

**CODES AND DESIGN SPECIFICATIONS:**

1. BUILDING CODE: 2006 EDITION OF THE INTERNATIONAL BUILDING CODE.
2. SUPPLEMENTAL CODES AND REFERENCES TO BE USED FOR DESIGN, DETAILING AND CONSTRUCTION ARE:
  - A. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-05).
  - B. "SPECIFICATION FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301-05).
  - C. "STEEL CONSTRUCTION MANUAL" (AISC, THIRTEENTH EDITION).
  - D. "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (2005).
3. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS 2007 4TH EDITION.

**DESIGN LIVE LOADING:**

1. BRIDGE DECK ..... 100 PSF
2. WIND 3 SEC. GUST EXPOSURE B ..... 90 MPH
3. SEISMIC SITE CLASSIFICATION ..... C
4. SPECTRAL RESPONSE ACCELERATION (S<sub>s</sub>, S<sub>1</sub>) ..... 0.125, 0.052

**CONCRETE MIX DESIGNS:**

1. PROVIDE NORMAL WEIGHT CONCRETE HAVING THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS AND GENERAL CHARACTERISTICS:

USAGE	MIN. 28 DAY COMPRESSIVE STRENGTH
BRIDGE DECK	5,000
ABUTMENTS & PIERS	4,000
ALL OTHER	4,000

2. MINIMUM CONCRETE 28 DAY COMPRESSIVE STRENGTH SHALL BE BASED ON HISTORICAL PERFORMANCE DATA FROM THE SELECTED TRANSIT MIX CONCRETE SUPPLIER AND APPROVED BY THE ENGINEER.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONCRETE SUPPLIER TO SELECT THE PROPER TYPE OF PORTLAND CEMENT (INCLUDING QUANTITIES), AGGREGATES (INCLUDING QUANTITIES) AND WATER CEMENT RATIO TO PRODUCE THE REQUIRED MINIMUM 28 DAY COMPRESSIVE STRENGTHS.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONCRETE SUPPLIER TO RECOMMEND ANY ENHANCING AGENTS OR ADMIXTURES TO PROVIDE A WORKABLE AND DURABLE PRODUCT.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONCRETE SUPPLIER TO COORDINATE WITH THE GENERAL CONTRACTOR FOR ANY ADJUSTMENTS WHICH MAY BE NECESSARY TO PROVIDE FOR HIGH EARLY STRENGTHS TO FACILITATE AND ELIMINATE DELAYS IN CONSTRUCTION.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONCRETE SUPPLIER TO COORDINATE WITH THE GENERAL CONTRACTOR FOR ANY ADJUSTMENTS WHICH MAY BE NECESSARY TO PROVIDE FOR HOT WEATHER OR COLD WEATHER CONCRETING PRECAUTIONS.

**CONCRETE REINFORCEMENT:**

1. REINFORCING STEEL SHALL BE NEW DEFORMED BILLET STEEL CONFORMING TO A.S.T.M. A-615, GRADE 60.
2. ALL REINFORCING STEEL IN THE BRIDGE DECK ONLY SHALL BE EPOXY COATED.
3. REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH THE A.C.I. DETAILING MANUAL. PROVIDE BAR SUPPORTS AND SPACERS AS REQUIRED.
4. PROVIDE CORNER BARS AT ALL INTERSECTING REINFORCING MEMBERS IN WALLS AND BEAMS. CORNER BARS SHALL BE THE SAME SIZE AS THE LARGER INTERSECTING BAR AND SHALL PROVIDE A MINIMUM LAP OF 30 BAR DIAMETERS.
5. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
  - A. BRIDGE DECK SLAB ..... 1 1/2" CLEAR
  - B. PIERS ..... 3" CLEAR
  - C. PILASTERS ..... 1 1/2" CLEAR
  - D. ABUTMENT ..... 1 1/2" CLEAR
6. DETAILING OF REINFORCING BARS IN BEAMS SHALL BE AS FOLLOWS:
  - A. TOP AND BOTTOM BARS TO BE CONTINUOUS BETWEEN SUPPORTS.
  - B. TOP BARS AT THE ENDS OF BEAMS TO HAVE STANDARD 90 DEGREE HOOKS.
  - C. SPLICE TOP BARS AT THE MIDSPAN BETWEEN SUPPORTS. (U.N.O.)
  - D. SPLICE BOTTOM BARS DIRECTLY OVER SUPPORTS. (U.N.O.)
  - E. ALTERNATE SPLICES IN MIDDLE BARS BETWEEN SUPPORTS AND MID-SPANS WITH NO MORE THAN 1/2 OF THE BARS SPLICED AT ANY ONE LOCATION.
  - F. ALL BAR SPLICES SHALL BE 30 BAR DIAMETERS MINIMUM.

**STRAIGHT SHAFT PIER NOTES:**

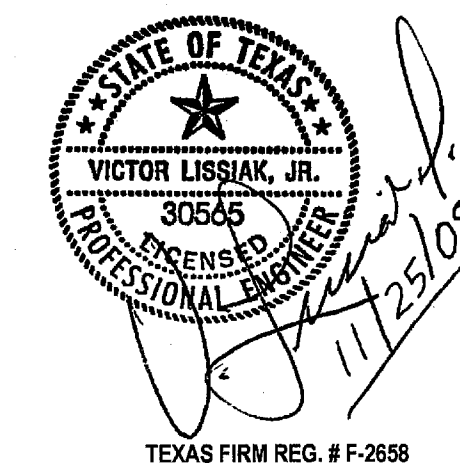
1. STRAIGHT SHAFT PIER DESIGN IS BASED ON AN ALLOWABLE VALUE OF 18,000 PSF END BEARING AND 2,000 PSF SIDE FRICTION AS RECOMMENDED IN THE SUBSURFACE REPORT PREPARED BY GEOTEL ENGINEERING, INC. THEIR REPORT NO. E07-312, DATED DECEMBER 3, 2007.
2. DRILLED PIERS SHALL BE FOUNDED IN THE GRAY UN-WEATHERED SHALE BEARING STRATA AS NOTED ON PLANS.
3. BOTTOM OF ALL PIER HOLES SHALL BE SMOOTH, DRY AND FREE OF ALL LOOSE MATERIAL BEFORE PLACING CONCRETE.
4. THE CONTRACTOR SHALL VERIFY THE DEPTH OF THE PIER PRIOR TO CUTTING PIER REINFORCING CAGES. PIER STEEL SHALL BE DELIVERED TO THE JOBSITE IN STANDARD LENGTHS AND CUT AS REQUIRED. 30 BAR DIAMETER LAPS WILL BE ALLOWED IN THE PIER STEEL IF NO MORE THAN 50 PERCENT OF THE BARS ARE LAPPED IN ANY 8 FOOT LENGTH OF THE PIER.
5. REINFORCING STEEL SHOP DRAWINGS SHALL INDICATE PLACING DRAWINGS FOR TEMPLATES TO SET DOWELS AND ANCHOR BOLTS. REINFORCING CAGES SHALL BE ADEQUATELY SUPPORTED TO PROVIDED CLEARANCES INDICATED ON THE DRAWINGS.
6. PIER HOLES SHALL BE CONCRETED WITHIN 8 HOURS OF DRILLING.
7. IF SUBSURFACE WATER CONDITIONS ARE SUCH THAT THE PIER HOLES CANNOT BE INSTALLED IN THE DRY CONDITION, THE CONTRACTOR SHALL INSTALL TEMPORARY CASING TO CONTROL WATER INTRUSION.

**STRUCTURAL STEEL:**

1. STRUCTURAL STEEL SHALL CONFORM TO THE A.I.S.C. "STEEL CONSTRUCTION MANUAL", THIRTEENTH EDITION.
2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY. WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 OR A5.5 FOR SERIES #E70 ELECTRODES.
3. BOLTS AND BOLTED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS" FOR STRUCTURAL JOINTS USING A.S.T.M. A-325 BOLTS OR A490 BOLTS, AS APPROVED BY THE RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS USING ASTM A-325 BOLTS. USE BEARING TYPE BOLTS WITH THREADS EXCLUDED FROM THE SHEAR PLANE.
4. IN GENERAL, IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT ALL SHOP CONNECTIONS ARE TO BE WELDED OR BOLTED AND ALL FIELD CONNECTIONS ARE TO BE BOLTED EXCEPT WHERE NOTED ON THE DRAWINGS OTHERWISE.
5. STRUCTURAL STEEL SHAPES, PLATES, ETC., SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS:
  - A. W SHAPE ..... ASTM A992, Fy = 50ksi
  - B. RECTANGULAR HSS ..... ASTM A500 Gr.B, Fy = 46ksi
  - C. ROUND HSS ..... ASTM A500 Gr.B, Fy = 42ksi
  - D. PIPE ..... ASTM A53 Gr.B, Fy = 35ksi
  - E. M,S,C,M,C,L ..... ASTM A36, Fy = 36ksi
  - F. HP ..... ASTM A572 Gr. 50, Fy = 50ksi
  - G. PLATES & BARS ..... ASTM A572 Gr. 50, Fy = 50ksi
6. ALL BEAM CONNECTIONS SHALL BE STANDARD DOUBLE ANGLE TYPE UNLESS DETAILED OTHERWISE. PLATE SIZES, NUMBER AND SIZE OF BOLTS FOR FIELD CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR. DESIGN STANDARD CONNECTIONS USING 55% OF THE TOTAL LOAD CAPACITY SHOWN IN THE BEAM TABLES, PART 3, THIRTEENTH EDITION OF THE A.I.S.C. CODE FOR GIVEN BEAM SPAN IF THE SHEAR IS NOT GIVEN. IN NO CASE SHALL THE MINIMUM NUMBER OF BOLTS BE LESS THAN 2 ROWS FOR W12 & SMALLER, 3 ROWS FOR W14, W16, & W18, 4 ROWS FOR W21 AND W24, 5 ROWS FOR W27 & W30 AND 6 ROWS FOR W33 AND W36.
7. PROVIDE A PRIME COAT OF RED OXIDE PAINT ON ALL STRUCTURAL STEEL SURFACES PRIOR TO SHIPMENT.
8. PROVIDE WEB STIFFENERS TO ALL BEAMS AT SUPPORT LOCATIONS. WELD STIFFENERS TO EACH SIDE OF BEAM CENTERED DIRECTLY ABOVE SUPPORT. MIN. PLATE THICKNESS IS 1/4".
9. ALL HEADED STUDS SHALL BE DRAWN ARC WELDED.

**BRIDGE PAINTING NOTES:**

1. PROVIDE SAMPLES OF PAINTED MATERIAL FOR COLOR VERIFICATION TO THE LANDSCAPE ARCHITECT FOR APPROVAL.



PRELIMINARY-FOR REVIEW ONLY		NO.	REVISION	BY	DATE
					01/25/09
<b>TOWN OF ADDISON</b> DALLAS COUNTY, TEXAS					
VITRUVIAN PARK BRIDGES					
<b>PEDESTRIAN BRIDGE</b> GENERAL NOTES					
VIEWTECH, INC.		4205 Beltway Dr. - Addison, Texas 75001			
Structural Engineers		(972) 661-8187 Fax (972) 661-8172			
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
2007.144	VL	NERF	NOV. 25 2009	-	SB101