STRUCTURAL NOTES:

1000 GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.

3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.

4. DO NOT SCALE DRAWINGS.

5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO INSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS.

6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.

8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

9. THE STRUCTURAL ENGINEER'S OBLIGATIONS TO REVIEW SHOP DRAWINGS AND OTHER SUBMITTALS AND TO RETURN THEM IN A TIMELY MANNER ARE CONDITIONED UPON THE PRIOR REVIEW AND APPROVAL OF THE SHOP DRAWINGS OR SUBMITTALS BY THE CONTRACTOR AS REQUIRED IN THE CONSTRUCTION CONTRACT AND THE CONTRACTOR'S SUBMITTAL OF THE SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH A WRITTEN SCHEDULE DISTRIBUTED IN ADVANCE TO THE ENGINEER IDENTIFYING THE DATES FOR THE SUBMITTAL OF THE VARIOUS SHOP DRAWINGS AND SUBMITTALS.

10. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF TLC ENGINEERING FOR ARCHITECTURE IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.

11. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

1060 DESIGN LOADS:

1. THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 2017 EDITION.

2. THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

   2.1 SUPERIMPOSED DEAD LOADS
   TENSILE MEMBRANE FABRIC 5 PSF

   2.2 LIVE LOADS
   TENSILE MEMBRANE FABRIC 5 PSF

   2.3 WIND: PER FLORIDA BUILDING CODE 2017 AND ASCE 7-10

   WIND SPEED WITHOUT TENSILE MEMBRANE FABRIC ATTACHED
   Vult = 135 MPH (3-SECOND GUST)
   Vasd = 105 MPH (3-SECOND GUST)

   WIND SPEED WITH TENSILE MEMBRANE FABRIC ATTACHED
   Vult = 105 MPH (3-SECOND GUST)
   Vasd = 81 MPH (3-SECOND GUST)

   RISK CATEGORY = I
   EXPOSURE CATEGORY = D
   ENCLOSURE CLASSIFICATION = OPEN STRUCTURE
   INTERNAL PRESSURE COEFFICIENT = ± 0.00
   WIND-BORNE DEBRIS REGION

1330 SHOP DRAWING REVIEW:

1. SHOP DRAWINGS SHALL ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN ON THE CONTRACT DOCUMENTS. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS.

2. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. NON-CONFORMING DRAWINGS SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.

3. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.

4. CHANGES AND ADDITIONS MADE ON RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER OF TRANSMITTAL. ARCHITECT/ENGINEER OF RECORD REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. CONTRACTOR IS RESPONSIBLE FOR COSTS CAUSED BY MULTIPLE RE-SUBMITTALS (MORE THAN ONE) AT ARCHITECT/ENGINEERS' CURRENT

1331 SHOP DRAWINGS FOR SPECIALTY ENGINEERED PRODUCTS:

1. THE FOLLOWING SYSTEMS AND COMPONENTS AS A MINIMUM REQUIRE FABRICATION AND ERECTION DRAWINGS PREPARED BY A DELEGATED ENGINEER:
   A. TENSILE MEMBRANE FABRIC

2. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT AND APPLICABLE CODES, LIST THE DESIGN CRITERIA, AND SHOW ALL DETAILS AND DRAWINGS NECESSARY FOR PROPER FABRICATION AND INSTALLATION. CALCULATIONS AND SHOP DRAWINGS SHALL IDENTIFY SPECIFIC PRODUCT UTILIZED. GENERIC PRODUCTS WILL NOT BE ACCEPTED.

3. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED UNDER THE DIRECT SUPERVISION AND CONTROL OF THE DELEGATED ENGINEER.

4. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. COMPUTER PRINTOUTS ARE AN ACCEPTABLE SUBSTITUTE FOR MANUAL COMPUTATIONS PROVIDED THEY ARE ACCOMPANIED BY SUFFICIENT DESCRIPTIVE INFORMATION TO PERMIT THEIR PROPER EVALUATION. SUCH DESCRIPTIVE INFORMATION SHALL BE SIGNED AND SEALED BY AN ENGINEER AS AN INDICATION THAT HE/SHE HAS ACCEPTED RESPONSIBILITY FOR THE RESULTS.

5. DRAWINGS PREPARED SOLELY TO SERVE AS A GUIDE FOR FABRICATION AND INSTALLATION (SUCH AS REINFORCING STEEL SHOP DRAWINGS OR STRUCTURAL STEEL ERECTION DRAWINGS) AND REQUIRING NO ENGINEERING, DO NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.

2

2310 FOUNDATIONS W/ SOILS REPORTS:

SEE THE FOLLOWING REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION INSTALLATION SHALL COMPLY WITH:

PROJECT No. PH4150197
PREPARED BY: TERRACON
TITLED: PIER PARK
DATED: 11-04-2015

FOUNDATION DESIGN BASED ON A SOIL BEARING PRESSURE OF 2500 PSF AT GRADE.

FOUNDATIONS AND SLABS SHALL BE PREPARED IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS.

3302 CONCRETE:

1. SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

LOCATION	STRENGTH	SLUMP	AGGREGATE
STRUCTURAL CONCRETE	4000 PSI	4-6"	ASTM #57

2. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS.

3. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE.

4. CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.

5. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE.

6. CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.

7. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318, 6.3.

8. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA AS PER CHAPTER 5 OF ACI 318.

3310 REINFORCING STEEL:

1. SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.

2. PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:

   ALL CONCRETE WITH FORMED SURFACES 2"

3. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.

4. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF ALL TOP BARS.

5. ALL STEEL SHALL BE HOT DIPPED GALVANIZED.

5120 STRUCTURAL STEEL:

1. STEEL WORK SHALL BE NEW AND CONFORM TO THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS. – ALLOWABLE STRESS DESIGN AND LOAD AND RESISTANCE FACTOR DESIGN.

2. MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:

WIDE FLANGE SHAPES	ASTM A992 (Fy = 50 KSI)
ANGLES, CHANNELS AND PLATES	ASTM A36 (Fy=36 KSI) OR ASTM A529 GR. 50 (SEE PLANS)
RECTANGULAR HSS	ASTM A500 GRADE B (Fy=46KSI)
THREADED RODS	ASTM A36 (Fy=36 KSI)
HEAVY HEX NUTS	ASTM A563
HARDENED STEEL WASHERS	ASTM F436
DIRECT TENSION INDICATORS	ASTM F959, TYPE 325
ANCHOR RODS	ASTM F1554 GR. 36 (Fy=36 KSI)
HEADED STUD ANCHORS	ASTM A108 (Fy=50 KSI)

3. CONNECTIONS:

   A. BOLTS SHALL BE HIGH-STRENGTH, BEARING TYPE. TIGHTEN BY AN AISC APPROVED METHOD.

   B. WELDING ELECTRODES SHALL BE PER AWS D1.1. RETURN FILLET WELDS FOR FRAMED CONNECTIONS 1/2" AT EACH END.

   C. FIELD CONNECTIONS SHALL BE MADE WITH 3/4" BOLTS, EXCEPT AS NOTED OTHERWISE.

4. ALL STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND ALL FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153. REPAIR ANY DAMAGE TO GALVANIZED STEEL OR AFTER WELDING IN ACCORDANCE WITH ASTM A780.

5. GROUT UNDER BEARING. PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI IN 28 DAYS.

6. FIELD SPLICES FOR STRUCTURAL MEMBERS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED FOR REVIEW.

5122 WELDING:

1. WELDING SHALL BE DONE BY WELDERS WITH CURRENT CERTIFICATION IN ACCORDANCE WITH AWS D1.1.

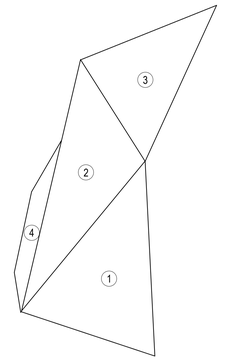
2. WELDS SHOWN ON STRUCTURAL DRAWINGS ARE MINIMUM DESIGN REQUIREMENTS. THE FABRICATOR'S SHOP DRAWINGS SHALL REFLECT WELDS IN ACCORDANCE WITH AWS REQUIREMENTS.

3. FULL PENETRATION GROOVE WELDS SHALL BE INSPECTED BY ULTRASONIC TESTING. TWENTY-FIVE PERCENT OF THE WELDS SHALL BE INSPECTED AT RANDOM UNLESS NOTED OTHERWISE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

4. UNLESS NOTED OTHERWISE ON THE DRAWINGS, GROOVE WELDS SHALL BE FULL PENETRATION.

5. MINIMUM TENSILE STRENGTH OF ELECTRODE MATERIAL. F_{EXX}: 70ksi, U.N.O.

6. ALL STEEL AND WELDING SHALL BE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL, SEE SPECIFICATIONS FOR AESS REQUIREMENTS.



SHADE STRUCTURE ROOF DIAGRAM

ULTIMATE WIND PRESSURES (ASCE 7-10)

SURFACE	ROOF SLOPE	Vult (MPH)	Vasd (MPH)	PRESSURE (PSF)
1	0°	105	81	+26.9 -24.7
2	9°	105	81	+36.8 -33.7
3	16°	105	81	+41.7 -43.6
4	WALL	105	81	+42.4 -42.4

GROSS WIND PRESSURE PLAN NOTES:

1. WIND PRESSURE TABLE IS BASED ON FBC 2017 / ASCE 7-10 ULTIMATE WIND SPEED. PRESSURES SHOWN ABOVE ARE ULTIMATE COMPONENTS AND CLADDING PRESSURES. VALUES MAY BE MULTIPLIED BY 0.6 FOR NOMINAL (ALLOWABLE) PRESSURES.

   Vult - INDICATES ULTIMATE DESIGN WIND SPEED IN MPH

   Vasd - INDICATES NOMINAL DESIGN WIND SPEED IN MPH

NOTES ON THIS SHEET APPLY ONLY TO THE SHADE STRUCTURE. SHEETS S1.60, S1.61, S1.62 AND S1.63.

ASD | SKY

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NO:	REVISIONS:	DATE:
2	ASI 17	6/14/2019
1	ASI 11 – Shade Structure	02/14/2019

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THE NEW ST PETERSBURG PIER
CITY OF ST PETERSBURG

CITY PROJECT NO. 09227-019

ENGINEERING and CAPITAL IMPROVEMENTS DEPARTMENT
CITY of ST. PETERSBURG

APPROVED BY:

100% CONSTRUCTION DOCUMENTS
SHADE STRUCTURE
STRUCTURAL NOTES

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