Salem Municipal Airport (SLE) - Terminal Capacity Studies

October 2022

EXISTING TERMINAL FACILITIES

Table 1-1 provides a breakdown of the different functional areas of the terminal building at Salem Municipal Airport, and their respective square footages.

Table 1-1: Terminal Space Allocation

Space category	Total area (in sf)	Notes
Passenger processor areas		
Check-in lobby	2,370	Includes 1,300 sf of check-in counters and queuing area and 1,100 sf of circulation space
Security screening checkpoint	980	
Hold rooms		
Gate hold room	2,760	
Baggage processor areas		
Outbound bag screening	720	
Baggage claim area	2,340	Includes 800 sf for the bag chute and active claiming area and 1,500 sf for arrivals lobby and circulation
Public space		
Restrooms – non-secure area	440	Total of 6 fixtures (3 in men's restrooms, 3 in women's restrooms)
Restrooms – secure area	460	Total of 5 fixtures (2 in men's restrooms, 3 in women's restrooms)
Public circulation	240	
Concessions		
Rental cars	370	
Other		
Airline operations	330	Rooms 103 and 104, currently used for storage by Groome Transportation. Could be used as a shared office/break room for the airlines, either as one large space or we could build a wall to create two distinct spaces
Airport administration	2,150	
Restrooms - Airport administration	360	Total of 9 fixtures (4 in men's restrooms, 4 in women's restrooms, 1 all-gender)
Mechanical/Utility/Comms	130	
Vacant	180	Room E130, adjacent to rental cars
TOTAL	**13,830**	

PASSENGER ACTIVITY

The purpose of this analysis was to calculate the terminal space required to handle one single flight. It is assumed that the Airport will not be handling multiple flights at the same time.

Requirements were calculated for two types of aircraft:

- The Airbus 320 with 189 seats, which is the largest aircraft expected to operate out of Salem Municipal Airport in the short term.
- The Embraer 145 with 50 seats, which is likely to start operating at the Airport in 2023.

It is expected that turnaround time will be under an hour, consistent with the operating practices of low-cost and ultra low-cost carriers. This means that arriving and departing passengers will be inside the terminal building at the same and that the facility will need to be sized accordingly.

For departing passengers, the analysis involved applying an earliness distribution pattern to the total number of passengers to estimate passengers' arrival time at the Airport. Passengers traveling through smaller airports tend to arrive closer to their departure time than passengers traveling through large hubs. Therefore, it was assumed that all passengers would arrive at the Airport two hours or less before their flight.

Those numbers were used to calculate passenger loads at each of the processing points for departing passengers, such as check-in facilities and security checkpoints.

The results are shown in **Table 1-2** below.

Table 1-2: Passenger Flow Forecast Summary

	A320 189 seats	ERJ 145 50 seats
Total passengers		
Peak hour passengers	235	73
Enplanements		
Peak hour enplaned passengers	131	37
Peak 30-min enplanements	84	23
Deplanements		
Peak hour deplaned passengers	141	40
Peak 20-min deplanements	106	40
Load factor	80%	80%

Table Source: JMG Consulting, LLC.

PASSENGER TERMINAL BUILDING FACILITY REQUIREMENTS

This section presents the modeling assumptions for the facility requirements analysis related to passenger characteristics, level of service standards, maximum wait times, passenger processing rates, and throughput rates. Requirements were compared to the existing facility to identify the areas that will be undersized to handle forecast passenger loads.

Methodology

Passenger terminal requirements were calculated using models and research developed by the Airport Cooperative Research Program (ACRP). ACRP is an industry-driven research program managed by the Transportation Research Board and sponsored by the FAA. Specifically, ACRP Report 25, Airport Passenger Terminal Planning and Design, was used to calculate requirements for the major terminal processing areas:

- Airline check-in
- Outbound baggage screening and baggage makeup
- Security screening checkpoint
- Hold room
- Baggage claim and inbound baggage handling

The IATA Airport Development Reference Manual (ADRM) 10th edition was used to define acceptable level of service, space allowances, and passenger wait times.

Restrooms needs were calculated using the methodology, planning factors, and space allowances delineated in the ACRP Report 226 - Planning and Design of Airport Terminal Restrooms and Ancillary Spaces.

Assumptions

The major assumptions driving the requirements are delineated below.

Check-in

Requirements for the airline check-in area are a function of the passenger loads, check-in mode split, passenger processing times, and desired wait times. It was assumed that 80% of the departing passengers will require full-service counters, while the last 20% will check in online, either at home or on a smartphone. In the short term, it is unlikely that kiosks will be installed at the Airport.

Check-in processing times and maximum wait times were defined based on the recommendations made in the IATA ADRM 10th edition. A 10-minute maximum wait time and a 3-minute processing time per passenger were used. Those processing and wait times correspond to an optimum level of service, defined in the ADRM as having “sufficient space to accommodate the necessary functions in a comfortable environment” and “acceptable processing and waiting times”.

Outbound Baggage Screening

Space needed for outbound baggage screening is a function of the baggage screening equipment configuration, processing rates, and clear/alarm bag rates. Actual values for these metrics are considered sensitive security information and are protected by the TSA. Therefore, the values recommended in the ACRP spreadsheet model were used.

- No connecting traffic
- Percent of passengers checking bags: 60 percent
- Average bags per passenger: 1.1
- Percent of over-sized bags too large for Explosive Detection System (EDS): 3 percent
- Level 1 EDS screening (performed using EDS equipment) process rate: 150 bags/hour
- Level 1 EDS screening unit area: 800 square feet
- Level 3 Explosive Trace Detection (ETD) screening process rate: 24 bags/hour/screener
- Level 3 ETD screening unit area: 100 square feet

Outbound Baggage Makeup

Outbound baggage makeup requirements are a function of the number of gates (ground loading gates in the case of Salem Municipal Airport), the number of turns per gate, and the number of carts per gate. The following assumptions and space allowances were used in this analysis:

- **Number of carts per gate.** Each cart can accommodate between 40 and 50 bags. Approximately two carts are required for a narrow body aircraft. For medium regional aircraft, only cart is required.
- **Space allowances**. Each cart/container was assumed to occupy 600 square feet at the baggage carousel. A 20% allowance was added for baggage train circulation.

Security Screening Checkpoint

Security screening checkpoint requirements are a function of forecast passenger loads, passenger throughputs, desired maximum wait times, and equipment space requirements. The following assumptions were used for this analysis:

- **Forecast passenger loads**: the peak hour enplaned passenger loads were used in the model, with a 10% factor added to account for employees and crew going through the checkpoints.
- **Regular vs. PreCheck passengers**: passengers were divided into two groups, regular and Precheck, and the requirements for each group were calculated separately. For planning purposes, a conservative assumption was made that 30% of passengers would have PreCheck status.
- **Passenger throughputs:** typically, throughputs of 150 passengers/hour/lane for standard lanes, and 220 passengers/hour/lane for PreCheck lanes can be achieved at the checkpoint. In the case of Salem Municipal Airport, there will be no dedicated late for preCheck passengers and TSA will operate a blended lane. However, it was assumed that preCheck passengers would still move faster through the checkpoint than standard passengers. Therefore, an overall, slighter higher, throughput rate of 165 passengers/hour/lane was used.
- **Maximum wait times:** a maximum wait time of 10 minutes was used, consistent with the recommendations delineated in IATA Airport Development Reference Manual 10th edition for an optimum level of service.
- **Equipment space requirements:** standard space allowances from the ACRP report 25 were used. A two-lane security screening module occupies 2,800 square feet.

Hold room

Hold room space requirements are a function of the aircraft seating capacity per gate, average aircraft load factor, the physical layout of the hold room, and the number of seated vs. standing passengers. The following assumptions were used:

- **Number of seated vs. standing passengers:** it was assumed that 80% of passengers would be seated in the hold room area, while 20% would be standing. This ratio is slightly higher than recommendations delineated in IATA ADRM 10th edition for an optimum level of service. IATA recommends that 70% of passengers be provided with seating in the hold room, while 30% are either standing or in other areas of the terminal such as amenities or concessions. However, a higher ratio of seated passengers is adequate at SLE since there are no concessions on the secure side of the terminal and only one hold room, i.e. passengers cannot spill over to a hold room adjacent to their gate.
- **Space allowances.** Standard values provided in the ACRP report 25 were used for square footage per passengers and equipment such as podium and boarding/egress corridors.
- **Amenities and circulation space.** A 5% allowance was provided to accommodate passenger amenities, such as work stations and electronic charging stations. An additional 15% of total hold room area was included to account for hold room circulation.

Baggage Claim and Inbound Baggage Handling

Baggage claim requirements are calculated using the following variables:

- **Peak 20-minute deplaned passengers** based on the forecast shown in Table 1-2.
- **Passenger characteristics** such as percentage of passengers checking bags. It was assumed that 60% of passengers were checking bags.
- **Space allowances**. A standard allowance of 1.5 linear feet of bag claim per passenger was used.

Restrooms

Public restroom requirements were calculated separately for the secure and non-secure sides of the terminal building. The methodology followed the guidance from ACRP Report 226 - Planning and Design of Airport Terminal Restrooms and Ancillary Spaces and used the following assumptions and planning parameters:

- Pre-security requirements are based on the peak hour demand and include an allowance for visitors (well-wishers and meeters and greeters).
- Post-security requirements are based on the peak 20-minute activity levels.
- A restroom proportion of 40% men to 60% women was assumed.
- An allowance for janitor space and family restrooms was included in each restroom block.

REQUIREMENTS ANALYSIS RESULTS

The results of the requirements analysis are presented in **Table 1-3**.

Table 1-3: Terminal Requirements Summary

Functional element	Existing facility	Requirements for a 189-seat aircraft	Requirements for a 50-seat aircraft
Processors			
Check-in counters	6	6	2
Security screening checkpoint lanes	1	1 [1/]	1
Bag claim frontage (in linear feet)	33	95	36
Major functional areas (in square feet)			
Passenger processor areas			
Check-in lobby	2,370	1,180	340
Security screening checkpoint	980	1,800	1,700
Hold rooms			
Gate hold room	2,760	3,000	1,300
Baggage processor areas			
Outbound bag screening	720	1,000	1,000
Baggage claim area	2,340	3,200	800
Baggage makeup *(outdoor space)*	-	2,000	1,000
Inbound baggage offload *(outdoor space)*	-	1,500	1,500
Public space			
Restrooms – non-secure area	440	1,100	500
Restrooms – secure area	460	600	400

[1/] Providing a single lane at the security checkpoint results in a 13-minute maximum wait time when processing passengers for a narrow body aircraft. While this maximum wait time is more than the recommended 10 minutes, it is not recommended that a second lane be added at this stage, in order to limit capital expenditures.

Table Source: JMG Consulting, LLC.

The requirements analysis demonstrated that the existing terminal is sized appropriately to handle the passenger loads associated with a 50-seat aircraft.

However, several areas of the terminal would be undersized to handle a narrow body aircraft. The goal of the project is to ensure that the terminal can appropriately handle passenger loads while limiting capital expenditures, therefore the team focused on the areas of the terminal that would be critically undersized, namely:

- **Security screening checkpoint:** the checkpoint area needs to be expanded to accommodate modern screening equipment, provide space for ancillary functions such as private screening rooms, and provide adequate queuing space.
- **Baggage claim:** the existing bag chute provides 33 feet of frontage, a third of the frontage that would be required to handle traffic associated with a narrow body aircraft. The overall area Is undersized, which would result in congestion from arriving passengers crowding around the bag chute. The crowding would also interfere with departing passengers queuing at the security checkpoint.
- **Pre-security restrooms:** the existing pre-security bathrooms would need to be doubled in size to comfortably accommodate expected passenger flows.

Other areas, while slightly undersized according to the requirements analysis, would still function reasonably well and therefore would not require expansion or reconfiguration at this stage.

EXISTING TERMINAL ANALYSIS

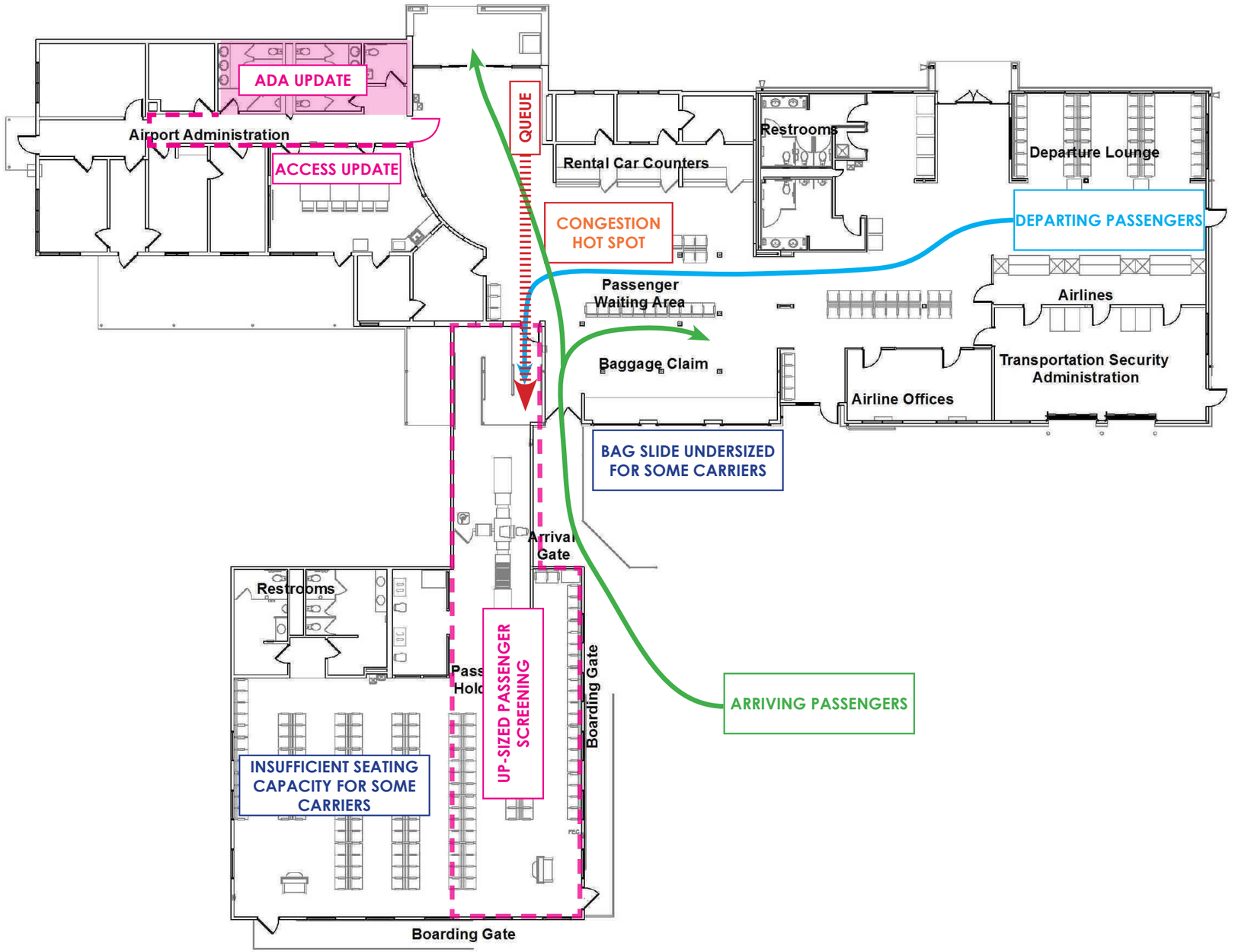
The terminal building at Salem Municipal Airport (SLE) contains all of the program areas needed to offer commercial service which it accommodated most recently in 2008.

Airline preference for other local markets and a lack of activity and investment have kept the airport terminal building from responding to trends in the air travel industry that have increased spatial requirements throughout.

As a result, many program areas of the terminal building will lack capacity, impact other spaces, and offer a low level of service if SLE resumes provision of commercial service.

The most critical areas in this regard are passenger security screening, gate seating areas, and bag claim. In addition, to provide the number of toilet fixtures that are required by code, the restroom block in the administrative wing will need to be opened to the public and updated for ADA accessibility.

Within the organization of the terminal's areas other difficulties exist; most notably, inbound and outbound passenger flows cross and queuing for the passenger screening checkpoint congest circulation areas.



Existing Terminal

CONCEPT ANALYSIS

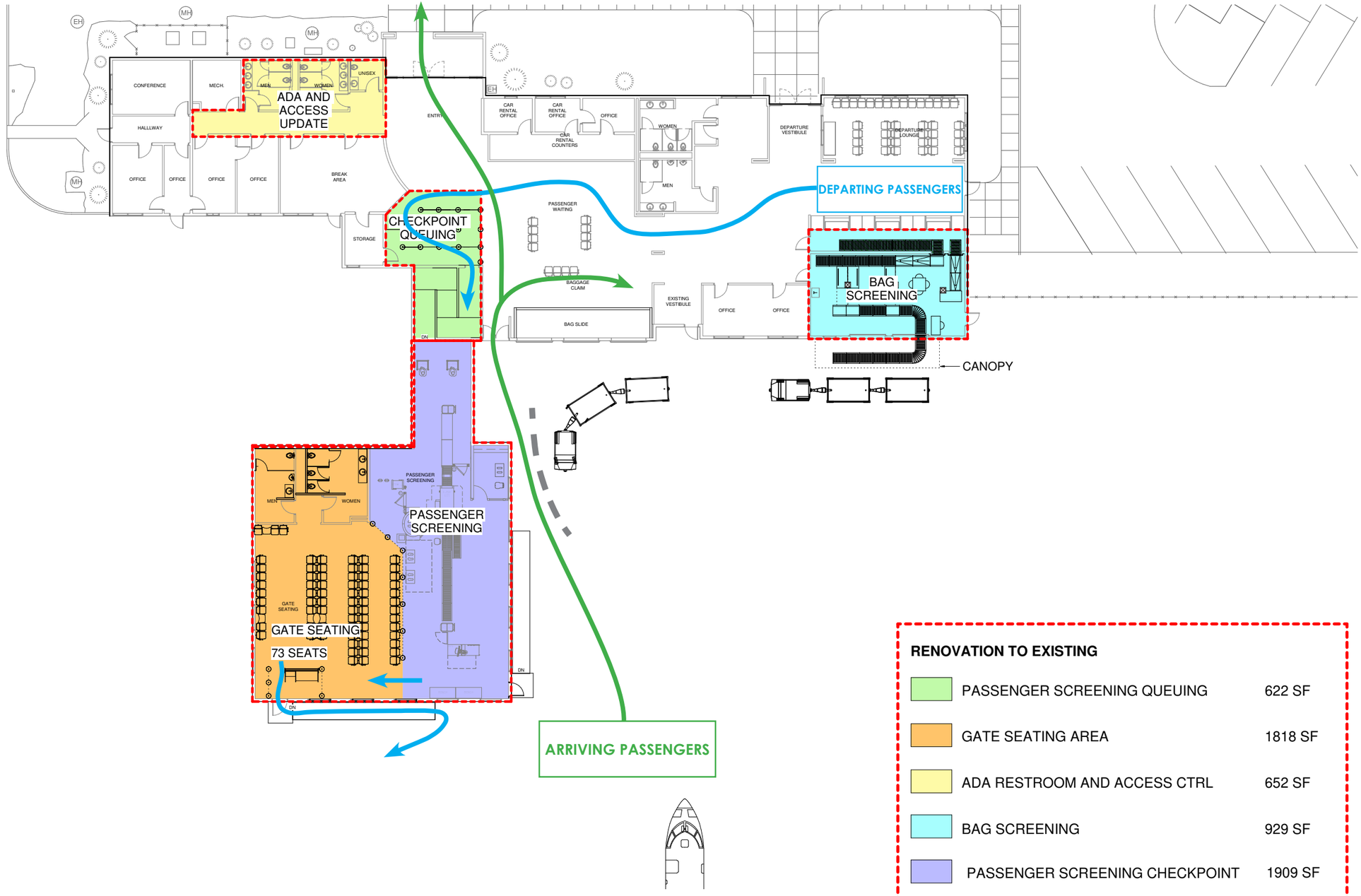
In the Regional Aircraft Option, existing building areas are renovated and updated without adding new square footage to the building.

The passenger screening checkpoint in this design has been coordinated with TSA to provide space for an approved equipment layout and TSA areas. The growth of this area has absorbed some of the holdroom seating and displaced one boarding gate, leaving one gate. In the remaining area, 73 seats have been laid out, with adequate circulation and gate queuing areas. This concept provides gate seating for regional aircraft in the 50-80 passenger range.

Checkpoint queuing has been expanded to meet planning standards by converting an airport administration storage room to queuing space.

Bag claim area remains as existing. The area will experience some congestion because of the room's spatial configuration, and the claim device remaining a non-circulation slide-type. Exiting and arriving passenger routes may experience some congestion depending on the compression of airport flight schedules. Tug operations at bag claim may be slowed as care should be exercised near arriving passenger route.

Some updates will be needed at ticketing to accommodate new conveying equipment and new TSA-approved bag screening system.



RENOVATION TO EXISTING	
PASSENGER SCREENING QUEUING	622 SF
GATE SEATING AREA	1818 SF
ADA RESTROOM AND ACCESS CTRL	652 SF
BAG SCREENING	929 SF
PASSENGER SCREENING CHECKPOINT	1909 SF
TOTAL	5930 SF

Renovations to Existing - Regional Aircraft Option

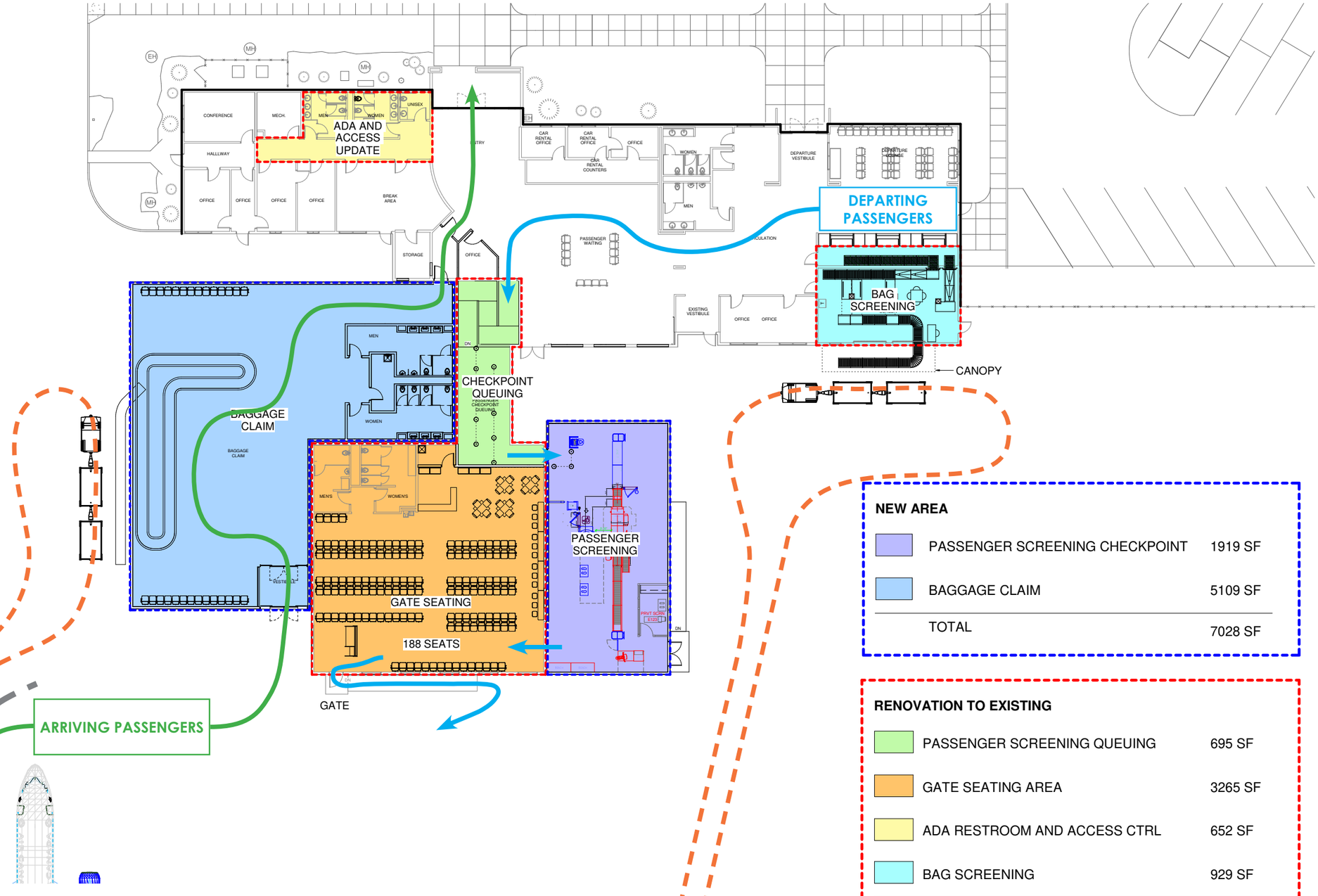
CONCEPT ANALYSIS

In 189 Seat Option 1, existing building areas are renovated and new areas are added to accommodate the passenger levels associated with larger narrow-body aircraft (design aircraft is an A320 with 189 passengers).

The passenger screening checkpoint is an addition to the north of the existing gate seating area. Checkpoint queuing has been located on the existing ramps and in the connector between the ground level terminal and the elevated modular gate area. 188 seats have been located in the existing gate seating area. A small concessions area has been depicted, but the space could also be purposed for seating or a family restroom if either of those becomes a priority.

A bag claim area has been added to the south of existing gate seating room. Bag claim device is a flat plate conveyor with approx. 100 LF of frontage. Arriving passengers will not cross paths with departing, Passengers will enter the terminal through a vestibule located where an airport admin storage room exists now. Bag claim and bag makeup tug operations have discrete routes to and from the apron that do not cross boarding or deplaning passenger routes.

Some updates will be needed at ticketing to accommodate new conveying equipment and new TSA bag screening system.



NEW AREA

PASSENGER SCREENING CHECKPOINT	1919 SF
BAGGAGE CLAIM	5109 SF
TOTAL	7028 SF

RENOVATION TO EXISTING

PASSENGER SCREENING QUEUING	695 SF
GATE SEATING AREA	3265 SF
ADA RESTROOM AND ACCESS CTRL	652 SF
BAG SCREENING	929 SF
TOTAL	5541 SF

Terminal Renovation and Expansion - 189 Seat - Option 1

CONCEPT ANALYSIS

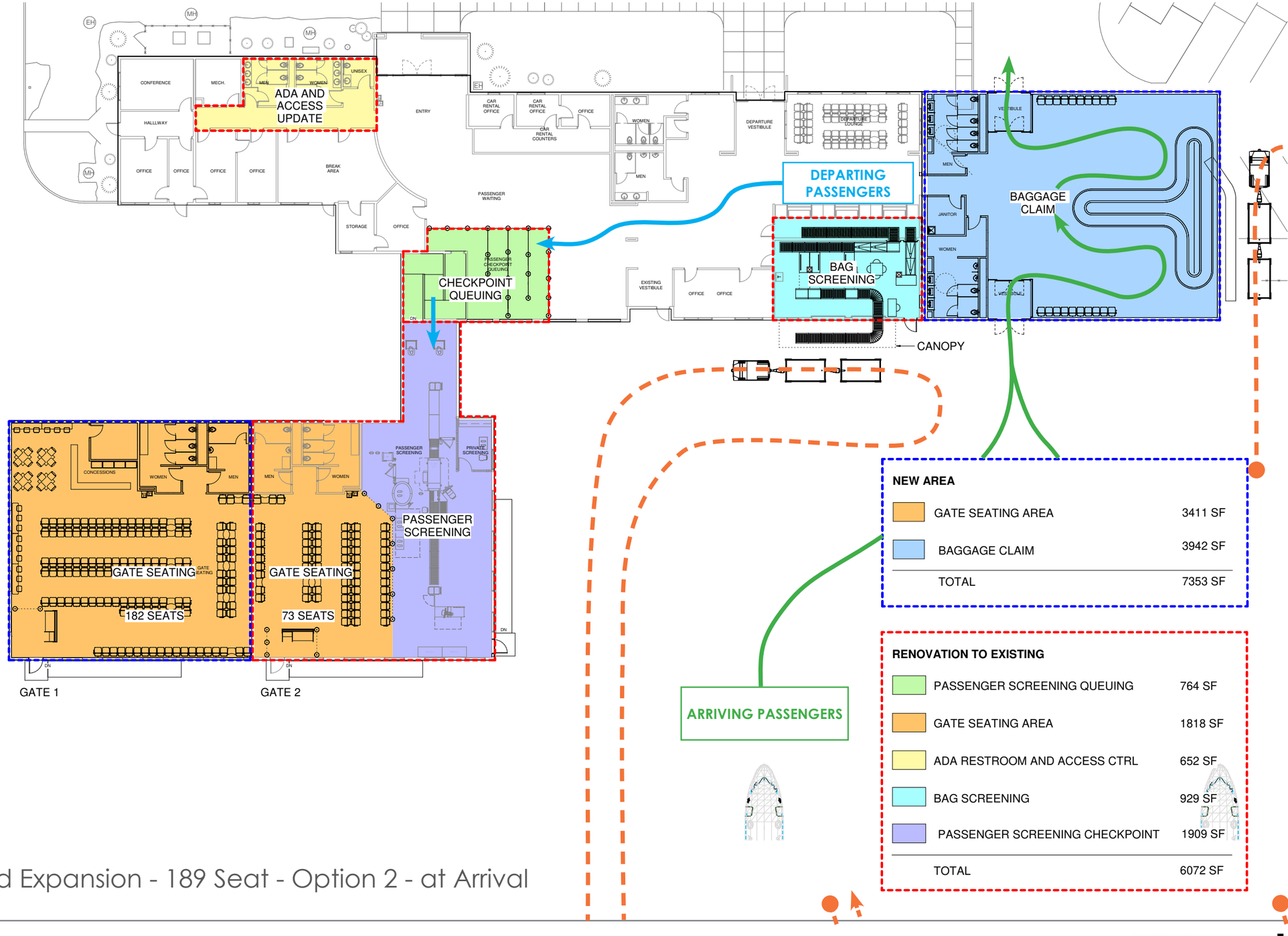
In 189 Seat Option 2, existing building areas are renovated and new areas are added.

The passenger screening checkpoint has been expanded into a portion of the existing gate seating area and checkpoint queuing has been located on the existing ramps and within the existing bag claim area. Additional gate seating has been added to the south of the existing gate seating area. 182 seats have been located in new gate seating addition, and 73 remain in the existing gate seating area. With seating and space for two gates, the airport could possibly serve one regional and one narrowbody (A320) flight simultaneously.

A bag claim area has been added to the north of existing ticketing and bag makeup area. The bag claim device is a flat plate conveyor with approx. 100 LF of frontage. Arriving passengers do not cross paths with departing passengers. This building expansion will extend into the north parking lot, impacting parking provided, and increasing cost/SF.

Bag claim and bag makeup tug operations have discrete routes to and from the apron that do not cross boarding or deplaning passenger routes.

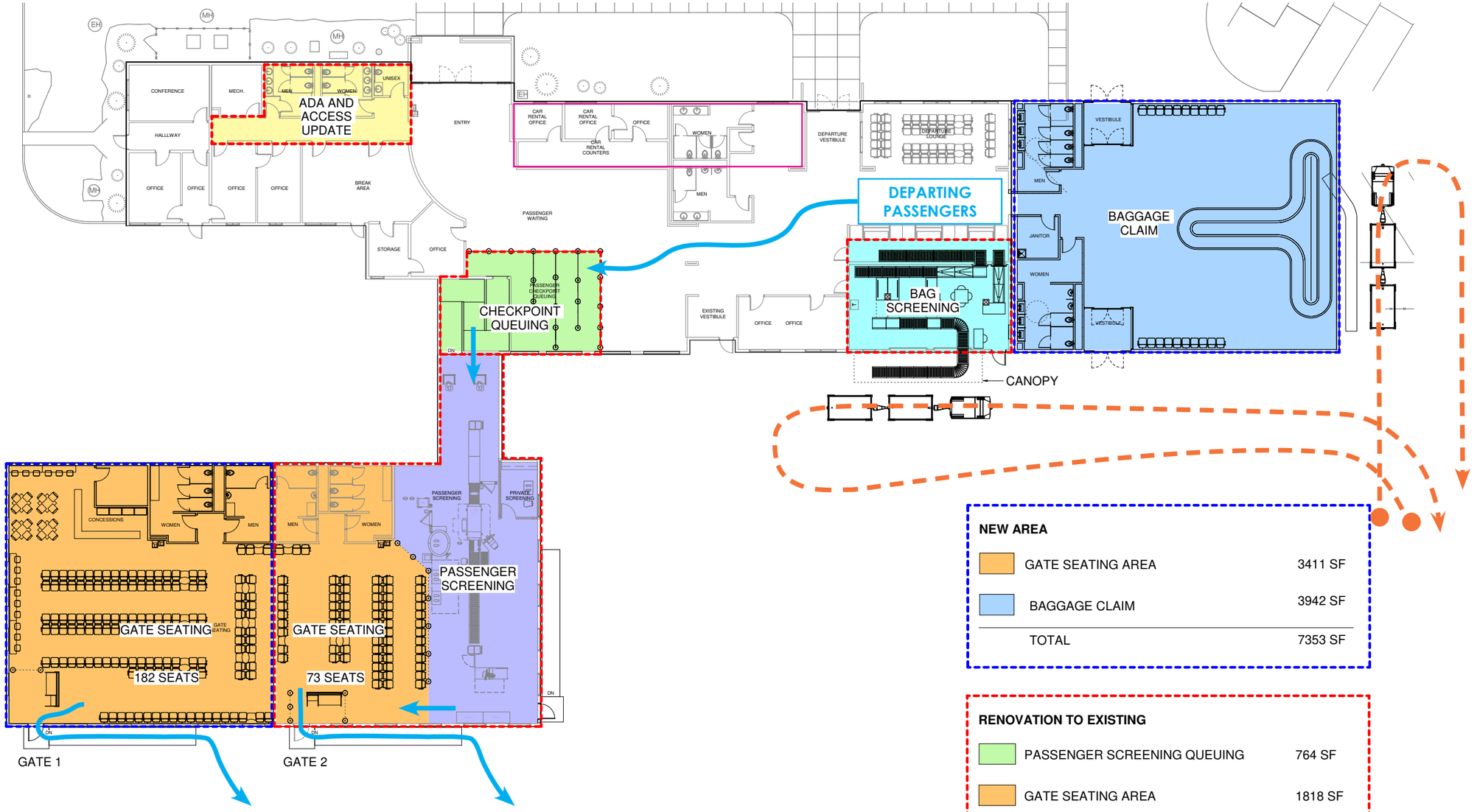
Some updates will be needed at ticketing to accommodate new conveying equipment at ticketing, and the new TSA bag screening system.



Terminal Renovation and Expansion - 189 Seat - Option 2 - at Arrival

CONCEPT ANALYSIS

This graphic shows the altenate tug route from bag makeup for operations when passengers are boarding. The tugs would aproach bag makeup from the oposite direction, avoiding crossing paths with enplaning passnengers.



NEW AREA

GATE SEATING AREA	3411 SF
BAGGAGE CLAIM	3942 SF
TOTAL	7353 SF

RENOVATION TO EXISTING

PASSENGER SCREENING QUEUING	764 SF
GATE SEATING AREA	1818 SF
ADA RESTROOM AND ACCESS CTRL	652 SF
BAG SCREENING	929 SF
PASSENGER SCREENING CHECKPOINT	1909 SF
TOTAL	6072 SF

Terminal Renovation and Expansion - 189 Seat - Option 2 - Tug Route at Board-

CONCEPT ANALYSIS

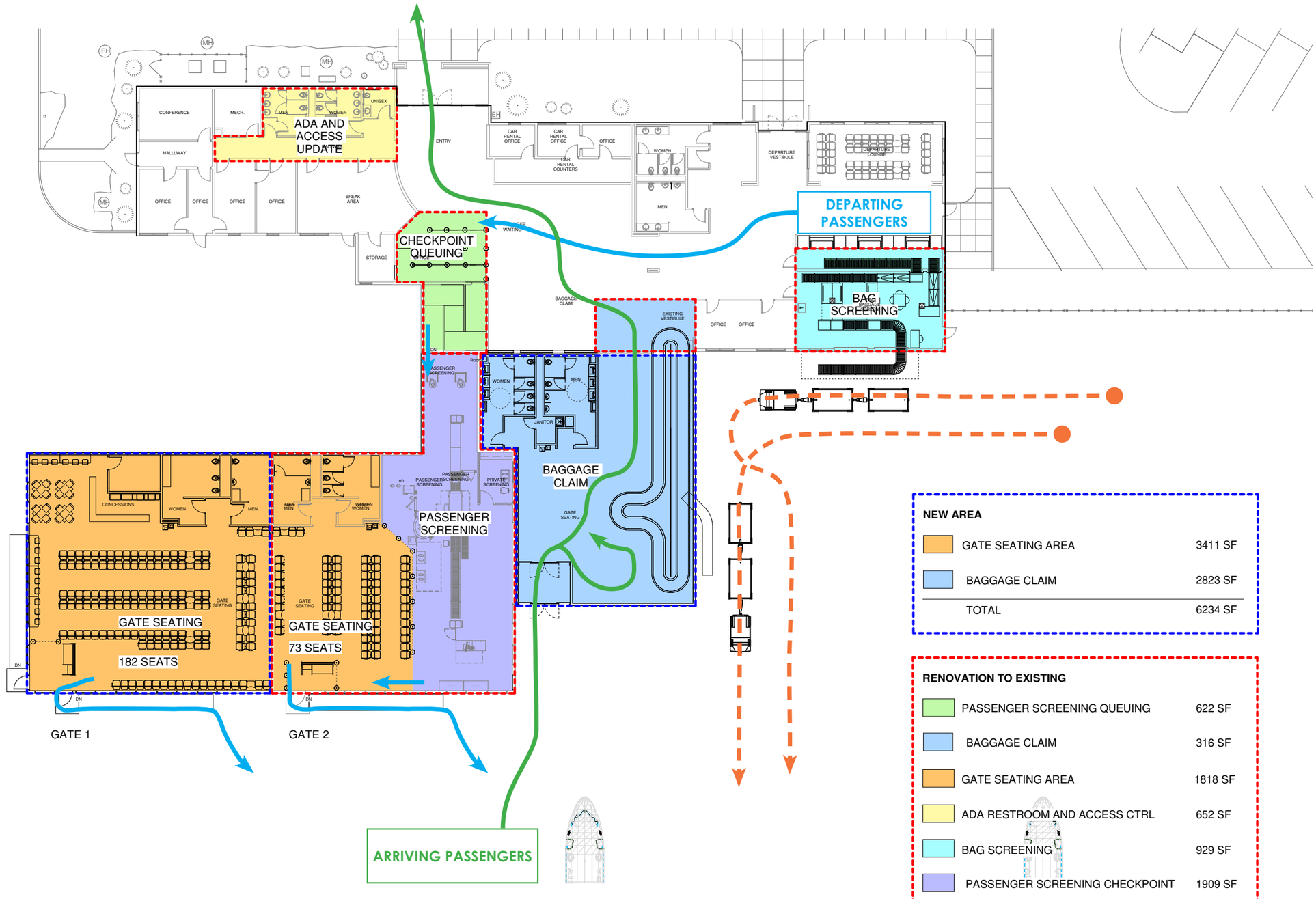
In 189 Seat Option 3, existing building areas are renovated and new areas are added.

The passenger screening checkpoint has been expanded into a portion of the existing gate seating area and checkpoint queuing has been located on the existing ramps and expanded into the space of the nearby airport admin storage room. An addition to the south of the existing gate seating area has been added. 182 seats have been located in new gate seating addition, and 73 remain in the existing gate seating area. With seating and space for two gates, the airport could possibly serve one regional and one narrowbody (A320) flight simultaneously.

A bag claim area in this option has been added to the central airside portion of the building, extending from the existing bag claim area. The bag claim device is a flat plate conveyor with approx. 100 LF of frontage. Arriving passengers do cross paths with departing passengers in the central circulation area, but this area will offer much more circulation space with the removal of the existing bag slide.

Bag claim and bag makeup tug operations have discrete routes to and from the apron that do not cross boarding or deplaning passenger routes.

Some updates will be needed at ticketing to accommodate new conveying equipment at ticketing, and the new TSA bag screening system.



NEW AREA

GATE SEATING AREA	3411 SF
BAGGAGE CLAIM	2823 SF
TOTAL	6234 SF

RENOVATION TO EXISTING

PASSENGER SCREENING QUEUING	622 SF
BAGGAGE CLAIM	316 SF
GATE SEATING AREA	1818 SF
ADA RESTROOM AND ACCESS CTRL	652 SF
BAG SCREENING	929 SF
PASSENGER SCREENING CHECKPOINT	1909 SF
TOTAL	6246 SF

Terminal Renovation and Expansion - 189 Seat - Option 3

CONCEPT ANALYSIS

In the 149 Seat Economy Option, existing building areas are renovated and new areas are added.

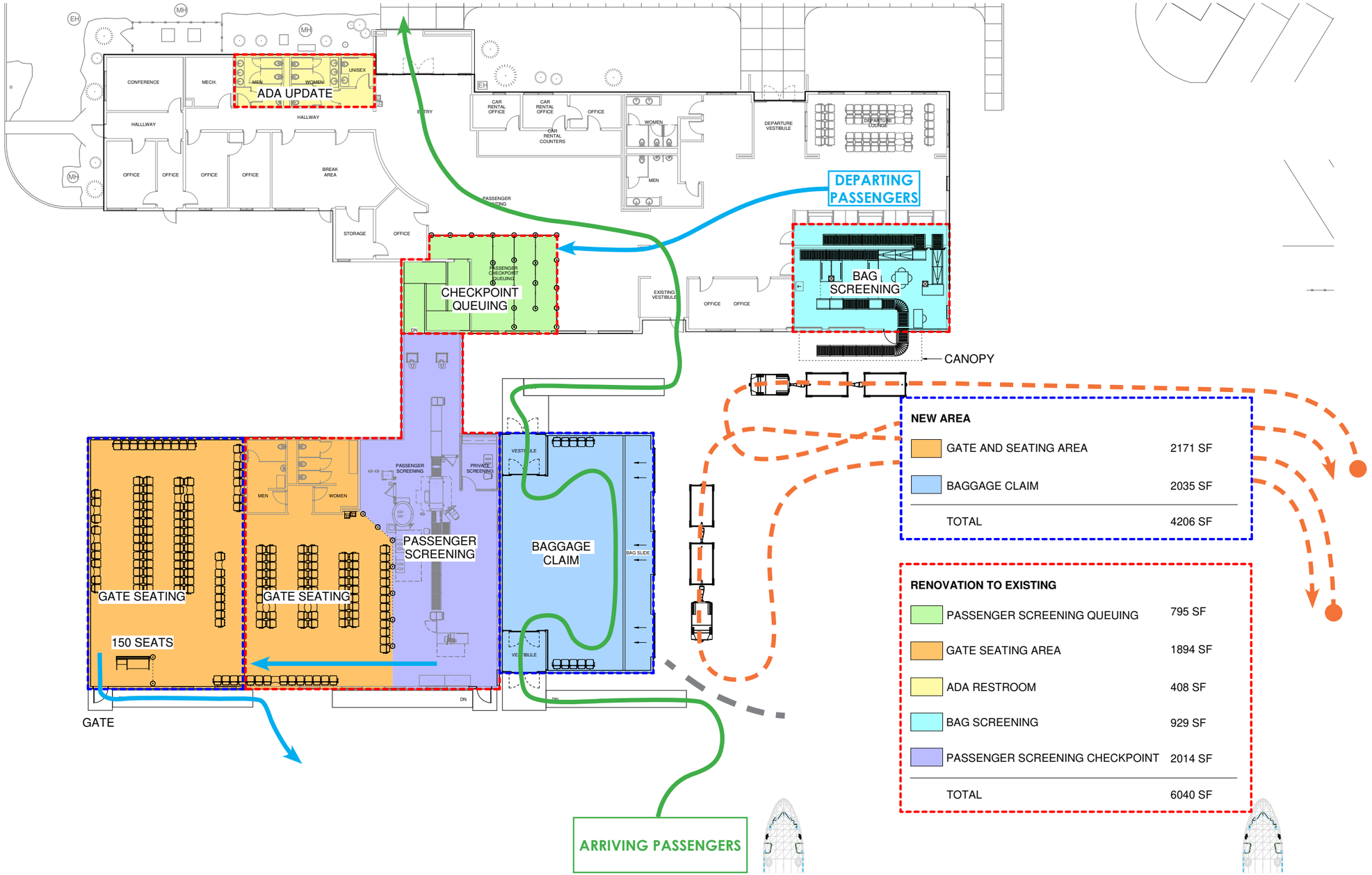
The passenger screening checkpoint has been expanded into a portion of the existing gate seating area checkpoint. Queuing has been expanded and consolidated into a portion of the previous Bag Claim area. With the expansion of queuing into the interior space, out of circulation areas.

Gate seating has been augmented on the 12' modular spacing for an additional 36' of gate seating area expansion to bring the total available seats to 150 meeting the goal of a 149 passenger aircraft.

A bag claim area in this option has been added on the apron to the north (page right) of the existing gate seating and checkpoint areas, also on the 12' modular unit, adding bag claim space for a longer bag slide. The flat-plate bag conveyor has been removed from this option. Arriving passengers do cross paths with departing passengers in the central circulation area, but this area will offer much more circulation space with the removal of the existing bag slide and bag claim use of the central terminal area.

Bag claim and bag makeup tug operations have discrete routes to and from the apron that do not cross boarding or deplaning passenger routes.

Some updates will be needed at ticketing to accommodate new conveying equipment at ticketing, and the new TSA bag screening system.



Terminal Renovation and Expansion - 149 Seat - Economy Option

MEAD & HUNT PROJECT	BID YEAR	AREA	RENOVATION/ NEW %	CONSTRUCTION COST/SF	30% SOFT COST ADDED	ESCALATION: 13%/YEAR*	PROJECT COST/SF
SONOMA COUNTY (STS)	2020	41,000 SF	35% / 65%	$499/SF - $30M	$649/SF - $28M	26%	$818/SF - $33.5M
ROCK SPRINGS (RKS)	2021	32,000 SF	50% / 50%	$434/SF - $13.9M	$564/SF - $18M	13%	$637/SF - $20.4M
GLACIER PARK (GPIA)	2021	149,000 SF	27% / 73%	$504/SF - $75.1M	$655/SF - $97.6M	13%	$708/SF - $105.4M
DURANGO (DRO)	IN DESIGN (DD)	49,000 SF	44% / 56%	-	-	-	$770/SF - $37.8M
PULLMAN MOSCOW (PUW)	IN DESIGN (CD)	41,000 SF	0% / 100%	-	-	-	$1050/SF - $43.1M
SLE REGIONAL JET OPTION	**-**	**5930 SF**	**100% / 0%**	-	-	-	**$650/SF - $3.9M**
SLE 189 SEAT - OPTION 1	**-**	**12,569 SF**	**44% / 56%**	-	-	-	**$850/SF - $10.7M**
SLE 189 SEAT - OPTION 2	**-**	**13,425 SF**	**55% / 45%**	-	-	-	**$900/SF - $12.1M**
SLE 189 SEAT - OPTION 3	**-**	**12,480 SF**	**50% / 50%**	-	-	-	**$850/SF - $10.6M**
SLE 149 SEAT - ECON. OPT.	**-**	**10,246 SF**	**41%/59%**	**$450/SF - $4.6M****	**$580/SF - $5.9M****	-	**$580/SF - $5.9M****

****Modular and renovation construction only**

NOTE ON ESCALATION: *Escalation for 2022 through July is ≈20%. Conservative estimates would apply 20% escalation to estimates. Escalation of 13%, applied, is an average of 6% (low) and 20%(high), and may not predict actual escalation.*

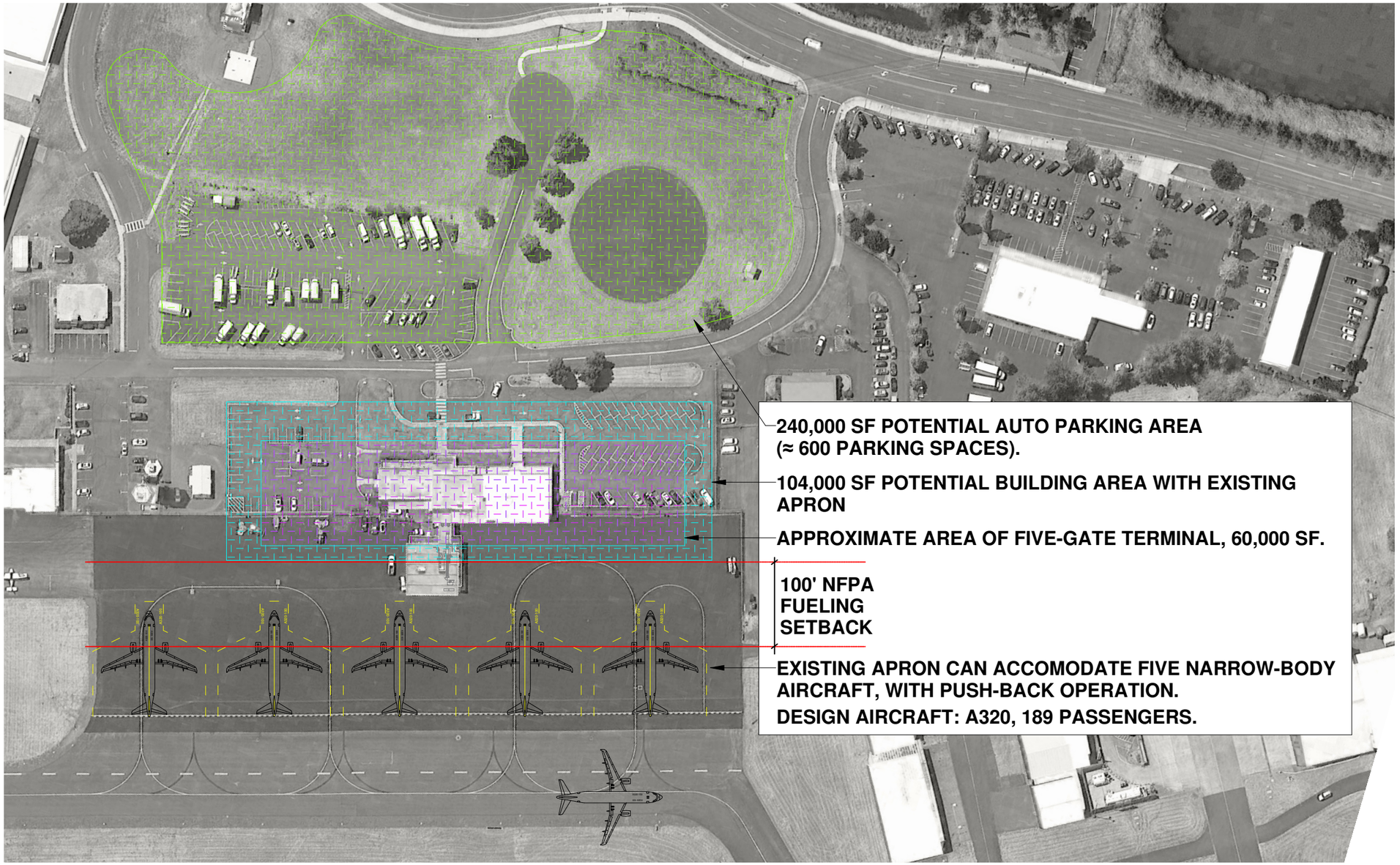
NOT INCLUDED IN COST ESTIMATE:
Deferred building maintenance outlined in SLE Terminal Assessment - 2019_FINAL_20191025. 2019 cost estimate: Approx. $1M
Back-up power generator. Approx. $.5M
Auto parking expansion with drainage, lighting, access control, and kiosk/gate. Qty 150 spaces. Approx. $1M
Unit costs for utilities and site demolition. Approx. $.25M

This list of airport terminal project costs contains historic information and estimates for cost of current and future work.

Estimates from current projects in design have been adjusted to balance out factors such as extensive site work that may make them dissimilar to options for Salem.

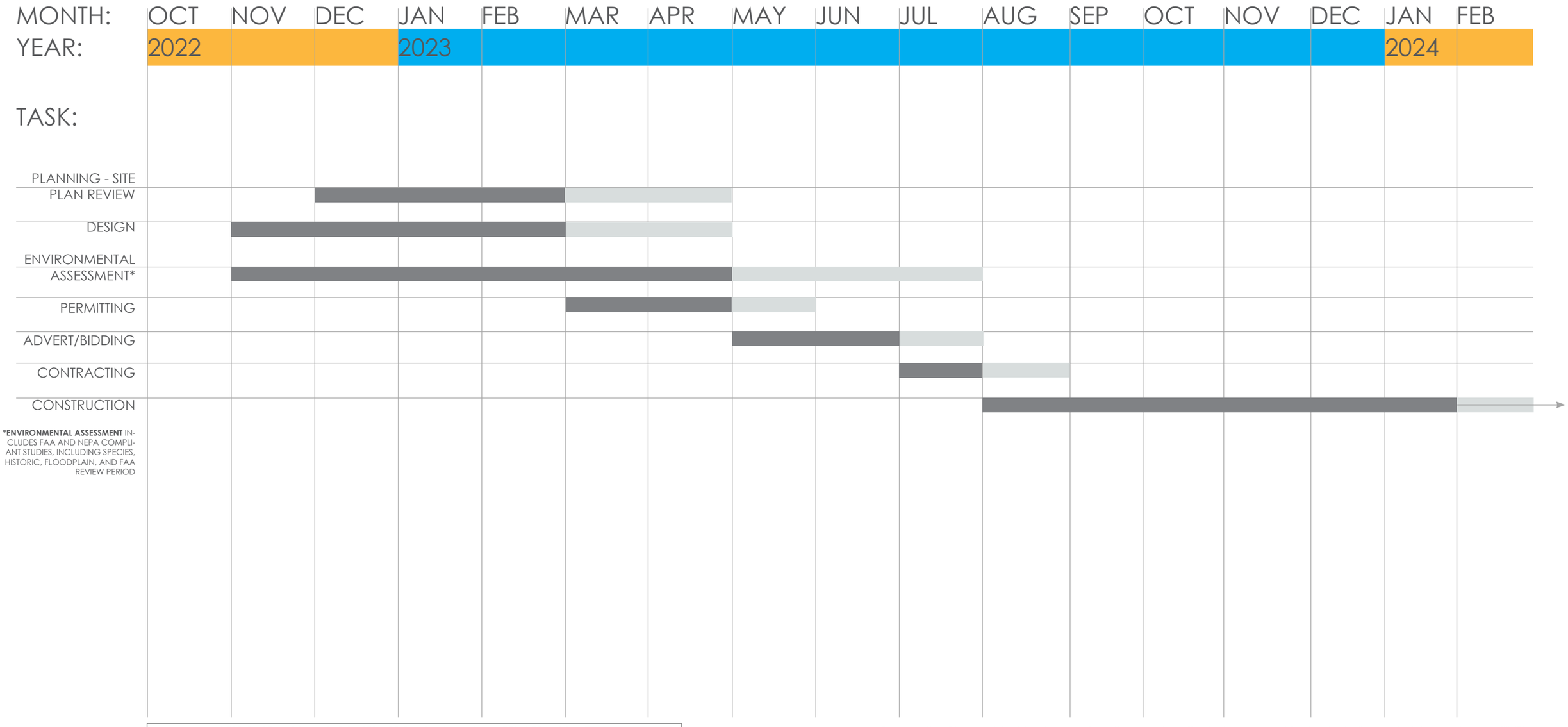
Estimates are provided for general reference and may not be accurate in predicting cost of projects as bid.

Current post-pandemic economic conditions affecting construction costs are subject to many factors increasing volatility.



WORKING WITH THE EXTENTS OF THE EXISTING APRON, THIS GRAPHIC SHOWS THE EXISTING TERMINAL AREA'S CAPACITY FOR A NEW TERMINAL BUILDING, AIRCRAFT PARKING, AND AUTO PARKING.

EXISTING APRON AREA - BUILDING, AIRCRAFT, AND AUTO CAPACITIES

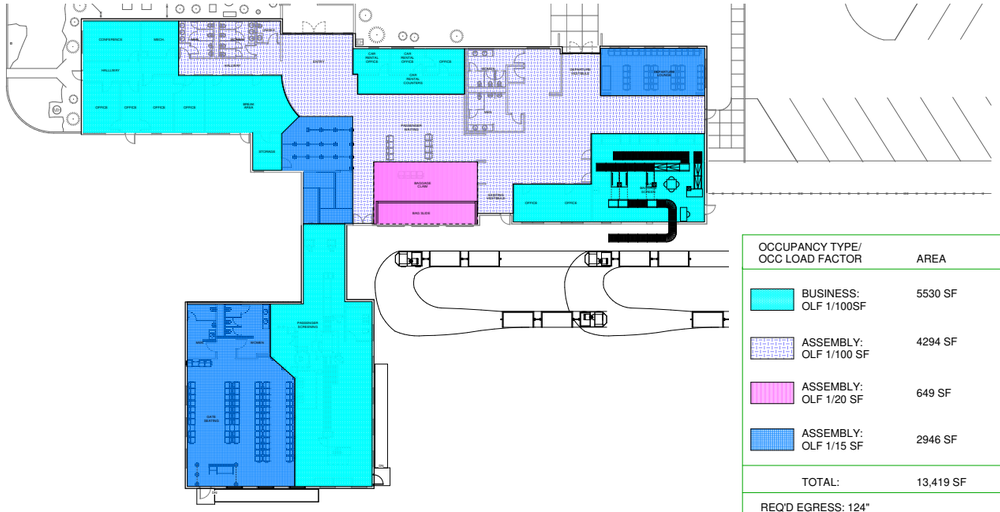


***ENVIRONMENTAL ASSESSMENT** INCLUDES FAA AND NEPA COMPLIANT STUDIES, INCLUDING SPECIES, HISTORIC, FLOODPLAIN, AND FAA REVIEW PERIOD

Construction Phase subject to change. Duration may be affected by external factors including material and labor availibility.

Construction Calendar

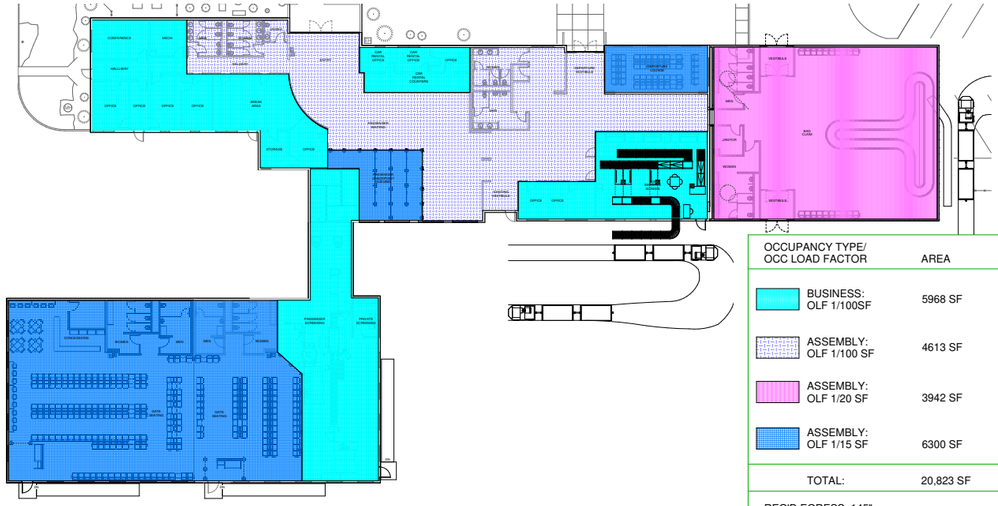
SLE - Terminal Capacity Studies



OCCUPANCY TYPE/ OCC LOAD FACTOR	AREA	OCC LOAD
BUSINESS: OLF 1/100SF	5530 SF	56
ASSEMBLY: OLF 1/100 SF	4294 SF	43
ASSEMBLY: OLF 1/20 SF	649 SF	33
ASSEMBLY: OLF 1/15 SF	2946 SF	197
TOTAL:	13,419 SF	329

REQ'D EGRESS: 124"
PROVIDED: 432"

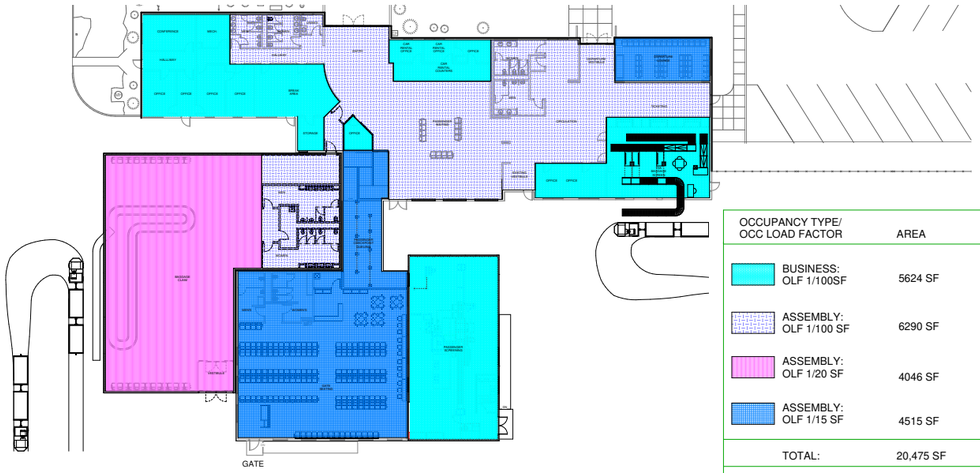
REGIONAL AIRCRAFT OPTION



OCCUPANCY TYPE/ OCC LOAD FACTOR	AREA	OCC LOAD
BUSINESS: OLF 1/100SF	5968 SF	60
ASSEMBLY: OLF 1/100 SF	4613 SF	47
ASSEMBLY: OLF 1/20 SF	3942 SF	198
ASSEMBLY: OLF 1/15 SF	6300 SF	420
TOTAL:	20,823 SF	725

REQ'D EGRESS: 145"
PROVIDED: 468"

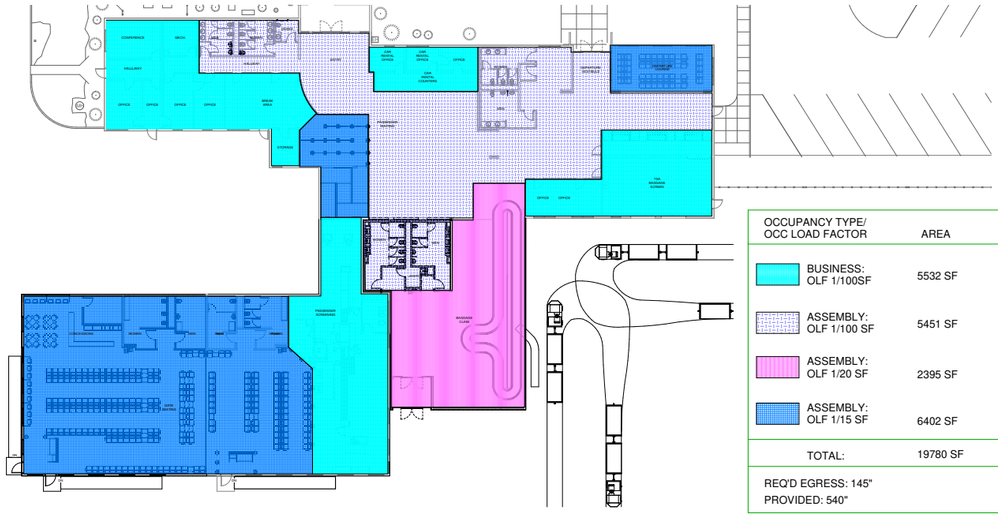
189 SEAT - OPTION 2



OCCUPANCY TYPE/ OCC LOAD FACTOR	AREA	OCC LOAD
BUSINESS: OLF 1/100SF	5624 SF	57
ASSEMBLY: OLF 1/100 SF	6290 SF	63
ASSEMBLY: OLF 1/20 SF	4046 SF	202
ASSEMBLY: OLF 1/15 SF	4515 SF	301
TOTAL:	20,475 SF	623

REQ'D EGRESS: 124"
PROVIDED: 540"

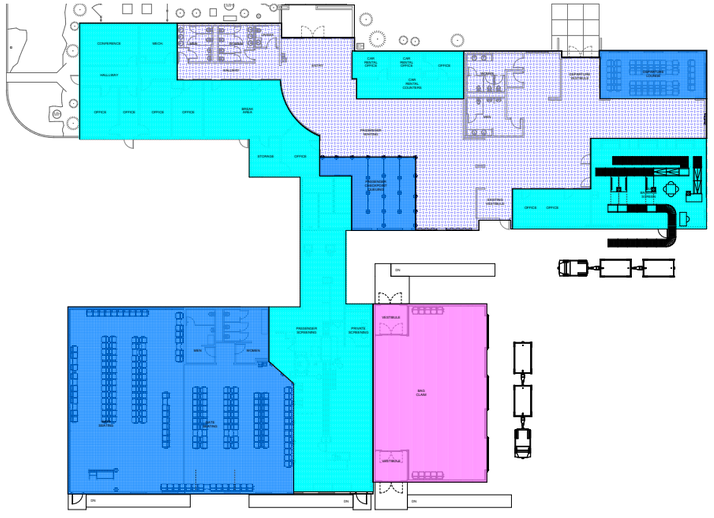
189 SEAT - OPTION 1



OCCUPANCY TYPE/ OCC LOAD FACTOR	AREA	OCC LOAD
BUSINESS: OLF 1/100SF	5532 SF	60
ASSEMBLY: OLF 1/100 SF	5451 SF	47
ASSEMBLY: OLF 1/20 SF	2395 SF	198
ASSEMBLY: OLF 1/15 SF	6402 SF	420
TOTAL:	19780 SF	725

REQ'D EGRESS: 145"
PROVIDED: 540"

189 SEAT - OPTION 3



OCCUPANCY TYPE/ OCC LOAD FACTOR	AREA	OCC LOAD
BUSINESS: OLF 1/100SF	6,276 SF	63
ASSEMBLY: OLF 1/100 SF	4,742 SF	47
ASSEMBLY: OLF 1/20 SF	2,044 SF	102
ASSEMBLY: OLF 1/15 SF	5,135 SF	342
TOTAL:	18,197 SF	554

REQ'D EGRESS: 111"
PROVIDED: 474"

149 SEAT - ECONOMY OPTION