

Appraising Proposed Marina Dry Stack Storage

The scarcity of marina land and the greatly increased legal and environmental requirements of marina development constrain many marina owners from expanding their holdings. An alternative is on-site dry stack storage, which is expected to offer increased marina profits once demand and boating rebound. This article addresses the many long-term influences that will create the demand for dry stack storage and the feasibility and appraisal of a proposed marina dry stack storage facility.

The multistory storage of boats on a site can provide additional revenue to a marina if land is scarce and further slip expansion is impossible. This method of storage is called a dry stack and “can be built up to five levels high. Boats are stored in shelves, making the structure look like a group of small storage organizers in a workshop.”¹ A powerful vehicle similar to a forklift picks up boats one by one from the loading area and places each into a rack.

Many variables affect the marina markets, but the demand for dry stack storage is directly related to the supply and demand for marina slips in an area. When the wet slips in marinas are full and demand for slip space is high, dry stack storage becomes viable and profitable.

There are three key influences on the demand for marinas and, ultimately, the de-

mand for dry stack storage. They are physical influences, legal requirements, and socioeconomic influences.

PHYSICAL INFLUENCES

Many physical factors influence the demands made on a marina and significantly reduce the potential for wet slip expansion. Location of the real estate is a major reason for the demand for marina facilities. Generally, the most successful marinas have superior locations in relation to their competition, with the most important determinant being access to major bodies of water. Direct access to the ocean, or very convenient access, attracts boaters and slip renters. Easy access to the best sailing areas and those with the strongest wind currents also increase de-

1. Eric Colby, “Dry Stack Grows in Popularity,” *Soundings Trade* (November 1987).

John Simpson, MAI, is a partner with Total Real Estate Services, Crofton, Maryland. He is the author of the books *Property Inspection: An Appraiser's Guide* and *Cooperative Apartment Appraisal*. He has also had numerous articles published in *The Appraisal Journal*. Mr. Simpson received an MBA in real estate and management from Temple University, Philadelphia, Pennsylvania, and a BS in business administration and management from Rutgers, New Brunswick, New Jersey. Contact: john@totalrealestate.com.

mand. The highest slip rentals and lowest vacancy rates go to the better located marinas which have convenient waterway access, further enhancing their probability of success.

Convenience to major transportation networks and easy access to a site are also important considerations. Limited visibility from a high-speed traffic area such as a major local highway, difficult access to the marina, and proximity to affluent residential areas play an important part in the success of a marina project.

Another factor involving location is protection from weather conditions. Many marinas have low profit margins, and excessive ice damage on freshwater marinas at the wrong time of year can put many of them out of business. To reduce this possibility, revenue from other sources, such as on-site restaurants, is recommended. Protection from winds and waves is also important, making the physical layout of the marina and harbor very important to the desirability of a particular location. In addition, access has become a problem for some marinas in heavily developed areas. Intense residential development limits access from other areas to a marina by overburdening local roads and causing traffic delays, in addition to the problem of finding parking areas.

However, the most important physical constraint on marinas is land. The shore areas tend to be very intensely developed in and around the major metropolitan areas. The land expansion of a marina is usually severely hampered for this reason. When there is excess demand for boat storage and no land for expanding marina operations, dry stack storage becomes the only way to increase revenue earned from boat storage.

ENVIRONMENTAL AND OTHER CONSTRAINTS

Legal and environmental constraints also pose considerations for wet berth marina expansion. Proposals for the expansion of existing marinas, or the building of new facilities, have been impeded, and sometimes halted, by interest groups who have used the various permitting processes to voice their objections. Some marina operators indicated that their expansion plans remained dreams because of the aggravation and cost of confronting local objections. The objections generally focus on the perceived disruptions to

the local neighborhood, particularly the impacts resulting from increased traffic and parking, and the potential ecological degradation that may accompany boating activities. In some cases, the environmental agencies will only permit development where there is mitigation due to alterations of the salt marsh. Since protected waters suitable for marinas are often characterized by salt marsh, much of the remaining undeveloped coastline is considered off limits to marina developers.

A major problem in the operation of some marinas is the buildup of sediments. The accretion process to underwater land causes a reduction in slip capacity. The solution to this problem is dredging, but it is extremely difficult to find suitable sites for the dredge materials. Because there are few economically feasible and environmentally acceptable disposal sites for dredge materials, the cost of dredging a marina is significant. These problems are best solved if the marina operators within a cove or harbor join together to finance dredging operations and find a common solution to the disposal problem. However, such efforts require extensive time and legal expense, and the permission of the Corps of Engineers and other agencies. They are also a very difficult and time-consuming process.

The nation's recession directly affected slip demand in most areas during the early and mid-1990s. Because boating is a discretionary item that becomes a luxury many people cannot afford during a recession, demand decreased in many marinas throughout the country. However, this trend has reversed itself as the nation has moved out of the recession and confidence in the economy has returned. The results are greatly decreased vacancies, higher slip rental rates, and waiting lists at the most favorable marinas.

COST OF DRY STACK STORAGE FACILITIES

There are many factors that affect the cost of a proposed dry stack storage facility. The five most important factors are:

1. Regulations from local and state building departments. These agencies determine the height requirements, road and wind loads, landscaping layouts, on-site parking regulations and other requirements that directly affect the degree of development allowed.

2. Soil conditions. Those areas that have more porous soils will usually require piles to be driven into the ground and special spread concrete footings and beams to provide the necessary foundation.
3. Location. The amount of ingress and egress, costs of construction materials, and local labor rates are affected by the site.
4. Fire safety regulations. It may be necessary to provide a wet sprinkler system for each level of the rack, depending on municipal and state requirements.
5. Storage requirements of the owner. The particular plan of the owner directly affects the project. Such factors as how many levels the facility will contain (usually three to five), the size of the boats to be stored, what type of system will be installed, and especially whether the facility will be fully enclosed, partially open, or completely open are key factors involved in the layout. Of course, the controlling jurisdiction must approve of any development, and the appraiser should determine the degree of development that will be allowed if the project is not yet fully approved.

Appraisal/Feasibility Study

The example that follows is based on a 120-slip marina situated on 2.6 acres of land. A 250 dry stack storage facility is proposed for the site. The size of the dry stack facility should be determined beforehand based on the amount of net usable land (gross land less land under buildings and land necessary for normal ingress and egress), the demand for dry stack storage and the projected cost/benefit ratio. (Although the developer may provide a pro forma, it should be verified.) The analyst should also verify that the amount of land used for the dry stack facility will not significantly interfere with normal on-site car/boat storage, parking, ingress and egress, and the necessary turning radius required for boats and cars.²

Revenues

Revenues come from two sources related to dry stack storage: the actual rental of the rack

storage space and ancillary businesses. Rental rates vary with supply-and-demand relationships in the local market. Dry stack storage rates depend not only on what the dry stack competition is charging but also on the supply-and-demand relationship for wet slip space.

The appraiser should determine the dry stack rental rate and vacancy rate from the market. A rental rate can be compared on a per-linear-foot-of-boat basis. It is not uncommon to have two rental rates during the year: a lower rate for the summer season reflecting more demand for wet storage and a higher rate for the winter, reflecting more demand for interior storage that does not suffer the effects of the weather.

Ancillary income can come from many sources related to a dry stack facility. Typically, there is an increase in boat repair service income, equipment sales and service, fuel sales, miscellaneous services, and occasionally additional used and new boat sales if the facility has an on-site showroom. A 20%–30% profit margin from fuel sales is typical and should be factored into cash flow projections for most marinas. Facilities with a significant number of wet slips usually have their own repair facilities, while smaller facilities often lease these services to repair vendors based on a percentage of the repair cost. Miscellaneous services, including food vending, spray wash, and winterizing of boats, are secondary sources of additional income. Vacancy allowance is another source of ancillary income. The vacancy rate should be derived from the market. Since environmental regulations restrict wet slip expansion for most marinas, the appraiser is concerned only with the possibility of additional dry stack storage market entrants. As vacancy rates decrease for wet slip berths, so too will the vacancy rate for dry stack storage. The income from collection loss is extremely small because most marina owners require the renter to pay for a substantial period in advance, perhaps six months to a full year in advance.

Expenses

The expenses directly applicable to a dry stack storage facility include salaries and

Limited visibility from a high-speed traffic area, access to the marina, and proximity to affluent residential areas are important to the success of marina projects.

2. Neil W. Ross, *Auto Parking in Marinas* (Wickford, Rhode Island: The International Marina Institute, 1989): 1–23. This study indicated that the number of cars per boat slip ranged from 0.21 during the August weekday low-use period to 0.71 during the fourth of July holiday weekend peak. Also, cars per boat in use ranged from 1.63 to 2.42 during the same periods. The most recent rule of thumb is one car for every two boat slips.

TABLE 1 Dry Stack Storage Cash Flow

	1993	1994	1995	1996	1997	1998
Rental income						
Summer season rental ^a	\$168,750	\$175,500	\$182,520	\$189,821	\$197,414	\$205,310
Winter season rental ^b	<u>\$187,500</u>	<u>\$195,000</u>	<u>\$202,800</u>	<u>\$210,912</u>	<u>\$219,348</u>	<u>\$228,122</u>
Gross dry stack rental income	\$356,250	\$370,500	\$385,320	\$400,733	\$416,762	\$433,432
Ancillary income						
Fuel sales ^c	\$18,750	\$19,500	\$20,280	\$21,091	\$21,935	\$22,812
Repair service ^d	\$22,500	\$23,400	\$24,336	\$25,309	\$26,322	\$27,375
Miscellaneous services ^e	<u>\$12,500</u>	<u>\$13,000</u>	<u>\$13,520</u>	<u>\$14,061</u>	<u>\$14,623</u>	<u>\$15,208</u>
Total ancillary income	\$53,750	\$55,900	\$58,136	\$60,461	\$62,880	\$65,395
Total gross income	\$410,000	\$426,400	\$443,456	\$461,194	\$479,642	\$498,827
Less vacancy allowance ^f	<u>(\$164,000)</u>	<u>(\$85,280)</u>	<u>(\$44,346)</u>	<u>(\$23,060)</u>	<u>(\$23,982)</u>	<u>(\$24,941)</u>
Effective gross income	\$246,000	\$341,120	\$399,110	\$438,134	\$455,660	\$473,886
Expenses						
Construction cost ^g	\$858,333	\$0	\$0	\$0	\$0	\$0
Salaries and benefits ^h	\$79,500	\$82,680	\$85,987	\$89,427	\$93,004	\$96,724
Utilities ⁱ	\$8,000	\$8,320	\$8,653	\$8,999	\$9,359	\$9,733
Insurance ^j	\$25,000	\$26,000	\$27,040	\$28,122	\$29,246	\$30,416
Professional fees ^k	\$5,000	\$5,200	\$5,408	\$5,624	\$5,849	\$6,083
Repairs and maintenance ^l	\$5,000	\$5,200	\$5,408	\$5,624	\$5,849	\$6,083
Advertising ^m	\$2,000	\$2,080	\$2,163	\$2,250	\$2,340	\$2,433
Lift truck lease payment ⁿ	\$56,280	\$56,280	\$56,280	\$56,280	\$56,280	\$56,280
Capital reserve ^o	<u>\$4,920</u>	<u>\$6,822</u>	<u>\$7,982</u>	<u>\$8,763</u>	<u>\$9,113</u>	<u>\$9,478</u>
Total expenses	\$1,044,033	\$192,582	\$198,921	\$205,089	\$211,040	\$217,230
Net operating income	(\$798,033)	\$148,538	\$200,189	\$233,045	\$244,620	\$256,656
Discount rate 14.00%						
Present value factor	<u>0.8772</u>	<u>0.7695</u>	<u>0.6750</u>	<u>0.5921</u>	<u>0.5194</u>	
Present value of cash flows	(\$700,035)	\$114,300	\$135,128	\$137,986	\$127,056	
Reversion						
Sixth-year income:	\$256,656				Present value of cash flows:	(\$185,566)
Terminal cap rate:	+ 12.00%				Present value of reversion:	<u>\$1,044,239</u>
Terminal value:	\$2,138,800					
Sale expenses (6%):	<u>(\$128,328)</u>				Total present value:	\$858,674
Sale proceeds:	\$2,010,472					
Present value factor for fifth year:	× 0.5194					
Present value of reversion:	<u>\$1,044,239</u>					

a. Summer storage of 250 boats x \$1,350 per year + by 6 months.

b. Winter storage of 250 boats x \$1,500 per year + by 6 months.

c. \$300 per boat annual fuel cost x 25% profit x 250 boats.

d. \$600 per boat annually x 15% profit x 250 boats.

e. \$50 per boat annually x 250 boats.

f. Vacancy rate of 40% for first year, 20% for second year, 10% for third year, and 5% thereafter.

g. Construction cost is based on a fully enclosed facility. Partially enclosed or open facilities are proportionately less expensive.

h. One marina manager at \$24,000 per year, two lift truck operators at \$16,000 per year, two dock and fuel persons at \$8,000 per year and an office person at \$7,500 per year.

i. Utilities are \$8,000 per year increased by 4% annually.

j. Insurance is \$25,000 per year increased by 4% annually.

k. Professional fees of \$5,000 increased by 4% annually.

l. Repairs and maintenance are \$5,000 per year increased by 4% annually.

m. Advertising fees of \$2,000 increased by 4% annually.

n. Lease payments based on truck purchase price of \$220,000, 60-month lease, 15% interest rate, which totals \$4,690 per month or \$56,280 per year.

o. Capital reserved based on 2% of effective gross income.

benefits, utilities, insurance, professional fees, repairs and maintenance, advertising, and a fixed lease payment for the lift trucks that move the boats. All expenses are for the dry stack storage facility only, not any wet slips that are present at the site.

The typical employees of this type of facility include a marina manager, lift truck operators, dock and fuel persons, and an office person. The appraiser should separate the expenses for the dry stack facility from that of the wet slip component at the site, and estimate the increase attributed to the dry stack unit. Utilities to the dry stack storage structure, such as water and electricity, and water, gas, electricity, and telephone for the dry stack rental office are typically included in the cash flow. In addition, insurance is typically a major expense of dry stack facilities. Liability, fire insurance, and property damage for both the dry racks and any boats situated on the racks must be carried by the owner. A modest allocation for increased accounting, legal expenses, and minor office expenses is also appropriate for the facility.

The cost for repairs and maintenance for the building and the racks is usually relatively modest in enclosed dry stack facilities. The depreciation and yearly maintenance on the dry stack frame are higher for semienclosed or open facilities and should be reflected in the expense projections.

A modest advertising cost is appropriate for the dry stack facility. Since an owner would usually advertise the dry stacks along with the wet slips as part of the project's marketing campaign, the allocation should reflect only the increase attributed to the dry stack facility.

Lift truck lease payments are another expense. Most owners lease lift trucks, which typically cost \$200,000–\$300,000, a very significant capital outlay. In terms of a capital reserve, the operation needs to allot enough for the dry stack frame and building only.

Since marinas are not considered typical investment-grade real estate, a premium over standard investment-grade real estate surveys is appropriate. The operation of a marina and a dry stack storage facility is considered a business and requires specialized expertise, further supporting a higher discount and terminal capitalization rate. Lastly, the various supply-and-demand relationships in the property's market must also be considered.

The results of the appraisal/feasibility study are shown in table 1. The final concluded additive value is \$858,674. This value represents the results after the cost to construct the facility has been considered. The long-term revenues not only cover the cost of the construction, but add \$858,000 to the value of the entire marina project, indicating that the dry stack storage component should be constructed.

Appraisers should expect to provide valuation services for these facilities. Stringent environmental regulations, legal roadblocks, and a lack of developable marina land in most shoreline areas of the county make dry stack storage a major factor in the future of marinas. By understanding the elements that make up this enterprise, an appraiser can present an accurate valuation with properly documented dry stack storage income and expenses that will help a lender understand the business and provide financing for this growing industry.