three inches = one foot
one and one half inch = one foot
one inch = one foot
three-quarters inch = one foot
one-half inch = one Foot
three-eighths inch = one foot
one-quarter inch = one foot
one-eighth inch = one foot

HANGERS, STRUTS, BLOCKING AND ANCHORAGE NOTES

1. PIPING TRADE CONTRACTORS SHALL REFER TO THE APPLICABLE DIVISIONS OF THE SPECIFICATIONS FOR SUPPORTS, BLOCKING, ANCHORAGE AND RESTRAINING OF ALL PIPING, VALVES AND PIPING APPURTENANCES.
2. PIPING TRADE CONTRACTORS SHALL REVIEW WITH THE ENGINEER AND THE CONTRACTOR ALL LOCATION AND ARRANGEMENT OF PIPING OPENINGS, PIPE SLEEVES, TRENCHES, AS REQUIRED TO COMPLETE HIS WORK AND SHALL NOT PROCEED WITH INSTALLATION OF SAME UNTIL SUCH HAS BEEN REVIEWED AND WILL NOT IMPAIR THE STRUCTURAL INTEGRITY OF THE CONCRETE MEMBERS.
3. PIPE TRADE CONTRACTORS SHALL PROVIDE AND COORDINATE THE INSTALLATION OF ALL ITEMS TO BE EMBEDDED IN THE CONCRETE SYSTEM AND SHALL COOPERATE SO AS NOT TO DELAY THE CONSTRUCTION WORK. SUCH ITEMS SHALL INCLUDE PIPES, SLEEVES, BOLTS, STRUTS, HANGERS AND FITTINGS, ETC., THAT ARE TO BE EMBEDDED IN THE CONCRETE SYSTEM.
4. ALL STAINLESS STEEL TO BE TYPE 316.

STAINLESS STEEL NOTE

1. ALL STAINLESS STEEL TO BE TYPE 316. STAINLESS STEEL IS TO CONFORM TO ASTM A167 & ASTM A276. BOLTING MATERIALS ARE TO CONFORM TO ASTM A193.

ADHESIVE ANCHORING SYSTEMS

1. USE AN EPOXY ADHESIVE SUCH AS RE500 MANUFACTURED BY HILTI.
2. DIAMETER OF HOLE SHALL BE AS RECOMMENDED BY MANUFACTURER FOR THE PARTICULAR PRODUCT SPECIFIED IN THE DRAWINGS.
3. ALL POST INSTALLED ANCHORED THREADED RODS AND REBARS SHALL BE TESTED AFTER INSTALLATION AT CONTRACTORS EXPENSE. A MINIMUM OF 10% OF EACH DAYS APPLICATIONS AND NO LESS THAN 2 SHALL BE TESTED BY APPLYING A TENSION LOAD 2 TIMES THE MANUFACTURERS ALLOWABLE LOAD TO THE EMBEDDED ANCHOR. IF A TEST APPLICATION FAILS, ALL APPLICATIONS FOR THAT DAY SHALL BE TESTED. TESTING PROCEDURES AND RESULTS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER.

WATERSTOP NOTES

1. EXPANDING RUBBER WATERSTOP SHALL BE A CHEMICALLY MODIFIED NATURAL RUBBER PRODUCT WITH A HYDROPHILIC AGENT. APPROVED PRODUCT SHALL BE HYDROTITE CJ-1020-2K BY GREENSTREAK, OR EQUAL. WATERSTOPS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. ADHESIVE BETWEEN WATERSTOP AND EXISTING CONCRETE SHALL BE GREENSTREAK 7300 EPOXY BY GREENSTEAK, OR APPROVED EQUAL. ADHESIVE SHALL BE APPLIED TO BOTH CONTACT SURFACES IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. WATERSTOPS SHALL BE TERMINATED 2 INCHES FROM END OF WALL AT THE FLOOD BARRIER AND 2" FROM TOP OF WALL AT EXISTING MASONRY WALLS.
4. WATER-SWELLING SEALANT PERPENDICULAR TO THE END OF THE HYDROPHILIC WATERSTOP EXTENDING TO THE FACE OF THE WALL. SEALANT SHALL BE LEAKMASTER AS MANUFACTURED BY GREENSTREAK, OR APPROVED EQUAL.

PRECAST NOTES

1. SEE ARCHITECTURAL DWGS. FOR ADDITIONAL DETAILS.
2. CONCRETE TO HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
3. WHERE EDGE OF OPENING IS LESS THAN 1'-0" FROM COLUMN OR BEAM FACE, EXTEND LINTEL AND PROVIDE SEAT ANGLE CONNECTION IF NOT OTHERWISE INDICATED ON STRUCTURAL DETAILS.
4. PRECAST LINTELS TO BE SET AT SAME ELEVATION AS BLOCK COURSING WITH TOP OF UNIT AN 8" MULTIPLE ABOVE FINISH GROUND FLOOR. HORIZONTAL LEGS OF A36 STEEL ANGLES TO BE CENTERED IN MORTAR JOINTS.

TYPICAL FRP NOTES

1. FIBERGLASS REINFORCED PLASTIC (FRP) MATERIALS ARE TO CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND BE SUITABLE FOR THE INTENDED USE.
2. FRP MATERIALS ARE TO BE CORROSION RESISTANT AS MANUFACTURED BY FIBERGRATE APPROVED OR EQUAL.
3. GRATINGS AND LADDER RUNGS TO HAVE A PERMANENT INTEGRAL NON-SKID GRIT TOP SURFACE.
4. FRP GRATINGS ARE TO BE FACTORY CUT. WHERE FIELD CUTTING IS NECESSARY ENDS ARE TO BE RESIN COATED FOR MAXIMUM CORROSION RESISTANCE.

STEEL FASTENERS AND HARDWARE

1. TYPE 316 STAINLESS STEEL SHALL BE USED FOR ALL FASTENERS, PLATES, AND CONNECTORS EXPOSED TO OCEAN SALT AIR.
2. FASTENERS AND CONNECTORS USED TOGETHER SHOULD BE OF THE SAME TYPE. DO NOT MIX HOT-DIPPED GALVANIZED ITEMS WITH STAINLESS STEEL.
3. ALL INDOOR VISUALLY EXPOSED CONNECTORS AND FASTENERS SHALL BE PAINTED AND FINISHED IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATIONS.
4. ALL NON-STAINLESS STEEL PLATES SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A36.
5. BOLTS AND LAG SCREWS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/ASME STANDARD B18.2.1 GRADE 2 OR ASTM A307, GRADE 2, AND SHALL PREFERABLY BE DOME HEAD TIMBER BOLTS.
6. EDGE ANGLES, CLIP ANGLES, PLATES, BARS AND OTHER MISCELLANEOUS ROLLED SHAPES SHALL BE ASTM A-36 STRUCTURAL STEEL, U.O.N.
7. SPLIT RINGS SHALL BE MANUFACTURED FROM SAE 1010 HOT ROLLED CARBON STEEL.

STRUCTURAL STEEL NOTES

1. ALL STRUCTURAL STEEL WORK, INCLUDING DETAILING, FABRICATION AND ERECTION SHALL BE IN CONFORMANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION, EXCEPT AS HEREIN MODIFIED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS.
2. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES (W SHAPES) SHALL BE NEW STEEL, CLEAN AND STRAIGHT, AND SHALL CONFORM TO ASTM SPECIFICATION A992-02 GRADE 50, EXCEPT AS NOTED.
3. WHERE INDICATED, PIPE AND TUBE SHALL CONFORM TO THE FOLLOWING: HSS RECT - ASTM A500-GR.B Fy=46; HSS ROUND - ASTM A500-GR.B Fy=42; PIPE - ASTM A53-GR.B.
4. WHERE SHOWN - M, S, C, MC AND L SHAPES SHALL BE ASTM A36 MATERIAL. HP SHAPES SHALL BE A572-GR.50.
5. ALL SHOP CONNECTIONS SHALL BE MADE WITH WELDS OR HIGH STRENGTH BOLTS. ALL FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS. BOTH SHOP AND FIELD CONNECTIONS SHALL CONFORM TO THE TYPICAL CONNECTION DETAILS SHOWN ON THE CONTRACT DRAWINGS UNLESS SPECIFICALLY MODIFIED BY THE ENGINEER.
6. ALL HIGH STRENGTH BOLTS SHALL BE 3/4" DIAMETER FRICTION TYPE BOLTS CONFORMING TO ASTM A 325-02. PROVIDE A HARDENED WASHER UNDER THE TURNED ELEMENT (NUT OR BOLT HEAD). BOLTS AND NUTS TO BE "MADE IN THE USA".
7. THE INSTALLATION AND TIGHTENING OF ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325-02 BOLTS-ERECTION SHALL USE THE CALIBRATED WRENCH METHOD OF INSTALLATION.
8. ALL ANCHOR BOLTS SHALL BE ASTM F1554-GR.36, UNLESS OTHERWISE NOTED.
9. ALL WELDING PROCEDURES SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION.
10. ALL STRUCTURAL STEEL, EXCEPT WHERE NOTED, SHALL BE PAINTED. PRIME COAT SHALL BE A SOLVENT BASED, BONDING, PRIMER. TOP COAT SHALL BE EPOXY, HIGH BUILD, SELF PRIMING. PRODUCTS SHALL BE RUSTBOND AND CARBOGUARD 635 BY CARBOLINE, OR APPROVED EQUAL. ALL FABRICATION AND ERECTION MARKS SHALL BE COVERED DURING THE FIELD PAINTING TOUCH-UP OPERATIONS.
11. FOR MISCELLANEOUS STEEL REQUIREMENTS, SEE THE ARCHITECTURAL CONTRACT DRAWINGS.
12. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY STEEL LINTELS OF THE REQUIRED SIZES AND SHAPES, FOR ALL OPENINGS IN EXTERIOR AND INTERIOR MASONRY WALLS. LINTELS FURNISHED SHALL INCLUDE THOSE REQUIRED FOR HVAC DUCTWORK, LOUVERS AND EQUIPMENT. ALL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED.
13. PROVIDE HOLES FOR WOOD BLOCKING AS SHOWN ON THE ARCHITECTURAL CONTRACT DRAWINGS.
14. ALL STEEL COLUMNS SHALL BE MILLED TO BEAR AT BASEPLATES, AND CAP PLATES.
15. ALL CLIP ANGLES USED SHALL BE A MINIMUM OF 6" LONG AND HAVE A MINIMUM THICKNESS OF 3/8" UNLESS NOTED OTHERWISE.
16. STEEL JOIST CONSTRUCTION, INCLUDING MATERIALS, DESIGN AND MANUFACTURE, APPLICATION, HANDLING AND ERECTION, SHALL CONFORM TO THE LATEST SPECIFICATIONS OF THE STEEL JOIST INSTITUTE.
17. WHERE NOTED, STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED. ZINC IS TO CONFORM TO ASTM B6. ALL GALVANIZING IS TO BE DONE BY THE HOT-DIP PROCESS TO CONFORM TO ASTM A123-08 AND AMERICAN HOT DIP GALVANIZERS ASSOCIATION, INC. THE COATING SHALL HAVE AN AVERAGE WEIGHT OF 2.0 OUNCES PER SQUARE FOOT.

METAL DECK NOTES

1. METAL DECK SHALL CONFORM TO THE AMERICAN IRON AND STEEL INSTITUTE'S "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
2. METAL DECK SHALL BE GALVANIZED. SEE THE SPECIFICATIONS.
3. METAL DECK SHALL BE CAPABLE OF SUPPORTING ALL CONSTRUCTION LOADS, AS PER "STEEL DECK INSTITUTE GUIDE TO FLOOR DECK AND ROOF DECK. (30 PSF MINIMUM CONSTRUCTION LOADING).
4. METAL DECK SHALL HAVE NESTING SIDE LAPS AND BE MECHANICALLY FASTENED AT THE CENTERLINE OF EACH SPAN, OR AT 3'-0" ON CENTER, WHICHEVER IS THE LESSER DIMENSION, WITH 3/4" LONG #10 TEK SELF-DRILLING SCREWS.
5. METAL DECK SHALL SPAN A MINIMUM OF THREE (3) SPANS.
6. CONFORM TO THE STEEL DECK INSTITUTES RECOMMENDED SPECIFICATIONS.
   - 6.1.1. CONNECT DECK TO THE STEEL MEMBERS USING HILTI X-ENP-19 FASTENERS AS REQUIRED AND CORRESPONDING INSTALLATION TOOL WITH SUFFICIENT ACTUATION TO DRIVE FASTENERS COMPLETELY THROUGH GIVEN FLANGE THICKNESS.
7. CEILING DUCTS AND LIGHT FIXTURES MAY BE HUNG FROM DECK. DO NOT HANG ANY OTHER ITEMS FROM DECK. NO SINGLE CONCENTRATED LOAD SHALL EXCEED 60 LBS AND NO UNIFORM LOAD SHALL EXCEED 10 PSF.
8. SUBMIT STEEL SHOP DRAWINGS AND STEEL DECK DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO FABRICATION.

ALUMINUM NOTES

1. ALUMINUM ALLOY MEMBERS, FABRICATION THEREOF, AND ERECTION OF, SHALL CONFORM TO "SPECIFICATIONS FOR ALUMINUM STRUCTURES" BY THE ALUMINUM ASSOCIATION, LATEST EDITION, UNLESS NOTED OTHERWISE.
2. ALUMINUM ALLOY FOR ALL ROLLED SECTIONS, PLATES AND ANGLES SHALL BE ALLOY 6061-T6, UNLESS OTHERWISE SPECIFIED.
3. ALUMINUM ALLOY FOR PIPE SHALL BE ALLOY 6061-T6 UNLESS OTHERWISE SPECIFIED.
4. ALUMINUM ALLOY FOR GRATING SHALL BE ALLOY 6061-T6 UNLESS OTHERWISE SPECIFIED.
5. ALL FASTENINGS BETWEEN ALUMINUM MEMBERS AND DISSIMILAR METALS SHALL BE MADE WITH STAINLESS STEEL BOLTS UNLESS OTHERWISE NOTED. ALL CONTACT SURFACES OF ALL MEMBERS SHALL BE PAINTED WITH ZINC CHROMATE PRIMER.
6. ALL ALUMINUM SURFACES TO BE PLACED IN CONTACT WITH WOOD, CONCRETE, OR MASONRY SHALL BE GIVEN A HEAVY COAT OF AN ALKALI RESISTANT BITUMASTIC PAINT.

ELECTRICAL CONDUIT & GROUNDING NOTES

1. THE ELECTRICAL TRADE CONTRACTOR SHALL REVIEW WITH THE ENGINEER AND THE CONTRACTOR HIS PROPOSED LOCATION AND METHOD OF INSTALLATION OF CONDUITS IN CONCRETE CONSTRUCTION AND SHALL NOT PROCEED WITH INSTALLATION OF SAME UNTIL ARRANGEMENT OF CONDUITS AND OPENINGS HAS BEEN AGREED UPON.
2. NO CONDUITS SHALL BE SO LOCATED OR INSTALLED WHERE THEY WILL IMPAIR THE STRUCTURAL INTEGRITY OF THE CONCRETE OR CMU MEMBERS.
3. NO CONDUIT WITH AN OUTSIDE DIAMETER LARGER THAN ONE-THIRD OF THE CONCRETE SLAB THICKNESS WILL BE PERMITTED TO BE INSTALLED WITHIN THE SLAB SYSTEM.
4. ALL CONDUIT CROSS-OVERS SHALL BE SO LOCATED SO THEY DO NOT VERTICALLY DISPLACE ANY MAIN REINFORCING BARS OR OTHERWISE IMPAIR THE STRUCTURAL INTEGRITY OF THE FRAMING SYSTEM (SEE NOTE 1).
5. ALL CONDUITS SHALL BE SPACED A MINIMUM OF THREE CONDUIT DIAMETERS CENTER TO CENTER. LARGER SPACING OF CONDUIT IS PREFERRED.
6. CONTINUOUS ROWS OF CONDUIT SHALL NOT BE PLACED PARALLEL TO THE BEARING EDGES OF CONCRETE SLABS WITHIN A DISTANCE EQUAL TO THE SLAB THICKNESS FROM THE FACE OF THE BEARING EDGE.
7. ALL CONDUIT ENCASED IN CONCRETE SHALL BE IRON OR STEEL (UNCOATED OR GALVANIZED) NOT THINNER THAN STANDARD SCHEDULE 40 STEEL PIPE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
8. CONDUITS SHALL NOT BE PERMITTED TO BE PLACED IN THE CELLS OF A CMU WALL.
9. THE BUILDING ELECTRICAL GROUNDING SYSTEM SHALL BE BONDED TO THE FOUNDATION REBAR IN ACCORDANCE WITH THE REQUIREMENTS OF N.J.A.C. 5:23-3.4 AND NEC 2002, SECTION 250-52(AX3). CONTRACTOR SHALL COORDINATE WITH PROJECT ELECTRICAL DRAWINGS FOR REQUIREMENTS. ATTACHMENT OF ELECTRICAL GROUNDING SYSTEM TO FOUNDATION REBAR SHALL BE MADE PRIOR TO PLACEMENT OF CONCRETE FOR THE FOUNDATION.

DESIGN LOADS CRITERIA

NOTE:
IT SHALL BE UNLAWFUL TO PLACE, OR CAUSE TO PERMIT TO BE PLACED, ON ANY FLOOR OR ROOF OF A BUILDING, STRUCTURE, OR PORTION THEREOF, A LOAD GREATER THAN IS PERMITTED BY THESE REQUIREMENTS.

1. GENERAL INFORMATION:
IBC BUILDING CLASSIFICATION: CATEGORY IV
SITE EXPOSURE CATEGORY: C

2. DEAD LOADS:
STRUCTURES - ACTUAL WEIGHT
WEIGHT OF SOIL - 120 PCF FOR RESISTING UPLIFT
WEIGHT OF SOIL - 125 PCF FOR DEAD LOAD
EQUIVALENT LIQUID PRESSURE: 60 PSF

3. LIVE LOADS:
SLAB AT ELEVATION 70.83: 20 PSF
GROUND FLOOR: 250 PSF (OR EQ. WEIGHT)
INTERIOR EAST MEZZANINE FLOOR: 250 PSF
INTERIOR SOUTHWEST MEZZANINE FLOOR: 250 PSF

SNOW:
GROUND: 25 PSF
ROOF: 23 PSF
SNOW EXPOSURE: Ce = 0.9
SNOW IMPORTANCE : Is = 1.20
THERMAL FACTOR: Ct = 1.1

4. WIND LOADS:
BASIC WIND SPEED: 120 MPH
WIND LOAD IMPORTANCE FACTOR: 1.00
WIND EXPOSURE: C
WIND DIRECTIONALITY = 0.85 FACTOR, Kd
TOPOGRAPHIC FACTOR, Kzt = 1.00
GUST EFFECT FACTOR, G = 0.85
INTERNAL PRESSURE COEFF: ±0.18

5. EARTHQUAKE DESIGN DATA:
SEISMIC IMPORTANCE FACTOR, Ie: 1.50
SPECTRAL RESPONSE ACCELERATIONS: Ss: 0.164g, S1: 0.055g
SITE CLASS : D
SPECTRAL RESPONSE ACCELERATIONS: Sds: 0.175g, Sd1: 0.089g
SEISMIC DESIGN CATEGORY: C
SEISMIC FORCE RESISTING SYSTEM: STEEL ORDINARY CONCENTRICALLY BRACED FRAMES [BUILDING]
SEISMIC FORCE RESISTING SYSTEM: ORDINARY REINFORCED MASONRY SHEAR WALLS [ALL INTERIOR MEZZANINE]
DESIGN BASE SHEAR: 157 KIP [BUILDING]; 51 KIP [INTERIOR EAST MEZZANINE]; 16 KIP [INTERIOR SOUTHWEST MEZZANINE]
SEISMIC RESPONSE COEFFICIENT Cs: 0.081 [BUILDING]; 0.131 [INTERIOR MEZZANINE]
RESPONSE MODIFICATION FACTOR: R: 3.25 [BUILDING; 2 [INTERIOR MEZZANINE]
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE ANALYSIS

6. GEOTECHNICAL INFORMATION:
ALLOWABLE BEARING PRESSURE OF SOIL: 3,000 PSF (AS PER GEOTECHNICAL REPORT)
DEPTH TO FROST: 32" MINIMUM

7. BLAST DESIGN CRITERIA:
VA PHYSICAL SECURITY DESIGN MANUAL FOR MISSION CRITICAL FACILITIES (FINAL DRAFT - 2007)

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 45054, EXPIRATION DATE: 02/09/16

Fully Sprinklered

Additions:	Date:
Revisions:	
⚠1 ADDENDUM NO. 2 - NOTE REVISIONS	7-1-16

DCS Infrastructure, LLC
3249 route 112, building 4 suite 1B
Medford, N.Y. 11763 631-320-1706
Hatch Mott MacDonald

STATE OF MARYLAND JOHN C. CLUNE 45054 PROFESSIONAL ENGINEER
07/11/16

Approved:	Approved: Chief, Facilities and Engineering:
	Approved: Associate Chief for Maintenance And Operations, Perry Point:
	Approved: Engineering Projects Supervisor
	Approved: Infection Control Officer

100% Bid Documents, September 1, 2015

Drawing Title: TYPICAL 2 OF 2	Project Title: POTABLE WATER SYSTEM IMPROVEMENTS - TIER 1, PERRY POINT MD, VAMC				Date: 9/1/2015
Approved: Associate Director for Operations:	Scale: NONE	Building No: 103	Checked: JCC/SNP	Drawn: CLT	Project No: 512A5-13-329
Approved: Director, Medical Center:	Location: VAMC PERRY POINT, MD 21902				DRAWING NO: S-002, 37 OF 124

DEPARTMENT OF VETERANS AFFAIRS

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