

# **CHAPTER 6    Terminal Area Layout Alternatives**

This chapter presents the development of the terminal space program, several terminal area layout schemes and the selected layout option.

## **6.1 TERMINAL SPACE PROGRAM**

The study team architects and space planners began by examining and studying the layout and space assignments in the Westerly Airport passenger terminal. The Block Island Airport and the Westerly Airport are linked historically and operationally: the Westerly Airport serves as the sole origin-destination airport for scheduled air service through BID. While BID is an island airport serving a finite population, the Westerly Airport is a mainland-based airport serving a defined geographical area. One can expect the proposed BID terminal to be somewhat smaller than the Westerly terminal but the functional core elements of a air passenger terminal, i.e., ticket counters, lobby area, restrooms, baggage check and collection and so on remain the same.

RIAC

After several iterations with RIAC managers, a space program yielding a gross square foot footprint of approximately 4,650 square feet was developed. This footprint represents a more than doubling (115 percent) of the existing substandard BID terminal area but one that is approximately 20 percent smaller than the Westerly terminal. The space program is summarized in Table 6-1 and presented in detail in Table 6-2.

**Table 6-1 Summary of Proposed Block Island Airport Terminal Space Program**

A. Administration (405 sf)	Airport Manager's office (includes seating for meeting of up to 6 people)	<b>Airport Master Plan</b>
	Operations office (counter space with airfield view and room for communications)	
	Service counter (adjacent to main lobby and pilot's area)	
	Employee airside entry vestibule	
B. Airline (590 sf)	Airline office	
	Ticket counter (2 positions)	
	Baggage room	
	Exterior covered storage area	
C. Security (0 sf)	No security screening area; consider method for future implementation as part of planning.	
D. Tenant (1,040 sf)	Restaurant (includes seating, counter, kitchen and storage, exterior covered seating)	
	Public safety office	
	Tenant office (tenant function tbd)	
E. General aviation (170 sf)	Weather Room/Flight Planning	
	Off-hours weather information station	
F. Public (1,240sf)	Main lobby (single arrivals/departures lobby, includes seating, queuing, circulation)	
	Two (2) vestibules (one landside, one airside)	
	Exterior baggage claim (covered area)	
	Exterior covered waiting (both airside and at the curb)	
G. Support	Public restrooms	
	General facility storage, janitor's closet	
	Mechanical, electrical, emergency electrical rooms	

**Table 6-2 Preliminary Terminal Program Component Sizing**

**BLOCK  
ISLAND  
AIRPORT**

	BID EXISTING	WESTERLY EXISTING	BID PROPOSED	
Room Name	Room size (nsf)	Room size (nsf)	Room size (nsf)	Notes
			Space Range	
A. Administration				
A1. Office-Airport Manager	72	294	120	Desk, no table, file cabinets
A2. Operations	180	incl	175	Counter, file cabinets, radios, airfield control equip., view of airfield. Area for staff meetings, microwave/small fridge/sink.
A3. Service Counter	incl.	20	80	Service Counter adjacent to operations area, open to lobby, 4-5' long. Includes space behind counter for staff.
A4. Employee Entry Vestibule	0	0	30	Airlock vestibule dedicated for employee airside access. Includes some storage for weather gear.
Subtotal Administration	252	314	405	
Percent increase from Existing			61%	
Percent variation from Westerly Terminal			29%	
B. Airline				
B1. Airline Ticket Counter	80	96	120	2 airline positions, 6 lf each. Note space in lobby includes area for third position in future.
B2. Airline Office	0	175	120	A&B Desk, storage, view of airfield
B3. Baggage handling room	0	105	300	Space for two carts to fit, baggage layout, 'hallway' -type layout
B4. Exterior Protected Storage	0	112	50	Salt/sand, weather gear, excess baggage, carts
Subtotal Airline	80	488	590	
Percent increase from Existing			638%	
Percent variation from Westerly Terminal			21%	
C. Security				
C1. Future Screening	0	incl	0	Provisions for future screening contained within lobby space; addition would be required if full screening required in future (baggage or passenger)
Subtotal Security	0	0	0	
Percent increase from Existing			0%	
Percent variation from Westerly Terminal			0%	

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## \_\_\_ Terminal Area Layout Alternatives

	BID EXISTING	WESTERLY EXISTING	BID PROPOSED	
Room Name	Room size (nsf)	Room size (nsf)	Room size (nsf)	Notes
			Space Range	
D. Tenant				
D1. Restaurant - Seating and Counter	349	780	450	Minimal Increases based upon rule-of-thumb guidelines, no change in operation type. Note additional outdoor seating provided as outdoor covered space.
D2. Restaurant - Kitchen and Storage	150	incl	350	See note D1 above
D3. Office - public safety	0	143	120	Small office - desk/cabinet only
D4. Office - tenant TBD	0	143	120	Small office - desk/cabinet only
Subtotal Tenant	499	1,066	1,040	
Percent increase from Existing			108%	
Percent variation from Westerly Terminal			-2%	
E. General Aviation				
E1. Weather Room/ Flight Planning	0	128	150	Counter with computer, chart layout, couch
E2. Off-hours flight information station	0	0	20	Space for kiosk/'ATM' type area for off-hours access without entry to terminal
Subtotal General Aviation	0	128	170	
Percent increase from Existing			n/a	
Percent variation from Westerly Terminal			33%	
F. Public				
F1. Landside vestibule	0	0	120	Double swinging doors providing airlock
F2. Departures/Arrivals lobby & Seating	320	1,200	750	Seating for approx. 10-12, plus lobby circulation space
F3. Airline counter queue	incl.	225	250	Space for two lines 5 persons deep, including baggage. Includes space for future third counter position and queue.
F4. Airside vestibule	0	0	120	Double swinging doors providing airlock
Subtotal Public	320	1,425	1,240	
Percent increase from Existing			288%	
Percent variation from Westerly Terminal			-13%	

**Airport  
Master  
Plan**

## \_\_\_ Terminal Area Layout Alternatives

### BLOCK ISLAND AIRPORT

Room Name	BID EXISTING	WESTERLY EXISTING	BID PROPOSED	Notes
	Room size (nsf)	Room size (nsf)	Room size (nsf)	
			Space Range	
G. Support				
G1. General Facility Storage	bsmt	21	40	Shelving and bulk item storage - small
G2. Public M/W restrooms	173	420	420	Range estimating number of fixtures required by code, based upon building size and occupant load
G3. Mechanical/Elec/FP Rm, telephone closet	bsmt	130		Included in factor below
G4. Janitor Closet	0	60	30	Minimal size
G5. Emergency Electrical Closet	0	incl	30	Separate room by code
G6. Public Telephone	incl.	incl	incl	Included in lobby space
Subtotal Public	173	631	520	
Percent increase from Existing			201%	
Percent variation from Westerly Terminal			-18%	
Totals				
Subtotal Terminal nsf	1,324	4,052	3,965	
5% Building structure, walls, chases			198	Standard factor per FAA Advisory Circular
15% building circulation (elev, stair, hall)				Standard factor per FAA Advisory Circular
5% building circulation (halls, exits)			198	Reduced - assuming efficient layout
7% building mechanical			278	Reduced - mech equipment on roof or in attic space
Total Terminal gsf (indoor space)	2,160	5,768	4,639	
Percent increase from Existing Terminal			115%	
Percent variation from Westerly Terminal			-20%	
Additional outdoor covered space			2,300	
Curbside covered waiting			1,000	
Airside covered arrival/ departures waiting			800	
Airside baggage claim slide			300	
Exterior covered restaurant seating			200	

RIAC

	BID EXISTING	WESTERLY EXISTING	BID PROPOSED	
Room Name	Room size (nsf)	Room size (nsf)	Room size (nsf)	Notes
			Space Range	
Highlighted items not included in program above:				
1. Airport Manager’s apartment/residence				
2. Exterior equipment storage/maintenance hangar				
3. Break room for airport staff				
4. Conference room				
5. Retail area (newspapers, gifts)				
6. ATM				
7. Car Rental offices/counters				

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Development of the terminal space program into a defined internal layout of the future terminal will be the responsibility of the design architect selected by RIAC to design the building.

## 6.2 TERMINAL AREA LAYOUT ALTERNATIVES

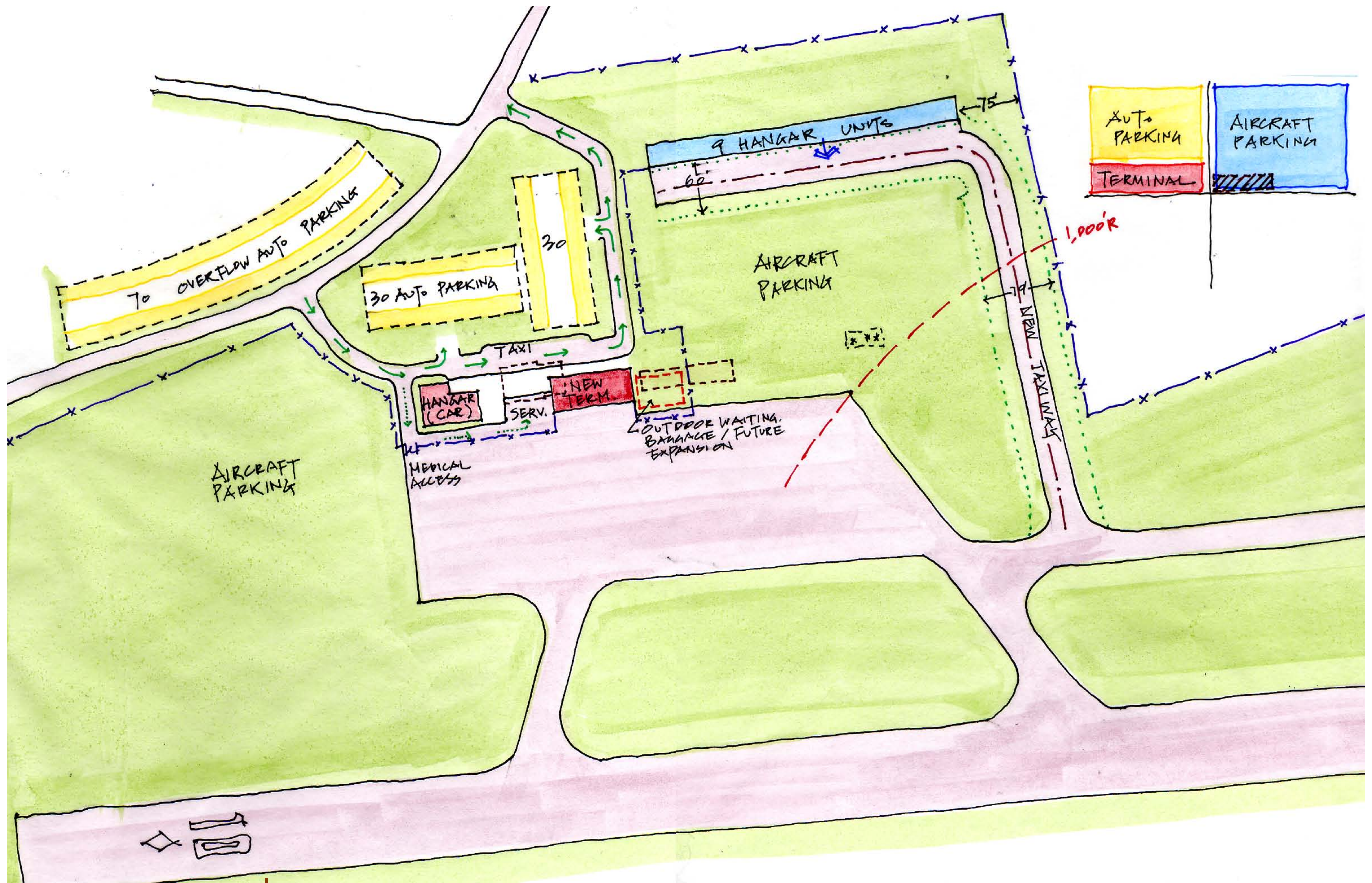
The study team was presented by the Client Group with the following objectives for the future terminal area:

- Site the proposed new terminal to maximize landside and airside access;
- Rationalize/organize auto parking in the terminal area;
- Provide an access roadway, circulation and terminal curb which accommodates the principal modes of pickup/drop-off and taxi;
- Accommodate existing/future demand for structured aircraft parking, i.e., hangars; and
- Provide for additional aircraft parking (tie-downs) both now and into the future.

Three schemes – labeled A, B and C – were developed in accordance with the above objectives. Given complete license by RIAC managers, the study team members viewed the site as a “blank slate”; that is, no existing building or utility or grade was considered as a controlling element. For instance, the locations of the existing septic tanks and leaching field associated with the existing terminal sewerage system were identified but did not serve as any constraint. It is envisioned that the sewerage system will have to be updated/expanded to accommodate the future flows through an expanded terminal.

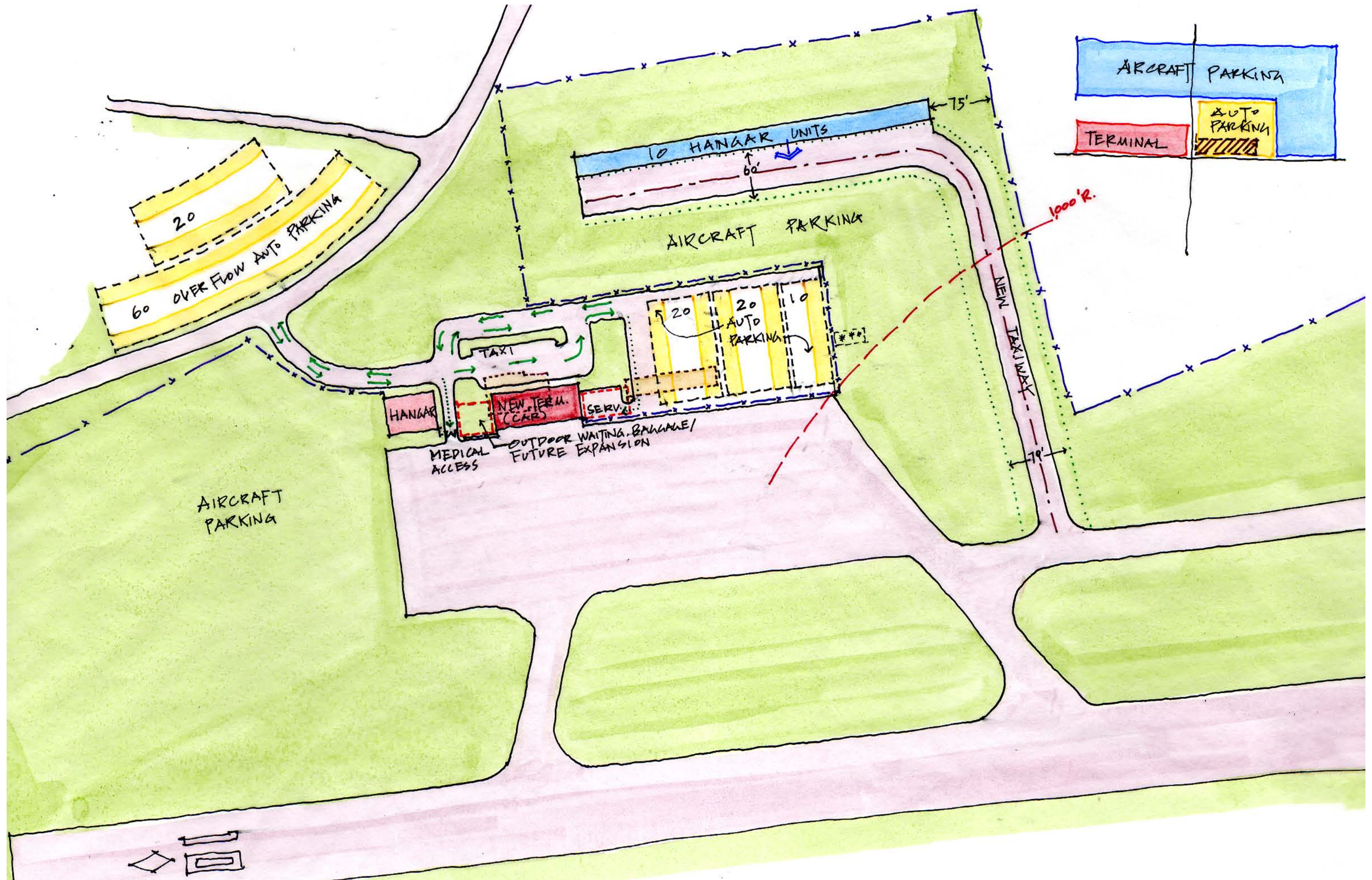
The schemes are described and compared in detail in Table 6-3 and illustrated in Figures 6-1 through 6-3.





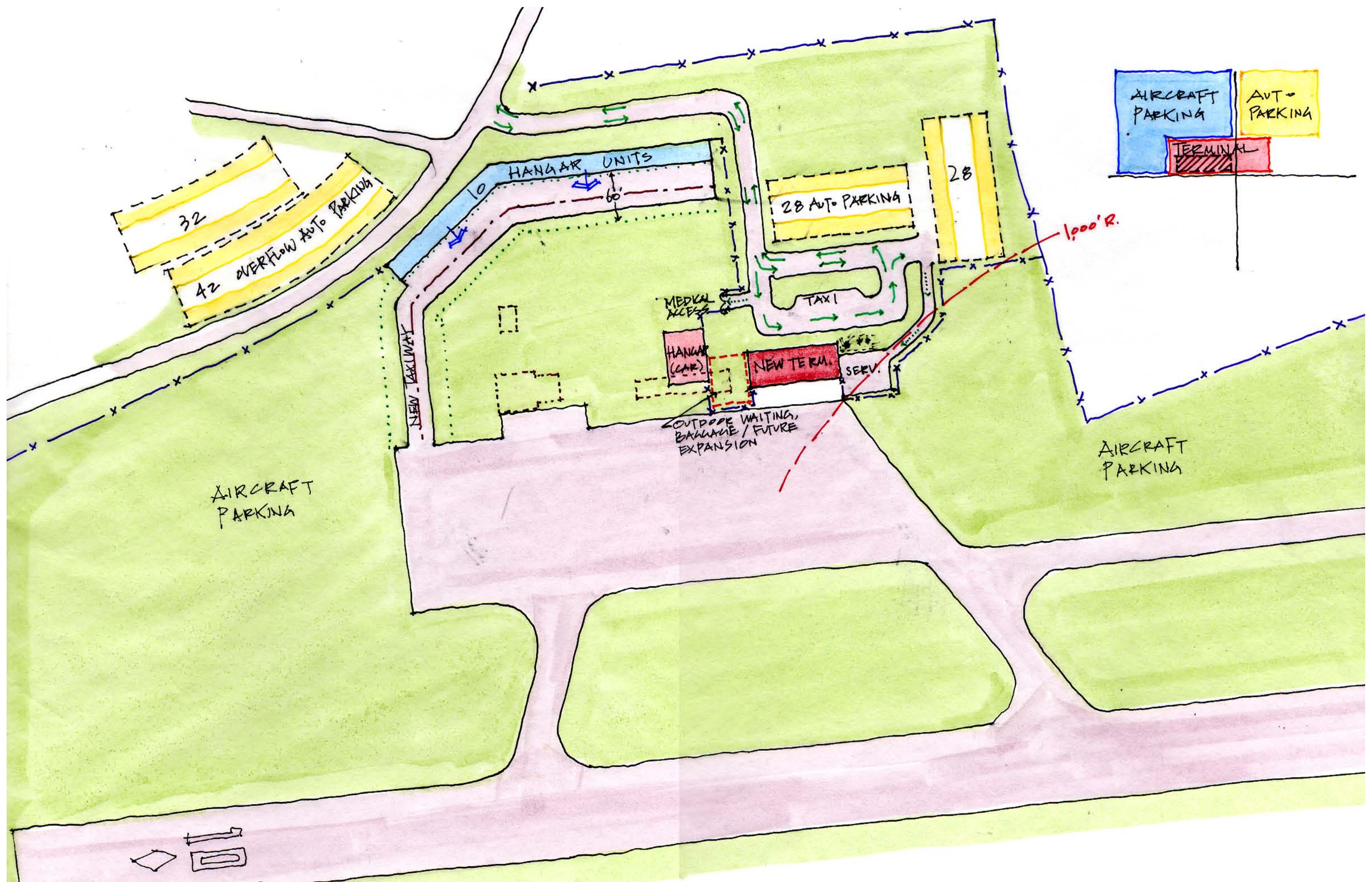
AIRPORT SITE LAYOUT - SCHEME A - MASTER PLAN FIG. 6-1



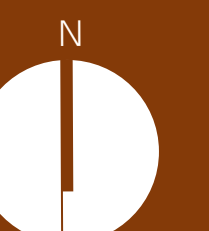


AIRPORT SITE LAYOUT - SCHEME B - MASTER PLAN FIG. 6-2





AIRPORT SITE LAYOUT - SCHEME C - MASTER PLAN FIG. 6-3





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**Table 6-3 Terminal Layout Schemes**

**BLOCK  
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Scheme	Component	Notes
A	Terminal	Located to the west of the existing terminal. Existing terminal to remain operational while new terminal constructed.
	Access/Circulation	New one-way access and circulation plan proposed. New access road located southwest of existing entry; new egress road located slightly northeast of existing access. All airport traffic passes by airport terminal at least once. Curb layout includes a pull-out area for taxis, limousine services and so on.
	Auto Parking	60 short- and long-term spaces located in infield of circulation roadway system. 70 long-term or overflow spaces provided on airport-owned land across Center Road. 130 spaces total.
	Aircraft Parking	Aircraft parking accommodated in expanded area located east and southeast of the proposed new terminal. A new taxilane connects this parking area with the BID taxiways/taxilanes.
	Miscellaneous	New terminal and auto parking fall outside the required 1,000-foot radius from the VOR (see Figure 6-1).
B	Terminal	Located to the west of the existing terminal. Existing terminal to remain operational while new terminal constructed.
	Access/Circulation	New two-way access and circulation plan proposed. New access/egress road located southwest of existing entry. Circulation network allows autos heading to short-term parking to bypass terminal curb, thus decreasing curb congestion at peak periods. Curb layout includes a pull-out area for taxis and limo services.
	Auto Parking	Approximately 50 autos accommodated in expanded lot to the east of the new terminal. Long-term and overflow parking (80 spaces) accommodated across Center Road. 130 total spaces.
	Aircraft Parking	Similar to Scheme A: aircraft parking accommodated in expanded area located east and southeast of the proposed new terminal. A new taxilane connects this parking area with the BID taxiways/taxilanes.
	Miscellaneous	New terminal and auto parking fall outside the required 1,000-foot radius from the VOR (see Figure 6-2).
C	Terminal	Located to the east of the existing terminal. Existing terminal to remain operational while new terminal constructed.
	Access/Circulation	New two-way circulation roadway system proposed, with new entry/egress point northeast of existing airport road. Circulation network allows autos heading to short-term parking to bypass terminal curb, thus decreasing curb congestion at peak periods. Curb layout includes a pull-out area for taxis and limo services.
	Auto Parking	56 autos accommodated in expanded lots to the north of the new terminal. Long-term and overflow parking (74 spaces) accommodated across Center Road. 130 total spaces.
	Aircraft Parking	Expanded aircraft parking located to the northwest of the new terminal, accessed by new taxilane.
	Miscellaneous	New terminal and auto parking fall outside the required 1,000-foot radius from the VOR (see Figure 6-3).

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On May 11, 2004, the above terminal layout schemes were presented to the Technical Advisory Committee (TAC Meeting #3). Some TAC members questioned whether a demand existed for the amount of hangar parking illustrated in the three schemes. Several objected to the location of the hangars in Scheme C, noting that these industrial-type buildings would be the first thing seen once on airport property.

There was strong sentiment expressed by committee members that parking facing the airfield be retained (as at present) to accommodate the many islanders who enjoy watching the airfield activity while having breakfast or lunch in their vehicle. The distance from the short-term parking lots in Scheme C was noted as possibly having a detrimental effect on the popular terminal restaurant, one of the few island restaurants serving breakfast year-round.

## Airport Master Plan

After considerable discussion, some consensus coalesced around Scheme C with requests that i) the parking layout be revised to provide parking adjacent to the new terminal as at present, and ii) the aircraft hangars be either removed from the layout scheme or indicated by a dash line(s) as a possible future element (assuming demand developed for such facilities).

Subsequently to the May 11 meeting, the design team architects revised Scheme C to address the comments made at TAC Meeting #3. The revised terminal area layout scheme is presented in Figure 6-4.

As illustrated, the revised scheme places 35 short-term parking spaces adjacent to the terminal, similar to the present-day layout. In addition, an outdoor waiting area/baggage claim/future terminal expansion area is defined to the west of the new terminal. Future aircraft hangars are removed from the perimeter of the access/egress road, brought forward to the aircraft ramp and described as "Future Hangar Area."

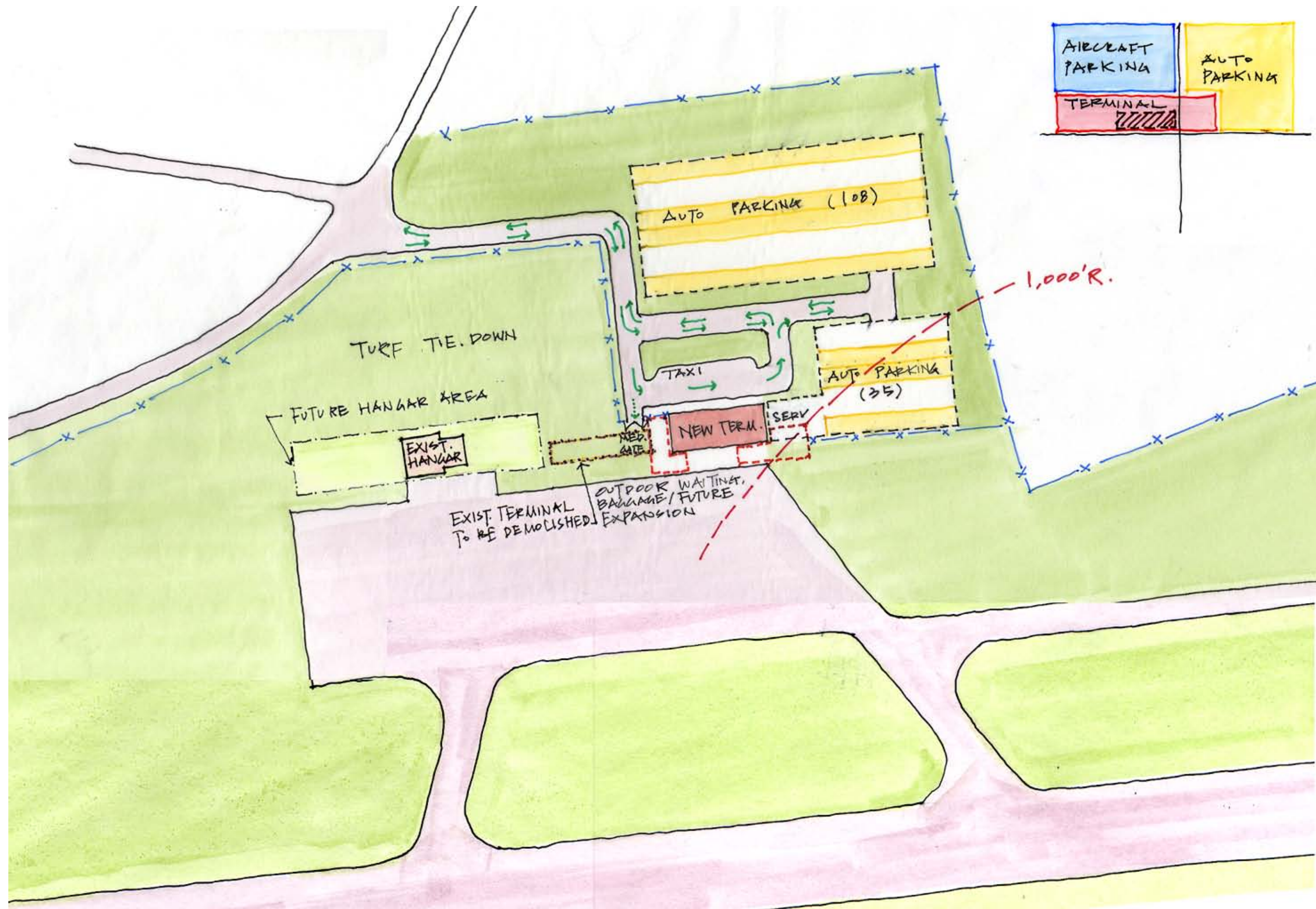
The revised layout accommodates the entire auto parking program in short- and long-term lots in the terminal area proper, thus leaving the airport-owned land across Center Road for another purpose or use. An estimated 143 spaces are envisioned in the general terminal area vicinity.

At a later date, the three original schemes and the revised/updated Scheme C were discussed with a large gathering of RIAC officials drawn from aviation safety, engineering, planning and environmental departments. After considerable discussion and debate, the consensus among the RIAC officials present was that Scheme B appeared to offer advantages over Scheme C, particularly in its perceived ability to accommodate greater amounts of seasonal aircraft parking. Furthermore, RIAC officials noted that modified Scheme C, by placing all parking in close proximity to the terminal, allocated scarce space around the terminal to auto parking in lieu of aircraft parking. The study team was requested to modify and expand Scheme B and to make greater use of the RIAC-owned parcel across Center Road for long term parking, thus providing more potential area for aircraft parking in the terminal environs.

Furthermore, the study team was advised to retain several of the terminal layout characteristics deemed desirable by the TAC, namely close-in terminal parking for short term visitors and restaurant-goers and the removal of aircraft hangars from the turf parking areas.

The study team engineers examined the remote parcel for its ability to accommodate long term parking. Upon further review, it was determined that the existing grades of the remote parcel did not lend themselves to a design which allowed an ADA-compliant design that also minimized walking distances and paths directly to the terminal. Thus, service levels to long term parkers would deteriorate considerably over existing conditions. **Upon further review with RIAC officials, the use of the remote parcel for long term (remote) parking was abandoned.**





AIRPORT SITE LAYOUT - REVISED SCHEME C - MASTER PLAN FIG. 6-4

OWNER  
RHODE ISLAND AIRPORT CORPORATION

BLOCK ISLAND AIRPORT MASTER PLAN UPDATE

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AIRPORT**

Subsequently, terminal area layouts and designs were considered which placed long term parking back in the immediate terminal environs. However, RIAC officials instructed the study team to reduce the number of long term spaces to between 20-25 spaces, depending on the layout of the smaller lot. The final proposed terminal area plan is presented in Figure 6-5.

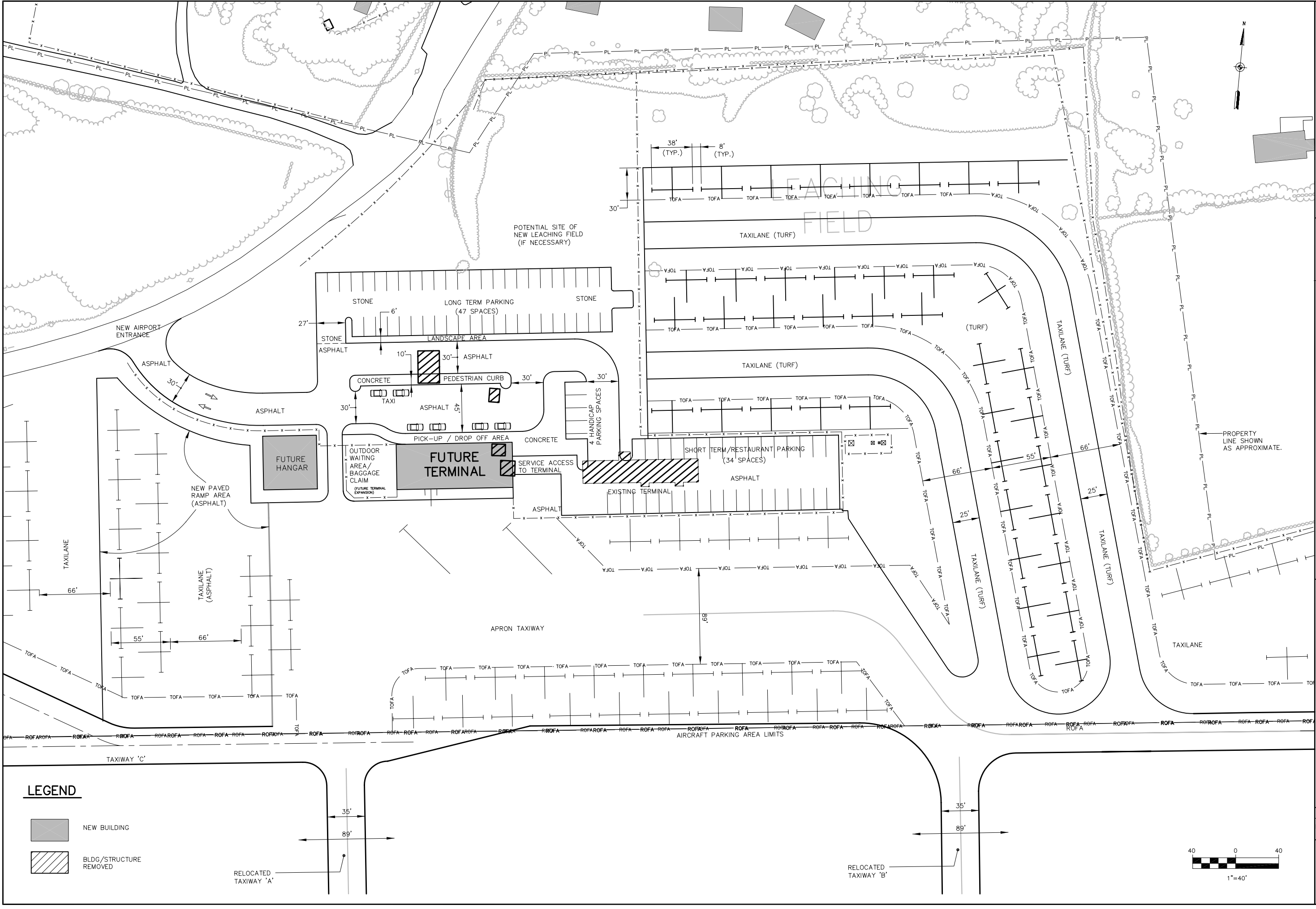
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LEGEND

- NEW BUILDING
- BLDG/STRUCTURE REMOVED

REVISIONS

REV. NO.	DATE	BY	DESCRIPTION
1			

RIAC CONTRACT NO.

NO. 16228

FEDERAL PROJECT NO.

3-44-0001-09

PROJECT DESIGNER

Hoyle, Tanner & Associates, Inc.

45 BROMFIELD ST. 10TH FLOOR - BOSTON MA. 02108

Tel: (617) 423-3600 Fax: (617) 423-4168 WEB PAGE: www.hta-nh.com

HTA PROJ. No.: 301003

FILE NAME: BIDTPO1

FIGURE NO.

6-5

SHEET

OF

REV

PROJECT DESIGNER

Hoyle, Tanner & Associates, Inc.

45 BROMFIELD ST. 10TH FLOOR - BOSTON MA. 02108

Tel: (617) 423-3600 Fax: (617) 423-4168 WEB PAGE: www.hta-nh.com

DES. BY

RKD

DR. BY

DDS

CHKD. BY

JBD

SCALE:

AS NOTED

DATE:

DEC. 8, 2004

BLOCK ISLAND AIRPORT

RHODE ISLAND AIRPORT CORPORATION

PREFERRED TERMINAL

AREA PLAN

PROPERTY LINE SHOWN AS APPROXIMATE.