GENERAL NOTES

1. THIS PROJECT IS SUBJECT TO IBC 2018 SPECIAL INSPECTION REQUIREMENTS AS MODIFIED BY UFC 3-301-01. THE STATEMENT AND SCHEDULE OF SPECIAL INSPECTIONS, INCLUDED WITH THE PROJECT SPECIFICATIONS, DEFINE THE SCOPE OF SPECIAL INSPECTIONS. STRUCTURAL OBSERVATIONS FOR WIND REQUIREMENTS ARE NOT REQUIRED SINCE THE BASIC DESIGN WIND SPEED FOR THE PROJECT LOCATION EXCEEDS 130 MPH AND THE RISK CATEGORY IS NOT III OR IV. STRUCTURAL OBSERVATIONS FOR SEISMIC RESISTANCE ARE NOT REQUIRED SINCE THE SEISMIC DESIGN CATEGORY IS NOT D, E OR F.
2. THE STRUCTURES ASSOCIATED WITH THIS PROJECT DO NOT MEET THE OCCUPANCY LEVELS OF INHABITED BUILDINGS. THEREFORE, THE STRUCTURES ARE EXEMPT FROM UFC 4-010-01 ANTITERRORISM PROVISIONS.
3. COORDINATE STRUCTURAL WORK WITH WORK SHOWN ON OTHER DRAWINGS.
4. CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. PROVIDE MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SHORING AND TEMPORARY BRACING TO MAINTAIN THE STRUCTURE IN A SAFE AND STABLE CONDITION AT ALL TIMES. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE ERECTION PROCEDURES AND SEQUENCE OF CONSTRUCTION. UNDERTAKE NECESSARY MEASURES TO ENSURE SAFETY OF PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. VISITS TO THE SITE BY THE CONTRACTING OFFICER OR CONTRACTING OFFICER'S REPRESENTATIVE DO NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.
5. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE CONTRACT DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION MUST BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER. WHERE SECTIONS VARY, PROVIDE FOR SMOOTH TRANSITIONS BETWEEN THEM, UNLESS NOTED OTHERWISE.
6. REPORT DIMENSIONAL DISCREPANCIES BETWEEN DRAWINGS TO THE CONTRACTING OFFICER PRIOR TO BEGINNING WORK IN AFFECTED AREAS.
7. CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND SUPERVISION OF THE WORK ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. DETAILS TITLED OR NOTED AS TYPICAL OR STANDARD APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED BUT ALSO IN OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL AND STANDARD DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION WITH ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OR REFERENCED.
9. SUBJECT IMPACT-PROTECTIVE SYSTEMS AND IMPACT-RESISTANT GLAZING TO MISSLE TEST AND CYCLIC PRESSURE DIFFERENTIAL TESTS IN ACCORDANCE WITH ASTM E 1996. DEMONSTRATE COMPLIANCE WITH ASTMS E 1996 IN ACCORDANCE WITH ASTM E 1886 AND COMPLY WITH THE PASS / FAIL CRITERIA OF SECTIONS 7 OF ASTM E 1996. SUBJECT GLAZING IN OVERHEAD COILING AND SECTIONAL DOORS TO MISSLE TESTS AND CYCLIC PRESSURE DIFFERENTIAL TEST IN ACCORDANCE WITH ANSI/DASMA 115, STANDARD METHOD FOR TESTING SECTIONAL GARAGE DOORS AND ROLLING DOORS: DETERMINATION OF STRUCTURAL PERFORMANCE UNDER MISSLE IMPACT AND CYCLIC WIND PRESSURE.
10. PRESSURE TEST OVERHEAD COILING AND SECTIONAL DOORS FOR COMPONENTS AND CLADDING DESIGN WIND PRESSURE. DEMONSTRATE PASSING RESULTS IN ACCORDANCE WITH ANSI/DASMA 108, STANDARD METHOD FOR TESTING SECTIONAL GARAGE DOORS AND ROLLING DOORS: DETERMINATION OF STRUCTURAL PERFORMANCE UNDER UNIFORM STATIC AIR PRESSURE DIFFERENCE,

CODES, CRITERIA, SPECIFICATIONS AND STANDARDS

1. THE INTERNATIONAL BUILDING CODE 2018, AS MODIFIED BY UFC 1-200-01 (8 OCTOBER 2019), IS THE PRINCIPAL BUILDING CODE FOR THIS PROJECT.
2. ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
3. UNIFIED FACILITIES CRITERIA:
   A. UFC 1-200-01 (8 OCTOBER 2019) GENERAL BUILDING REQUIREMENTS
   B. UFC 3-301-01 (1 OCTOBER 2019) STRUCTURAL ENGINEERING
4. SPECIFICATIONS AND STANDARDS
   A. ACI 318-14, AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   B. ANSI/AISC 360-16, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
   C. SDI RD-2017, STEEL DECK INSTITUTE, STANDARD FOR STEEL ROOF DECK
   D. SJI 100-20: 44TH EDITION STANDARD SPECIFICATION LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS K-SERIES, LH-SERIES, DLH-SERIES, JOIST GIRDERS

CODES, CRITERIA, SPECIFICATIONS AND STANDARDS (CONTINUED)

   E. ANSI/AISI S100-10, AMERICAN IRON AND STEEL INSTITUTE, NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS
   F. AWS D1.1: 2015 AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE - STEEL
   G. TMS 402-16: BUILDING CODE FOR MASONRY STRUCTURES

DESIGN LOADS

1. RISK CATEGORY: II PER UFC 3-301-01 TABLE 2-2.
2. LIVE LOADS PER UFC 3-301-01 TABLE D-1
   A. GROUND FLOOR SLAB:
      1. UNIFORM LOAD:

ADMIN	100 PSF
MECHANICAL/STORAGE	150 PSF
MAINTENANCE BAY	300 PSF
VEHICLE WHEEL LOAD	15,000 LBS
VEHICLE LIFT	17,000 LBS (EQUIPMENT WEIGHT) 12,000 LBS (POST LOAD: EQUIPMENT + VEHICLE)

   B. ROOFS:
      1. UNIFORM LOAD: 20 PSF
      2. CONCENTRATED LOAD: 300 LBS

      UNIFORM AND CONCENTRATED LIVE LOADS HAVE NOT BEEN APPLIED CONCURRENTLY. WHERE BOTH UNIFORM AND CONCENTRATED LOADS ARE INDICATED, THE SUPPORTING STRUCTURE HAS BEEN DESIGNED FOR THE LOAD THAT PRODUCES THE GREATER LOAD EFFECTS.
4. LIVE LOADS FOR FLOOR AND ROOF FRAMING MEMBERS HAVE NOT BEEN REDUCED.
5. BRIDGE CRANE: POWERED 5 TON SINGLE GIRDER, TOP RUNNING, PENDANT-OPERATED WITH 4'-6" (ASSUMED) WHEEL BASE
   A. VERTICAL WHEEL LOADS WITHOUT IMPACT INCREASE:

      W= 6500 LBS PER WHEEL

   B. VERTICAL IMPACT FORCE: 1.25 x 6500 LBS = 8100 LBS PER WHEEL
      1. LATERAL FORCE: 550 LBS PER WHEEL
      2. LONGITUDINAL FORCE: 1300 LBS
6. EQUIPMENT LOADS
   A. AS INDICATED FOR EQUIPMENT WEIGHING IN EXCESS OF 200 PSF.
   B. IF EQUIPMENT FURNISHED IS HEAVIER THAN THE WEIGHTS INDICATED OR REQUIRES STRUCTURAL CHANGES FOR ANY OTHER REASON, AT NO ADDITIONAL COST TO THE OWNER AND WITH NO INCREASE IN CONTRACT TIME, PROVIDE ENGINEERING DESIGN CALCULATIONS PREPARED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER AND ADDITIONAL STRUCTURAL WORK NECESSARY TO SUPPORT LOADS IN ACCORDANCE WITH THE DESIGN STANDARDS LISTED ABOVE.
7. ROOF SNOW LOAD DATA
   A. GROUND SNOW LOAD: Pg = 10 PSF PER UFC 3-301-01 TABLE E-2
   B. FLAT-ROOF SNOW LOAD: Pf = 7.0 PSF
   C. SNOW EXPOSURE FACTOR: Ce = 1.0 FOR PARTIALLY EXPOSED AT TERRAIN CATEGORY C
   D. SNOW LOAD IMPORTANCE FACTOR: Is = 1.0
   E. THERMAL FACTOR: Ct = 1.0
   F. SLOPE FACTORS: Cs = 1.0
   G. DRIFT SURCHARGE LOADS: 21.2 PSF
   H. WIDTH OF SNOW DRIFTS: w = 5.6 FEET

DESIGN LOADS (CONTINUED)

9. WIND DESIGN DATA
   A. BASIC DESIGN WIND SPEED: 140 MPH
   B. ALLOWABLE STRESS DESIGN WIND SPEED: 108 MPH
   C. WIND EXPOSURE CATEGORY: C
   D. INTERNAL PRESSURE COEFFICIENT: +/- 0.18 (ADMIN)
+/- 0.55 (HIGH BAY)
   E. ENCLOSURE CLASSIFICATION: ENCLOSED (ADMIN)
PARTIALLY ENCLOSED (HIGH BAY)
   F. TOPOGRAPHIC FACTOR: 1.0
   G. COMPONENTS AND CLADDING WIND PRESSURES:
      1. USE WIND PRESSURES BELOW FOR THE DESIGN OF COMPONENTS AND CLADDING ELEMENTS OR RETAIN A PROFESSIONAL ENGINEER TO DETERMINE WIND PRESSURES FOR SPECIFIC EFFECTIVE WIND AREAS.

DESIGN WIND PRESSURES FOR ROOF COMPONENTS (PSF)

ROOF ZONE	COMPONENT TRIBUTARY AREA (SQFT)			
	1 - 100		101+	
1	+41	-100	+33	-41
2	+41	-139	+33	-84
3	+41	-163	+33	-92
OVERHANG ZONE	COMPONENT TRIBUTARY AREA (SQFT)			
	1 - 50		50+	
2	-139		-118	
3	-184		-110	

DESIGN WIND PRESSURES FOR WALL COMPONENTS (PSF)

WALL ZONE	COMPONENT TRIBUTARY AREA (SQFT)			
	1 - 100		100+	
4	+61	-65	+53	-57
5	+61	-76	+53	-61

NOTES:

1. POSITIVE AND NEGATIVE SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
2. BUILDING ZONES ARE DEFINED IN ASCE 7-16.
3. WIND PRESSURES INDICATED ARE AT STRENGTH-LEVEL (WIND FACTOR = 1.0).
4. DESIGN WIND PRESSURES FOR DEFLECTION-CONTROLLED COMPONENTS AND CLADDING MAY UTILIZE A 10-YEAR MEAN RECURRENCE INTERVAL.

10. EARTHQUAKE DESIGN DATA
    A. SEISMIC IMPORTANCE FACTOR: Ie = 1.00
    B. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:

       Ss = 0.11g, S1 = 0.05g PER UFC 3-301-01 TABLE E-3

    C. SITE CLASS: D
    D. SHORT-PERIOD SITE COEFFICIENT: Fa = 1.6
    E. LONG-PERIOD SITE COEFFICIENT: Fv = 2.4
    F. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:

       Sds = 0.123g, Sd1 = 0.088g

    G. SEISMIC DESIGN CATEGORY: B
    H. BASIC SEISMIC FORCE-RESISTING SYSTEM: BEARING WALL SYSTEM WITH ORDINARY REINFORCED MASONRY SHEAR WALLS
    J. DESIGN BASE SHEAR: 11.5 KIPS
    K. SEISMIC RESPONSE COEFFICIENT: Cs = 0.061
    L. RESPONSE MODIFICATION COEFFICIENT: R = 2
    M. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE ANALYSIS

DESIGN LOADS (CONTINUED)

11. ROOF RAIN DATA

    RAIN INTENSITY: i = 4 INCH/HOUR

12. NOTIONAL LOADS FOR GENERAL STRUCTURAL INTEGRITY:
    A. LOAD PATH CONNECTIONS: 5% OF THE CONNECTED PORTION'S WEIGHT
    B. LATERAL FORCES: DESIGN LATERAL FORCE APPLIED AT A STORY EQUAL TO 1% OF THE PORTION OF THE TOTAL DEAD LOAD OF THE STRUCTURE LOCATED OR ASSIGNED TO A LEVEL.
    C. CONNECTION TO SUPPORTS: 5% OF THE UNFACTORED DEAD LOAD PLUS LIVE LOAD REACTION IMPOSED BY THE SUPPORTED MEMBER ON THE SUPPORTING MEMBER.
    D. ANCHORAGE OF STRUCTURAL WALLS: STRENGTH LEVEL HORIZONTAL FORCE PERPENDICULAR TO THE PLANE OF THE WALL EQUAL TO 20% OF THE WEIGHT OF THE WALL TRIBUTARY TO THE CONNECTION, BUT NOT LESS THAN 5 PSF.

DELEGATED ENGINEERED SYSTEM

1. DESIGN RESPONSIBILITY FOR THE FOLLOWING ENGINEERED SYSTEMS OR COMPONENT PARTS IS DELEGATED TO A QUALIFIED DELEGATED REGISTERED PROFESSIONAL ENGINEER SELECTED BY THE CONTRACTOR.
   A. STRUCTURAL STEEL CONNECTIONS EXCEPT FOR PRIMARY LATERAL FORCE RESISTING SYSTEM CONNECTIONS, COLUMN BASEPLATE CONNECTIONS AND CONNECTIONS WHERE SPECIFIC BOLT SIZES AND QUANTITY, PLATE SIZES AND OTHER CONNECTION COMPONENTS ARE NOTED. REFER TO STRUCTURAL STEEL FRAMING CONNECTION DESIGN REACTIONS ON SF501 FOR MAGNITUDE AND DIRECTION OF STRUCTURAL STEEL FRAMING CONNECTION REACTIONS.
   B. COLD-FORMED METAL FRAMING AND CONNECTIONS
   C. OPEN WEB STEEL JOISTS
   D. SEISMIC DESIGN, ANCHORAGE AND BRACING OF NONSTRUCTURAL COMPONENTS
2. REFER TO DESIGN STANDARDS NOTES ON S-001 FOR APPLICABLE DESIGN STANDARDS AND CRITERIA.
3. REFER TO DESIGN LOADS NOTES ON S-001 FOR APPLICABLE DESIGN LOADS.
4. REFER TO SERVICEABILITY LIMITS NOTES ON S-001 FOR APPLICABLE VERTICAL AND HORIZONTAL DEFLECTION LIMITS.
5. INCLUDE SIGNED SEALS FOR WORK DESIGNED BY THE DELEGATED ENGINEER.
6. DO NOT START FABRICATION OF THE DELEGATED SYSTEM OR COMPONENT PART OR FIELD CONSTRUCTION THAT MAY BE AFFECTED BY THE SYSTEM OR COMPONENT PART WITHOUT SUBMITTAL APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

SERVICEABILITY LIMITS

1. FOUNDATION SETTLEMENT LIMIT: NOT TO EXCEED 1/2 - INCH DIFFERENTIAL OR 1-INCH TOTAL.
2. BUILDING LATERAL DRIFT:

   H/480 BASED ON ALLOWABLE STRESS DESIGN WIND SPEED WITH A 10 YEAR MEAN RECURRENCE INTERVAL.

3. WIND INDUCED DEFLECTION LIMITS FOR FRAMING SUPPORTING EXTERIOR WALL FINISHES BASED ON 0.42 TIMES THE BASIC COMPONENT AND CLADDING LOADS.
4. L/600 FOR HORIZONTAL ELEMENTS SUPPORTING BRICK VENEER.

ROUGH CARPENTRY NOTES

1. PROVIDE WOOD FRAMING MEMBERS IN ACCORDANCE WITH PS20 "AMERICAN SOFTWOOD LUMBER STANDARD" AND THE FOLLOWING REQUIREMENTS:
   A. MOISTURE CONTENT: 19 PERCENT (BEFORE & AFTER TREATMENT)
   B. GRADE: NO. 2 OR BETTER
   C. SPECIES: SOUTHERN PINE
2. ALL WOOD IN BRIDGE MUST BE PRESERVATIVE TREATED FOR EXTERIOR EXPOSURE. RETREAT CUT ENDS OF WOOD MEMBERS.
3. STEEL PLATE CONNECTORS MUST COMPLY WITH ASTM A36 SPECIFICATIONS (Fy=36 KSI). BOLTS CONNECTING WOOD MEMBERS MUST COMPLY WITH ASTM A307 COMMON STEEL BOLTS, 3/4"Ø, UNLESS OTHERWISE NOTED. ALL FASTENERS MUST BE HOT-DIP GALVANIZED.
4. UNLESS OTHERWISE NOTED, NAIL STRUCTURAL FRAMING MEMBERS IN ACCORDANCE WITH THE FASTENING SCHEDULE, "TABLE 2304.9.1 OF THE INTERNATIONAL BUILDING CODE.

GEOTECHNICAL INFORMATION

1. THE INFORMATION PROVIDED IN THE GEOTECHNICAL DESIGN REPORT PREPARED BY NAVFAC MIDLANT, DATED FEBRUARY 8, 2021 HAS BEEN USED FOR THE DESIGN OF THE FOUNDATIONS.
   A. SITE PREPARATION
      1. EXCAVATE, FILL, AND BACKFILL IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
      2. NOTIFY THE CONTRACTING OFFICER WHEN LOOSE OR SOFT SOILS ARE EXPOSED WHERE SLABS OR FOOTINGS ARE TO BE PLACED SO THAT A DETERMINATION MAY BE MADE REGARDING IMPROVEMENT OF THIS POTENTIALLY UNDESIRABLE CONDITION.
      3. ALL FOUNDATIONS MUST BE UNDERCUT AS SHOWN ON SHEET SB501.
2. SOIL AND SITE CHARACTERISTICS
   A. UNIT WEIGHT: 140 PCF MOIST.
   B. MODULUS OF SUBGRADE REACTION: 150 PCI
   C. FROST PENETRATION: 0 INCHES
3. NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF FOR SHALLOW FOUNDATIONS.

TIMBER PILE NOTES

1. TIMBER PILE FOUNDATIONS HAVE BEEN DESIGNED BASED ON THE INFORMATION PROVIDED IN THE GEOTECHNICAL DESIGN REPORT PREPARED BY NAVFAC MIDLANT, DATED FEBRUARY 8, 2021.
2. TIMBER PILES MUST COMPLY WITH REQUIREMENTS OF ASTM D25 FOR ROUND TIMBER TIP BEARING PILES. PILES MUST BE CLEAN PEELED AND PRESSURE TREATED IN ACCORDANCE WITH AWPA U1 UC4B.
3. INSTALL TIMBER PILES WITH IMPACT HAMMER.
4. TIMBER PILES MUST BE MIN 12-INCH BUTT DIAMETER AND MIN 9-INCH TIP DIAMETER.
5. MINIMUM TIP ELEVATION IS -1 FEET NAVD88.
6. DESIGN ALLOWABLE CAPACITY FOR PILES:
   AXIAL COMPRESSION: 6K
   LATERAL: .5K (FREE HEAD)
   .85K (FIXED HEAD)
   AXIAL UPLIFT: 1.5K
7. SUBMIT WAVE-EQUATION ANALYSIS AND DRIVABILITY STUDY (USING GRLWEAP SOFTWARE), BASED ON THE PROPOSED INSTALLATION HAMMER.

PLAN LEGEND

- DEMOLITION KEY NOTE
- NEW WORK KEY NOTE
- W12X26 — FRAMING SIZE
- *W12X26* — EXISTING FRAMING SIZE
- TOF X' - X" — TOP OF FOUNDATION
- TOC X' - X" — TOP OF CONCRETE
- TOS X' - X" — TOP OF STEEL
- TOM X' - X" — TOP OF MASONRY
- X" — TOP OF SLAB SPOT ELEVATION
- (X) COLUMN GRID MARK
- BEAM TO BEAM MOMENT CONNECTION
- BEAM TO HSS COLUMN MOMENT CONNECTION

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY: Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO — DATE 06/14/21

DES LSP | DRW BS | CHK TER

PM/DM GFS/LEJ

BRANCH MANAGER NBJ

CHIEF ENG/ARCH EJA

FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA
MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

STRUCTURAL SYMBOLS, LEGENDS, ABBREVIATIONS AND NOTES

SCALE: AS NOTED

EPROJECT NO.: 1672404

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12842256

SHEET 29 OF 117

S-001

DRAWFORM REVISION: 12 APRIL 2018

CAST-IN-PLACE CONCRETE

1. CAST-IN-PLACE CONCRETE MUST ATTAIN THE FOLLOWING MINIMUM 28-DAY COMPRESSIVE STRENGTH (f'c):

   A. FOUNDATIONS - EARTH COVERED 3000 PSI
   B. EXTERIOR EQUIPMENT PADS/WASH RACK 4000PSI
   B. INTERIOR SLABS-ON-GRADE 4000 PSI
   C. CONCRETE NOT OTHERWISE NOTED 3000 PSI

2. FORMWORK:

   A. COORDINATE CONCRETE WORK WITH THE PLACEMENT OF PIPING, INSERTS, FLOOR DRAINS, CHAMFER STRIPS, REGLETS AND OTHER EMBEDDED ITEMS.

   B. ACCURATELY PLACE, SUPPORT AND SECURE EMBEDDED ITEM SUCH AS ANCHOR RODS AND WELD PLATES BEFORE PLACING CONCRETE TO PREVENT DISPLACEMENT OF EMBEDDED ITEM BEYOND PERMITTED TOLERANCES.

   C. SLEEVE PIPING OR UTILITIES PASSING THROUGH CONCRETE TO MAINTAIN 1" CLEAR ALL AROUND, UNLESS NOTED OTHERWISE. REFER TO OTHER DISCIPLINE DRAWINGS FOR SLEEVE DETAILS. PROVIDE MEASURES TO ENSURE THAT SLEEVES REMAIN FREE OF DEBRIS ANDWATER DURING CONSTRUCTION.

   D. PROVIDE 3/4" CHAMFER STRIPS ON EDGES OF EXPOSED CONCRETE, UNLESS NOTED OTHERWISE.

   E. WITH THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE CONTRACTING OFFICER, FOOTINGS FOR SHALLOW FOUNDATIONS MAY BE EARTH-FORMED USING UNDISTURBED NATIVE SOIL. PROVIDE A MINIMUM EXCAVATION WIDTH 4" GREATER THAN INDICATED.

3. REINFORCING STEEL:

   A. BARS: ASTM A615 GRADE 60. SHOP FABRICATE BENT BARS AND BARS WITH HOOKS.

   B. WELDED WIRE REINFORCEMENT: ASTM A1064, SHEET TYPE. DO NOT USE ROLL TYPE.

   C. DETAIL AND PLACE REINFORCEMENT IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE ACI SP-66, ACI 301 AND ACI 318, AND THE CONCRETE REINFORCING STEEL INSTITUTE CRSI MANUAL OF STANDARD PRACTICE.

   D. UNLESS NOTED OTHERWISE, USE THE FOLLOWING MINIMUM CONCRETE CLEAR COVER OVER REINFORCEMENT:

      1. CONCRETE CAST AGAINST EARTH OR EXPOSED TO WEATHER: 3".

      2. CONCRETE EXPOSED TO EARTH OR WEATHER, BOTTOM OF GROUND FLOOR SLABS AND TOP OF EXTERIOR GROUND FLOOR SLABS:

         A. #6 BARS AND LARGER: 2"
         B. #5 BARS AND SMALLER AND WIRE: 1-1/2"

      3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:

         A. SLABS AND WALLS: 3/4"
         B. BEAMS AND COLUMNS (TO TIES OR STIRRUPS): 1-1/2"

   E. UNLESS NOTED OTHERWISE, USE THE FOLLOWING EMBEDMENT FOR REINFORCING STEEL BARS:

      1. MINIMUM STRAIGHT EMBEDMENT LENGTHS:

         #6 BARS AND SMALLER: 44 BAR DIAMETER (3000 PSI CONCRETE)
         38 BAR DIAMETER (4000 PSI CONCRETE)

      2. MINIMUM STANDARD HOOK EMBEDMENT LENGTHS: 16 BAR DIAMETERS AT FOUNDATIONS AND 22 BAR DIAMETERS AT ALL OTHER CONDITIONS. HOOK EMBEDMENT IS THE MINIMUM STRAIGHT LINE DISTANCE FROM THE CRITICAL SECTION OF THE BAR TO THE FARTHEST EDGE OF THE HOOK.

   F. PROVIDE LAP SPLICE LENGTHS IN ACCORDANCE WITH LAP SPLICE SCHEDULES ON SHEET SB502.

5. JOINTS:

   A. LOCATE CONSTRUCTION, CONTRACTION, ISOLATION, EXPANSION, AND OTHER JOINTS AS INDICATED OR SPECIFIED, OR OTHERWISE APPROVED BY THE CONTRACTING OFFICER.

   B. CLEAN SURFACES OF HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS TO REMOVE LAITANCE AND EXPOSE CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN MORTAR MIX. THOROUGHLY CLEAN AND WET SURFACE OF CONSTRUCTION JOINTS JUST PRIOR TO DEPOSITING CONCRETE.

UNIT MASONRY

1. MASONRY DESIGN FOR STRENGTH CONFORMS TO THE ALLOWABLE STRESS DESIGN METHODOLOGY.

2. USE MASONRY ASSEMBLIES WITH THE FOLLOWING PROPERTIES:

   A. UNITS: ASTM C90, MINIMUM NET AREA COMPRESSIVE STRENGTH = 2000 PSI

   B. MINIMUM DESIGN MASONRY ASSEMBLAGE STRENGTH, f'm = 2000 PSI

   C. WEIGHT CLASSIFICATION: LIGHTWEIGHT

   D. MORTAR: ASTM C270, TYPE M OR S

   E. AGGREGATE FOR MORTAR: ASTM C144. AGGREGATE FAILING TO COMPLY WITH THE ASTM C144 GRADATION REQUIREMENTS MAY BE USED PROVIDED THE MORTAR CAN BE PREPARED TO COMPLY WITH THE ASTM C270 PROPERTY SPECIFICATION REQUIREMENTS FOR LABORATORY PREPARED MORTAR.

3. REINFORCING STEEL:

   A. BARS: ASTM A615 GRADE 60. SHOP FABRICATE BENT BARS AND BARS WITH HOOKS.

   B. MINIMUM CLEAR DISTANCE TO ANY FACE OF MASONRY UNIT OR FORMED SURFACE: 1/2"

   C. LAP CONTINUOUS HORIZONTAL AND VERTICAL REINFORCING IN ACCORDANCE WITH MASONRY LAP SCHEDULE

   D. PROVIDE REINFORCING STEEL DOWELS WITH STANDARD 90 DEGREE HOOKS OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM THE SUPPORTING STRUCTURE.

4. GROUT:

   A. PROPERTIES: COARSE GROUT PER ASTM C476, MINIMUM COMPRESSIVE STRENGTH = 2000 PSI, SLUMP = 8" TO 11"

   B. FULLY GROUT CELLS BELOW GRADE, CELLS THAT CONTAIN REINFORCING STEEL AND CELLS THAT CONTAIN PLATES, BOLTS OR OTHER EMBEDDED ITEMS.

   C. PROVIDE MASONRY UNITS WITH MINIMUM SPACE IN CELLS TO RECEIVE GROUT OF 3"x 3" AND ALIGN THESE CELLS TO PROVIDE UNOBSTRUCTED OPENINGS.

5. REFER TO 'FOUNDATION AND GROUND FLOOR PLAN' ON SB101 AND 'MASONRY REINFORCING DETAILS' ON SB503 FOR VERTICAL AND BOND BEAM REINFORCEMENT SIZES, LOCATIONS AND PLACEMENT DETAILS.

6. USE STANDARD LADDER TYPE HORIZONTAL JOINT REINFORCING AT EVERY OTHER COURSE (16 INCHES ON CENTER MAXIMUM SPACING). BEGIN AT TOP OF FIRST BLOCK COURSE. IN ADDITION, PROVIDE HORIZONTAL JOINT REINFORCING IN TWO JOINTS IMMEDIATELY ABOVE AND BELOW OPENINGS. EXTEND JOINT REINFORCING 2 FEET MINIMUM BEYOND THE OPENING JAMB ON EACH SIDE OF THE OPENING.

7. MAXIMUM HEIGHT TO WHICH MASONRY CAN BE LAID AND GROUTED IS 5 FEET 4 INCHES ABOVE CONSTRUCTION SURFACE OR PREVIOUSLY GROUTED MASONRY UNLESS 'HIGH-LIFT' GROUTING PROCEDURES ARE FOLLOWED. THIS IS COSIDERED 'LOW-LIFT' GROUTING.

8. LOW-LIFT GROUTING PROCEDURES MUST BE USED FOR 12" WIDE JAMBS AND 8" WIDE JAMBS NEXT TO LINTELS WITH MORE THAN ONE HORIZONTAL REINFORCING BAR.

9. HIGH-LIFT GROUTING PROCEDURE REQUIRES CLEANOUT OPENINGS AT THE BOTTOM OF EACH CELL OF EVERY GROUT LIFT AND TWICE AS MANY BAR POSITIONERS TO ENSURE REINFORCEMENT STAYS IN THEIR PROPER LOCATION. MAXIMUM GROUT LIFT (GROUT POURED IN ONE CONTINUOUS OPERATION) IS 5 FEET 4 INCHES. THE MAXIMUM HEIGHT THAT MASONRY CAN BE LAID PRIOR TO GROUTING IS 12 FEET.

STRUCTURAL STEEL

1. STRUCTURAL STEEL FRAMING DESIGN CONFORMS TO THE FOLLOWING:

   A. ALLOWABLE STRESS DESIGN (ASD) METHODOLOGY FOR STRENGTH

   B. EFFECTIVE LENGTH METHOD OF DESIGN FOR STABILITY

2. PROVIDE MATERIALS CONFORMING TO THE FOLLOWING:

   A. SHAPES (OTHER THAN W AND C), PLATES, MISCELLANEOUS SHAPES AND THREADED RODS: ASTM A36, Fy = 36 KSI

   B. WIDE FLANGE SHAPES, TEES, AND CHANNELS: ASTM A992, Fy = 50 KSI

   C. RECTANGULAR HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE C, Fy=50 KSI

   D. ROUND HOLLOW STRUCTURAL SECTIONS: ASTM A500, GRADE C, Fy=46 KSI

   E. PIPE: ASTM A53, GRADE B, Fy=35 KSI

   F. WELDING: AWS D1.1 USING E70 ELECTRODES WITH LOW HYDROGEN WHERE REQUIRED

   G. WELDED SHEAR STUD CONNECTORS: AWS D1.1, TYPE B MADE FROM ASTM A108 MATERIAL WITH Fu=65 KSI

   H. BOLTS: ASTM A325, TYPE 1 WITH DIRECT TENSION INDICATOR WASHERS OR ASTM F1852, TYPE 1 TENSION CONTROL BOLTS

   J. ANCHOR RODS: ASTM F1554 GRADE 36

   K. GROUT: ASTM C1107 CEMENTITIOUS NONSHRINK

   L. EXPANSION ANCHORS – HILTI KWIK BOLT TZ CARBON STEEL (OR APPROVED EQUIVALENT)

3. SIMPLE SHEAR BEAM-TO-BEAM AND BEAM-TO-COLUMN, SHOWN IN SECTIONS AND DETAILS ARE SCHEMATIC REPRESENTATIONS OF CONNECTIONS. PROVIDE ENGINEERING SERVICES FOR CONNECTION DESIGN BY A LICENSED PROFESSIONAL ENGINEER. DESIGN AND DETAIL CONNECTIONS CAPABLE OF RESISTING THE ASD FORCES SHOWN. BEAM REACTIONS ARE SHOWN ON FRAMING PLANS.

   A. FULLY PRETENSION CONNECTION BOLTS

   B. IN ADDITION TO THE BOLTS AND CONNECTION DEVICES REQUIRED TO TRANSFER THE BEAM REACTIONS TO THE SUPPORTING MEMBER, PROVIDE ADDITIONAL BOLTS OR CONNECTION DEVICES, IF NECESSARY, TO COMPLY WITH OSHA REGULATION 29CFR1926 SUBPART R-STEEL ERECTION.

4. LOCATE ANCHOR RODS ACCURATELY, SET WITH TEMPLATES, AND SECURELY HOLD IN POSITION PRIOR TO AND WHILE PLACING CONCRETE. PROTECT IN-PLACE ANCHOR RODS FROM CONSTRUCTION ACTIVITY. DO NOT INSERT ANCHOR RODS INTO FRESH OR PARTIALLY HARDENED CONCRETE. DO NOT SUBSTITUTE POST-INSTALLED ANCHORS FOR EMBEDDED ANCHOR RODS.

5. HOT-DIP GALVANIZE EXTERIOR EXPOSED STRUCTURAL STEEL FRAMING AFTER FABRICATION.

6. SPLICE STEEL MEMBERS ONLY WHERE INDICATED.

STEEL JOIST

1. OPEN WEB STEEL JOISTS MUST BE IN ACCORDANCE WITH SJI 100-2020 "STANDARD SPECIFCATION FOR K-SERIES, LH-SERIES, AND DLH-SERIES OPEN WEB STEEL JOISTS AND FOR JOIST GIRDERS".

2. JOIST BRIDGING MUST CONFORM TO SJI SPECIFICATIONS, INLUDING BRIDGING REQUIRED FOR UPLIFT REISTANCE. CROSS BRIDGING IS REQUIRED AT CHANGES IN JOIST DEPTHS. WHERE BRIDGING TERMINATES INTO A BEARING WALL, PROVIDE HORIZONTAL BRIDGING IN THE SPACE BETWEEN THE WALL AND FIRST JOIST. PROVIDE CROSS BRIDGING BETWEEN THE FIRST TWO JOISTS ADJACENT TO A BEARING WALL.

3. TEMPORARY AND PERMANENT JOIST BRIDGING AND BRACING SHALL BE DESIGNED BY THE JOIST MANUFACTURER.

4. STEEL ROOF JOISTS MUST BE DESIGNED FOR THE INDICATED WIND UPLIFT LOAD IN ACCORDANCE WITH ASCE 7-16 AND COMPONENT AND CLADDING WIND AS SHOWN ON S-001. MINIMUM ROOF DEAD LOAD TO RESIST UPLIFT EQUALS 10 PSF. A ONE-THIRD-STRESS INCREASE MUST NOT BE UTILIZED FOR UPLIFT DESIGN PURPOSES.

5. JOISTS WITH CONCENTRATED LOADS ON THE TOP OR BOTTOM CHORDS NOT LOCATED AT A PANEL POINT MUST BE REINFORCED WITH A FIELD INSTALLED MEMBER. THE FIELD INSTALLED MEMBER MUST BE LOCATED AT THE CONCENTRATED LOAD AND MUST BRACE THE CHORD BACK TO A PANEL POINT IN ACCORDANCE WITH THE "TYPICAL CONCENTRATED LOADS ON JOISTS" DETAIL SHOWN ON SHEET SF501.

6. SUBMIT STEEL JOIST SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

COLD-FORMED STEEL FRAMING

1. PROVIDE COLD-FORMED STEEL FRAMING OF THE SIZE, GAGE, TYPE AND FINISH INDICATED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI), "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA).

2. SHAPE DESIGNATIONS: STUDS AND TRACKS PER SSMA PRODUCT TECHNICAL INFORMATION, INDICATING MEMBER DEPTH, STYLE, FLANGE WIDTH, AND MATERIAL THICKNESS.

3. MEMBERS: FABRICATE IN CONFORMANCE WITH ASTM C955 FROM G90 GALVANIZED STRUCTURAL QUALITY SHEET STEEL CONFORMING TO ASTM A653 WITH A MINIMUM YIELD STRENGTH OF 33 KSI FOR 43 MIL AND THINNER MEMBERS AND 50 KSI FOR MEMBERS THICKER THAN 43 MIL.

4. FRAMING CONNECTORS: FABRICATE IN CONFORMANCE WITH ASTM C955 FROM G90 GALVANIZED STRUCTURAL QUALITY SHEET STEEL CONFORMING TO ASTM A653 WITH A MINIMUM YIELD STRENGTH OF 50 KSI AND A MINIMUM THICKNESS OF 54 MIL.

5. MECHANICAL FASTENERS: ASTM C1513 CORROSION-RESISTANT-COATED, SELF-DRILLING, SELF-THREADING STEEL DRILL SCREWS WITH LOW PROFILE HEADS BENEATH SHEATHING AND MANUFACTURER'S STANDARD HEADS ELSEWHERE. PROVIDE MINIMUM SCREW LENGTH GREATER THAN 3/4" AND THE MINIMUM LENGTH REQUIRED FOR THE SCREWS TO EXTEND THROUGH A MINIMUM OF (3) EXPOSED THREADS.

6. WELDING: AWS D1.1 OR D1.3, AS APPLICABLE USING E70 ELECTRODES.

STEEL DECK

1. PROVIDE STEEL DECK OF THE SIZE, GAGE, TYPE AND FINISH INDICATED IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI), "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE STEEL DECK INSTITUTE (SDI), "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS, AND ROOF DECKS."

2. FABRICATE STEEL DECK FROM G90 GALVANIZED STRUCTURAL QUALITY SHEET STEEL CONFORMING WITH ASTM A653 WITH A MINIMUM YIELD STRENGTH OF 50 KSI.

3. INSTALL STEEL DECK WITH SPANS PERPENDICULAR TO SUPPORTS WITH A MINIMUM OF THREE CONTINUOUS SPANS WITH BUTTED DECK ENDS BEARING AT SUPPORTS.

4. FABRICATE AND INSTALL STEEL DECK WITH FULL WIDTH PANELS AT THE PERIMETER. DO NOT USE FILLER SHEETS OR OTHER ACCESSORIES WHERE PARTIAL WIDTH PANELS ARE NECESSARY. WHERE PARTIAL WIDTH PANELS ARE NECESSARY, USE STEEL DECK CUT FROM SAME TYPE AND GAGE SHEETS AS REMAINDER OF STEEL DECK. NEST CUT PANELS AT LEAST ONE FULL FLUTE OVER ADJACENT FULL WIDTH PANELS.

5. SUPPORT STEEL DECK AT EDGES OF OPENINGS. PROVIDE ADDITIONAL SUPPORT STEEL AS INDICATED. FABRICATED SO THAT DECK RUNS CONTINUOUSLY OVER MINOR OPENINGS THAT ARE CUT BY OTHER TRADES AFTER INSTALLATION OF THE DECK.

6. 1.5B ROOF DECK:
   ATTACHMENT PATTERN IS 36/4 WITH #12 SDS.
   ATTACH ROOF DECK TO SUPPORTS IN ALL RIBS WHERE SIDELAPS OCCUR.
   FASTEN SIDELAPS WITH #10 SDS AND PROVIDE 2 SIDELAP FASTENERS PER SPAN.

STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
AFF	ABOVE FINISHED FLOOR
AHR	ANCHOR
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
BD	BAR DIAMETER
BOC	BOTTOM OF CONCRETE
BOS	BOTTOM OF STEEL
BRG	BEARING
CFS	COLD-FORMED STEEL
CJ	SLAB CONSTRUCTION JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONN	CONNECTION
CONC	CONCRETE
CONT	CONTINUOUS
DCJ	DOWELED CONSTRUCTION JOINT
DIA, Ø	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
FFE	FINISHED FLOOR ELEVATION
FOB	FACE OF BRICK
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
JBE	JOIST BEARING ELEVATION
KIP (k)	1000 POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MOW	MIDDLE OF WALL
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
PJF	PREMOLDED JOINT FILLER
PL	PLATE
PLF	POUNDS PER LINEAR FOOR
PSF	POUNDS PER SQUARE FOOT
REINF	REINFORCING
REQD	REQUIRED
SCHED	SCHEDULE
SD	SLAB DEPRESSION
SDS	SELF DRILLING SCREW
SF	STEPPED FOOTING
SIM	SIMILAR
SJ	SLAB SAWED (CONTRACTION) JOINT
SL	SLOPE (D)
SOG	SLAB-ON-GRADE
STD	STANDARD
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TS	THICKENED SLAB
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
WP	WORKING POINT
WWR	WELDED WIRE REINFORCING

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY
Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO DATE 06/14/21

DES	LSP	DRW	BS	CHK	TER

PM/DM	GFS/LEJ
BRANCH MANAGER	NBJ
CHIEF ENG/ARCH	EJA
FIRE PROTECTION	DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

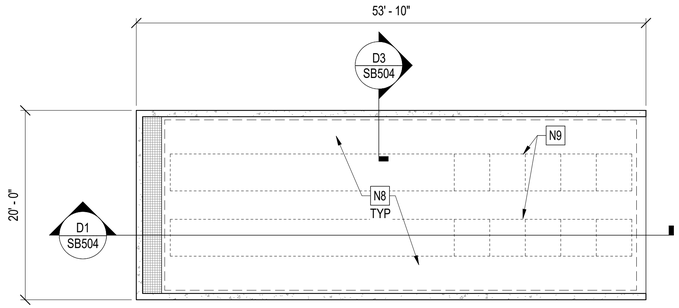
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

STRUCTURAL NOTES

SCALE: AS NOTED
EPROJECT NO.: 1672404
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12842257
SHEET 30 OF 117

S-002

DRAWFORM REVISION: 12 APRIL 2018

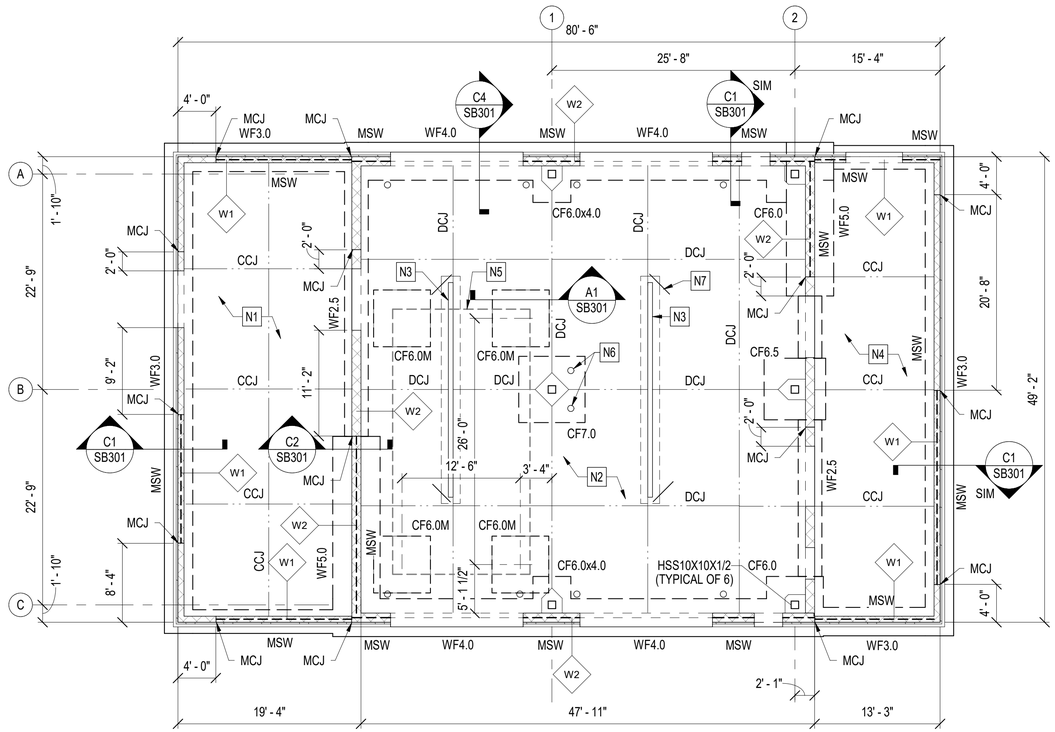


D2 WASHRACK SLAB PLAN

NOTE: COORDINATE LOCATION ON SITE WITH CIVIL DRAWINGS.

1/8" = 1'-0"

0' 4' 8' 16'



FOUNDATION AND GROUND FLOOR PLAN

1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16'

FOUNDATION GENERAL NOTES

1. REFER TO S-001 AND S-002 FOR GENERAL NOTES AND PLAN LEGEND AND SB501 - SB503 FOR FOUNDATION DETAILS.
2. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
3. REFER TO PLAN KEY NOTES FOR CONCRETE FLOOR CONSTRUCTION.
4. TOP OF ALL FOOTINGS SHALL BE AT ELEVATION [-1'-4"] REFERENCED FROM FINISHED FIRST FLOOR SLAB ELEVATION [0'-0"], UNLESS OTHERWISE NOTED ON PLAN.
5. WALL FOOTINGS ARE DENOTED WFX.X ON PLAN. REFER TO SHEET SB501 FOR FOOTING SCHEDULE AND TYPICAL DETAILS.
6. ALL ELEVATIONS ARE BASED ON A FINISHED FLOOR ELEVATION OF 0'-0". REFER TO CIVIL DRAWINGS FOR ACTUAL ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR FIRST FLOOR FINISHES.
7. REFER TO CIVIL DRAWINGS FOR EXTERIOR SLABS AND PAVEMENT.
8. THE SYMBOLS CCJ AND DCJ INDICATES SLAB CRACK CONTROL JOINT AND SLAB DOWEL CONTROL JOINT RESPECTIVELY, WHICH MAY BE EITHER A CONSTRUCTION JOINT OR A SAWED JOINT. REFER TO TYPICAL SLAB CONTROL JOINT DETAILS ON SHEET SB502.
9. REFER TO SHEET SB501 FOR DETAIL OF PIPE SLEEVE THROUGH FOUNDATION DETAIL.
10. MSW INDICATES MASONRY SHEAR WALL. REINFORCE WITH TYPICAL WALL REINFORCING AS INDICATED IN THE SCHEDULE FOR EACH WALL TYPE.
11. LOCATE MASONRY CONTROL JOINT LOCATIONS AS INDICATED ON PLAN. CONTROL JOINTS ARE NOT PERMITTED TO BE LOCATED WITHIN SHEAR WALLS NOTED ON PLAN.
12. ALL CONCRETE MASONRY WALLS ARE WALL TYPE W1 UNLESS NOTED WX ON PLAN. REFER TO MASONRY WALL SCHEDULE ON SHEET SB503.
13. CAST-IN-PLACE CONCRETE COLUMN FOOTING ARE NOTED THUS CFX.X ON PLAN. REFER TO SCHEDULE ON SHEET SB501.
14. SHEAR WALLS ARE INDICATED ON PLAN THUS: ▭ REINFORCE WITH TYPICAL WALL REINFORCING AS INDICATED IN THE SCHEDULE FOR EACH WALL TYPE.

FOUNDATION KEY NOTES

N1 5-INCH CONCRETE SLAB-ON-GRADE REINFORCED WITH ONE LAYER OF 6X6-W2.9XW2.9 WELDED WIRE REINFORCEMENT OVER VAPOR RETARDER AND 6-INCH DEEP POROUS FILL

N2 7-INCH CONCRETE SLAB-ON-GRADE REINFORCED #3 AT 12" OC, EACH WAY OVER VAPOR RETARDER AND 6-INCH DEEP POROUS FILL

N3 TRENCH DRAIN, REFER TO PLUMBING DRAWINGS FOR EXACT LOCATION. REFER TO TYPICAL DETAIL ON SHEET SB301.

N4 6-INCH CONCRETE SLAB-ON-GRADE REINFORCED WITH ONE LAYER OF 6X6-W2.9XW2.9 WELDED WIRE REINFORCEMENT OVER VAPOR RETARDER AND 6-INCH DEEP POROUS FILL

N5 OUTLINE OF 35,000 LB CAPACITY, 4-POST VEHICLE LIFT. REFER TO SHEET AE101 FOR PROPOSED LIFT LOCATION. CONTRACTOR MUST COORDINATE LIFT LOCATION WITH CONTRACTING OFFICER AND SEOR PRIOR TO FOUNDATION INSTALLATION.

N6 BOLLARD, REFER TO ARCHITECTURAL DRAWINGS AND DETAIL ON SHEET SB301.

N7 REENTRANT BAR, TYPICAL. REFER TO DETAIL ON SB502 FOR REENTRANT BAR ADJACENT TO SLAB JOINT

N8 8-INCH CONCRETE SLAB-ON-GRADE REINFORCED WITH #4 AT 12" OC, EACH WAY OVER 12" DEPTH OF #57 STONE WRAPPED IN NON WOVEN GEOTEXTILE.

N9 WASH RACK RAMP DESIGNED BY OTHERS. COORDINATE ANCHOR EMBEDMENT REQUIREMENTS WITH EQUIPMENT MANUFACTURER.WASH RAMP ANCHORS MUST NOT EXCEED 6" EMBEDMENT. REFER TO SHEET AE530 SECTION A1 AND A4 FOR WASH RAMP DETAILS.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY: Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO	DATE	06/14/21
DES LSP	DRW BS	CHK TER
PM/DM		GFS/LEJ
BRANCH MANAGER		NBJ
CHIEF ENG/ARCH		EJA
FIRE PROTECTION		DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

FOUNDATION AND GROUND FLOOR PLAN

SCALE: AS NOTED

EPROJECT NO.: 1672404

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
12842258

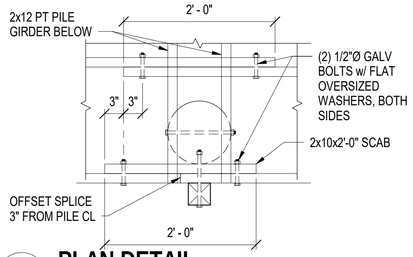
SHEET 31 OF 117

SB101

DRAWFORM REVISION: 12 APRIL 2018

PEDESTRIAN BRIDGE FRAMING NOTES

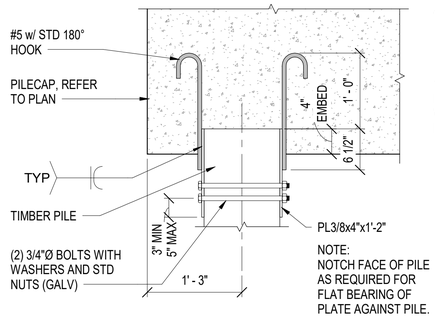
1. REFER TO CIVIL DRAWINGS FOR ALIGNMENT AND ELEVATIONS.
2. BRIDGE DESIGNED FOR UNIFORM PEDESTRIAN LOADING OF 90 PSF, IN ACCORDANCE WITH AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.
3. BRIDGE DESIGNED FOR WIND LOADS IN ACCORDANCE WITH AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.
4. BLOCK AND SHIM BRIDGE FRAMING, AND ADD ADDITIONAL FRAMING MEMBERS AS NEEDED, TO PROVIDE A CONTIUOUS WALKWAY ON THE INDICATED ALIGNMENT.
5. HANDRAILS AND GUARDRAILS MUST BE CONTINUOUS ALONG BRIDGE WALKWAY.



C1 PLAN DETAIL

1" = 1'-0" (SB102)

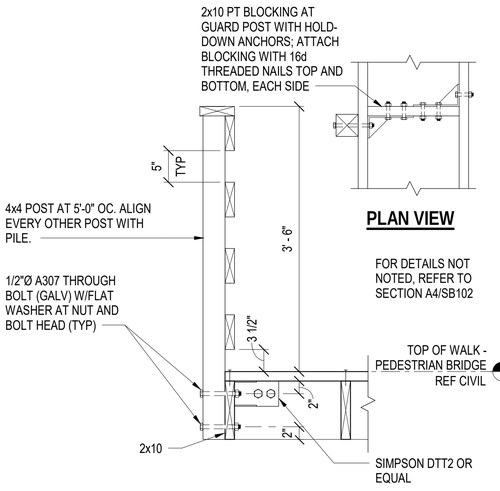
0' 6" 1' 2'



C2 TENSION PILE DETAIL

1" = 1'-0"

0' 6" 1' 2'



C3 SECTION

1" = 1'-0" (SB102)

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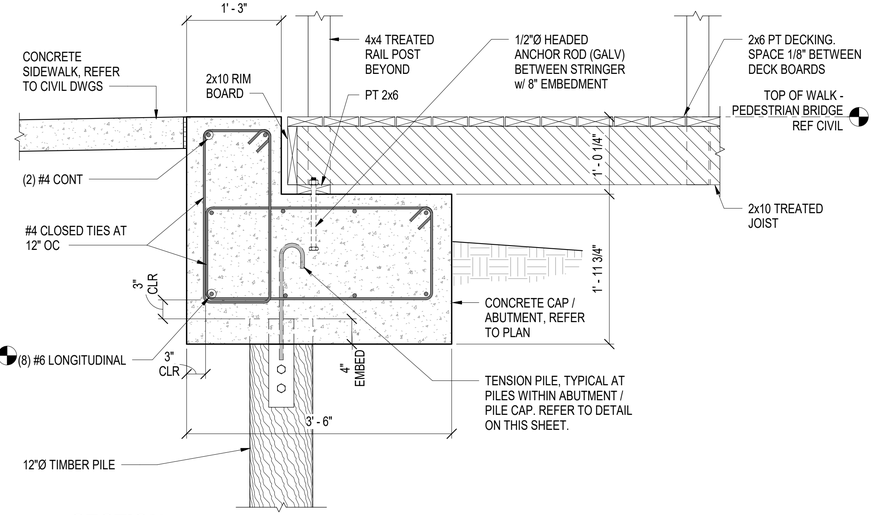

C4 SECTION

1" = 1'-0" (SB102)

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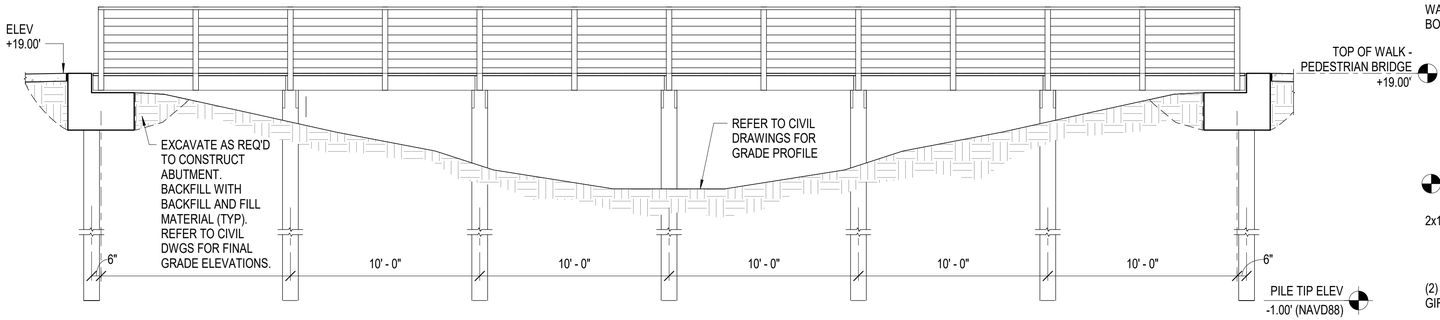
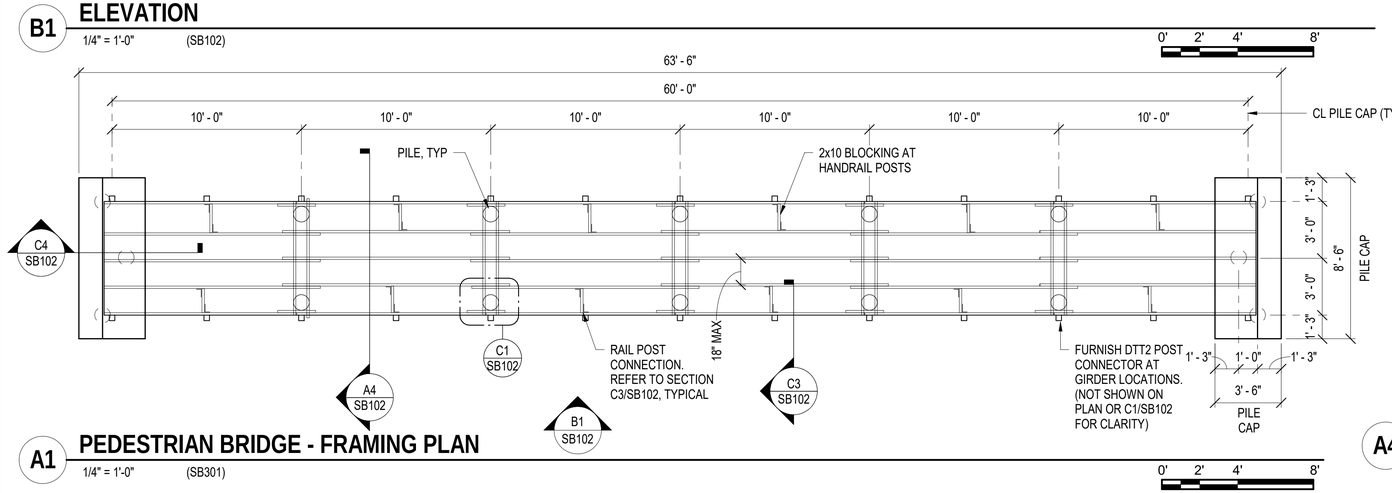


B1 ELEVATION

1/4" = 1'-0" (SB102)

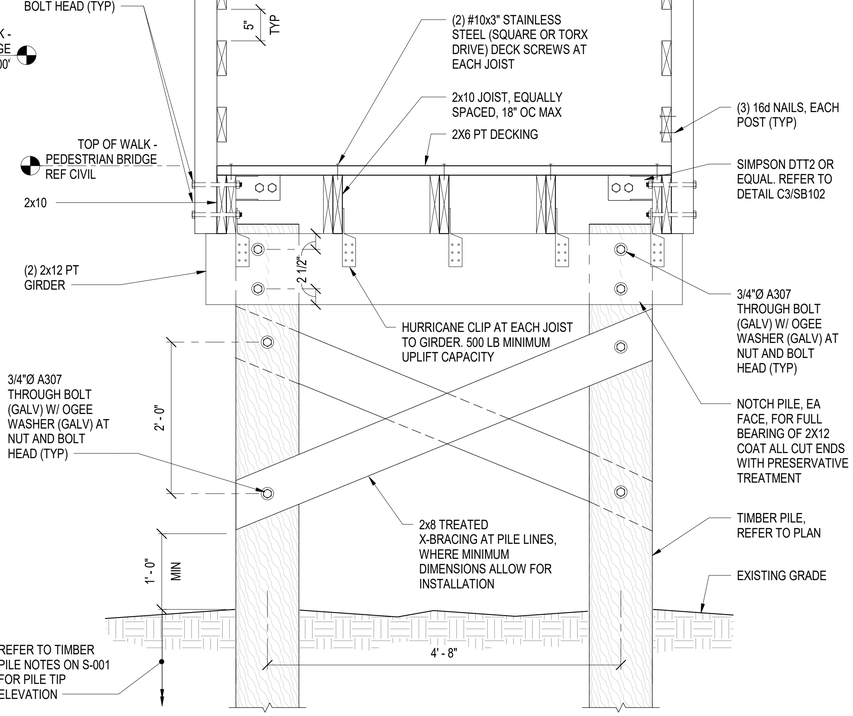
0' 2' 4' 8'



A1 PEDESTRIAN BRIDGE - FRAMING PLAN

1/4" = 1'-0" (SB301)

0' 2' 4' 8'



A4 SECTION

1" = 1'-0" (SB102)

0' 6" 1' 2'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO DATE 06/14/21

DES	LSP	DRW	BS	CHK	TER

PM/DM	GFS/LEJ
BRANCH MANAGER	NBJ
CHIEF ENG/ARCH	EJA
FIRE PROTECTION	DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DOC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

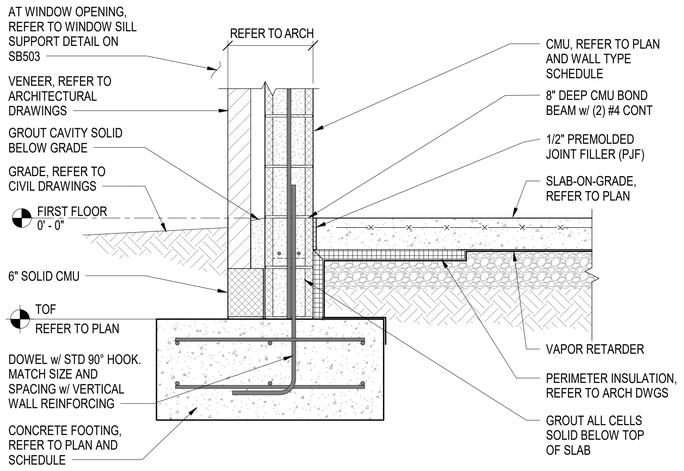
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

PEDESTRIAN BRIDGE PLANS AND DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1672404
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12842259
SHEET	32 OF 117

SB102

DRAWFORM REVISION: 12 APRIL 2018



C1 SECTION

1" = 1'-0" (SB101)

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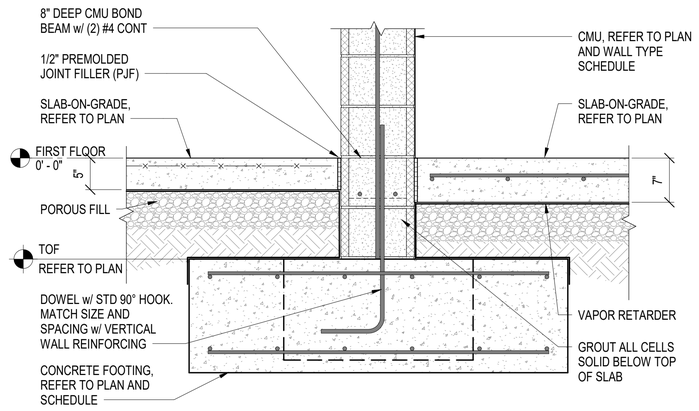

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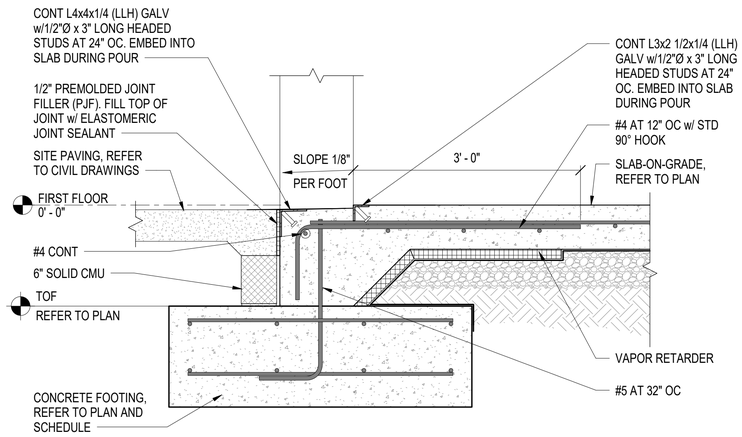

C4 SECTION

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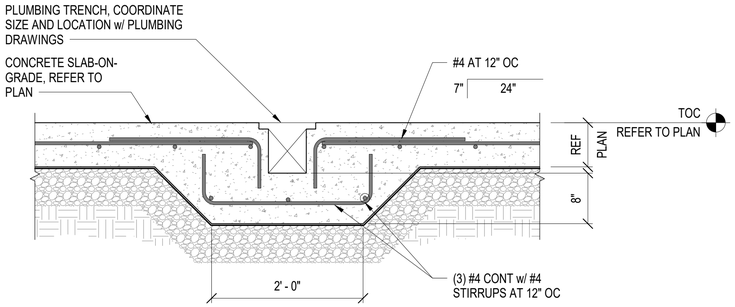
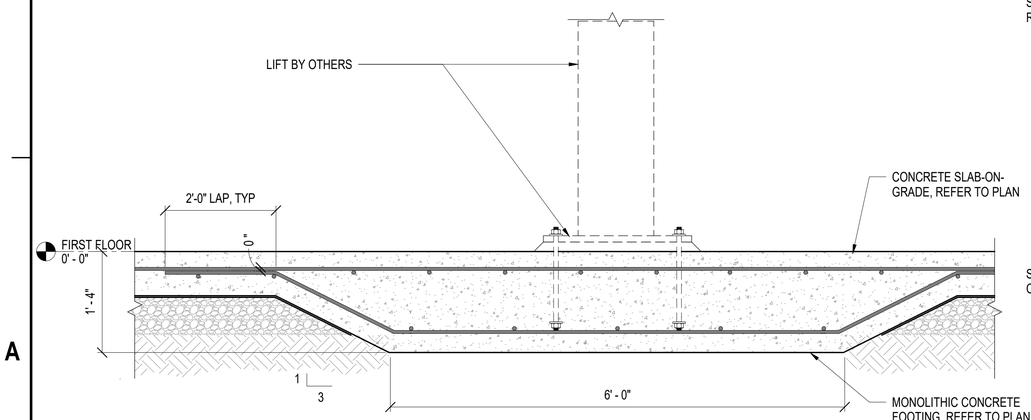


B1 SLAB TRENCH DETAIL

1" = 1'-0"

0' 6" 1' 2'



A1 SECTION

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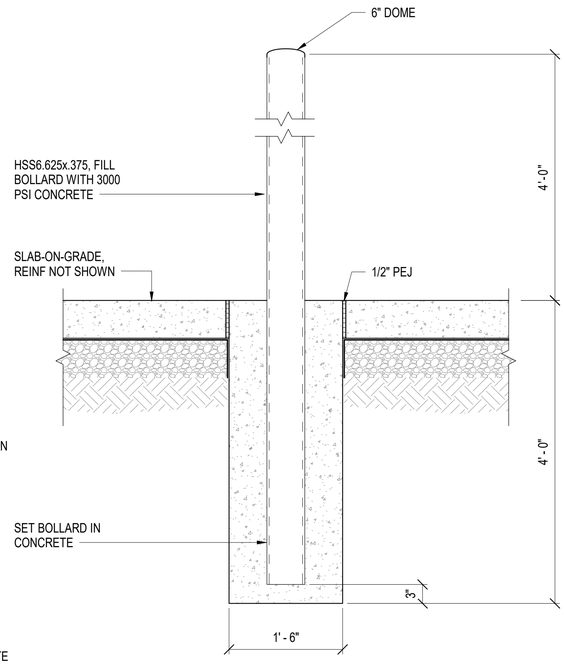
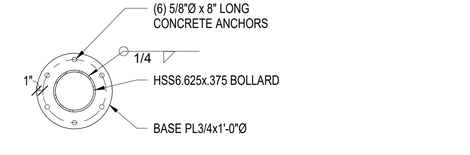
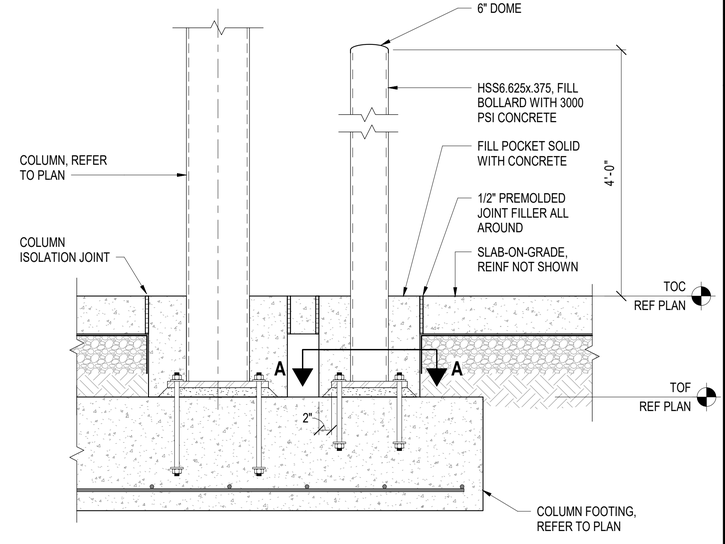


TYPICAL - ISOLATED



SECTION A-A



AT COLUMN FOOTING

A4 BOLLARD DETAIL

1" = 1'-0"

0' 6" 1' 2'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO | DATE 06/14/21

DES	LSP	DRW	BS	CHK	TER

PMDM GFS/LEJ

BRANCH MANAGER NBJ

CHIEF ENG/ARCH EJA

FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE
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NAVAL STATION - NORFOLK, VA
MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP
ENLARGED FOUNDATION SECTIONS AND DETAILS

SCALE: AS NOTED

EPROJECT NO.: 1672404

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12842260

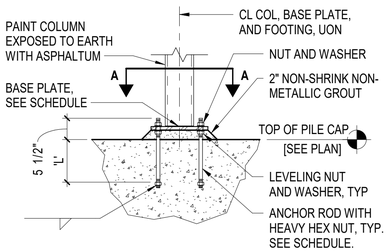
SHEET 33 OF 117

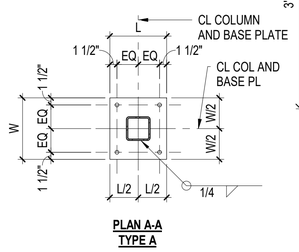
SB301

DRAWFORM REVISION: 12 APRIL 2018

COLUMN BASE PLATE AND ANCHOR ROD SCHEDULE

COLUMN SIZE	BASE PLATE DIMENSIONS				ANCHOR RODS			NOTES
	WIDTH (W)	LENGTH (L)	THICKNESS (T)	HOLE DIAMETER	DIAMETER	EMBEDMENT	PLATE WASHER	
HSS10X10X1/2	17"	17"	1"	1 5/16"	3/4"	10"	2"x2"x1/4"	TYPE A

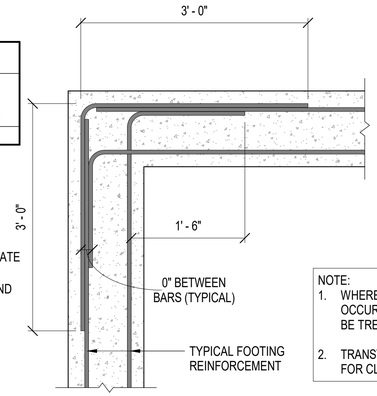




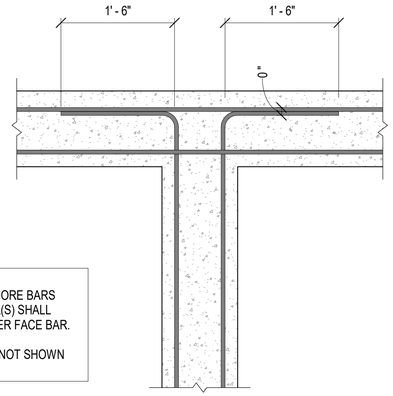
PLAN A-A
TYPE A

C1 TYPICAL ANCHOR ROD AND BASE PLATE

3/4" = 1'-0"

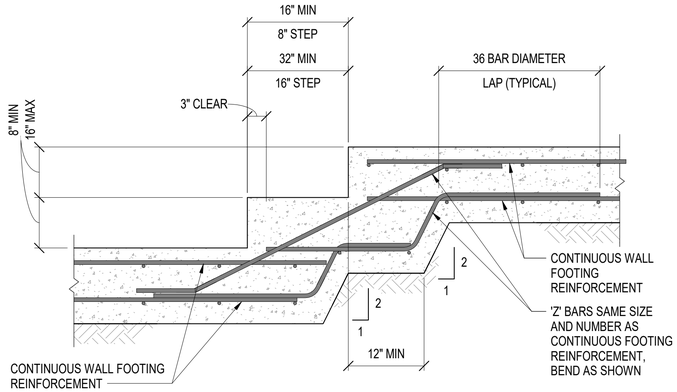


PLAN AT CORNER

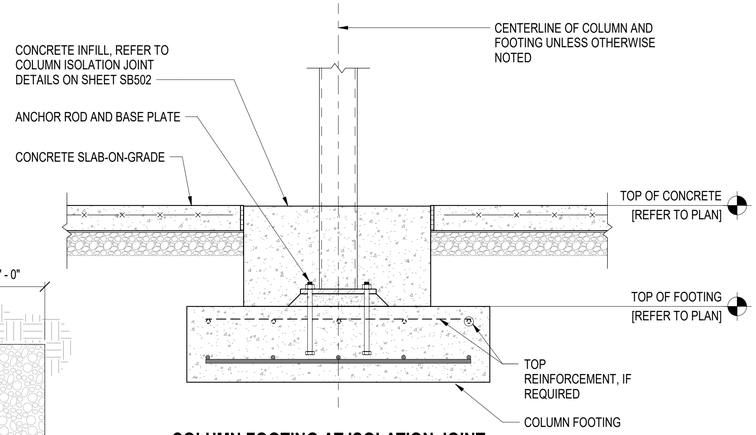


PLAN AT INTERSECTION

NOTE:
1. WHERE THREE OR MORE BARS OCCUR, MIDDLE BAR(S) SHALL BE TREATED AS INNER FACE BAR.
2. TRANSVERSE BARS NOT SHOWN FOR CLARITY.



CONTINUOUS FOOTING REINFORCMENT



COLUMN FOOTING AT ISOLATION JOINT

[NOTE: INCLUDE TYPICAL COLUMN ISOLATION JOINT DETAIL]

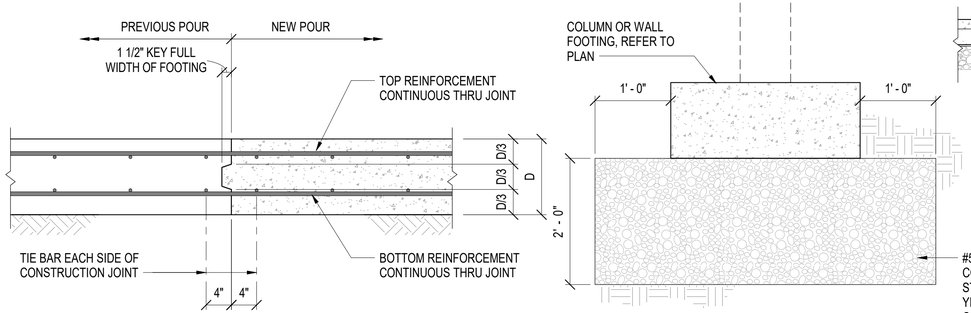
STEPPED CONTINUOUS FOOTING (SF)

COLUMN FOOTING SCHEDULE

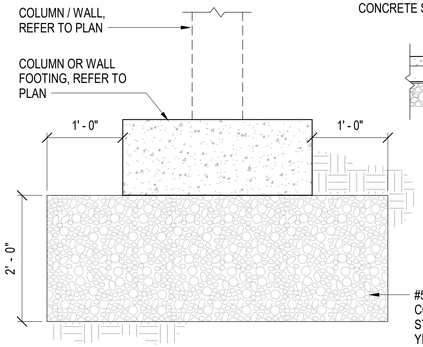
MARK	DIMENSIONS			REINFORCING STEEL
	WIDTH	LENGTH	DEPTH	
CF6.0	6' - 0"	6' - 0"	1' - 4"	(7)-#5 EACH DIRECTION BOTTOM
CF6.0M	6' - 0"	6' - 0"	1' - 4"	(5)-#5 EACH DIRECTION BOTTOM
CF6.0x4.0	4' - 0"	6' - 0"	1' - 4"	(7)-#5 EACH DIRECTION BOTTOM
CF6.5	6' - 6"	6' - 6"	1' - 4"	(8)-#5 EACH DIRECTION BOTTOM
CF7.0	7' - 0"	7' - 0"	1' - 6"	(6)-#6 EACH DIRECTION TOP AND BOTTOM

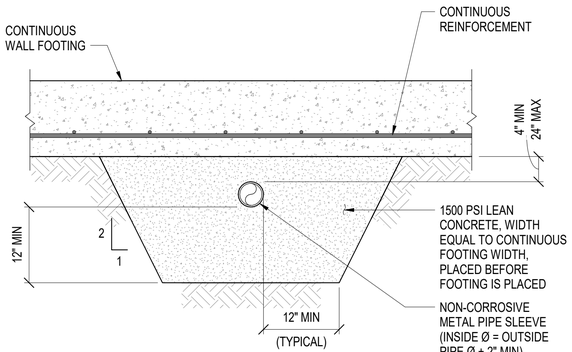
WALL FOOTING SCHEDULE

MARK	DIMENSIONS		REINFORCING
	WIDTH	DEPTH	
WF2.5	2' - 6"	1' - 4"	(3) #5 CONTINUOUS w/ #5 AT 12" OC TRANS, TOP AND BOTTOM
WF3.0	3' - 0"	1' - 4"	(3) #5 CONTINUOUS w/ #5 AT 12" OC TRANS, TOP AND BOTTOM
WF4.0	4' - 0"	1' - 4"	(4) #5 CONTINUOUS w/ #5 AT 12" OC TRANS, TOP AND BOTTOM
WF5.0	5' - 0"	1' - 6"	(6) #5 CONTINUOUS w/ #5 AT 12" OC TRANS, TOP AND BOTTOM



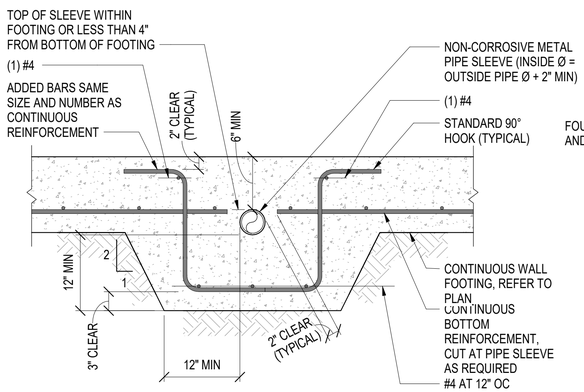
CONTINUOUS FOOTING CONSTRUCTION JOINT





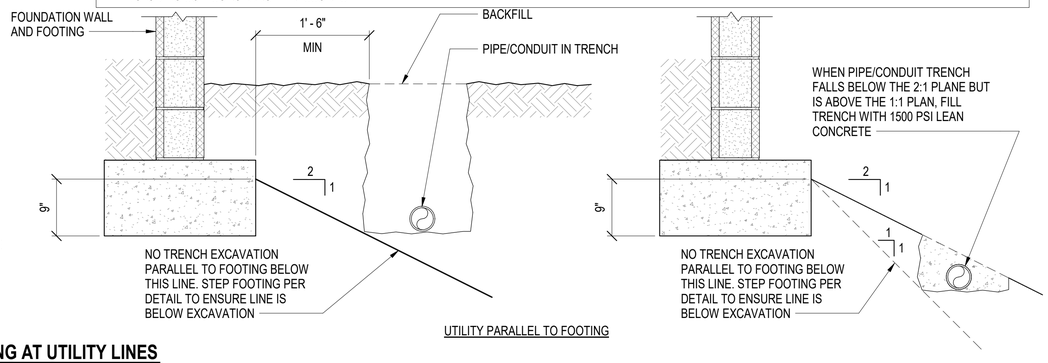
UTILITY PERPENDICULAR TO AND BELOW FOOTING

FOUNDATION UNDERCUT DETAIL



UTILITY PERPENDICULAR TO AND THROUGH FOOTING

NOTES:
1. IN LIEU OF THESE DETAILS, FOOTINGS MAY BE LOWERED TO PASS UNDER UTILITY LINES ACCORDING TO THE TYPICAL STEPPED CONTINUOUS FOOTING DETAIL ON THIS SHEET.
2. PERPENDICULAR PIPE SLEEVE THROUGH / BELOW FOOTING MUST EXTEND TO EDGE OF 1:1 BEARING ZONE ON EACH SIDE OF FOOTING UNLESS OTHERWISE NOTED.
3. IF UTILITY LINE IS IN PLACE PRIOR TO PLACING CONCRETE, WRAP UTILITY WITH 1" THICK COMPRESSIBLE MATERIAL BEFORE PLACING CONCRETE IN LIEU OF SLEEVE.
4. FOR UTILITIES BELOW FOOTING WHERE CONCRETE ENCASEMENT IS NOT FEASIBLE, DESIGN PIPE AND PIPE JOINTS TO ADEQUATELY RESIST ALL SUPERIMPOSED LOADS INCLUDING SOIL SURCHARGE PRESSURES.



UTILITY PARALLEL TO FOOTING

WALL FOOTING AT UTILITY LINES

TYPICAL FOOTING DETAILS

NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR

SEAL

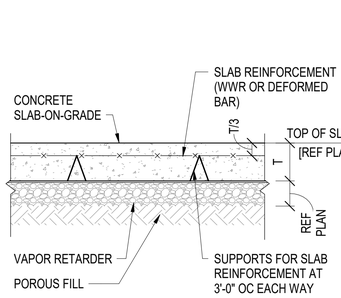
AVE INFO

APPROVED
FOR COMMANDER NAVFAC 7/14/2021
ACTIVITY
Approved by LtCol Roger Holliday, Director I&E, MCAS New River
SATISFACTORY TO DATE 06/14/21
DES LSP DRW BS CHK TER
PM/DM GFS/LEJ
BRANCH MANAGER NBJ
CHIEF ENG/ARCH EJA
FIRE PROTECTION DSN

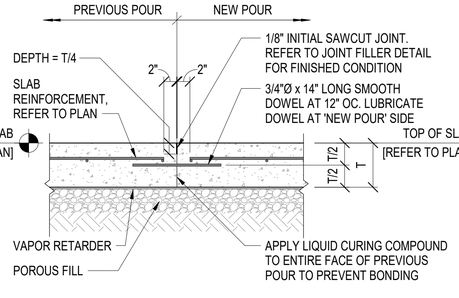
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA
MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP
TYPICAL FOOTING DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1672404
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12842261
SHEET 34 OF 117
SB501

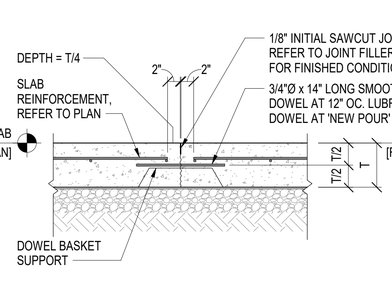
DRAWFORM REVISION: 12 APRIL 2018



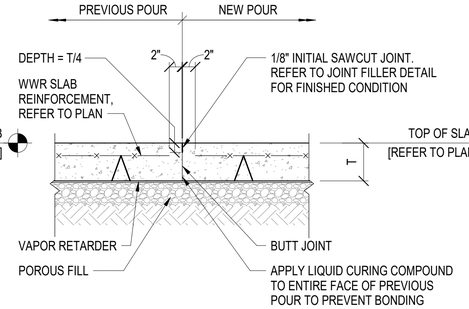
TYPICAL SLAB-ON-GRADE (SOG)



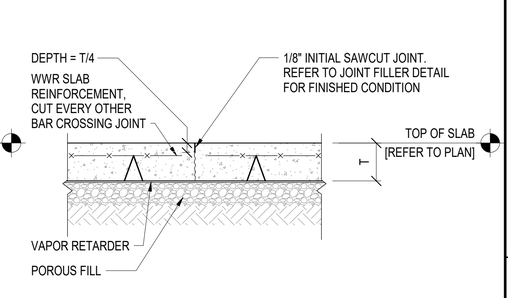
CONSTRUCTION JOINT AT DCJ



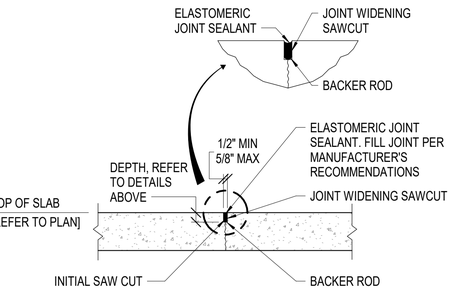
SAW JOINT AT DCJ



CONSTRUCTION JOINT AT CCJ

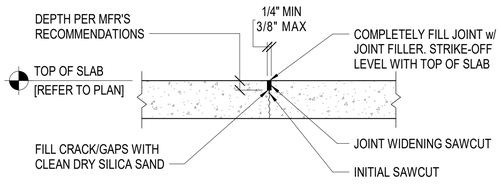


SAW JOINT AT CCJ

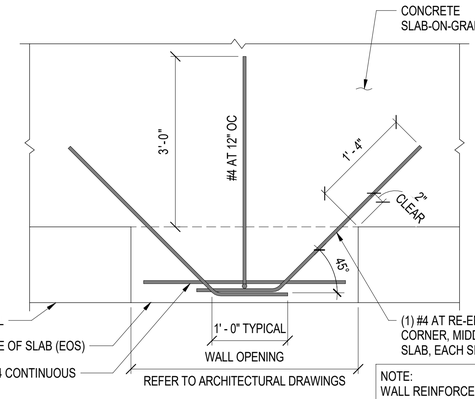


JOINT SEALANT DETAIL

NOTES:
1. DEPTH, STRIKE-OFF METHOD AND USE OF SILICA SAND SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
2. JOINT FILLER SHALL BE A TWO-PART, 100% SOLIDS, SELD-LEVELING POLYUREA MINIMUM SHORE A HARDNESS OF 80.

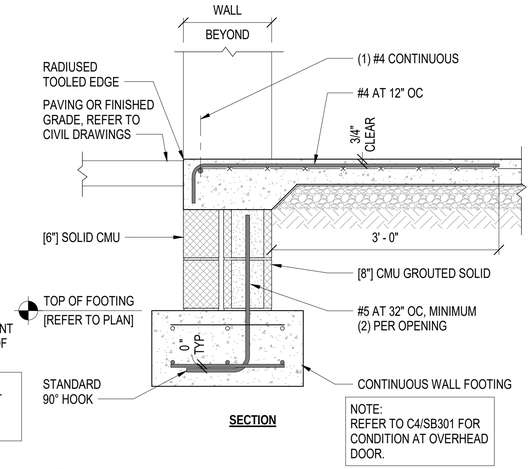


JOINT FILLER DETAIL



NOTE:
WALL REINFORCEMENT NOT SHOWN FOR CLARITY.

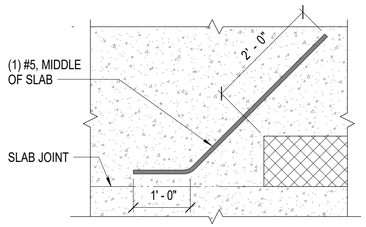
PLAN



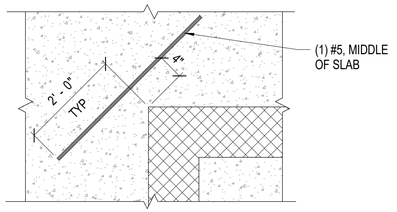
NOTE:
REFER TO C4/SB301 FOR CONDITION AT OVERHEAD DOOR.

SECTION

SLAB AT EXTERIOR OPENINGS

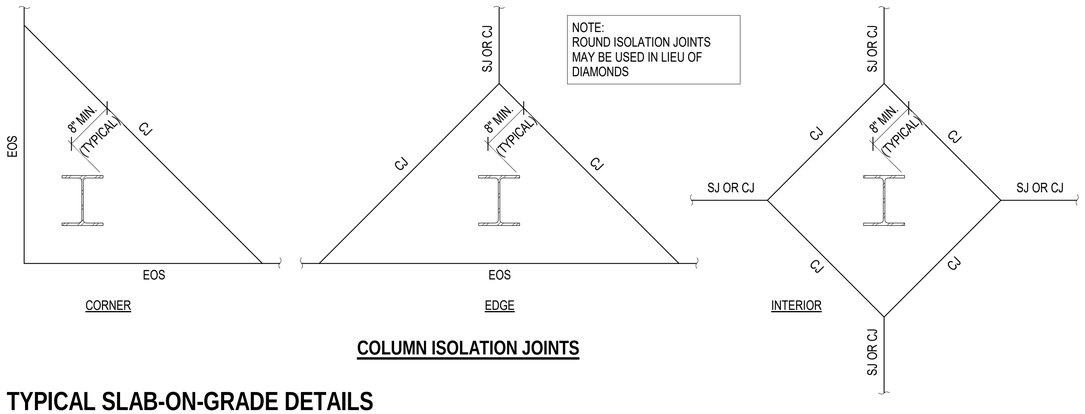


ADJACENT TO SLAB JOINT



NO SLAB JOINT

REENTRANT CORNERS



NOTE:
ROUND ISOLATION JOINTS MAY BE USED IN LIEU OF DIAMONDS

COLUMN ISOLATION JOINTS

TYPICAL SLAB-ON-GRADE DETAILS

1" = 1'-0"

0' 6" 1' 2'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY
Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO	DATE	06/14/21
DES LSP	DRW BS	CHK TER
PM/DM		GFS/LEJ
BRANCH MANAGER		NBJ
CHIEF ENG/ARCH		EJA
FIRE PROTECTION		DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

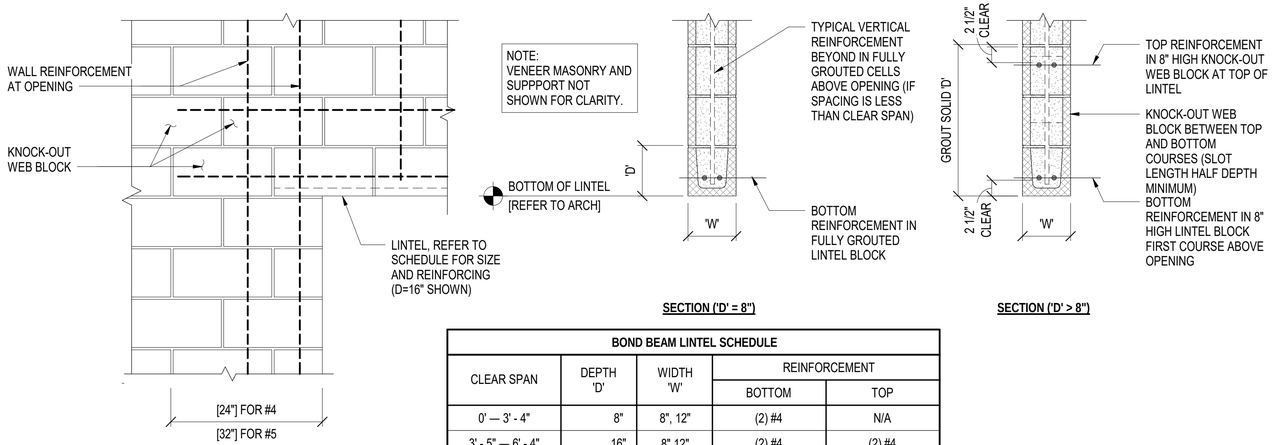
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

SLAB-ON-GRADE DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1672404
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12842262
SHEET	35 OF 117

SB502

DRAW/FORM REVISION: 12 APRIL 2018



NOT AT CONTROL JOINT

SECTION ('D' = 8")

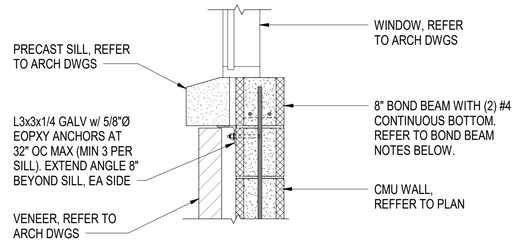
SECTION ('D' > 8")

BOND BEAM LINTEL SCHEDULE

CLEAR SPAN	DEPTH 'D'	WIDTH 'W'	REINFORCEMENT	
			BOTTOM	TOP
0' — 3' - 4"	8"	8", 12"	(2) #4	N/A
3' - 5" — 6' - 4"	16"	8",12"	(2) #4	(2) #4
6' - 5" — 8' - 0"	24"	8", 12"	(2) #5	(2) #5
8' - 1" - 14'-0"	24"	12"	(2) #6	(2) #6

TYPICAL CONCRETE MASONRY BOND BEAM LINTEL

NOT TO SCALE



WINDOW SILL SUPPORT DETAIL

NOT TO SCALE

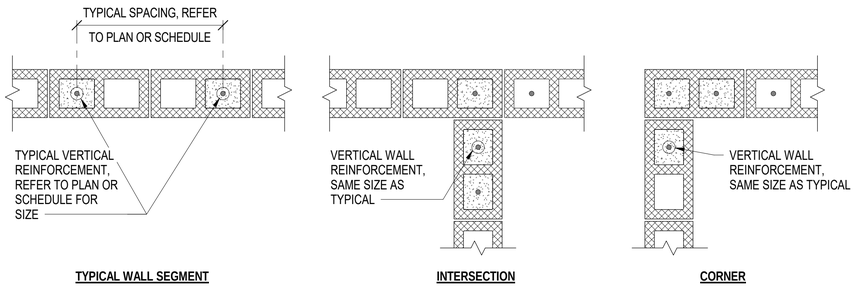
MASONRY LAP SPLICE SCHEDULE

BAR SIZE	8" CMU		12" CMU	
	BAR LOCATION		BAR LOCATION	
	MIDDLE OF CELL	OTHER	MIDDLE OF CELL	OTHER
#4	13"	34"	12"	34"
#5	20"	45"	13"	45"
#6	37"	54"	24"	54"

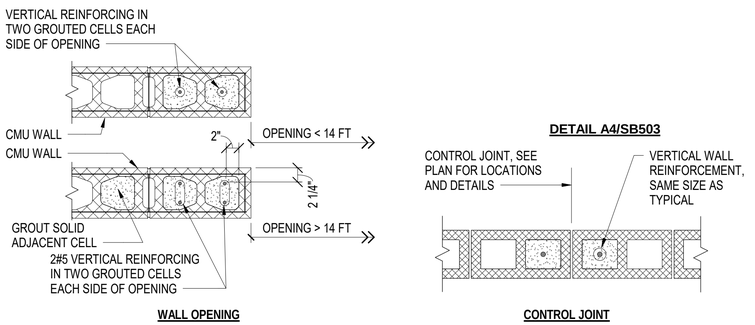
MASONRY WALL REINFORCING SCHEDULE

WALL MARK	NOMINAL BLOCK SIZE	REINFORCING	
		VERTICAL	BOND BEAM
W1	8"	#6 AT 32" OC, MOW	(2) #5 TOP AND BOTT
W2	12"	#6 AT 24" OC, MOW	(2) #5 TOP AND BOTT

NOTES:
1. UNLESS OTHERWISE NOTED, PLACE CONTINUOUS 8" HIGH REINFORCED BOND BEAMS AT JOIST AND DECK BEARING ELEVATIONS.
2. BOND BEAM REINFORCING SHALL BE CONTINUOUS THROUGH MASONRY CONTOL JOINTS AT JOIST AND DECK BEARING ELEVATIONS ONLY. AT ALL OTHER ELEVATIONS (INTERMEDIATE HEIGHTS, TOPS OF PARTITION WALLS, ETC), STOP REINFORCING 2" EACH SIDE OF JOINT.
3. UNLESS OTHERWISE NOTED, VERTICAL WALL REINFORCING MUST HAVE STANDARD 90° HOOK INTO BOND BEAM AT TOP OF WALL.



TYPICAL WALL SEGMENT | INTERSECTION | CORNER



WALL OPENING

DETAIL A4/SB503

CONTROL JOINT

VERTICAL REINFORCING NOTES:
1. IN ADDITION TO THE SPACING INDICATED, PLACE ONE BAR IN EACH OF THREE CELLS AT CORNERS, ONE BAR EACH SIDE OF CONTROL JOINTS AND TWO BARS EACH SIDE OF OPENINGS. USE SAME BAR SIZE AS VERTICAL REINFORCING IN WALL.
2. VERTICAL REINFORCEMENT MUST BE CONTINUOUS FOR FULL HEIGHT OF WALL. WHERE SPLICES ARE REQUIRED, PROVIDE SPLICES IN ACCORDANCE WITH LAP SPLICE SCHEDULE.
3. PROVIDE FOUNDATION DOWEL OF THE SAME SIZE FOR EACH VERTICAL REINFORCING BAR. CAST DOWELS INTO SUPPORTING CONCRETE. LENGTH OF DOWEL EXTENDING INTO WALL MUST BE A MINIMUM OF 2" GREATER THAN LAP SPLICE LENGTH SPECIFIED IN SCHEDULE.

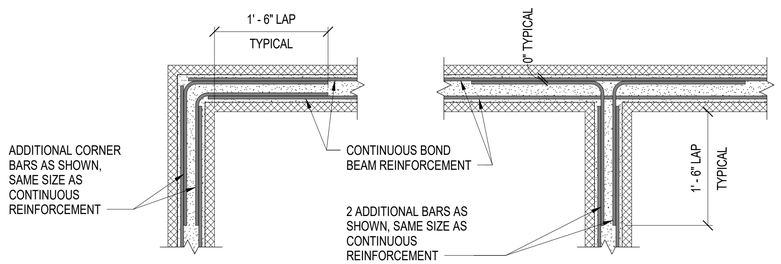
CONTROL JOINT NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR JOINTS IN MASONRY VENEER AND INTERIOR NON-LOAD BEARING CMU WALLS. WHEN NOT SPECIFICALLY DIMENSIONED OR LOCATED, PROVIDE CONTROL JOINTS AT A MAXIMUM SPACING OF 1.5 TIMES THE WALL HEIGHT OR 25 FEET, WHICHEVER IS LESS, UON. THE MAXIMUM SPACING MAY OCCUR AROUND A CORNER, BUT ONE SIDE OR THE OTHER MUST BE LESS THAN OR EQUAL TO 10 FEET TO THE JOINT.

BOND BEAM NOTES:
1. BOND BEAMS ARE 8-INCHES DEEP UNLESS NOTED OTHERWISE.
2. REINFORCE BOND BEAMS WITH 2-#4 CONTINUOUS BOTTOM BARS UNLESS NOTED OTHERWISE.
3. GROUT BOND BEAMS SOLID.
4. LOCATE CONTINUOUS BOND BEAMS AT TOP OF WALLS AND WHERE INDICATED ON PLAN AND IN SECTIONS.
5. AT LOCATIONS WHERE CONTINUOUS BOND BEAMS DO NOT OCCUR BELOW OPENINGS, LOCATE BOND BEAMS BELOW MASONRY OPENINGS AND EXTEND A MINIMUM OF 24" BEYOND EACH SIDE OF OPENING.
6. DISCONTINUE BOND BEAMS AT VERTICAL CONTROL JOINTS IN CMU WALLS, EXCEPT AT TOP OF WALL.

NOTE:
CMU VENEER, METAL WALL PANELS AND OTHER FINISHES ARE NOT SHOWN IN DETAILS. REFER TO ARCHITECTURAL DRAWINGS.

TYPICAL CONCRETE MASONRY WALL VERTICAL REINFORCEMENT

NOT TO SCALE



PLAN AT CORNER | PLAN AT INTERSECTION

TYPICAL CONCRETE MASONRY BOND BEAM REINFORCEMENT

NOT TO SCALE

SYM	DESCRIPTION	DATE	APPR

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY

Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO		DATE	06/14/21
DES	LSP	DRW BS	CHK TER
PM/DM			GFS/LEJ
BRANCH MANAGER			NBJ
CHIEF ENG/ARCH			EJA
FIRE PROTECTION			DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

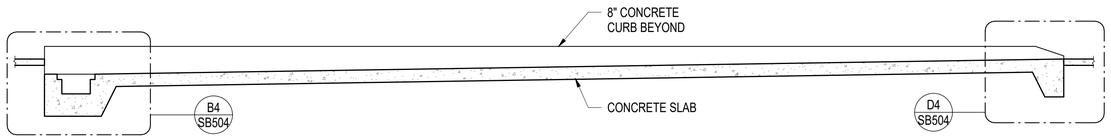
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

MASONRY DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1672404
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12842263
SHEET	36 OF 117

SB503

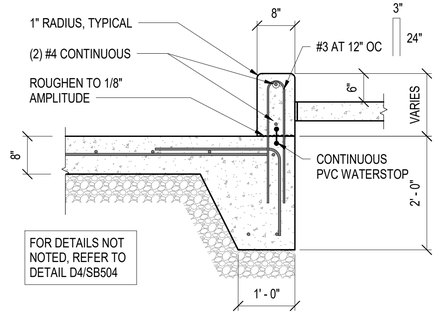
DRAW/FORM REVISION: 12 APRIL 2018



D1 SECTION THROUGH WASHRACK

1/4" = 1'-0" (SB101)

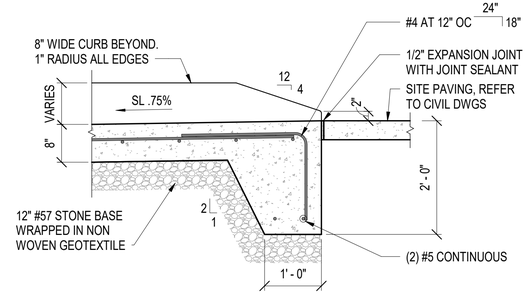
0' 4' 8' 16'



D3 SECTION

3/4" = 1'-0" (SB101)

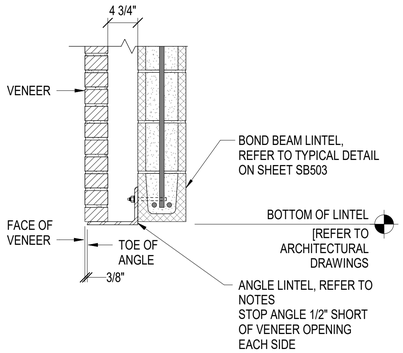
0' 1' 2' 3'



D4 DETAIL

3/4" = 1'-0" (SB504)

0' 1' 2' 3'

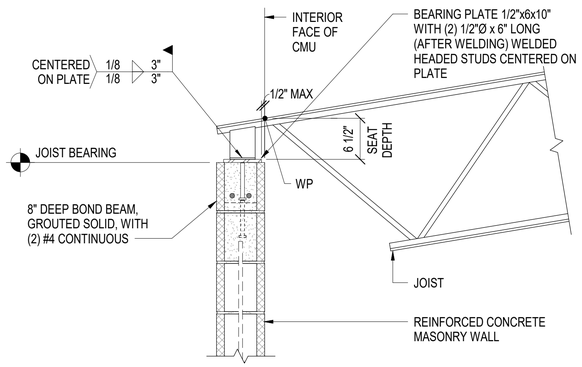


SECTION

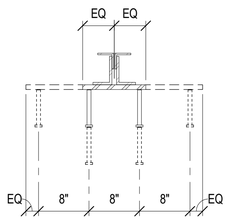
NOTES:
1. FOR CLEAR SPANS UP TO 3'-4" WIDE, USE L8x6x1/2 (LLH). ATTACH TO BOND BEAM WITH (2) 3/4" DIAM CAST IN PLACE ANCHORS WITH 4" MIN EMBEDMENT AT 1/3 POINTS. FOR CLEAR SPANS UP TO 6'-8" WIDE, USE L8x6x1/2 (LLH). ATTACH TO BOND BEAM WITH (3) 3/4" DIAM CAST IN PLACE ANCHORS WITH 4" MIN EMBEDMENT AT 1//4 POINTS.
2. FOR EXACT SIZE AND LOCATION OF WALL OPENINGS, COORDINATE WITH ARCHITECTURAL DRAWINGS.
3. ANGLE LINTEL SIZE APPLIES ONLY TO ANGLE LINTELS NOT OTHERWISE SHOWN ON THE STRUCTURAL DRAWINGS.
4. HOT-DIP GALVANIZE ALL LINTELS IN EXTERIOR WALLS.

TYPICAL BRICK ANGLE LINTEL

NOT TO SCALE



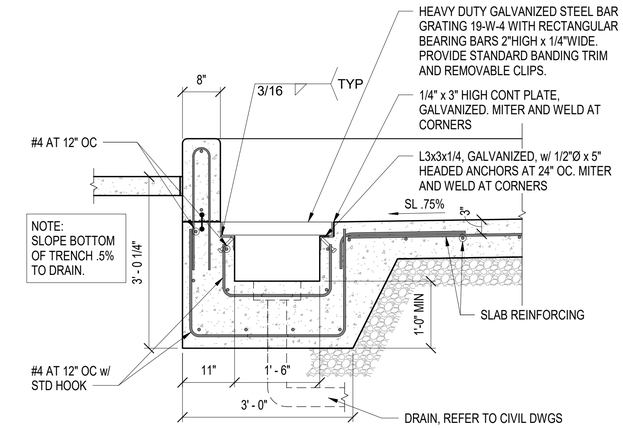
SECTION



ELEVATION AT BEARING PLATE

TYPICAL JOIST BEARING AT CONCRETE MASONRY WALL

NOT TO SCALE



B4 DETAIL

3/4" = 1'-0" (SB504)

0' 1' 2' 3'

SYM	DESCRIPTION	DATE	APPR

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY

Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO	DATE	06/14/21	
DES LSP	DRW BS	CHK TER	
PM/DM		GFS/LEJ	
BRANCH MANAGER		NBJ	
CHIEF ENG/ARCH		EJA	
FIRE PROTECTION		DSN	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

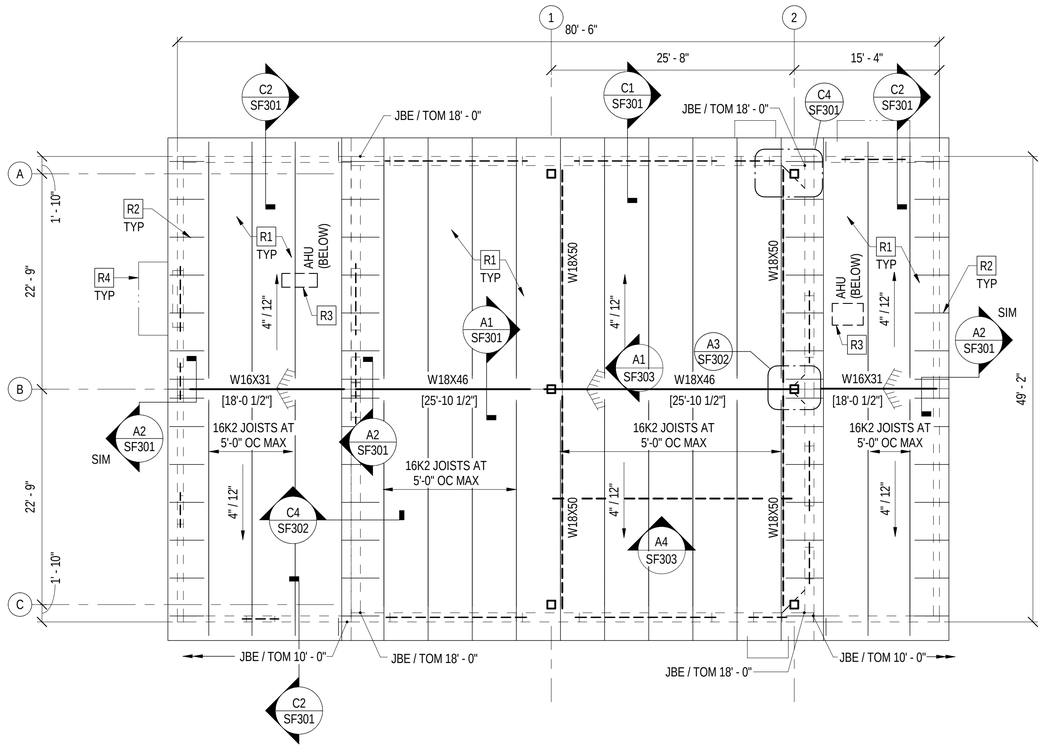
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

MASONRY DETAILS

SCALE:	AS NOTED
EPROJECT NO.:	1672404
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12842264
SHEET	37 OF 117

SB504

DRAWFORM REVISION: 12 APRIL 2018



FRAMING PLAN - ROOF

1/8" = 1'-0"

PLAN NORTH

0' 4' 8' 16'

ROOF FRAMING GENERAL NOTES

1. REFER TO S-001 AND S-002 FOR GENERAL NOTES AND PLAN LEGEND AND SF501 FOR MISCELLANEOUS FRAMING DETAILS.
2. REFER TO FOUNDATION PLAN AND ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
3. ALL ELEVATIONS ARE BASED ON A FINISHED FLOOR ELEVATION OF 0'-0". REFER TO CIVIL DRAWINGS FOR ACTUAL ELEVATION.
4. ROOF FRAMING CONSISTS OF STEEL JOIST SUPPORTING GALVANIZED 1-1/2" DEEP, 20 GAUGE, TYPE B WIDE-RIB STEEL ROOF DECK, UNLESS OTHERWISE NOTED.
5. UNLESS OTHERWISE NOTED ON PLAN, ROOF JOISTS SHALL BE EQUALLY SPACED NOT TO EXCEED 5'-0" OC TO SUPPORT ROOF DECK.
6. ALL PERMANENT BRIDGING AND BRACING SHALL BE DESIGNED BY JOIST MANUFACTURER.
7. UNLESS OTHERWISE NOTED, LINTELS FOR BEARING WALL ARE SHOWN THUS - - - - ON PLAN. FOR LINTEL SCHEDULE, REFER TO SHEET SB503. NOTE: REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS FOR ALL WALL OPENING LOCATIONS.

ROOF FRAMING KEY NOTES

R1 1.50-INCH DEEP X 20 GAUGE STEEL ROOF DECK

R2 HSS OUTLOOKER, REFER TO DETAIL ON SHEET SF501.

R3 OUTLINE OF MECHANICAL UNIT. COORDINATE EXACT LOCATION OF UNIT AND ROOF OPENINGS WITH MECHANICAL DRAWINGS. MAXIMUM AHU WEIGHT = 300 POUNDS. REFER TO DETAIL C4/SF501 "CONCENTRATED LOADS ON JOISTS".

R4 OUTLINE OF CANOPY. COORDINATE EXACT LOCATION WITH ARCHITECTURAL ROOF PLAN. COORDINATE DETAILS WITH SECTION A2/AE530. FOR CONNECTION TO CMU, REFER TO "CANOPY CONNECTION DETAIL" ON SHEET SF501.

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

AVE INFO

APPROVED

FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY

Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO		DATE	06/14/21
DES	LSP	DRW	BS
CHK	TER		
PM/DM			GPS/LEJ
BRANCH MANAGER			NBJ
CHIEF ENG/ARCH			EJA
FIRE PROTECTION			DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DOC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

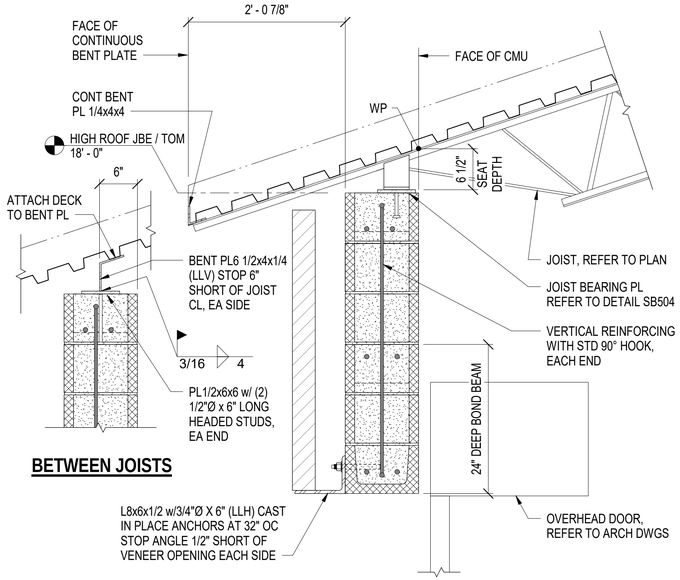
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

FRAMING PLAN - ROOF

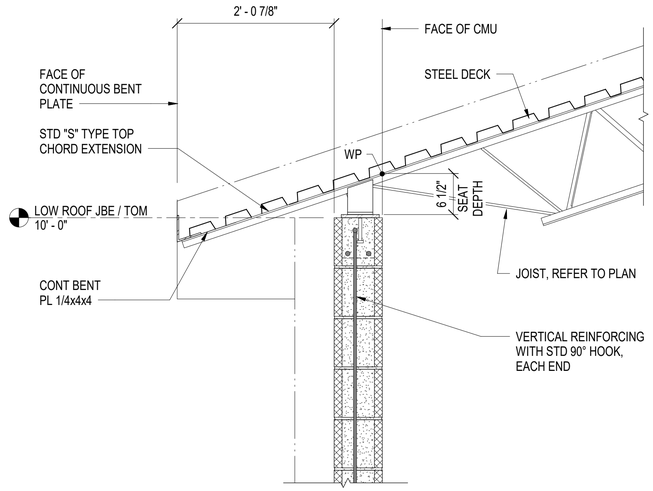
SCALE:	AS NOTED
EPROJECT NO.:	1672404
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12842265
SHEET	38 OF 117

SF101

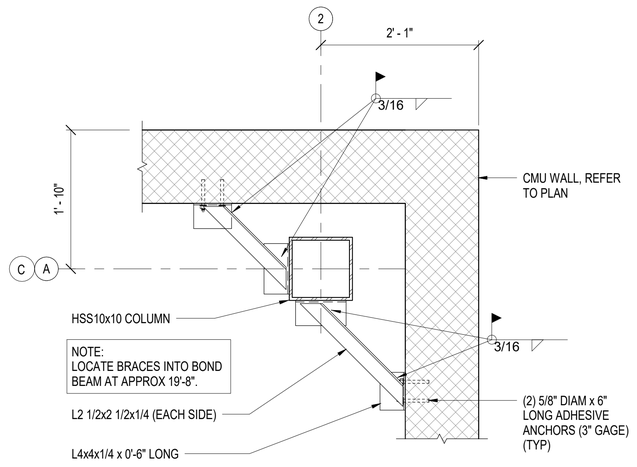
DRAWFORM REVISION: 12 APRIL 2018



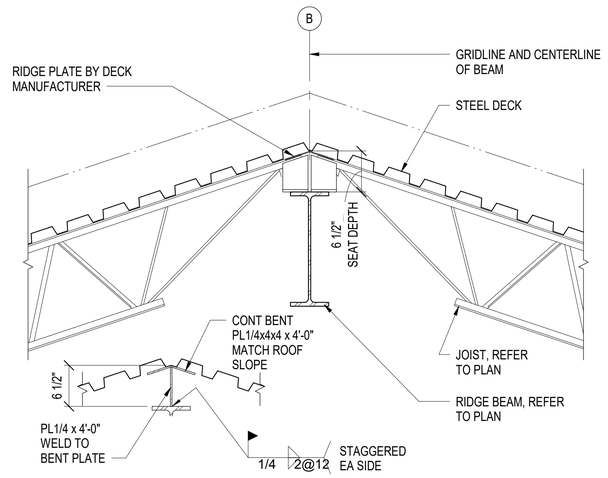
C1 SECTION
1" = 1'-0" (SF101)
0' 6" 1' 2'



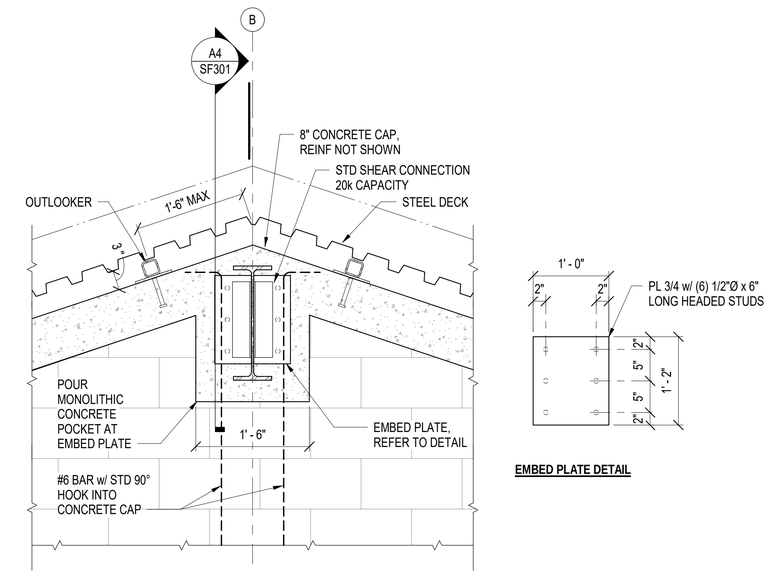
C2 SECTION
1" = 1'-0" (SF101)
0' 6" 1' 2'



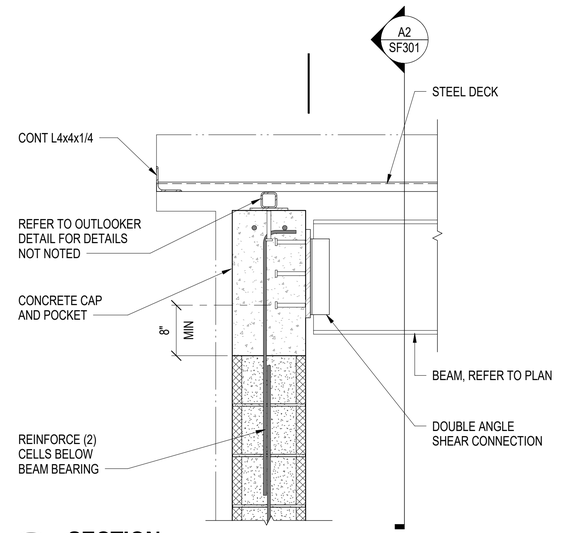
C4 DETAIL
1" = 1'-0" (SF101)
0' 6" 1' 2'



A1 SECTION
1" = 1'-0" (SF101)
0' 6" 1' 2'



A2 SECTION
1" = 1'-0" (SF101)
0' 6" 1' 2'



A4 SECTION
1" = 1'-0" (SF301)
0' 6" 1' 2'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
Approved by LtCol Roger Holliday, Director I&E, MCAS New River
SATISFACTORY TO DATE 06/14/21

DES	LSP	DRW	BS	CHK	TER

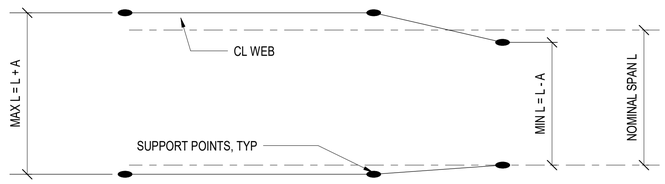
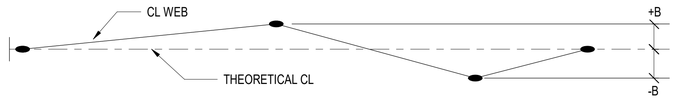
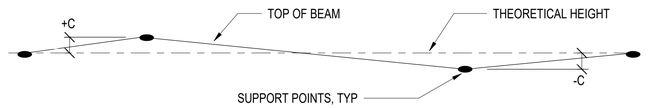
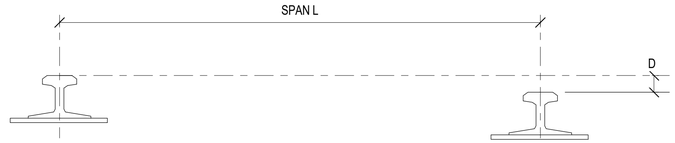
PM/DM	GFS/LEJ
BRANCH MANAGER	NBJ
CHIEF ENG/ARCH	EJA
FIRE PROTECTION	DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA
MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP
ENLARGED FRAMING SECTIONS AND DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1672404
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12842266
SHEET 39 OF 117

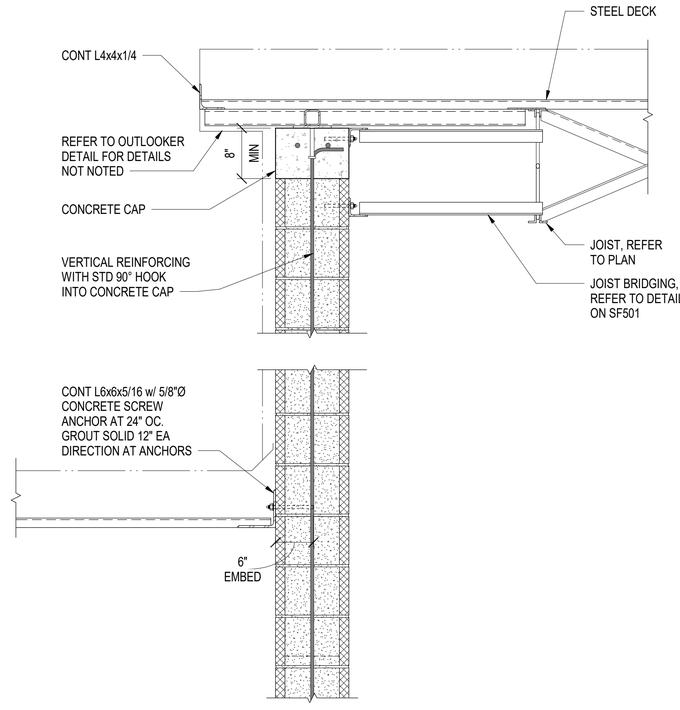
SF301

DRAWFORM REVISION: 12 APRIL 2018

ITEM	FIGURE	OVERALL TOLERANCE	MAXIMUM RATE OF CHANGE
CRANE SPAN (L) MEASURED AT CRANE WHEEL CONTACT SURFACE		A = 3/16"	1/4" IN 20'-0"
STRAIGHTNESS (B)		B = 3/8"	1/4" IN 20'-0"
ELEVATION (C)		C = 3/8"	1/4" IN 20'-0"
TOP RUNNING TRANSVERSE RAIL TO RAIL ELEVATION (D)		D = +/- 3/16"	1/4" IN 20'-0"

C2 BRIDGE CRANE TOLERANCE DIAGRAMS

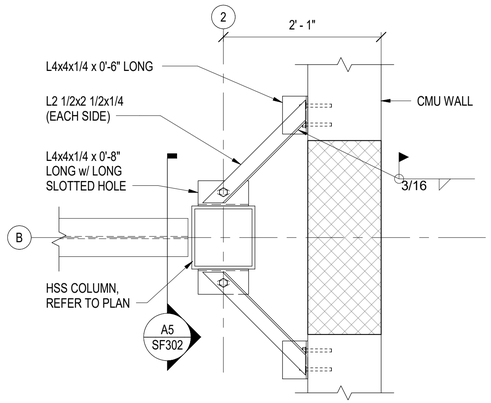
NOT TO SCALE



C4 SECTION

1" = 1'-0" (SF101)

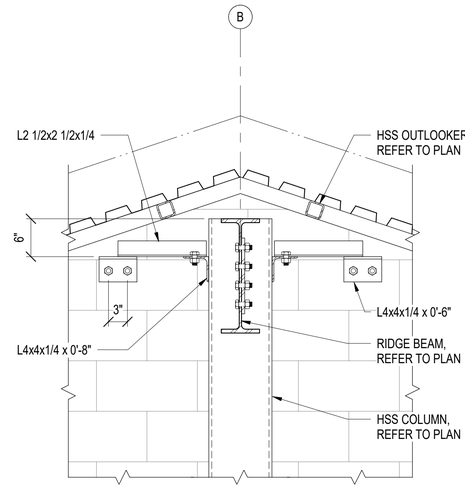
0' 6" 1' 2'



A3 DETAIL

1" = 1'-0" (SF101)

0' 6" 1' 2'



A5 SECTION

1" = 1'-0" (SF302)

0' 6" 1' 2'

SYM	DESCRIPTION	DATE	APPR

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY: Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO DATE 06/14/21

DES	LSP	DRW	BS	CHK	TER

PM/DM GFS/LEJ

BRANCH MANAGER NBJ

CHIEF ENG/ARCH EJA

FIRE PROTECTION DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

ENLARGED FRAMING SECTIONS AND DETAILS

SCALE: AS NOTED

EPROJECT NO.: 1672404

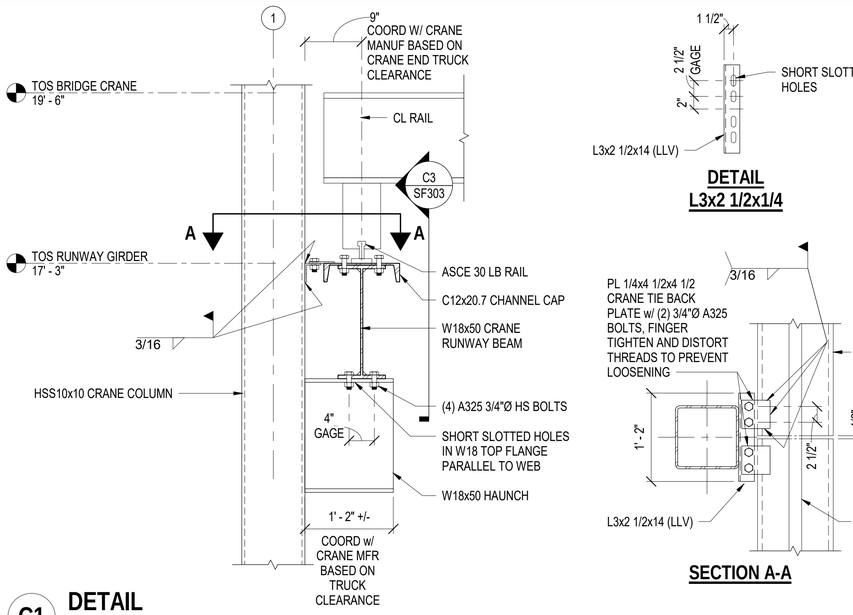
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12842267

SHEET 40 OF 117

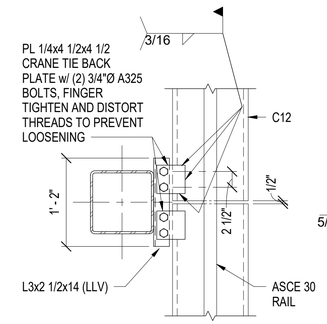
SF302

DRAWFORM REVISION: 12 APRIL 2018

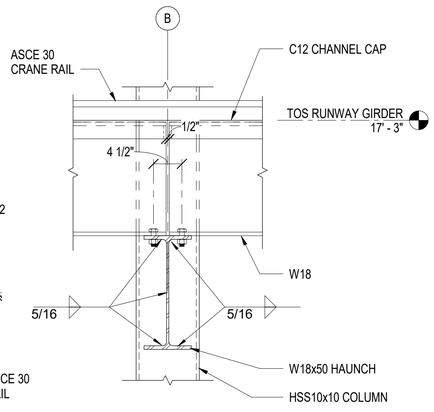


C1 **DETAIL**
1" = 1'-0" (SF303)

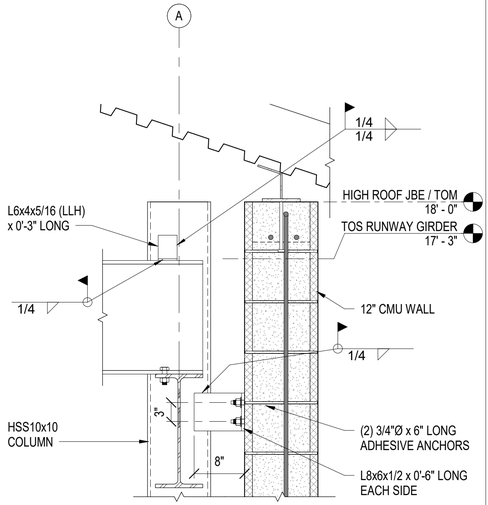
DETAIL L3x2 1/2x1/4



SECTION A-A



C3 **SECTION**
1" = 1'-0" (SF303)

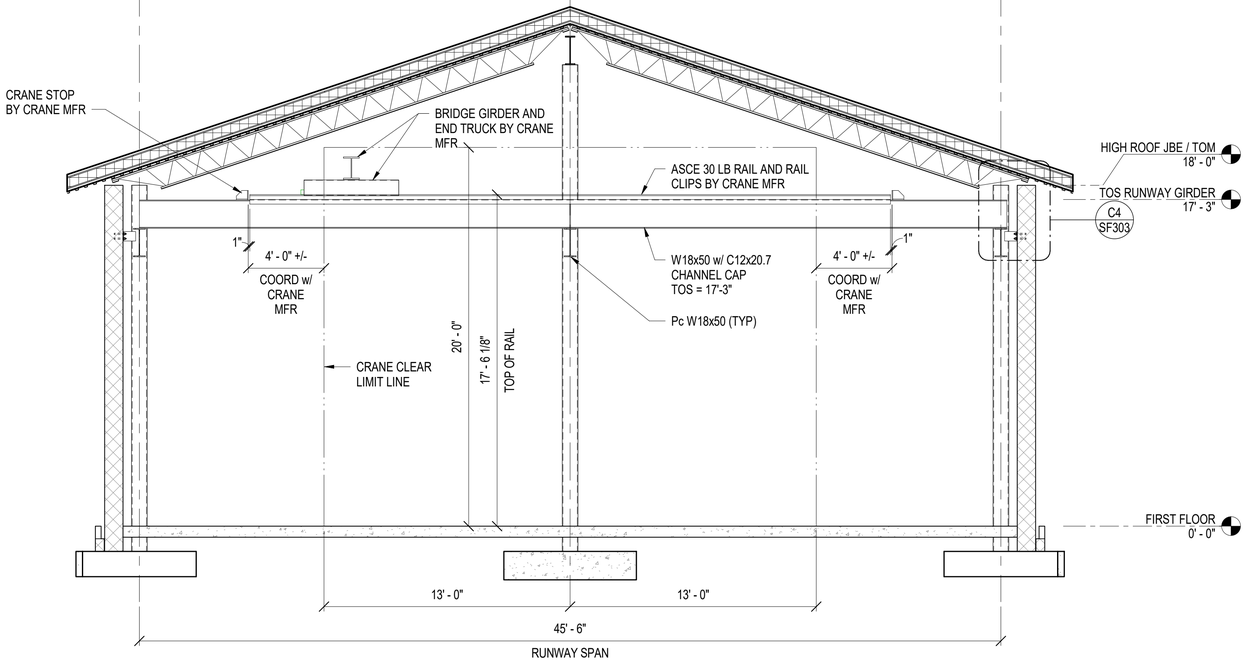


C4 **DETAIL**
1" = 1'-0" (SF303)

0' 6" 1' 2'

BRIDGE CRANE NOTES

1. REFER TO SHEET S-001 FOR CRANE DESIGN LOADS.
2. REFER TO PLAN AND ELEVATIONS FOR LOCATION OF CRANE, CRANE BEAMS AND CRANE STOPS.
3. CRANE RAIL JOINTS ON OPPOSITE SIDES OF CRANE RUNWAY SHALL BE STAGGERED WITH RESPECT TO EACH OTHER AND WITH RESPECT TO THE WHEEL BASE OF THE BRIDGE CRANE (1'-0", MINIMUM STAGGER).
4. RUNWAY RAILS AND RUNWAY SUPPORT GIRDERS SHALL BE INSTALLED IN ACCORDANCE WITH CMAA 70 AND AIST TR-13. INSTALL RAIL CLIP IN PAIRS AT 3'-0" OC, WELDED TO CHANNEL CAP.
5. IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 13TH EDITION, BRIDGE CRANE RAIL SPLICES SHALL BE FIELD BOLTED AND CONSTRUCTED WITH TIGHT JOINTS. RAIL SEPARATION AT JOINTS SHALL NOT EXCEED 1/16".
6. CRANE RAILS MUST BE CENTERED ON TEH CENTERLINE OF THE RUNWAY GIRDERS. THE MAXIMUM ECCENTRICITY OF CENTER OF RAIL-TO-CENTERLINE OF GIRDER SHOULD BE THREE-QUARTERS OF THE GIRDER WEB THICKNESS. (17/64" FOR W18X50 GIRDER).
7. THE CONTRACTOR SHALL PERFORM A VERTICAL AND HORIZONTAL ALIGNMENT SURVEY OF THE CRANE RAIL SYSTEM FOLLOWING INSTALLATION.
8. THE CRANE RAIL SYSTEM SHALL BE INSTALLED PER TOLERANCES INDICATED IN "BRIDGE CRANE TOLERANCE DIAGRAMS" ON SHEET SF302. THE SURVEY SHALL BE PERFORMED BY A LICENSED SURVEYOR REGISTERED IN THE STATE OF NORTH CAROLINA OR A PROFESSIONAL ENGINEER EXPERIENCED IN CONDUCTING CRANE RAIL SURVEYS. FOLLOWING INSTALLATION AND ADJUSTMENT OF THE CRANE RAIL SYSTEM, THE CONTRACTOR SHALL PREPARE A REPORT FOR SUBMITTAL TO THE CONTRACTING OFFICER. THE REPORT (2 COPIES) SHALL INCLUDE DATE OF CRANE RAIL SYSTEM INSTALLATION, ALL SURVEY NOTES (INITIAL, INTERMEDIATE, AND FINAL).



A1 **ELEVATION - RUNWAY BEAM**
1/4" = 1'-0" (SF101)

A4 **ELEVATION - BRIDGE CRANE**
1/4" = 1'-0" (SF101)

0' 2' 4' 8'

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO DATE 06/14/21

DES	LSP	DRW	BS	CHK	TER

PMDM	GFS/LEJ
BRANCH MANAGER	NBJ
CHIEF ENG/ARCH	EJA
FIRE PROTECTION	DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER
JACKSONVILLE, NORTH CAROLINA

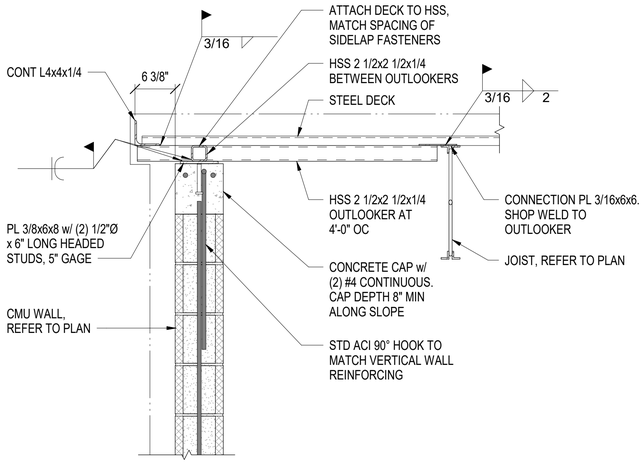
P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

ENLARGED FRAMING SECTIONS AND DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1672404
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12842268
SHEET 41 OF 117

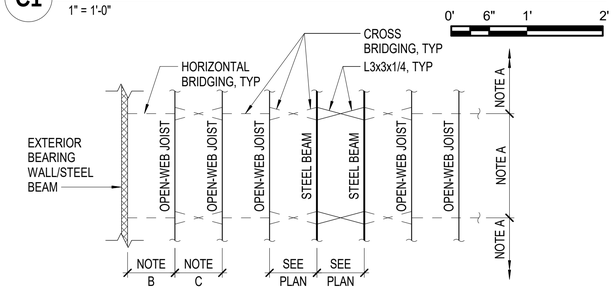
SF303

DRAWFORM REVISION: 12 APRIL 2018



C1 TYPICAL OUTLOOKER DETAIL

1" = 1'-0"

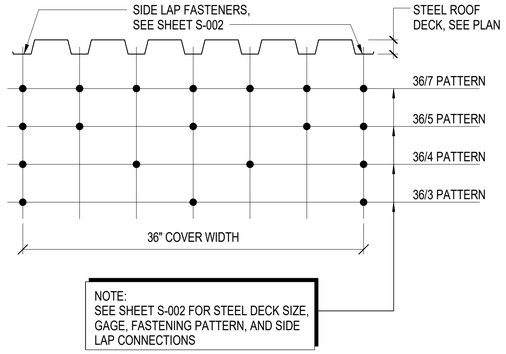


NOTES:

A. BRIDGING SIZE AND SPACING AS REQUIRED BY SJI SPECIFICATIONS.

B. PROVIDE CROSS BRIDGING IN THIS SPACE WHEN PERIMETER MEMBER IS A STRUCTURAL STEEL BEAM.

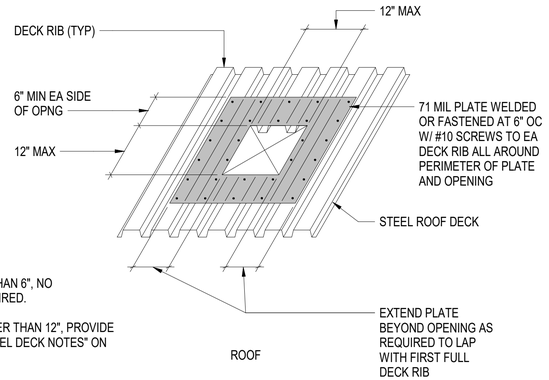
C. PROVIDE HORIZONTAL BRIDGING IN THIS SPACE WHEN PERIMETER MEMBER IS A STRUCTURAL STEEL BEAM.



NOTE:
SEE SHEET S-002 FOR STEEL DECK SIZE, GAGE, FASTENING PATTERN, AND SIDE LAP CONNECTIONS

C2 STEEL ROOF DECK FASTENING REQUIREMENTS

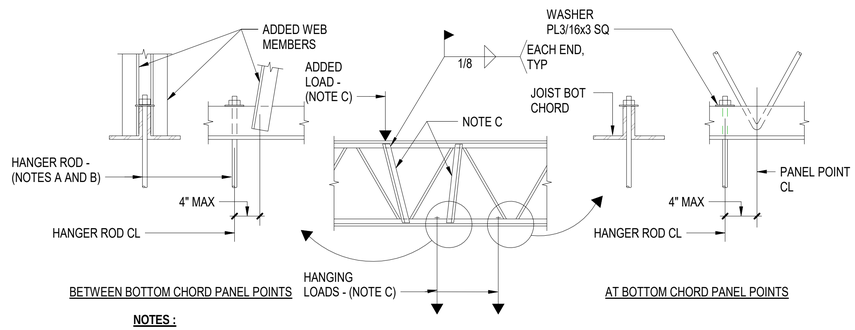
1 1/2" = 1'-0"



NOTES:

1. FOR OPENINGS LESS THAN 6", NO REINFORCEMENT IS REQUIRED.

2. FOR OPENINGS GREATER THAN 12", PROVIDE ANGLE FRAMING PER "STEEL DECK NOTES" ON SHT S001.

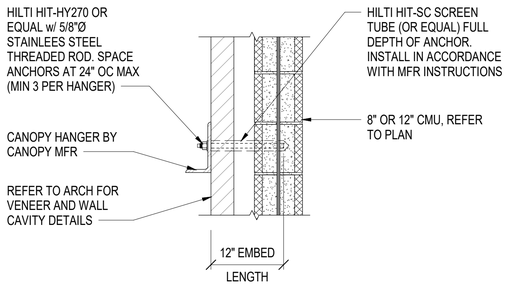


NOTES :

A. HANGER RODS - REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
B. POSITION HANGER RODS ON JOIST CENTERLINES BETWEEN BOTTOM CHORD JOIST MEMBERS. DO NOT USE C-CLAMPS TO CHORD ANGLE LEGS.
C. WHERE A SINGLE OR THE SUM OF MULTIPLE CONCENTRATED LOADS APPLIED BETWEEN PANEL POINTS EXCEEDS 100 LBS, ADD 2-L1x1x1/8 TO PANEL POINT AS SHOWN FOR K AND KCS SERIES JOISTS.
D. THIS DETAIL OCCURS WHERE APPLIED OR HANGING LOADS EXCEED 100 POUNDS, BUT LIMITED TO 300 POUNDS MAXIMUM.

C4 CONCENTRATED LOADS AT JOISTS

3/4" = 1'-0"



B1 TYPICAL JOIST BRIDGING

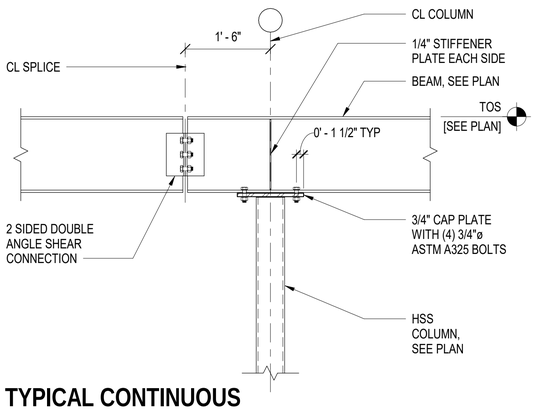
3/8" = 1'-0"

B2 STEEL FLOOR AND ROOF DECK OPENING DETAILS

3/4" = 1'-0"

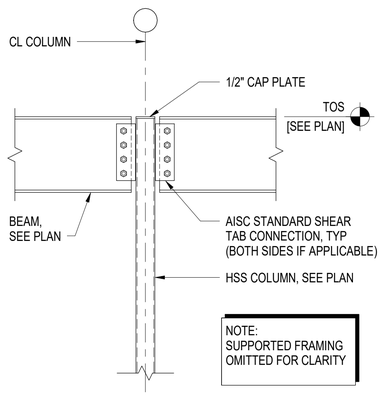
B4 CANOPY CONNECTION DETAIL

1" = 1'-0"



A1 TYPICAL CONTINUOUS BEAM-TO-COLUMN CONNECTION

3/4" = 1'-0"



NOTE:
SUPPORTED FRAMING OMITTED FOR CLARITY

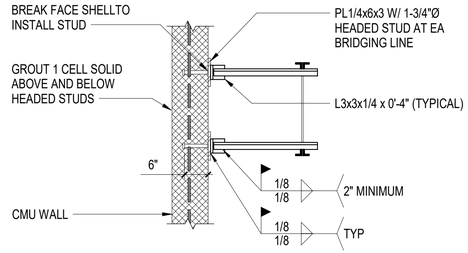
A2 TYPICAL BEAM-TO-COLUMN SHEAR CONNECTION

3/4" = 1'-0"

BEAM REACTION SCHEDULE

BEAM	REACTION VERTICAL
W12x26	6 k
W16x31	12 k
W18x46	15 k

NOTE: FORCES SHOWN ARE ASD LEVEL.



NOTE: THIS IS A MINIMUM ANCHORAGE DETAIL FOR JOIST BRIDGING. THE JOIST MANUFACTURER MUST MODIFY IT AS REQUIRED TO COMPLY WITH HIS DESIGN ON THE STEEL JOIST ERECTION DRAWINGS.

END ANCHORAGE

A4 JOIST BRIDGING ANCHORAGE

3/4" = 1'-0"

SYM	DESCRIPTION	DATE	APPR

NAVFAC

SEAL

A/E INFO

APPROVED
FOR COMMANDER NAVFAC 7/14/2021

ACTIVITY
Approved by LtCol Roger Holliday, Director I&E, MCAS New River

SATISFACTORY TO	DATE		
06/14/21			
DES LSP	DRW BS	CHK TER	
PM/DM	GFS/LEJ		
BRANCH MANAGER	NBJ		
CHIEF ENG/ARCH	EJA		
FIRE PROTECTION	DSN		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MIDLANT DC CORE

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NAVAL STATION - NORFOLK, VA

MCAS NEW RIVER

JACKSONVILLE, NORTH CAROLINA

P-685 MACS-2 AUTOMOTIVE ORGANIZATIONAL SHOP

FRAMING DETAILS

SCALE: AS NOTED
EPROJECT NO.: 1672404
CONSTR. CONTR. NO.
NAVFAC DRAWING NO. 12842269
SHEET 42 OF 117

SF501

DRAWFORM REVISION: 12 APRIL 2018