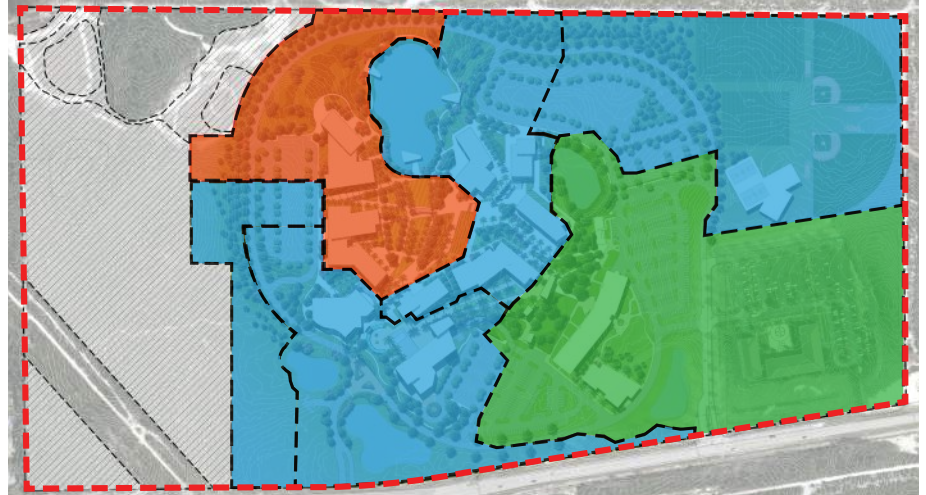
Figure 37



Phase	1	2	3	4	
Developed (acres)	29.3	56.1	66.1	71.1	
Undeveloped (acres)	70.7	43.9	33.9	28.9	
Total	100	100	100	100	

Phase 5: (2036-2040)

Figure 38



Phase	1	2	3	4	5
Developed (acres)	29.3	56.1	66.1	71.1	81.1
Undeveloped (acres)	70.7	43.9	33.9	28.9	18.9
Total	100	100	100	100	100

*The Daytona State College: Deltona Master Plan, as an enduring and actionable approach to facilities growth, must contemplate and align future phasing with the conditions and requirements of Scrub Jay upland management. This is a critical aspect of the Master Plan and should be managed in-step with future development.*

**Legend**

- EXISTING DEVELOPMENT
- CURRENT PHASE
- PREVIOUS PHASE
- FUTURE UPLAND PRESERVATION

# Strategic Plan Calibration

## Going for the Gold

The Daytona State College Strategic Master Plan **Going for the Gold** is the College's current Strategic Plan for the 2017-2020 period. This plan will facilitate the focus and growth of the DSC system as a whole and align its progress with the prescribed Mission Statement, Vision, Values, and Strategic Priorities and Initiatives. The goal of the Strategic Plan is to attain Gold Status in the Florida College system by advancing retention, promote completion and job placement.

### Process

To administer the intent of the Strategic Plan, Daytona State College has formulated a multi-step process for application of the Plan. This process involves the four main Strategic Priorities and their Initiatives. These initiatives are then followed by specific strategies and examples that drive their application and implementation.

### DSC Deltona Campus

This purpose of this section is to indicate how, through design intervention and programming, the DSC Deltona Campus Current Phase and 5-Year Master Plans align with the **Going for the Gold** Strategic Plan. The following page specifically classifies planned elements of the Current Phase and 5-Year Plans and how they correlate to the greater vision of the Daytona State College System. The most applicable Strategic Initiatives as prescribed under the four Strategic Priorities are shown in the table and linked to Deltona's physical plan elements that seek to achieve them.

## Mission Statement

*Daytona State College, a comprehensive public college, provides access to a range of flexible programs, from community enrichment to the baccalaureate degree, emphasizing student success, embracing excellence and diversity, as well as fostering innovation to enhance teaching and learning.*

## Vision

*Daytona State College is the premier source for education and training to facilitate individual advancement and economic development in Volusia and Flagler counties.*

## Strategic Priorities

*To fulfill its vision, carry out its mission and live its values, Daytona State College has established the following strategic priorities and initiatives as the foundation for its future:*

01 | **Ensure Academic Excellence**

02 | **Enhance Student Success**

03 | **Build Community Partnerships**

04 | **Emphasize Institutional Effectiveness**

## DSC Deltona and the Strategic Plan

The below table summarizes planning actions which support the Strategic Plan at DSC Deltona. Selected Strategic Priorities and their supporting Strategic Initiatives are followed by **planning actions as provided in the DSC Deltona Current Phase and 5-Year Master Plans**. These actions serve as examples of the many Deltona planning actions which enforce the strategic plan.

**Attain Gold Status in the Florida College System by advancing retention, completion and job placement**

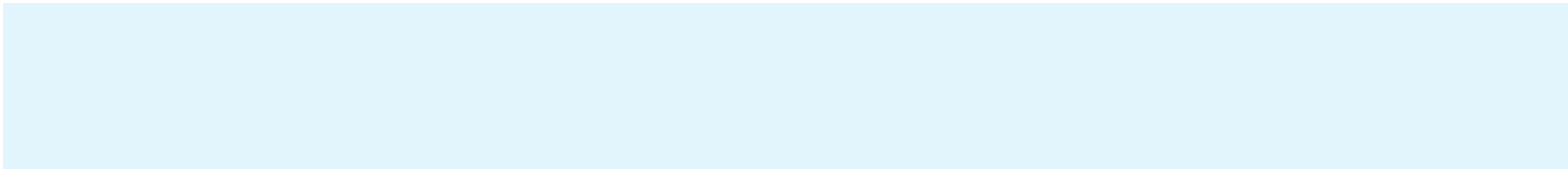
Strategic Priorities	Strategic Initiatives	Deltona Planning Action
<b>01   Ensure Academic Excellence</b>	<p><b>Initiative:</b> Establish clear, learning-based pathways that link coursework to a range of credentials and careers</p> <hr/> <p><b>Strategy:</b> Align academic program options with the economic development of the region</p>	<p><b>Identification</b> of local industry workforce needs (Advent Health, UF Health, Halifax Health, pgs. 16-17) and <b>correlated programming</b> of enhanced classroom, laboratory, technological and student resources as programmed in the upcoming STEM building</p>
<b>02   Enhance Student Success</b>	<p><b>Initiative:</b> Track Students along their pathway in real time and identify any problems they face in meeting their learning goals</p> <hr/> <p><b>Strategy:</b> Expand resources, support services and practices that help students stay on track</p>	<p><b>Co-location</b> of new STEM academic and lab spaces with the Fathi Hall Academic Support Center (ASC), <b>diversification</b> of indoor and outdoor study and lounge spaces encouraging students to stay on-site and leverage use of the ASC</p>
<b>03   Build Community Partnerships</b>	<p><b>Initiative:</b> Develop partnerships that expand and strengthen educational pathways for our students</p> <hr/> <p><b>Strategy:</b> Expand programs and activities that engage K-12 students, teachers and staff in promoting or preparing for higher ed.</p>	<p><b>Improvement</b> of campus environment with an orientation towards outreach and the community, <b>articulation</b> of course offerings to coincide with relevant local and regional industries, enabling industry relationships and compatibility with transfer institutions</p>
<b>04   Emphasize Institutional Effectiveness</b>	<p><b>Initiative:</b> Provide a learning and working environment that supports the student success agenda of the college</p> <hr/> <p><b>Strategy:</b> Provide facilities and buildings that are efficient, attractive and safe</p>	<p>The new STEM academic could provide scaled-up classroom technology and will establish a new face of the Deltona Campus. The building is sited with proximity to the Fathi Hall ASC with student success and resource accessibility in mind</p>

# Campus Findings Summary and Conceptual Master Plan

## Campus Master Plan Goal:

*The Daytona State College: Deltona Campus Master Plan shall be an enduring and actionable approach to facilities growth that positions the College as the regional destination for higher education. The Campus Master Plan Goal is supported by 5 objectives:*

Objective 1:	Objective 2:	Objective 3:
<p>Ensure that the quality, integrity, innovation and achievement offered at Daytona State College is visible and attainable.</p>	<p>Enhance elements of the student experience.</p>	<p>Incorporate measures that support campus safety needs.</p>
<p><b>Strategy 1.1</b> Implement a strategy to enhance the frontage along Providence Boulevard</p> <p><b>Strategy 1.2</b> Explore opportunities with public/private partnerships to position the campus as a destination in Deltona</p> <p><b>Strategy 1.3</b> Program, design and implement improvements that coalesce with local business offerings, the community's demographics and future economic development vision</p> <p><b>Strategy 1.4</b> Carefully analyze, strategically assess and incorporate offerings that consider competition within the Daytona State College system and other relevant institutions</p> <p><b>Strategy 1.5</b> Consider orienting the campus in way that emphasizes the Daytona State College brand</p>	<p><b>Strategy 2.1</b> Incorporate smart and sustainable technologies throughout the campus</p> <p><b>Strategy 2.2</b> Incorporate services that will support students being on campus as long as possible</p> <p><b>Strategy 2.3</b> Incorporate new academic and support facilities that meet the needs expressed by students, leadership, staff and faculty</p>	<p><b>Strategy 3.1</b> Create a safe and sustainable approach to traffic</p> <p><b>Strategy 3.2</b> Minimize vehicle and pedestrian conflicts</p> <p><b>Strategy 3.3</b> Develop and identify measures related to the synergies of campus maintenance and safety</p> <p><b>Strategy 3.4</b> Orient buildings, access/egress locations and open space to support a secure campus</p>



### Objective 4:

Incorporate short and long-term measures for successful and efficient implementation of new assets

#### Strategy 4.1

Align campus growth with efficient implementation of stormwater facilities, utilities and circulation networks

#### Strategy 4.2

Utilize existing topography to promote efficiencies in growth, access and viewsheds

#### Strategy 4.3

Incorporate advanced technologies in infrastructure and design to provide enhanced efficiencies

### Objective 5:

From a facilities standpoint, align the State of Florida's Performance Funding Measures with Daytona State College's Strategic Plan.

#### Strategy 5.1

Accommodate flexible facilities that equip students for placement in the workforce

#### Strategy 5.2

Target outdated facilities (portables) for enhancement, modification or removal if inefficient, outdated or lack the configuration to support student success, retention or completion.

#### Strategy 5.3

Emphasize the implementation, expansion and/or modification of facilities to support programs that all graduates attain increased wages.

The following section summarizes the Campus Findings and correlates the results with the Conceptual Master Plan diagrams. Aligning all of the previous information derived during the Master Planning process resulted in the Campus Findings and the creation of the Conceptual Master Plan Mission, Goal, Objectives and Strategies. The Campus Findings informed by the Existing Conditions Data created the Master Plan Diagram.





# Campus Master Plan | 04

# Current Phase Campus Master Plan

## General Summary

The Current Phase Master Plan (Fig. 40) proposes a new 30,500 square foot STEM Building, in addition to an array of site and infrastructure improvements. Boasting proximity to Fathi Hall, this new academic building aims to create additional space opportunities for students, faculty and staff, while bolstering a safe and walkable campus environment. This phase will create a renewed look of the DSC Deltona campus and command attention along Providence Boulevard.

## STEM Building

Perhaps the most significant aspect of the new STEM Building will be its commanding positioning along the existing Campus entrance road and Providence Boulevard. Planned at 30,500 s.f., the structure will be multi-storied and provide new classroom, vocational laboratory and office spaces, in addition to various support uses.

## General Campus Environment

The central theme to the Current Phase Campus Master Plan is the focus on the expansion of academic, office, and laboratory spaces. offerings. The expansion aims to cluster buildings to promote the delineation of outdoor green spaces, including a campus quadrangle, and unify the developing Campus node. Vehicular and pedestrian linkages between the two structures are direct, and the siting of the new STEM building takes advantage of existing parking and topography, allowing for the structure to establish its presence along Providence Boulevard. The creation of outdoor spaces and prominent architecture will enable further establishment of a unique campus identity.

## Stormwater and Utilities

An existing stormwater detention pond to the southwest of Fathi Hall will be modified with the addition of the STEM building. To compensate for the loss in capacity and to provide storage for new building, parking, and other impervious surfaces, the existing detention pond to the east of Fathi Hall will be expanded in this phase. Existing utility adjustments may include the rerouting and extension of the existing potable and chilled water lines, an extension of sanitary sewer, and an extension of the stormwater drain network. Electricity, communications, and gas utilities will also require reassessment.

## Parking and Circulation

The Current Phase Master Plan includes the expansion of parking and the targeted revision of a segment of existing campus road. The existing roadway connection between parking lots A and B is envisioned to realign along a curve further southwest to accommodate the siting of the new STEM building. To the east, an expansion of parking provides an additional 92 spaces (Fig. 39), ensuring capacity for the new STEM building and the forecasted growth of the student, faculty, and staff populations. As previously mentioned, is important to note that existing parking adequately absorbs the highest influx of students on site (326 students on Tuesdays from 12pm to 1pm; see Figures 9 and 10 on pages 26 and 27).

Figure 39: Current Phase Parking Model (SREF)

	Current					Current Phase Master Plan				
	Users *					Users **				
Face to Face\Hybrid Enrollment	343					353				
Faculty	3					6				
Adjuncts\Non-Faculty\Total	5	20	25	10	40	50				
<b>Total Non-Student Staff</b>	<b>28</b>					<b>56</b>				
Parking Use (spaces:user)	Parking Req.	Ex. cond.	Parking Loss/Add	Adjusted Total	Need / Surplus	SREF Req.	Ex. cond.	Parking Loss/Add	Adjusted Total	Need / Surplus
Faculty/Employee/Contractor (1:1)	28	—	—	—	—	56	—	—	—	—
Student Parking Required (1:2)	172	—	—	—	—	177	—	—	—	—
Visitor Parking Assumption (1:20)	9	—	—	—	—	9	—	—	—	—
<b>Total Required/Existing/ Estimated Need</b>	208	349	—	349	-141	241	349	92	441	-200

\*Provided by DSC Deltona staff

\*\*Assumes 3% annual enrollment growth; faculty/staff doubled to accommodate new academic building

Figure 40  
**Current Phase Master Plan**



# 5-Year Campus Master Plan

## General Summary

The 5-Year Campus Master Plan (2018-2023, Fig. 42) significantly changes the student experiences at DSC Deltona. The plan calls for a renewed vision along Providence Boulevard with a new iconic building, landscape improvements, and wayfinding. The new facility is envisioned to provide an array of functional uses, and increases DSC Deltona’s visibility to the community. The 5-Year Campus Master Plan also includes a new athletics district starting with a fitness center and ballfield complex located to the southeast of the campus core. Further partnership and coordination with the City of Deltona is needed to bring this portion of the plan to fruition. Overall, the next five years at the DSC Deltona Campus will be a promising evolution in the eyes of campus life and the community.

## Student Life/Multi-Use Building

Envisioned as a concentrated resource for student life and academic achievement, the 5-Year Plan’s flagship building will redefine the face and arrival sequence of the DSC Deltona Campus. Anchoring a revised main campus arrival branching off of the Eustace Ave. and Providence Boulevard intersection, the new Student Life Building will provide a window into the identity of the campus and establish a starting point for wayfinding.

## General Campus Environment

The central theme to the 5-Year Campus Master Plan is a continued emphasis on expanding campus offerings, including student academic success resources, food service, and classroom/laboratory spaces as necessary. It should be noted that further examination of spatial requirements will be required in the building

programming process. As with the Current Phase Master Plan, the 5-Year Master Plan pursues further delineation of outdoor green spaces, the most notable of which is the Student Life/Multi-Use building landscape architecture, which provides outdoor plazas, green spaces, a central feature which doubles as a signage and wayfinding opportunity. Existing topography was very informative in locating this improvement.

## Stormwater

A new stormwater detention facility is proposed at the new arrival. This facility will provide storage for the Student Life/Multi-Use building and associated impervious surfaces.

## Parking

The 5-year Master Plan includes the expansion of parking lot B (75 new spaces, Fig. 41) and the expansion of the existing campus road, connecting the the new primary campus entry road. It should be noted that the creation of the new primary campus entry may require security monitoring and regulatory features, such as gated entries.

Figure 41: 5-Year Master Plan Parking Model (SREF)

	Current					Current Phase Master Plan					5-Year Master Plan				
	Users *					Users **					Users **				
Face to Face/Hybrid Enrollment	343					353					398				
Faculty	3					6					12				
Adjuncts\Non-Faculty\Total	5	20		25		10	40		50		20	80		100	
<b>Total Non-Student Staff</b>	<b>28</b>					<b>56</b>					<b>112</b>				
Parking Use (spaces:user)	Parking Req.	Ex. cond.	Parking Loss/Add	Adjusted Total	Need / Surplus	SREF Req.	Ex. cond.	Parking Loss/Add	Adjusted Total	Need / Surplus	SREF Req.	Ex. cond.	Parking Loss/Add	Adjusted Total	Need / Surplus
Faculty/Employee/Contractor (1:1)	28	–	–	–	–	56	–	–	–	–	112	–	–	–	–
Student Parking Required (1:2)	172	–	–	–	–	177	–	–	–	–	199	–	–	–	–
Visitor Parking Assumption (1:20)	9	–	–	–	–	9	–	–	–	–	10	–	–	–	–
<b>Total Required/Existing/Estimated Need</b>	208	349	–	349	<b>-141</b>	241	349	92	441	<b>-200</b>	321	441	<b>75</b>	516	<b>-195</b>

\*Provided by DSC Deltona staff

\*\*Assumes 3% annual enrollment growth; faculty/staff doubled to accomodate new academic building

Figure 42  
5-Year Campus Master Plan



# Legacy Master Plan

## General Summary

The DSC Deltona Campus Legacy Master Plan (Fig. 43) is envisioned as a lasting, high-performance education center servicing Volusia County, the greater region, the State of Florida and beyond.

The Plan is a culmination of targeted discussions with Daytona State College Leadership and subsequently established Goal and Objectives, Campus Findings through data research and analysis, all synthesized with physical and jurisdictional opportunities and constraints of the 100 acre parcel. This iterative process developed a Plan which seeks to capitalize on available land resources and to strategically phase development in an efficient and holistic manner.

Driven by a number of physical factors, the undeveloped areas of the property provided an array of opportunities and constraints from a design perspective. Varying topography, rolling slopes and environmental conservation boundaries were all deeply contemplated in the physical layout and phasing of the plan. The size of the proposed program was envisioned as a long-term engine to optimize use of DSC Deltona's land assets, the maximum buildout of which was based primarily on site constraints, a maximum building height of four stories, vehicular requirements and pedestrian spaces. Particular attention to scale, massing and building distribution is something that works well with environment and context and remains a hallmark of the plan.

The Plan is configured to align with the environment and natural topography. Another primary aspect addresses climate. Generous plazas and park spaces, tree cover and covered walkways hold relevant proximities to architectural improvements. All of these planning and design measures are meant to align with student life and experience. This, coupled with microclimate design, ultimately pursues the goal of creating a world-class campus environment.

### *The Campus Loop Road*

The creation of an internal Campus Loop Road is expressed in the 20-Year Campus Master Plan. The Campus Loop Road is articulated with a preferred access connection beginning at the future entry at the intersection of Eustace Avenue. and Providence Boulevard. Implementation of the 5-Year Plan building at this location will reinforce this as a primary entrance to campus and highlight the loop road system. Primary entry and loop road improvements should incorporate signage, wayfinding, landscaping and specialty pedestrian treatments.

## The Campus Master Plan

The aspirations of the 20-Year Campus Master Plan embrace the ideals developed throughout the planning process while integrating a long-term vision. The primary function of the 20-Year Plan is to identify projects that further the needs and goals of DSC Deltona Campus by targeting areas for development and to ensure current needs are coordinated with this future vision. The 20-Year Campus Master Plan is diagrammatic and a conceptual space-planning model for use in long-term facility programming and development, fully acknowledging current and future environmental, jurisdictional, and conservation constraints.

### *Central Theme*

Continuing with the Campus Master Plan Goal and Objectives, a greener and more compact regional destination of higher education is exemplified in the 20-Year Campus Master Plan. An enhanced architectural icon along Providence Boulevard linked to the Campus core to the north through extensive pedestrian greenspaces is the central theme of the 20-Year Campus Master Plan.

Consideration for enhanced quadrangles with new pedestrian spaces, landscapes, seating and features is at the center of this plan. Negative space created by buildings, in concert with topography, define sight lines, outdoor spaces, and promote a safe, active, and connected campus identity.

Figure 43  
**Legacy Master Plan**



# Considerations and Conclusions

---

## Development Rights

As stated above, a thorough exploration of the existing Scrub Jay Safe Harbor Agreement and Permit must be undertaken to align Master Plan phasing for future development. Maintenance requirements, area requirements and limitations by phase along with timelines should be considered in each planning measure. This is a critical aspect of the Master Plan and should be managed with DSC Leadership and applicable State and Federal agencies.

## Enrollment Trends

Enrollment trend analysis over the past decade for both the entire Daytona State College system and the Deltona Campus, respectively, suggests a trending decline in overall DSC face-to-face enrollment, and a general upswing in online and hybrid student enrollment (pgs. 34-37).

DSC Deltona's Student/FTE ratio (4.14 average students per FTE in 2017-2018) is higher than the Daytona State College system average and the Florida State College Comparative Campus average (pg. 36). It is noted that the larger the ratio, the higher the chance of built resource inefficiencies.

## Carrying Capacity (Students)

Detailed enrollment and space programming analyses indicates that DSC Deltona's Legacy Campus Master plan would require an average enrollment increase to 12% per year, in the following 20 years, to achieve the student base needed to generate a building program of over 400,000 GSF as currently programmed in the 20-Year (Legacy) Master Plan. This outcome assumes a continued ratio of DSC Deltona's existing GSF-to-student ratio of 22.3 gsf/student, which would require a projected enrolled headcount of over 17,000 students by Fall 2037.

## Academic Technologies and Efficiencies

- Maintain a keen sense of the most current methods of interfacing with students from an academic, student life, and continuing education perspective;
- Efficiencies: Being judicious with resources in regards to brick and mortar facilities;
- Strategically monitor utilization of classrooms and scheduling to optimize current and planned spaces;
- Student interface in the classroom: continuously research and deploy new methods (such as SCALE-UP) to produce better student outcomes while maximizing stewardship of resources;
- Leverage continuing education requirements of key professions (certifications, licensure, professional registrations that align with DSC Deltona target industries, for example);
- Technology in the classroom (technology to improve test scores)



---

## Competition and Regional Support

- Based on processes associated with this Master Plan, we have concluded that it may be prudent that an analysis of Daytona State College’s competitive position should be developed in the future. This process would allow for strategically positioning offerings among peers.
- Continue to perform economic development analyses for the region ensuring delivery of coursework that supports local/regional business. This, combined with monitoring competition, will allow for an enhanced academic profile and offerings, allowing enrollment to grow. As an example, supporting the growth in healthcare in the region. Below is a list indicating potential examples of growth areas in businesses. We feel that correlating offerings to these enterprises can enhance DSC Deltona’s position:
  - \* Healthcare (Halifax Hospital);
  - \* Mechatronics (continued automation of various industries indicated by discussions with Campus and City Leadership);
  - \* Construction and Building Sciences: Central Florida is growing and continues to develop a demand for skilled trades;
  - \* Financial Technology (“Fintech”) sector academies (Industry / State College partnerships)

## Asset Optimization

### *Programmed Space*

- In looking closely at current utilizations of classroom space assets at the DSC Deltona Campus (see pages 38-39), we recommend further optimization of course scheduling and headcounts. The goal of this is to maximize use of existing classroom stations, and to utilize as many available classroom hours as possible.
- Prior to the construction of the STEM Building (Current Phase Master Plan), there is an estimated need for additional classroom, laboratory, and office spaces, among other types. The STEM building program construction creates a potential surplus of laboratory and office spaces. An increased enrollment rate and balance of enrollment type is recommended to maximize utility of existing and planned spaces.

### *Parking*

- While SREF states that DSC Deltona has a surplus of parking (pgs. 24-25), it is important to note that this is primarily a commuter campus. Actual utility of parking spaces and alternate modes of transportation should be monitored to further inform planning.



# Appendix | 05

# Current Phase Campus Master Plan Utilities

---

## Conceptual Utilities

### *Potable Water*

The proposed STEM building addition will require re-routing the existing 8" water main around the new building and service connections for potable and fire (sprinkler). A new fire hydrant will also be required to be installed near the building.

### *Sanitary Sewer*

Sanitary service for the proposed STEM building will be added and tied directly into the existing lift station adjacent to Fathi Hall. Note that the existing lift station will possibly require some modifications/improvements to accommodate the additional flows. If the existing lift station and forcemain are not adequate or are at capacity, another option is to provide the proposed STEM building with its own private lift station that will directly connect to the existing 10" forcemain along Providence Boulevard.

## Current Phase Master Plan Conceptual Utility Diagram

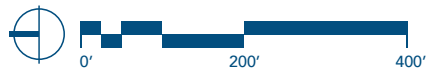
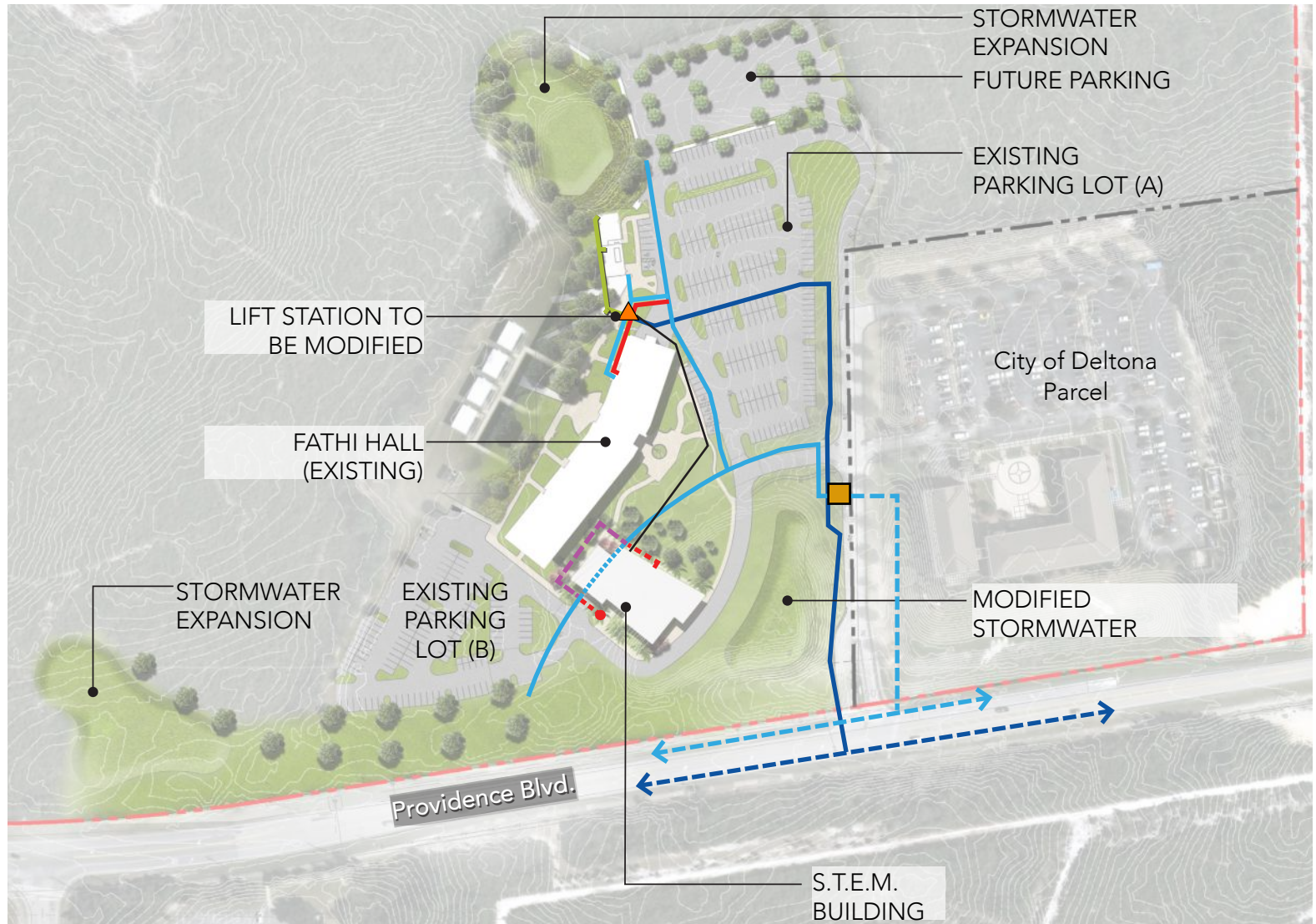
### Legend

Existing

- POTABLE WATER
- - - OFFSITE POTABLE WATER
- FIRE LINE
- WATER METER LOCATION
- SANITARY FORCE MAIN
- - - OFFSITE SANITARY FORCE MAIN
- SANITARY GRAVITY
- ▲ SANITARY LIFT STATION

Proposed

- - - POTABLE WATER MAIN REROUTE
- - - POTABLE WATER MAIN TO BE REMOVED
- - - NEW FIRE LINE
- FIRE HYDRANT
- NEW SANITARY FORCE MAIN



# Current Phase Campus Master Plan Utilities

---

## Conceptual Utilities

### *Stormwater Management - Current Phase Expansion Proposed Design*





For the initial expansion, the main stormwater pond on the southwest of the campus will be affected by the proposed STEM building. This addition will fill approximately half of the pond and will reduce its capacity (volume). Currently, all of the storm runoff from existing parking lot B and most of lot A drain towards this pond. Runoff from the rear swale for the modular buildings also ultimately discharge stormwater into this pond. The back 1/3 area of lot A discharges to the smaller eastern dry pond. The Current Phase master plan proposes expanding the smaller pond to the northeast and adding parking to lot A.

Since the main pond's capacity will be reduced, it will not handle the volume of stormwater currently discharging to it. The addition of the third pond to the north of existing lot B will accommodate the volume lost on the main pond, and pipe will be added to connect the two. The rear pond will have to be expanded to accommodate runoff volume from the new parking lot area.




## Current Phase Master Plan Conceptual Stormwater Diagram

### Legend

#### Existing

-  SWALE COLLECTOR
-  STORMWATER PIPE
-  ROOF DRAIN SYSTEM
-  DRY POND

#### Proposed

-  EXISTING DRY POND TO BE REMOVED
-  DRY POND EXPANSION
-  STORMWATER PIPE TO BE ADDED



