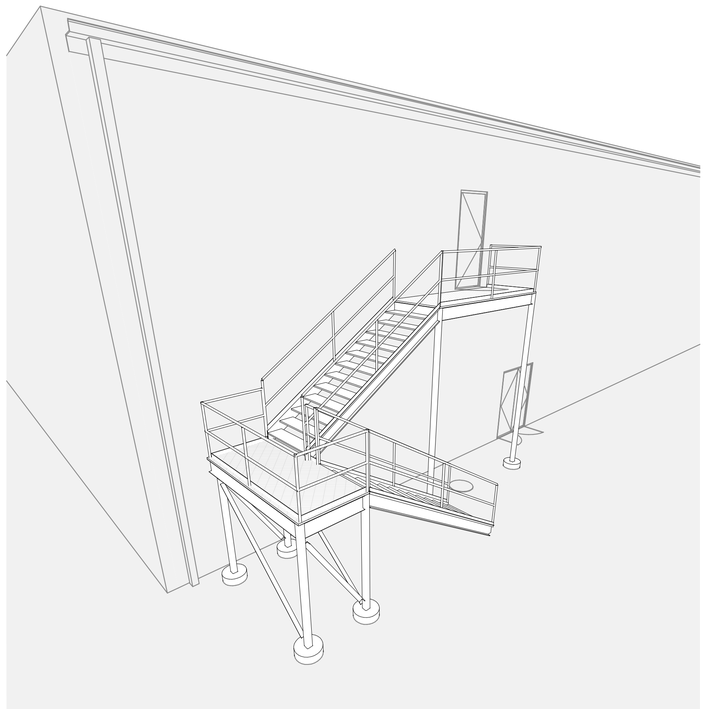
ANAMOSA PENITENTIARY
STAIR REPLACEMENT
ANAMOSA, IA



ISOMETRIC STAIR VIEW

SHEET INDEX		
SHEET NUMBER	REV. NO.	SHEET TITLE
G000	A	TITLE SHEET
G001	A	GENERAL NOTES
F100	A	FOUNDATION PLAN AND DETAILS
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PRELIMINARY
NOT FOR CONSTRUCTION

NO.	REVISION	DATE
A	ISSUED FOR REVIEW	06/23/21

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PROJECT
STAIR REPLACEMENT

SHEET TITLE
TITLE SHEET

PROJECT NUMBER
21173

DATE 06/23/21
DRAWN CBL
CHKD RAH
APROV. REK

SHEET NUMBER
G000
A
REV

GENERAL NOTES:

CODES, STANDARDS, AND SPECIFICATIONS

1. DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC) AND ANY APPLICABLE AMENDMENTS, AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION

2. DESIGN REQUIREMENTS FOR THE MATERIALS OF CONSTRUCTION BASED ON THE REFERENCED STANDARDS IN CHAPTER 35 OF THE IBC

3. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) 29 CFR 1910 - STANDARDS FOR GENERAL INDUSTRY AND CFR 1926 - SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION HAVE BEEN REFERENCED FOR REQUIREMENTS RELATED TO WORKPLACE SAFETY

STRUCTURAL DESIGN INFORMATION

1. DESIGN LIVE LOADS
   STAIRS, CORRIDORS 100 PSF

GENERAL STRUCTURAL NOTES

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE BUILDING CODES, ORDINANCES, AND REGULATIONS AS ADOPTED BY LOCAL AUTHORITIES HAVING JURISDICTIONS

2. ENGINEER SHALL NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR: CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS

3. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS, AND ELEVATIONS AT THE SITE. IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON CONTRACT DOCUMENTS, CONSTRUCTION OF ANY AFFECTED ELEMENTS SHALL NOT COMMENCE WITHOUT APPROVAL OF DESIGN ENGINEER

4. THE LOCATION OF ANY EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE TAKEN FROM EXISTING RECORDS. ADDITIONAL UTILITIES MAY BE ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES WHICH COME IN CONFLICT WITH THE PROPOSED CONSTRUCTION

5. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE DESIGN ENGINEER FOR APPROVAL BEFORE PROCEEDING WITH ANY CHANGES, MODIFICATIONS OR SUBSTITUTIONS DIFFERING FROM CONTRACT DOCUMENTS

6. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY SHORING AND BRACING FOR ALL STRUCTURAL ELEMENTS UNTIL THE ENTIRE STRUCTURAL SYSTEM IS PLUMB AND SECURED

7. THE CONTRACTOR SHALL VERIFY THE POSITION, ELEVATION, AND ORIENTATION OF PROCESS EQUIPMENT PRIOR TO FABRICATION. THIS INCLUDES ANCHOR BOLT SIZES AND LOCATIONS, FLOOR PENETRATIONS, AND REQUIRED CLEARANCES TO ADJACENT WALLS, FRAMING, AND OTHER OBSTRUCTIONS

8. WHERE NEW CONSTRUCTION INTERFACES WITH EXISTING, FIELD VERIFY EXISTING DIMENSIONS, MEMBER SIZES, AND ELEVATIONS SHOWN ON THE DRAWINGS PRIOR TO STARTING CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.

9. DO NOT SCALE DIMENSIONS FROM DRAWINGS. INTERPRETATION OF PLANS, DETAILS, DIMENSIONS, OR OTHER ITEMS PROVIDED IN THE CONTRACT DOCUMENTS ARE TO BE COMPLETED BY THE DESIGN ENGINEER

10. DETAILED SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL, BY THE OWNER AND DESIGN ENGINEER, PRIOR TO FABRICATION FOR ALL STRUCTURAL ITEMS INCLUDING: CONCRETE AND MASONRY REINFORCEMENT, EMBEDDED STEEL ITEMS, STRUCTURAL STEEL, STEEL STACKS, STEEL JOISTS, STEEL DECKING, METAL GRATING, GUARDRAILS AND STAIRS

11. ALL OPEN EXCAVATIONS SHALL CONFORM TO OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY

12. WHERE APPLICATION IS MADE TO THE BUILDING OFFICIAL FOR CONSTRUCTION, THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR TO PROVIDE INSPECTIONS AND TESTS PER THE REQUIREMENTS OF CHAPTER 17 OF THE IBC UNLESS WAIVED BY THE BUILDING OFFICIAL

13. PERIODIC SITE OBSERVATION BY THE ENGINEER IS SOLELY FOR THE PURPOSE OF DETERMINING IF WORK IS PROCEEDING IN ACCORDANCE WITH STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OF WORK, BUT RATHER AS PERIODIC IN AN EFFORT TO REVIEW THE PROGRESS OF THE CONTRACTOR

STRUCTURAL STEEL

1. MATERIALS:
   WIDE FLANGE (W AND WT) - ASTM A992
   ANGLES (L), CHANNELS (C AND MC), BEAMS (S AND M) - ASTM A36
   PLATES (PL) AND BARS - ASTM A36
   HP SHAPES (HP) - ASTM A572 GR. 50
   SQUARE/RECTANGULAR HSS - ASTM A500 GR. C
   ROUND HOLLOW STRUCTURAL SECTIONS - ASTM A500 GR. C
   STANDARD STEEL PIPE - ASTM A53 GR. B
   RAISED-PATTERN FLOOR PLATE - ASTM A786 COMMERCIAL GRADE
   STEEL CONNECTION BOLTS - ASTM F3125 GR. A325 (TYP.) OR GR. A490
   WELD MATERIAL - AWS A5.1 E70XX
   ANCHOR BOLTS - ASTM F1554 GR. 36
   STAINLESS STEEL SHAPES - ASTM A276 TYPE 304 Fy = 30 KSI
   HEADED WELDED STEEL STUDS - ASTM A108, TYPE B
   HEAVY HEX NUTS - ASTM A563
   WASHERS - ASTM F436

2. FABRICATION AND ERECTION TO BE IN ACCORDANCE WITH AISC 360 SPECIFICATIONS

3. BEAM CONNECTIONS ARE TO BE EQUAL TO OR GREATER THAN ONE HALF THE UNIFORM LOAD CAPACITY OF THE BEAM. THE LENGTH OF CONNECTION ANGLES SHALL NOT BE LESS THAN HALF THE "T" DISTANCE OF THE BEAM WEB. ALL MAJOR BOLTED CONNECTIONS ARE TO BE BEARING TYPE CONNECTIONS USING DOUBLE CLIP ANGLES AND 3/4"Ø A325N BOLTS AND NUTS UNLESS NOTED OTHERWISE.

4. FIELD CUTTING OR OTHER FIELD MODIFICATIONS TO STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT SPECIFIC PRIOR WRITTEN APPROVAL OF THE ENGINEER

5. ALL STRUCTURAL STEEL PLAN DIMENSIONS ARE TO CENTER LINE OF BEAMS AND COLUMNS AND TO THE BACK OF CHANNELS AND ANGLES, U.N.O. FOR HORIZONTAL BRACING, ELEVATIONS ARE GIVEN TO THE TOP OF THE STRUCTURAL MEMBER

6. THE CENTER OF GRAVITY OF BRACES AND SUPPORT MEMBERS ARE TO INTERSECT IN A MANNER TO AVOID ECCENTRICITY WHERE PRACTICAL; OTHERWISE FASTENERS AND SUPPORT MEMBERS ARE TO ACCOMMODATE STRESS DUE TO ECCENTRICITY, INCLUDING PRYING ACTION IN FRAMING ANGLES OR FLANGED GUSSETS

7. CAPACITY OF CONNECTIONS FOR BRACING MEMBERS TO BE CAPABLE OF DEVELOPING THE NET SECTION STRENGTH OF THE MEMBERS IN COMPRESSION, U.N.O.

8. ALL WELDING AND TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE LATEST AWS CODES AND RECOMMENDATIONS AND SHALL BE COMPLETED BY AWS QUALIFIED WELDERS WITH CURRENT AWS CERTIFICATION

9. WELDING ELECTRODES SHALL BE IN ACCORDANCE WITH AWS D1.1 AWS A5.1 OR A5.5; E70XX ARE GENERALLY REQUIRED FOR SHIELDED-METAL ARC WELDING; AWS A5.17 OR AWS A5.23, F7X-EXXX FOR SUBMERGED ARC WELDING; AWS A5.18, ER70S-X FOR GAS METAL ARC WELDING; AND AWS A5.0 E7XT.X FOR FLUX-CORED ARC WELDING

10. FABRICATION AND ERECTION WELDING TECHNIQUES SHALL CONFORM TO AWS D1.1; WELDERS SHALL BE QUALIFIED AND CERTIFIED TO PERFORM THE WORK REQUIRED IN ACCORDANCE WITH AWS D1.1 OR SIMILAR REQUIREMENTS

11. UNLESS NOTED OTHERWISE, ALL WELDS SHALL BE CONTINUOUS 3/16" FILLET WELDS

12. ALL BASE PLATES SUPPORTING STEEL COLUMNS SHALL BE GROUTED SOLID WITH HIGH STRENGTH (8,000 PSI MIN.), NON-SHRINK GROUT IMMEDIATELY AFTER STRUCTURAL STEEL IS IN PLACE AND PLUMB AND PRIOR TO PLACING ANY CONCRETE FOR THE ELEVATED FLOORS SUPPORTED BY THE RESPECTIVE COLUMNS

13. DAMAGE TO ANY GALVANIZED MATERIAL SHALL BE TOUCHED UP AS REQUIRED WITH A ZINC RICH PAINT

14. STRUCTURAL STEEL TO BE HOT DIPPED GALVANIZED FINISH

CAST-IN-PLACE CONCRETE

1. MATERIALS:
   CONCRETE - MINIMUM 28 DAY COMPRESSIVE STRENGTH
   4,500 PSI (5% - 7% AIR) = CONCRETE EXPOSED TO FREEZE THAW CYCLES
   4,000 PSI = ALL OTHER CONCRETE
   CEMENT - ASTM C150
   AGGREGATE - ASTM C33
   STEEL REINFORCING BARS - ASTM A615 GR. 60
   STEEL REINFORCING WELDABLE - ASTM A706 GR. 60
   WELDED WIRE FABRIC - ASTM A185
   GROUT - ASTM C827
   ANCHOR BOLTS - ASTM F1554 GR. 36

2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318 AND ACI 301 AND ALL LOCAL BUILDING CODES. REFER TO THE FOLLOWING CODE SECTIONS FOR SPECIFIC REQUIREMENTS:
   MIX PROPORTIONS - ACI 211.1
   HOT WEATHER CONCRETE - ACI 305R
   COLD WEATHER CONCRETE - ACI 306.1
   CONCRETE CURING - ACI 308
   CONCRETE CONSOLIDATION - ACI 309
   REBAR DETAILING AND PLACEMENT - ACI 315
   ENVIRONMENTAL STRUCTURES - ACI 350

3. CLEAR COVER FROM FACE OF CONCRETE TO OUTERMOST REINFORCING, UNLESS NOTED OTHERWISE:
   WALLS, PIERS - 2"
   COLUMNS (EDGE TIES) - 1-1/2"
   FOOTINGS - 3"
   SLABS EXPOSED TO EARTH AND WEATHER - 1-1/2"
   SLABS NOT EXPOSED TO EARTH AND WEATHER - 3/4"
   GRADE BEAMS - (EDGE OF STIRRUPS) - 1-1/2" TOP, 3" BOT., 3" SIDES

4. WATER REDUCING ADMIXTURES MAY BE INCORPORATED IN THE MIX DESIGN WITH THE APPROVAL OF THE ENGINEER. ADMIXTURE SHALL CONFORM TO ASTM C494 AND USED PER MANUFACTURER'S RECOMMENDATIONS. CHLORIDE CONTAINING ADMIXTURES SHALL NOT BE USED

5. AIR-ENTRAINING AGENTS SHALL CONFORM TO ASTM C260 WITH AMOUNTS IN ACCORDANCE WITH ACI 318. ENTRAINED AIR SHALL BE MEASURED IN THE FIELD AT THE DISCHARGE FROM THE TRUCK

6. ALL EXPOSED CONCRETE EDGES TO HAVE 3/4" CHAMFER, U.N.O.

7. BAR LAP SPLICES SHALL BE BASED UPON THE REQUIREMENTS OF ACI 318 OR CRSI UNLESS NOTED OTHERWISE. LAP WELD WIRE FABRIC SHEETS 8 INCHES MINIMUM. LAP SPLICES SHALL BE STAGGERED

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OWNER
ANAMOSA PENITENTIARY

PROJECT
STAIR REPLACEMENT

SHEET TITLE
GENERAL NOTES

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21173

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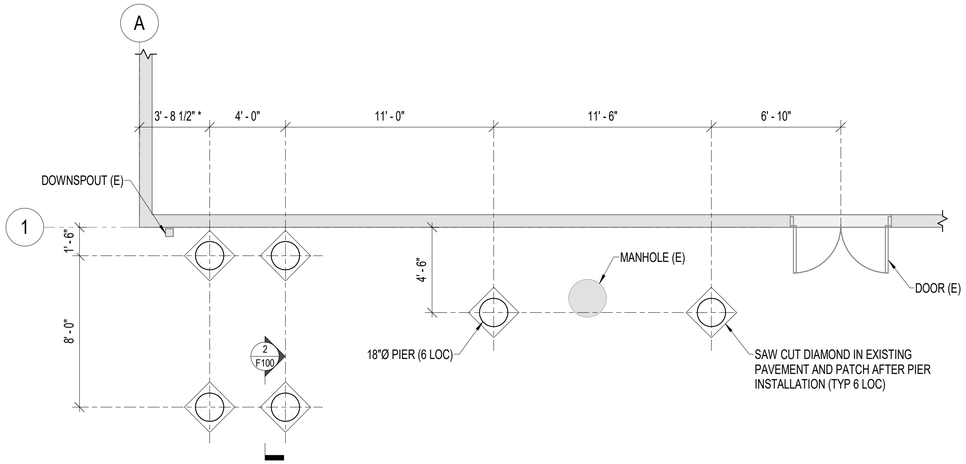
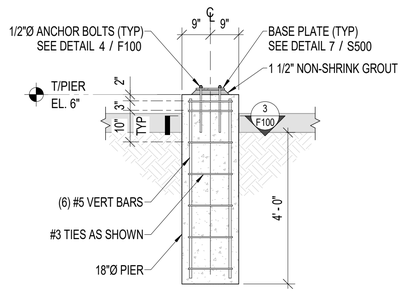
G001
A REV

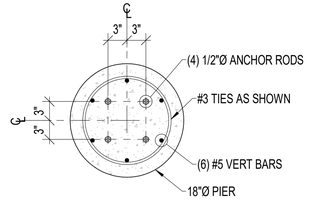


1 STAIR FOUNDATION PLAN
1/4" = 1'-0"
T/ PIER ELEV. = 6"
*NOTE: FIELD VERIFY DIMENSION

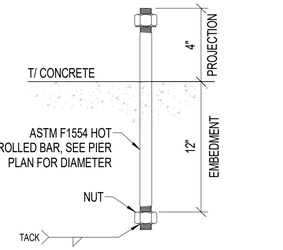
N



2 TYPICAL PIER SECTION
1/2" = 1'-0"



3 18"Ø PIER PLAN
1" = 1'-0"



4 TYPICAL ANCHOR ROD DETAIL
1 1/2" = 1'-0"

NOTE:
CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.
CONTRACTOR TO VERIFY UNDERGROUND UTILITIES LOCATIONS

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PROJECT
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SHEET TITLE
FOUNDATION PLAN AND DETAILS

PROJECT NUMBER
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APROV. REK

SHEET NUMBER
F100
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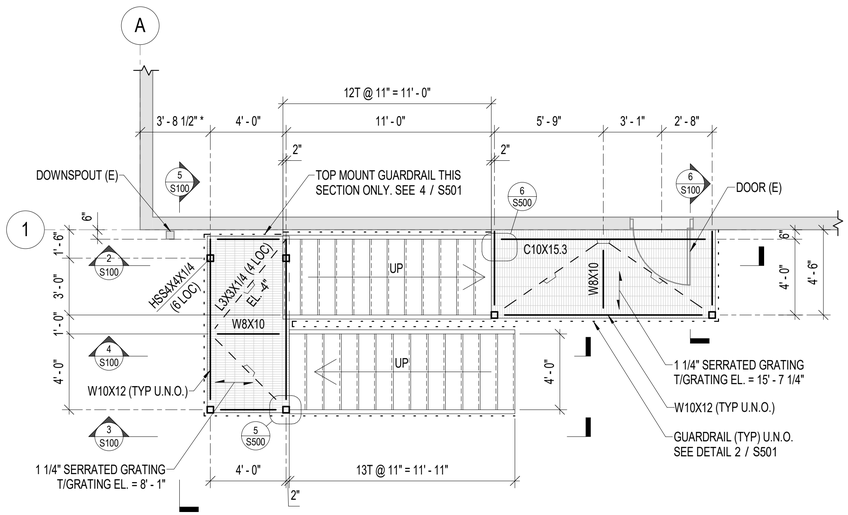
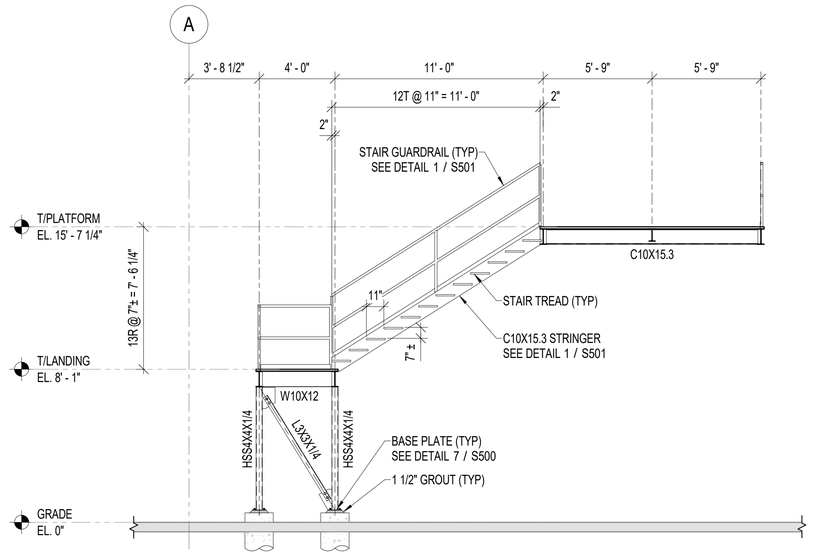
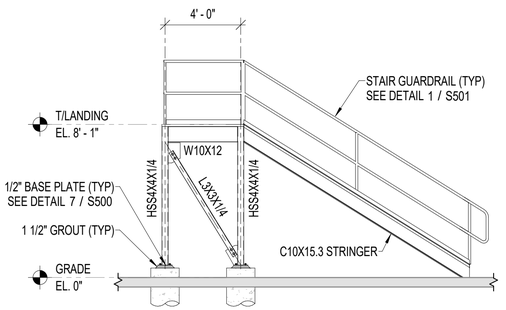
REV



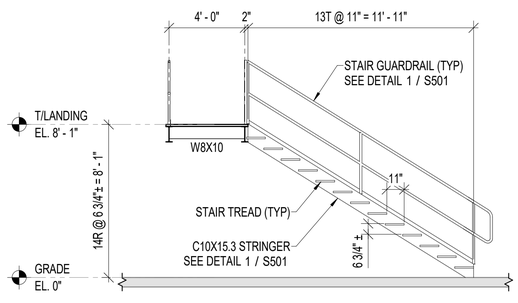
1 STAIR FRAMING PLAN N
1/4" = 1'-0"
T / STEEL ELEV. = VARIES
*NOTE: FIELD CONFIRM DIMENSION



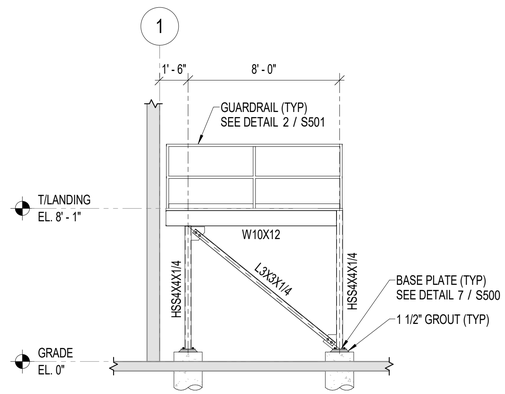
2 STAIR SECTION LOOKING WEST
1/4" = 1'-0"



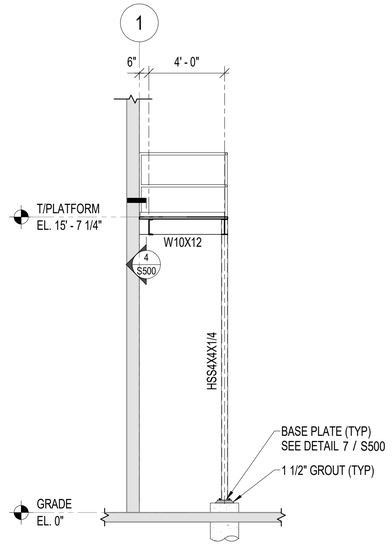
3 STAIR SECTION LOOKING WEST
1/4" = 1'-0"



4 STAIR SECTION LOOKING WEST
1/4" = 1'-0"



5 STAIR SECTION LOOKING NORTH
1/4" = 1'-0"



6 STAIR SECTION LOOKING NORTH
1/4" = 1'-0"

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PROJECT
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SHEET TITLE
STAIR FRAMING PLAN & SECTIONS

PROJECT NUMBER
21173

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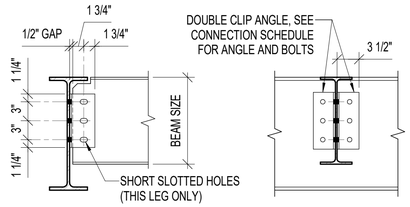
APROV. REK

SHEET NUMBER
S100
A REV



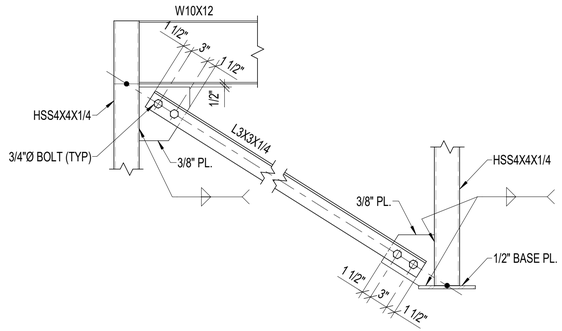
SIDE VIEW **FRONT VIEW**

BOLTED BEAM CONNECTION SCHEDULE

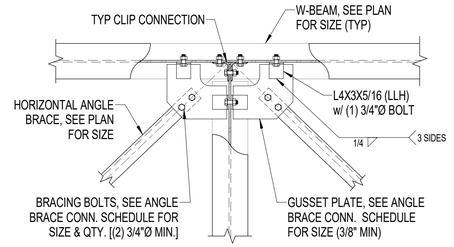
BEAM SIZE	CLIP ANGLE	CLIP ANGLE LENGTH	BOLT QTY	BOLT DIA
W10 / C10	L4 X 3 1/2 X 5/16	5 1/2"	2	3/4"
W8 / C8	L4 X 3 1/2 X 5/16	5 1/2"	2	3/4"
C7	L4 X 3 1/2 X 5/16	4 1/2"	2	3/4"

NOTE:
1. UNLESS LOADS ARE GIVEN ON DRAWINGS, USE BOLT QUANTITIES SHOWN ON THIS TABLE FOR BEAM END CONNECTIONS.
2. REFER TO GENERAL NOTES FOR ALL OTHER CONNECTIONS (UNO)

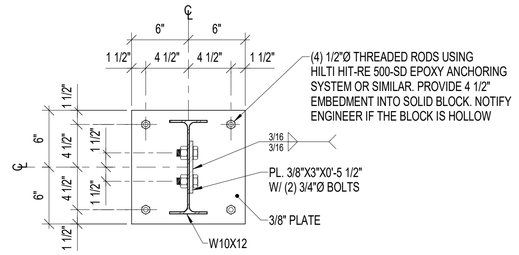
1 DOUBLE CLIP ANGLE BOLTED CONNECTION
1" = 1'-0"



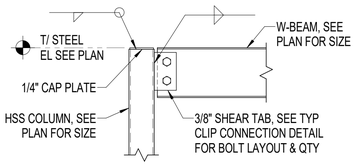
2 ANGLE BRACING BOLTED CONNECTION
1" = 1'-0"



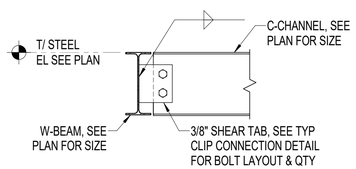
3 HORIZONTAL ANGLE BRACE AT INTERSECTING BEAMS
3/4" = 1'-0"



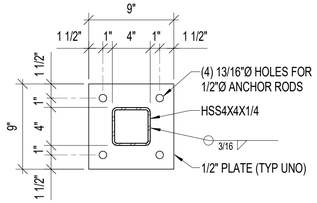
4 CONNECTION PLATE DETAIL
1 1/2" = 1'-0"



5 BEAM TO TUBE COLUMN SHEAR PLATE CONNECTION
1" = 1'-0"



6 BEAM TO BEAM SHEAR TAB CONNECTION
1" = 1'-0"



7 TYPICAL HSS BASE PLATE DETAIL
1 1/2" = 1'-0"

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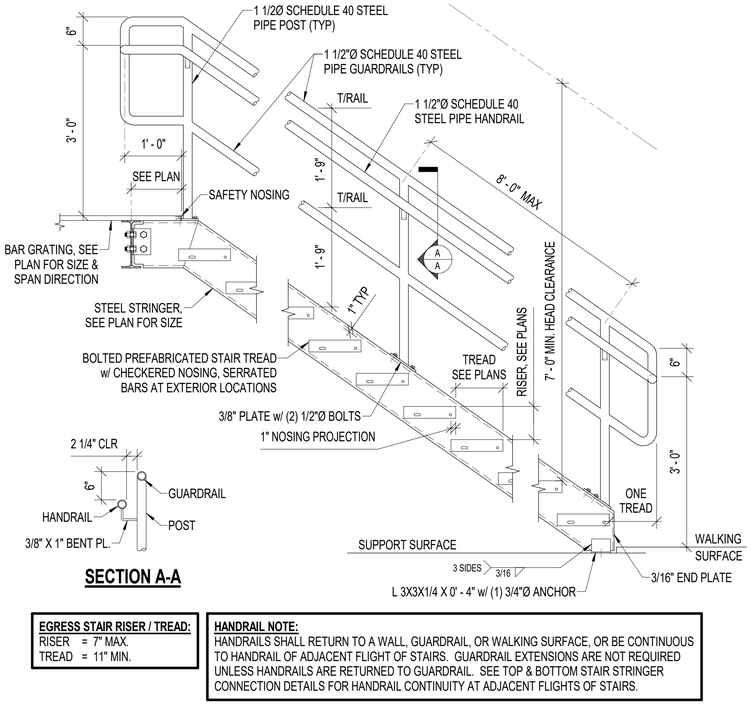
OWNER: ANAMOSA PENITENTIARY
PROJECT: STAIR REPLACEMENT
SHEET TITLE: STRUCTURAL DETAILS
PROJECT NUMBER: 21173
DATE 06/23/21
DRAWN CBL
CHKD RAH
APROV. REK
SHEET NUMBER: S500
A REV

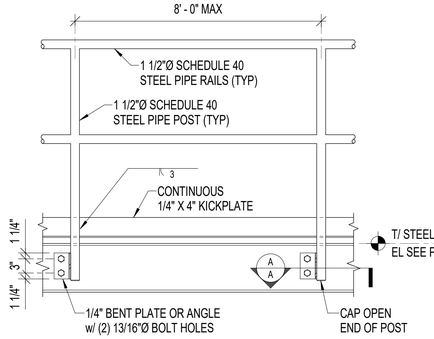


SECTION A-A

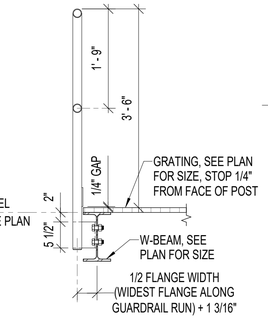
EGRESS STAIR RISER / TREAD:
RISER = 7" MAX.
TREAD = 11" MIN.

HANDRAIL NOTE:
HANDRAILS SHALL RETURN TO A WALL, GUARDRAIL, OR WALKING SURFACE, OR BE CONTINUOUS TO HANDRAIL OF ADJACENT FLIGHT OF STAIRS. GUARDRAIL EXTENSIONS ARE NOT REQUIRED UNLESS HANDRAILS ARE RETURNED TO GUARDRAIL. SEE TOP & BOTTOM STAIR STRINGER CONNECTION DETAILS FOR HANDRAIL CONTINUITY AT ADJACENT FLIGHTS OF STAIRS.

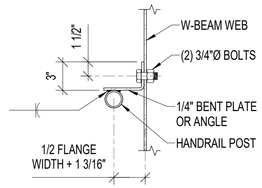
1 TYPICAL STAIR DETAIL
3/4" = 1'-0"



ELEVATION VIEW



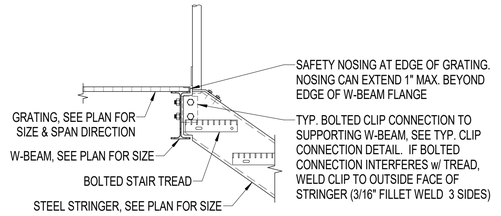
SECTION VIEW



SECTION A-A

NOTE:
ALTERNATE TO BOLTING, WELD BENT PLATE ON (3) SIDES WITHOUT LEG

2 TYPICAL GUARDRAIL DETAIL
3/4" = 1'-0"



3 TOP STAIR STRINGER DETAIL
3/4" = 1'-0"

ELEVATION VIEW

SECTION VIEW

BASE PLATE SECTION A-A

4 TYPICAL BOLTED TOP MOUNT GUARDRAIL ON STEEL
3/4" = 1'-0"

5 BOTTOM STAIR STRINGER DETAIL
3/4" = 1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

NO.	REVISION	DATE
A	ISSUED FOR REVIEW	06/23/21

Shoemaker Haalan
www.shoemaker-haalan.com

OWNER: ANAMOSA PENITENTIARY
PROJECT: STAIR REPLACEMENT
SHEET TITLE: STAIR DETAILS
PROJECT NUMBER: 21173
DATE 06/23/21
DRAWN CBL
CHKD RAH
APROV. REK
SHEET NUMBER: S501
A REV