

**PORT OF HOUSTON AUTHORITY - BAYPORT TERMINAL COMPLEX
CONCEPTUAL CONSTRUCTION COST ESTIMATES**

Prepared by:

(Does not include buildings or gates for private terminals and empty yards.)

Add amounts below to phase 1 cost for total

| Item | Description | Phase 1A Cost Estimate | | | | Build-out, 7000 ft. berth | | | |
|--|--|------------------------|------|------------|---------------|---------------------------|------|----------------|---------------|
| | | Qty. | Unit | Unit Cost | Subtotal (\$) | Quantity | Unit | Unit Cost (\$) | Subtotal |
| A Preparation | | | | | | | | | |
| A.1 | Land Purchase - "McCanse" portion of Seureau | 10 | acre | \$ 50,000 | \$ 500,000 | 0 | acre | \$ 50,000 | \$ - |
| A.2 | Land Purchase - Hoechst Celanese | 2 | acre | \$ 50,000 | \$ 100,000 | 0 | acre | \$ 50,000 | \$ - |
| A.3 | Land Purchase - South Access | 0 | acre | \$ - | \$ - | 34 | acre | \$ 50,000 | \$ 1,700,000 |
| A.4 | Land Purchase - Seureau, cruise only area | 0 | acre | \$ - | \$ - | 41 | acre | \$ 50,000 | \$ 2,050,000 |
| A.4 | Land Purchase - Seureau, codevel. Area | 0 | acre | \$ - | \$ - | 66 | acre | \$ 50,000 | \$ 3,300,000 |
| A.5 | Demolition/site preparation - clear, grub, turf and root disposal | 100 | acre | \$ 5,000 | \$ 500,000 | 650 | acre | \$ 5,000 | \$ 3,250,000 |
| B Site Work - CONTAINER YARD | | | | | | | | | |
| B.1 | Fencing | 8000 | LF | \$ 15 | \$ 120,000 | 12000 | LF | \$ 15 | \$ 180,000 |
| B.2 | Rough grading, assumed balanced site | 90 | acre | \$ 5,500 | \$ 495,000 | 660 | acre | \$ 5,500 | \$ 3,630,000 |
| B.3 | Pavement - paving blocks @ RTG/toppick areas | 33 | acre | \$ 251,000 | \$ 8,283,000 | 104 | acre | \$ 251,000 | \$ 26,104,000 |
| B.4 | Pavement - paving blocks @ wheeled areas | 37 | acre | \$ 209,000 | \$ 7,733,000 | 149 | acre | \$ 209,000 | \$ 31,141,000 |
| B.5 | Pavement - P. blocks @ empty & auto areas (including south area) | 11.5 | acre | \$ 214,000 | \$ 2,461,000 | 82.5 | acre | \$ 214,000 | \$ 17,655,000 |
| B.6 | Pavement - Portland cement @ gate, M&R ref. C.2 for pvmt @ intermodal yard | 5.5 | acre | \$ 250,000 | \$ 1,375,000 | 32.5 | acre | \$ 250,000 | \$ 8,125,000 |
| B.9 | Domestic water systems - 6" pipes, valves backflow preventor | 5000 | LF | \$ 22 | \$ 110,000 | 7000 | LF | \$ 22 | \$ 154,000 |
| B.10 | Fire water systems - 8" pipe, valves, hydrants, backflow preventor | 7000 | LF | \$ 35 | \$ 245,000 | 23000 | LF | \$ 35 | \$ 805,000 |
| B.11 | Storm drainage systems - 36" pipe manholes etc. | 13000 | LF | \$ 85 | \$ 1,105,000 | 41000 | LF | \$ 85 | \$ 3,485,000 |
| B.12 | Lighting (Intermodal yard lighting below at c.9) | 90 | acre | \$ 16,000 | \$ 1,440,000 | 537 | acre | \$ 16,000 | \$ 8,592,000 |
| B.13 | Striping | 1 | LS | \$ 65,000 | \$ 65,000 | 1 | LS | \$ 130,000 | \$ 130,000 |
| C Intermodal Yard | | | | | | | | | |
| C.1 | Rail track | | | | | 1 | LS | \$ 17,400,000 | \$ 17,400,000 |
| C.2 | Pavement (portland cement) | | | | | 58 | acre | \$ 312,000 | \$ 18,096,000 |
| C.3 | Fence | | | | | 15000 | LF | \$ 15 | \$ 225,000 |
| C.4 | Domestic water systems - 6" pipe | | | | | 15000 | LF | \$ 22 | \$ 330,000 |
| C.5 | Fire water systems, 8" pipe | | | | | 15000 | LF | \$ 35 | \$ 525,000 |
| C.6 | Storm drainage systems - 36" pipe | | | | | 17500 | LF | \$ 65 | \$ 1,137,500 |
| C.7 | Gas utility, 2" PVC pipe | | | | | 10000 | LF | \$ 22 | \$ 220,000 |
| C.8 | Storm drainage systems, catch basin, etc | | | | | 17500 | LF | \$ 100 | \$ 1,750,000 |
| C.9 | Lighting | | | | | 123 | acre | \$ 16,000 | \$ 1,968,000 |
| C.10 | Striping | | | | | 1 | LS | \$ 50,000 | \$ 50,000 |
| Public Access Intermodal Yard (Ramp) | | | | | | | | | |
| C.11 | Gate building | | | | | 5000 | SF | \$ 120 | \$ 600,000 |
| C.12 | M&R building | | | | | 5000 | SF | \$ 150 | \$ 750,000 |
| C.13 | Paving - asphalt | | | | | 10 | AC | \$ 110,000 | \$ 1,100,000 |
| C.14 | Inspection Booths (entry and exit) | | | | | 4 | EA | \$ 12,000 | \$ 48,000 |
| C.15 | Canopy | | | | | 5000 | SF | \$ 50 | \$ 250,000 |
| C.16 | Scales/foundation (one per lane at entry) | | | | | 2 | EA | \$ 50,000 | \$ 100,000 |
| C.17 | Entrance Signage | | | | | 1 | EA | \$ 2,000 | \$ 2,000 |
| C.18 | Striping | | | | | 1 | LS | \$ 2,000 | \$ 2,000 |
| D Access - not included in NAK estimate | | | | | | | | | |
| D.1 | Nitrogen & Oxygen line relocation along Port. Rd. | 7400 | LF | \$ 150 | \$ 1,110,000 | 5100 | LF | \$ 150 | \$ 765,000 |
| D.2 | Nitrogen & Oxygen line relocation in bay | | | | | 2500 | LF | \$ 300 | \$ 750,000 |
| D.4 | Southern Cruse Access Road | | LF | \$ - | \$ - | | LF | \$ - | \$ - |
| D.5 | Improve Todville Road to 4 lanes | | LF | \$ - | \$ - | | LF | \$ - | \$ - |
| E Wharf and Channel | | | | | | | | | |
| | Marine Wharf Structure, 126' wide | 2000 | LF | \$ 12,000 | \$ 24,000,000 | 5000 | LF | \$ 12,000 | \$ 60,000,000 |
| | Slope Protection, South Shore of channel (not including wharf area - included in wharf cost) | 0 | LF | \$ 250 | \$ - | 0 | LF | \$ 250 | \$ - |
| | Slope Protection, North Shore of Channel | 0 | LF | \$ - | \$ - | 7000 | LF | \$ 250 | \$ 1,750,000 |

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| Item | Description | Phase 1A Cost Estimate | | | | Build-out, 7000 ft. berth | | | |
|----------|--|------------------------|------|--------------|----------------------|---------------------------|------|----------------|-----------------------|
| | | Qty. | Unit | Unit Cost | Subtotal (\$) | Quantity | Unit | Unit Cost (\$) | Subtotal |
| F | Gate Complex | | | | | | | | |
| | (Phase 1 - 9 lanes in, 6 lanes out) | | | | | | | \$ - | |
| | Total buildout - 30 lanes in, 26 lanes out) | | | | | | | \$ - | |
| | Gate Building | | | | | | | \$ - | |
| F.1 | Admin. Building, One bldg for Ph 1 (finished portion of building) | 22000 | SF | \$ 200 | \$ 4,400,000 | 0 | SF | \$ 200 | \$ - |
| | Admin. Building, (unfinished portion of building) | 8000 | SF | \$ 150 | \$ 1,200,000 | 8000 | SF | \$ 60 | \$ 480,000 |
| | Demolish/salvage phase 1 entrance gate area | | | | | 1 | LS | \$ 100,000 | \$ 100,000 |
| F.2 | Guard House | 272 | SF | \$ 200.00 | \$ 54,400 | 272 | SF | \$ 200 | \$ 54,400 |
| F.3 | Inspection Booths (entry and exit) | 8 | EA | \$ 12,000 | \$ 96,000 | 12 | EA | \$ 12,000 | \$ 144,000 |
| | Relocate Inspection Booths | | | | | 5 | EA | \$ 4,000 | \$ 20,000 |
| F.4 | D&H booths at entry precheck | 2 | EA | \$ 12,000 | \$ 24,000 | 2 | EA | \$ 12,000 | \$ 24,000 |
| | Relocate D&H Booths | | | | | 2 | EA | \$ 4,000 | \$ 8,000 |
| F.5 | Lane boss booths | 2 | EA | \$ 25,000 | \$ 50,000 | 0 | EA | \$ 25,000 | \$ - |
| | Relocate lane boss booths | | | | | 2 | EA | \$ 5,000 | \$ 10,000 |
| F.6 | Telephone Kiosk/trucker toilets | 800 | SF | \$ 150 | \$ 120,000 | 800 | SF | \$ 150 | \$ 120,000 |
| F.7 | Canopies at entry, exit inspection | 35500 | SF | \$ 50 | \$ 1,775,000 | 20000 | SF | \$ 50 | \$ 1,000,000 |
| F.8 | Camera Bridge (entry and exit) | 2 | EA | \$ 150,000 | \$ 300,000 | 2 | EA | \$ 150,000 | \$ 300,000 |
| | Relocate/extend Camera Bridge (entry and exit) | | | | | 2 | EA | \$ 150,000 | \$ 300,000 |
| | Sign Bridge at entry, electronic | 1 | EA | \$ 90,000 | \$ 90,000 | 0 | EA | \$ 90,000 | \$ - |
| | Relocate/extend Sign Bridge at entry, electronic | | | | | 1 | EA | \$ 90,000 | \$ 90,000 |
| F.9 | Communication Pedestals (entry and exit) | 15 | EA | \$ 8,000 | \$ 120,000 | 22 | EA | \$ 8,000 | \$ 176,000 |
| | Relocate Communication Pedestals (entry and exit) | | | | | 10 | EA | \$ 8,000 | \$ 80,000 |
| F.10 | Chassis Camera Pedestals | 15 | EA | \$ 3,000 | \$ 45,000 | 22 | EA | \$ 3,000 | \$ 66,000 |
| | Relocate Chassis Camera Pedestals | | | | | 10 | EA | \$ 2,500 | \$ 25,000 |
| F.11 | Scales/foundation (one per lane at entry) | 10 | EA | \$ 50,000 | \$ 500,000 | 14 | EA | \$ 50,000 | \$ 700,000 |
| | Relocate Scales/foundation (one per lane at entry) | | | | | 10 | EA | \$ 20,000 | \$ 200,000 |
| F.12 | Entrance Signage | 1 | EA | \$ 10,000 | \$ 10,000 | 1 | EA | \$ 10,000 | \$ 10,000 |
| | Relocate entrance signage | | | | | 1 | EA | \$ 4,000 | \$ 4,000 |
| F.13 | Gate processing equipment (LA king) | 1 | LS | \$ 500,000 | \$ 500,000 | 1 | LS | \$ 300,000 | \$ 300,000 |
| F.14 | Striping | 1 | LS | \$ 10,000 | \$ 10,000 | 1 | LS | \$ 30,000 | \$ 30,000 |
| G | Buildings | | | | | | | | |
| G.1 | Maintenance & Repair, one bldg for Ph 1, two bldgs for buildout | 36500 | SF | \$ 150 | \$ 5,475,000 | 15000 | SF | \$ 150 | \$ 2,250,000 |
| G.2 | Marine Operation Building, two bldgs for Ph 1, 7 bldgs for buildout | 5400 | SF | \$ 150 | \$ 810,000 | 13500 | SF | \$ 150 | \$ 2,025,000 |
| G.3 | Marine Emergency Building | 4600 | SF | \$ 100 | \$ 460,000 | 0 | SF | \$ 100 | \$ - |
| G.4 | Outside Maintenance Building | 2400 | SF | \$ 100 | \$ 240,000 | 0 | SF | \$ 100 | \$ - |
| G.5 | Bus Stop Canopy | 1600 | SF | \$ 50 | \$ 80,000 | 0 | SF | \$ 50 | \$ - |
| G.6 | Stevadore Check-in Booths | 3 | EA | \$ 12,000 | \$ 36,000 | 0 | EA | \$ 12,000 | \$ - |
| G.7 | Container Freight Station/Customs Inspection (4 bldgs at buildout) | 50000 | SF | \$ 75 | \$ 3,750,000 | 350000 | SF | \$ 75 | \$ 26,250,000 |
| G.8 | CFS access road and adjacent paving (asphalt pavement) | 5 | AC | \$ 110,000 | \$ 550,000 | 35 | AC | \$ 110,000 | \$ 3,850,000 |
| H | Equipment | | | | | | | | |
| H.1 | Dock side container cranes | 4 | EA | \$ 7,000,000 | \$ 28,000,000 | 11 | EA | \$ 7,000,000 | \$ 77,000,000 |
| H.2 | RTG's | 12 | EA | \$ 1,400,000 | \$ 16,800,000 | 48 | EA | \$ 1,400,000 | \$ 67,200,000 |
| H.3 | Misc. yard equipment, bombcarts, tractors | 1 | LS | \$ 2,000,000 | \$ 2,000,000 | 1 | LS | \$ 5,000,000 | \$ 5,000,000 |
| | | | | | | | | \$ - | |
| J | Electrical Distribution Systems | 1 | LS | \$ 500,000 | \$ 500,000 | 1 | LS | \$ 1,000,000 | \$ 1,000,000 |
| | Subtotal | | | | \$117,637,400 | | | \$ - | \$ 406,935,900 |
| | | | | | | | | \$ - | |
| K | General Conditions - 6% construction cost | | | | \$ 7,058,244 | | | \$ - | \$ 24,416,154 |
| L | Contingency - 20% | | | | \$ 24,939,129 | | | \$ - | \$ 86,270,411 |
| | Total Construction Cost | | | | \$149,634,773 | | | | \$ 517,622,465 |
| M | Professional Services & Engineering, testing 15% of construction cost | | | | \$ 22,445,216 | | | | \$ 77,643,370 |
| | Total Construction Cost and PS&E | | | | \$172,079,989 | | | | \$ 595,265,835 |

Notes:

1. Conceptual construction cost estimates are provided for budget estimates only and represent a professional opinion based on available information. Actual construction costs may vary significantly from the budget estimates depending

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| Item | Description | Phase 1A Cost Estimate | | | Build-out, 7000 ft. berth | | | |
|------|-------------|------------------------|------|-----------|---------------------------|----------|------|----------------|
| | | Qty. | Unit | Unit Cost | Subtotal (\$) | Quantity | Unit | Unit Cost (\$) |

upon timing of construction, changed conditions, availability of materials and other factors beyond the control of the author.

2. The unit cost is determined based on our past experience on similar projects in the Bay Area, California. The above unit cost, where applicable, has been adjusted to reflect the construction cost in Houston. A cost relationship index Houston and San Francisco is used.
 3. The unit cost is based on union labor rate.
 4. The building square footage cost is based on the buildings supported on rigid slab footing. Building supported on piles will increase the building cost by 20%.
 5. Cost estimates for facilities related to empty depots are not included.
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**Port of Houston Authority
Bayport Container and Cruise Terminal
Interim Cost Estimate Summary**

| Project Element | First Phase | Future Phase | Total Project |
|-----------------------------|--------------------|---------------------|----------------------|
| Container Terminal | \$ 163,002,400 | \$ 556,477,200 | \$ 719,479,600 |
| Cruise Terminal | \$ 29,342,000 | \$ 60,000,000 | \$ 89,342,000 |
| Access | \$ 15,446,200 | \$ 35,274,300 | \$ 50,720,500 |
| Environmental Mitigation | \$ 4,325,000 | \$ 5,637,500 | \$ 9,962,500 |
| Dredging | \$ 14,271,000 | \$ 25,278,700 | \$ 39,549,700 |
| Subtotal | \$ 226,386,600 | \$ 682,667,700 | \$ 909,054,300 |
| Professional Services @ 15% | \$ 33,957,990 | \$ 102,400,155 | \$ 136,358,145 |
| Contingency @ 20% | \$ 45,277,320 | \$ 136,533,540 | \$ 181,810,860 |
| Total Cost | \$ 305,621,910 | \$ 921,601,395 | \$ 1,227,223,305 |

| | |
|--|----------------|
| County General Obligation Bond to Support PHA | \$ 387,000,000 |
| Funds Authorized in Excess of Cost Add Contingency Slush at 50% of contingency allowance | \$ 22,638,660 |
| Most likely slush fund for PHA for undisclosed usage | \$ 104,016,750 |