

PROJECT DESCRIPTION

THE PROJECT IS AN ART INSTALLATION OUTSIDE THE NEW STEM BUILDING AT PIERCE COLLEGE IN PUYALLUP, WASHINGTON. THE ARTWORK IS A 16-FOOT TALL STRUCTURE CONSISTING OF FOUR STEEL ARCHES WITH A CIRCULAR GLASS CENTERPIECE CONNECTING THE ARCHES AT THE TOP. THE ARCHES BEGIN AS T'S AND TAPER TO FLAT PLATES WHERE THEY MEET EACH OTHER. THE ART WAS INSPIRED BY NATIVE AMERICAN ARCHITECTURE AND THE GLASS REFLECTS THE PATH OF THE SUMMER SOLSTICE IN A DISPLAY ON THE GROUND. THE SCOPE OF WORK SHOWN IN THIS DOCUMENT REPRESENTS COMPLIANCE WITH THE 2018 INTERNATIONAL BUILDING CODE.

PROJECT INFORMATION

PROJECT ADDRESS: STEM BUILDING, PIERCE COLLEGE
1601 39TH AVE SE
PUYALLUP, WA 98374

PROJECT DIRECTORY

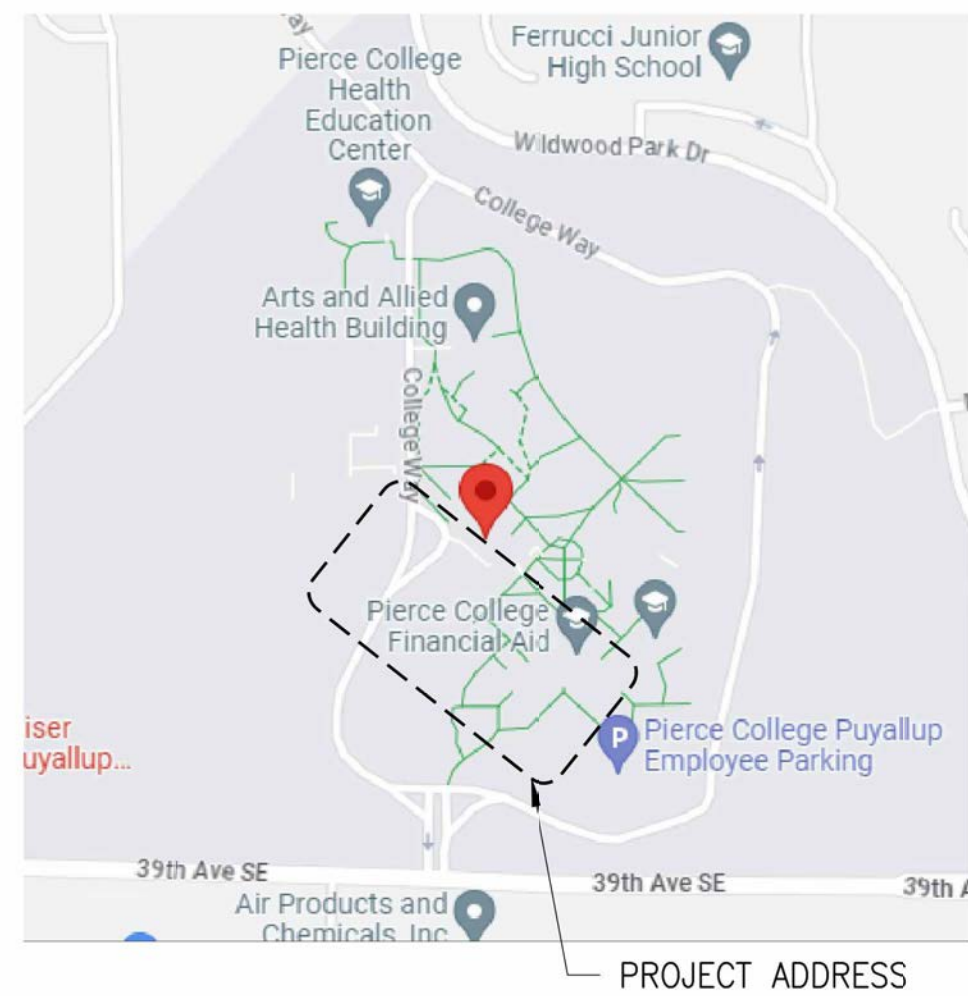
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DRAWING INDEX

S1 GENERAL NOTES AND OVERALL VIEWS
S2 FOUNDATION AND DETAILS

VICINITY MAP



DESIGN CRITERIA

- DEAD LOADS:
 - GLASS = 3 PSF
 - SCULPTURE WEIGHT = 3000 LBS
- LIVE LOADS:
 - PUSHING LOAD = 200 LBS (ANY DIRECTION)
- SEISMIC DESIGN PARAMETERS:
 - IMPORTANCE FACTOR: I = 1.0
 - RISK CATEGORY: II
 - SITE CLASS: C
 - MAPPED SHORT PERIOD ACCELERATION: $S_{MS} = 1.253$
 - SITE COEFFICIENT: $F_s = 1.2$
 - DESIGN SHORT PERIOD ACCELERATION: $S_{DS} = 1.002$
 - MAPPED ONE SECOND ACCELERATION: $S_{M1} = 0.432$
 - SITE COEFFICIENT: $F_v = \text{null}$
 - DESIGN ONE SECOND ACCELERATION: $S_{D1} = 0.432$
 - SEISMIC DESIGN CATEGORY: D
- DESIGN BASE SHEAR: $V = C_s * W$ AT STRENGTH LEVEL
(W = EFFECTIVE SEISMIC WEIGHT)
 - GOVERNING SEISMIC RESPONSE COEFFICIENT: $C_s = 0.501$
 - RESPONSE MODIFICATION FACTOR: R = 2
- WIND DESIGN PARAMETERS:
 - BASIC WIND SPEED: 97mph
 - RISK CATEGORY: II
 - EXPOSURE CATEGORY: C
 - WIND PRESSURES: 21.7psf
- FOUNDATION DESIGN PARAMETERS:
 - SPREAD FOOTING PARAMETERS:
 - ALLOWABLE SOIL PRESSURE: 3,500 PSF
 - DEAD LOADS: 3,500 PSF
 - DEAD PLUS LIVE LOADS: 3,500 PSF
 - DEAD PLUS LIVE PLUS SEISMIC: 3,686 PSF
 - COEFFICIENT OF FRICTION: 0.4 (1.5 SAFETY FACTOR INCLUDED)
 - PASSIVE PRESSURE: 290 PCF (1.5 SAFETY FACTOR INCLUDED)

FOUNDATION

- FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT BY GEOENGINEERS PREPARED ON JANUARY 21, 2021.
- INSTALLATION OF THE FOUNDATION FOOTINGS OR PIERS WITH RESPECT TO THE DEPTH BELOW FINISHED OR NATURAL GRADE SHALL BE AT A MINIMUM ACCORDING TO THE FOUNDATION DETAILS ON THESE PLANS. FIELD DISCOVERED CONDITIONS MAY NECESSITATE DEEPER FOUNDATIONS.
- EXCEPT WHERE OTHERWISE SHOWN, EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE.
- ALL EXCAVATIONS, FORMS AND REINFORCING ARE TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
- ALL WATER, SOIL, AND OTHER DEBRIS SHALL BE REMOVED FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING OF CONCRETE.
- ALL BACKFILL WITH ENGINEERED FILLS SHALL BE COMPACTED TO 95% RELATIVE DENSITY.

CONCRETE

- ALL CONCRETE CONSTRUCTION SHALL BE PER IBC CHAPTER 19 AND IN ACCORDANCE WITH ACI 318-11, SPECIFICATIONS FOR STRUCTURAL CONCRETE.
- ALL CONCRETE SHALL HAVE A MAXIMUM WATER-CEMENT RATIO OF 0.48, 4"±1" SLUMP, AND SHALL OBTAIN A 28 DAY MINIMUM COMPRESSIVE STRENGTH AS FOLLOWS:
 - GRADE BEAMS, MAT SLABS, AND FOOTINGS: 2,500 PSI
- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE, WEIGHING LESS THAN 150 PCF, UNLESS OTHERWISE NOTED.
- CEMENT SHALL CONFORM TO ASTM C150, TYPE II (OR ENGINEERED MAXIMUM DESIGN TO STRENGTH).
- HARD ROCK AGGREGATES SHALL CONFORM TO ASTM C33. MAXIMUM NORMAL SIZE OF AGGREGATE SHALL NOT EXCEED 1/2 INCHES FOR FOUNDATION CONCRETE AND 1 INCH FOR STRUCTURAL CONCRETE ABOVE THE FOUNDATION. SEE ALSO THE REQUIREMENTS IN ACI STANDARD SPECIFICATIONS. MAXIMUM NORMAL SIZE SHALL ALSO BE SELECTED SUCH THAT WORKABILITY AND PLACEABILITY OF CONCRETE ARE FACILITATED.
- ALL ALTERNATE CONCRETE MIX DESIGN AND TEST STRENGTHS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- MAXIMUM VERTICAL DROP OF CONCRETE SHALL BE NO MORE THAN 2'-0" FROM END OF PLACEMENT DEVICE TO PLACEMENT SURFACE.
- CONCRETE COVER AT REINFORCING SHALL BE AS FOLLOWS:
 - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3" CLEAR
 - EXPOSED TO EARTH OR WEATHER BUT CAST AGAINST FORMS: 2" CLEAR
 - BAR PARALLEL TO COLD JOINTS: 2" CLEAR
- ALL REINFORCING STEEL, DOWELS, ANCHOR BOLTS, PIPE SLEEVES AND OTHER INSERTS SHALL BE SECURED IN POSITION PRIOR TO PLACING OF CONCRETE. "WET SETTING" WILL NOT BE ALLOWED.
- THE SURFACE OF ALL CONSTRUCTION JOINTS SHALL BE CLEANED AND ROUGHENED BY REMOVING THE ENTIRE SURFACE AND EXPOSING CLEAN AGGREGATE SOLIDLY EMBEDDED IN MORTAR MIX.

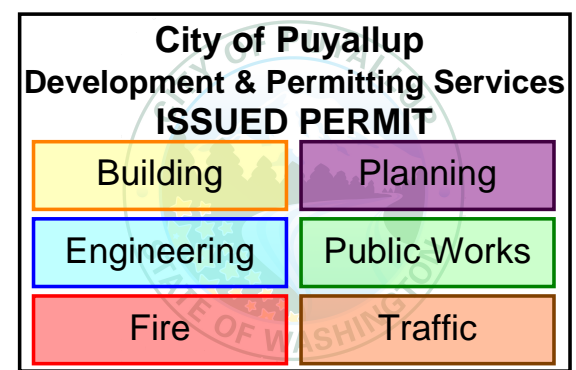
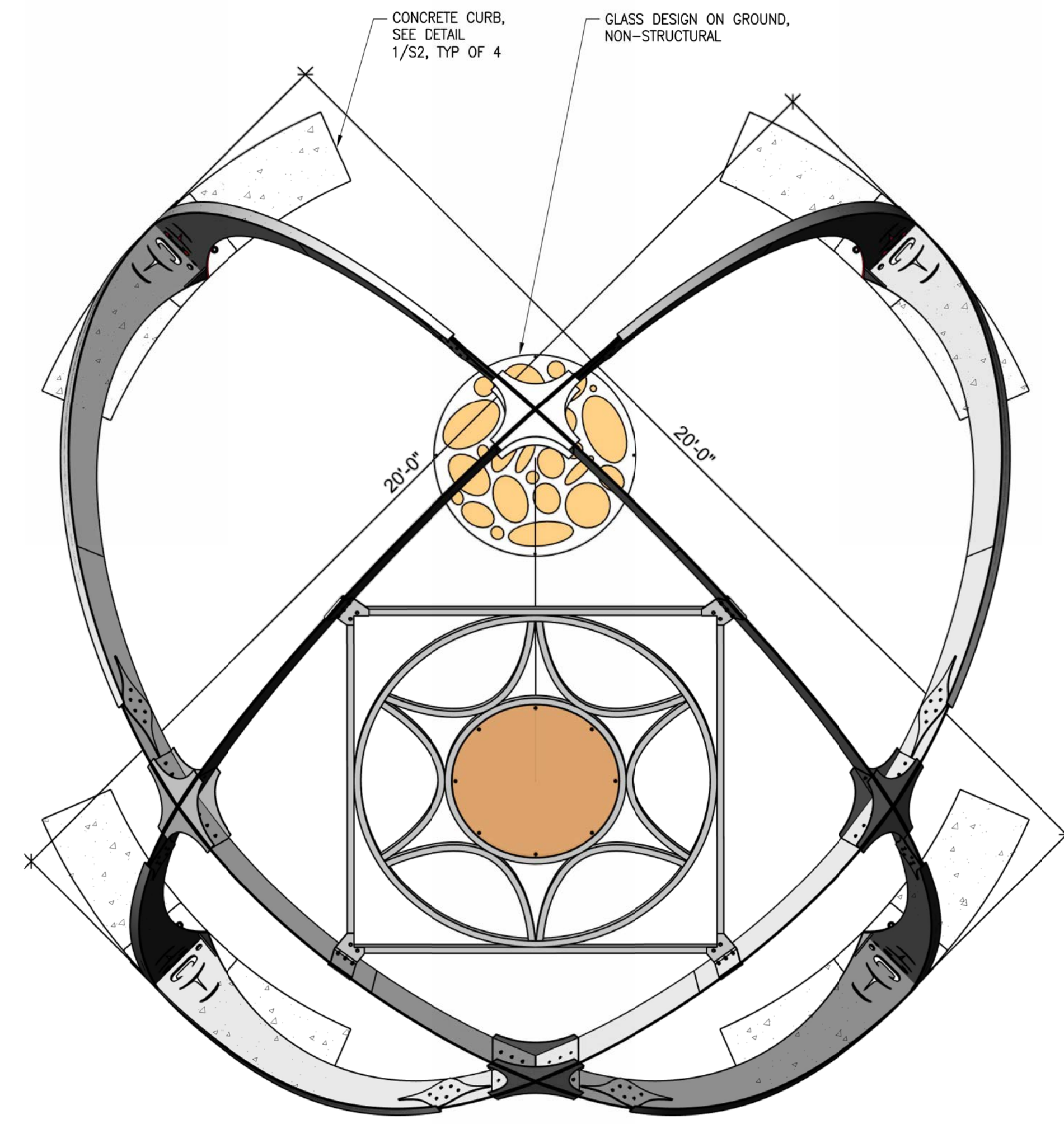
REINFORCING BAR

- REINFORCING STEEL SHALL BE DEFORMED BARS PER ASTM A615 WITH BAR MARKS LEGIBLY ROLLED INTO THE SURFACE INDICATION SIZE, TYPE OF STEEL, AND YIELD STRENGTH DESIGNATION:
 - #3 BARS AND SMALLER: GRADE 40 OR GRADE 60
 - #4 BARS AND LARGER: GRADE 60
 - ALL BARS TO BE WELDED: GRADE A706
- REINFORCING SHALL HAVE A MINIMUM LAP IN CONFORMANCE WITH DETAILS AND SPECIFICATIONS SHOWN ON THESE DRAWINGS. STAGGER SPLICES WHENEVER POSSIBLE. VERTICAL WALL REINFORCING BARS SHALL EITHER EXTEND INTO FOOTINGS OR LAP SPLICED WITH FOOTING DOWELS OF THE SAME SIZE BARS.
- BENDING OF REINFORCING SHALL BE IN CONFORMANCE WITH DETAILS AND SPECIFICATIONS SHOWN ON THESE DRAWINGS. FIELD BENDING OF BARS THAT ARE IN PLACE IS NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
- ALL BARS SHALL BE FREE OF LOOSE AND FLAKY RUST AND SCALE, GREASE, OR OTHER MATERIALS WHICH MIGHT AFFECT OR IMPAIR BOND.

STRUCTURAL STEEL

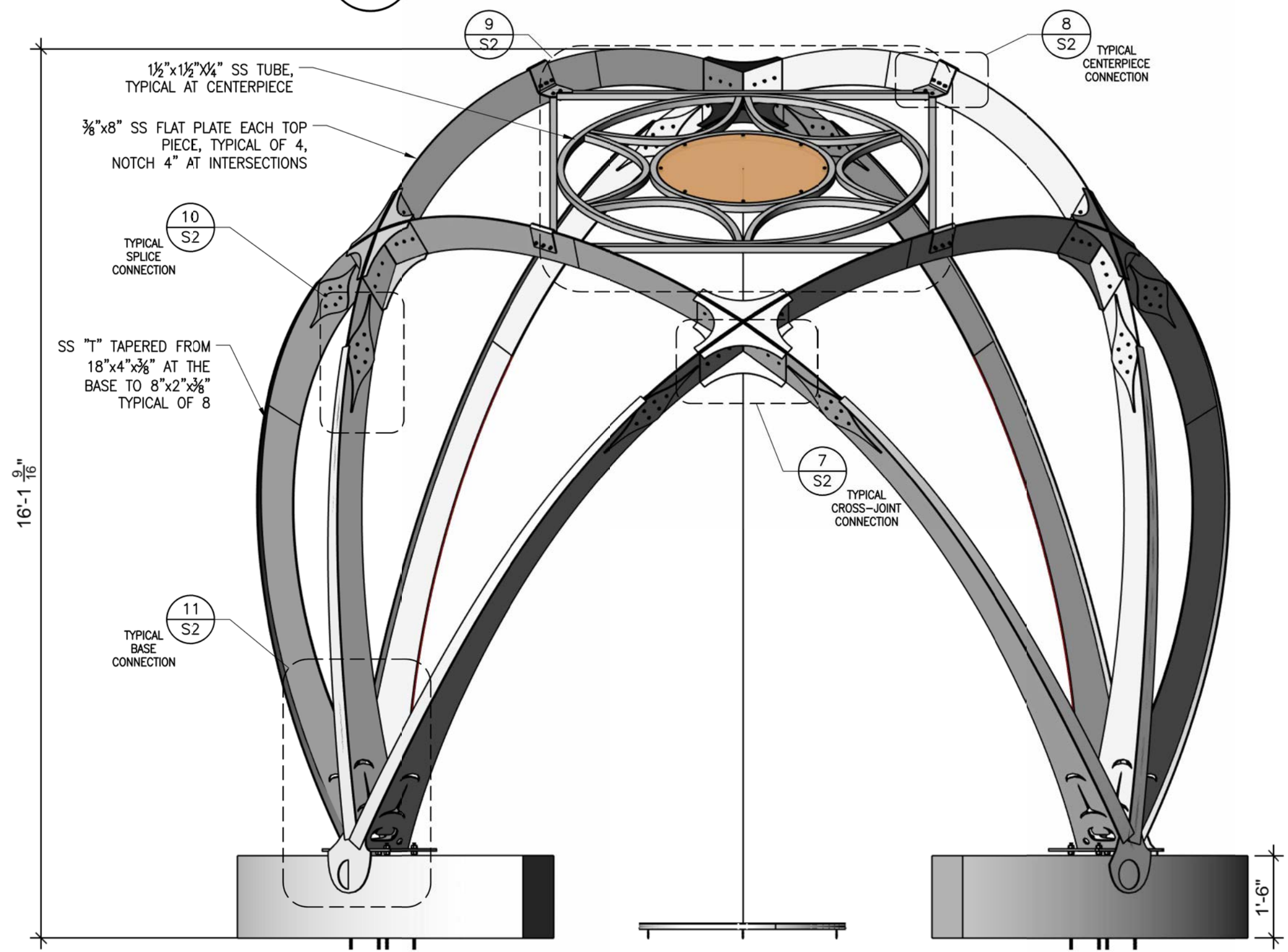
- STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING:

TYPICAL SHAPES AND PLATES	ASTM A275 S5304 OR ASTM A276 S5316
ELECTRODES	AWS E308L-XX
BASE PLATES	ASTM A275 S5304 OR ASTM A276 S5316
ANCHOR BOLTS	ASTM F593, S5304
- IF MATERIAL DOES NOT CONFORM WITH THE ASTM STANDARDS LISTED IN THE STRUCTURAL DRAWINGS, MATERIAL TEST REPORTS OR REPORTS OF TESTS MADE BY THE FABRICATOR OR A TESTING LABORATORY SHALL CONSTITUTE SUFFICIENT EVIDENCE OF CONFORMITY WITH THE DESIGNATED ASTM STANDARDS LISTED IN AISC 360 SECTION A3.
- ALL STRUCTURAL STEEL SHALL CONFORM TO AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS. BOLT HOLES SHALL BE 1/16" OVERSIZED, EXCEPT AT BASE PLATES, WHEN APPROVED, WHERE THEY CAN BE 5/16" OVERSIZED, WITH WELDED WASHERS.
- ALL WELDING TO CONFORM TO THE REQUIREMENTS OF THE LATEST AWS D1.1 STRUCTURAL WELDING CODE AND SHALL BE PERFORMED BY CERTIFIED WELDERS.
- ALL WELDS NOT SPECIFIED SHALL BE CONTINUOUS FILLET WELDS, USING NOT LESS THAN THE MINIMUM SIZES BASED ON THICKNESS OF THICKER PART JOINED PER AISC/AWS, AND IN NO CASE LESS THAN 1/4" UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES ESPECIALLY WITH RELATION TO TEMPERATURE DIFFERENTIALS, ERECTION TOLERANCES, AND WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO REINFORCED CONCRETE WALLS.
- THE STRUCTURAL STEEL CONNECTIONS CONSIST OF THE FOLLOWING:
 - ALL MAJOR STRUCTURAL STEEL CONNECTIONS ARE DETAILED ON THE DRAWINGS. THE DETAILS INDICATE THE REQUIRED MINIMUM PLATE THICKNESSES, ANGLES, WELDS, BOLTS AND GENERAL CONNECTION CONFIGURATION. THE FINAL DIMENSIONAL CONFIGURATION INCLUDING ADJUSTMENTS FOR CAMBER SHALL BE DETERMINED BY THE FABRICATOR ON SHOP DRAWINGS.
 - ANY PROPOSED REVISIONS OR MODIFICATIONS TO THE CONNECTIONS AS SHOWN ON THE DRAWINGS SHALL BE FULLY ENGINEERED BY THE FABRICATOR. SHOP DRAWINGS AND CALCULATIONS PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEVADA SHALL BE SUBMITTED FOR REVIEW. THE CAPACITY OF CONNECTIONS SHALL NOT BE REDUCED FROM THAT PROVIDED BY THE DETAIL AS SHOWN WHERE NOT SHOWN OR INFERRED FROM DRAWINGS, THE CONNECTION SHALL BE CAPABLE OF NOT LESS THAN 120% OF THE MEMBER CAPACITY IN TENSION. ANY PROPOSED REVISIONS SHALL BE AT NO ADDITIONAL COST TO THE OWNER.



2 PLAN VIEW

SCALE: 1/2"=1'-0"



1 ELEVATION VIEW

SCALE: 1/2"=1'-0"

10 GENERAL NOTES

SCALE: NTS

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Sun Lodge Art Installation at Pierce College
1601 39th Ave SE
Puyallup, Washington 98374

DATE: 09.22.2023
ISSUE: Permit Set

STAMP



PROJECT NUMBER:
2369

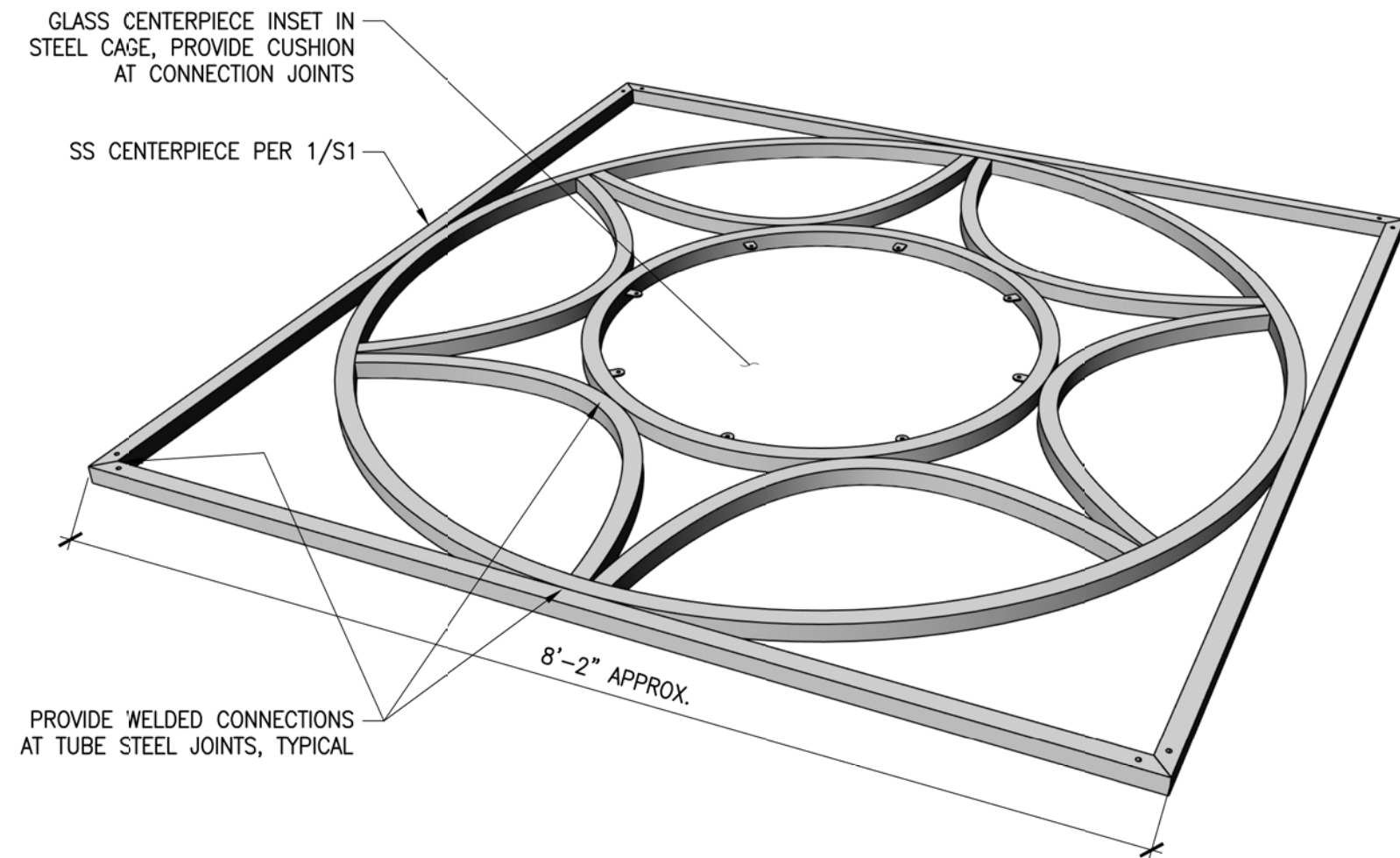
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GENERAL NOTES
AND OVERALL VIEWS

SHEET:

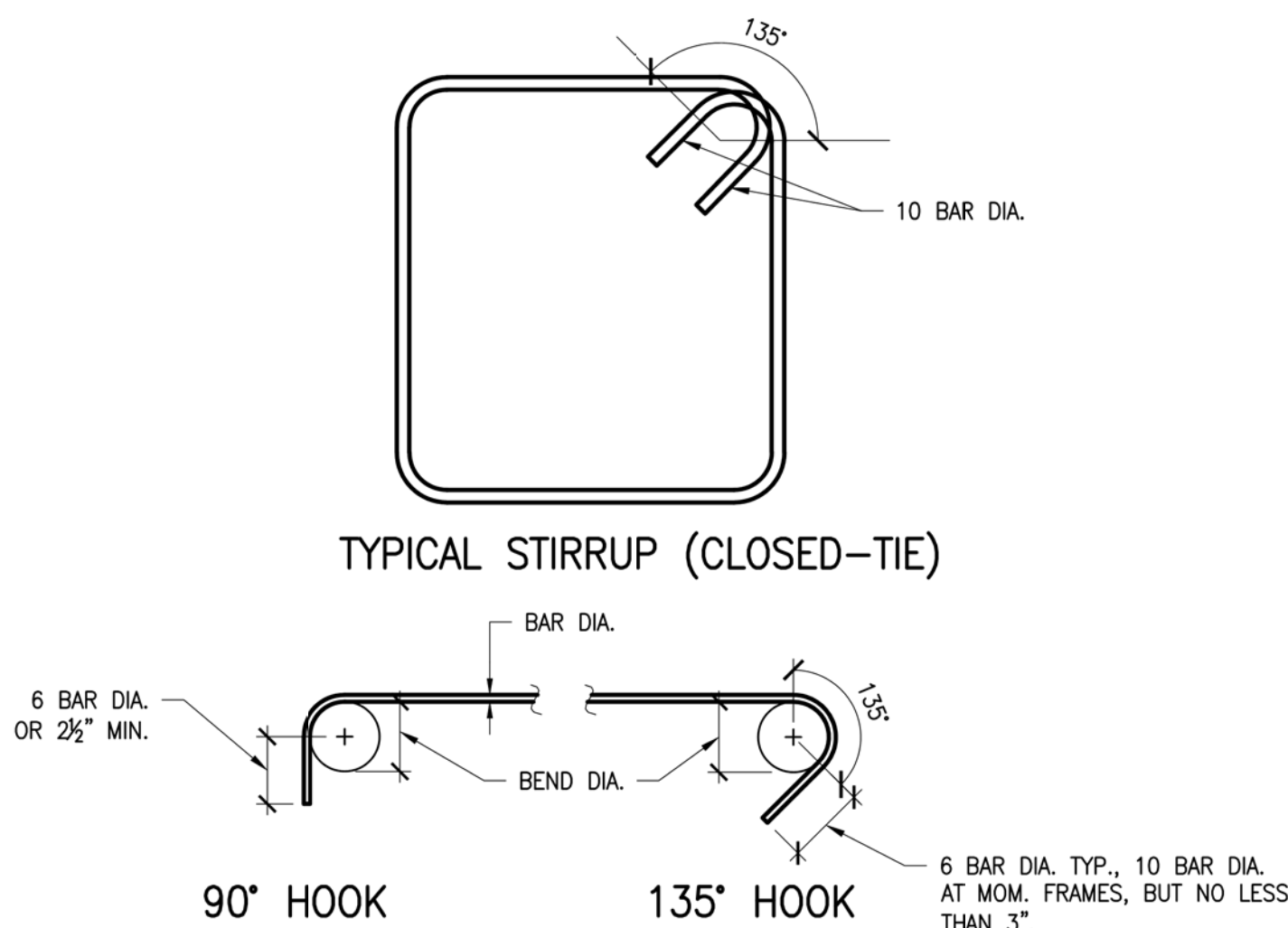
S1

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

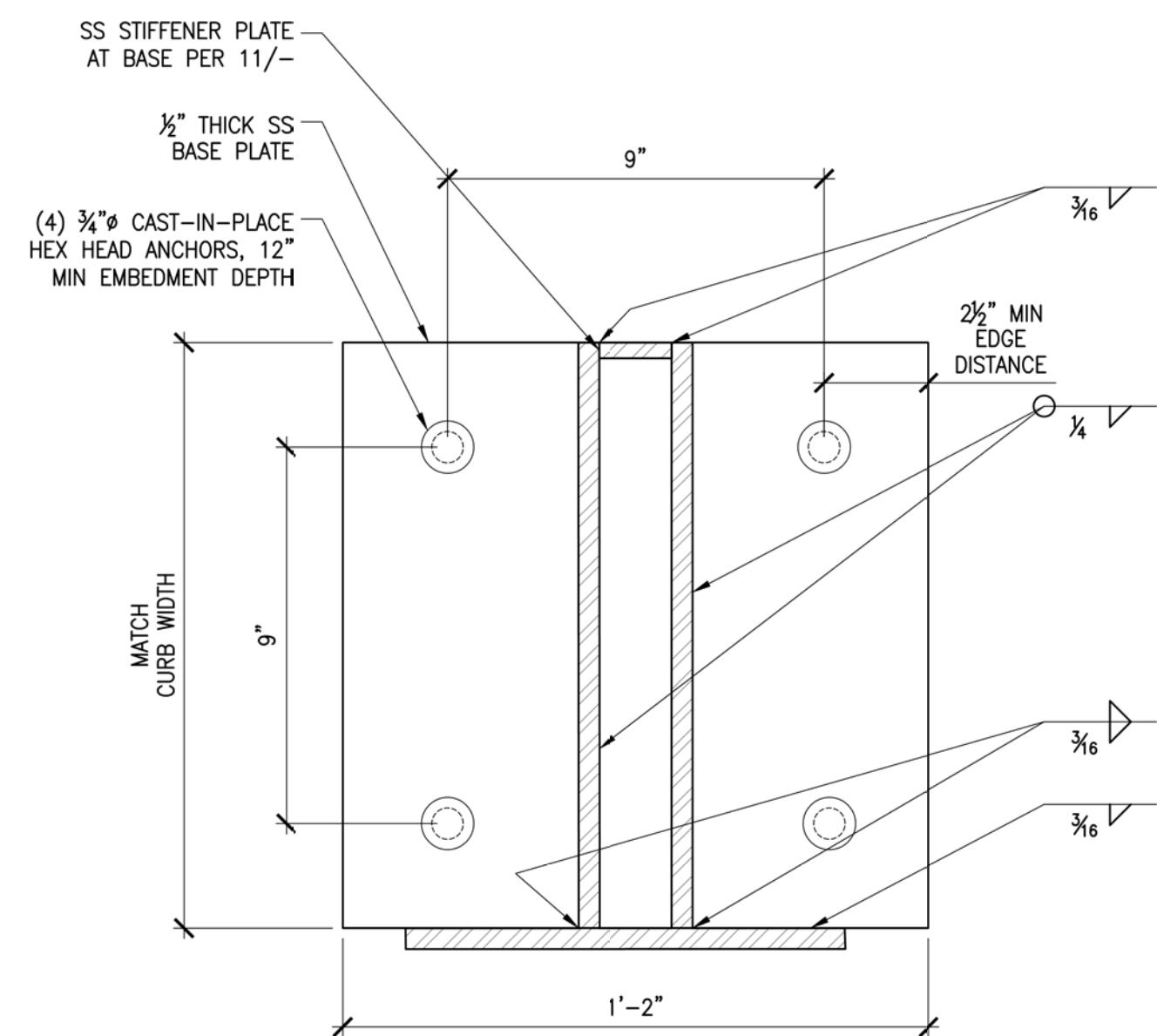
Building	Planning
Engineering	Public Works
Fire	Traffic



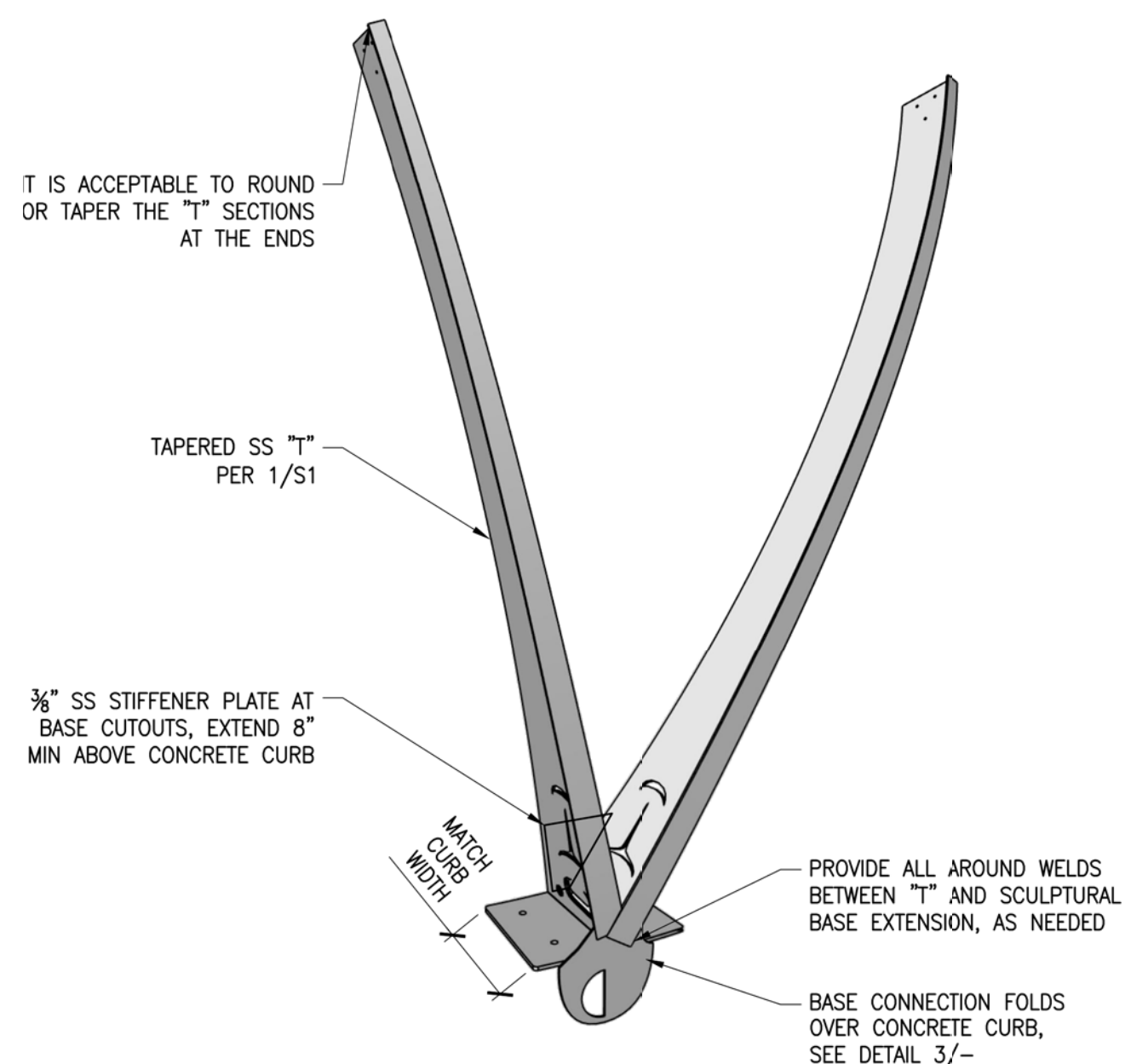
9 CENTERPIECE DETAIL SCALE: NTS



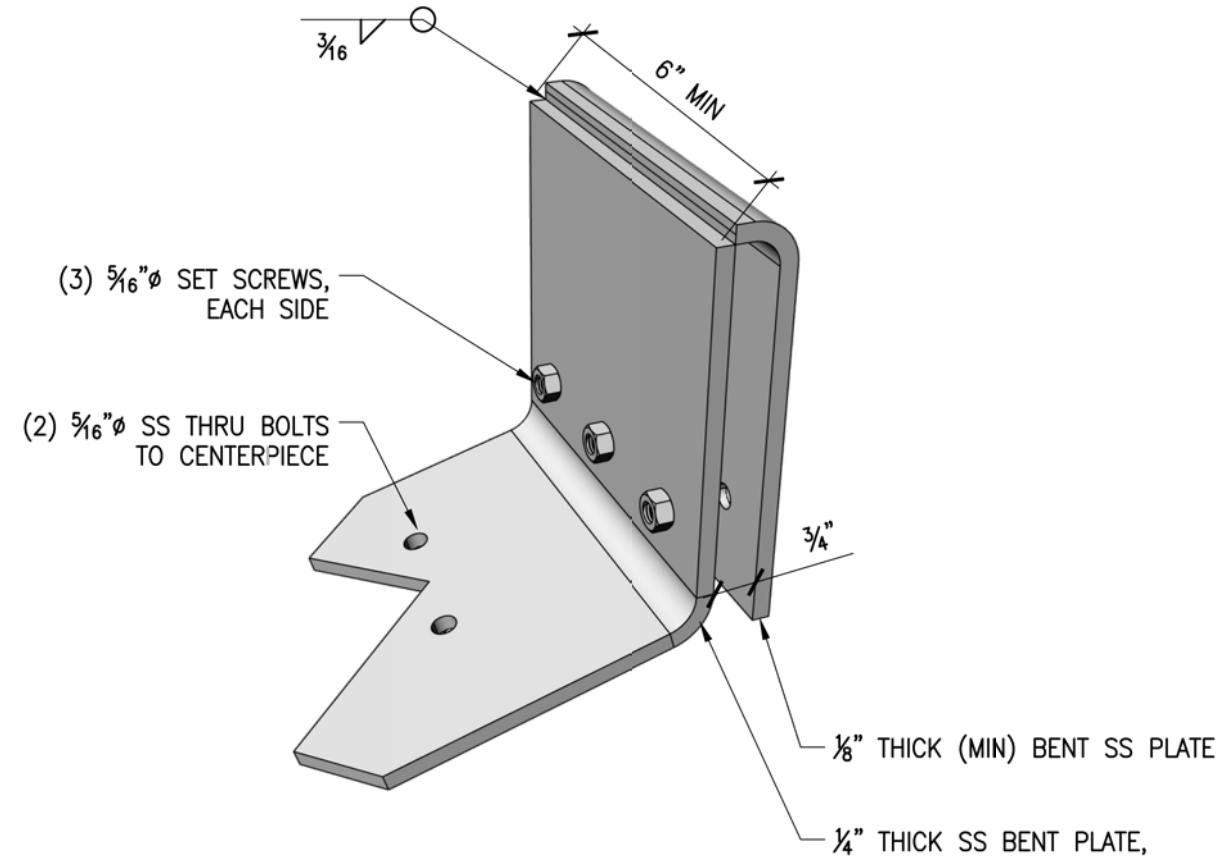
6 STIRRUP & TIE BENDS SCALE: N.T.S.



3 BASE PLATE PLAN DETAIL SCALE: 3\"/>



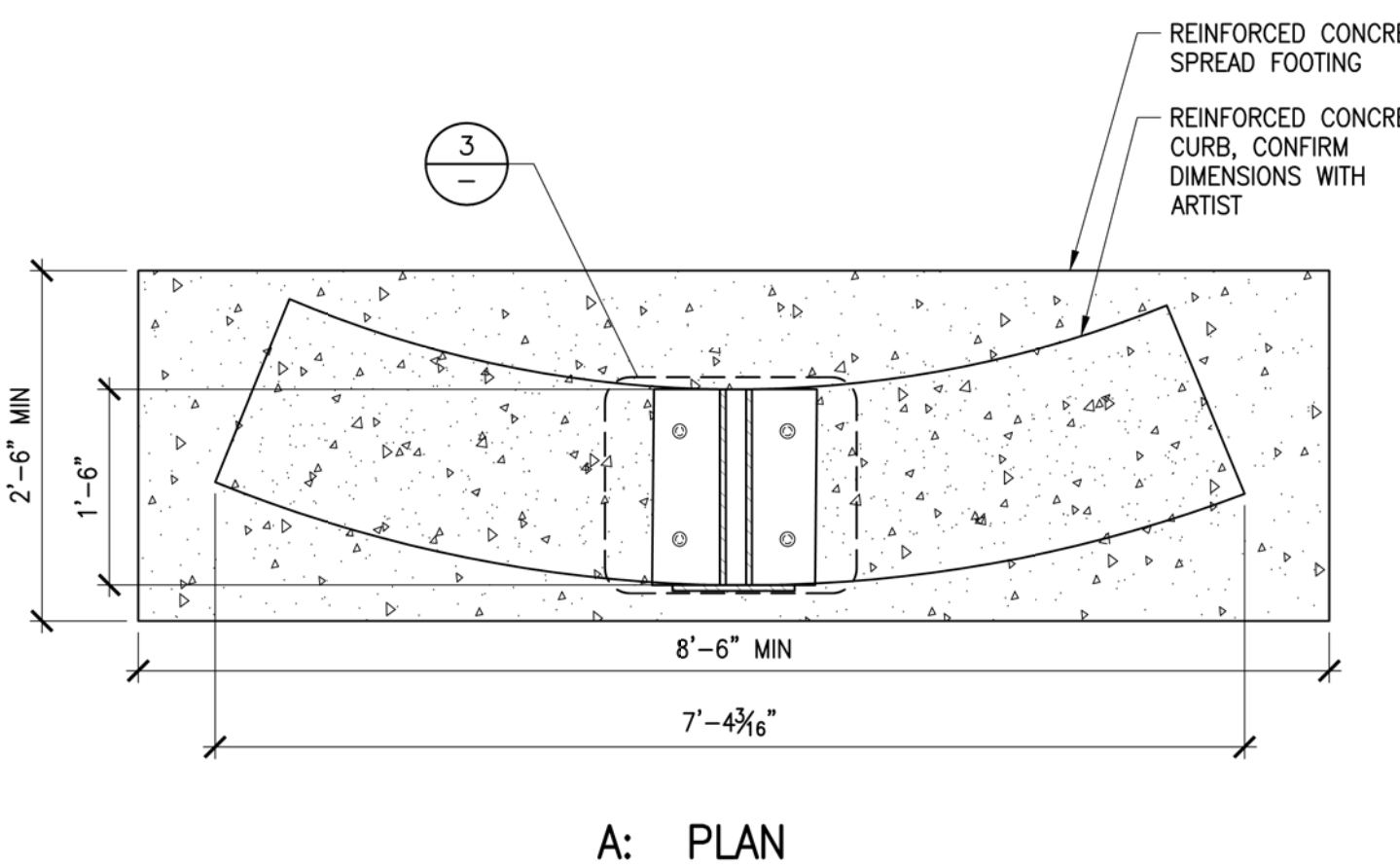
11 BASE CONNECTION SCALE: NTS



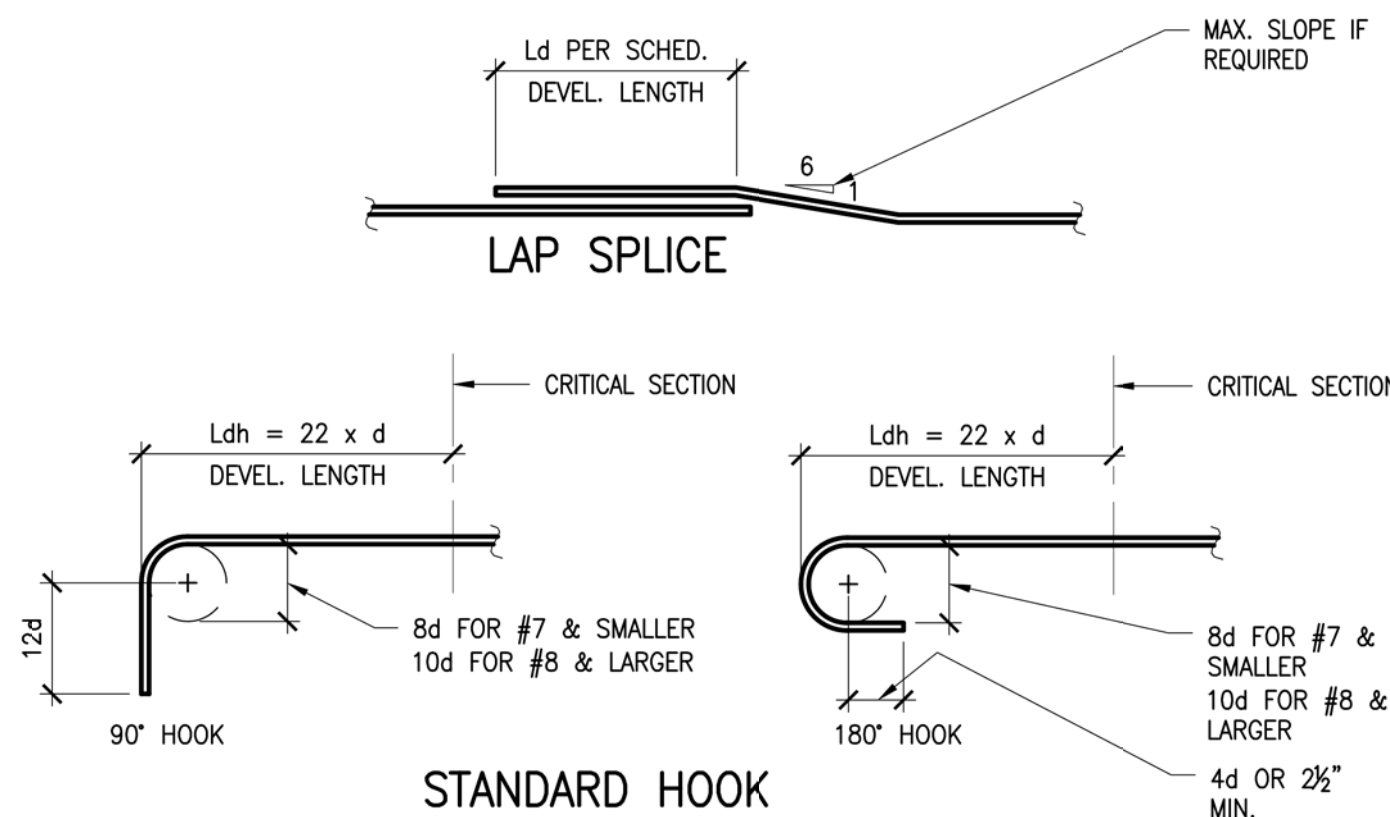
8 CENTERPIECE CONNECTION SCALE: NTS

LAP SPLICE (Ld) SCHEDULE (INCHES) CLASS B

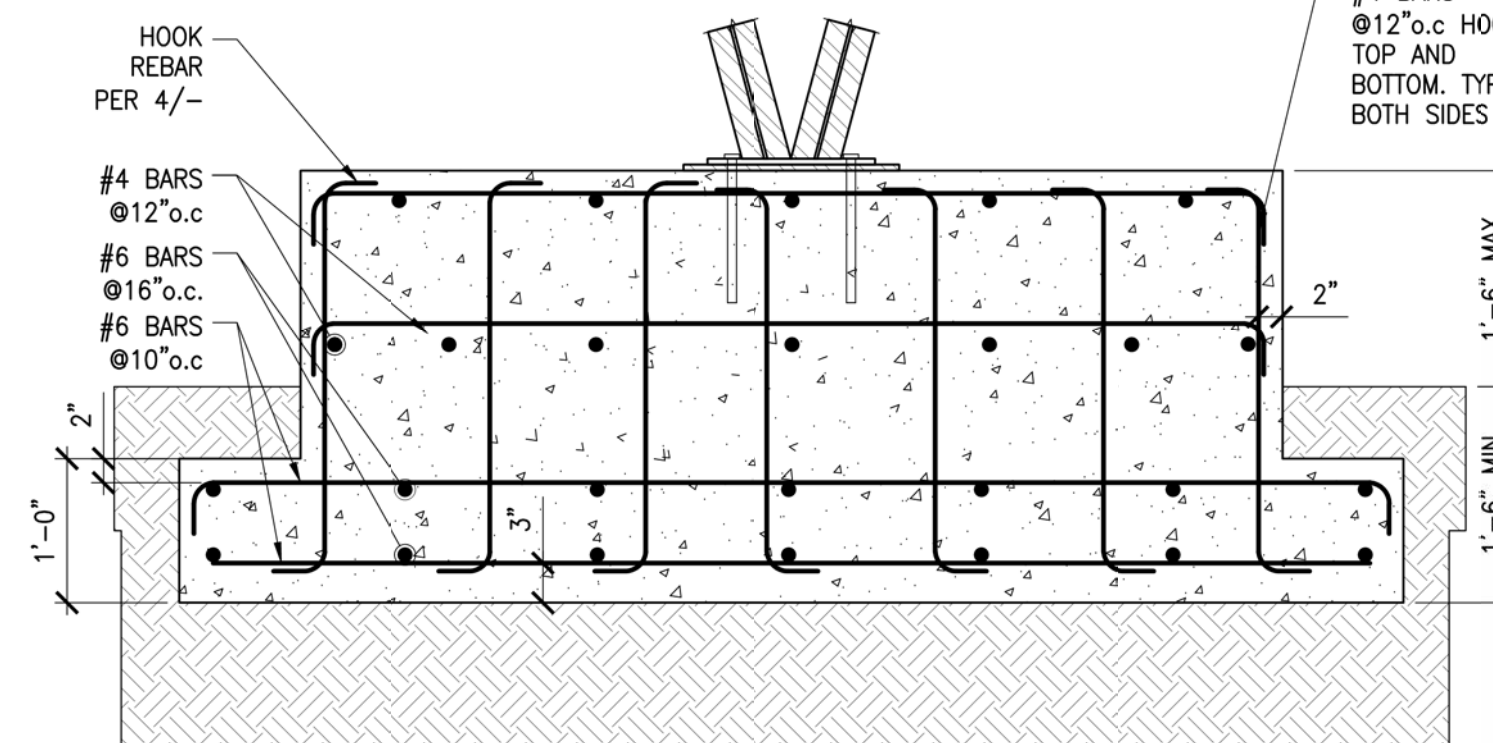
SIZE	LOCATION	CONCRETE COMPRESSIVE STRENGTH (PSI)				
		2,500	3,000	4,000	5,000	6,000
#4	HORIZ. TOP BAR	41	38	33	29	27
	ALL OTHER BARS	32	29	25	23	21
#6	HORIZ. TOP BAR	61	56	49	44	40
	ALL OTHER BARS	47	43	37	34	31
#8	HORIZ. TOP BAR	102	93	81	72	66
	ALL OTHER BARS	78	72	62	56	51



A: PLAN

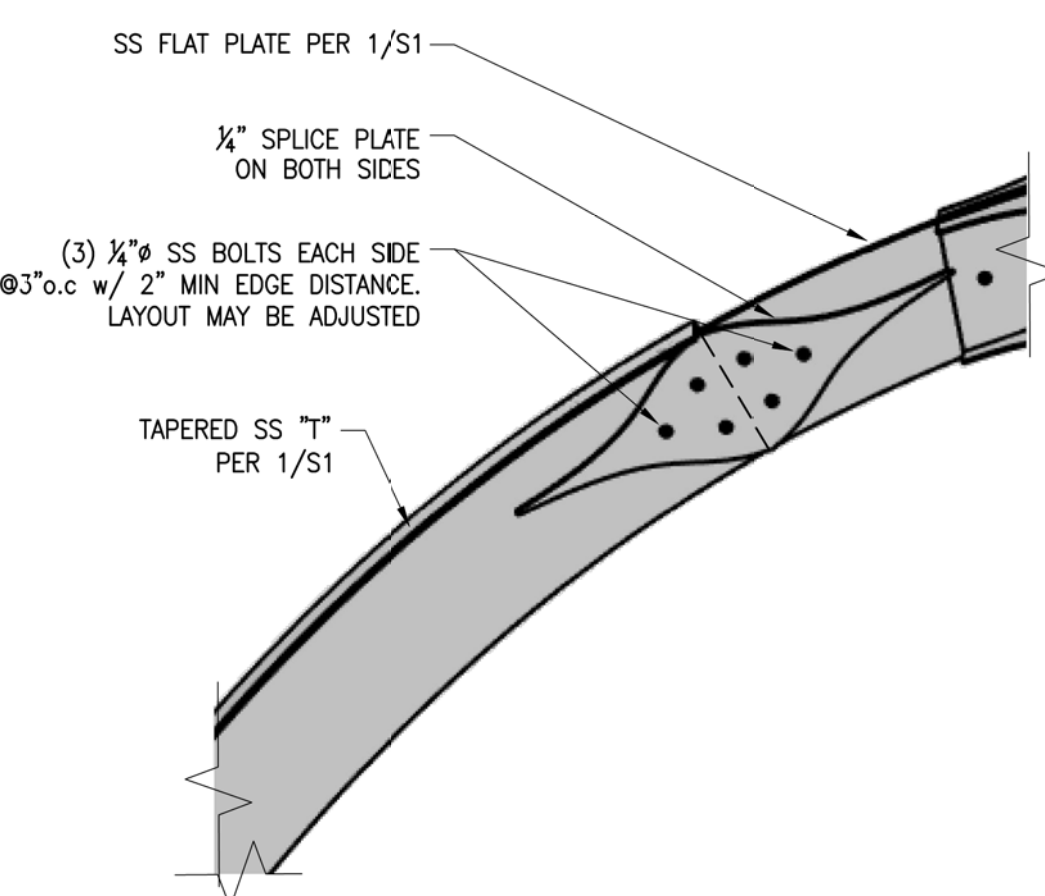


NOTES:
1. d = REBAR DIAMETER.
2. LAP SPLICE LENGTHS ARE BASED ON 60 KSI REBAR YIELD STRENGTH AND NORMAL CONCRETE WEIGHT.
3. TOP BAR IS A HORIZONTAL BAR (OTHER THAN IN WALLS) PLACED WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW BARS.
4. LAP SPLICE LENGTHS ARE BASED ON MINIMUM CLEAR COVER GREATER THAN ONE BAR DIAMETER AND MINIMUM CLEAR SPACING GREATER THAN TWO BAR DIAMETERS.
5. IF EITHER REQUIREMENT IN NOTE 4 IS NOT SATISFIED, INCREASE LAP SPLICE LENGTH BY 50%.

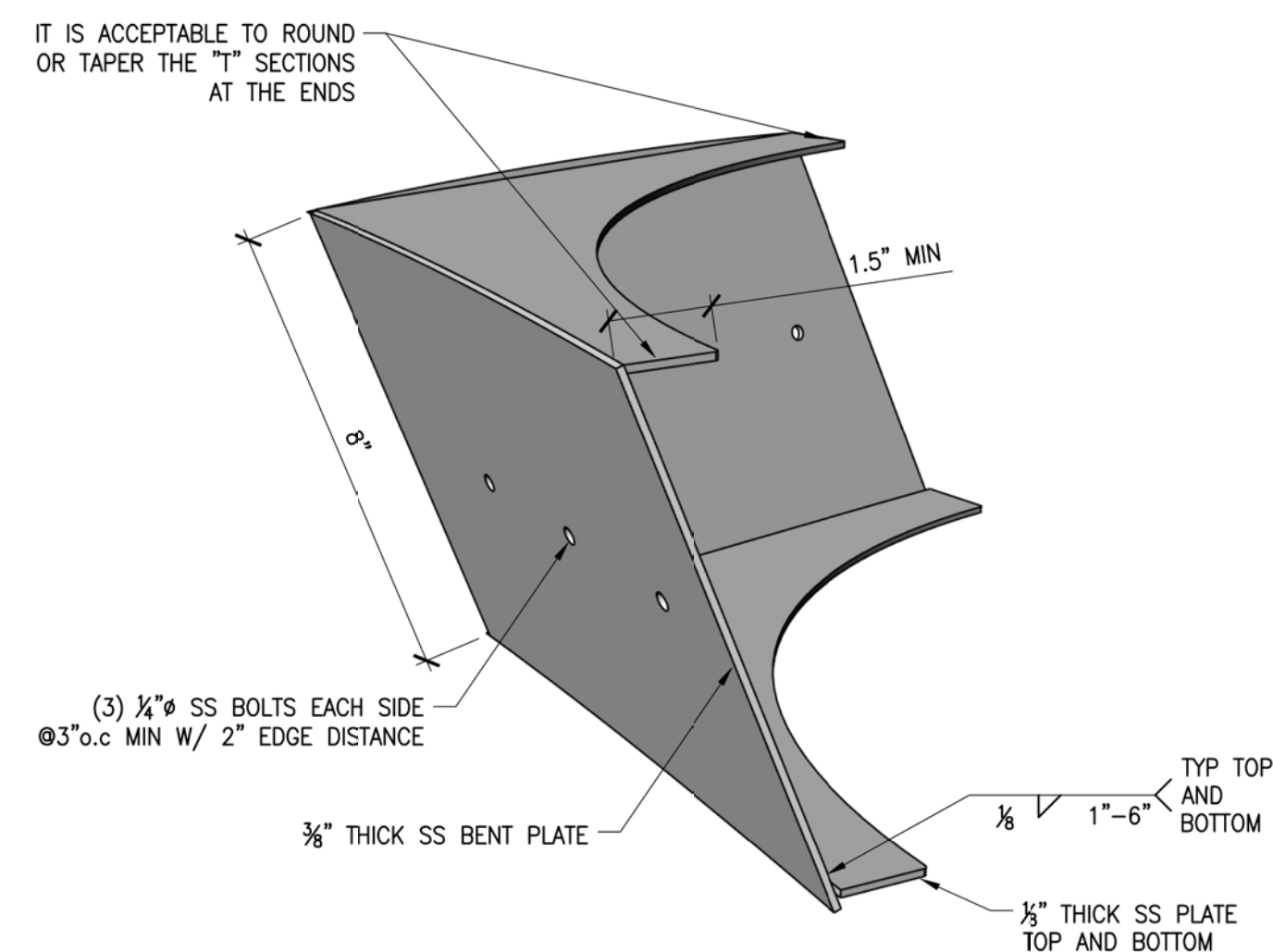


B: SECTION

NOTE:
1. CONFIRM CURVED GEOMETRY AND LAYOUT WITH ARTIST



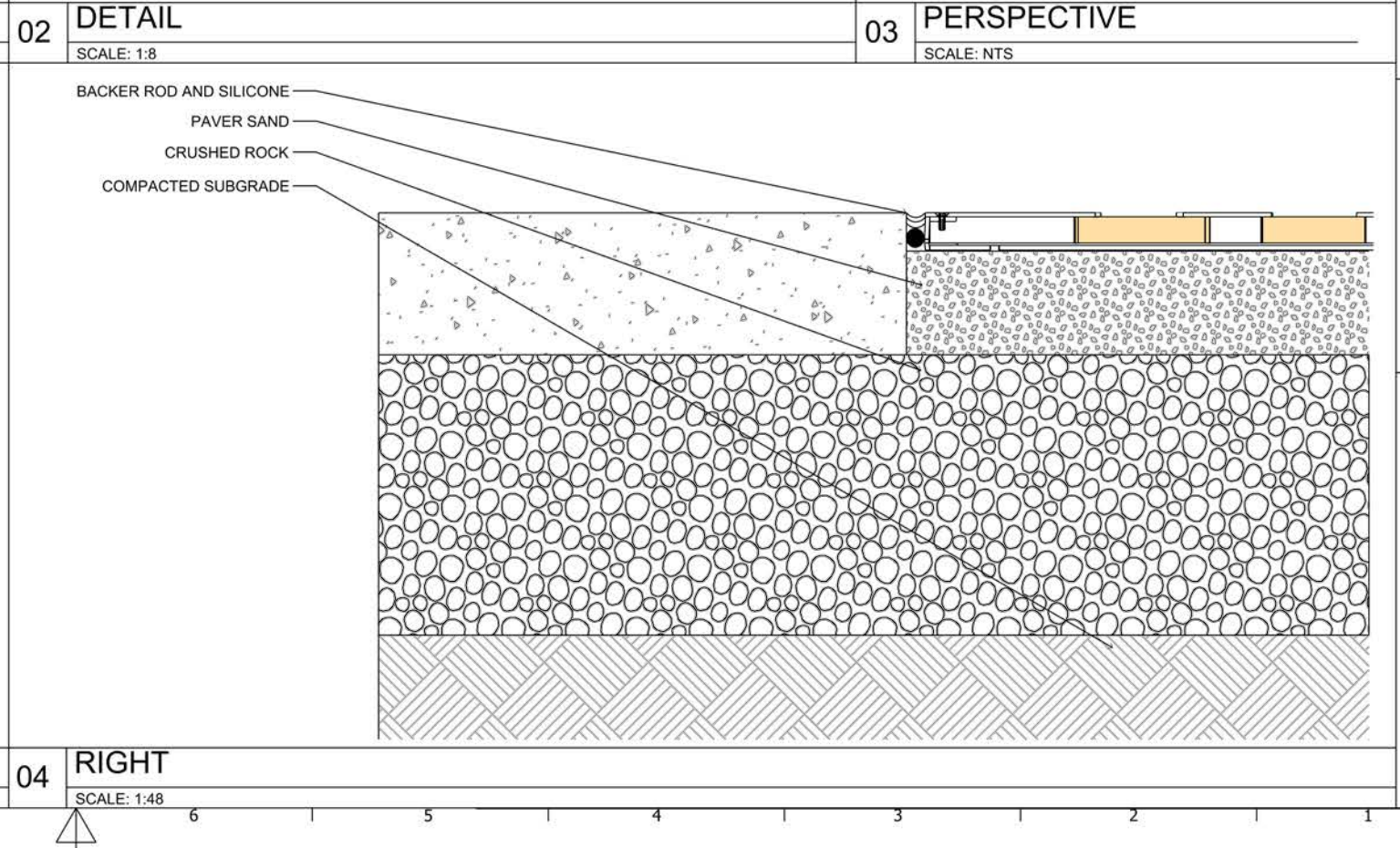
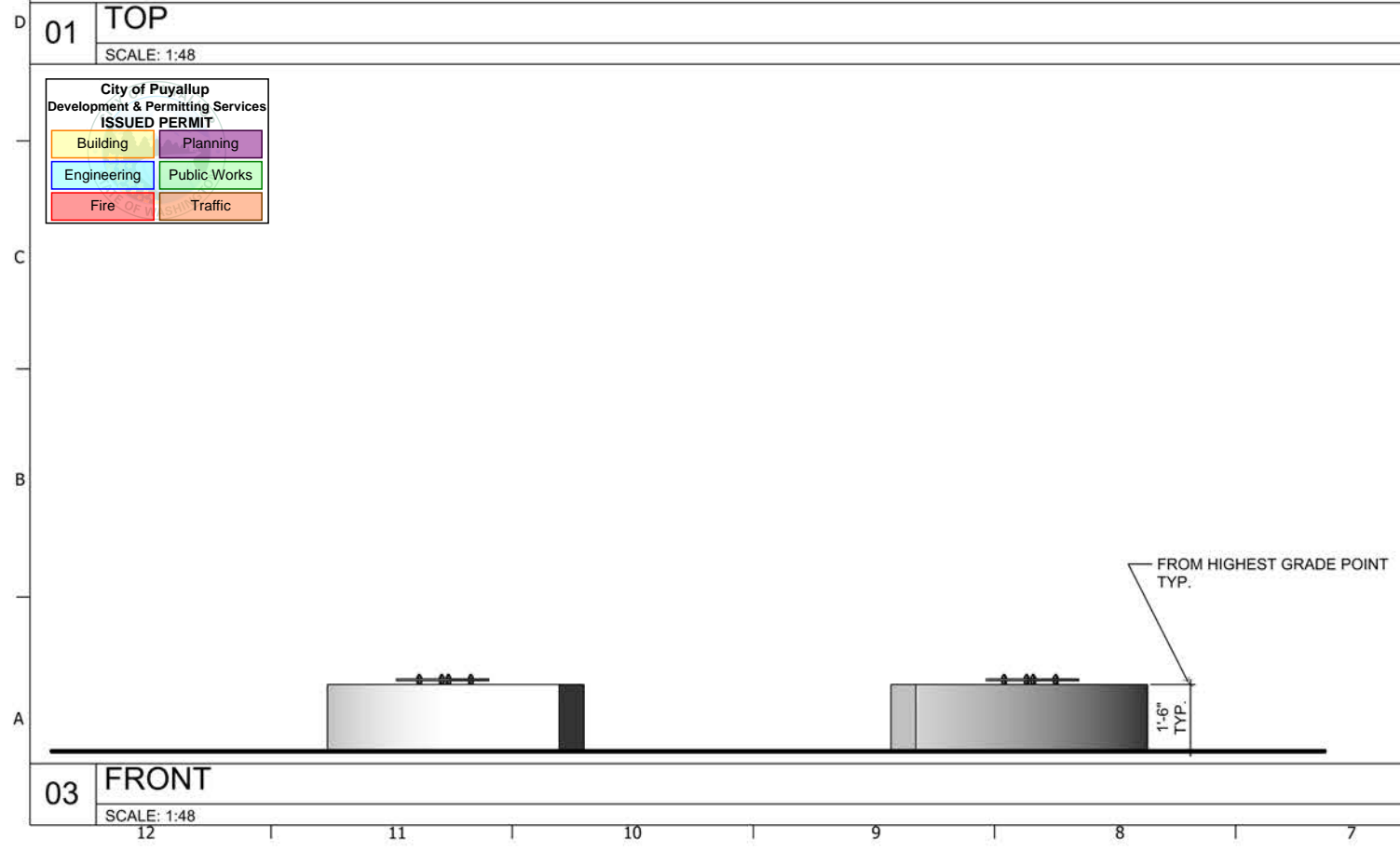
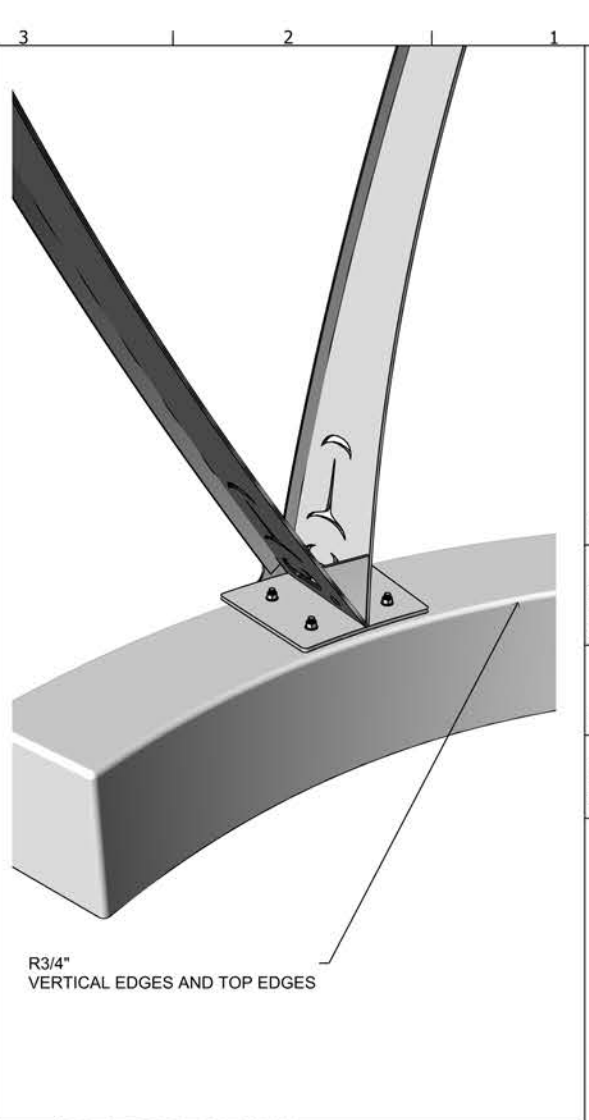
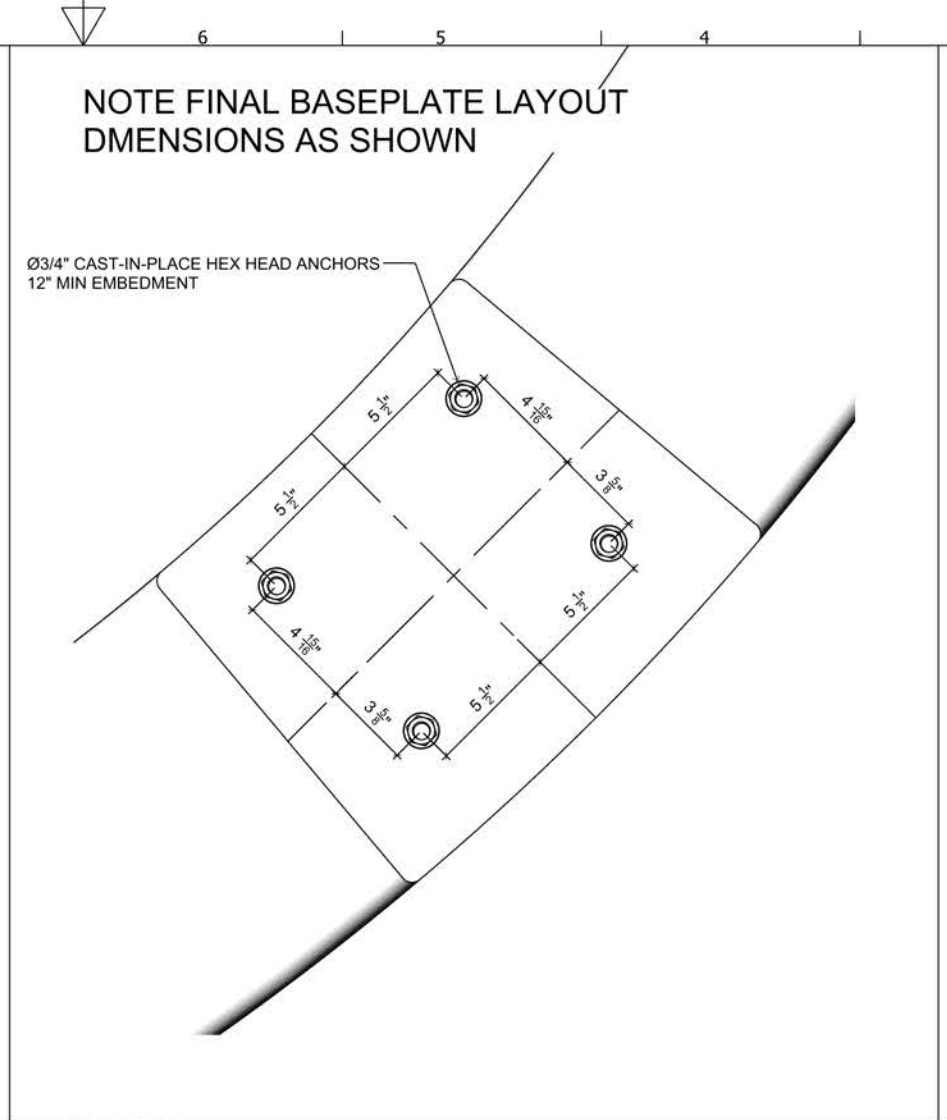
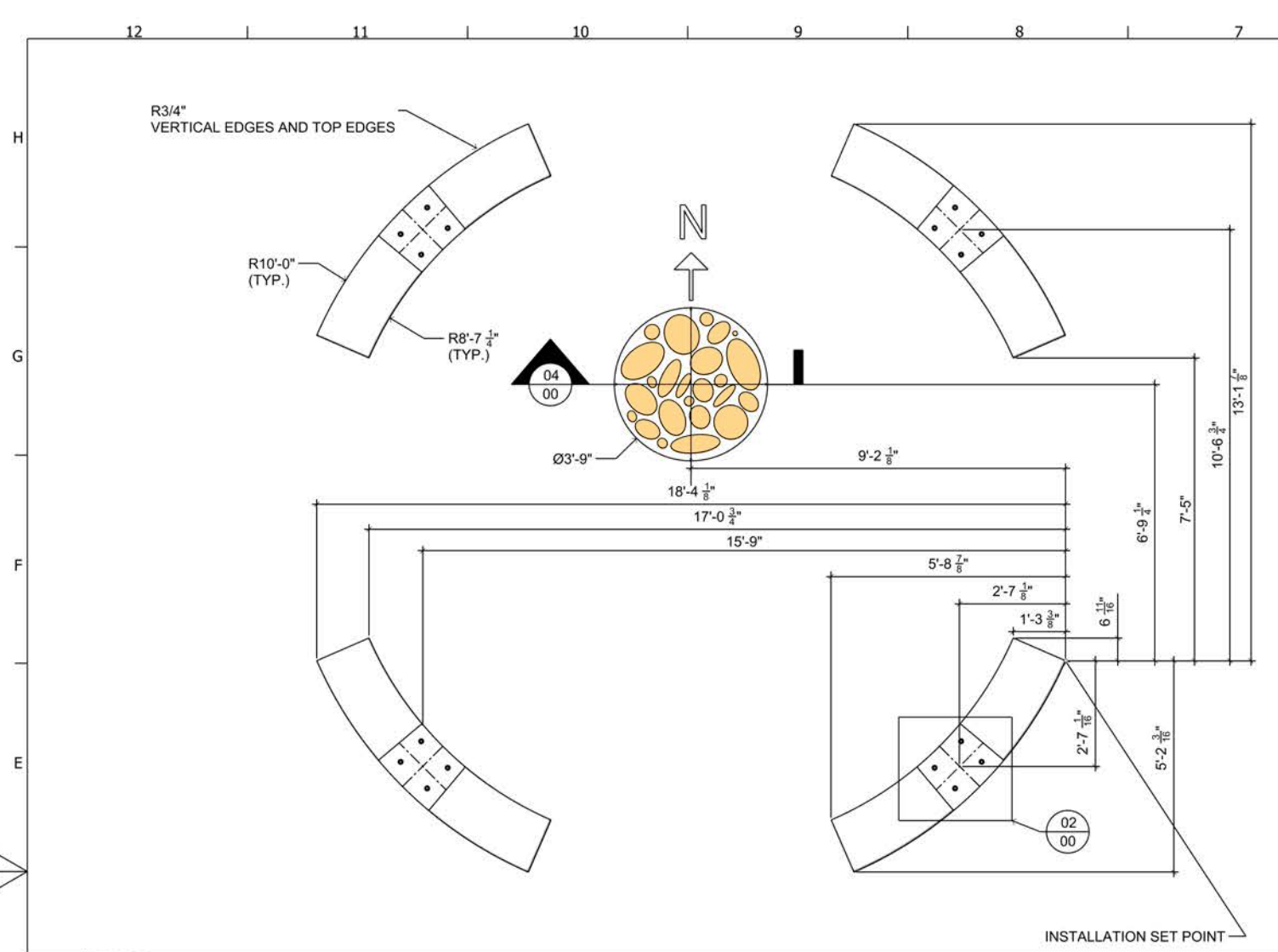
10 SPLICE CONNECTION SCALE: NTS



7 CROSS-JOINT CONNECTION SCALE: NTS

4 REBAR DEVELOPMENT LENGTHS SCALE: NTS

1 TYPICAL FOUNDATION DETAIL SCALE: 3/4\"/>



PROJECT:	SUN LODGE
CLIENT:	DAVID FRANKLIN
DRAWN BY:	AB
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REV:	1
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