



1. **NEED:**

The City of Norfolk does not have a no-fee recreational fishing pier for saltwater fisherman or for young people to be taught fishing skills or for those with physical disabilities. The pier site will be on City of Norfolk property at the East Ocean View Recreation Center. Mr. Ed Clark owns a strip of land between the Recreation Center and the planned pier location. Mr. Clark is granting the City a 70' wide easement across his property for access to the pier. There are no plans for the City to close the Community Center and the City is responsible for the maintenance and repairs of all facilities at the Recreation Center (refer to the attached letter).

2. **OBJECTIVES:**

- A. Provide a no-fee recreational fishing pier for the community at the East Ocean View Recreation Center.
- B. Recreational fishermen can enjoy fishing seven days a week from dawn to dusk.
- C. Young children will be taught fishing skills that can be used for a lifetime.
- D. Family and community fishing activities will be promoted by the community center.
- E. Environmental conservation, water quality, fishing species, proper care of fishing equipment and courtesy to other participants will be taught by the Fishing Program Instructors.
- F. The elementary school system will be using the educational walkway portion of the pier for project purposes. Note: Recreational fisherman will be able to use either walkway for access to the outbound end of the pier.

3. **EXPECTED RESULTS:**

The pier will be utilized by the Recreational Fishermen to the maximum extent possible. (Those presently fishing from the bank are looking forward to a facility that will permit them to fish in water 12' – 14' deep.) Young people will be taught fishing skills through the Recreation Center Fishing Program or by experienced fisherman. Family and Community events at the Recreation Center will increase knowledge and experiences will be shared with respect to recreational fishing. The education portion of the pier will be used immediately by the elementary school system.

4. **APPROACH:**

Construction of the Recreational Fishing Pier would begin in May of 2007 and complete by the end of November 2007.

**TIMELINE:**

<b>DATES</b>	<b>ACTIVITY</b>	<b>RESPONSIBLE PARTY</b>
June 2006	Recreational Fishing Development Fund Application submitted	Norfolk City Engineers
July 2006	Design of Pier begins	McPherson Design Group
July 2006	JPA submitted to VMRC	Norfolk City Engineers
October 2006	Design of Pier Completed	McPherson Design Group
November 2006	Presentation of Design to Civic League	McPherson Design Group
November 2006	Receive approval JPA	VMRC
November 2006	Recommendation provided on Recreational Fishing Development Fund Application	Virginia Recreational Fishing Advisory Board
December 2006	Funding Results	VMRC
January 2007	Advertise Project for Bid	City of Norfolk, Public Works
February 2007	Receive Bids	City of Norfolk, Public Works
April 2007	Award Contract	City of Norfolk, Public Works
May 2007	Construction begins	Contractor
November 2007	Construction Complete	Contractor

The Project Management and inspection of construction will be the responsibility of the City of Norfolk, Public Works Construction Bureau. After the construction is completed, the pier will be opened for use.

**5. LOCATION:**

The Recreational Fishing Pier will be constructed at the East Ocean View Recreational Center located at the end of 20<sup>th</sup> Bay Street. The pier will be located southeast of the Recreational Center and will extend approximately 130' into Pretty Lake. The water depth at the outboard end of the pier should be 12' – 14' . Please refer to the Site Plan for additional information.

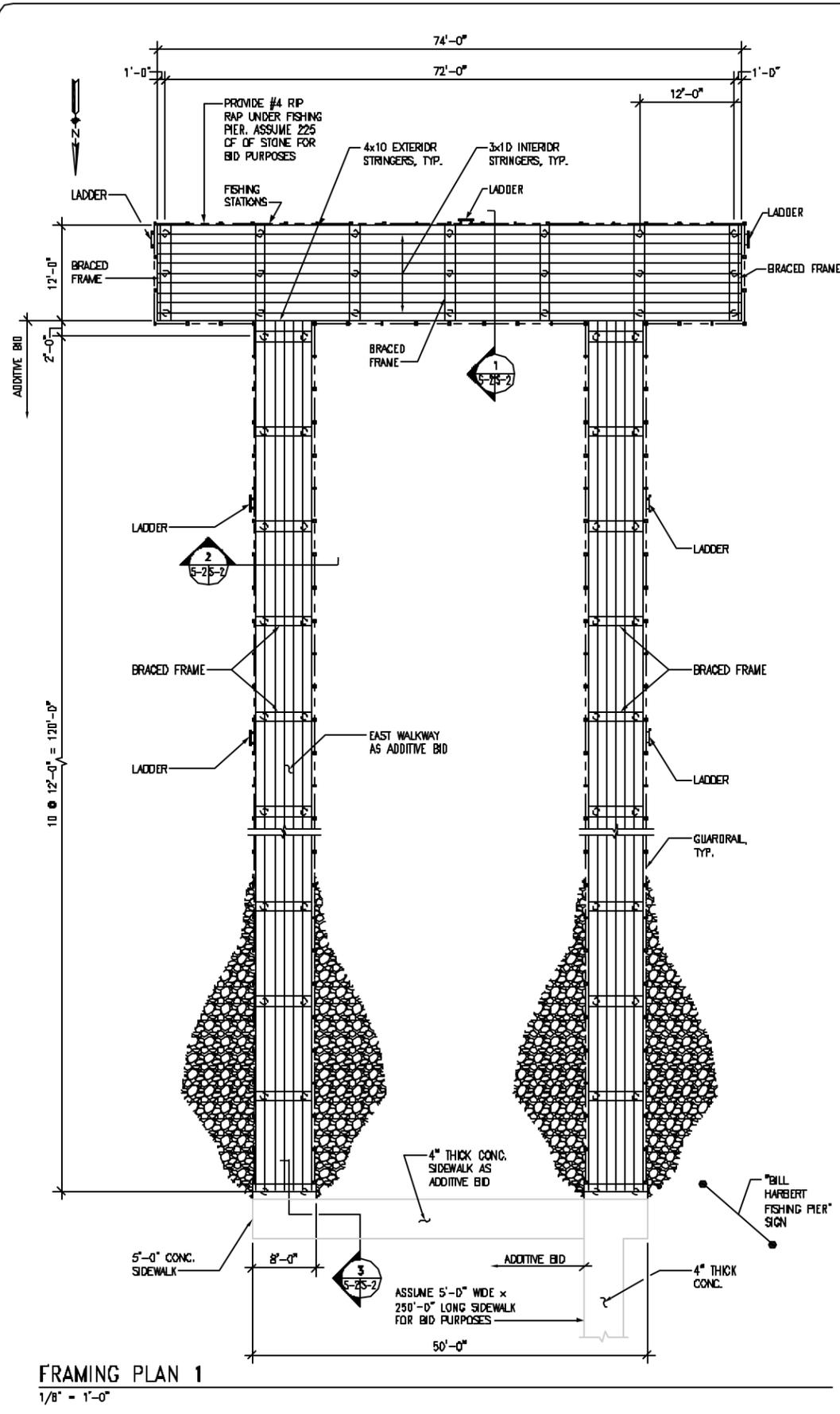
**6. ESTIMATED CONSTRUCTION COST:**

Base Bid – Recreational Fishing Pier	\$237,572.00
Additive item – Educational Walking	<u>53,278.00</u>
	\$290,850.00

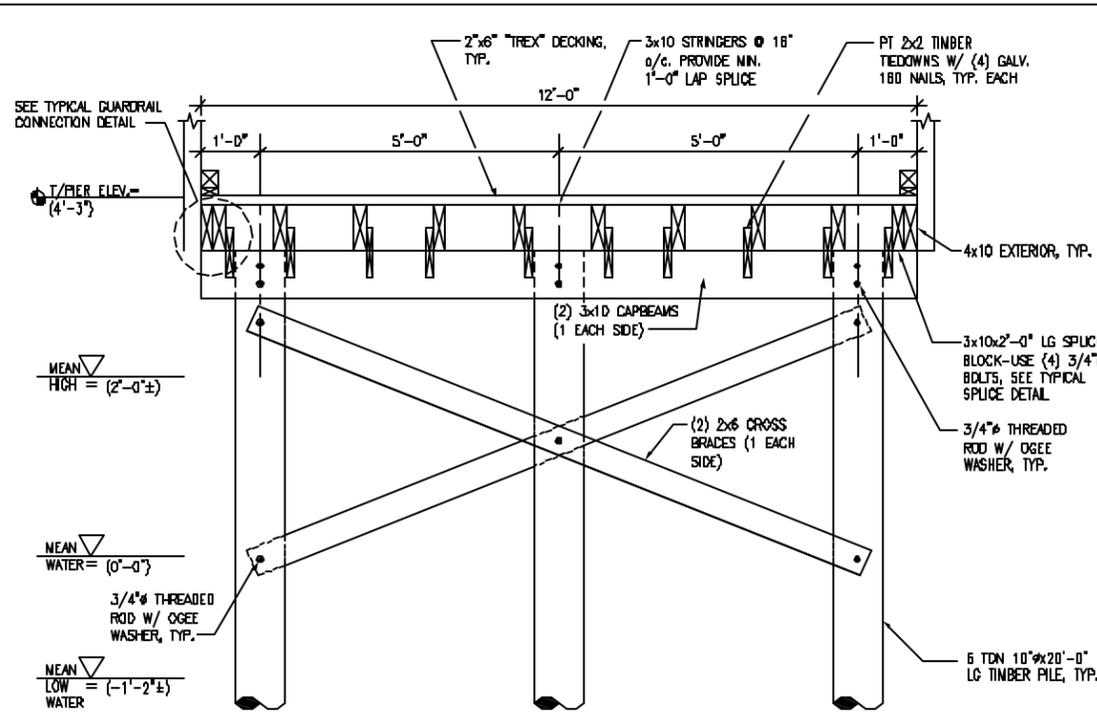
The City will pay for the Additive Item which includes the additional walkway, one months general conditions and the design fee. Since this does not add to the minimum 25% required of the total cost of the project per the instruction, the city will provide a hard cash dollar amount not to exceed \$75,000.00. Please refer to the attached itemized cost estimate for additional information.



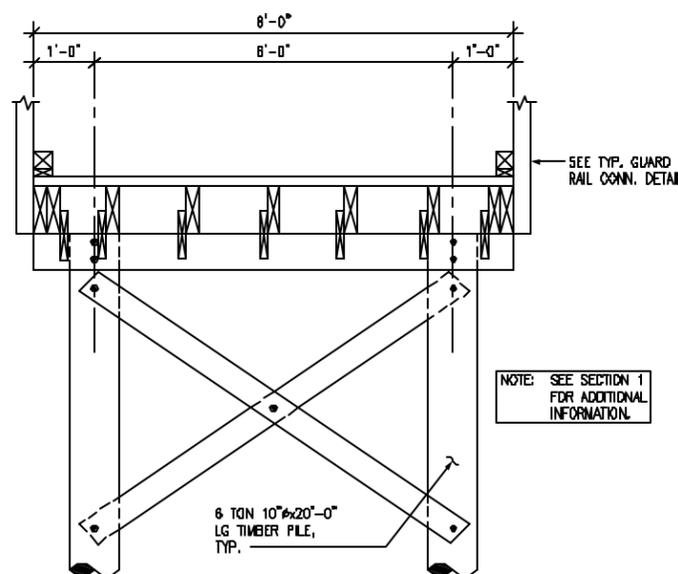
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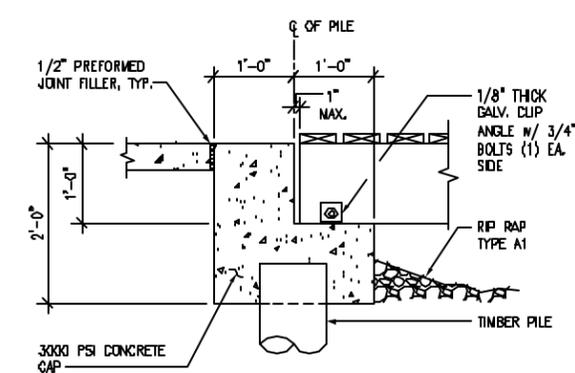
**FRAMING PLAN 1**  
1/8" = 1'-0"



**SECTION 1**  
3/4" = 1'-0"



**SECTION 2**  
3/4" = 1'-0"

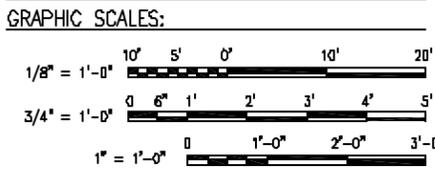


**SECTION 3**  
1" = 1'-0"

**GENERAL NOTES:**

1. CONTRACTOR SHALL BID THE EAST WALKWAY AND ADJACENT SIDEWALK AS AN ADDITIVE BID ITEM. SEE PLAN FOR ADDITIONAL INFORMATION.
2. FOR BID PURPOSES, ASSUME 250'-0" LINEAR FEET OF NEW SIDEWALK TO BE CONSTRUCTED FROM THE NEW PIER TO THE EXISTING COMMUNITY CENTER. NEW SIDEWALK SHALL BE INCLUDED IN THE BASE BID.
3. DESIGN OF NEW PIER AND WALKWAY SHALL CONFORM TO THE REQUIREMENTS OF THE "DESIGN HANDBOOK FOR RECREATIONAL BOATING AND FISHING FACILITIES," AND SHALL BE ADA COMPLIANT.
4. NEW PIER SHALL BE DESIGNED WITH BOTH STANDING AND SEATED FISHING STATIONS WITH ROD HOLDERS AS PER THE DESIGN HANDBOOK FOR RECREATIONAL BOATING AND FISHING FACILITIES.

NOTE: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.



NOT FOR CONSTRUCTION

DATE	8/15/08	ISSUE	1	ADD	TDC	TDC	25349
NO.		DESCRIPTION					

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McPHERSON DESIGN GROUP p.c.  
STRUCTURAL ENGINEERS  
BILL HERBERT FISHING PIER  
NORFOLK, VIRGINIA

FRAMING PLAN,  
DETAILS AND SECTIONS

**S-2**

**DESIGN CODES:**

- VIRGINIA UNIFORM STATE WIDE BUILDING CODE (VUSBC)
- THE 2000 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC 2000).
- NINTH EDITION OF AISC "MANUAL OF STEEL CONSTRUCTION", ALLOWABLE STRESS DESIGN; AND "ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- ACI STANDARD 318-02, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

**GENERAL NOTES:**

- THE FOLLOWING LOADS, IN ADDITION TO THE DEAD LOADS OF THE PERMANENT MATERIALS AND CONSTRUCTION, WERE USED:
  - PIER WALKWAY LIVE LOAD . . . . . 100 PSF
  - GROUND SNOW LOAD . . . . . 10 PSF
  - WIND LOAD
    - BASIC WIND SPEED (3 SEC. GUST) . . . . . 110 MPH
    - IMPORTANCE FACTOR . . . . . 1.00
    - WIND EXPOSURE . . . . . C
    - WIND DESIGN PRESSURE
      - BASIC VELOCITY PRESSURE . . . . . 25.0 PSF
- ALL ITEMS SHOWN ON THIS DRAWING ARE NEW CONSTRUCTION, UNLESS NOTED OTHERWISE AS EXISTING.
- THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
- THE CONTRACTOR SHALL EXERCISE ALL PRECAUTIONS NECESSARY TO MAINTAIN ALL AREAS OF WORK IN A SAFE CONDITION THROUGHOUT CONSTRUCTION.
- UNDER NO CIRCUMSTANCES SHALL THE CONTRACT DRAWINGS BE REPRODUCED AND USED AS SHOP DRAWINGS.
- THE REFERENCE DATUM (ELEVATION = 0'-0") FOR ELEVATIONS SHOWN ON THESE DRAWINGS SHALL BE MEAN LOW WATER (MLW).

**CONCRETE NOTES:**

- ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 301 "STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 318/318R "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- ALL CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND ATTAIN AN ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT AN AGE OF 28 DAYS.
- THE SLUMP OF CAST-IN-PLACE CONCRETE SHALL NOT EXCEED 4 INCHES WITHOUT A HIGH RANGE WATER REDUCING ADMIXTURE. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 5% TO 7%.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60 DEFORMED BARS UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL MARKED CONTINUOUS (CONT.) SHALL BE LAPPED 42 BAR DIAMETERS AT SPLICES, UNLESS OTHERWISE NOTED.
- THE SLUMP OF CAST-IN-PLACE CONCRETE SHALL NOT EXCEED 4 INCHES WITHOUT A HIGH RANGE WATER REDUCING ADMIXTURE. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED 5% TO 7%.
- ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR BOLTS AND WELD PLATES SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
- MINIMUM CONCRETE COVER FOR PROTECTION OF REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE NOTED:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . 3 INCHES
  - CONCRETE EXPOSED TO EARTH OR WEATHER . . . . . 1 1/2 INCHES
  - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND. . . . . 3/4 INCH
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF CONCRETE MIX DESIGN AND TEST REPORTS. THE MIX DESIGN SHALL INCLUDE ALL PROPERTIES OF THE MIX, MATERIALS USED IN THE CONCRETE AND ACTUAL CONCRETE STRENGTH. SHOP DRAWINGS FOR CONCRETE REINFORCEMENT SHALL ALSO BE PROVIDED, INCLUDING REINFORCING AND WELDED WIRE FABRIC.

**STRUCTURAL STEEL NOTES:**

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE NINTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- ALL STRUCTURAL STEEL AND THREADED RODS SHALL CONFORM TO ASTM A36 Fy = 36 KSI AND SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123, UNLESS OTHERWISE NOTED.

**WOOD FRAMING NOTES:**

- ALL STRUCTURAL LUMBER SHALL BE IN ACCORDANCE WITH 5.P.L.B. SPECIFICATIONS AND SHALL BE NO. 2 SOUTHERN PINE AND USED AT 15% MAXIMUM MOISTURE CONTENT OR EQUAL.
- THE DESIGN, FABRICATION AND ERECTION OF ALL TIMBER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 1997 MANUAL FOR WOOD FRAMING CONSTRUCTION DATA #1 BY NATIONAL FOREST PRODUCTS ASSOCIATION.
- ALL WOOD FRAMING MEMBERS SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH THE SPECIFICATIONS. BOLT HEADS AND NUTS BEARING ON WOOD SHALL BE PROVIDED WITH STANDARD CUT WASHERS. ALL BOLTS OR NAILS EXPOSED TO THE WEATHER OR EMBEDDED IN CONCRETE SHALL BE STAINLESS STEEL OR GALVANIZED IN ACCORDANCE WITH ASTM A123.
- WOOD FRAMING SHALL BE PRESSURE TREATED WITH 0.60 POUNDS PER CUBIC FOOT RETENTION OF CHROMIATED COPPER ARSENATE, TYPE B (CCA-B), IN ACCORDANCE WITH AMERICAN WOOD-PRESERVERS' ASSOCIATION AWWA SPECIFICATIONS SECTIONS C1, C3, AND AWPB MP-2.

**PILES - GENERAL:**

- PILE SIZE, CAPACITY, LOCATION, CUT OFF ELEVATION, AND ESTIMATED DRIVEN LENGTH FOR BID PURPOSES SHALL BE AS SHOWN ON THE DRAWINGS.
- PILE CAPACITIES SHOWN ON THE DRAWINGS ARE ALLOWABLE DESIGN LOADS. PILES SHALL BE DRIVEN TO AN ULTIMATE CAPACITY EQUAL TO 80% PERCENT OF THE ALLOWABLE DESIGN LOADS USING THE MODIFIED ENGINEERING NEWS RECORD FORMULA.
- PILE DRIVING SHALL BE CONTINUOUS UNTIL THE REQUIRED PILE TIP ELEVATION IS REACHED.
- JETTING OF PILES SHALL NOT BE ALLOWED..
- PILES SHALL BE IN ONE PIECE. SPLICES SHALL NOT BE PERMITTED.
- LENGTHS OF PILE FOR PAYMENT OF PILE DRIVING COSTS SHALL BE MEASURED FROM THE DRIVEN TIP ELEVATION TO THE CUT-OFF ELEVATION SHOWN ON THE DRAWINGS. THE LENGTH OF PILE ABOVE THE CUT-OFF ELEVATION SHALL BE EXCLUDED FROM PAYMENT CALCULATIONS.
- FOR BID PURPOSES, ASSUME AN ACTUAL DRIVEN PILE LENGTH EQUAL TO THE ESTIMATED DRIVEN PILE LENGTH SHOWN ON THE DRAWINGS. THE BID QUOTATION SHALL INCLUDE A PRICE FOR EACH ADDITIONAL FOOT OF PILE DRIVEN BEYOND THE ESTIMATED DRIVEN PILE LENGTH SHOWN ON THE DRAWINGS. THE SAME PRICE PER FOOT SHALL BE USED TO REDUCE THE PILING COST FOR THOSE PILES DRIVEN LESS THAN THE ESTIMATED PILE LENGTH SHOWN ON THE DRAWINGS.
- PIILING CONTRACTOR IS RESPONSIBLE FOR ORDERING PILES OF SUFFICIENT LENGTH TO ACCOUNT FOR:
  - DAMAGE TO THE TOP OF THE PILE DURING DRIVING; ADDITIONAL DRIVEN LENGTH BEYOND THE ESTIMATED PILE LENGTH REQUIRED TO REACH THE ULTIMATE PILE CAPACITY.
- PILE DESIGN AND DRIVING INSTALLATION CRITERIA ARE BASED ON THE GEOTECHNICAL REPORT SUPPLIED BY THE OWNER'S REPRESENTATIVE. THE PILING CONTRACTOR SHALL OBTAIN A COPY OF THE REPORT FOR REVIEW AND A COPY SHALL BE MAINTAINED IN THE FIELD OFFICE AT ALL TIMES.
- WHERE CONFLICTS EXIST BETWEEN THESE GENERAL NOTES, THE DRAWINGS, OR SPECIFICATIONS, IF APPLICABLE, THE OWNER'S REPRESENTATIVE SHALL DETERMINE WHICH GOVERNS.
- ALL PILES SHALL BE INSTALLED BY AN EXPERIENCED PILING CONTRACTOR, WHO UPON REQUEST OF OWNER'S REPRESENTATIVE SHALL SUBMIT EVIDENCE OF SUCCESSFUL INSTALLATION OF PILES UNDER SIMILAR SITE AND SUBSURFACE CONDITIONS. THE PILING CONTRACTOR'S SITE SUPERVISOR SHALL HAVE A MINIMUM OF THREE YEARS OF METHOD SPECIFIC EXPERIENCE.
- ALL PILE DRIVING EQUIPMENT, MATERIALS, AND METHODS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- PIILING CONTRACTOR SHALL ENGAGE A LAND SURVEYOR REGISTERED IN THE STATE WHERE THE PILES ARE INSTALLED. THE LAND SURVEYOR SHALL PERFORM ALL PILE LAYOUT WORK. ALL MEASUREMENTS AND ELEVATIONS SHALL BE REFERENCED TO A PERMANENT BENCHMARK APPROVED BY THE OWNER'S REPRESENTATIVE. AFTER ALL THE PILES ARE DRIVEN THE LAND SURVEYOR SHALL RETURN TO VERIFY ALL THE PILES WERE DRIVEN WITHIN THE ALLOWABLE TOLERANCES SHOWN BELOW. ALL DEVIATIONS THAT EXCEED THE ALLOWABLES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE.
- ALLOWABLE PILING TOLERANCES ARE:
  - a.) NO SINGLE PILE OR PILE GROUP SHALL DEVIATE FROM ITS INDICATED CENTER OF GRAVITY BY PLUS-OR-MINUS 3 INCHES.
  - b.) PILES SHALL NOT VARY FROM THE VERTICAL MORE THAN 1 INCH IN 10'-0" OR A MAXIMUM OF 4 INCHES.
  - c.) PILE CUT OFF ELEVATIONS SHALL NOT VARY BY PLUS-OR-MINUS 1 INCH.
  - d.) ANGLE OF BATTER PILES (IF USED) SHALL NOT VARY BY PLUS-OR-MINUS 0.5 DEGREES FROM THE SPECIFIED ANGLE.
- AN INDEPENDENT TESTING LABORATORY APPROVED BY THE OWNER'S REPRESENTATIVE SHALL MAINTAIN, IN A LOG BOOK, COMPLETE AND ACCURATE RECORDS OF ALL PILES. THE CONTRACTOR SHALL PAY THE COST OF ALL RECORD KEEPING AND TESTING PERFORMED BY THE INDEPENDENT TESTING LABORATORY. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY UNUSUAL CONDITIONS ENCOUNTERED DURING PILING INSTALLATION. ALL PILING RECORDS SHALL BE SUBMITTED TO OWNER'S REPRESENTATIVE.

**PILES - GENERAL (CONTINUED):**

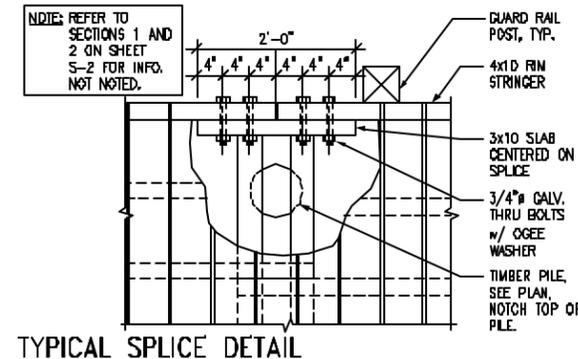
- THE PILING LOG BOOK SHALL INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING INFORMATION:
  - a.) PILE IDENTIFICATION NUMBER
  - b.) PILE LOCATION
  - c.) PILE BUTT CIRCUMFERENCE
  - d.) PILE TIP CIRCUMFERENCE
  - e.) PILE ORIGINAL LENGTH
  - f.) PILE TIP ELEVATION
  - g.) PILE CUT OFF ELEVATION
  - h.) BLOW COUNT PER FOOT OF DRIVING
  - i.) PRE-AUGER DIAMETER AND DEPTH
  - j.) HAMMER DATA INCLUDING MAKE, SIZE, RAM WEIGHT, STROKE, AND RAM RATED ENERGY
  - k.) DESCRIPTION AND DIMENSIONS OF DRIVING CAP, CUSHION MATERIALS AND THICKNESS
- THE OWNER'S REPRESENTATIVE SHALL MAKE THE FINAL ACCEPTANCE OR REJECTION OF ALL PILING. CRITERIA FOR ACCEPTANCE WILL INCLUDE, BUT NOT LIMITED TO, THESE GENERAL NOTES, THE DRAWINGS, AND ANY PILING SPECIFICATIONS INCLUDED IN THIS CONTRACT.
- HEAVED PILES SHALL BE REDRIVEN TO ULTIMATE CAPACITY AT CONTRACTOR'S EXPENSE.
- REMEDIAL WORK REQUIRED FOR REJECTED PILES SHALL BE AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE. REMEDIAL WORK MAY INCLUDE, BUT NOT LIMITED TO, REMOVAL AND REPLACEMENT OF REJECTED PILE, OR INSTALLATION OF NEW PILE ADJACENT TO PILE GROUP. THE COST OF ALL REMEDIAL WORK SHALL BE BORN BY THE CONTRACTOR.
- ADDITIONAL ENGINEERING AND CONSTRUCTION COSTS REQUIRED TO MODIFY FOUNDATION DESIGNS TO ACCOMMODATE MISLOCATED OR REJECTED PILES SHALL BE AT THE CONTRACTOR'S EXPENSE.
- INFORMATION ON INDICATED SUBSURFACE CONDITIONS ARE NOT INTENDED AS REPRESENTATIONS OR WARRANTIES OF CONTINUITY OF SUCH CONDITIONS.
- PILING CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF UNDERGROUND STRUCTURES AND UTILITIES, WHETHER SHOWN OR OMITTED FROM THE PLANS. IF ITEMS ARE FOUND WHICH PROHIBIT FOUNDATIONS FROM BEING INSTALLED AS SHOWN, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED BEFORE COMMENCING CONSTRUCTION.

**TIMBER PILES:**

- TIMBER PILES SHALL BE CLEAN-PEELED, CLASS B, SOUTHERN YELLOW PINE IN ACCORDANCE WITH ASTM D25. CAPACITY SHALL BE AS SHOWN ON CONTRACT DOCUMENTS. TIP DIAMETER SHALL BE 8". MINIMUM BUTT DIAMETERS SHALL BE 10".
- TIMBER PILES SHALL BE PRESSURE TREATED WITH 2.50 POUNDS PER CUBIC FOOT RETENTION OF CHROMIATED COPPER ARSENATE, TYPE B (CCA-B), IN ACCORDANCE WITH AMERICAN WOOD-PRESERVERS' ASSOCIATION AWWA SPECIFICATIONS SECTIONS C1, C3, AND AWPB MP-2.

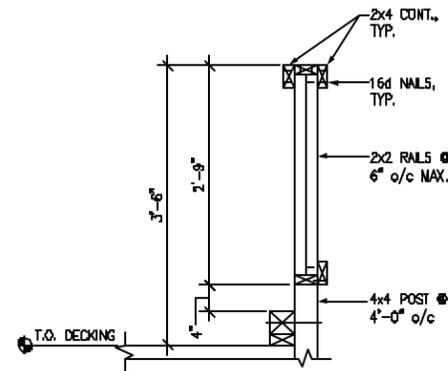
**SPECIAL INSPECTIONS:**

- THE FOLLOWING SPECIAL INSPECTION SHALL BE PERFORMED BY THE OWNER IN ACCORDANCE WITH CHAPTER 17 OF IBC 2000:
  - PILE FOUNDATIONS:
    - MONITOR DRIVING OF TEST PILES
    - MONITOR DRIVING OF PRODUCTION PILES
    - REVIEW AS-DRIVEN SURVEY
  - CONCRETE:
    - REVIEW MIX DESIGN AND MATERIAL CERTIFICATES OF COMPLIANCE
    - FIELD INSPECTION OF REINFORCING STEEL PLACEMENT
    - FIELD INSPECTION OF CONCRETE PLACING AND CURING
    - EVALUATION OF CONCRETE STRENGTH
  - WOOD:
    - REVIEW SUBMITTALS AND INSTALLATION



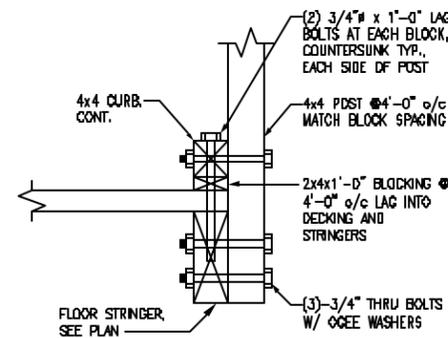
**TYPICAL SPLICE DETAIL**

NOT TO SCALE



**TYPICAL GUARD DETAIL**

NOT TO SCALE



**TYPICAL GUARDRAIL CONNECTION DETAIL**

NOT TO SCALE

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**NOT FOR CONSTRUCTION**

DATE: 8/15/06  
 TIME: 10:00  
 PROJECT: 25349

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 STRUCTURAL ENGINEERS  
**BILL HARBERT FISHING PIER**  
**NORFOLK, VIRGINIA**

GENERAL NOTES  
 AND TYPICAL DETAILS

**S-3**

SHEET 3 OF 3

LINE	DESCRIPTION	BARE COST				MARKED-UP COST			
		MAT.	LABOR	EQUIP.	TOTAL	MAT.	LABOR	EQUIP.	TOTAL
	Summary								
	BASE BID								
	General Conditions (\$8,000 per month for 4 months)		\$ 24,000	\$ 8,000	\$ 32,000	\$ -	\$ 39,863	\$ 10,937	\$ 50,799
	Timber Pier	\$ 58,642	\$ 28,265	\$ 30,621	\$ 117,528	\$ 76,367	\$ 46,947	\$ 41,861	\$ 165,176
	<b>TOTAL ESTIMATE</b>	\$ 58,642	\$ 52,265	\$ 38,621	\$ 149,528	\$ 76,367	\$ 86,810	\$ 52,798	\$ 215,975
	Add 10% Contingency								\$ 21,597
	<b>TOTAL BASE BID ENGINEERING COST ESTIMATE</b>								<b>\$ 237,572</b>
	ADDITIVE BID FOR ADDITIONAL WALKWAY								
	General Conditions (\$8,000 per month for 1 months)		\$ 5,000	\$ 3,000	\$ 8,000	\$ -	\$ 8,305	\$ 4,101	\$ 12,406
	Additive Bid	\$ 19,281	\$ 6,351	\$ 2,032	\$ 27,663	\$ 25,108	\$ 10,549	\$ 2,778	\$ 38,435
	Design Fee	\$ -	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ 10,000	\$ -	\$ 10,000
	<b>TOTAL ESTIMATE</b>	\$ 136,565	\$ 125,882	\$ 82,273	\$ 344,719	\$ 177,843	\$ 202,473	\$ 112,475	<b>\$ 48,435</b>
	Add 10% Contingency								\$ 4,843
	<b>TOTAL ADDITIVE BID ENGINEERING COST ESTIMATE</b>								<b>\$ 53,278</b>
	<b>TOTAL ENGINEERING COST ESTIMATE</b>								<b>\$ 290,851</b>
	COMPOSITE MARK-UP, PRIME	1.302	1.661	1.367					
	COMPOSITE MARK-UP, SUB	1.463	1.775	1.507					

QUAN.	CSI	DESCRIPTION	U.M.	UNIT COST			EXTENDED COST		
	NUMBER			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.
		<b>Timber Pier</b>							
120		2"x6" TREX Decking x 16'-0" Long	EA	\$ 38.50	\$ 2.75	\$ 0.15	\$4,620.00	\$330.00	\$18.00
150		2"x6" TREX Decking x 12'-0" Long	EA	\$ 23.75	\$ 2.50	\$ 0.15	\$3,562.50	\$375.00	\$22.50
100		PT 3X10 Stringers x 14'-0" Long	EA	\$ 28.75	\$ 1.50	\$ 0.10	\$2,875.00	\$150.00	\$10.00
5		PT 3X10 Stringers x 16'-0" Long	EA	\$ 42.25	\$ 1.50	\$ 0.10	\$211.25	\$7.50	\$0.50
32		PT 3X10 Splice pieces x 2'-0" Long	EA	\$ 5.50	\$ 2.25	\$ 0.10	\$176.00	\$72.00	\$3.20
2		PT 4X10 Stringers x 16'-0" Long	EA	\$ 42.25	\$ 1.50	\$ 0.10	\$84.50	\$3.00	\$0.20
30		PT 4X10 Stringers x 14'-0" Long	EA	\$ 42.25	\$ 1.50	\$ 0.10	\$1,267.50	\$45.00	\$3.00
14		PT 2X6 Bracing x 16'-0" Long	EA	\$ 18.50	\$ 5.50	\$ 0.10	\$259.00	\$77.00	\$1.40
20		PT 2X6 Bracing x 10'-0" Long	EA	\$ 22.50	\$ 5.50	\$ 0.10	\$450.00	\$110.00	\$2.00
20		PT 3X10 Girder x 8'-0" Long	EA	\$ 22.50	\$ 4.50	\$ 0.10	\$450.00	\$90.00	\$2.00
14		PT 3X10 Girder x 12'-0" Long	EA	\$ 28.50	\$ 5.00	\$ 0.10	\$399.00	\$70.00	\$1.40
106		PT 2x2 Tiedowns x 8'-0" Long (106 @ 2'-0")	EA	\$ 2.25	\$ 0.50	\$ 0.10	\$238.50	\$53.00	\$10.60
15		PT 2x4 Blocking x 8'-0" Long (110 @ 1'-0")	EA	\$ 2.50	\$ 0.50	\$ 0.10	\$37.50	\$7.50	\$1.50
45		PT 4x4 Curbing x 12'-0" Long (515 L.F.)	EA	\$ 14.00	\$ 0.75	\$ 0.10	\$630.00	\$33.75	\$4.50
18		PT 10" Diameter x 20'-0" Long Piles	EA	\$ 400.00	\$ 200.00	\$ 100.00	\$7,200.00	\$3,600.00	\$1,800.00
25		PT 10" Diameter x 40'-0" Long Piles	EA	\$ 500.00	\$ 200.00	\$ 100.00	\$12,500.00	\$5,000.00	\$2,500.00
1		Barge and Pile Driving Operation	LOT	\$ -	\$ -	\$ 20,000.00	\$0.00	\$0.00	\$20,000.00
1		Pile Driving Setup and Breakdown from Barge	LOT	\$ -	\$ 5,000.00	\$ -	\$0.00	\$5,000.00	\$0.00
1		Concrete Pilecap (incl. Concrete, rebar, formwork, etc.)	LOT	\$ 200.00	\$ 100.00	\$ 25.00	\$ 200.00	\$ 100.00	\$ 25.00
3		Class A1 Rip Rap	SY	\$ 36.00	\$ 15.75	\$ 15.00	\$ 108.00	\$ 47.25	\$ 45.00
75		#4 Rip Rap under Fishing Pier	SY	\$ 50.00	\$ 25.00	\$ 25.00	\$ 3,750.00	\$ 1,875.00	\$ 1,875.00
1		Excavation	CY	\$ 15.00	\$ 12.50	\$ 10.00	\$ 15.00	\$ 12.50	\$ 10.00
12		Final Backfilling and Grading	SF	\$ 6.75	\$ 1.50	\$ -	\$ 81.00	\$ 18.00	\$ -
1250		4" Thick sidewalk	SF	\$ 2.25	\$ 0.75	\$ -	\$ 2,812.50	\$ 937.50	\$ -
5		Wood Ladders	EA	\$ 100.00	\$ 50.00	\$ -	\$ 500.00	\$ 250.00	\$ -
1		Fising Seats	LOT	\$ 1,000.00	\$ 300.00	\$ -	\$ 1,000.00	\$ 300.00	\$ -
1		Sign	LOT	\$ 100.00	\$ 150.00	\$ -	\$ 100.00	\$ 150.00	\$ -
		<b>Hardware for Pier</b>							
8		Galvanized 16d Nails (100 ct per box)	EA	\$ 3.25	\$ 5.00	\$ -	\$ 26.00	\$ 40.00	\$ -
70		#12 x 4" Long SS Deck Screws (100 ct per box)	EA	\$ 5.50	\$ 8.50	\$ -	\$ 385.00	\$ 595.00	\$ -
400		Galvanized 3/4" Dia. Threaded Rod	LF	\$ 6.75	\$ 0.75	\$ -	\$ 2,700.00	\$ 300.00	\$ -



QUAN.	CSI	DESCRIPTION	U.M.	UNIT COST			EXTENDED COST		
	NUMBER			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.
		<b>Timber Pier</b>							
120		2"x6" TREX Decking x 16'-0" Long	EA	\$ 38.50	\$ 2.75	\$ 0.15	\$4,620.00	\$330.00	\$18.00
50		PT 3X10 Stringers x 14'-0" Long	EA	\$ 28.75	\$ 1.50	\$ 0.10	\$1,437.50	\$75.00	\$5.00
3		PT 3X10 Stringers x 16'-0" Long	EA	\$ 42.25	\$ 1.50	\$ 0.10	\$126.75	\$4.50	\$0.30
10		PT 3X10 Splice pieces x 2'-0" Long	EA	\$ 5.50	\$ 2.25	\$ 0.10	\$55.00	\$22.50	\$1.00
2		PT 4X10 Stringers x 16'-0" Long	EA	\$ 42.25	\$ 1.50	\$ 0.10	\$84.50	\$3.00	\$0.20
20		PT 4X10 Stringers x 14'-0" Long	EA	\$ 42.25	\$ 1.50	\$ 0.10	\$845.00	\$30.00	\$2.00
20		PT 2X6 Bracing x 10'-0" Long	EA	\$ 22.50	\$ 5.50	\$ 0.10	\$450.00	\$110.00	\$2.00
20		PT 3X10 Girder x 8'-0" Long	EA	\$ 22.50	\$ 4.50	\$ 0.10	\$450.00	\$90.00	\$2.00
13		PT 2x2 Tiedowns x 8'-0" Long (50 @ 2'-0")	EA	\$ 2.25	\$ 0.50	\$ 0.10	\$29.25	\$6.50	\$1.30
8		PT 2x4 Blocking x 8'-0" Long (60 @ 1'-0")	EA	\$ 2.50	\$ 0.50	\$ 0.10	\$20.00	\$4.00	\$0.80
20		PT 4x4 Curbing x 12'-0" Long (240 L.F.)	EA	\$ 14.00	\$ 0.75	\$ 0.10	\$280.00	\$15.00	\$2.00
18		PT 10" Diameter x 20'-0" Long Piles	EA	\$ 200.00	\$ 100.00	\$ 25.00	\$3,600.00	\$1,800.00	\$450.00
2		PT 10" Diameter x 40'-0" Long Piles	EA	\$ 250.00	\$ 100.00	\$ 25.00	\$500.00	\$200.00	\$50.00
1		Concrete Pilecap (incl. Concrete, rebar, formwork, etc.)	LOT	\$ 200.00	\$ 100.00	\$ 25.00	\$ 200.00	\$ 100.00	\$ 25.00
3		Class A1 Rip Rap	SY	\$ 36.00	\$ 15.75	\$ 15.00	\$ 108.00	\$ 47.25	\$ 45.00
1		Excavation	CY	\$ 15.00	\$ 12.50	\$ 10.00	\$ 15.00	\$ 12.50	\$ 10.00
12		Final Backfilling and Grading	SF	\$ 6.75	\$ 1.50	\$ -	\$ 81.00	\$ 18.00	\$ -
60		4" Thick sidewalk	SF	\$ 2.25	\$ 0.75	\$ -	\$ 135.00	\$ 45.00	\$ -
2		Wood Ladders	EA	\$ 100.00	\$ 50.00	\$ -	\$ 200.00	\$ 100.00	\$ -
		<b>Hardware for Pier</b>							
2		Galvanized 16d Nails (100 ct per box)	EA	\$ 3.25	\$ 5.00	\$ -	\$ 6.50	\$ 10.00	\$ -
24		#12 x 4" Long SS Deck Screws (100 ct per box)	EA	\$ 5.50	\$ 8.50	\$ -	\$ 132.00	\$ 204.00	\$ -
180		Galvanized 3/4" Dia. Threaded Rod	LF	\$ 6.75	\$ 0.75	\$ -	\$ 1,215.00	\$ 135.00	\$ -
200		Ogee Washers	EA	\$ 3.50	\$ 0.05	\$ -	\$ 700.00	\$ 10.00	\$ -
200		Nuts	EA	\$ 0.50	\$ 0.05	\$ -	\$ 100.00	\$ 10.00	\$ -
10		1/8" Thick Galv. Clip Angles	EA	\$ 9.25	\$ 0.75	\$ -	\$ 92.50	\$ 7.50	\$ -
		<b>Guardrail</b>							
25		PT 4x4 Posts x 8'-0" Long (60 each)	EA	\$ 10.00	\$ 3.25	\$ 0.25	\$ 250.00	\$ 81.25	\$ 6.25
100		PT 2x4 Railing x 12'-0" Long (240 L.F.)	EA	\$ 4.25	\$ 1.50	\$ 0.25	\$ 425.00	\$ 150.00	\$ 25.00
240		PT 2x2 Pickets x 8'-0" Long (480 each)	EA	\$ 2.25	\$ 1.25	\$ 0.15	\$ 540.00	\$ 300.00	\$ 36.00
10		Galvanized 16d Nails (100 ct per box)	EA	\$ 3.25	\$ 5.00	\$ -	\$ 32.50	\$ 50.00	\$ -



	DESCRIPTION	U.M.	%			MULTIPLIER		
			MAT.	LABOR	EQUIP.	MAT.	LABOR	EQUIP.
						-	-	-
	<b>PRIME WORK:</b>							
	TAX/INSURANCE		5.0%	30.0%	7.0%	1.050	1.300	1.070
	OVERHEAD		10.0%	15.0%	15.0%	1.100	1.150	1.150
	PROFIT		10.0%	10.0%	10.0%	1.100	1.100	1.100
	BOND		2.5%	1.0%	1.0%	1.025	1.010	1.010
	COMPOSITE MULTIPLIER FOR PRIME WORK -->					1.302	1.661	1.367
	<b>SUB-CONTRACT WORK:</b>							
	TAX/INSURANCE		7.0%	26.0%	7.0%	1.070	1.260	1.070
	OVERHEAD		10.0%	15.0%	15.0%	1.100	1.150	1.150
	PROFIT		10.0%	10.0%	10.0%	1.100	1.100	1.100
	PRIME OVERHEAD		5.0%	5.0%	5.0%	1.050	1.050	1.050
	PRIME PROFIT		5.0%	5.0%	5.0%	1.050	1.050	1.050
	BOND		2.5%	1.0%	1.0%	1.025	1.010	1.010
	COMPOSITE MULTIPLIER FOR SUB-CONTRACTOR WORK -->					1.463	1.775	1.507



# City of Norfolk

Office of the City Manager

March 10, 2006

Virginia Recreational Fishing Advisory Board  
Virginia Marine Resources Commission  
Habitat Management Division  
2600 Washington Avenue, 3<sup>rd</sup> Floor  
Newport News, VA 23607-0756

To Whom It May Concern:

Please allow this letter to serve as written notification that the City of Norfolk agrees to assume all future maintenance responsibilities associated with the upkeep and repair of the proposed Recreation/Education Pier located in back of the existing East Ocean View Nature and Recreation Center.

Should you have any questions, or require any additional information, please do not hesitate to call.

Sincerely,

Nancy Johnson  
Assistant City Manager

cc: J. Keifer, Dept. of Public Works  
S. de Mik, Dept. of Finance & Business Systems