



COST ANALYSIS

The following information is offered for comparative purposes to evaluate the potential of each Concept financially. The costs are an estimate of probable cost based on historical information and current market conditions for a similar project.

The baseline cost estimate consists of the minimum components needed to construct a functioning parking structure. Some premium items such as sustainable site concepts, the emergency generator and additional site lighting are offered as a separate add/alternate costs in the estimate with each item including the same design contingency and escalation cost factors as the baseline estimate.

Definitions

Design Contingency - An adjustment factor that allows for items that have not yet been anticipated by the Owner or Design Team due to the early stages of a design. This factor decreases to zero as more information is offered and discovered in the course of completing the design and construction documents.

Construction Contingency – A fund to be set aside to address unanticipated discoveries or issues that arise during construction. Examples would include discovery of a concealed soil condition during excavation that affects the building foundation or modifications that become necessary with changing needs. 5% of construction cost is typically a good value to include during budgeting and this percentage should increase with a challenging site or a complex project type. No project should proceed without a construction contingency.

Construction Cost - Cost of building construction including the contractors' overhead and profit. It does NOT include professional fees, permit fees, site costs, construction administration, furnishings and equipment.

Project Cost - Total cost of the project – ALL COSTS. In addition to construction costs this includes construction contingency, professional fees, permit fees, site costs, construction administration, furnishings and equipment.

Assumptions

- The cost estimate for the parking structure Concept A, B - Phase I and C have an assumed bid date of 2010 with Concept B - Phase II being bid in 2012 with 5% annual escalation.
- Professional Services for an Acoustic Consultant have been included in professional fees to evaluate the potential of the parking structure reducing unwanted railroad noise for the Main Street district. This was included at the request of City and community leaders during interviews. The testing will be performed in a two step process during design; retrieving data from the railroad and Main Street in general, which involves studying the topography and taking integrated and instantaneous noise measurements. The next step would be assessing how affective the structure is as a barrier. This involves an analysis of the structures cladding materials and construction, the overall height, and it's location in relationship to the railroad and Main Street.
- Precast Structure Quotes. Often these quotes if obtained directly from a manufacturer include only the precast columns, single and double ledger beams, double T's, shear walls and stitch walls and an erection fee – in summary basic components from the anchor bolts and up. These quotes do NOT typically include site work, footing foundations, grade beams, on grade pavement, or contractors overhead and mark up. etc.,

Assumptions [continued]

- A cost per sq.ft. allowance was added to the estimate for the screening system on each concept. We have assumed the entire building facades on the east, south and west will require some form of screening. These costs are offered as an additive item.
- Ticketing System that is included in the baseline estimate is a basic "Pay- by- Stall" system. This assumes 2 multi-stall pay machines for the facility. A variety of parking control systems are available and cost for each system can vary greatly and will depend on specific features selected. At the high end, these systems will cost \$200,000 or more. A slightly less costly alternative would be a "pay in lane" system. In this system, the pay stations are located at the exits. The pay stations would function similar to a drive thru ATM where the driver would pay the fare when exiting the facility. This eliminates the need for ticket readers at the exits. A system such as this would be in the \$50,000 to \$100,000 range depending on the specific features.

COST BREAKDOWN SUMMARY	Existing	Concept A	Concept B Phase I	Concept B Phase II	Concept B complete	Concept C
Total Construction Cost Estimate	-	\$7,841,517	\$3,837,930	\$4,422,769	\$8,260,699	\$6,457,415
Total Construction Cost Estimate with Add/Alternate Items	-	\$8,158,967	\$4,020,430	\$4,591,769	\$8,612,199	\$6,683,415
Total Project Cost Estimate	-	\$9,224,768	\$4,575,107	\$5,217,006	\$9,792,113	\$7,567,050
Net Stalls Gained	-	182	89	93	182	128
Lot X [Existing]	123	123	123	NA	123	123
Lot Y [Existing]	95	95	NA	95	95	NA
Total Stalls*	218	400	212	188	400	346
Cost Per Stall**	-	\$20,397	\$18,964	\$24,424	\$21,530	\$19,316
Cost Per Net Stall***	-	\$44,829	\$45,173	\$49,374	\$47,320	\$52,214

*Total number of available spaces in any of the concept options assumes a variance to the commercial space requirement [ORD. NO. 3822, 3-8-05]

** Cost Per Stall = Total Construction Cost Estimate with add/alternate items / Total Stalls

*** Cost Per Net Stall = Total Construction Cost Estimate with add/alternate items / Net Stalls Gained

Construction Cost Estimate

	Item Costs	Total
Construction Cost Estimate - PRELIMINARY		
Site Work		
Earth Work		
Demolition	\$ 110,100	
Grading	\$ 67,963	
Misc Site Demo	\$ 25,000	
Utilities		
Upgrade water service at North	\$ 45,000	
Fire Service Loop - E,S,W	\$ 65,000	
Fire Hydrant Valves	\$ 30,000	
Storm Sewer Piping	\$ 127,500	
Sand Interceptor	\$ 70,000	
Concrete work		
Replace gutters, curbs, sidewalk, approach	\$ 50,277	
North Drive & Paving at open space	\$ 189,850	
Sidewalks at E, W Streets	\$ 2,720	
Landscaping @ E,S,W		
trees, shrubs, topsoil, beds & mulch	\$ 81,900	
Site Work Cost		\$ 865,310
Parking Garage Construction		
Deep Foundation Systems - Drilled Piers	\$ 270,000	
Foundations and Ramp walls	\$ 478,131	
Slab on Grade & Ramp Slab	\$ 269,517	
Precast Columns, Beams & Double T's	\$ 1,403,250	
Traffic Topping, Perimeter Wash & Joint Sealant	\$ 300,153	
Barrier Cables @ Upper Level	\$ 10,075	
Bollards And Pipe Protection	\$ 40,985	
Stairs, Partial Enclosure, Roof	\$ 122,100	
Finishes - Paint, Based on Floor Area	\$ 78,000	
Plumbing - Roof & Floor Drains, Standpipes	\$ 262,720	
Electrical Work	\$ 397,800	
PCC Paving, 6" (Permeable Area)*	\$ 28,020	
Parking Stall Striping	\$ 4,000	
Ramp Signage - Way finding	\$ 15,600	
Parking Equipment - Budget	\$ 400,000	
Screening System - 16' @ E,W,S	\$ 712,000	
Parking Garage Construction Cost		\$ 4,792,351
Subtotal - Construction Cost Estimate		\$ 5,657,660
Contractor's General Requirements @ 5%	\$282,883	
		\$ 5,940,543
Contractor's Markup on Net Costs @10%	\$594,054	
		\$ 6,534,598
Design Contingency @ 20% of Construction Cost	\$1,306,920	
Total Construction Cost Estimate		\$ 7,841,517

Project Cost Estimate

Total Construction Cost Estimate		\$ 7,841,517
Add/Alternate Items		
Add Storm Water Infiltration Field	\$ 103,950	
Change PCC Paving to Permeable Paving*	\$ 47,500	
Add Site Lighting	\$ 102,000	
Add Emergency Generator	\$ 50,000	
Add 2 Snow Gates	\$ 14,000	
Add/Alternate Items Cost		\$ 317,450
Total Construction Cost Estimate with Add/Alternate Items		\$ 8,158,967
Project Costs		
Construction Contingency [5% of construction cost]	\$ 407,948	
		\$ 8,566,915
Professional Services - Design Fees		
A/E fees [Assume 7% of Construction Cost]	\$ 571,128	
A/E estimated expenses	\$ 6,000	
City of Ames Staff Fees	\$ -	
Acoustic Consultant	\$ 5,500	
Professional Services		\$ 582,628
Other Project Costs		
Site Survey	\$ 5,000	
Soil Borings	\$ 1,500	
Bid Document Printing	\$ 7,500	
Building Permit Fees	\$ 30,400	
MEPF Fees	\$ 825	
Signage	\$ 25,000	
Construction Testing / Special Inspections	\$ 5,000	
Other Project Costs Cost		\$ 75,225
Total Project Cost Estimate		\$ 9,224,768

Concept A

Full site parking structure extending from Clark Ave to Kellogg Ave across both Lots X & Y. For cost estimation purposes, construction was assumed to begin in 2010.

Definitions

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Construction Contingency - A fund to be set aside to address unanticipated discoveries or issues that arise during construction. Examples would include discovery of a concealed soil condition during excavation that affects the building foundation or modifications that become necessary with changing needs. 5% of construction cost is typically a good value to include during budgeting and this percentage should increase with a challenging site or a complex project type. No project should proceed without a construction contingency.

Project Cost - Total cost of the project - ALL COSTS. In addition to construction costs this includes construction contingency, professional fees, permit fees, site costs, construction administration, furnishings and equipment.

Assumptions

- The cost estimate for the parking structure Concept A, B - Phase I and C have an assumed bid date of 2010 with Concept B - Phase II being bid in 2012 with 5% annual escalation.
- Professional Services for an Acoustic Consultant have been included in professional fees to evaluate the potential of the parking structure reducing unwanted railroad noise for the Main Street district. This was included at the request of City and community leaders during interviews. The testing will be performed in a two step process during design; retrieving data from the railroad and Main Street in general, which involves studying the topography and taking integrated and instantaneous noise measurements. The next step would be assessing how affective the structure is as a barrier. This involves an analysis of the structures cladding materials and construction, the overall height, and it's location in relationship to the railroad and Main Street.
- Precast Structure Quotes. Often these quotes if obtained directly from a manufacturer include only the precast columns, single and double ledger beams, double T's, shear walls and stitch walls and an erection fee - in summary basic components from the anchor bolts and up. These quotes do NOT typically include site work, footing foundations, grade beams, on grade pavement, or contractors overhead and mark up. etc.,
- A cost per sq.ft. allowance was added to the estimate for the screening system on each concept. We have assumed the entire building facades on the east, south and west will require some form of screening. These costs are offered as an additive item.
- Ticketing System that is included in the baseline estimate is a basic "Pay- by- Stall" system. This assumes 2 multi-stall pay machines for the facility. A variety of parking control systems are available and cost for each system can vary greatly and will depend on specific features selected. At the high end, these systems will cost \$200,000 or more. A slightly less costly alternative would be a "pay in lane" system. In this system, the pay stations are located at the exits. The pay stations would function similar to a drive thru ATM where the driver would pay the fare when exiting the facility. This eliminates the need for ticket readers at the exits. A system such as this would be in the \$50,000 to \$100,000 range depending on the specific features.

Construction Cost Estimate

	Item Costs	Total
Construction Cost Estimate - PRELIMINARY		
Site Work		
Earth Work		
Demolition	\$ 52,500	
Grading	\$ 32,407	
Misc Site Demo	\$ 15,000	
Utilities		
Upgrade water service at North	\$ 22,500	
Fire Service Loop - E,S,W	\$ 32,500	
Fire Hydrant Valves	\$ 15,000	
Storm Sewer Piping	\$ 63,750	
Sand Interceptor	\$ 35,000	
Concrete work		
Replace gutters, curbs, sidewalk, approach	\$ 22,694	
North Drive & Paving at open space	\$ 77,400	
Sidewalks at West Street	\$ 1,360	
Landscaping @ S,W		
trees, shrubs, topsoil, beds & mulch	\$ 31,125	
Site Work Cost		\$ 401,236
Parking Garage Construction		
Deep Foundation Systems - Drilled Piers	\$ 135,000	
Foundations and Ramp walls	\$ 245,550	
Slab on Grade & Ramp Slab	\$ 140,261	
Precast Columns, Beams & Double T's	\$ 660,625	
Traffic Topping, Perimeter Wash & Joint Sealant	\$ 150,188	
Barrier Cables @ Upper Level	\$ 4,625	
Bollards And Pipe Protection	\$ 21,078	
Stairs, Partial Enclosure, Roof	\$ 82,500	
Finishes - Paint, Based on Floor Area	\$ 38,025	
Plumbing - Roof & Floor Drains, Standpipes	\$ 125,680	
Electrical Work	\$ 193,928	
PCC Paving, 6" (Permeable Area)*	\$ 12,609	
Parking Stall Striping	\$ 2,160	
Ramp Signage - Way finding	\$ 7,605	
Parking Equipment - Budget	\$ 200,000	
Screening System - 16' @ W,S	\$ 348,000	
Parking Garage Construction Cost		\$ 2,367,833
Subtotal - Construction Cost Estimate		\$ 2,769,070
Contractor's General Requirements @ 5%	\$138,453	
		\$ 2,907,523
Contractor's Markup on Net Costs @10%	\$290,752	
		\$ 3,198,275
Design Contingency @ 20% of Construction Cost	\$639,655	
Total Construction Cost Estimate		\$ 3,837,930

Project Cost Estimate

Total Construction Cost Estimate		\$ 3,837,930
Add/Alternate Items		
Add Storm Water Infiltration Field	\$ 55,500	
Change PCC Paving to Permeable Paving*	\$ 21,500	
Add Site Lighting	\$ 48,500	
Add Emergency Generator	\$ 50,000	
Add 1 Snow Gate	\$ 7,000	
Add/Alternate Items Cost		\$ 182,500
Total Construction Cost Estimate with Add/Alternate Items		\$ 4,020,430
Project Costs		
Construction Contingency [5% of construction cost]	\$ 201,022	
		\$ 4,221,452
Professional Services - Design Fees		
A/E fees [Assume 7% of Construction Cost]	\$ 281,430	
A/E estimated expenses	\$ 6,000	
City of Ames Staff Fees	\$ -	
Acoustic Consultant	\$ 5,500	
Professional Services		\$ 292,930
Other Project Costs		
Site Survey	\$ 5,000	
Soil Borings	\$ 1,500	
Bid Document Printing	\$ 7,500	
Building Permit Fees	\$ 15,900	
MEPF Fees	\$ 825	
Signage	\$ 25,000	
Construction Testing / Special Inspections	\$ 5,000	
Other Project Costs Cost		\$ 60,725
Total Project Cost Estimate		\$ 4,575,107

Concept B

Full site parking structure with phased construction. A parking structure built on Lot X, to be considered phase B-I, and followed by another structure built on Lot Y, considered phase B-II. For cost estimation purposes, construction of phase B-I was assumed to begin in 2010 with construction of B-II to beginning in 2012.

Definitions

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Project Cost - Total cost of the project - ALL COSTS. In addition to construction costs this includes construction contingency, professional fees, permit fees, site costs, construction administration, furnishings and equipment.

Assumptions

- The cost estimate for the parking structure Concept A, B - Phase I and C have an assumed bid date of 2010 with Concept B - Phase II being bid in 2012 with 5% annual escalation.
- Professional Services for an Acoustic Consultant have been included in professional fees to evaluate the potential of the parking structure reducing unwanted railroad noise for the Main Street district. This was included at the request of City and community leaders during interviews. The testing will be performed in a two step process during design; retrieving data from the railroad and Main Street in general, which involves studying the topography and taking integrated and instantaneous noise measurements. The next step would be assessing how affective the structure is as a barrier. This involves an analysis of the structures cladding materials and construction, the overall height, and it's location in relationship to the railroad and Main Street.
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- Ticketing System that is included in the baseline estimate is a basic "Pay- by- Stall" system. This assumes 2 multi-stall pay machines for the facility. A variety of parking control systems are available and cost for each system can vary greatly and will depend on specific features selected. At the high end, these systems will cost \$200,000 or more. A slightly less costly alternative would be a "pay in lane" system. In this system, the pay stations are located at the exits. The pay stations would function similar to a drive thru ATM where the driver would pay the fare when exiting the facility. This eliminates the need for ticket readers at the exits. A system such as this would be in the \$50,000 to \$100,000 range depending on the specific features.

Construction Cost Estimate

	Item Costs	Total
Construction Cost Estimate - PRELIMINARY		
Site Work		
Earth Work		
Demolition	\$ 57,600	
Grading	\$ 35,556	
Misc Site Demo	\$ 10,000	
Utilities		
Upgrade water service at North	\$ 22,500	
Fire Service Loop - E,S,W	\$ 32,500	
Fire Hydrant Valves	\$ 15,000	
Storm Sewer Piping	\$ 63,750	
Sand Interceptor	\$ 35,000	
Concrete work		
Replace gutters, curbs, sidewalk, approach	\$ 27,582	
North Drive & Paving at open space	\$ 112,450	
Sidewalks at East Street	\$ 1,360	
Landscaping @ E,S,W		
trees, shrubs, topsoil, beds & mulch	\$ 35,775	
Site Work Cost		\$ 449,073
Parking Garage Construction		
Deep Foundation Systems - Drilled Piers	\$ 145,000	
Foundations and Ramp walls	\$ 233,757	
Slab on Grade & Ramp Slab	\$ 129,256	
Demo & Prep at Connection	\$ 12,250	
Precast Columns, Beams & Double T's	\$ 747,000	
Traffic Topping, Perimeter Wash & Joint Sealant	\$ 149,965	
Barrier Cables @ Upper Level	\$ 5,625	
Bollards And Pipe Protection	\$ 19,907	
Stairs, partial Enclosure, Roof	\$ 83,600	
Finishes - Paint, Based on Floor Area	\$ 39,975	
Plumbing - Roof & Floor Drains, Standpipes	\$ 137,040	
Electrical Work	\$ 203,873	
PCC Paving, 6" (Permeable Area)*	\$ 15,411	
Parking Stall Striping	\$ 1,840	
Ramp Signage - Way finding	\$ 7,995	
Parking Equipment - Budget	\$ 200,000	
Screening System - 16' @ E,S	\$ 364,000	
Parking Garage Construction Cost		\$ 2,496,494
Subtotal - Construction Cost Estimate		\$ 2,945,567
Contractor's General Requirements @ 5%	\$147,278	
Contractor's Markup on Net Costs @10%	\$309,285	\$ 3,092,846
Design Contingency @ 20% of Construction Cost	\$1,020,639	\$ 3,402,130
Total Construction Cost Estimate		\$ 4,422,769

Project Cost Estimate

Total Construction Cost Estimate		\$ 4,422,769
Add/Alternate Items		
Add Storm Water Infiltration Field	\$ 60,000	
Change PCC Paving to Permeable Paving*	\$ 28,500	
Add Site Lighting	\$ 58,000	
Modify Emergency Generator	\$ 15,000	
Add 1 Snow Gate	\$ 7,500	
Add/Alternate Items Cost		\$ 169,000
Total Construction Cost Estimate with Add/Alternate Items		\$ 4,591,769
Project Costs		
Construction Contingency [5% of construction cost]	\$ 229,588	
Professional Services - Design Fees		\$ 4,821,357
A/E fees [Assume 7% of Construction Cost]	\$ 321,424	
A/E estimated expenses	\$ 6,000	
City of Ames Staff Fees	\$ -	
Acoustic Consultant	\$ 5,500	
Professional Services		\$ 332,924
Other Project Costs		
Site Survey	\$ 5,000	
Soil Borings	\$ 1,500	
Bid Document Printing	\$ 7,500	
Building Permit Fees	\$ 17,900	
MEPF Fees	\$ 825	
Signage	\$ 25,000	
Construction Testing / Special Inspections	\$ 5,000	
Other Project Costs Cost		\$ 62,725
Total Project Cost Estimate		\$ 5,217,006

Concept B

Full site parking structure with phased construction. A parking structure built on Lot X, to be considered phase B-I, and followed by another structure built on Lot Y, considered phase B-II. For cost estimation purposes, construction of phase B-I was assumed to begin in 2010 with construction of B-II to beginning in 2012.

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Project Cost - Total cost of the project - ALL COSTS. In addition to construction costs this includes construction contingency, professional fees, permit fees, site costs, construction administration, furnishings and equipment.

Assumptions

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Construction Cost Estimate

	Item Costs	Total
Construction Cost Estimate - PRELIMINARY		
Site Work		
Earth Work		
Demolition	\$ 53,625	
Grading	\$ 33,102	
Misc Site Demo	\$ 15,000	
Utilities		
Upgrade water service at North	\$ 22,000	
Fire Service Loop - E,S,W	\$ 42,000	
Fire Hydrant Valves	\$ 10,000	
Storm Sewer Piping	\$ 81,000	
Sand Interceptor	\$ 35,000	
Concrete work		
Replace gutters, curbs, sidewalk, approach	\$ 23,773	
North Drive & East Paving at open space	\$ 97,350	
Sidewalks at West Street	\$ 1,360	
Landscaping @ W,S		
trees, shrubs, topsoil, beds & mulch	\$ 31,358	
Site Work Cost		\$ 445,568
Parking Garage Construction		
Deep Foundation Systems - Drilled Piers	\$ 175,000	
Foundations and Ramp walls	\$ 215,745	
Slab on Grade & Ramp Slab	\$ 140,261	
Precast Columns, Beams & Double T's	\$ 1,414,750	
Traffic Topping, Perimeter Wash & Joint Sealant	\$ 339,980	
Barrier Cables @ Upper Level	\$ 10,250	
Bollards And Pipe Protection	\$ 32,203	
Stairs, Partial Enclosure, Roof	\$ 120,000	
Finishes - Paint, Based on Floor Area	\$ 59,200	
Plumbing - Roof & Floor Drains, Standpipes	\$ 195,440	
Electrical Work	\$ 302,685	
Elevator Pit, Shaft, Equip, Room	\$ 160,000	
PCC Paving, 6" (Permeable Area)*	\$ 12,609	
Parking Stall Striping	\$ 3,500	
Ramp Signage - Way finding	\$ 11,840	
Parking Equipment - Budget	\$ 300,000	
Screening System - 16' @ W,S	\$ 720,000	
Parking Garage Construction Cost		\$ 4,213,463
Subtotal - Construction Cost Estimate		\$ 4,659,030
Contractor's General Requirements @ 5%	\$232,951	
		\$ 4,891,981
Contractor's Markup on Net Costs @10%	\$489,198	
		\$ 5,381,179
Design Contingency @ 20% of Construction Cost	\$1,076,236	
Total Construction Cost Estimate		\$ 6,457,415

Project Cost Estimate

Total Construction Cost Estimate		\$ 6,457,415
Add/Alternate Items		
Add Storm Water Infiltration Field	\$ 55,500	
Change PCC Paving to Permeable Paving*	\$ 21,500	
Add Site Lighting	\$ 82,000	
Add Emergency Generator	\$ 60,000	
Add 1 Snow Gate	\$ 7,000	
Add/Alternate Items Cost		\$ 226,000
Total Construction Cost Estimate with Add/Alternate Items		\$ 6,683,415
Project Costs		
Construction Contingency [5% of construction cost]	\$ 334,171	
		\$ 7,017,586
Professional Services - Design Fees		
A/E fees [Assume 7% of Construction Cost]	\$ 467,839	
A/E estimated expenses	\$ 6,000	
City of Ames Staff Fees	\$ -	
Acoustic Consultant	\$ 5,500	
Professional Services		\$ 479,339
Other Project Costs		
Site Survey	\$ 5,000	
Soil Borings	\$ 1,500	
Bid Document Printing	\$ 7,500	
Building Permit Fees	\$ 25,300	
MEPF Fees	\$ 825	
Signage	\$ 25,000	
Construction Testing / Special Inspections	\$ 5,000	
Other Project Costs Cost		\$ 70,125
Total Project Cost Estimate		\$ 7,567,050

Concept C

Half site parking structure with two elevated decks constructed on Lot X only with Lot Y to remain as a surface parking lot. For cost estimation purposes, construction was assumed to begin in 2010.

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- The cost estimate for the parking structure Concept A, B - Phase I and C have an assumed bid date of 2010 with Concept B - Phase II being bid in 2012 with 5% annual escalation.
- Professional Services for an Acoustic Consultant have been included in professional fees to evaluate the potential of the parking structure reducing unwanted railroad noise for the Main Street district. This was included at the request of City and community leaders during interviews. The testing will be performed in a two step process during design; retrieving data from the railroad and Main Street in general, which involves studying the topography and taking integrated and instantaneous noise measurements. The next step would be assessing how affective the structure is as a barrier. This involves an analysis of the structures cladding materials and construction, the overall height, and it's location in relationship to the railroad and Main Street.
- Precast Structure Quotes. Often these quotes if obtained directly from a manufacturer include only the precast columns, single and double ledger beams, double T's, shear walls and stitch walls and an erection fee - in summary basic components from the anchor bolts and up. These quotes do NOT typically include site work, footing foundations, grade beams, on grade pavement, or contractors overhead and mark up. etc.,
- A cost per sq.ft. allowance was added to the estimate for the screening system on each concept. We have assumed the entire building facades on the east, south and west will require some form of screening. These costs are offered as an additive item.
- Ticketing System that is included in the baseline estimate is a basic "Pay-by-Stall" system. This assumes 2 multi-stall pay machines for the facility. A variety of parking control systems are available and cost for each system can vary greatly and will depend on specific features selected. At the high end, these systems will cost \$200,000 or more. A slightly less costly alternative would be a "pay in lane" system. In this system, the pay stations are located at the exits. The pay stations would function similar to a drive thru ATM where the driver would pay the fare when exiting the facility. This eliminates the need for ticket readers at the exits. A system such as this would be in the \$50,000 to \$100,000 range depending on the specific features.