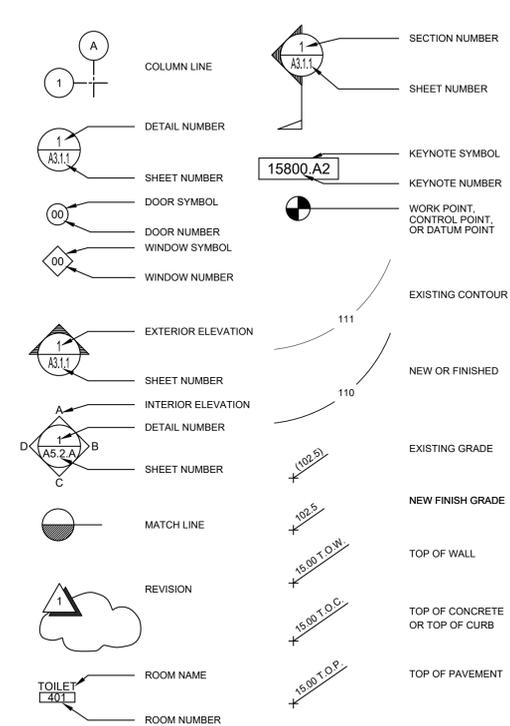


# SHADE STRUCTURE ADDITION LINCOLN TECHNICAL ACADEMY 542 E. PINE STREET LODI, CA 95240

## ABBREVIATIONS

&	And	E.	East	K.P.	Kickplate	S.	South
L	Angle	(E)EXST.	Existing	KIT.	Kitchen	S.D.	Soap Dispenser
@	At	E.A.	Each	LAM.	Laminate	SECT.	Section
∅	Centerline	E.L.	Expansion Joint	LAV.	Lavatory	SHR.	Shower
#	Diameter	EL.	Elevation	LKR.	Locker	SHT.	Sheet
⊥	Perpendicular	ELEC.	Electrical	LT.WT.	Light Weight	SHTG.	Sheeting
#	Pound or Number	EMER.	Emergency	L.V.	Louver Vent	SIM.	Similar
PL	Plate	ENCL.	Enclosure	MAX.	Maximum	S.M.	Sheet Metal
		EQ.	Equal	M.B.	Machine Bolt	S.M.S.	Sheet Metal Screw
A.C.	Asphalt Concrete	EQPT.	Equipment	MATL.	Material	S.N.D.	Sanitary Napkin Dispenser
ACOUS.	Acoustical	E.W.C.	Electric Water Cooler	MEMB.	Membrane	S.N.R.	Sanitary Napkin Receptacle
A.D.	Area Drain	EXP.	Expansion	MEZZ.	Mezzanine	SPEC.	Specification
ADJ.	Adjustable	EXT.	Exterior	MFR.	Manufacturer	SO.	Square
AGGR.	Aggregate	F.A.	Fire Alarm	MH.	Manhole	S.R.V.	Semi Rigid Vinyl
ALUM./AL.	Aluminum	F.B.	Fiberboard	MIN.	Minimum	S.S.K.	Service Sink
ARCH.	Architectural	F.D.	Floor Drain	MISC.	Miscellaneous	SST.	Stainless Steel
ASPH.	Asphalt	FDN.	Foundation	MTD.	Mounted	ST.	Street
AUTO.	Automatic	F.E.	Fire Extinguisher	MET.	Metal	STD.	Standard
A.V.	Auto Visual	F.F.E.	Finish Floor Elevation	MIR.	Mirror	STL.	Steel
		F.H.M.S.	Flat Head Machine Bolt	MISC.	Miscellaneous	STR.	Structural
B	Bolt	F.H.M.S.	Flat Head Machine Screw	MET.	Mounted	STR.	Structural
BD	Board	FIN.	Finish	N.	North	SUSP.	Suspended
BLDG.	Building	FL	Floor	N.I.C.	Not in Contract	SYM.	Symmetrical
BLK.	Block	F.L.	Fusible Link	NO.#	Number	SHT.VNL.	Sheet Vinyl
BLKG.	Blocking	FLASHG	Flashing	NOM.	Nominal		
BM	Beam	F.O.C.	Face of Concrete/Curb	N.T.S.	Not to Scale	T.	Toilet
BOT.	Bottom	F.O.F.	Face of Finish	O'	Over	TB.	Tackboard
B.S.	Both Sides	F.O.S.	Face of Studs	O.A.	Overall	T.B.	Towel Bar
		F.R.P.	Fiberglass Reinforced Plastic	OBS.	Obscure	T.A.G.	Tongue & Groove
CAB.	Cabinet	F.S.	Full Size	O.C.	On Center	TEL.	Telephone
C.B.	Catch Basin	FT	Foot/Foot	O.D.	Outside Diameter	THK.	Thick
CB	Chalkboard	FTG.	Footing	OFF.	Office	THRES.	Threshold
CEM.	Cement	FURR.	Furring	PRCST.	Precast	THRU.	Through
CER.	Ceramic	FUT.	Future	PERF.	Perforated	T.O.C.	Top of Curb
C.G.	Corner Guard			P.LAM.	Plastic Laminate	T.O.P.	Top of Pavement
C.I.	Cast Iron			PLAS.	Plaster	T.O.W.	Top of Wall
C.J.	Construction Joint/Control Joint			PLYWD.	Plywood	T.P.D.	Toilet Paper Dispenser
C.L.	Chain Link			P.M.	Pressed Metal	TYP.	Typical
CLG.	Ceiling			P.M.F.	Pressed Metal Frame	U.O.N.	Unless Otherwise Noted
CLKG.	Chalking			PR	Pair	UR.	Urinal
CLR.	Clear			PRE-FAB	Prefabricated	V.C.T.	Vinyl Composition Tile
C.M.P.	Corrugated Metal Pipe			PROJ.	Project	VERT.	Vertical
C.M.U.	Concrete Masonry Unit			P.T.D.	Paper Towel Dispenser	V.F.	Vinyl Fabric
CNTR.	Counter			P.T.D.R.	Paper Towel Dispenser Receptacle	W.	West W/ With
COL.	Column			PTN	Partition	W.C.	Water Closet
CONC.	Concrete					WD.	Wood
CONN.	Connection					W.H.	Water Heater
CONSTR.	Construction					W/O	Without
CONT.	Continuous					WSCT.	Wainscot
CORR.	Corridor					W.W.M.	Welded Wire Mesh
						WDW.	Window
d	Pennyweight (Nails)					WT.	Weight
DBL.	Double					YD.	Yard
DET.	Detail						
D.F.	Drinking Fountain						
D.I.	Drain Inlet						
DIA.	Diameter						
DIM.	Dimension						
DIM.PT.	Dimension Point						
DN.	Down						
DP.	Damp Proofing						
D.P.	Door						
DR.	Downspout						
D.S.	Downspout						
DWG.	Drawing						

## SYMBOL LEGEND



## SHEET INDEX

**ARCHITECTURAL**  
**CS COVER SHEET**  
**A1.1 FIRE AUTHORITY, ADA PATH OF TRAVEL SITE PLAN**  
**A1.2 VICINITY MAP, BUILDING DATA, ENLARGED SITE PLAN**

**CIVIL**  
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**C1.1 GRADING PLAN**  
**C2.1 EARTHWORK 310000**  
**C2.2 ASPHALT PAVING 321200**  
**C2.3 SITE CONCRETE 321600**

**L1.1 IRRIGATION DEMOLITION PLAN**  
**L2.1 TURF PLANTING PLAN**  
**L3.1 LANDSCAPE IRRIGATION PLAN**  
**L4.1 LANDSCAPE PLANTING AND IRRIGATION DETAILS**  
**L5.1 LANDSCAPE SPECIFICATIONS**  
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**POLYGON (PC 02-116824)**  
**RAM1.0 ORDER FORM**  
**RAM1.1 NOTES AND SPECIAL INSPECTIONS**  
**RAM2.1 FOUNDATION PLAN DRILLED PIER**  
**RAM3.0 FRAMING PLAN**  
**RAM4.0 FRAME CONNECTION DETAILS**  
**RAM4.1 SECTION DETAILS**  
**RAM5.0 ARCHITECTURAL VIEWS**  
**RAM6.0 ROOF CONNECTION DETAILS**

## SET CONTAINS 22 DRAWINGS

### STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO, SHOP DRAWINGS PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

(Application No. PC 02-116824)

- The drawings or sheets listed on the cover or index sheet prepared by Polygon

Have/has been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this State. It has been examined by me for:

- design intent, and appears to meet the appropriate requirements of Title 24, California Code of Regulations, and the project specifications prepared by me, and
- coordination with my plans and specifications, and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 7302 and 81138 of the Education Code, and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1 (Title 24, Part 1, Section 4-317 (b)).

SIGNATURE

6/3/2021

DATE

## PROJECT TEAM

### OWNER

LODI UNIFIED SCHOOL DISTRICT  
 FACILITIES OFFICES  
 880 NORTH GUILD AVENUE  
 LODI, CA 95240  
 CONTACT: MARC KARIM  
 PHONE: (209) 224-6053  
 EMAIL: [mkarim@LodiUSD.net](mailto:mkarim@LodiUSD.net)

### ARCHITECT

HENRY + ASSOCIATES ARCHITECTS  
 730 HOWE AVE, SUITE 450  
 SACRAMENTO, CA 95825  
 CONTACT: STEPHEN HENRY  
 PHONE: (916) 799-3027  
 EMAIL: [stephen@henry-architects.com](mailto:stephen@henry-architects.com)

### CIVIL

WARREN CONSULTING ENGINEERS, INC.  
 1117 WINDFIELD WAY, SUITE 110  
 EL DORADO HILLS, CA 95762  
 CONTACT: MARTY GEE  
 PHONE: (916) 985-1870  
 EMAIL: [marty@wceinc.com](mailto:marty@wceinc.com)

### LANDSCAPE

MTW GROUP  
 2707 K STREET, SUITE 201  
 SACRAMENTO, CA 95816  
 CONTACT: BRYAN WALKER  
 PHONE: (916) 369-3990  
 EMAIL: [bryan@mtwgroup.com](mailto:bryan@mtwgroup.com)

## MATERIAL LEGEND

	EARTH		WOOD TRIM
	GRAVEL/AGGREGATE BASE		STEEL
	SAND OR PLASTER		TILE
	CONCRETE		BATT INSULATION
	BLOCKING		BRICK
	FRAMING (CONTINUOUS)		GYPSUM BOARD
	PLYWOOD		FIRTEX

## APPLICABLE CODES

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS  
 TITLE 24 CCR, PART 1 - 2019 BUILDING STANDARDS ADMINISTRATIVE CODE  
 TITLE 24 CCR, PART 2 - 2019 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC)  
 TITLE 24 CCR, PART 3 - 2019 CALIFORNIA ELECTRICAL CODE (CEC)  
 TITLE 24 CCR, PART 4 - 2019 CALIFORNIA MECHANICAL CODE (CMC)  
 TITLE 24 CCR, PART 5 - 2019 CALIFORNIA PLUMBING CODE (CPC)  
 TITLE 24 CCR, PART 6 - 2019 CALIFORNIA ENERGY CODE (CEC)  
 TITLE 24 CCR, PART 9 - 2019 CALIFORNIA FIRE CODE (CFC)  
 TITLE 24 CCR, PART 11 - 2019 CALIFORNIA GREEN BUILDING STDS CODE  
 TITLE 24 CCR, PART 12 - 2019 CALIFORNIA REFERENCED STANDARDS  
 2016 NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED)  
 2016 NFPA 14, INSTALLATION OF STANDBYPIPE AND HOSE SYSTEMS  
 2017 NFPA 17, DRY CHEMICAL EXTINGUISHING SYSTEMS  
 2017 NFPA 17A, WET CHEMICAL EXTINGUISHING SYSTEMS  
 2016 NFPA 20, INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION  
 2016 NFPA 24, INSTALLATION OF PRIVATE FIRE SERVICE MAINS  
 2016 NFPA 72, NATIONAL FIRE ALARM CODE (CA AMENDED)  
 2016 NFPA 80, FIRE DOOR AND OTHER OPENING PROTECTIVE  
 2015 NFPA 720, INSTALLATION OF CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT  
 2015 NFPA 2001, CLEAN AGENT FIRE EXTINGUISHING SYSTEMS

## DEFERRED APPROVALS

A: NONE

CONTRACTOR SHALL KEEP A COPY OF TITLE 24, PARTS 1-5 ON THE SITE AT ALL TIMES.  
 TITLE 24, PART 1, SECTION 4.317(c):

"THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS A CONSTRUCTION CHANGE DOCUMENT, OR SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH REPAIR WORK."

### NOTES:

- ALL NEW WORK SHALL CONFORM TO THE 2019 EDITION, TITLE 24, CALIFORNIA CODE OF REGULATIONS.
- CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE AND LIFE-SAFETY PORTIONS OF THE APPROVED PLANS AND SPECIFICATIONS AFTER THE WORK HAS BEEN APPROVED SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT AS REQUIRED IN SECTION 4-338, PART 1, CAC, AND SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK. ALL CONSTRUCTION CHANGE DOCUMENTS SHALL BE PREPARED AND SUBMITTED TO DSA IN COMPLIANCE WITH DSA INTERPRETATION OF REGULATIONS IA A-6. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338, PART 1, TITLE 24, AND NO WORK SHALL COMMENCE UNTIL APPROVED BY DSA.
- A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-343, CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR)
- A DSA CERTIFIED INSPECTOR WITH CLASS 2 IS REQUIRED FOR THIS PROJECT (IR A-7)
- AN LEA TESTING LABORATORY DIRECTLY EMPLOYED BY THE OWNER SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
- GRADING PLANS, DRAINAGE IMPROVEMENT, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
- ADDENDA SHALL BE APPROVED BY DSA.
- CONTRACTOR TO COMPLY WITH CFC CHAPTER 33 FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION.

## PROJECT DESCRIPTION

THE PROJECT SCOPE PLACES ONE NEW SHADE STRUCTURE BUILDING ON THE EXISTING SCHOOL SITE. SITE DEVELOPMENT WORK INCLUDES DEMOLITION, GRADING AND PAVING, STORM DRAIN, LANDSCAPE AND WHAT IS SHOWN IN THE CONSTRUCTION DOCUMENTS TO PROVIDE A COMPLETE TURNKEY PROJECT. THE SHADE STRUCTURE BUILDING WILL BE PROVIDED AND INSTALLED UNDER AND AS PART OF THIS CONTRACT.



730 Howe Avenue, Suite 450  
 Sacramento, CA 95825  
 Phone: 916.921.2112  
 Fax: 916.921.2212



SHADE STRUCTURE ADDITION  
 LINCOLN TECHNICAL ACADEMY  
 LODI UNIFIED SCHOOL DISTRICT

COVER SHEET

PROJECT NO.	REVISIONS	BY
21-32-055		
DATE		
7/5/2021		
DRAWN		
SLH		
CHECKED		
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SCALE		
N.T.S.		
CADFILE		
UPDATED		
SHEET NO.		

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**FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL**

Division of the State Architect (DSA) documents referenced within this publication are available on the [DSA Forms](#) or [DSA Publications](#) webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PL 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION		
School District/Owner:	LODI UNIFIED SCHOOL DISTRICT	
Project Name/School:	LINCOLN TECHNICAL ACADEMY	
Project Address:	542 E. PINE STREET, LODI CA 95240	

FIRE & LIFE SAFETY INFORMATION		
1. Has a fire hydrant flow test been performed within the past 12 months? (If yes, provide a copy of the test data.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. Was the fire hydrant water flow test performed as part of this LFA review?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
3. Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? (If yes, indicate FHSZ classification below.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Refer to the following website for FHSZ locations: <a href="http://egis.fire.ca.gov/FHSZ/">http://egis.fire.ca.gov/FHSZ/</a>	Moderate <input type="checkbox"/>	High <input type="checkbox"/> Very High <input type="checkbox"/>
Wildland Interface Area (WIFA) (If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)	WIFA <input type="checkbox"/>	

From: Maria Ditmore  
 To: stephen.henry@architects.com  
 Subject: RE: Lincoln Technical Academy - Lodi Unified School District  
 Date: Thursday, June 03, 2021 7:49:15 AM

Hello Stephen,  
 Below are the results from the hydrant flow test conducted by Engine Company 2:

STATIC - 54 psi	HYDRANT FLOW TEST	
RESIDUAL - 40 psi	Static Pressure	54 psi
GPM - 1060	Residual Pressure	40 psi
	Minimum Pressure	20 psi
	Volume at Min. Pressure	1711 gpm
	Volume required per Appendix B105.1	1500 gpm

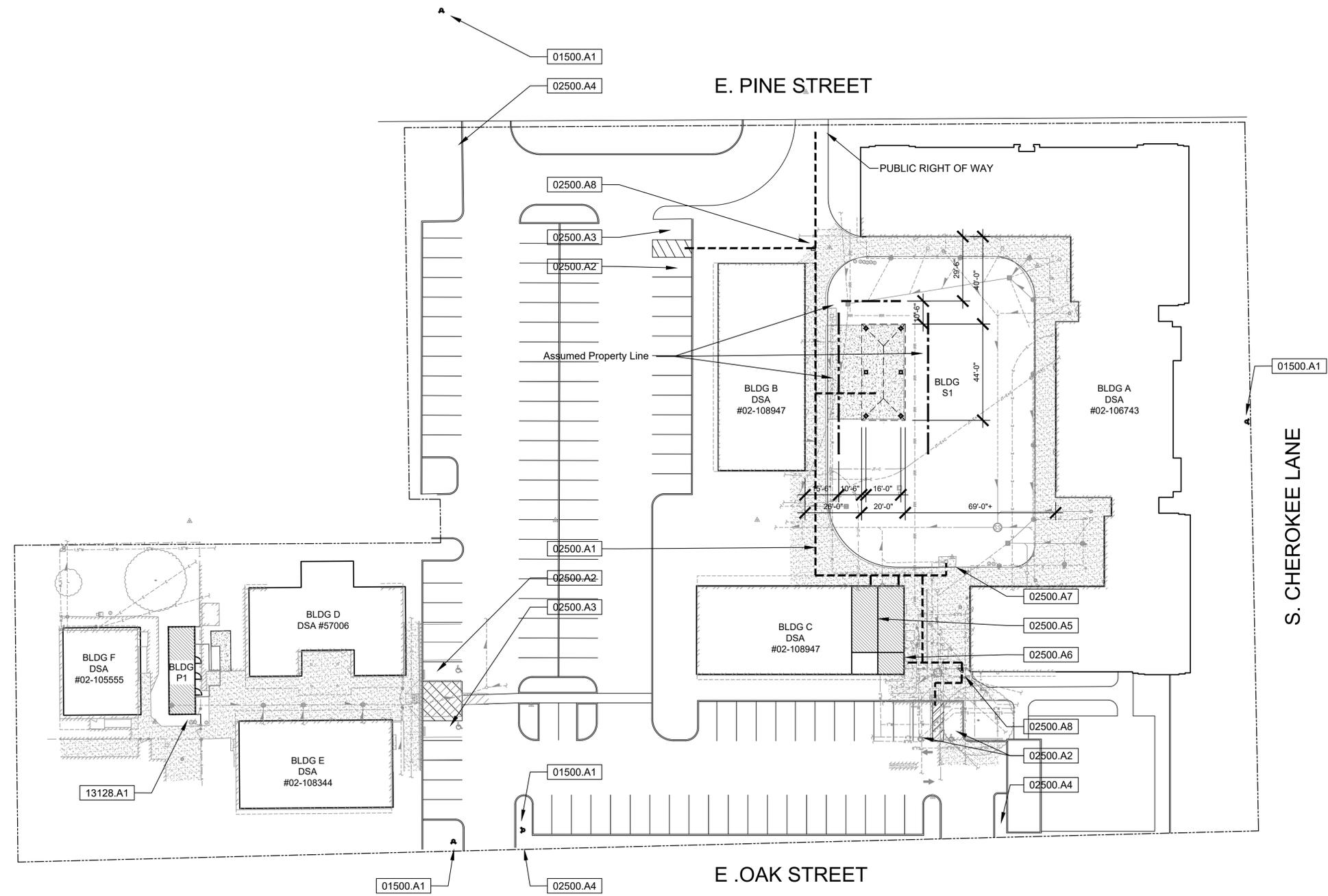
Thanks,  
 Maria Ditmore  
 Lodi Fire Department  
 210 W Elm Street  
 Lodi, California 95240  
 209-333-6739



**KEYNOTES**

- 02500 ACCESSIBILITY
- 02500.A1 ACCESSIBLE path of travel shown dashed - see POT NOTE at left
- 02500.A2 accessible parking stalls per 02-106743 & 02-108947
- 02500.A3 accessible van parking stalls per 02-106743 & 02-108947
- 02500.A4 existing low away sign per 02-105555
- 02500.A5 accessible student restrooms per 02-108947
- 02500.A6 staff restroom per 02-108947
- 02500.A7 dual height ADA accessible drinking fountain per 02-108947
- 02500.A8 accessible gate per 02-108947 All gates in path of travel must comply with 11B-404 requirements. Provide a 24" min. Strike side clearance on the pull side and a smooth surface at the bottom 10 inches of the push side of gate. Gates must be provided with accessible / lever hardware.
- 13128 RELOCATABLE BUILDING
- 13128.A1 12' x 40' relocatable building and ramp on wood foundation under application 02-119210.
- 15000 PLUMBING
- 15000.A1 existing fire hydrant

PARKING STALL COUNT	
STANDARD	111
ACCESSIBLE	4
VAN ACCESSIBLE	2
TOTAL	117



P.O.T. NOTE: Path of travel (P.O.T.) as indicated is a barrier free access without any abrupt vertical changes exceeding 1/2" at 1:2 Maximum slope, except that level changes do not exceed 1/4" vertical (11B-303 & 11B-403.4). P.O.T. is a minimum of 48" wide (11B-403.5.1Ex3) barrier-free route with slip-resistant surface. The running slope shall be 5% max. in the direction of traffic flow and the cross slope shall not be steeper than 1:48 (11B-403.3). All gates in path of travel must comply with 11B-404 requirements. Provide a 24" min. Strike side clearance on the pull side and a smooth surface at the bottom 10 inches of the push side of gate. Gates must be provided with accessible / lever hardware.

**1 FIRE AUTHORITY/ADA PATH OF TRAVEL SITE PLAN**

SCALE: 1" = 40'-0" 40' 80'



IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 02-119209 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 07/20/2021

730 Howe Avenue, Suite 450  
 Sacramento, CA 95825  
 Phone: 916.921.2112  
 Fax: 916.921.2212



SHADE STRUCTURE ADDITION  
 LINCOLN TECHNICAL ACADEMY  
 LODI UNIFIED SCHOOL DISTRICT

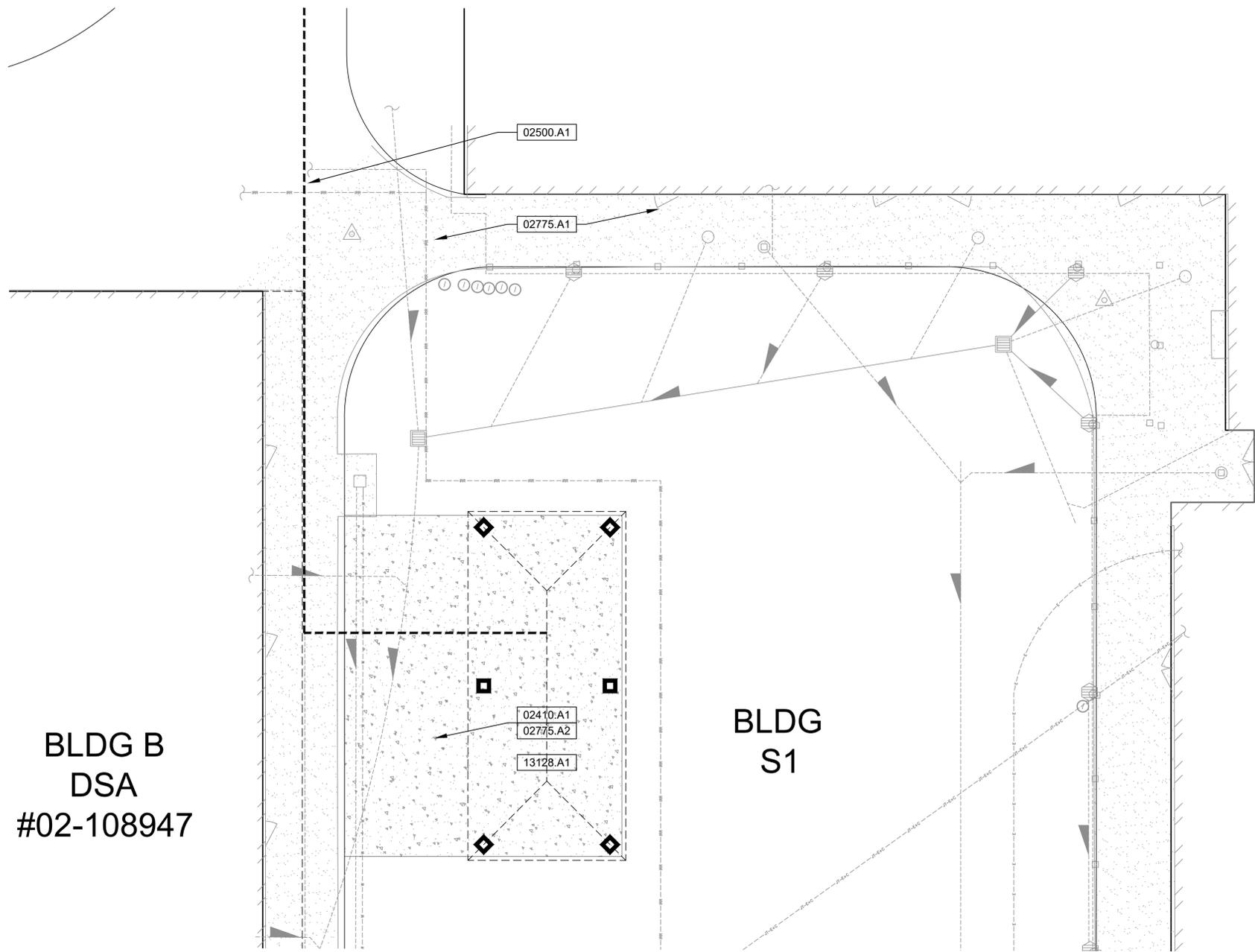
FIRE AUTHORITY  
 ADA PATH OF TRAVEL  
 SITE PLAN

CONSULTANT

PROJECT NO.	REVISIONS	BY
21-32-055		
DATE		
7/5/2021		
DRAWN		
SLH		
CHECKED		
SLH		
SCALE		
CADFILE		
UPDATED		

SHEET NO.

**A1.1**



BLDG B  
DSA  
#02-108947

BLDG  
S1

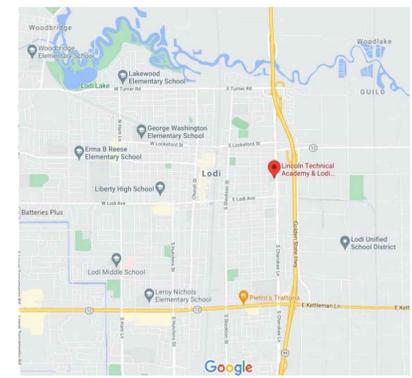
BLDG A  
DSA  
#02-106743

**2 ENLARGED SITE PLAN**  
SCALE: 1/8" = 1'-0"  
8' 16'

- KEYNOTES**
- 02410 DEMOLITION
  - 02410.A1 remove existing turf, irrigation and paving at new building pad
  - 02500 ACCESSIBILITY
  - 02500.A1 accessible path of travel shown dashed
  - 02775 CONCRETE PAVING
  - 02775.A1 existing concrete paved walk
  - 02775.A2 new concrete paved walk
  - 13128 SHADE STRUCTURE BUILDING
  - 13128.A1 20' x 44' shade structure building purchased and installed as part of this contract.

**BUILDING DATA**

BUILDING USE:	ASSEMBLY
OCCUPANCY GROUP:	A-3
CONSTRUCTION:	TYPE V-B
TOTAL BUILDING STORIES:	1
AUTOMATIC FIRE SPRINKLER:	No
BUILDING AREA S1 (20 x 44):	880 SF
ROOF AREA (2 overhang):	272 SF
TOTAL BUILDING AREA:	1152 SF
ALLOWABLE AREA:	6,000 SF
OCCUPANT LOAD:	1152/7 = 165



LINCOLN TECHNICAL ACADEMY  
542 E PINE STREET  
LODI, CA 95240

**1 VICINITY MAP**  
NO SCALE

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SHADE STRUCTURE ADDITION  
LINCOLN TECHNICAL ACADEMY  
LODI UNIFIED SCHOOL DISTRICT

VICINITY MAP  
BUILDING DATA  
ENLARGED SITE PLAN

CONSULTANT

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SHEET NO.		

**A1.2**

**ABBREVIATIONS (EXISTING)**

NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THESE PLANS.

?? UNKNOWN	D DEPTH	ICP IRRIGATION CONTROL PANEL	SB SIGNAL BOX
AC ASPHALTIC CONCRETE	DDC DOUBLE DETECTOR CHECK VALVE	ICV IRRIGATION CONTROL VALVE	SD STORM DRAIN
ACC ACCESSIBLE	DF DRINKING FOUNTAIN	INV PIPE INVERT ELEVATION	SDMH STORM DRAIN MANHOLE
ADU AIR CONDITIONING UNIT	DG DECOMPOSED GRANITE	IRR IRRIGATION	SIB SIGNAL
AD AREA DRAIN	DI DROP INLET	JF JOINT UTILITY POLE	SLD STREET LIGHT
APN ASSESSOR'S PARCEL NUMBER	DIA DIAMETER	LF LINEAL FEET	SLB STREET LIGHT BOX
ARV AIR RELEASE VALVE	DRWY DRIVEWAY	LNDG LANDING	SS SANITARY SEWER
BBALL BASKETBALL POLE	DS DOWNSPOUT	LVE LOW VOLTAGE ELECTRIC	SSCO SANITARY SEWER CLEANOUT
BCM BRASS CAP MONUMENT	DWG DRAWING	LVE LOW VOLTAGE ELECTRIC	STD STANDARD
BFF BACK FLOW PREVENTER	EP EDGE OF PAVEMENT	EX EXISTING	STL STEEL
BL BLOCK	EMT EXISTING	MSC METAL STORAGE CONTAINER	T TELEPHONE
BLDG BUILDING	EX EXISTING	NTS NOT TO SCALE	TBALL TETHER BALL POLE
BOL BOLLARD	FA FIRE ALARM	OH OVERHEAD	TDM TEMPORARY BENCHMARK
BOV BLOW-OFF VALVE	FDC FIRE DEPARTMENT CONNECTION	OH OVERHEAD	TC TOP OF CURB
BK BRICK	FFE FINISHED FLOOR ELEVATION	OH OVERHEAD	TP TOP OF WALL
BWF BARBED WIRE FENCE	FFH FIRE HYDRANT	OH OVERHEAD	TRW TOP OF RETAINING WALL
C COMMUNICATION	FL FLOWLINE	OSPH OLD STEEL POST HOLE	UG UNDERGROUND
C/L CENTERLINE	FO FIBER OPTIC	PA PLANTER AREA	UNK UNKNOWN
CATV CABLE TELEVISION	FS FIRE SERVICE	PD PLANTER DRAIN	UNO UNLESS OTHERWISE NOTED
CB CATCH BASIN	G GAS	PH POSTHOLE	VBALL VOLLEYBALL
CIP CAPPED IRON PIPE	G GRATE	PIV POST INDICATOR VALVE	W WATER
CLF CLASS	GRB GROUND ROD BOX	PP POWER POLE	W/W WITH
CLN CHAIN LINK FENCE	GRD GRADE ELEVATION	PRKG PARKING	W/O WITHOUT
CMP CORRUGATED METAL PIPE	GRD GRADE ELEVATION	PUE PUBLIC UTILITY EASEMENT	WD WOOD
CO CLEANOUT	GRD GROUND ROD	PVC POLYVINYL CHLORIDE	WIF WROUGHT IRON FENCE
COL COLUMN	GV GAS VALVE	R RUBBER	XF TRANSFORMER
CONC CONCRETE	HD HOSE BIBB	RIM MANHOLE RIM ELEVATION	XWALK CROSSWALK
COND CONDENSATE	HBD HEADER BOARD	R/W RIGHT OF WAY	
CONSTR CONSTRUCT	HP HIGH PRESSURE	RF REDUCED PRESSURE BACKFLOW PREVENTER	
CPF CONTROL POINT FOUND	HR HANDRAIL	R/WALL RETAINING WALL	
CPS CONTROL POINT SET	HVE HIGH VOLTAGE ELECTRIC	RWL RAIN WATER LEADER	
CS CONCRETE SURFACE			

**EXISTING TOPOGRAPHY**

---	PROPERTY LINE	---	WATER LINE (SIZE INDICATED)
---	CENTERLINE	---	WATER LINE (RECORD INFORMATION)
---	EASEMENT	---	WATER LINE (UNDERGROUND LOCATING)
+	PROPERTY CORNER FOUND AS NOTED	⊙	WATER MANHOLE
○	PROPERTY CORNER NOTHING FOUND OR SET	⊕	WATER VALVE
△	TEMPORARY BENCHMARK (SEE TBM LIST FOR INFO)	⊞	WATER METER
---	SWALE OR DRAINAGE FLOW	⊞	WATER BOX
---	DRAINAGE FLOW	⊞	IRRIGATION CONTROL VALVE
○	FENCE (TYPE NOTED)	⊞	FIRE HYDRANT
○	TREE (SIZE/TYPE INDICATED)	⊞	BACKFLOW PREVENTER
---	SLOPE	⊞	SPRINKLER
---	CONTOUR	⊞	HOSE BIBB
---	CONCRETE SURFACE	---	OVERHEAD ELECTRIC LINE
---	EDGE OF ASPHALT	---	UNDERGROUND ELECTRIC LINE
---	EDGE OF BUILDING	---	UNDERGROUND ELECTRIC LINE (RECORD INFORMATION)
+	SIGN	---	UNDERGROUND ELECTRIC LINE (UNDERGROUND LOCATING)
+	POST OR BOLLARD	⊙	ELECTRIC MANHOLE
99.9	GROUND ELEVATION	⊙	UTILITY POLE (WITH GUY WIRE)
99.99	HARD SURFACE ELEVATION	⊞	ELECTRIC METER
		⊞	ELECTRIC BOX
		⊞	STREET LIGHTING BOX
		⊞	LIGHT STANDARD
		⊞	FLOOD LIGHT
		⊞	ELECTRICAL OUTLET
		---	GAS LINE (SIZE INDICATED)
		---	GAS LINE (RECORD INFORMATION)
		---	GAS LINE (UNDERGROUND LOCATING)
		⊙	GAS MANHOLE
		⊞	GAS VALVE
		⊞	GAS METER
		---	TELEPHONE LINE
		---	TELEPHONE LINE (RECORD INFORMATION)
		---	TELEPHONE LINE (UNDERGROUND LOCATING)
		⊞	SANITARY SEWER MANHOLE
		⊞	SANITARY SEWER CLEANOUT

A.P.N.	043-160-080
BENCHMARK NO.	1117
ELEV.	55.575
NW CORNER PINE ST. AND CHEROKEE LN. O' E' END OF CURB RETURN ON PINE ST. TOC.	

**EXISTING UTILITIES**

---	STORM DRAIN LINE (SIZE + DIRECTION OF FLOW)	⊞	STORM DRAIN MANHOLE
---	STORM DRAIN LINE (RECORD INFORMATION)	⊞	STORM DRAIN CLEANOUT
---	STORM DRAIN LINE (UNDERGROUND LOCATING)	⊞	DROP INLET
⊞	STORM DRAIN MANHOLE	⊞	AREA DRAIN
⊞	STORM DRAIN CLEANOUT	⊞	R/W
⊞	DROP INLET	⊞	DOWNSPOUT
⊞	AREA DRAIN	---	SANITARY SEWER LINE (SIZE + DIRECTION OF FLOW)
⊞	R/W	---	SANITARY SEWER LINE (RECORD INFORMATION)
⊞	DOWNSPOUT	---	SANITARY SEWER LINE (UNDERGROUND LOCATING)
---	SANITARY SEWER LINE (SIZE + DIRECTION OF FLOW)	⊞	SANITARY SEWER MANHOLE
---	SANITARY SEWER LINE (RECORD INFORMATION)	⊞	SANITARY SEWER CLEANOUT
---	SANITARY SEWER LINE (UNDERGROUND LOCATING)		

**TBM LIST**

NUMBER	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	CPS PK-WASHER	9995.92	9660.87	54.73
2	CPS CHISELED	9996.32	9828.77	53.76
3	CPS CHISELED	9996.47	9921.39	56.82
4	CPS CHISELED	9997.41	10010.84	56.86
5	CPS CHISELED	9869.90	10002.00	56.14
6	CPS CHISELED	10126.7	10049.97	56.99
7	CPS CHISELED	10121.01	9954.63	56.92
8	CPS CHISELED	10192.06	9943.77	55.08
9	CPS CHISELED	9911.91	9817.71	54.54
10	CPS CHISELED	9904.26	9644.99	55.12
11	CPF BM 1117 EL-55.575	10243.37	10146.40	55.57

**BASIS OF BEARINGS:**  
 \*\*ASSUMED\*\*

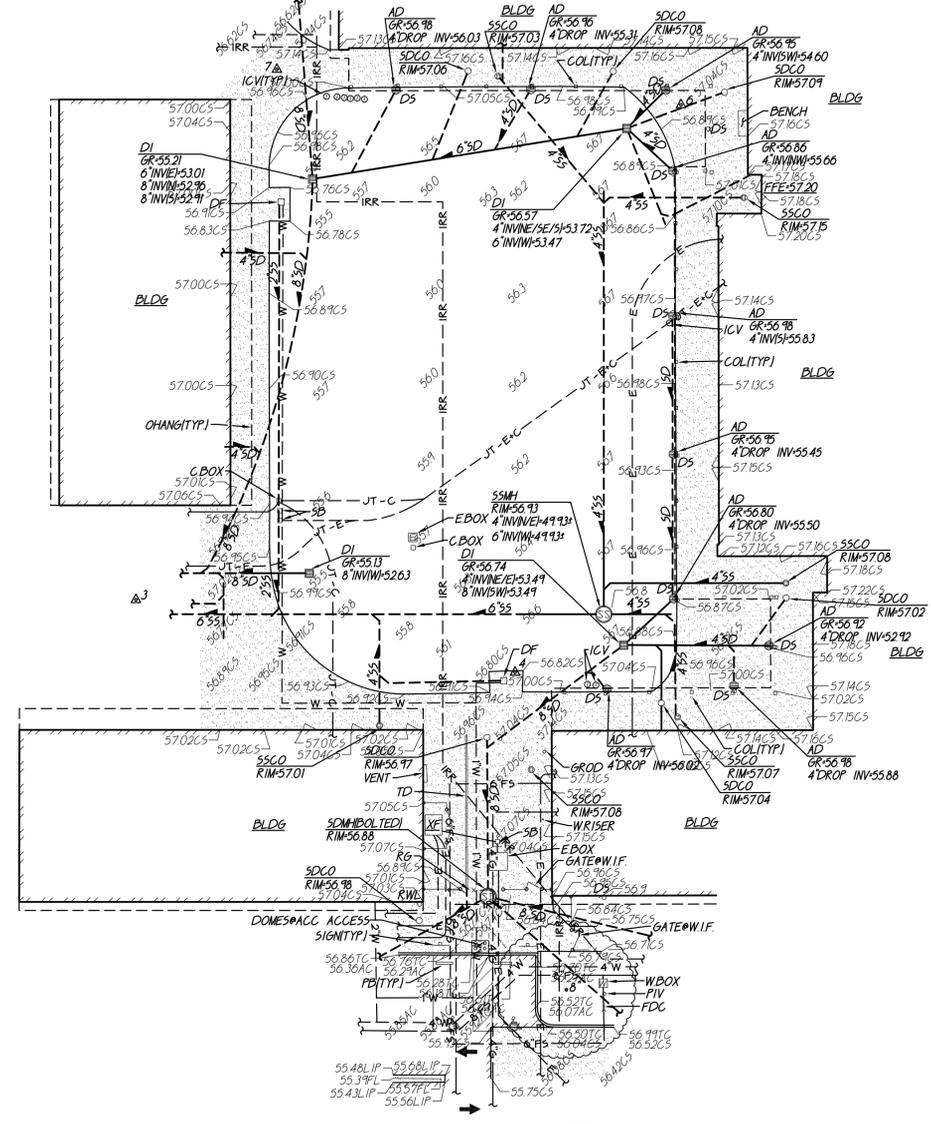
**E/MA INFORMATION:**  
 THE SUBJECT PROPERTY IS LOCATED IN THE "ZONE X (SHADED)" AREA OF 0.2% ANNUAL CHANCE FLOOD HAZARD PER FLOOD INSURANCE RATE MAP 06077C0169F DATED OCTOBER 16, 2009.

**NOTE:**  
 EXISTING UTILITIES BASED ON VISIBLE SURFACE STRUCTURES AND RECORD INFORMATION.

**ABBREVIATIONS (PROPOSED)**

NOTE: NOT ALL ABBREVIATIONS MAY BE USED ON THESE PLANS.

AB AGGREGATE BASE	AD ASSESSOR'S PARCEL NUMBER	ADP AIR RELEASE VALVE	AG ASPHALTIC CONCRETE																																																																																																								
AC ASPHALTIC CONCRETE	ADP AIR RELEASE VALVE	AGG AGGREGATE SUB-BASE	AD AREA DRAIN																																																																																																								
AD ASSESSOR'S PARCEL NUMBER	AGG AGGREGATE SUB-BASE	BOV BLOW-OFF VALVE	ADU AIR CONDITIONING UNIT																																																																																																								
ADP AIR RELEASE VALVE	BOV BLOW-OFF VALVE	BW BUTTERFLY VALVE	AD AREA DRAIN																																																																																																								
AG ASPHALTIC CONCRETE	BW BUTTERFLY VALVE	CB CENTERLINE	ADU AIR CONDITIONING UNIT																																																																																																								
AD ASSESSOR'S PARCEL NUMBER	CB CENTERLINE	CJ CATCH BASIN	AD AREA DRAIN																																																																																																								
ADP AIR RELEASE VALVE	CJ CATCH BASIN	CL CONTROL JOINT	ADU AIR CONDITIONING UNIT																																																																																																								
AGG AGGREGATE SUB-BASE	CL CONTROL JOINT	CL CORRUGATED METAL PIPE	AD AREA DRAIN																																																																																																								
BOV BLOW-OFF VALVE	CL CORRUGATED METAL PIPE	CMV CABLE TELEVISION	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	CMV CABLE TELEVISION	CO CLEANOUT	AD AREA DRAIN																																																																																																								
BOV BLOW-OFF VALVE	CO CLEANOUT	COMM COMMUNICATION	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	COMM COMMUNICATION	CONC CONCRETE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	CONC CONCRETE	CONSTR CONSTRUCT	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	CONSTR CONSTRUCT	CR CURB RETURN	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	CR CURB RETURN	CS CONCRETE SURFACE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	CS CONCRETE SURFACE	DC DOUBLE CHECK VALVE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	DC DOUBLE CHECK VALVE	DDC DOUBLE DETECTOR CHECK VALVE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	DDC DOUBLE DETECTOR CHECK VALVE	DG DECOMPOSED GRANITE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	DG DECOMPOSED GRANITE	DI DROP INLET	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	DI DROP INLET	DIA DIAMETER	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	DIA DIAMETER	DIP DUCTILE IRON PIPE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	DIP DUCTILE IRON PIPE	DWG DRAWING	ADU AIR CONDITIONING UNIT																																																																																																								
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BW BUTTERFLY VALVE	EU EXPANSION JOINT	EP EDGE OF PAVEMENT	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	EP EDGE OF PAVEMENT	ESMT EASEMENT	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	ESMT EASEMENT	EX EXISTING	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	EX EXISTING	FS FIRE SERVICE LINE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	FS FIRE SERVICE LINE	FDC FIRE DEPARTMENT CONNECTION	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	FDC FIRE DEPARTMENT CONNECTION	FL FLOWLINE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	FL FLOWLINE	FM SANITARY SEWER MAIN	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	FM SANITARY SEWER MAIN	FFH FINISHED FLOOR ELEVATION	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	FFH FINISHED FLOOR ELEVATION	FGH FIRE HYDRANT	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	FGH FIRE HYDRANT	G GAS	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	G GAS	GB GRADE BREAK	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	GB GRADE BREAK	GR GRATE ELEVATION	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	GR GRATE ELEVATION	GRD GRADE ELEVATION	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	GRD GRADE ELEVATION	GV GATE VALVE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	GV GATE VALVE	HB HOSE BIBB	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	HB HOSE BIBB	HBD HEADER BOARD	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	HBD HEADER BOARD	HDPE HIGH DENSITY POLYETHYLENE PIPE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	HDPE HIGH DENSITY POLYETHYLENE PIPE	HP HIGH POINT	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	HP HIGH POINT	INV PIPE INVERT ELEVATION	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	INV PIPE INVERT ELEVATION	JU JOINT UTILITY POLE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	JU JOINT UTILITY POLE	LF LINEAL FEET	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	LF LINEAL FEET	LIP LIP OF GUTTER	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	LIP LIP OF GUTTER	LT LEFT	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	LT LEFT	MS MOWSTRIP	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	MS MOWSTRIP	NTS NOT TO SCALE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	NTS NOT TO SCALE	OH OVERHEAD	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	OH OVERHEAD	OH BUILDING PAD	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	OH BUILDING PAD	PCC PORTLAND CEMENT CONCRETE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	PCC PORTLAND CEMENT CONCRETE	PD PLANTER DRAIN	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	PD PLANTER DRAIN	PIV POST INDICATOR VALVE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	PIV POST INDICATOR VALVE	P/L PROPERTY LINE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	P/L PROPERTY LINE	PP POWER POLE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	PP POWER POLE	PUE PUBLIC UTILITY EASEMENT	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	PUE PUBLIC UTILITY EASEMENT	PVC POLYVINYL CHLORIDE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	PVC POLYVINYL CHLORIDE	RCP REINFORCED CONCRETE PIPE	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	RCP REINFORCED CONCRETE PIPE	R RADIUS	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	R RADIUS	RIM MANHOLE RIM ELEVATION (SOLID COVER)	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	RIM MANHOLE RIM ELEVATION (SOLID COVER)	RP REDUCED PRESSURE BACKFLOW PREVENTER	ADU AIR CONDITIONING UNIT </tr <tr> <td>BW BUTTERFLY VALVE</td> <td>RP REDUCED PRESSURE BACKFLOW PREVENTER</td> <td>R/W RIGHT OF WAY</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>R/W RIGHT OF WAY</td> <td>S SCHEDULE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>S SCHEDULE</td> <td>SD STORM DRAIN</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>SD STORM DRAIN</td> <td>SDMH STORM DRAIN MANHOLE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>SDMH STORM DRAIN MANHOLE</td> <td>SG SUBGRADE ELEVATION</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>SG SUBGRADE ELEVATION</td> <td>SP FIRE SPRINKLER SERVICE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>SP FIRE SPRINKLER SERVICE</td> <td>SS SANITARY SEWER</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>SS SANITARY SEWER</td> <td>SSMH SANITARY SEWER MANHOLE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>SSMH SANITARY SEWER MANHOLE</td> <td>STD STANDARD</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>STD STANDARD</td> <td>S/W SIDEWALK</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>S/W SIDEWALK</td> <td>T TELEPHONE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>T TELEPHONE</td> <td>TC TOP OF CURB</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>TC TOP OF CURB</td> <td>TD TRENCH DRAIN</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>TD TRENCH DRAIN</td> <td>TDCB TRENCH DRAIN CATCH BASIN</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>TDCB TRENCH DRAIN CATCH BASIN</td> <td>TP TELEPHONE POLE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>TP TELEPHONE POLE</td> <td>TRW TOP OF RETAINING WALL</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>TRW TOP OF RETAINING WALL</td> <td>TSW TOP OF SEAT WALL</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>TSW TOP OF SEAT WALL</td> <td>TW TOP OF WALK ELEVATION</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>TW TOP OF WALK ELEVATION</td> <td>U UTILITY</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>U UTILITY</td> <td>UG UNDERGROUND</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>UG UNDERGROUND</td> <td>UNO UNLESS OTHERWISE NOTED</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>UNO UNLESS OTHERWISE NOTED</td> <td>VCP VITRIFIED CLAY PIPE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>VCP VITRIFIED CLAY PIPE</td> <td>W WATER</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>W WATER</td> <td>W/W WITH</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BW BUTTERFLY VALVE</td> <td>W/W WITH</td> <td>W/O WITHOUT</td> <td>ADU AIR CONDITIONING UNIT</td> </tr> <tr> <td>BOV BLOW-OFF VALVE</td> <td>W/O WITHOUT</td> <td>WV WATER VALVE</td> <td>ADU AIR CONDITIONING UNIT</td> </tr>	BW BUTTERFLY VALVE	RP REDUCED PRESSURE BACKFLOW PREVENTER	R/W RIGHT OF WAY	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	R/W RIGHT OF WAY	S SCHEDULE	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	S SCHEDULE	SD STORM DRAIN	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	SD STORM DRAIN	SDMH STORM DRAIN MANHOLE	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	SDMH STORM DRAIN MANHOLE	SG SUBGRADE ELEVATION	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	SG SUBGRADE ELEVATION	SP FIRE SPRINKLER SERVICE	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	SP FIRE SPRINKLER SERVICE	SS SANITARY SEWER	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	SS SANITARY SEWER	SSMH SANITARY SEWER MANHOLE	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	SSMH SANITARY SEWER MANHOLE	STD STANDARD	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	STD STANDARD	S/W SIDEWALK	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	S/W SIDEWALK	T TELEPHONE	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	T TELEPHONE	TC TOP OF CURB	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	TC TOP OF CURB	TD TRENCH DRAIN	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	TD TRENCH DRAIN	TDCB TRENCH DRAIN CATCH BASIN	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	TDCB TRENCH DRAIN CATCH BASIN	TP TELEPHONE POLE	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	TP TELEPHONE POLE	TRW TOP OF RETAINING WALL	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	TRW TOP OF RETAINING WALL	TSW TOP OF SEAT WALL	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	TSW TOP OF SEAT WALL	TW TOP OF WALK ELEVATION	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	TW TOP OF WALK ELEVATION	U UTILITY	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	U UTILITY	UG UNDERGROUND	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	UG UNDERGROUND	UNO UNLESS OTHERWISE NOTED	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	UNO UNLESS OTHERWISE NOTED	VCP VITRIFIED CLAY PIPE	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	VCP VITRIFIED CLAY PIPE	W WATER	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	W WATER	W/W WITH	ADU AIR CONDITIONING UNIT	BW BUTTERFLY VALVE	W/W WITH	W/O WITHOUT	ADU AIR CONDITIONING UNIT	BOV BLOW-OFF VALVE	W/O WITHOUT	WV WATER VALVE	ADU AIR CONDITIONING UNIT
BW BUTTERFLY VALVE	RP REDUCED PRESSURE BACKFLOW PREVENTER	R/W RIGHT OF WAY	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	R/W RIGHT OF WAY	S SCHEDULE	ADU AIR CONDITIONING UNIT																																																																																																								
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BOV BLOW-OFF VALVE	SG SUBGRADE ELEVATION	SP FIRE SPRINKLER SERVICE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	SP FIRE SPRINKLER SERVICE	SS SANITARY SEWER	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	SS SANITARY SEWER	SSMH SANITARY SEWER MANHOLE	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	SSMH SANITARY SEWER MANHOLE	STD STANDARD	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	STD STANDARD	S/W SIDEWALK	ADU AIR CONDITIONING UNIT																																																																																																								
BW BUTTERFLY VALVE	S/W SIDEWALK	T TELEPHONE	ADU AIR CONDITIONING UNIT																																																																																																								
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BW BUTTERFLY VALVE	VCP VITRIFIED CLAY PIPE	W WATER	ADU AIR CONDITIONING UNIT																																																																																																								
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BW BUTTERFLY VALVE	W/W WITH	W/O WITHOUT	ADU AIR CONDITIONING UNIT																																																																																																								
BOV BLOW-OFF VALVE	W/O WITHOUT	WV WATER VALVE	ADU AIR CONDITIONING UNIT																																																																																																								



**SITE PLAN**



**SHEET INDEX**

C0.1	CIVIL COVER SHEET
C1.1	GRADING AND UTILITY PLAN
C2.1	EARTHWORK 310000
C2.2	ASPHALT PAVING 321200
C2.3	SITE CONCRETE 321600

**NOTE:**  
 THE TYPES, LOCATIONS, SIZES, AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, WARREN CONSULTING ENGINEERS CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES, NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT SHALL NOTIFY MEMBERS OF USA TWO(2) WORKING DAYS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING TOLL FREE 1-800-227-2600.



IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 02-119209 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 07/20/2021

730 Howe Avenue, Suite 450  
 Sacramento, CA 95825  
 Phone: 916.921.2112  
 Fax: 916.921.2212



SHADE STRUCTURE  
 LINCOLN TECHNICAL ACADEMY  
 LODI UNIFIED SCHOOL DISTRICT  
 CIVIL COVER SHEET

CONSULTANT



PROJECT NO.	REVISIONS	BY
21-32-054		
DATE		
6/9/2021		
DRAWN		
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SCALE		
AS NOTED		
CADFILE		
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SHEET NO.  
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 OF SHEETS



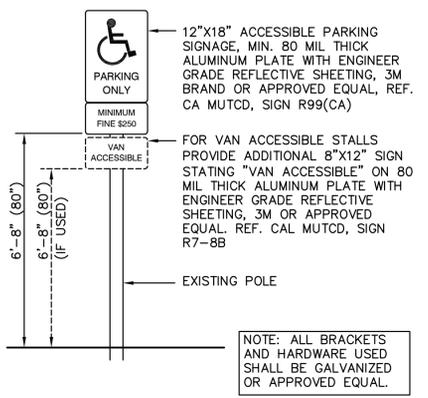
SHADE STRUCTURE  
 LINCOLN TECHNICAL ACADEMY  
 LODI UNIFIED SCHOOL DISTRICT

GRADING PLAN

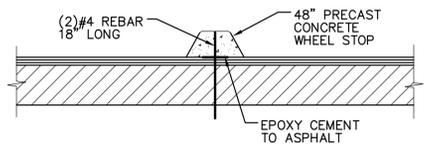
CONSULTANT  
**WCE**  
 WARREN CONSULTING ENGINEERS, INC.  
 1117 WINDFIELD WAY, SUITE 110  
 EL DORADO HILLS, CA 95762 | (916) 985-1870

PROJECT NO.	REVISIONS	BY
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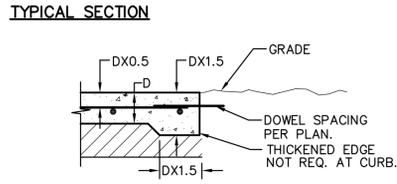
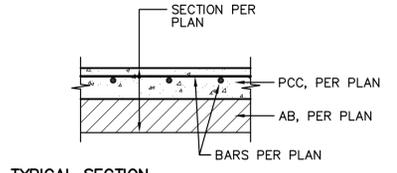
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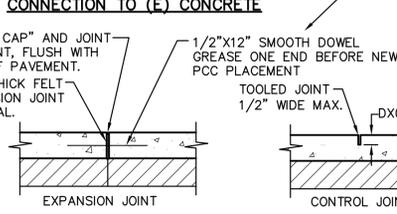
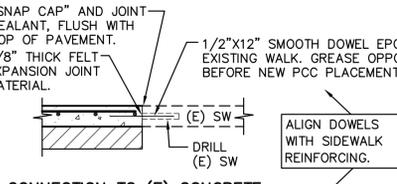
**2**  
 C1.1 **PARKING SIGNAGE**  
 NO SCALE



**3**  
 C1.1 **CONCRETE WHEEL STOP**  
 NO SCALE

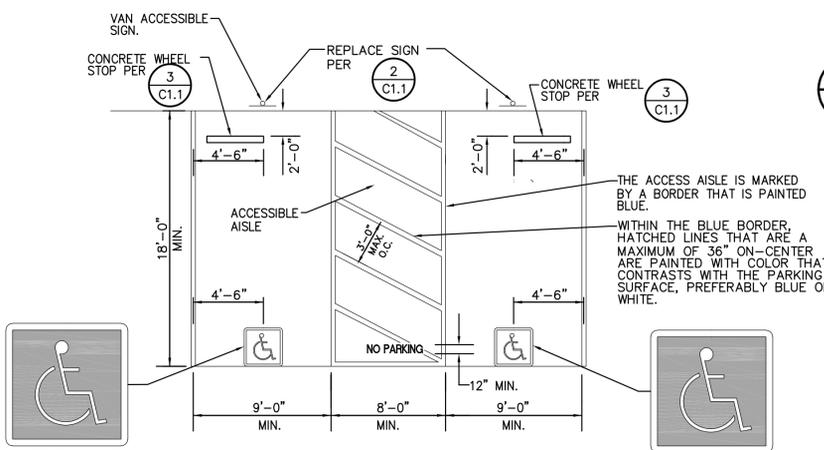


**1**  
 C1.1 **CONCRETE SIDEWALK**  
 NO SCALE

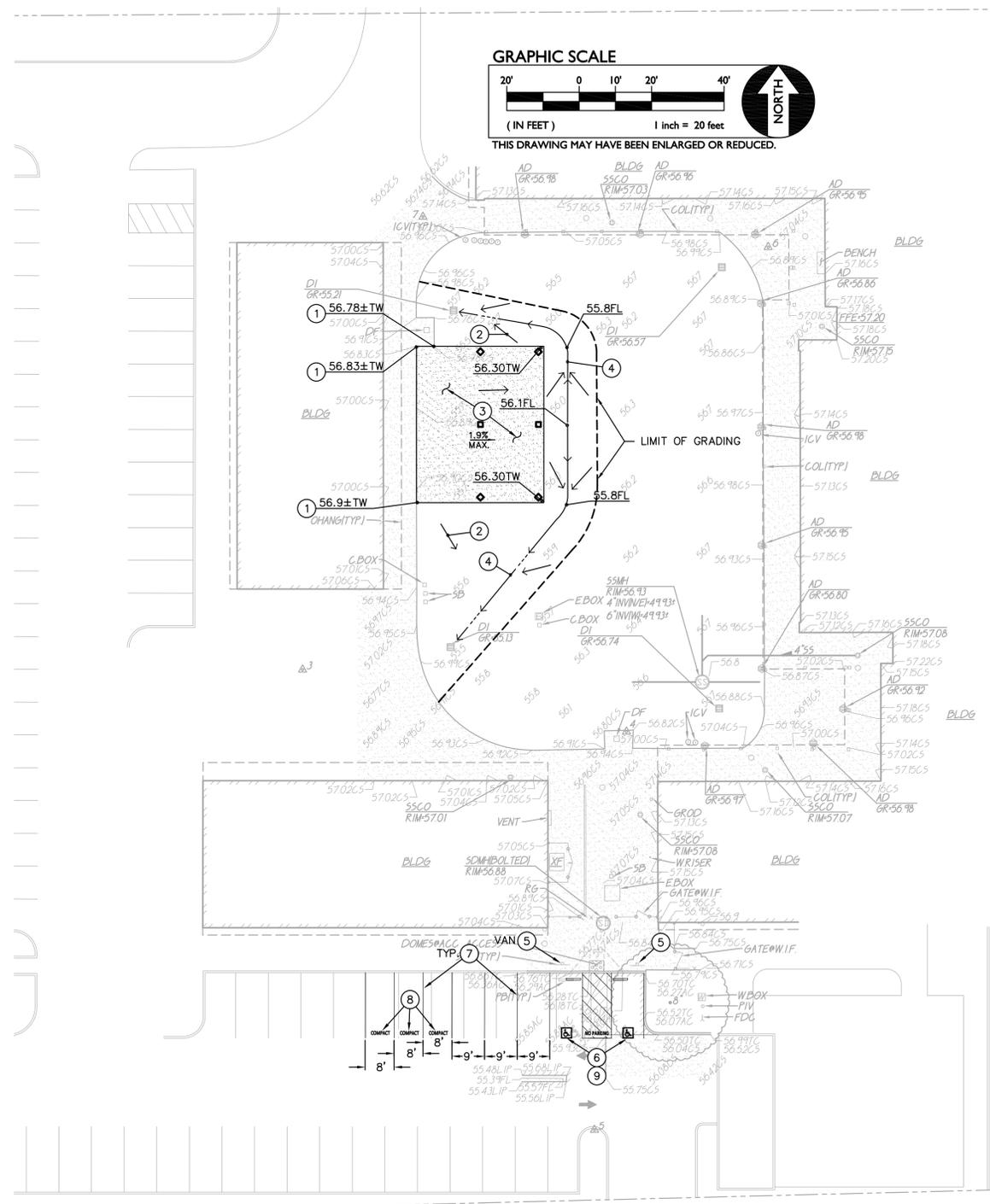
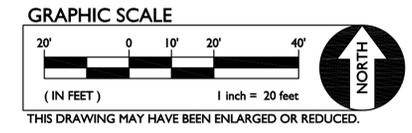


- NOTES:**
1. PROVIDE FELT EXPANSION JOINTS AT 20 FEET O.C. MIN.
  2. PROVIDE CONTROL JOINTS AT 10 FEET O.C. MIN.
  3. EXPANSION OR CONTROL JOINTS SHALL NOT EXCEED 1/2" IN SURFACE WIDTH.

**1**  
 C1.1 **CONCRETE SIDEWALK**  
 NO SCALE



**4**  
 C1.1 **ACCESSIBLE PARKING**  
 NO SCALE



- CONSTRUCTION NOTES**
1. MATCH EXISTING GRADE.
  2. SLOPE UNIFORMLY.
  3. PLACE CONCRETE PAVING 4" PCC WITH #3 REBAR AT 18" O.C.E.W. OVER 4" MIN. AB COMPACTED TO 95% ON SUBGRADE SCARIFIED 6" MIN. AND RECOMPACTED TO 95% MIN.
  4. CONSTRUCT SWALE.
  5. REPLACE SIGNS PER **2** C1.1
  6. BLACK OUT EXISTING STRIPING AND PROVIDE ACCESSIBLE PARKING PER **4** C1.1 **3** C1.1
  7. BLACK OUT EXISTING STRIPING AND PROVIDE 4" WIDE WHITE STRIPE.
  8. PROVIDE "COMPACT" WHITE LEGEND.
  9. PROVIDE FINE MIX AC OVERLAY AS NECESSARY TO ACHIEVE 2% MAX. SLOPE IN ACCESSIBLE PARKING AREA.



SECTION 310000 EARTHWORK

PART 1 - GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

Section 312333, Trenching and Backfilling.
Section 321200, Asphalt Concrete Paving.
Section 321600, Site Concrete.
Section 334000, Site Drainage.

1.02 QUALITY ASSURANCE

Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.
All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

The representatives of the Owner's testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner's testing lab representatives nor the testing by the Owner's testing lab shall excuse the contractors or subcontractors for defects discovered in their work during or following completion of the project. Correcting of inadequate compaction or moisture content is the sole responsibility of the contractor.

Tests (See Part 3 for Compaction Testing).

Contractor shall be solely responsible for all subgrades built. Failures resulting from inadequate compaction or moisture content are the responsibility of the contractor. Contractor shall be solely responsible for any and all repairs.

1.03 SUBMITTALS

Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

1.04 WARRANTY

Refer to General Conditions and Section 017836.

1.05 REFERENCES AND STANDARDS

General: Site survey, included in the drawings, was prepared by Warren Consulting Engineers, Inc., and is the basis for data regarding current conditions. While the survey is deemed generally accurate, there exists discrepancies and variations due to elapsed time, weather, etc. Existing dirt grades may vary 0.2 ft. from that shown.

Site Visitation: All bidders interfacing with existing conditions shall visit the site prior to bid to verify general conditions of improvements. Discrepancies must be reported prior to the bid for clarification.

ANSI/ASTM D698-e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).

ANSI/ASTM D1556-e1 - Test Method for Density of Soil in Place by the Sand-Cone Method.

ANSI/ASTM 698-12e2 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).

ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).

ANSI/ASTM D 4318-10e1 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.

CALTRANS Standard Specifications Section 17.

CAL-SEA, Title 8, Section 1590 (e).

Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.

1.06 DELIVERY, STORAGE AND HANDLING

Transport, store and handle in strict accord with the local jurisdiction. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.07 PROJECT CONDITIONS

Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.

Excavation dewatering may be necessary. Contractor shall provide any and all tools, equipment and labor necessary for excavation dewatering no matter what the source. Dewatering shall be continuous until all site utilities are installed and backfilled.

1.08 EXISTING SITE CONDITIONS

Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

ON-SITE UTILITY VERIFICATION AND REPAIR PROCEDURES

Ground-breaking requirements:

All underground work performed by a Contractor must be authorized by the District's Construction Manager or the Low Voltage Consultant prior to start of construction. The Contractor is to obtain and keep the original School's construction utility site plans on site during all excavation operations. Contractor can contact the District's Construction Manager, Facilities Manager, or the Low Voltage Consultant to procure the drawings.

Underground Utility Locating:

The contractor shall hire an Underground Utility Locating Service to locate existing underground utility pathways in areas affected by the scope of work for excavation.

Contractor must use an underground utility locator service with a minimum of 3 years' experience. The equipment operator must have demonstrated experience.

The Underground Utility Locator Service must have the use of equipment with the ability to locate by means of inductive clamping, induction, inductive metal detection, conductive coupling, or TransOnde (Radio detection) to generate signals, passive locating (free scoping) for "hot" electric, and metal detector.

The Underground Utility Locator Service must be able to locate existing utilities at a depth of at least 72". The Underground Utility Locator Service must be able to locate but are not limited to locating the following types of utility pathways:

All conduit pathways containing 110 volt or greater 50-60Hz electrical wire.
All conduit pathways containing an active cable TV system.
All conduit pathways containing wire or conductor in which a signal can be attached and generated without damaging or triggering the existing systems.

All empty conduit pathways or pipe in which a signal probe or sonde (miniature transmitter) can be inserted.
All conduit pathways containing non-conductive cables or wires in which a signal probe or sonde (miniature transmitter) can be inserted.

All plastic and other nonconductive water lines in which a TransOnde Radio detection) or other "transmitter" can be applied to create a low frequency pressure wave (signal) without damaging or triggering the existing systems.

All copper or steel waterlines and plastic or steel gas lines
All markings made by the Underground Utility Locator Service or other shall be clear and visible.

The contractor shall maintain all markings made by Underground Utility Locator Service or other throughout the entire length of the project.

The Underground Utility Locator Service shall provide the contractor with two sets of maps showing the location of utilities and average depth. They will be referenced to permanent buildings. Contractor will deliver one copy to the district at no additional charge.

Contractor is responsible to contact Underground Service Alert (U.S.A. 800/227-2600) and receive clearance prior to any excavation operations.

Contractor shall inform the (District's Construction Manager) (Architect) (Owner) no later than five (5) days prior to the date scheduled for the utility locator service to be on site.

1.09 PROTECTION

Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.

Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gullying of sides of excavation.

Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.

Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

1.10 SEASONAL LIMITS

No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

Excessively wet fill material shall be bladed and aerated per section 3.08, B.

1.11 TESTING

Geotechnical Engineer: Owner is retaining a Geotechnical Engineer to determine compliance of fill with Specifications, and to direct adjustments in fill operations. Costs of Geotechnical Engineer will be borne by Owner; except those costs incurred for re-tests or re-inspection will be paid by Owner and back charged to Contractor.

If Contractor elects to process or mine onsite materials for use as Suitable Fill, Aggregate Sub Base, Aggregate Base, Rock, Crushed Rock or sand the cost of all testing of this material shall be paid for by the Contractor.

Testing of import fill for compliance with Department of Toxic Substance Control (DTSC) shall be paid for by the Contractor.

1.12 ARCHEOLOGICAL AND CULTURAL RESOURCES

A. If archeological or cultural resources are discovered during the Work, the Contractor must cease all construction operations in the vicinity of the discovery until a qualified archeologist can assess the value of these resources and make recommendations to the State Historic Preservation Officer. Archeological and cultural resources include artifacts, large amounts of bone, shell, or flaked stone, and other evidence of human activity. If the State Historic Preservation Officer or the Owner directs that work be temporarily ceased at the location of an archeological or cultural find, the Contractor must temporarily suspend work at the location.

PART 2 - PRODUCTS

2.01 MATERIALS

Engineered Fill Materials: All fill shall be of approved local materials supplemented by imported fill if necessary.

"Approved" local materials are defined as local soils tested and approved by Geotechnical Engineer free from debris, and concentrations of clay and organics; and contain rocks no larger than 3 inches in greatest dimension. The soil and rock should be thoroughly blended so that all rock is surrounded by soil. This may require mixing of the soil and rock with a dozer prior to placement and compaction. Clods, rocks, hard lumps or cobbles exceeding 3 inches in final size shall not be allowed in the upper 6 inches of any fill. Native clay or clayey soils will not be permitted within the upper 6 inches of building pad areas or paved areas.

Imported Engineered Fill Material: Imported fill may be required to complete work. Proposed import fill material shall meet the above requirements; shall be similar to the native soils. Import fill shall meet the above requirements; shall have plasticity index of 15 or less; an Expansion Index of 20 or less; be free of particles greater than 3 inch in largest dimension; be free of contaminants and have corrosion characteristics within the acceptable limits.

All import fill material shall be tested and approved by Soils Engineer prior to transportation to the site.

Proposed fill material shall comply with DTSC guidelines to include Phase 1 environmental site assessment and related tests. Refer to the October 2001 DTSC Information Advisory for clean imported fill material.

DTSC TESTING: Site work contractor is to coordinate testing with an analytical lab, hired by the owner, licensed by the State of California for the DTSC testing. The costs associated with the testing will be paid by the contractor.

DTSC testing shall include documentation as to the previous land use, location, and history. Soils shall be analyzed for all compounds of concern to ensure the imported soil is uncontaminated and acceptable. Testing shall be performed per the recommendations included in DTSC Imported Fill Advisory

http://www.dtsc.ca.gov/Schools/Upload/SMP\_FS\_Cleanfill-Schools.pdf). Soils shall be tested prior to import to the project site.

Lab shall determine geographically which tests and analysis comparison will be appropriate for the testing. (CAM 17 / Title 22); (RWQCB) Regional Water Quality Control Board; or (OEHA) Office of Environmental Health Hazard Assessment.

Frequency of testing shall be conducted in accordance with DTSC's Imported Fill Advisory as follows; Fill Material Sampling Schedule

Area of Individual Borrow Area Sampling Requirements
2 Acres or less - Minimum of 4 samples
2 to 4 Acres - Minimum of 1 sample every 1/2 Acre
4 to 10 Acres - Minimum of 8 Samples
Greater than 10 Acres - Minimum of 8 locations with 4 subsamples per location

Volume of Borrow Area Stockpile
Up to 1,000 Cubic Yards - 1 sample per 250 cubic yards
1,000 to 5,000 Cubic Yards - 4 samples for the first 1000 cubic Yards + 1 sample per each additional 500 cubic yards

Greater than 5,000 Cubic Yards 12 samples for the first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

Reports/ Documentation
Results of the testing analysis shall be sent to the Owner; Architect; Project Inspector, Project Civil Engineer, DTSC, and DSA. Letter shall reference DSA file and application numbers.

Landscape Backfill Material:
The top 4" of native topsoil stripped from the site may be used for landscape backfill material provided it meets the requirements as specified in Section 329000.

Imported Topsoil may be required to complete work. See Section 329000 for requirements. Proposed Topsoil material shall comply with DTSC guidelines to include Phase 1 environmental site assessment and related tests. Refer to the October 2001 DTSC Information Advisory for clean imported fill material.

Water: Furnish all required water for construction purposes, including compaction and dust control. Water shall be potable.

Aggregate Base: Provide Class 2 3/4" Aggregate Base conforming to standard gradation as specified in Cal Trans Standard Specifications, Section 26,-1.02A.

Decomposed Granite: Decomposed Granite shall be well graded mixture of fine to 1/8" particles in size with no clods. The material shall be free of vegetation, other soils, debris and rock. The material shall be reddish-tan to tan in color.

Decomposed Granite Solidifier: PolyPavement or equal.

PART 3 - EXECUTION

3.01 INSPECTION LAYOUT AND PREPARATION
Prior to installation of the work of this Section, carefully inspect and verify by field measurements that installed work of all other trades is complete to the point where this installation may properly commence

Layout all work, establish grades, locate existing underground utilities, set markers and stakes, setup and maintain barricades and protection facilities; all prior to beginning actual earthwork operations. Layout and staking shall be done by a licensed Land Surveyor or Professional Civil Engineer.

Verify that specified items may be installed in accordance with the approved design.

In event of discrepancy, immediately notify Owner and the Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.02 PERFORMANCE

GENERAL:

General: Do all grading, excavating and cutting necessary to conform finish grade and contours as shown. All cuts shall be made to true surface of subgrade.

Archaeological Artifacts: Should any artifacts of possible historic interest be encountered during earthwork operations, halt all work in area of discovery and immediately contact the Architect for notification of appropriate authorities.

Degree of Compaction: Percentage of maximum density, hereinafter specified as degree of compaction required, means density equivalent to that percentage of maximum dry density determined by ASTM D1557 Compaction Test method, and such expressed percentage thereof will be minimum acceptable compaction for specified work.

Moisture Content: Moisture content shall be as noted below and as called for on the plans. Moisture content shall be maintained until subgrade is covered by surfacing materials.

3.03 DEMOLITION, DISPOSAL AND DISPOSITION OF UNDESIRABLE MAN-MADE FEATURES All other obstructions, such as abandoned utility lines, septic tanks, concrete foundations, and the like shall be removed from site. Excavations resulting from these removal activities shall be cleaned of all loose materials, dish shaped, and widened as necessary to permit access for compaction equipment. Areas exposed by any required over-excavation should be scarified to a depth of 6", moisture-conditioned to (optimum) (2% above optimum) moisture content, and recompacted to at least 90% of the maximum dry density.

3.04 TESTING AND OBSERVATION

All grading and earthwork operations shall be observed by the Geotechnical Engineer or his representative, serving as the representative of the Owner.

Field compaction tests shall be made by the Geotechnical Engineer or his representative. If moisture content and/or compaction are not satisfactory, Contractor will be required to change equipment or procedure or both, as required to obtain specified moisture or compaction. Notify Geotechnical Engineer at least 48 hours in advance of any filling operation.

Earthwork shall not be performed without the notification or approval of the Geotechnical Engineer or his representative. The Contractor shall notify the Geotechnical Engineer at least two (2) working days prior to commencement of any aspect of the site earthwork.

If the Contractor should fail to meet the compaction or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory, as determined by the Geotechnical Engineer or Architect/Engineer.

After each rain event Geotechnical Engineer shall test fill material for optimum moisture. Do not place any fill material until desired moisture is achieved.

3.05 CLEARING AND GRUBBING

Prior to grading, remove all debris off-site. Remove trees and brush including the root systems. Holes resulting from tree and brush removal should be prepared and backfilled in accordance with paragraphs 3.07, 3.08, 3.09, and 3.10. This may require deepening and/or widening the holes to adequately remove disturbed soil and provide room for compaction equipment. Strip the surface of all organics. Stripping's meeting the requirements of Section 329000 may be used in landscape areas only.

3.06 CUTTING

Do all cutting necessary to bring finish grade to elevations shown on Drawings. When excavation through roots is necessary, cut roots by hand.

Carefully excavate around existing utilities to avoid unnecessary damage. The contractor shall anticipate and perform hand work near existing utilities as shown on the survey, without additional claims or cost.

3.07 STRUCTURAL EXCAVATION

General: Excavate to bear on firm material at contract depth shown on Structural Drawings. Footings: All footing excavations shall be of sufficient width for installation of formwork, unless earth will retain its position during concreting. All portions of footings above grade must be formed. In the event that footings are placed against earth, footing widths below grade shall be increased 2 inches from those shown on Drawings and positive protection shall be provided for top corners of trench.

Unsuitable Ground: Any errors in structural excavation, soft ground, or clay soils found when excavating shall be reported to Architect. In no case shall work be built on any such soft or clay unsuitable surface without direction from the Architect. Restore excavations to proper elevation with engineered fill material compacted to 90% of dry density.

3.08 SUBGRADE PREPARATION

Grade compact and finish all subgrades within a tolerance of 0.10' of grades as indicated on Drawings and so as not to pool water. Subgrade within building pads and concrete walks shall be within 0.05' of grades indicated.

After clearing, grubbing and cutting, subsurface shall be plowed or scarified to a depth of at least 6", until surface is free from ruts, hummocks or other uneven features and uniform and free from large clods. Moisture condition to above optimum moisture content and recompact to at least 90% of the maximum dry density as determined by ASTM Test Method D1557. If the existing soils are at a water content higher than specified, the contractor shall provide multiple daily aerations by ripping, blading, and/or disking to dry the soils to a moisture content where the specified degree of compaction can be achieved. After seven consecutive working days of daily aerations, and the moisture content of the soil remains higher than specified, the contractor shall notify the architect. If the existing soils have a moisture content lower than specified, the contractor shall scarify, rip, water and blade existing soil to achieve specified moisture content. The contractor shall make proper allowance in schedule and methods to complete this work.

Subgrade in areas to receive landscaping shall be compacted to 90%. Where Contractor over-excavates building pads through error, resulting excavation shall be recompacted as engineered fill at Contractor's expense.

3.09 PLACING, SPREADING AND COMPACTING FILL MATERIAL IN BUILDING PAD AND PAVEMENT AREAS
Selected fill material shall be placed in layers which, when compacted, shall not exceed 6 inches in compacted thickness. Each layer shall be spread evenly and thoroughly mixed to insure uniformity in moisture content. Selected fill material shall be moisture-conditioned to specified moisture content. Selected fill material shall be unfrozen. When moisture content of fill material is below that specified, add water until proper moisture content is achieved. When moisture content is above that specified, aerate by blading or other methods mentioned in 3.08 B until moisture content is satisfactory.

After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to a minimum of 90% as determined by the ASTM D1557 Compaction Test. Compact each layer over its entire area until desired density has been obtained.

Recompaction of Fill in Trenches and Compaction of Fill Adjacent to Walls: Where trenches must be excavated, backfill with material excavated. Place in lifts that when compacted do not exceed 6", moisture conditioned to above optimum moisture content, and compact to a minimum of 90% relative compaction in building pad and paved areas, and to 90% relative compaction in landscape areas.

Jetting of fill materials will not be allowed.

3.10 FINAL SUBGRADE COMPACTON
Building Pads: Upper 6" of all final building pad subgrades shall be uniformly compacted at specified moisture content to at least 95% of maximum dry density, as determined by ASTM D1557 Compaction Test, regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade. After acceptance of final compaction test, contractor shall maintain the required moisture content of subgrade until concrete fitwork is placed.

Paved Areas: Upper 6" of all final subgrades supporting pavement sections and all other flatwork shall be brought to specified moisture content and shall be uniformly compacted to not less than 95% of maximum dry density, regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade. After acceptance of final compaction test, contractor shall maintain the required moisture content of subgrade until concrete fitwork is placed.

Other Fill and Backfill: Upper 6" of all other final subgrades or finish grades shall be compacted to 90% of maximum dry density.

Gravel Fill: Do not place compacted gravel fill until after underground work and foundations are in place. Compact gravel fill with vibratory plate or similar equipment to preclude settlement.

3.11 PLACING, SPREADING, AND COMPACTON OF LANDSCAPE BACKFILL MATERIALS
All landscaped areas shall receive topsoil. After subgrade under landscape area has been scarified and brought to 90% maximum dry density, native topsoil shall be placed evenly to depth of 4" at 85% of maximum dry density. Project Inspector must verify that materials are uniformly spread to minimum depth specified.

3.12 DECOMPOSED GRANITE COMPACTON AND STABILIZATION
Decomposed granite paving, paths or track shall be placed uniformly to the required depth and treated with PolyPavement or approved equal. Apply PolyPavement using Application Method 1 or a mixed application method.

3.13 SLOPE CONSTRUCTION
Cut slopes shall be constructed to no steeper than 3:1 (horizontal:vertical). Fill slopes shall be constructed to no steeper than 3:1 (horizontal:vertical). Prior to placement of fill on an existing slope the existing slope shall be benched. The benches shall be in a ratio of 3 horizontal to 1 vertical. The face of the fill slopes shall be compacted as the fill is placed, or the slope may be overbuilt and then cut back to the design grade. Compaction by track walking will not be allowed.

FINISH GRADING
At completion of project, site shall be finished graded, as indicated on Drawings. Finish grades shall be "flat graded" to grades shown on the drawing. Mounding of finish grades will not be allowed unless otherwise directed on the landscape drawings. Tolerances for finish grades in drainage swales shall be +/-0.05". Tie in new and existing finish grades. Leave all landscaped areas in finish condition for lawn seeding. Landscaped planters shall be graded uniformly from edge of planter to inlets. If sod is used for turf areas the finish grade on which it is placed shall be lowered to allow for sod thickness.

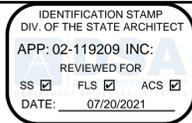
All landscape areas shall be left free of rock or foreign material as specified in Section 329000. All landscape areas shall be approved by Architect prior to any planting.

3.15 SURPLUS MATERIAL

Excavated material not required for grading or backfill shall be removed from site at contractor's expense.

3.16 CLEANING

Remove from fill all vegetation, wood, form lumber, casual lumber, and shavings, in contact with ground; buried wood will not be permitted in any fill.



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SHADE STRUCTURE
LINCOLN TECHNICAL ACADEMY
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EARTHWORK 310000

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Table with columns: PROJECT NO., REVISIONS, BY, DATE, DRAWN, CHECKED, SCALE, CADFILE, UPDATED. Includes entry for 6/9/2021 and AS NOTED.

SHEET NO.

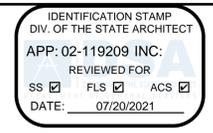
C2.1

OF SHEETS



SECTION 321200 ASPHALT PAVING  
PART 1 – GENERAL  
1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS  
RELATED WORK SPECIFIED ELSEWHERE  
Section 310000, Earthwork.  
Section 312333, Trenching and Backfilling.  
Section 334000, Site Drainage.  
1.03 QUALITY ASSURANCE  
Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.  
All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.  
The representatives of the Owner's testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner's testing lab representatives nor the testing by the Owner's testing lab shall excuse the contractors or subcontractors for defects discovered in their work during or following completion of the project. Correcting inadequate compaction is the sole responsibility of the contractor.  
Contractor shall provide verification that asphalt mix temperature meets the requirements of this specification at time of application.  
Contractor shall be solely responsible for all subgrades built. Any repairs resulting from inadequate compaction are the responsibility of the contractor.  
Sieve analysis from testing laboratories identifying rock/sand percentages within the asphalt mix shall have a testing date within 90 days of contract signing.  
Sieve analysis from a testing laboratory identifying rock/sand percentages within the class 2 aggregate base rock shall have a testing date within 90 days of contract signing.  
1.04 SUBMITTALS  
Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.  
1.05 REFERENCES AND STANDARDS  
ANSI/ASTM D698-00 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.  
ANSI/ASTM D1556-00 – Test Method for Density of Soil in Place by the Sand-Cone Method.  
ANSI/ASTM D1557-02 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb (4.54 Kg) Rammer and 18 inch (457 mm) Drop.  
ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).  
ANSI/ASTM D 4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.  
CALTRANS Standard Specifications.  
CAL-OSHA, Title 8, Section 1590 (e).  
Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.  
1.06 DELIVERY, STORAGE AND HANDLING  
Transport, store and handle in strict accord with the local jurisdiction.  
Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.  
1.07 PROJECT CONDITIONS  
Environmental Requirements:  
Base Course: Do not lay base course on muddy subgrade, during wet weather, or when atmospheric temperature is below 40 degrees F.  
Asphalt Surfacing: Do not apply asphaltic surfacing on wet base, during wet weather, or when atmospheric temperature is below 50 degrees F.  
1.08 EXISTING SITE CONDITIONS  
Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.  
1.09 PROTECTION  
Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.  
In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.  
Any construction review of the Contractor's performance conducted by the owner's representative is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.  
Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.  
Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.  
1.10 SEASONAL LIMITS  
No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.  
1.11 TESTING  
Geotechnical Engineer: Owner is retaining a Geotechnical Engineer to determine compliance of fill with Specifications, and to direct adjustments in fill operations. Costs of Geotechnical Engineer will be borne by Owner; except those costs incurred for re-tests or re-inspection will be paid by Owner and backcharged to Contractor.  
PART 2 – PRODUCTS  
2.01 MATERIALS  
Sterilant: Soil sterilizer shall be CIBA GIEGY's Pramatal 25-E, Treflan EC or Thompson-Hayward Casoron.  
Soil sterilizer shall be applied in strict accordance with manufacturer's instructions.  
Base Course Aggregate: State Specifications, Section 26, Class 2 aggregate base (3/4" max.).  
Asphalt Binder: Steam-refined paving asphalt conforming to State Specifications, Section 92, viscosity grade PG 64-10.  
Asphalt binder additives for WMA per Caltrans approved list of manufacturer's.  
Liquid Asphalt Tack Coat: Per CALTRANS section 94.  
Surface Course Aggregate: Mineral aggregates for Type "B" asphalt concrete, conforming to State Specifications 39-2.02, Type B, 1/2" maximum, medium grading, 3/8" maximum grading at Playcourt.  
Seal Coat: shall be a pre-mixed asphalt emulsion blended with select fillers and fibers such as: "Park-Top No. 302", Western Colloid Products.  
"OverKote", Reed and Gram.  
"Drivewalk", Conoco Oil.  
Wood Headers and Stakes: Pressure treated.  
Pavement Marking: Colors as directed by Architect. Colors of painted traffic stripes and pavement markings must comply with ASTM D 6628.  
Waterborne traffic line – colors white, yellow and red, State specification PTWB-01R3.  
Waterborne traffic line for the international symbol of accessibility and other curb markings – blue, red and green, Federal specification TT-P-1952F.  
Precast Concrete Bumpers: 3000 psi at 28 day minimum strength; 48" length unless otherwise indicated; provide with steel dowel anchors and concrete epoxy.  
Pavement Epoxy: K-Lite; Ktepx-590; Ennis Epoxy HPS2 or an approved equal.  
Crack Filler:  
Cracks up to 1/2": QPR model CAR08, 10oz asphalt crack filler; Star STA-FLEX Trowel Grade crack filler or approved equal.  
Cracks 1/2" – 1": Docal 1100 Viscolastic, distributed by Conoco, Inc., Elk Grove, CA, (916) 685-9253, or approved equal.  
Cracks greater than 1": Hot Mix, Topeka.  
Reclaimed Asphalt Paugment (RAP). HMA Type A or Type B may be produced using RAP providing it does not exceed 15% of the aggregate blend.  
2.02 MIXES  
General: Plant mixed conforming to State Specifications, Section 39, Type B, 1/2" maximum, medium grading. 3/8" maximum grading shall be used at hardcourt.  
Temperature of Hot Mix Asphalt: Not less than 275 degrees F nor more than 325 degrees F when added to aggregate.  
Temperature of Hot Mix Aggregate: Not less than 250 degrees F nor more than 325 degrees F when asphalt is added.  
Temperature of Hot Mix Asphalt Concrete: Asphalt shall be not less than 285 degrees at time of application, nor more than 350 degrees. Asphalt not meeting the required temperature shall not be used.  
Temperature of Warm Mix Asphalt: Mixing and placement; Per the approved manufactures heat range recommendations for mixing and placement.  
PART 3 – EXECUTION  
3.01 EXAMINATION OF CONDITIONS  
A. Conditions of Work in Place: Subsurfaces which are to receive materials specified under this Section shall be carefully examined before beginning work hereunder, and any defects therein shall be reported, in writing, to the Architect. Work shall not be started until such defects have been corrected. Starting of work shall imply acceptance of conditions as they exist.

3.02 PREPARATION  
Sub-Grade: Clean, shape and compact to hard surface free from elevations or depressions exceeding 0.05' in 10' from true plan. Compact per Section 310000. Compaction and moisture content shall be verified immediately prior to placement of aggregate base. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.  
Cleaning: Existing surfaces and new surface shall be clean of all dirt, sand, oil or grease. All cracks shall be cleaned and free of all debris and vegetation. Hose down entire area with a strong jet of water to remove all debris.  
3.03 INSTALLATION  
Headers:  
General: Install as edging to asphalt paving, except where adjoining existing pavement, concrete curbs, walks or building.  
Existing Headers: Remove existing headers where new paving will join existing. Saw cut existing asphalt to provide clean edge.Lines and Levels: Install true to line and grade. Cut off tops of stakes 2-inches below top of header so they will not be visible on completion of job.  
Asphalt Paving:  
Base Course: Install in accord with State Specifications, Section 26. Compact to relative compaction of not less than 95%, ASTM D1557. The material shall be deposited on the subgrade in such a manner as to provide a uniform section of material within five percent tolerance of the predetermined required depth. Deposition will be by spreader box or bottom dump truck to prevent segregation of the material. The material so deposited on the subgrade shall have sufficient moisture which, in the opinion of the Architect is adequate to prevent excessive segregation. It shall then be immediately spread to its planned grade and cross section. Undue segregation of material, excessive drifting or spotting of material will not be permitted. If in the opinion of the site geotechnical engineer, the material is unsuitably segregated, it shall be removed or completely reworked to provide the desired uniformity of the material.  
Moisture content and compaction of base material shall be tested immediately prior to placement of asphalt paving.  
Sterilant: Apply specified material at manufacturer's recommended rate. Applicator of sterilant material shall be responsible for determining location of all planter areas. Apply specified material over entire base course area just prior to application of asphalt. Follow manufacturer's printed directions.  
Liquid Asphalt Tack Coat: Apply as "tack coat" to all vertical surfaces of existing paving, curbs, walks, and construction joints in surfacing against which paving is to be placed.  
Asphalt Concrete Surface Course:  
Comply with State Specifications, 39-6 except as modified below.  
Final gradation shall be smooth, uniform and free of ruts, humps, depressions or irregularities, with a minimum density of 91% of the theoretical maximum specific gravity determined by California Test Method #309. Maximum variation 1/8 inch in 10' when measured with steel straightedge in any one direction. Test paved areas for proper drainage by applying water to cover area. Correct portions that do not drain properly by patching with plant mix. In no case shall accessible parking spaces or loading and unloading areas exceed 2% slope in any direction.  
Asphalt material shall be delivered to the project site in a covered condition to maintain acceptable temperature. Onsite inspector shall verify temperature of asphalt upon truck arrival to the site.  
Placement and adjustment of Frames, Covers, Boxes and Grates: The Contractor shall set and adjust to finish grade all proposed and existing frames, covers, boxes, and grates of all manholes, drop inlets, drain boxes, valves, cleanouts, electrical boxes and other appurtenant structures prior to placement of asphaltic concrete.  
Water Testing: All paved areas shall be water tested, to check drainage, in the presence of the project inspector prior to placement of seal coat. The surface of asphalt paving shall not vary more than 1/8 inch above or below the grade established on the plans. If variations in grade are present, they will be corrected by overlaying paving and/or pavement removal and replacement as directed by the Architect.  
Patching: Cut existing paving square and plumb at all edges to be joined by new paving. In trenches; grind existing asphalt on each side of trench 3' wide x 1/2 the depth of the section. Apply tack coat to vertical surfaces before installing new work. Warp carefully to flush surface, with seal over joints, and feather edge. Sawcut, remove and patch existing paving where cutting is necessary for installation of piping or conduits under Divisions 2, 15 and 16.  
Seal Coat:  
Seal coat shall be applied no sooner than 30 days from time of asphalt placement, no exceptions.  
Surface Preparation: Surface and cracks shall be clean of all dirt, sand, oil or grease. All cracks shall be filled to a level condition after curing. Make multiple fill applications until a level condition is achieved. Failure to do so will be the reason for rejection. Hose down entire area with a strong jet of water to remove all debris. Remove soft, loose, or otherwise damaged areas of asphalt concrete to full depth of damage and replace with compacted hot mix asphalt concrete as specified herein. Minor holes and imperfections may be patched using hot mix asphalt or mastic using sand/SS-1-H. Use wire brush for removal of oil and grease; prime with shellac or synthetic resin as recommended by manufacturer of pavement sealer material.  
Seal Coat Seal Application: Thoroughly mix materials and apply in the presence of the onsite inspector. Failure to do so will be cause for rejection. Apply in accordance with manufacturer's written instructions.  
The minimum application rate for each applied coat shall be 30gals per 1000 sq. ft. Two coats of sealcoat will be required.  
Clean-Up and Precautions: As recommended by pavement sealer material manufacturer.  
Asphalt Concrete Overlay Paving:  
Comply with State Specifications, 39-6 except as modified below.  
Grind or remove existing asphalt concrete paving at limits of overlay paving to provide a minimum 1 1/2" overlay thickness. Limits of grinding or removal shall be field verified to insure that finished paving surface will have a one percent minimum slope.  
Thoroughly clean surface to remove vegetation, dirt, sand, gravel and water from surface and from cracks. Vegetation shall be treated 7 days prior to removal with an herbicide.  
Cracks greater than 1 inch shall be filled with hot mix asphalt and rolled and compacted. Cracks less than one inch shall be filled with crack filler. Potholes shall be filled with hot-mix rolled and compacted. Contractor shall have Engineer approve crack and pothole repair prior to overlay. Provide leveling courses of hot mix asphalt as required to achieve finish grades shown on the drawings.  
a. Cracks less than one inch in width shall be level after curing. Contractor shall make multiple filling applications as necessary to achieve a level condition.  
Place overlay when ambient air temperature is 40 degrees F. and rising, and when pavement is dry.  
An asphalt tack coat shall be applied to existing surface area at a rate of 0.20 gallons per square yard. Application width shall be width of fabric plus 2 to 6 inches.  
Place, spread and compact asphalt overlay to provide a minimum density of 95% of maximum theoretical unit weight as determined by California Test Method #304. Maximum variation 1/8" in 10' when measured with steel straight edge in any one direction. Test paved areas for proper drainage by applying water to cover area. Correct portions that do not drain properly by patching with plant mix. Minimum compacted overlay thickness 1 1/2 inches.  
Pavement Marking: pavement markings shall be done only after the seal coat has thoroughly dried. Existing surfaces to be striped with traffic paint shall be cleaned of dust, dirt, grime, oil, rust or other contaminants which will impair the quality of work or interfere with proper bond of paint coats. Surfaces shall be thoroughly cleaned by whatever means necessary that will satisfactorily accomplish the purpose without damage to asphalt concrete. Provide measured layouts, temporary markings, templates, and other means necessary to provide required marking. Prepare and apply paint in accordance with manufacturer's instructions; paint shall be applied by spray and shall achieve complete coverage free from voids and thin spots. Where indicated on the Drawings, paint parking stall strips, lettering, arrows, accessible symbols, playfield markings, etc. on asphalt concrete paving. Paint strips shall be 4 inches wide (except otherwise indicated) and applied with two (2) coats of herein specified Traffic Line Paint; white (except as otherwise specified or indicated).  
Paints shall be delivered to the site in unopened containers.  
Paint shall not be diluted, or watered down.  
Paint shall be applied in 10-12 wet mil thickness (4-6 mil dried). Each coat thickness shall be verified by the project inspector.  
International Accessible Symbol: Symbol shall be white figures on a blue background. Blue shall be equal to color No. 15090 in Fed. Std. 595c. Lines and symbols shall be accurately formed and true to line and form; lines shall be straight and uniform in width. Painted edges shall be clean cut and free from raggedness, and corners shall be cut sharp and square. Tolerances: Apply striping within a tolerance 1/2 inch in 50 feet. Apply markings and striping to widths indicated with a tolerance of 1/4 inch on straight sections and 1/2 inch on curved sections.  
Colors: As directed by Architect  
Precast Concrete Bumpers: Install in location where shown, using steel rebar dowels, and epoxy.  
3.04 DEFECTIVE ASPHALT:  
Defective asphalt is as described below.  
Exposed rock pockets on the finished surface that lack the # 8- #200 fines that is required per the sieve analysis. Asphalt not placed to the design grades.  
Asphalt that ponds water.  
Asphalt that was compacted below the minimum required temperature and is cracked.  
Asphalt that fails to meet the minimum compaction requirements.  
Asphalt that lacks the minimum thickness required per plan.  
New asphalt contaminated by a petroleum product, or spilled paint.  
Asphalt that has depressions, cracks, scored divits from dumpster wheels, heavy equipment use, heavy construction products, Asphalt placed on pumping, unstable sub-grades.  
3.05 CLEANING  
Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material for this Section.  
Clean excess material from surface of all concrete walks and utility structures.



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SHADE STRUCTURE  
LINCOLN TECHNICAL ACADEMY  
LODI UNIFIED SCHOOL DISTRICT  
ASPHALT PAVING 321200

CONSULTANT



PROJECT NO.	REVISIONS	BY
21-32-054		
DATE		
6/9/2021		
DRAWN		
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OF SHEETS



SECTION 321600 SITE CONCRETE  
PART 1 – GENERAL

1.01 SECTION INCLUDES

The Section describes the requirements for providing portland cement concrete paving, including accessibility ramps, sidewalks, accessible routes of travel, vehicular travel, drain structures, sewer structures, thrust blocks and for other non-structural or non-vehicular applications.

1.02 RELATED WORK SPECIFIED ELSEWHERE

Section 310000, Earthwork

1.03 QUALITY ASSURANCE

Use only new materials and products.

Use materials and products of one manufacturer whenever possible.

All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.

Sieve analysis from testing laboratories identifying rock/sand percentages within the concrete mix; or class 2 aggregate base shall have the current project name and project location identified on the report. Outdated analytical reports greater than 90 days old will not be accepted

1.04 SUBMITTALS

Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

Materials list: Submit to the Architect a complete list of all materials proposed to be used in this portion of the work.

Submitted items should include but are not limited to sand, gravel, admixtures, surface treatments, coloring agents, sealers, fibers, cast-in-place accessories, forming and curing products and concrete mix designs.

With concrete submittal, provide documented history of mix design performance.

1.05 REFERENCES AND STANDARDS

California Building Code, 2019.

ACI Standards, ACI 211.1, ACI 318-14, ACI 302, IR-04, ACI 301-16, ACI 305R-10, ACI 306R-16, ACI 308-16.

ASTM C-94, Specification for Ready-Mixed Concrete.

Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (latest edition).

ASTM – American Society for Testing and Materials.

1.06 DELIVERY, STORAGE AND HANDLING

Deliver undamaged products to job in manufacturer's sealed containers and/or original bundles with tags and labels intact. Store materials in protected, dry conditions off of ground and in areas so as to not interfere with the progress of the work.

Transport, store and handle in strict accord with the manufacturer's written recommendations.

Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

Store cement in weather tight building, permitting easy inspection and identification. Protect from dampness. Lumpy or stale cement will be rejected.

Aggregates: Prevent excessive segregation, or contamination with other materials or other sizes of aggregate. Use only one supply source for each aggregate stock pile.

1.07 TESTING

Cement and Reinforcing shall be tested in accordance with CBC Section 1910A. Testing of reinforcing may be waived in accordance with Section 1910A.2 when approved by the Structural Engineer and DSA.

1.07 ADEQUACY AND INSPECTION

Design, erect, support, brace and maintain formwork and shoring to safely support all vertical and lateral loads that might be applied until such loads can be carried by concrete.

Notify Inspector, Architect and DSA at least 48 hours prior to placing of concrete.

1.09 PROTECTION

Finish surfaces shall be protected at all times from concrete pour. Inspect forming against such work and establish tight leak-proof seal before concrete is poured. Finish work damaged, defaced or vandalized during the course of construction shall be replaced by contractor at contractor expense.

1.10 FIELD MEASUREMENTS

Make and be responsible for all field dimensions necessary for proper fitting, slopes and completion of work. Report discrepancies to Architect before proceeding.

PART 2 – PRODUCTS

2.01 MATERIALS

Cement: Portland cement, ASTM C150, Type II, per ACI 318-14 Section 26.4.

Concrete Aggregates: Normal weight aggregates shall conform to ASTM C33, except as modified by this section.

Combined grading shall meet limits of ASTM C33. Lightweight aggregate shall conform to ASTM C330, suitably processed, washed and screened, and shall consist of durable particles without adherent coatings.

Water: Clean and free from deleterious amounts of acids, alkalis, scale, or organic materials and per ACI 318-14 Section 26.4.1.3.1.

Fly Ash: Western Fly Ash, conforming to ASTM C618 for Class N or Class F materials (Class C is not permitted). Not more than 15% (by mass) may be substituted for portland cement.

Water Reducing Admixture: Admixture to improve placing, reduce water cement ratio, and ultimate shrinkage may be used. Provide WRDA 64 by Grace Construction Products or approved equal. Admixture shall conform to ASTM C494 and ACI 318-14 Section 26.4.1.4.19(a). Such admixture must receive prior approval by the Architect, Structural Engineer, and the Testing Lab, and shall be included in original design mix.

Air-entraining Admixture: Daravair 1000 by Grace Construction Products or approved equal. Admixture must conform to ASTM C260 and ACI 318-14, section 26.4.1.4.

Surface Retarder (for exposed aggregate finishes): Rugasol-S by Sika Corporation or approved equal.

Form Coating: Material which will leave no residue on concrete surface that will interfere with surface coating, as approved by the Architect.

Reinforcing Bars: New billet steel deformed bars conforming to requirements of ASTM A615 or ASTM A706; Grade 60. Dowels for installation through expansion joints or construction joints to existing sidewalks or concrete features shall be smooth or shall be sleeved on one end for slippage.

Reinforcing supports: Galvanized metal chairs or spacers or metal hangers, accurately placed 3"-0" O.C.E.W. Staggered and each support securely fastened to steel reinforcement in place. Bottom bars in footings may be supported with 3" concrete blocks with embedded wire ties. Concrete supports without wire ties will not be allowed.

Truncated Domes: Vitrified Polymer Composite (VPC), Cast-in-Place Detectable/Tactile Warning Surface Tiles; "Armor-Tile", "Access Tile Tactile Systems", or approved equal. Tiles shall comply with Americans with Disabilities Act and the California Code of Regulations (CCR) Title 24, Part 2, Chapter 11B (dome spacing shall be 2.35"). Install tiles as recommended by manufacturer. Color, federal yellow (FS 33538).

Curing Compound (for exterior slabs only): Burke Aqua Resin Cure by Burke by Edoco, 1100 Clear by W.R. Meadows or accepted equal. Water based membrane-forming concrete curing compound meeting ASTM C 309 and C1315.

Concrete Bonding Agent: Weld-Crete by Larson Products Corp., Daraweld C by Grace Construction Products or accepted equal.

Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or accepted equal.

Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed, non-metallic, no chlorides, non-staining and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.

Aggregate Base: Class 2 AB per Caltrans specification section 26-1.02A.

Expansion Joint Material: Preformed 3/8" fiber material, full depth of concrete section, with bituminous binder manufactured for use as concrete expansion joint material, as accepted by the Architect.

Joint sealant for expansion joints: Single component silicone sealant, Type S, ASTM D5893.

Reference Standard: ASTM C920, Grade P, Class 25, Use T.

Dow Corning 890-SL (self-leveling) Silicone, or accepted equal.

Dow Corning 888-NS (non-sagging) Silicone, at slopes exceeding 5%. May not be used as asphalt surfaces.

Color: Custom color as selected by Architect.

Pre-Formed plastic Expansion Joint; W.R. Meadows 3/8" "Snap Cap", Tex-Trude expansion joint cap, or an approved equal.

Adhesive Anchoring (Epoxy): Hilty HIT-HY 200 Safe Set, or approved equal.

2.02 CONCRETE DESIGN AND CLASS

Class "B": Concrete shall have 1" max. size aggregate, shall have 3000 psi min. at 28 day strength with a maximum water to cementitious ratio no greater than 0.50. Use for exterior slabs, including walks, vehicular paved surfaces, manhole bases, poured-in-place drop inlets, curbs, valley gutters, curb & gutter and other concrete of like nature.

Slump Limits: Provide concrete, at point of final discharge, of proper consistency determined by Test Method ASTM C143 with a slump of 4" plus or minus 1".

Mix Design: All concrete used in this work will be designed for strength in accordance with provisions of ASI 318-14 Section 26.4. Should the Contractor desire to pump concrete, a modified mix design will need to be submitted for review. Fly ash may be used in concrete to improve workability in amounts up to 15% of the total cementitious weight.

Air Entrainment; Per the Local Jurisdiction minimum requirements, or 3% minimum

2.03 MIXING OF CONCRETE

Conform to requirements of CBC, Chapter 19A.

All concrete shall be mixed until there is uniform distribution of material and mass is uniform and homogenous; mixer must be discharged completely before the mixer is recharged.

Concrete shall be Ready-mixed Concrete: Mix and deliver in accordance with the requirements set forth in ASTM C94 and ACI 301. Continuous batch Plant inspection may be waived in accordance with CBC Section 1705A.3.3.1, when approved by Structural Engineer and DSA.

Approved Testing Laboratory shall check the first batching at the start of the work and furnish mix proportions to the Licensed Weighmaster.

Licensed Weighmaster to positively identify materials as to quantity and to certify to each load by ticket.

Ticket shall be transmitted to Project Inspector by truck driver with load identified thereon. Project Inspector will not accept load without load ticket identifying mix and will keep daily record of pours, identifying each truck, its load and time of receipt and will transmit two copies of record to DSA.

At end of project, Weighmaster shall furnish affidavit to DSA on form satisfactory to DSA, certifying that all concrete furnished conforms in every particular and to proportions established by mix designs.

Placement of concrete shall occur as rapidly as possible after batching and in a manner which will assure that the required quality of the concrete is maintained. In no case may concrete be placed more than 90 minutes from batch time.

Water may be added to the mix only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. In no case shall more than 10 gallons of water shall be added to a full 9 yard load, or 1 gal. per yard on remaining concrete within the drum providing load tag indicates at time of mixing at plant will allow for additional water.

2.04 MATERIALS TESTING

Continuous batch plant inspection may be waived in accordance CBC Sections 1705A.3.3 when approved by DSA.

Testing of concrete shall be performed per article 3.12 of this specification.

2.05 EQUIPMENT

Handling and mixing of concrete: Project Inspector may order removal of any equipment which in his opinion is insufficient or in any way unsuitable.

PART 3 – EXECUTION

3.01 APPROVAL OF FORMS AND REINFORCEMENTS

Forms and reinforcements are subject to approval by the Project Inspector, and notice of readiness to place first pour shall be given to DSA, Architect and Structural Engineer 48 hours prior to placement of concrete. Before placing concrete, clean tools, equipment and remove all debris from areas to receive concrete. Clean all reinforcing and other embedded items off all coatings, oil, and mud that may impair bond with concrete.

All reinforcing steel and or W.W.F. shall be adequately supported by approved devices on centers close enough to prevent any sagging.

All reinforcing bar lap splices shall be staggered a minimum of 5 ft.

Additional reinforcing steel shall be placed around all utility boxes, valve boxes, manhole frames and covers that are located within the concrete placements.

The bars shall be placed so that there will be a minimum of 1 ½" clearance and a maximum of 3" clearance. The reinforcing steel shall be placed mid-depth of concrete slab.

At all right angles or intersections of concrete walks, additional 2'x2" #5, 90 degree bars shall be added at all inside corners for additional crack control. The bars shall be placed 2" from concrete forms and supports at mid-depth of slab.

3.02 PROTECTION

Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.

In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

Sub-Grade in vehicular concrete paved areas: Subgrade shall be clean, shaped and compact to hard surface free from elevations or depressions exceeding 0.05' in 10' from true plan. Compact per Section 310000. Compaction and moisture content shall be verified immediately prior to placement of concrete. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.

3.03 CLEANING

Reinforcement and all other embedded items at time of placing concrete to be free of rust, dirt oil or any other coatings that would impair bond to concrete.

Remove all wood chips, sawdust, dirt, loose concrete and other debris just before concrete is to be poured. Use compressed air for inaccessible areas. Remove all standing water from excavations.

3.04 FORMING

Form material shall be straight, true, sound and able to withstand deformation due to loading and effects of moist curing. Materials which have warped or delaminated, or require more than minor patching of contact surfaces, shall not be reused. Build forms to shapes, lines, grades and dimensions indicated. Construct form work to maintain tolerances required by ACI 301. Forms shall be substantial, tight to prevent leakage of concrete, and properly braced and tied together to maintain position and shape. Butt joints tightly and locate on solid backing. Chamfer corners where indicated. Form bevels, grooves and recesses to neat, straight lines. Construct forms for easy removal without hammering, wedging or prying against concrete.

Space clamps, ties, hangers and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.

Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.

Build in securely braced temporary bulkheads, keyed as required, at planned locations of construction joints.

Slope tie-wires downward to outside of wall.

Brace, anchor and support all cast-in-items to prevent displacement or distortion.

During and immediately after concrete placing, tighten forms, posts and shores. Readjust to maintain grades, levels and camber.

Concrete paving, Curbs, Curb and Gutters, Ramps:

Expansion Joints: Install at locations indicated, and so that maximum distance between joints is 20' for exterior concrete unless otherwise shown. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant where required. Expansion joints shall not exceed ¼ inch depth measured from finish surface to top of felt or sealant, and ½ inch width.

Curbs, Valley Gutter, and Curb & Gutter: Install expansion joints at 60' on center, except when placing adjacent to concrete walks, the expansion joints shall align with the expansion joints shown for the concrete walks. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant will be required.

Isolation Joints: 3/8" felt between walls and exterior slabs or walks so that paved areas are isolated from all vertical features, unless specifically noted otherwise on plans.

Exterior Concrete Paving: Install expansion joints at 20' on center maximum, both directions, unless shown otherwise on plans.

Ramps; whether shown or not all ramps shall have control joints and expansion joints.

Control joints on ramps shall be aligned and be placed in between with the vertical posts for the handrails. The curbs, if required shall have control joints that align with the handrail posts.

Expansion joints shall be placed at the upper, intermediate, and bottom landings.

3.05 FORM COATING

Before placement of reinforcing steel, coat faces of all forms to prevent absorption of moisture from concrete and to facilitate removal of forms. Apply specified material in conformance with manufacturer's written directions.

Before re-using form material, inspect, clean thoroughly and recoat.

Seal all cut edges.

3.06 INSTALLATION

General: Reinforcement shall be accurately placed at locations indicated on the drawings within required tolerances and providing required clearances. Reinforcement shall be secured prior to placement of concrete such that tolerances and clearances are maintained. Coverage shall be in accordance with Section 20.6.1.3.1 OF ACI 318-14. Keep a person on the job to maintain position of reinforcing as concrete is placed. Reinforcement must be in place before concreting is begun. Install dowels as shown on drawings. Give notice whenever pipes, conduits, sleeves, and other construction interferes with placement; obtain method of procedure to resolve interferences. All expansion and construction joints in concrete shall have dowels of size and spacing as shown, or as approved by Architect.

Placing Tolerances:

Per ACI 301 or CRSI/WCRSI Recommended Practice for Placing Reinforcing Bars, unless otherwise shown.

Clear distance between parallel bars in a layer shall be no less than 1", the maximum bar diameter nor 1 ½ times the maximum size of coarse aggregate.

Splices:

General: Unless otherwise shown on drawings, splice top reinforcing at midspan between supports, splice bottom reinforcing at supports and stagger splices at adjacent splices 5 foot minimum. Bar laps shall be wired together.

Reinforcing steel laps shall be as follows:

Lap splices in concrete: Lap splice lengths shall not be less than 62 bar diameter for No. 5 bar, 56" minimum for No. 6 bars. No. 4 bar shall have a minimum of 24" splice. 93 bar diameters for No. 7 bars and larger.

All splices shall be staggered at 5 feet minimum.

3.07 INSPECTION

Approval of reinforcing steel, after installation, must be received from Inspector. Architect and DSA must be notified 48 hrs. in advance of beginning of concrete placement operations.

Slope of concrete forms and finish condition shall be checked with a two foot (2') digital level.

3.08 PLACING OF CONCRETE

Adjacent finish surfaces shall be protected at all times during the concrete pour and finishing. Verify that all formwork is tight and leak-proof before concrete is poured. Finish work defaced during the concrete pour and finishing shall be replaced at no extra cost to the owner.

Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which will prevent separation or loss of ingredients. Deposit as close as practicable in final position to avoid re-handling or flowing. Partially hardened concrete must not be deposited in work. Concrete shall not be wheeled directly on top of reinforcing steel.

Placing: Once started, continue concrete pour continuously until section is complete between predetermined construction joints. Prevent spilling of concrete onto adjacent forms or reinforcement and remove such accumulation of hardened or partially hardened concrete from forms or reinforcement before work proceeds in that area. Free fall of concrete shall not exceed 4'-0" in height. If necessary, provide lower openings in forms to inject concrete and to reduce fall height.

Remove form spreaders as placing of concrete progresses.

Place footings as monolithic and in one continuous pour.

Keep excavations free of standing water, but moisture condition sub-grade before concrete placement.

Compacting: All concrete shall be compacted by mechanical vibrators. Concrete shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms. Vibrating shall not be applied to concrete which has already begun to initially set nor shall it be continued so long as to cause segregation of materials.

Concrete Flatwork:

All flatwork shall be formed and finished to required line and grades. Flatwork shall be true and flat with a maximum tolerance of 1/8" in 10' for flatness. Flatwork which is not flat and are outside of the maximum specified tolerances shall be made level by the Contractor at no additional expense to the Owner.

Thoroughly water and soak the flatwork subgrade as required to achieve required moisture content prior to the concrete pour. Provide damming as required to keep water within the formed area and to allow for proper saturation of the subgrade.

Concrete vibrator shall be used to assist concrete placement. Contractor shall have spare concrete vibrator on site during concrete placement.

Placing in hot weather: Comply with ACI 305R-10. Concrete shall not exceed 85 degrees F at time of placement.

Concrete shall be delivered, placed and finished in a sufficiently short period of time to avoid surface dry checking. Concrete shall be kept wet continuously after tempering until implementation of curing compound procedure in accordance with this specification.

Placing in cold weather: Comply with ACI 306R-16. Protect from frost or freezing. No antifreeze admixtures are permitted. When deposited concrete during freezing or near-freezing weather, mix shall have temperature of at least 50 degrees F but not more than 90 degrees F. Concrete shall be maintained at temperature of at least 50 degrees F for not less than 72 hours after placing or until it has thoroughly hardened. Provide necessary thermal coverings for any flat work exposed to freezing temperatures.

Horizontal construction joint: Keep exposed concrete face of construction joints continuously moist from time of initial set until placing of concrete; thoroughly clean contact surface by chipping entire surface not earlier than 5 days after initial pour to expose clean hard aggregate solidly embedded, or by approved method that will assure equal bond, such as green cutting. If contact surface becomes contaminated with soil, sawdust or other foreign matter, clean entire surface and re-chip entire surface to assure proper adhesion.

3.09 CONCRETE FINISHES

Concrete Slab Finishing: Finish slab as required by ACI 302.1R. Use manual screeds, vibrating screeds to place concrete level and smooth. Use "jitterbugs" or other special tools designed for the purpose of forcing the course aggregate below the surface leaving a thick layer of mortar 1 inch in thickness. Surface shall be free from trowel marks, depressions, ridges or other blemishes. Tolerance for flatness shall be 1/8" in 10'. Provide final finish as follows:

Flatwork, medium broom finish: Typical finish to be used at all exterior walks and stairs.

Ramps, heavy broom finish: Concrete surfaces with slope greater than 5% including all ramps. Brooming direction shall run perpendicular to slope to form non-slip surface

Under no circumstances can water be added to the top surface of freshly placed concrete.

Curb Finishing: Steel trowel.

Joints and Edges: Mark-off exposed joints, where indicated, with ¼" radius x 1" deep jointer or edging tool. Joints to be clean, cut straight, parallel or square with respect to concrete walk edge. Tool all edges of exposed expansion and contraction joints, walk edges, and wherever concrete walk adjoins other material or vertical surfaces.

The expansion joints shall be full depth as shown in the plan details. Failure to do so will result in non-compliance and shall be immediately machine cut by the contractor at his expense.

Exposed Concrete Surface Finishing (not including top surface of flatwork): Remove fins and rough spots immediately following removal of forms from concrete which is to be left exposed. Damaged and irregular surfaces and holes left by form clamps and sleeves shall be patched with grout. Tie wires are to be removed to below exposed surface and holes pointed up with neat cement paste similar to procedure noted under "Patching" below. Removal of tie wires shall extend to distance of 2" below established grade lines. Ends of tie wires shall be cut off flush at all other, unexposed locations. Care shall be taken to match adjacent finishes of exposed concrete surface. After patching, all concrete that is to remain exposed, shall be sacked with a grout mixture of 1-part cement, 1 1/2- parts fine sand and sufficient water to produce a consistency of thick paint. After first wetting the concrete surface, apply mixture with a brush and immediately float entire surface vigorously using a wood float. Keep damp during periods of hot weather. When set, excess grout shall be scraped from wall with edge of steel trowel, allowed to set for a time, then wiped or rubbed with dry burlap.

Entire finishing operation of any area shall be completed on the same day. This treatment shall be carried to 4" below grade, and all patching and sacking shall be done immediately upon removal of the forms.

Stair Treads and Risers: Tool exterior stair tread nosing per ADA requirements and as detailed. Paint or stain tooled area as every stair tread nosing or as detailed. Stair tread nosing shall contain no pockets, voids or spalls. Patching is not allowed. Damaged nosing shall be replaced.

3.10 CURING

Cured Concrete in Forms: Keep forms and top on concrete between forms continuously wet until removal of forms, 7 days minimum. Maintain exposed concrete in a continuous wet condition for 14 days following removal of forms.

Flatwork/Variable Height Curbs, Curb and gutter, Valley Gutter: Cure utilizing Curing Compound. If applicable, the Contractor shall verify that the approved Curing Compound is compatible with the approved colorant system. Upon completion of job, wash clean per manufacturer's recommendations.

Curing compound shall be applied in a wet puddling application. Spotty applications shall be reason for rejection and possibly concrete removal and replacement at the contractor's expense with no compensation from the owner.

3.11 DEFECTIVE CONCRETE

Determination of defective concrete shall be made by the Architect or Engineer. His opinion shall be final in identifying areas to be replaced, repaired or patched.

The Owner reserves the right to survey the flatwork, if it is determined to be outside of the maximum tolerance for flatness. If the flatwork is found to be out of tolerance, then the Contractor will be required to replace concrete. The Contractor will be responsible for reimbursing the Owner for any surveying costs incurred. Determination of concrete flatness, surveying and any remedial work must be completed far enough in advance so that the project schedule is maintained, delays are avoided and the new flatwork or flatwork repairs are properly cured.

As directed by Architect, cut out and replace defective concrete. All defective concrete shall be removed from the site. No patching is to be done until surfaces have been examined by Architect and permission to begin patching has been provided.

Permission to patch any area shall not be considered waiver of right, by the Owner, to require removal of defective work, if patching does not, in opinion of Architect, satisfactorily restore quality and appearance of surface.

Defective concrete is:

Concrete that does not match the approved mix design for the given installation type.

Concrete not meeting specified 28-day strength.

Concrete which contains rock pockets, voids, spalls, transverse cracks, exposed reinforcing, or other such defects which adversely affect strength, durability or appearance.

Concrete which is severely formed out of alignment or not plumb or level.

Concrete containing embedded wood or debris.

Concrete having large or excessive patched voids which were not completed under Architect's direction.

Concrete not containing required embedded items.

Excessive Shrinkage, Traverse cracking, Cracking, Curling; or Defective Finish. Remove and replace if repair to an acceptable condition is not feasible.

Concrete that is unsuitable for placement or has set in truck drum for longer than 90 minutes from the time it was batched.

Expansion joint felt that is not isolating the full depth of the concrete section, and recessed as required for backer rod and sealant where required.

Concrete that is excessively wet or excessively dry and will not meet the minimum or maximum slump required per mix design.

Finished concrete with oil stains from equipment use, and or rust spots that cannot be removed.

Control joints (weakened planed joints) that do not meet the required minimum depth shown on the drawings.

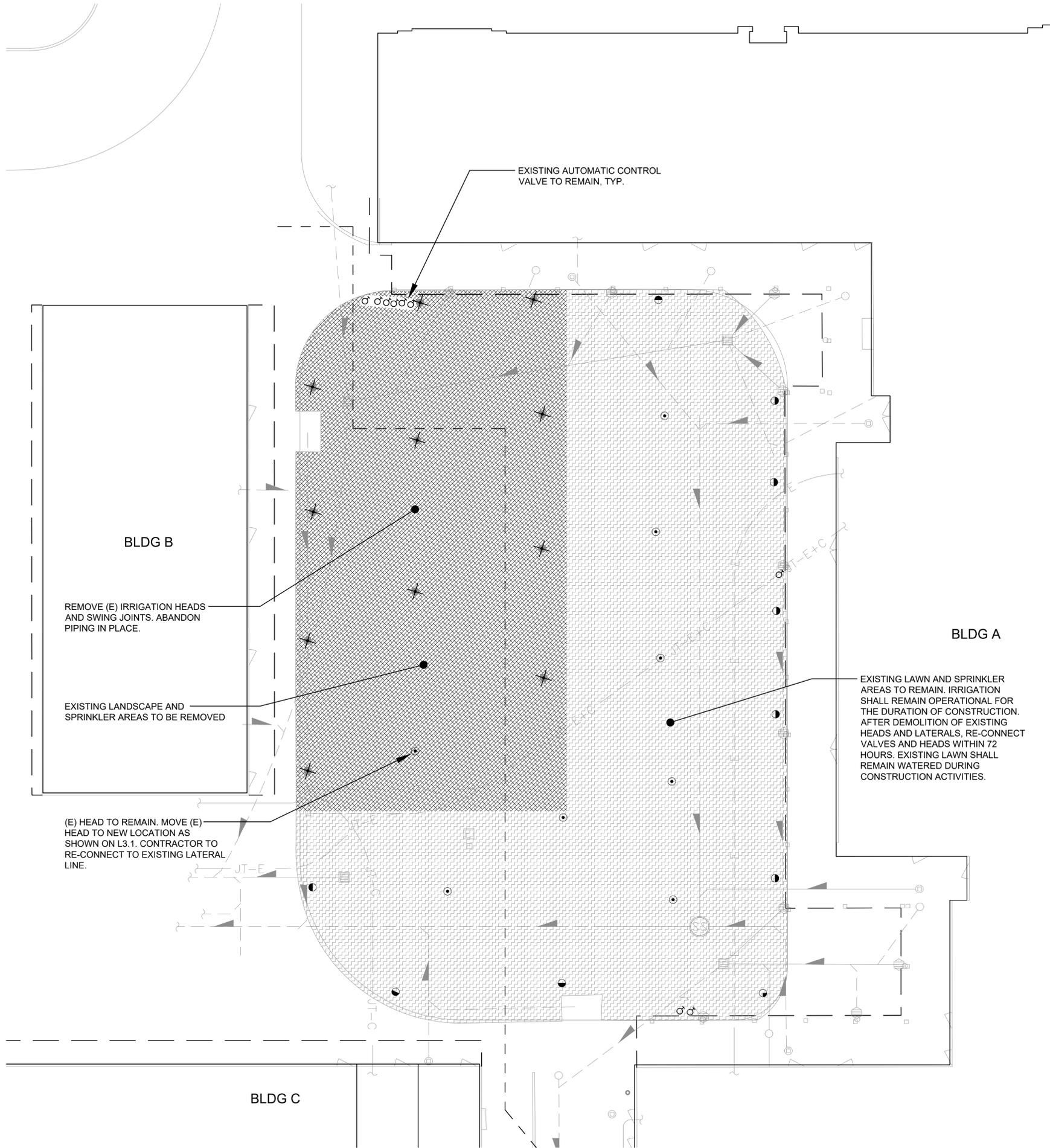
Patching: Install specified Patching Mortar per manufacturer's recommendations. REPAIRS TO DEFECTIVE CONCRETE WHICH AFFECT THE STRENGTH OF ANY STRUCTURAL CONCRETE MEMBER OR COMPONENT ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND DSA.

3.12 CONCRETE TESTING

Comply with CBC Section 1903A, 1910A and 1705A.3 and as specified below. Costs of tests will be borne by the Owner.

Four identical cylinder samples for strength tests of each class of concrete placed each day shall be taken not less than one day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. In addition, samples for strength tests for each class of concrete shall be taken for seven-day tests at the beginning of the concrete work or whenever the mix or aggregate is changed.

Strength tests will be conducted by the Testing Lab on one



**PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES**

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT: NAME, TITLE: SCHOOL DISTRICT MAINTENANCE AND OPERATIONS REPRESENTATIVE TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.

KEY	IRRIGATION DEMOLITION LEGEND
	LIMITS OF LANDSCAPE IRRIGATION TO BE REMOVED
	EXISTING LAWN AND SPRINKLER AREAS TO REMAIN
	EXISTING AUTOMATIC CONTROL VALVE TO REMAIN
	EXISTING IRRIGATION MAINLINE TO REMAIN
	EXISTING SPRINKLER HEAD TO REMAIN
	EXISTING SPRINKLER HEAD TO BE REMOVED

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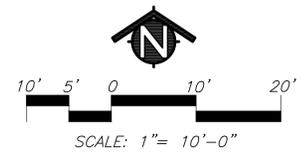
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DEMOLITION PLAN**

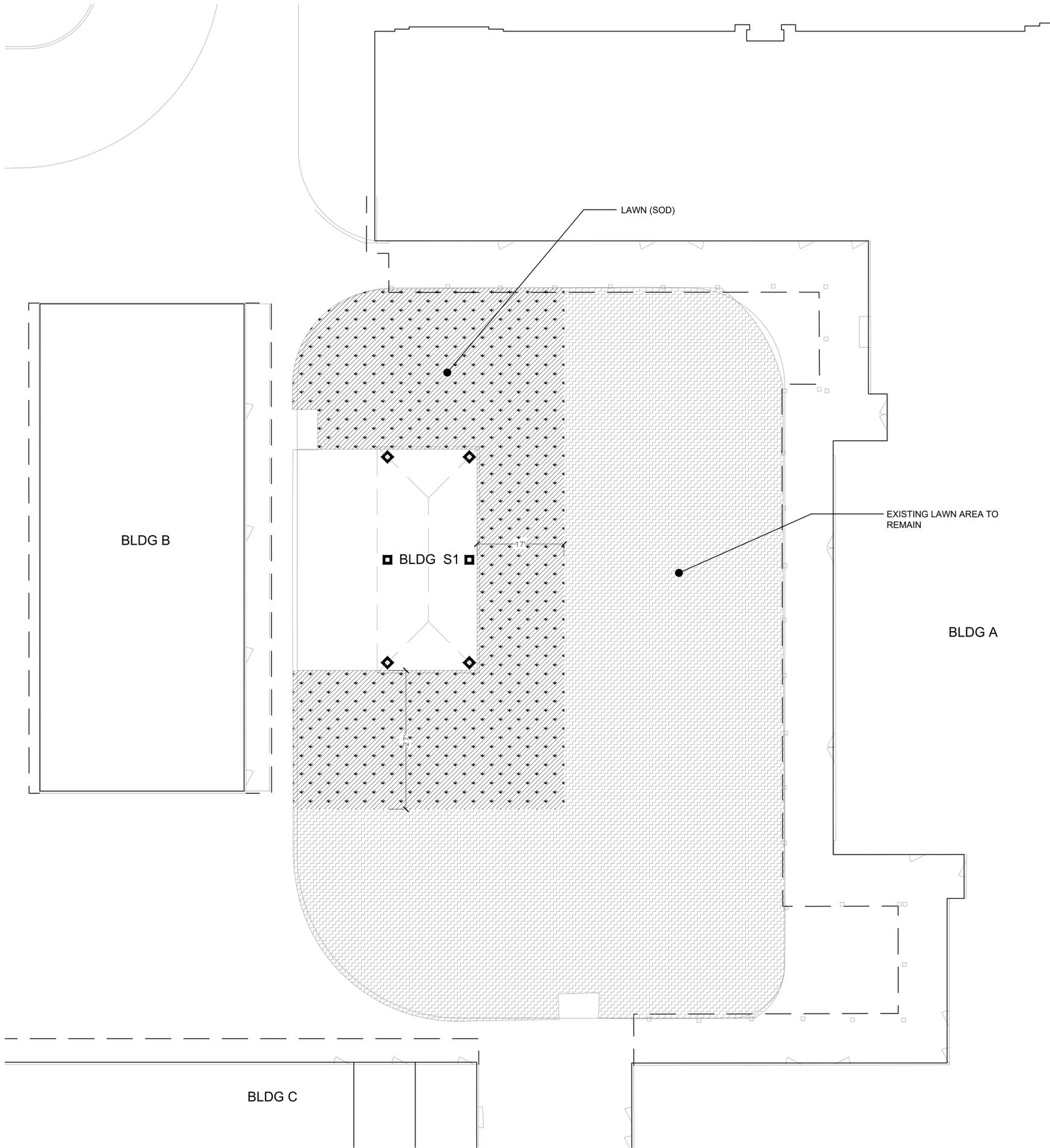
CONSULTANT

Bryan Hollis Walker C-5453

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KEY	LANDSCAPE LEGEND
	<b>LAWN (SOD)</b> MINIMUM REPAIR AREA SHOWN. CONTRACTOR RESPONSIBLE TO REPAIR ALL AREA DAMAGED DUE TO CONSTRUCTION ACTIVITIES. SEE DETAIL L4.1-1
	<b>EXISTING LAWN AND SPRINKLER AREAS TO REMAIN</b>

**GENERAL LANDSCAPE REQUIREMENTS/NOTES**

1. NO PLANTING SHALL BE STARTED UNTIL SPRINKLER IRRIGATION SYSTEM HAS BEEN TESTED BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE AND NOTED DEFICIENCIES CORRECTED.
2. NO PLANTING SHALL BE STARTED UNTIL SOIL PREPARATION AND FINISH GRADING OPERATIONS HAVE BEEN COMPLETED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
3. QUANTITIES SHOWN ON PLANT MATERIAL LIST ARE APPROXIMATE. PROVIDE QUANTITIES INDICATED ON LANDSCAPE PLAN.
4. PLANT MATERIAL IS SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
5. SEE SHEET L4.1 FOR PLANTING INSTALLATION DETAILS.

**ENVIRONMENTAL REQUIREMENTS:**

GENERAL: PROCEED WITH WORK IN ORDERLY AND TIMELY MANNER TO COMPLETE INSTALLATION OF LANDSCAPING WITHIN CONTRACT LIMITS.

**PROTECTION:**

EXISTING CONSTRUCTION: EXECUTE WORK IN AN ORDERLY AND CAREFUL MANNER TO PROTECT NEW CONCRETE WALKS, WORK OF OTHER TRADES, AND OTHER IMPROVEMENTS.

EXISTING UTILITIES: DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED, TO MINIMIZE POSSIBILITY OF DAMAGE TO UNDERGROUND UTILITIES. MAINTAIN GRADE STAKES SET BY OTHERS UNTIL REMOVAL IS MUTUALLY AGREED UPON BY ALL PARTIES CONCERNED. BE RESPONSIBLE FOR PROTECTION OF EXISTING UTILITIES WITHIN CONSTRUCTION AREA; REPAIR DAMAGE TO UTILITIES THAT OCCUR AS A RESULT OF OPERATIONS OF THIS WORK.

LANDSCAPING: PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED LANDSCAPE WORK AS DIRECTED AT NO ADDITIONAL COST TO CONTRACT.

ADVERSE CONDITIONS: WHEN CONDITIONS DETRIMENTAL TO SOD OR PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY OWNER'S REPRESENTATIVE BEFORE STARTING WORK.

**PLANTING AND TURF INSTALLATION SEASONS AND CONDITIONS**

NO WORK SHALL BE DONE WHEN GROUND IS FROZEN, SNOW COVERED, TOO WET OR IN AN OTHERWISE UNSUITABLE CONDITION FOR AMENDING SOIL, FINISH GRADING OR PLANTING.

**SOIL TESTING/SOIL IMPROVEMENT:**

SEE SPECIFICATIONS 32 90 00, SECTION 3.02 SOIL TESTING AND SECTION 3.03 PREPARATION.

**EXISTING LANDSCAPE AND SPRINKLER IRRIGATION SYSTEM**

WORK LIMITS OF THIS PROJECT EXTEND INTO AREAS THAT WERE PREVIOUSLY DEVELOPED UNDER OTHER CONTRACTS. PRIOR TO START OF WORK, CONTRACTOR SHALL MEET WITH OWNER'S REPRESENTATIVE TO LOCATE ALL CONNECTIONS CALLED FOR ON DRAWINGS. WORK LIMITS/FENCING SHALL BE LAID OUT BY CONTRACTOR AND VERIFIED BY OWNER'S REPRESENTATIVE. FENCE TO BE INSTALLED AND IRRIGATION SYSTEM SHALL BE TESTED WITH CONTRACTOR, INSPECTOR, AND OWNER'S REPRESENTATIVE PRESENT. DEFICIENCIES SHALL BE NOTED AT THIS TIME AND ARE THE RESPONSIBILITY OF OWNER. AT COMPLETION OF WORK, SYSTEM WILL AGAIN BE TESTED. DEFICIENCIES NOTED AT THIS TIME THAT WERE NOT NOTED PREVIOUSLY WILL BE RESPONSIBILITY OF CONTRACTOR. EXISTING LANDSCAPE THAT HAS BEEN DAMAGED DUE TO CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER. PRIOR TO MAKING ANY CONNECTION TO MAIN LINE, CONTRACTOR SHALL NOTIFY OWNER 1 WEEK IN ADVANCE SO ADJUSTMENTS TO EXISTING WATERING PROGRAMS CAN BE MADE.

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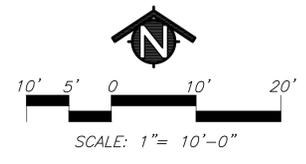
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TURF PLANTING PLAN

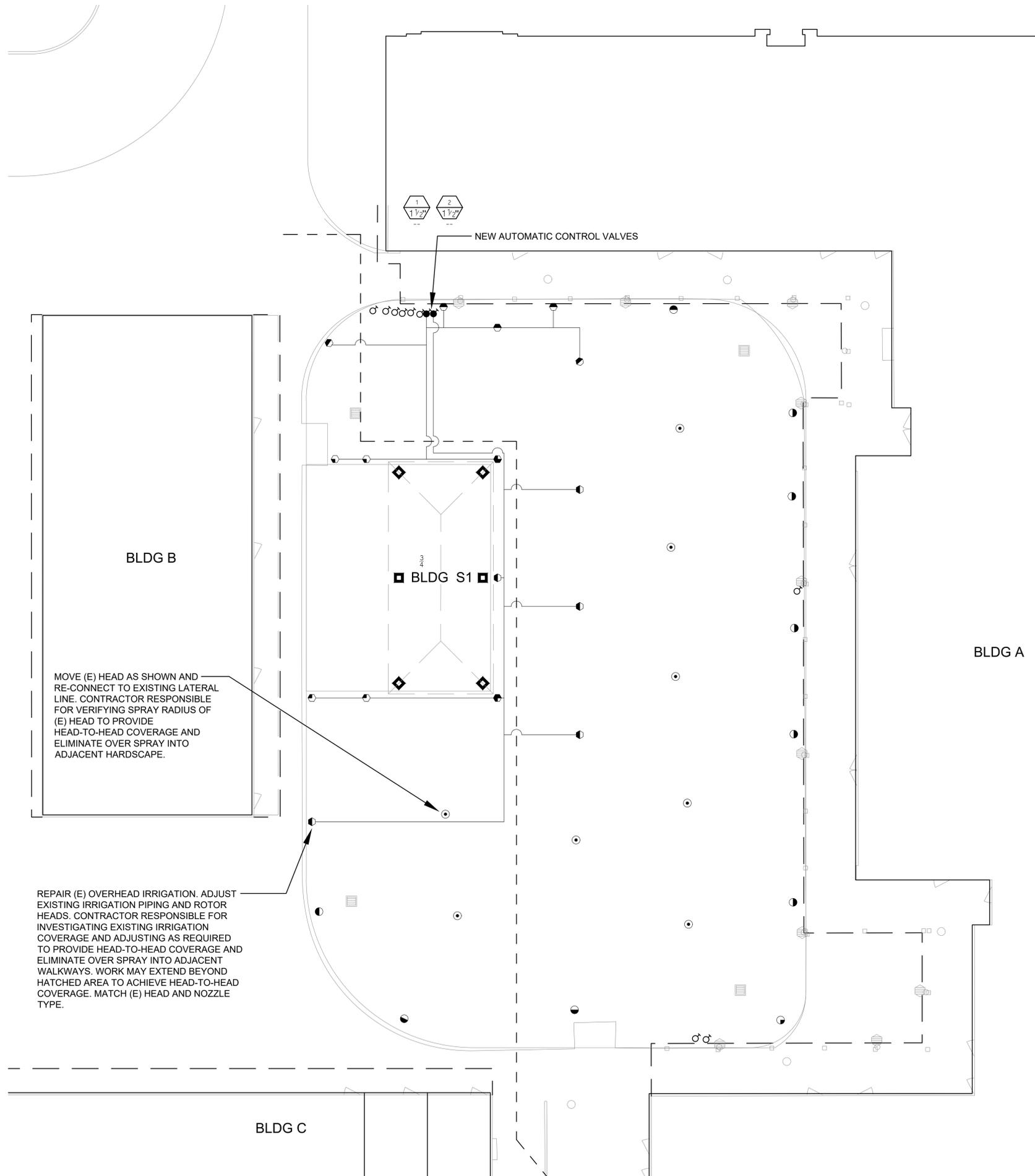
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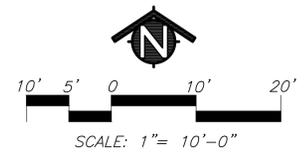
KEY	SPRINKLER IRRIGATION LEGEND
■	<b>AUTOMATIC CONTROLLER (NOT SHOWN):</b> CONTRACTOR TO LOCATE (E) AUTOMATIC CONTROLLER AND CONNECT NEW VALVES USING (E) WIRES, OR PULL NEW WIRES AT NO ADDITIONAL COST TO THE OWNER. DOUBLING VALVES IS NOT ACCEPTABLE.
♂	<b>EXISTING AUTOMATIC CONTROL VALVE TO REMAIN:</b>
---	<b>EXISTING IRRIGATION MAINLINE TO REMAIN:</b>
●	<b>AUTOMATIC CONTROL VALVE:</b> RAINBIRD PEB-PRS-D SERIES, TORO P220-27 SERIES, HUNTER ICV-AS OR APPROVED EQUAL. VALVE SHALL HAVE PRESSURE REGULATION OPTION.
⊙	<b>EXISTING SPRINKLER HEAD TO REMAIN:</b> FULL, HALF, AND QUARTER SPRAY PATTERNS
⊙	<b>LAWN POP-UP ROTOR HEADS:</b> ROTOR HEADS TO MATCH EXISTING HEAD AND NOZZLE TYPE THIRD, HALF AND QUARTER SPRAY PATTERNS
⬅	INDICATES CONTROL VALVE AND STATION NUMBER
⬅	INDICATES CONTROL VALVE SIZE
⬅	INDICATES GALLONS PER MINUTE

**SPRINKLER IRRIGATION NOTES**

- COMPOSITE BASE SHEET: PROPOSED IMPROVEMENTS SHOWN ON DRAWINGS ARE SUPERIMPOSED ON A COMPOSITE BASE SHEET. THE COMPOSITE BASE SHEET IS A COMPILATION OF ARCHITECTURAL, ENGINEERING, AND OTHER DATA THAT IS PROVIDED. THE LANDSCAPE ARCHITECT SHALL NOT BE HELD LIABLE FOR CHANGES, INACCURACIES, OMISSIONS, OR ERRORS PERTAINING TO THE COMPOSITE BASE SHEET. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THESE DOCUMENTS. ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND RESOLVED PRIOR TO CONTINUATION OF WORK.
- DESIGN PRESSURE SHOWN ON PLANS HAS BEEN FURNISHED BY WATER COMPANY OR WATER DISTRICT SERVING SITE. VERIFY PRESSURE ON-SITE PRIOR TO THE INSTALLATION OF ANY SPRINKLER IRRIGATION EQUIPMENT. IF THERE IS A DISCREPANCY, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING SO ADJUSTMENTS CAN BE MADE BY LANDSCAPE ARCHITECT. FAILURE TO REPORT DISCREPANCIES AND CONTINUANCE OF WORK WILL RESULT IN ALL RE-DESIGN COSTS BEING CHARGED TO CONTRACTOR.
- DETERMINE LOCATION OF UNDERGROUND UTILITIES. DAMAGE CAUSED BY INSTALLATION OF THIS WORK SHALL BE REPAIRED TO SATISFACTION OF GOVERNING AGENCY OR OWNER AT NO ADDITIONAL COST TO THE CONTRACT.
- SPRINKLER OVER SPRAY SHALL NOT BE ALLOWED ON PUBLIC SIDEWALKS, BUILDING WALLS OR FENCES. MINIMUM OVERSPRAY MAY OCCUR IN PARKING AREAS. USE ADJUSTABLE NOZZLES WHENEVER POSSIBLE TO CONTROL SPRINKLER OVERSPRAY.
- ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
- TESTING:
  - PRESSURE TEST ALL UNDERGROUND PIPING AS FOLLOWS:  
SYSTEMS WITH BOOSTER PUMP:  
MAIN LINE - AT 100 PSI FOR 4 HOURS.  
LATERAL LINES - AT 100 PSI FOR 2 HOURS.  
SYSTEMS WITH OUT BOOSTER PUMP:  
MAIN LINE - AT STATIC PSI FOR 4 HOURS.  
LATERAL LINES - AT STATIC PSI FOR 2 HOURS.
  - COVERAGE TEST: NOTE: PRIOR TO REQUESTING COVERAGE TEST, INSURE ALL HEADS ARE SET PLUMB, NOZZLES ARE ADJUSTED PROPERLY AND SYSTEM HAS BEEN CHECKED FOR AUTOMATION. REQUEST OWNER'S REPRESENTATIVES PRESENCE ON-SITE WHEN SPRINKLER SYSTEM IS COMPLETELY INSTALLED AND FULLY AUTOMATIC. PROVIDE ADEQUATE PERSONNEL AT THIS MEETING TO ADJUST AND FINE TUNE SYSTEM TO SATISFACTION OF OWNER'S REPRESENTATIVE.
- LAYOUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS OR ADJUSTMENTS WILL BE REQUIRED.
- INSTALL ALL SPRINKLER HEADS PERPENDICULAR TO SLOPES OR GRADE.
- CONTROL WIRE SHALL BE UF-14, COLOR FOR LEAD AND WHITE FOR COMMON. SPLICES SHALL BE PERMITTED AT VALVE BOX LOCATIONS ONLY.
- PROVIDE AND INSTALL AUTOMATIC CONTROLLER AND UF-14 CONTROL WIRE. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE 110V SERVICE AND SERVICE HOOKUP FROM POWER SOURCE TO AUTOMATIC CONTROLLER.
- COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
- NO PLANTING SHALL BE STARTED UNTIL ALL SPRINKLER WORK HAS BEEN TESTED AND APPROVED IN PRESENCE OF OWNER'S REPRESENTATIVE.
- FOR SPRINKLER IRRIGATION INSTALLATION DETAILS, SEE SHEET NO. L4.1.

**LATERAL PIPE SIZING:**

SIZE	GPM
3/4"	0-7
1"	8-11
1-1/2"	12-30
2"	31-50
3"	51-70



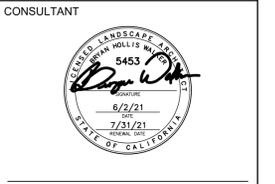
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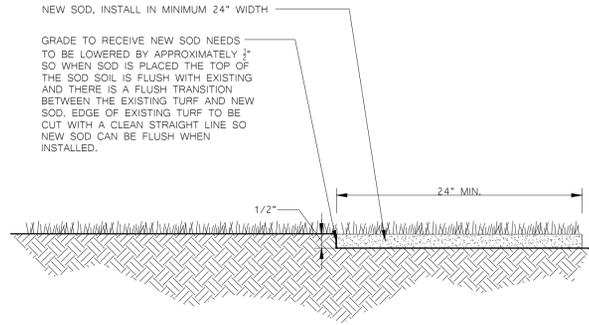
LANDSCAPE IRRIGATION PLAN



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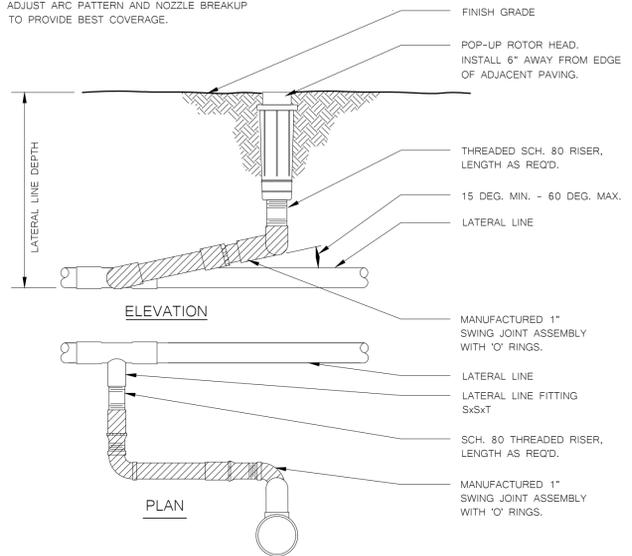
**L3.1**

NOTE:  
1. SEE SPECIFICATIONS FOR SOD BLEND.



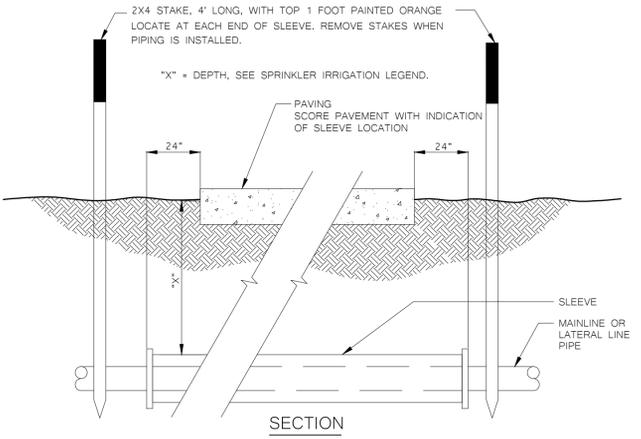
1 TURF REPAIR WITH SOD DETAIL

NOTES:  
1. SET BODY PLUMBS SO TOP OF HEAD IS LEVEL WITH FINISH GRADE.  
2. COMPACT SOIL AROUND HEAD TO PREVENT SETTLEMENT.  
3. ADJUST ARC PATTERN AND NOZZLE BREAKUP TO PROVIDE BEST COVERAGE.



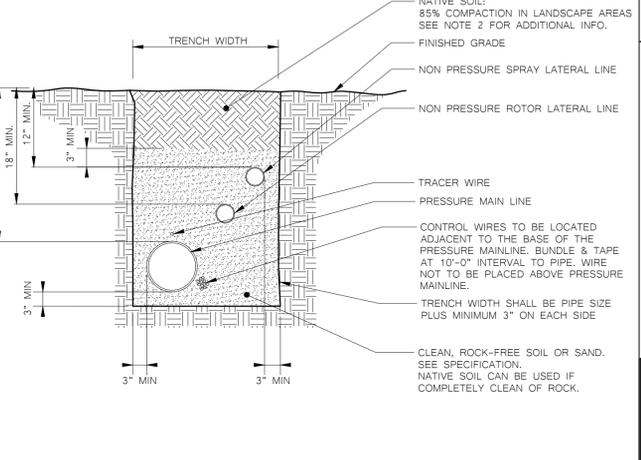
2 POP-UP ROTOR HEAD DETAIL

NOTES:  
1. ALL PIPE AND FITTINGS TO BE SCHEDULE 40, P.V.C. SEE PLAN FOR LOCATION.  
2. SLEEVES TO BE LARGE ENOUGH TO ACCEPT THE PIPE AND FITTINGS TO BE ENCASED.  
3. PROVIDE A SEPARATE SLEEVE FOR EACH LATERAL OR MAIN CROSSING.  
4. PROVIDE A SEPARATE SLEEVE FOR CONTROL WIRE.  
5. TAPE ALL ENDS WITH DUCT TAPE TO PREVENT ENTRY OF SOIL.



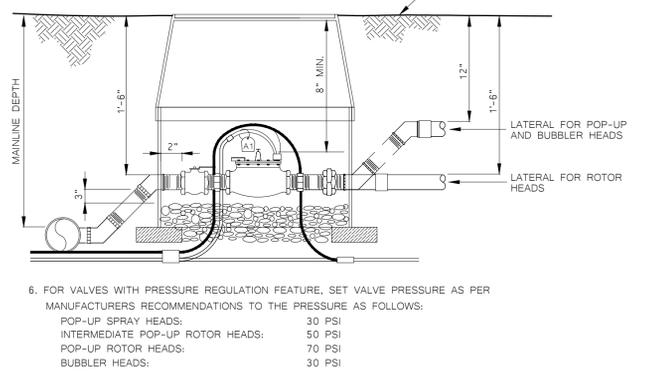
3 SLEEVE DETAIL

NOTES:  
1. REFER TO SPECIFICATIONS AND PLAN SHEETS FOR MORE INFORMATION.  
2. WHEN TRENCHES ARE LOCATED UNDER PAVEMENT, COMPACTION RATE FOR THE BACKFILL SHALL COMPLY WITH THE COMPACTION RATES REQUIRED FOR THOSE PAVING SECTIONS.  
3. PIPES TO HAVE A MINIMUM OF 6" HORIZONTAL SEPARATION WHEN PLACED IN THE SAME TRENCH ALONG WITH A MINIMUM OF 6" VERTICAL SEPARATION BETWEEN PIPES.



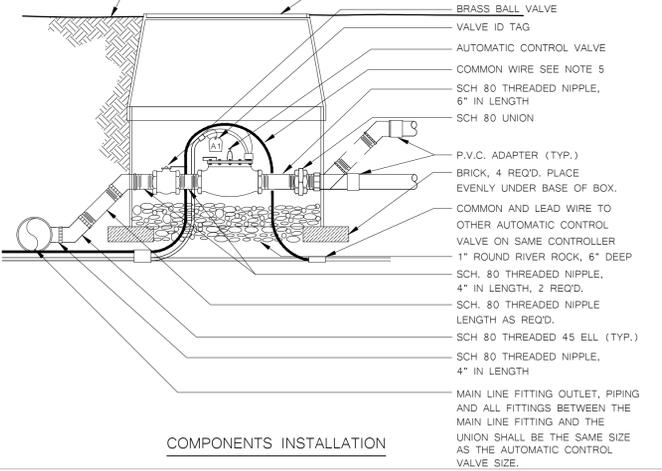
4 PIPE TRENCH DETAIL

NOTES:  
1. SET VALVE BOX LEVEL WITH FINISH GRADE.  
2. INSTALL VALVE BOX EXTENSIONS AS REQUIRED.  
3. CONNECT ALL WIRES WITH WEATHER TIGHT CONNECTORS. SPLICES IN WIRE SHALL BE PERMITTED ONLY AT VALVE LOCATIONS.  
4. TAPE AND BUNDLE WIRE EVERY 10 FEET  
5. PROVIDE 18" EXPANSION LOOP OF COILED WIRE AT EACH WIRE CONNECTION IN VALVE BOX.



VALVE BOX, SETTINGS, AND CLEARANCES

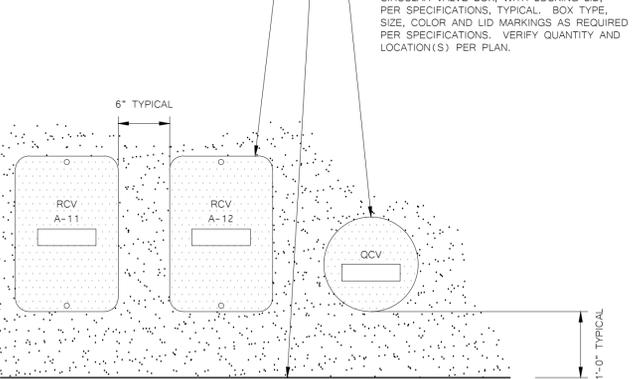
NOTES:  
1. SET VALVE BOX LEVEL WITH FINISH GRADE.  
2. INSTALL VALVE BOX EXTENSIONS AS REQUIRED.  
3. CONNECT ALL WIRES WITH WEATHER TIGHT CONNECTORS. SPLICES IN WIRE SHALL BE PERMITTED ONLY AT VALVE LOCATIONS.  
4. TAPE AND BUNDLE WIRE EVERY 10 FEET  
5. PROVIDE 18" EXPANSION LOOP OF COILED WIRE AT EACH WIRE CONNECTION IN VALVE BOX.



COMPONENTS INSTALLATION

5 AUTOMATIC CONTROL VALVE/BALL VALVE DETAIL

NOTE:  
1. ALIGN VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGES OF WALKS, WALLS, FENCING, BUILDINGS, ETC., TYPICAL.  
2. REFER TO SPECIFICATIONS FOR ADDITIONAL VALVE BOX INSTALLATION REQUIREMENTS.



6 TYPICAL VALVE BOX LAYOUT

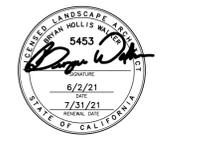
IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 02-119209 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 07/20/2021

730 Howe Avenue, Suite 450  
Sacramento, CA 95825  
Phone: 916.921.2112  
Fax: 916.921.2212



SHADE STRUCTURE ADDITION  
LINCOLN TECHNICAL ACADEMY  
LODI UNIFIED SCHOOL DISTRICT

LANDSCAPE PLANTING AND  
IRRIGATION DETAILS



Bryan Hollis Walker C-5453

PROJECT NO.	REVISIONS	BY
21-32-055		
DATE		
6/28/2021		
DRAWN		
CHECKED		
SCALE	1"=10'	
CADFILE		
UPDATED		

SHEET NO.

L4.1

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the following work as specified herein:
1. Soil Preparation and Fertilization
  2. Planting
  3. Sodding
  4. Weed Control
  5. Mulch
  6. Clean-up
  7. Landscape Maintenance Period
  8. Guarantee
- B. Work not included in this Section: Landscape elements such as concrete walks, fencing, outdoor lighting, rough grading, and clearing are not a part of this Section unless shown on the landscape Drawings.
- C. Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications sections, apply to this section.

1.02 GUARANTEE

- A. The guarantee period for lawn and plant material shall be the duration of the landscape maintenance period, from commencement until final acceptance of the work of this Section.
- B. During the guarantee period, repair and/or replace lawn not in satisfactory growing condition, as determined by Owner's Representative, without additional cost to Owner. Plants are to be replaced as per "Landscape Maintenance" in Part 3.08 of this Section, using plants of the same kind and size specified in plant list.

1.03 QUALITY CONTROL

- A. Qualifications: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+/- 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.
- B. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.
- C. Reviews: Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work.
- D. Reference Standards: Meet or exceed Federal, State and County laws requiring inspection of all plants and planting materials for plant disease and insect control.
- E. Delivery, Storage, and Handling:
1. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
  2. Bulk Materials:
    - a. Do not dump or store bulk materials near structures, utilities, walkways or pavements, or on existing turf areas or plants.
    - b. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
    - c. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.
  3. Furnish quantities necessary to complete the work as shown on the Drawings and, if necessary, make up for any discrepancies in the quantities given in the Plant List at no additional cost to Owner.

1.04 INSPECTION REQUIREMENTS

- A. Landscape Architect reserves the right to examine and reject plant material both at place of growth and at site, before and after planting, for compliance with requirements of name, variety, size, and quality.
- B. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and Landscape Architect.
- C. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:
1. The placement of landscape backfill material is as specified in this Section.
  2. Prior to the commencement of the work specified in this Section, the coverage and operation of the sprinkler irrigation system are as specified in Section 32 80 00 - IRRIGATION.
  3. The soil amendment does not include any metal fragments. (Obtain a letter from the manufacturer stating that the material submitted for use on this project has no metal or foreign objects. Submit this letter as part of the Data Sheet submittal package [see "Submittals and Substitutions" in this Section])
  4. Required Test: For each load of soil amendment delivered to the site, spread at least two cubic yards (2 cy) of material onto a paved surface approximately two inches (2") deep. Pass a magnetic rake over the material in two directions. If any metal is found, test the entire load in the same manner. Perform all testing in the presence of the Project Inspector.
  5. Soil amendments, fertilizer and bark mulch have been delivered to the site by the supplier, the invoices from the supplier indicate the project name and quantities delivered, and the Project Inspector has received copies of all such documents.
  6. Prior to planting, amendments and conditioners have been incorporated as per pre-planting recommendations, and planting areas have been made ready to receive planting.
- D. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.
- E. Beginning of Maintenance Period: Verify all work is complete, then request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative for authorization to begin the landscape maintenance period.
- F. End of Maintenance: Verify that all work is complete and acceptable, and that the maintenance has been completed per specifications; and continue to provide landscape maintenance until the Owner's Representative has accepted the work.

1.05 SUBMITTALS AND SUBSTITUTIONS

- A. Data Sheets: Provide product data for each type of landscape material indicated in the Drawings and Specifications.
- B. Samples: Submit samples of the following materials to Landscape Architect for approval:
1. Soil amendment: (3) one-quart zip-locked plastic bags.
  2. Bark Mulch: (3) one-quart zip-locked plastic bags.
  3. Imported Topsoil: (3) one-quart zip-locked plastic bags. (if needed)
- C. Provide soils analysis reports prepared by a qualified soils laboratory in compliance with the Soil Testing Requirements under "Soil Testing" in Part 3.02 of this Section.
- D. Prior to planting, submit copies of all trucking or packaging tags for all soil amendment, fertilizer and other additives to Landscape Architect so the quantities can be verified.

1.06 PROTECTION AND CLEAN-UP

- A. Provide protection for persons and property throughout progress of work. Use temporary barricades as required. Proceed with work in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel. Store materials and equipment where directed.
- B. Existing Construction: Execute work in an orderly and careful manner to protect paving, work of other trades, and other improvements.
- C. Existing Utilities: Provide protection for existing utilities within construction area. At no additional cost to Owner, repair any damages to utility lines that occur as a result of this work.
- D. Landscaping: Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods.
- E. Paving: Maintain cleanliness of paving areas and other public areas used by equipment, and immediately remove spillage; remove rubbish, debris, and other material resulting from landscaping work, leaving site in a safe and clean condition.

1.07 PLANTING SCHEDULE / ENVIRONMENTAL REQUIREMENTS

- A. Install, establish, and maintain all lawn areas for a minimum of ninety (90) days prior to date of substantial completion. Coordinate schedule with other work and overall project schedule. Failure to install lawn areas by this date shall result in assessment of liquidated damages.
- B. Proceed with work in an orderly and timely manner to complete installation of landscaping within contract limits.
- C. Planting Season Limits: Do not plant when grounds are wet or temperature is below 25° F. Do not proceed with any soil preparation and fertilization if all planting cannot be completed within Planting Season Limit.

1.08 LANDSCAPE MAINTENANCE PERIOD REQUIREMENTS

- A. Beginning of Landscape Maintenance Period:
1. General: Landscape Maintenance Period does not begin until all work is installed, as determined by Landscape Architect, in writing.
  2. On-site Inspection: When all work is complete, request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative who must together authorize and determine the start date for the landscape maintenance period. Coordinate and give notice of the date and time of the on-site meeting to all parties at least forty-eight (48) hours in advance.
  3. Acceptability: In cases where the lawn has reached adequate fullness and germination in some areas but not all, and authorization has not been given to begin the maintenance period, proceed with mowing, trimming, spraying, etc., as necessary prior to the beginning of the maintenance period.
- B. Duration of Landscape Maintenance Period: The Landscape Maintenance Period shall continue for a minimum of ninety (90) calendar days. During this time, continuously maintain all areas involved until final acceptance of the work by the Owner's Representative. See Landscape Maintenance Period procedure in Part 3.08 of this Section.
- C. Final Acceptance of the Landscape Maintenance Period: Request the final inspection forty-eight (48) hours in advance. If items require attention, hold on-site meetings until Landscape Architect can certify, in writing, and in concurrence with the Owner's Representative, the successful completion of the Landscape Maintenance Period. 1.09 RECORD DRAWINGS Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed.

PART 2 - PRODUCTS

2.01 GENERAL

Use material in new and perfect condition as specified. Any deviations or substitutions from the Specification and Drawings must first be approved by Owner's Representative in writing prior to use.

2.02 SOIL PREPARATION MATERIALS

- A. Topsoil: Fertile; friable; natural loam surface soil; reasonably free of subsoil, clay lumps, brush, weeds and other litter; and free of roots, stumps, stones/rocks, and other extraneous or toxic matter harmful to plant growth.
- B. Soil Amendment: One-percent nitrogen-impregnated bark product with a ninety-percent (90%) bark base and zero to one-quarter inch (0-1/4") particle size, or approved equivalent. Do not spread until testing requirements have been satisfied.
- C. Fertilizer/Soil Conditioner: Gro-Power Plus or approved equal.

2.03 MISCELLANEOUS LANDSCAPE MATERIALS

- A. Bark Mulch: Untreated, shredded cedar.
- B. Pre-Emergent Weed Control: Oxadiazon, "Treeflan", "Ronstar 2G", "Surflan" (Elano Products Company), or approved equal.

2.04 PLANT MATERIAL:

- A. Lawn Sod: Ninety percent (90%) Perennial Ryegrass and ten percent (10%) Kentucky Bluegrass.

PART 3 - EXECUTION

3.01 SITE CONDITIONS

- A. Examine the site, verify grade elevations, and observe conditions under which work is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Owner's Representative.
- B. Proceed with complete landscape work as rapidly as portions of the site become available, working within seasonal limitations for each kind of landscape work required.
- C. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand-excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
- D. When conditions detrimental to sod growth are encountered, such as rubble fill, adverse drainage condition, or other obstructions, notify the Owner's Representative before planting.

3.02 SOIL TESTING

- A. Coordinate soil testing in an expeditious and timely manner as required for on-site topsoil materials. Contract with a soil laboratory and include cost of sampling and testing in contract price. Take one (1) sample for every 5,000 square feet of landscape area up to a maximum of six (6) samples under the direction of and in the presence of the Owner's Representative.
- B. Submit each sample, according to the quantity of soil required by testing laboratory, to a competent laboratory approved by the Owner's Representative.
- C. Provide analysis of soil samples for pH, salinity, ammonia, phosphate, potassium, calcium, magnesium, boron, and sodium levels. Provide appraisal of chemical properties, including particle size determination, and recommendations for types and quantities of amendments and fertilizers.

3.03 PREPARATION

- A. Clearing of Vegetation:
1. If live perennial weeds exist on site at the beginning of work, spray with a non-selective systemic contact herbicide as recommended and applied by an approved licensed landscape pest control advisor and applicator. Leave sprayed plants intact for at least 15 days.
  2. Clear and remove existing weeds by mowing or grubbing off all plant parts at least one-quarter inch (1/4") inch below surface of soil over entire areas to be planted.
- B. Soil preparation:
1. Loosen soil in all planting areas, and on slopes flatter than 3:1 gradient, to a depth of six to eight inches (6" - 8") below finish grade. All debris, foreign matter, and stones shall be removed prior to the placing of any fertilizers or conditioners. Soil preparation is for all sodded lawn areas.
  2. Conduct the required soil tests and instruct the lab to include a minimum of the following soil improvements in the recommendation on the soils report.
    - a. Soil Amendment: Two cubic yards (2 cy) per 1,000 square feet.
    - b. Gro-Power Plus: One hundred fifty pounds (150 lbs) per 1,000 square feet.
    - c. If the lab recommends less than six cubic yards (6 cy) of soil amendment, the excess bid amount shall be applied to the cost of any additional recommended soil improvements, or returned to the Owner as a credit.
  3. Apply amendments as follows, using rates recommended by the soils testing laboratory (the rates of amendments shown below are for bidding purposes only):
    - a. Fertilizer/Soil Conditioner: Broadcast 150 pounds of Gro Power Plus per 1,000 square feet in all planting areas and rototill to a depth of six to eight inches (6" - 8"). Remove from the site any rock and debris brought to the surface by cultivations. "Cultipack" all areas to receive sod.
    - b. Apply soil amendment to all planting areas at the rate of six cubic yards (6 cy) per 1,000 sf and rototill into the top six to eight inches (6" -8").
  4. Upon completion of finish grading, request a review and obtain approval of Landscape Architect prior to commencement of planting.
- C. Finish Grading for all Planting areas
1. Refer to Earthwork Specification Section for Rough Grading.
  2. Grade to elevations and contours shown on Drawings. Fill low spots with landscape backfill material and grade to surface drain in manner indicated on Drawings.
  3. Finish-grade so that the entire area within the contract lines has a natural and pleasing appearance as specified and as directed by Landscape Architect.
  4. Adjust sprinkler heads one-half inch above finish grade in preparation to receive sod. Reset sprinkler heads flush to grade after turf has germinated.
  5. Flag the sprinkler heads and valve markers.

3.04 PLANTING

- A. Lawn Sod:
1. Cultivate all lawn areas to a depth of six inches (6"). If cultivation does not break lumps, pull a spike-toothed harrow over the area behind the tractor.
  2. Give all lawn areas that are to be sodded a smooth finish to prevent pockets. Do not allow any abrupt changes of surface. Prior to installation of sod, roll the grade with a 200-pound water-ballast roller. Request that the lawn grade be inspected and approved by the Landscape Architect prior to sodding to determine its suitability for planting. Obtain such approval prior to commencing sodding operations.
  3. Do not take heavy objects (except lawn rollers) over lawn areas after they have been prepared for planting.
  4. Completely lay the sod within twelve hours (12 hrs.) of delivery. Do not leave sod on pallets in the hot sun longer than necessary.
  5. Unroll sod carefully. Lay sod tight without any visible open joints, and without overlapping; stagger end joints twelve inches (12") minimum. Do not stretch or overlap sod pieces. Do not place sod in pieces smaller than twenty-four inches (24") in length by width of roll.
  6. When new sod is to match existing turf, cut the edge of the existing turf in a series of straight lines that will accept new sod rolls in full width of the sod roll. Make the transition of grade between existing turf and new sod to be seamless with no change in elevation.
  7. Immediately after laying sod, roll lawn areas with a 200-pound water-ballast roller.
  8. Trim sod to conform to lawn shapes designated in Drawings.
  9. On slopes of six inches (6") per foot and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at a maximum of two feet (2') on center. Drive pegs flush with soil portion of sod.
  10. Ensure that finished appearance is that of one continuous lawn.
  11. Do not lay whole lawn before watering. When a conveniently large area has been sodded, water lightly to prevent drying. Continue to lay sod and to water until installation is complete.
  12. All sod areas must be approved by Landscape Architect.
  13. Water the complete lawn surface thoroughly. Moisten soil at least eight inches (8") deep. Repeat sprinkling at regular intervals to keep sod moist at all times until rooted. After sod is established, decrease frequency and increase amount of water per application as necessary.

3.05 WEED CONTROL

Apply pre-emergent weed control to all planting areas (except lawn) after completion of all planting and one complete watering. Follow manufacturer's directions. To prevent washing away of weed control, do not over-water after its application. Do not allow any weed control into lawn areas. Treat any existing noxious weeds, such as Johnson grass, with Roundup in successive treatments until all roots are destroyed, then remove all grass and roots. Notify Owner's Representative of time of installation for verification of application.

3.06 BARK MULCH

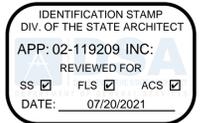
Apply mulch at the rate of three inches (3") deep to all planting areas, exclusive of lawn, after the planting and weed control are completed. Twelve inches (12") from planter edges, taper full depth of mulch to meet adjacent grades. Do not place mulch within three inches (3") of trunk or stems.

3.07 CLEAN-UP

- A. During construction, keep the site free of rubbish and debris, and clean up the site promptly when notified to do so. Take care to prevent spillage on streets from hauling and immediately clean up any such spillage and/or debris deposited on streets due to the work of this Section.
- B. During all phases of the construction work, take all precautions to abate dust nuisance by clean-up, sweeping, sprinkling with water, or other means as necessary.

3.08 LANDSCAPE MAINTENANCE

- A. The Landscape Maintenance Period will begin when all the Landscape Maintenance Period Requirements have been met (See Part 1 of these Specifications).
- B. Cleaning: Maintain cleanliness on paving areas and other public areas used by equipment and immediately remove all spillage. Remove from project site all rubbish and debris found thereon and all material and debris resulting from landscaping work, leaving the site in a safe and clean condition.
- C. Maintenance:
1. Sprinkler Irrigation System:
    - a. Check system weekly for proper operation. Flush lateral lines out after removing last sprinkler head or two at each end of lateral. Adjust all heads as necessary for unimpeded coverage.
    - b. Set and program automatic controllers for seasonal water requirements. Provide the Owner's Representative with keys to the controllers and instructions on how to turn off system in case of emergency.
    - c. Repair all damages to sprinkler irrigation system as part of the contract work. Make repairs within one watering period or one week, whichever is the least amount of time.
  2. Turf Areas:
    - a. Begin mowing turf when grass has reached a height of three inches (3") and cut to a height of one and one-half inches to two inches (1 1/2" - 2"). Mow at least weekly after the first cut. Turf must be well-established and free of bare spots and weeds, to satisfaction of Landscape Architect, prior to final acceptance. Do not mow lawns when the soil is not able to support maintenance equipment. Repair wheel marks and ruts caused by the maintenance equipment at no additional cost to the Owner.
    - b. Pick up grass clippings and remove from the site and premises.
    - c. Trim edges at least twice monthly for neat appearance. Vacuum or blow clippings off walks.
    - d. Water the lawns at such frequency as weather conditions require to replenish soil moisture below the root zone. Normally, a total of one and one-half inches (1 1/2") of water is needed weekly in hot weather.
    - e. Fertilize the lawn areas at the beginning of the Landscape Maintenance Period and at the completion of the Landscape Maintenance Period. Use a fertilizer with the following characteristics: 1.) Slow release, Best 16-6-8, or approved equal, at the rate of 6.25 lbs per 1,000 square feet from March through October. 2.) Calcium Nitrate (15-0-0) at the rate of 6.5 lbs per 1,000 square feet from November through February.
    - f. Broadcast fertilizer using a mechanical spreader; do not apply by hand-broadcasting. Sweep all fertilizer off hardscape into adjacent planters.
    - g. Weekly as needed and as directed, re-sod lawn areas with material that matches previously installed material. Use sod to repair any bare areas. Repair areas to receive sod as follows: 1.) Mark out areas to receive new sod repair. 2.) Cut straight lines that will accept sod the full width of the roll and a minimum of twenty-four inches (24") in length. 3.) Transition the grade between existing turf and new sod seamlessly, with no change in elevation.
  3. Insecticide and Herbicide Application:
    - a. If needed, control weeds with selective herbicides and sprays. In areas where crabgrass has infested the lawn, apply pre-emergent herbicides such as Dacthal by Amvac, Balan, or Betasan by Gowan for control prior to crabgrass germination. Control insect pests if necessary.
    - b. Use only a licensed Pest Control Operator to apply herbicides and sprays and to maintain a log for applications indicating material, timing, and rate.
  4. Pre-scheduled On-site Meetings: Hold regularly-scheduled (monthly or bimonthly as determined by the Landscape Architect) on-site meetings with the Landscape Architect, Project Inspector and Owner's Representative. Dates and times will be jointly agreed upon.
  5. Request, forty-eight hours (48 hrs.) in advance, on-site visits by the Landscape Architect to determine the end of the Landscape Maintenance Period. END OF SECTION



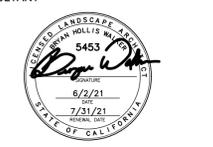
730 Howe Avenue, Suite 450  
Sacramento, CA 95825  
Phone: 916.921.2112  
Fax: 916.921.2212



SHADE STRUCTURE ADDITION  
LINCOLN TECHNICAL ACADEMY  
LODI UNIFIED SCHOOL DISTRICT

LANDSCAPE  
SPECIFICATIONS

CONSULTANT



Bryan Hollis Walker C-5453

PROJECT NO.	REVISIONS	BY
21-32-055		
DATE		
6/28/2021		
DRAWN		
CHECKED		
SCALE	1"=10'	
CADFILE		
UPDATED		
SHEET NO.		

L5.1

## IRRIGATION

Section 32 80 00

### PART 1 - GENERAL

Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

#### 1.01 DESCRIPTION

A. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the installation of an automatic sprinkler irrigation system, including all piping, sprinkler heads, controls, connections, testing, etc. as shown on the Drawings and as specified herein. The water source for this project is potable water.

B. Utilize and accept as standards manufacturer's recommendations and/or installation details for any information not specifically detailed on the Drawings.

#### 1.02 GUARANTEE

A. Guarantee all workmanship and materials hereunder against defective workmanship and materials, including damage by leaks and settlement of irrigation trenches, for the duration specified in Division 01 of these Specifications. (The Contractor is not responsible for vandalism or theft after date of final acceptance.)

#### 1.03 QUALITY CONTROL

A. Qualifications of Contractor: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+/- 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.

B. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.

C. Reviews: Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work.

D. Certification: Ensure that the contractor installing the Central Control System is trained and certified in the installation of the Central Control System. The training and certification must have been completed within two years prior to the installation date.

E. Standards:

1. Provide work and material in full accordance with the rules and regulations of the National Electric Code; the Uniform Plumbing Code; and other applicable state or local laws or regulations.

2. Furnish, without extra charge, additional material and labor required to comply with these rules and regulations, though the work may not be specifically indicated in the Specifications or Drawings.

3. Where the Specification requirements exceed those of the above-mentioned codes and regulations, comply with the requirements in the Specifications.

F. Delivery, Storage, and Handling:

1. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect related work and material.

2. Handle plastic pipe carefully, especially protecting it from prolonged exposure to sunlight. Store pipe on beds that are the full length of the pipe, and keep pipe flat and off the ground with blocks.

#### 1.04 INSPECTION REQUIREMENTS

A. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and the Landscape Architect.

B. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:

- Pressure testing of all mainlines and lateral lines (See "Hydrostatic Tests - Open Trench" in Part 3.12 of this Section).
- Trench depth,
- Sleeves under pavement,
- Flushing of all mainlines and lateral lines,
- Backfill and pipe bedding,
- Layout of heads,
- Operation of system and coverage adjustments (with Landscape Architect) after system is fully automated and operational, backfill of trenching is completed, and surface has been restored to original grades.

C. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.

#### 1.05 SUBMITTALS AND SUBSTITUTIONS

A. Product names are used as standards; provide proof as to equality of any proposed material and do not use other materials or methods unless approved in writing by the Owner's Representative. Submit no more than one request for substitution for each item. The decision of the Owner's Representative is final.

B. Use equipment capacities specified herein as the minimum acceptable standards.

C. List materials in the order in which they appear in Specifications; include substitutions. Submit the list for approval by the Owner's Representative.

D. Make any mechanical, electrical, or other changes required for installation of any approved, substituted equipment to satisfaction of Owner's Representative and without additional cost to Owner. Approval by Owner's Representative of substituted equipment and/or dimensional drawing does not waive these requirements.

E. Do not construe approval of material as authorization for any deviations from Specifications unless attention of Owner's Representative has been directed to specified deviations.

#### 1.06 PROJECT CONDITIONS, AND PROTECTION

A. Information on Drawings relative to existing conditions is approximate. During progress of construction, make deviations necessary to conform to actual conditions, as approved by Owner's Representative, without additional cost to Owner. Accept responsibility for any damage caused to existing services. Promptly notify Owner's Representative if services are found which are not shown on Drawings.

B. Protect existing trees-to-remain as specified in "Existing Tree Protection" in Part 3.02 of this Section.

C. Protect existing utilities within construction area. Repair damages to utility lines that occur as a result of operations of this work.

D. Verify dimensions at building site and check existing conditions before beginning work. Make changes necessary to install work in harmony with other crafts after receiving approval by Owner's Representative.

#### 1.07 MAINTENANCE AND OPERATING INSTRUCTIONS

A. Furnish three complete sets of operating maintenance instructions bound in a hardback binder and indexed. Start compiling data upon approval of list of materials. Do not request final inspection until booklets are approved by Owner's Representative.

B. Incorporate the following information in these sets:

- Complete operating instructions for each item of irrigation equipment.
- Typewritten maintenance instructions for each item of irrigation equipment.
- Manufacturer's bulletins which explain installation, service, replacement parts, and maintenance.
- Service telephone numbers and/or addresses posted in an appropriate place as designated by Owner's Representative.

#### 1.08 RECORD DRAWINGS

Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed. (See "Record Drawings" in Part 3.15 of this Section)

### PART 2 - PRODUCTS

#### 2.01 GENERAL

Use materials as specified; any deviation from the Specifications must first be approved by the Owner's Representative in writing. All material containers or certificates shall be clearly marked by manufacturer as to contents for inspection.

#### 2.02 MATERIALS

A. Automatic Control Valves: As indicated on Drawings.

B. Gate Valve: As indicated on Drawings.

C. Pipe and Fittings:

- PVC pipe: As indicated on Drawings.
- PVC fittings three-inch (3") size and smaller: High impact, standard weight, Schedule 40, molded PVC as manufactured by George Fischer, Lasco, Spears, or approved equal.
- All plastic pipe and fittings: Continuously and permanently marked with manufacturer's name, type of material, IPS size, schedule, NSF approval, and code number.
- Threaded PVC pipe and nipples: IPS Schedule 80 when necessary to use threaded connections to gauges, valves, or control valves. Threaded adapters may be used in place of nipples when making pipe to valve connections.
- Use 45-degree fittings for changes in depth of pipe, and at transition from main line to automatic control valves.
- Piping above ground: Schedule 40 galvanized steel with cast-iron fittings.
- Piping used for electrical purposes to be Schedule 40 PVC Rigid Nonmetallic Conduit electrical conduit.

D. PVC Primer: Weld-On P-70 Purple Primer or approved equal.

E. PVC Glue: Weld-On 711 Gray heavy bodied PVC Cement or approved equal.

F. Sprinkler Heads: As indicated on Drawings.

G. Sleeves: As indicated on Drawings.

H. All Valve Boxes and Covers: Manufactured, green with "Irrigation - Non-Potable" permanently embossed on cover. Carson, Rainbird or approved equal.

I. Automatic Sprinkler Control Wire:

1. Connections between remote control valves and controller: UF-14 direct burial plastic polyethylene (PE) insulated wire, Paige Electric P709D or approved equal. Common wire to be white, and lead wire to be colored. If multiple controllers are used, a different color is to be used for each controller's lead wire. (Use red for the first controller). Spare wires are to be yellow.

2. UL Listed waterproof sealing pack for wire connections: 3M DBRY-6, or approved equal.

3. Provide adequate working space around electrical equipment in compliance with local codes and ordinances.

J. Valve Identification Tags: Christy's irrigation ID tags, standard yellow color or approved equal.

K. Sand for Trench Backfill: Natural sand, free of roots, bark, sticks, rags, or other extraneous material.

### PART 3 - EXECUTION

#### 3.01 SITE CONDITIONS

Locations of existing utilities and other improvements shown on the Drawings are approximate. Verify existing conditions and, should any utilities be encountered that are not indicated on the plans, notify the Owner's Representative immediately. Accept responsibility for any damages caused to existing services.

#### 3.02 PREPARATION

A. Scheduling: Notify the Project Inspector prior to commencing and/or continuing the work of this Section. Remove and replace, at no cost to Owner, any work required as a result of failure to give the appropriate notification.

B. Examination: Examine conditions of work in place before beginning work; report defects.

C. Measurements: Take field measurements; report variance between plan and field dimensions.

D. Protection: Maintain warning signs, shoring and barricades as required. Prevent injury to, or defacement of, existing improvements. At no additional cost to Owner, repair or replace items damaged by installation operations.

E. Existing Tree Protection:

- Avoid unnecessary root disturbance, compaction of soils within drip line, or limb breakage.
- Do not store material or dispose of any material other than clean water within the drip line.
- Provide adequate irrigation during construction.
- Replace any tree damaged during construction with a tree of equal size and value at no additional cost to Owner.
- Adjust trench locations in field to minimize damage to existing elements and plant roots of trees-to-remain at no additional cost to Owner.

#### 3.03 GRADING

Install all irrigation features to their finished grade and at depths indicated. Complete and /or accommodate all rough grading and/or finish grading before commencing with trenching.

#### 3.04 LAYOUT

A. Lay out work as accurately as possible to Drawings. Drawings are generally diagrammatic to extent that swing joint offsets and fittings are not shown. Record all changes on the Record Drawings.

B. Do not willfully install the irrigation system as shown on Drawings when it is obvious, in the field, that obstructions or other discrepancies exist which may not have been considered in the design. Notify Owner's Representative of discrepancies before proceeding.

#### 3.05 EXCAVATING AND TRENCHING

A. General: Perform excavations as required for installation of work included under this Section, including shoring of earth banks to prevent cave-ins. Restore surfaces, existing underground installations, etc., damaged or cut as result of this work to their original condition and in a manner approved by the Landscape Architect.

B. Width:

- Make trenches wide enough to allow a minimum of six inches (6") between parallel pipelines and three inches (3") between side of pipe and side of trench. Do not allow stacking of pipe within trench.
- Allow a minimum clearance of twelve inches (12") in any direction from parallel pipes of other trades.

C. Preparation of Excavations: Remove rubbish and rocks from trenches. Bed pipe on a minimum of three inches (3") of clean, rock-free soil to provide a firm, uniform bearing for entire length of pipeline. Cover pipe with a minimum of three inches (3") of clean, rock-free soil. If clean, rock-free soil is not available, use sand for pipe bedding and three inches (3") of backfill above the pipe. The remainder of the trench backfill material can be native soil. Do not allow wedging or blocking of pipe.

D. Minimum depth of cover: Unless shown otherwise, provide the following minimums:

- Mainline: twenty-four inches (24") cover.
- Lateral line: twelve inches (12") cover.

E. Conflicts with other trades:

- Hand-excavate trenches where potential conflict with other underground utilities exist.
- Where other utilities interfere with irrigation trenching and piping work, adjust the trench depth as instructed by Owner's Representative.

#### 3.06 BACKFILL AND COMPACTING

A. General: Do not begin until hydrostatic tests are completed. When system is operating and after required tests and inspections have been made, backfill trenches under paving areas to the compaction rate specified.

B. Place backfill in six-inch (6") layers and compact with an acceptable mechanical compactor.

- Compact backfill material in landscape areas to eighty-five percent (85%) maximum dry density of the soil.
- If settlement occurs along trenches, make adjustments in pipes, valves, and sprinkler heads, soil, sod or paving as necessary to bring the system, soil, sod or paving to the proper level or the permanent grade, without additional cost to the Owner.

C. Excess Soil: Remove all rocks, debris, and excess soil that results from sprinkler irrigation trenching operations, landscape planting, and soil preparation operations off site at no additional cost to the Owner.

D. Finishing: Dress-off areas to eliminate construction scars.

#### 3.07 CONTROL WIRES

A. General: Install control wires beneath sprinkler main line whenever possible; tape wires to mainline pipe. Provide one spare wire for each controller.

B. Slack Wire: Provide eighteen inches (18") of slack wire for each wire connected to automatic control valve. Slack wire shall be coiled and left in the valve box. Tape wires in bundles every ten feet (10'); do not tape wires in sleeves.

C. Expansion and Contraction: Snake wire in trench to allow for contraction of wire.

D. Wire Passing Under Existing or Future Paving or Construction: Encase in PVC Schedule 40 or galvanized steel conduit extending at least twelve inches (12") beyond edges of paving or construction.

E. Wire Connections: Install wire connections in a waterproof sealing pack.

F. Wire Splicing: Permit splicing only on runs exceeding 500 feet. Locate all splices within valve boxes.

G. Wire Termination: Install wire in a valve box with eighteen inches (18") of slack wire coiled and individually capped with approved waterproof sealing pack.

H. Spare Wire: Install two (2) spare wires along each wire path. If there is more than one wire path from the controller, the contractor to install two (2) spare wires per path. Provide eighteen inches (18") of slack wire at each automatic control valve.

#### 3.08 FLUSHING LINES

Thoroughly flush lines prior to installing valves, performing hydrostatic testing, or installing sprinklers. Divert water to prevent washouts.

#### 3.09 AUTOMATIC CONTROL AND QUICK COUPLER VALVES

A. Install where shown and where practical; place no closer than twelve inches (12") to walk edges, building walls, or fences. Refer to detail for example.

B. Thoroughly flush mainline before installing valve.

C. Install valves in ground cover areas where possible.

#### 3.10 PIPING

A. General: Install in conformance with reference standards, manufacturer's written directions, as shown on Drawings and as herein specified.

B. Workmanship:

- General: Install sprinkler irrigation equipment in planted areas throughout the site.
- Coordination: Organize location of sleeves with other trades as required.

C. Pipe Line Assembly:

- General:
  - Cutting: Cut pipe square; remove rough edges or burrs.
  - Solvent-welded Connections: Use materials and methods recommended by the pipe manufacturer.
  - Brushes: Use non-synthetic brushes to apply solvents and primer.
  - Cleaning: Clean pipe and fittings of dirt, moisture, and debris prior to applying solvent or primer.
  - Assembly: Allow pipe to be assembled and welded on the surface or in the trench.
  - Expansion and Contraction: Snake pipe from side to side of trench to allow for expansion and contraction.
  - Location: Locate pipes as shown on Drawings except where existing supply valves, utilities or obstructions prohibit or where slight changes are approved to better suit field conditions.

1. Connections:

a. Threaded Plastic Pipe Connection:

- Use Teflon tape or pipe joint compound.
- When assembling to threaded pipe, take up joint no more than one full turn beyond hand-tight.

b. Metal Valves and Plastic Pipe: Use threaded plastic male adapters.

c. Metal to Metal Connections:

- Use specific joint compound or gasket material for type of joint made. Where pipe of dissimilar metals are connected, use dielectric fittings.
- Where assembling, do not allow more than three full threads to show when joint is made up.

d. Where assembling soft metal (brass or copper) or plastic pipe, use strap-type friction wrench only; do not use a metal-jawed wrench.

e. Threading:

- Do not permit the use of field-threading of plastic pipe or fittings. Use only factory-formed threads.
- Use factory-made nipples wherever possible. Permit the use of field-cut threads in metallic pipe only where absolutely necessary. When field-threading, cut threads accurately on axis with sharp dies.
- Use pipe joint compound for all threaded joints. Apply compound to male thread only.

3. Sleeves and conduits:

a. Use sleeves of adequate size to accommodate retrieval for repair of wiring or piping and extend a minimum of twelve inches (12") beyond edges of walls or paving.

b. Provide removable, non-decaying plug at end of sleeve to prevent entrance of soil.

4. Unions: Locate unions for easy removal of equipment or valve.

5. Capping: Plug or seal opening as lines are installed to prevent entrance materials that would obstruct pipe. Leave in place until removal is necessary for completion of installation.

#### 3.11 SPRINKLER HEADS

A. Sprinkler heads: Locate as shown on the Drawings except where existing conditions prohibit, or slight changes are approved to achieve as good or better coverage under the same conditions. Do not allow sprinkler head spacing to exceed the maximum shown on the Drawings. Plumb heads.

B. Handling, Assembly of Pipe, Fittings, and Accessories: Allow only skilled tradesmen to handle and assemble pipe, fittings and equipment. Keep interior of pipes, fittings and accessories clean at all times. Close ends of pipe immediately after installation; leave closure in place until removal is necessary for completion of installation. Do not permit bending of pipe.

C. Flushing: Remove end heads and operate system at full pressure until all rust, scale, and sand is removed. Divert water to prevent ponding or damage to finished work.

D. Coverage: Accept responsibility for full and complete coverage of irrigated areas to satisfaction of Landscape Architect and make necessary adjustments to better suit field conditions at no additional costs to Owner.

#### 3.12 FIELD QUALITY CONTROL

A. Visual Inspection: Verify that all pipe is homogenous throughout and free from visual cracks, holes, or foreign materials. Inspect each length of pipe. All materials are subject to impact test at the discretion of the Landscape Architect.

B. Hydrostatic Tests - Open Trench:

- Center-load piping with a small amount of backfill to prevent arching or slipping under pressure.
- Request the presence of the Project Inspector in writing at least forty-eight hours in advance of testing.
- At no additional cost to Owner, test in the presence of the Project Inspector.
- Apply continuous static water pressure of 100 psi when welded plastic joints have cured at least twenty-four hours, and with the risers capped, as follows: test main lines and submains for four hours; test lateral lines for two hours.
- Repair leaks resulting from tests; and repeat tests.
- Test to determine that all sprinkler heads function according to manufacturer's data and give full coverage according to intent of Drawings. Replace any sprinklers not functioning as specified with ones that do, or otherwise correct system to provide satisfactory performance.
- Continuity Testing: Test locating device and control wires for continuity prior to and after back-filling operations.

#### 3.13 CLEAN-UP

Remove debris resulting from work of this Section.

#### 3.14 ADJUSTMENTS AND MAINTENANCE

A. Adjusting System: Prior to acceptance, satisfactorily adjust and regulate entire system. Set watering schedule on controller appropriate to types of plants and season of year. Adjust remote control valves to operate sprinkler heads at optimum performance based on pressure and simultaneous demands through supply lines.

B. System Layout: Provide reduced prints of Record Document irrigation plans, laminated in four (4) mil. plastic, of size to fit controller door. Enlarge remote-control valve designations as necessary for legibility. Color-code areas covered by each station. Affix plans to inside of controller door.

C. Instructions: Upon completion of work, instruct maintenance personnel on operation and maintenance procedures for entire system.

D. Flow Charts: Record and prepare an accurate flow-rate chart for each automatic control valve.

#### 3.15 RECORD DRAWINGS

A. Regularly update plans of the system and any changes made to the system throughout the project. Record all changes on this plan before trenches are back-filled.

B. Record the as-built information on reproducible plans provided by the Architect. Complete and submit the Record Drawings to the Architect before applying for payment for work installed.

C. As-built drawings are to be completed electronically with a pdf editing software or computer aided drafting software. As-built drawing done by hand will not be accepted for final submittal.

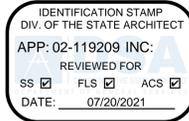
D. Show the following on the Record Drawings accurately to scale and dimensioned from two permanent points of reference:

- Distance of mainline from nearby hardscape.
- Location of automatic control valves, quick couplers, and gate valves.
- Location and size of all sleeves.
- Location of automatic control wires and spares.

#### 3.16 OPERATION MANUALS

Deliver two complete sets of manufacturer's warranties, Contractor guarantees, instruction sheets, parts lists and operation manuals to the Architect before requesting final acceptance of the project. Do not request final inspection until the sets are approved.

END OF SECTION



730 Howe Avenue, Suite 450  
Sacramento, CA 95825  
Phone: 916.921.2112  
Fax: 916.921.2212



SHADE STRUCTURE ADDITION  
LINCOLN TECHNICAL ACADEMY  
LODI UNIFIED SCHOOL DISTRICT

LANDSAPE IRRIGATION  
SPECIFICATIONS

CONSULTANT



Bryan Hollis Walker C-5453

PROJECT NO.	REVISIONS	BY
21-32-055		
DATE		
6/28/2021		
DRAWN		
CHECKED		
SCALE	1"=10'	
CADFILE		
UPDATED		
SHEET NO.		

L5.2

06 OF 06 SHEETS

DESIGN VALUES:

Table with columns: DESCRIPTION, DESIGN VALUES. Includes sections for DEAD AND LIVE LOADS, ALLOWABLE SOIL PRESSURES, ROOF SNOW LOAD, FLOOD DESIGN, WIND DESIGN, and SEISMIC DESIGN.

1. IF SITE-SPECIFIC DESIGN CRITERIA ARE OUTSIDE THE LIMITS OF THESE PC DRAWINGS, CONTACT POLYGON ENGINEERING TO SEE IF AN ENGINEERING LETTER, SUPPLEMENTAL DRAWINGS, AND/OR CALCULATIONS COULD BE SUBMITTED FOR A SITE-SPECIFIC SOLUTION...

ARCHITECTURAL REQUIREMENTS:

Table with columns: DESCRIPTION, DESIGN VALUES. Includes TYPE OF CONSTRUCTION, NUMBER OF STORIES, FIRE SPRINKLER SYSTEM.

RELATED BUILDING CODES AND STANDARDS:

- TITLE 24 CODES: 2014 California Administrative Code (CAC), 2016 California Building Code (CBC), 2016 California Electrical Code, 2014 California Mechanical Code (CMC), 2016 California Plumbing Code (CPC), 2016 California Energy Code, 2016 California Fire Code (CFC), 2016 California Green Building Standards Code.

REFERENCE CODE SECTIONS FOR APPLICABLE STANDARDS: 2016 CBC, CHAPTER 35; 2016 CFC, CHAPTER 45

SCOPE OF WORK NARRATIVE:

THESE DRAWINGS ILLUSTRATE THE FABRICATION AND INSTALLATION REQUIREMENTS FOR A FREE-STANDING PREFABRICATED STEEL SHADE STRUCTURE. THE ENTIRE STRUCTURAL SYSTEM IS COMPOSED OF TUBULAR STEEL MEMBERS SUPPORTED ON CONCRETE FOUNDATIONS...

INSTRUCTIONS FOR ARCHITECTS PLANNING TO SUBMIT THESE PRE-CHECKED DRAWINGS TO DSA:

STEP 1 PROJECT INFORMATION: PROJECT NAME (Shade Structure Addition), SCHOOL DISTRICT (Lodi Unified School District), USE AND OCCUPANCY CLASSIFICATION (A-3), OCCUPANT LOAD FACTOR (7), TOTAL ROOF AREA (1152), NUMBER OF OCCUPANTS (165).

STEP 2 DESIGN OPTIONS: ROOF DECK (Multi-rib [MR]), GUTTERS (None [ ]), ELECTRICAL ACCESS (None [ ]), CLEAR HEIGHT (10' 8").

STEP 3 SEISMIC ACCELERATION: 0.305 (g)

STEP 4 SEISMIC REGIONS: 0.000 < Ss <= 1.875 (White), 1.875 < Ss <= 2.750 (Green)

STEP 5 TOTAL ROOF DEAD LOAD: ROOF DECK (1.2 PSF), COLLATERAL (0.0 PSF), TOTAL (1.2 PSF)

STEP 6 LOAD SCENARIO: WHITE (TOTAL ROOF DEAD LOAD <= 3.5 PSF), GREEN (TOTAL ROOF DEAD LOAD < 2.0 PSF)

STEP 7 PC STRUCTURE: ROOF WIDTH <= 20 (RAM 20), 20 < ROOF WIDTH <= 30 (RAM 30)

STEP 8 STRUCTURE SIZE: ROOF WIDTH (20' or 30'), ROOF LENGTH (64' or 84')

STEP 9 FOUNDATION TYPE: RAM 20 (Spread Pad, Drilled Pier), RAM 30 (Spread Pad, Drilled Pier)

STEP 10 FOUNDATION SUMMARY: Table showing foundation types for RAM 20 and RAM 30 across different load scenarios.

STEP 11 SHEET INDEX: Table mapping BASE FRAME, ROOF DECK, FOUNDATION TYPE, ORDER FORM, NOTES AND SPECIAL INSPECTIONS, FOUNDATION PLAN, FRAMING PLAN, FRAME CONNECTION DETAILS, SECTION DETAILS, ARCHITECTURAL VIEWS, ROOF CONNECTION DETAILS, MISC DESIGN OPTIONS, ELECTRICAL CUTOUTS to RAM 20 and RAM 30 SHEET INDEX.

STEP 12 MULTIPLE STRUCTURES: Table showing ROOF WIDTH X LENGTH and QTY for multiple structures.

STEP 1: GENERAL PROJECT INFORMATION. IDENTIFY PROJECT NAME AND SCHOOL DISTRICT. IDENTIFY USE AND OCCUPANCY CLASSIFICATION. THE USE AND OCCUPANCY DETERMINE THE MAXIMUM SQUARE FOOTAGE OF THE STRUCTURE...

STEP 2: DESIGN OPTIONS. SELECT ROOF DECK FOR YOUR PROJECT. 'MR' REPRESENTS MCELROY METAL 'MULTI-RIB' ROOF DECK. 'SS' REPRESENTS MCELROY METAL 'MEDALLION-LOK' 16" STANDING SEAM ROOF DECK...

STEP 3: IDENTIFY THE Ss ACCELERATION (g) FOR YOUR PROJECT AND GEOTECHNICAL INFORMATION. Ss VALUE DETERMINES THE REQUIRED SEISMIC DESIGN FORCES. Ss VALUE DEPENDS ON PROJECTS GEOGRAPHICAL LOCATION...

STEP 4: IDENTIFY THE Ss REGION FOR YOUR PROJECT. THE REGIONS ARE DEPENDANT ON THE Ss VALUE DETERMINED IN STEP 3. REFERENCE DSA BU 14-01 FOR A MAP OF VARIOUS Ss REGIONS...

STEP 5: IDENTIFY THE ROOF DEAD LOAD FOR YOUR PROJECT. THE ROOF DECK DEAD LOAD WILL ALWAYS BE INCLUDED. THE COLLATERAL LOAD REPRESENTS ADDITIONAL LOAD THAT CAN BE SUPPORTED BY THE FRAME...

STEP 6: IDENTIFY THE LOAD SCENARIO. REFERENCE THE STEP 4 COLOR AND SELECT THE APPLICABLE LOAD SCENARIO. LOAD SCENARIOS HAVE NO IMPACT ON FRAME DESIGN OR COST, BUT DO AFFECT FOUNDATION SIZE...

STEP 7: IDENTIFY PC STRUCTURE. ROOF WIDTHS UP TO 20' WIDE USE THE 'RAM 20'. ROOF WIDTHS UP TO 30' WIDE USE THE 'RAM 30'. THE 20' AND 30' WIDTHS ARE SUGGESTED BECAUSE THEY ARE THE MOST ECONOMICAL...

STEP 8: IDENTIFY SITE SPECIFIC ROOF WIDTH AND LENGTH. DO NOT EXCEED THE TOTAL ROOF AREA FROM STEP 7 (ROOF WIDTH MULTIPLIED BY ROOF LENGTH).

STEP 9: FOUNDATION TYPE. SELECT A FOUNDATION BASED THE DESIRED FOUNDATION TYPE. SELECT EITHER SPREAD PAD OR DRILLED PIER FOUNDATION PRIOR TO APPROVAL. FOUNDATION TYPE IMPACTS CONSTRUCTION (TIMING, SEQUENCE, COST, ETC.)...

STEP 10: FOUNDATION SUMMARY. USE THE SELECTIONS FROM STEP 6 AND STEP 9 TO SELECT THE APPROPRIATE FOUNDATION.

STEP 11: SELECT APPLICABLE SHEET INDEX FOR YOUR PROJECT. IDENTIFY THE APPLICABLE SHEET INDEX. INCLUDE APPLICABLE SHEETS WITH YOUR DSA SUBMITTAL. EXCLUDE 'MISC DESIGN OPTIONS' SHEET FOR PROJECTS WITHOUT ELECTRICAL CUTOUTS OR GUTTERS...

STEP 12: MULTIPLE STRUCTURES WITH THE SAME PC #. FILL IN ROOF LENGTH AND WIDTH OF STRUCTURES AS WELL AS QUANTITY LISTED ON THE POLYGON DRAWINGS. POLYGON WILL ASSUME ALL DESIGN CRITERIA FOR EACH STRUCTURE IS THE SAME...

STEP 13: COLUMN BASE PROTECTION. SELECT THE METHOD OF COLUMN INSTALLATION ON APPLICABLE FOUNDATION PLAN SHEET, DETAIL 2, NOTE 3.

SPECIFICATIONS

PART 1 - GENERAL. 1.1 STRUCTURE DESCRIPTION. A. STRUCTURE(S) BASED ON THE FOLLOWING PC DESIGN(S): 1. HIP ROOF (RAM)

1.2 DESIGN REQUIREMENTS. A. MEET THE DESIGN INTENT SHOWN ON THE PC DRAWINGS APPROVED FOR THIS PROJECT. 1. DESIGN CRITERIA. 2. MEMBERS SIZES. 3. HIDDEN BOLTED CONNECTIONS BETWEEN STRUCTURAL MEMBERS...

1.3 SUBMITTALS. A. DRAWINGS AND CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE APPROPRIATE STATE. B. ONLY MANUFACTURERS THAT SUBMIT DRAWINGS AND CALCULATIONS PRIOR TO BID SHALL BE CONSIDERED...

1.4 TECHNICAL SUPPORT. A. MANUFACTURER MUST HAVE IN-HOUSE ENGINEERING DEPARTMENT AND A PROFESSIONAL ENGINEER LICENSED IN THE APPROPRIATE STATE TO ANSWER TECHNICAL QUESTIONS.

1.5 QUALITY ASSURANCE. A. GENERAL. 1. FABRICATION PROCEDURES SHALL COMPLY WITH APPLICABLE CODES AND LOCAL REGULATIONS. 2. REQUIRED STRUCTURAL TESTS AND SPECIAL INSPECTIONS INCLUDED ON THE PROJECT DSA-103 FORM...

1.6 MANUFACTURER WARRANTY. A. STRUCTURE MUST HAVE (10) YEAR LIMITED WARRANTY ON STEEL FRAME MEMBERS. B. STRUCTURE MUST HAVE (10) YEAR LIMITED WARRANTY ON PAINT SYSTEM. C. PASS THROUGH WARRANTY OF ROOFING MANUFACTURER SHALL BE PROVIDED UPON REQUEST.

PART 2 - PRODUCTS. 2.1 MANUFACTURER. A. ACCEPTABLE MANUFACTURERS. 1. POLYGON, A DIVISION OF PORTERCORP. A. 4240 N 158TH AVE., HOLLAND, MI 49424; 414-399-1963; WWW.POLYGON.COM...

2.2 FRAME. A. MATERIALS. 1. ANCHOR BOLTS: SEE DRAWINGS FOR REQUIREMENTS. ANCHOR BOLTS NOT PROVIDED BY MANUFACTURER. 2. STRUCTURAL STEEL: SEE DRAWINGS FOR REQUIREMENTS. 3. STRUCTURAL BOLTS: SEE DRAWINGS FOR REQUIREMENTS.

B. FINISH. 1. FRAME FINISH: POLI-5000 POWDER COAT. NO FIELD PAINTING PERMITTED. 2. COMPONENTS SHALL BE SHOT BLASTED TO SSPC-SP10 NEAR-WHITE BLAST CLEANING. SSPC-SP2 HAND TOOL CLEANING WILL NOT BE AN ACCEPTABLE ALTERNATIVE...

2.3 ROOF. A. MATERIALS. 1. ROOF MATERIAL: SEE DRAWINGS FOR REQUIREMENTS. 2. ROOF HARDWARE: SEE DRAWINGS FOR REQUIREMENTS. B. FINISH. 1. ROOF FINISH: KYNAR 500 HIGH-PERFORMANCE RESIN-BASED PAINT. 2. ROOF COLOR: DETERMINED BY OWNER.

2.4 MISCELLANEOUS. A. MATERIALS. 1. CONCRETE MATERIAL: SEE DRAWINGS FOR REQUIREMENTS. CONCRETE NOT PROVIDED BY MANUFACTURER.

PART 3 - EXECUTION. 3.1 STORAGE AND HANDLING. A. PROTECT MATERIAL AFTER DELIVERY FROM WEATHER, SUNLIGHT, AND DAMAGE. B. ELEVATE MATERIAL TO ALLOW CIRCULATION AND REDUCE MOLD, FUNGI DECAY, AND INSECT INFESTATION...

3.2 ERECTION. A. INSTALL COMPONENTS ACCORDING TO MANUFACTURER'S INSTALLATION DRAWINGS AND THESE SPECIFICATIONS. B. ANCHOR BOLT AND COLUMN LAYOUT IS CRITICAL. C. COMPLY WITH SPECIFIC BOLTING INSTALLATION REQUIREMENTS PROVIDED ON DRAWINGS REQUIRING THE CONTRACTOR TO COORDINATE THIS PHASE OF CONSTRUCTION WITH THE SPECIAL BOLTING INSPECTOR...

3.3 REPAIR. A. DO NOT ATTEMPT ANY FIELD CHANGES TO THE STRUCTURE WITHOUT FIRST CONTACTING THE MANUFACTURER.

3.4 QUALITY CONTROL. A. TESTS AND INSPECTIONS DURING ERECTION ARE NOT REQUIRED BY THE MANUFACTURER, BUT MAY BE REQUIRED BY OTHERS. B. THE PROJECT INSPECTOR, AND ENTIRE CONSTRUCTION OVERSIGHT PROCESS, SHALL COMPLY WITH DSA PR 13-01. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.



DATE: 02/22/2019

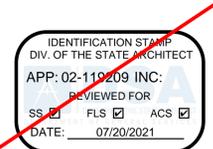


poligon PORTER CORPORATION

STATE APPROVALS - PC. PRE-CHECK (PC) DOCUMENT CODE: 2016 CBC. A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED.

ORDER FORM. HIP ROOF - RAM.

RAM 1.0



**GENERAL:**

- 1. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE JOB EXCEPT WHERE THEY MAY CONFLICT WITH DETAILS AND NOTES ON OTHER SHEETS. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE STRUCTURAL ENGINEER FOR THIS PROJECT.
2. WORK SHALL CONFORM TO THE REQUIREMENTS, AS AMENDED TO DATE, OF THE LATEST ADOPTED EDITION OF THE CBC, C.A.C. TITLE 24, AND ANY OTHER LOCAL, STATE AND FEDERAL REGULATIONS.
3. OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT PRIOR TO PROCEEDING WITH ANY WORK INVOLVED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER FOR THIS PROJECT AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
5. THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO, BRACING, TEMPORARY SUPPORTS, AND SHORING. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. ANY SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER DURING THE CONSTRUCTION SHALL BE DISTINGUISHED FROM CONSTRUCTION AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ARCHITECT/ENGINEER, WHETHER OF MATERIAL OR WORK, ARE FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DOCUMENTS, BUT DO NOT GUARANTEE CONSTRUCTION.
6. ASTM DESIGNATIONS AND ALL STANDARDS REFER TO THE LATEST AMENDMENTS.
7. CONFORM TO APPLICABLE CAL/OSHA CONSTRUCTION SAFETY REGULATIONS FOR ALL WORK PERFORMED DURING CONSTRUCTION. JOB SITE SAFETY IS STRICTLY THE RESPONSIBILITY OF THE CONTRACTOR AND NOT THE ARCHITECT/ENGINEER OR OWNER.
8. THE ENGINEER AND THEIR CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY, HANDLING, REMOVAL OR DISPOSAL OF HAZARDOUS MATERIALS AT THE PROJECT SITE, INCLUDING BUT NOT LIMITED TO, ASBESTOS, ASBESTOS PRODUCTS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC SUBSTANCES.
9. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, OR IF A CHANGE IN THE SCOPE OF WORK IS PROPOSED, A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED CHANGE(S) SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK.
10. THE SCHOOL DISTRICTS INSPECTOR OF RECORD SHALL INSPECT AND APPROVE THE ERECTED FRAME PRIOR TO ROOF INSTALLATION.
11. SEE REQUIREMENTS FOR LOCATION IN ANY FIRE HAZARD SEVERITY ZONE FOR WILDLAND URBAN INTERFACE AREAS (WUI) AS SPECIFIED IN THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE. PROVIDE PROTECTION AND DETAILS OF ALL AREAS COMPLYING WITH THE WUI REQUIREMENTS.
12. LOCATING THIS STRUCTURE CLOSER THAN 20 FEET TO OTHER STRUCTURES MAY AFFECT THE ALLOWABLE AREA FOR THE EXISTING CONSTRUCTION PER THE APPLICABLE VERSION OF THE CALIFORNIA BUILDING CODE.
13. VIEWS AND DETAILS ARE NOT DRAWN TO SCALE (UNLESS NOTED OTHERWISE). DO NOT SCALE THESE DRAWINGS.
14. OTHER SITE SPECIFIC ITEMS MAY BE REQUIRED.
15. WHEN A SITE-SPECIFIC PROJECT IS LOCATED IN A FLOOD ZONE OTHER THAN ZONE X, A LETTER STAMPED AND SIGNED FROM A SOILS ENGINEER IS NEEDED TO VALIDATE THE ALLOWABLE SOIL VALUES SPECIFIED IN THE PC ARE STILL APPLICABLE.

**STRUCTURAL AND MISCELLANEOUS STEEL:**

- 1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360 - 10 AND 303-10 MANUAL REFERENCED BY THE 2016 EDITION OF THE CALIFORNIA BUILDING CODE.
2. PIPE SECTIONS SHALL CONFORM TO ASTM A53, Fy = 35 ksi, GRADE B OR A501 UNLESS NOTED OTHERWISE.
3. STRUCTURAL TUBING (HSS SHAPES) SHALL CONFORM TO ASTM A500, GRADE B (OR HIGHER), Fy = 46 KSI, Fu = 58 KSI.
4. IF MATERIAL AVAILABILITY IS LIMITED, MEMBER THICKNESSES CAN BE INCREASED BEYOND WHAT IS SHOWN IN THESE DRAWINGS (MAXIMUM INCREASE OF 1/8").
5. ALL CHANNELS, ANGLES, PLATES AND MISC. STEEL SHALL CONFORM TO ASTM A36, Fy = 36 KSI, Fu = 58 KSI.
6. ALL COLD FORM STEEL SHALL CONFORM TO ASTM A653, CS = TYPE B, Fy = 50 KSI, Fu = 60 KSI.
7. STRUCTURAL STEEL AND DECK SHALL BE IDENTIFIED FOR CONFORMITY PER CBC 2203A.1.
8. ROOF DECK SHALL HAVE KYNAR 5000 METAL COATING.
9. ROOF DECK SHALL CONFORM TO ASTM A792, Fy = 50 KSI, Fu = 60 KSI.
10. MR ROOF SCREWS MEET ASTM A510 WITH A HEAD DIMENSION OF 0.31" (FLAT-TO-FLAT) AND INTEGRAL WASHER DIMENSION OF 0.58" (OUTSIDE DIAMETER).
11. SS ROOF SCREWS MEET ASTM A510 WITH A HEAD DIMENSION OF 0.437" (OUTSIDE DIAMETER).

**WELDING:**

- 1. ALL WELDING SHALL COMPLY WITH AWS D1.1 SPECIFICATIONS AND SHALL BE DONE BY AWS QUALIFIED WELDERS CERTIFIED FOR THE TYPE OF WELDING TO BE PERFORMED.
2. ALL WELDING SHALL BE DONE BY GAS METAL ARC PROCESS WITH E70XX ELECTRODES. FLUX CORE ARC WELD SHALL CONFORM TO CHARPY NOTCH TOUGHNESS RATING OF 20 FT-LB @ (CP F).
3. ALL WELDING SHALL BE DONE IN THE SHOP WITH REQUIRED INSPECTION, PRE-APPROVED BY DSA, TO ENSURE PROPER MATERIAL ID AND WELDING.
4. WELD FILLER METAL MANUFACTURER SHALL PROVIDE WRITTEN CERTIFICATION OF COMPLIANCE WITH CODE AND SPECIFICATIONS.

**BOLTING:**

- 1. ALL BOLTS SHOWN ON THESE DRAWINGS ARE ASTM F3125 (A325 TYPE 3) HIGH STRENGTH BOLTS (UNO) AND SHALL BE HOT DIPPED GALVANIZED PER F2329.
2. HIGH STRENGTH BOLTS SHALL BE SAMPLED AND TESTED IN COMPLIANCE WITH CBC 2213A.1.
3. BEFORE ERECTING THE FRAME, VERIFY ALL BOLTS AND NUTS ARE CLEAN OF DEBRIS AND BURRS - INCLUDING THE HARDWARE ALREADY FASTENED INSIDE THE MEMBERS. CHASING SOME OF THE BOLTS AND NUTS MAY BE REQUIRED.
4. ANCHOR BOLTS (HEAVY HEX HEAD, ASTM F1554, GRADE 36) SHALL BE HOT DIPPED GALVANIZED PER ASTM F2329. ANCHOR BOLTS MAY BE HEADED OR THREADED WITH A NUT THAT IS PROVIDED FROM ROTATING.
5. HIGH STRENGTH NUTS SHALL CONFORM TO ASTM A563 AND SHALL BE GALVANIZED PER F2329.
6. HIGH STRENGTH WASHERS SHALL CONFORM TO ASTM F436 AND SHALL BE GALVANIZED PER F2329.
7. THE BOLTING INSTALLATION REQUIREMENTS OUTLINED BELOW ARE CRITICAL TO THE STRUCTURE'S DESIGN AND PERFORMANCE. THE INSTALLER IS REQUIRED TO COORDINATE THIS PHASE OF CONSTRUCTION WITH THE SPECIAL BOLTING INSPECTOR OF RECORD PRIOR TO THE ERECTION OF THE FRAME. ALL BOLTS SHALL BE INSTALLED AND INSPECTED PER THE APPLICABLE VERSION OF AISC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", CBC 1705A.2.1; AISC 341-10 J7; AISC 360-10 N5.6.

- A. PRETENSIONED JOINTS (IDENTIFIED ON THE FRAME CONNECTION DETAILS WITH A "PJ REQUIRED") MUST BE INSTALLED AND INSPECTED TO MEET ONE OF FOLLOWING REQUIREMENTS:
1. TURN-OF-NUT PRETENSIONING
2. CALIBRATED WRENCH PRETENSIONING
3. DIRECT-TENSION-INDICATOR PRETENSIONING (CONTRACTOR RESPONSIBLE FOR PURCHASE OF REQUIRED WASHERS)

- B. ALL OTHER JOINTS MUST BE INSTALLED AND INSPECTED TO MEET THE REQUIREMENTS OF SNUG-TIGHTENED JOINTS. NOTE TO INSTALLER AND INSPECTOR(S): THE SNUG-TIGHT CONDITION EXISTS, IN PART, WHEN ALL THE BOLTS IN THE JOINT HAVE BEEN TIGHTENED SUFFICIENTLY TO PREVENT THE REMOVAL OF THE NUTS WITHOUT THE USE OF A WRENCH.

THE CONTRACTOR, SPECIAL BOLTING INSPECTOR AND THE INSPECTOR OF RECORD MUST ALL AGREE ON WHICH APPROACH WILL BE USED TO PRETENSION THE BOLTS. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THE APPROACH AGREED TO BY ALL PARTIES LISTED ABOVE.

**FOUNDATIONS:**

- 1. ALLOWABLE SOIL PRESSURES ASSUME CLASS 5 SOIL CLASSIFICATION PER 2016 CBC TABLE 1806A.2.
2. FILL AND BACKFILL SHALL BE COMPACTED TO 95% OF MAX. DENSITY IN ACCORDANCE WITH ASTM TEST METHOD D1557. FLOODING NOT PERMITTED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING, ETC., NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION, AND FORMING AND PLACEMENT OF CONCRETE.
4. STRUCTURES SHALL BE SETBACK FROM ADJACENT SLOPES TO PROVIDE FIRM MATERIAL FOR EMBEDMENT AND FOR PROTECTION FROM SLOPE DRAINAGE, EROSION, AND SHALLOW FAILURES.
A. BOTTOM OF ASCENDING SLOPE: THE SMALLER OF HALF THE HEIGHT OF THE SLOPE AND 15FT MEASURED FROM THE FACE OF THE STRUCTURE TO THE TOE OF THE SLOPE
B. TOP OF DESCENDING SLOPE: THE SMALLER OF A THIRD OF THE HEIGHT OF THE SLOPE AND 40 FT MEASURED FROM THE FACE OF THE FOOTING TO THE TOP OF THE SLOPE

ALTERNATE SETBACKS ARE PERMITTED, SUBJECT FOR APPROVAL, A GEOTECHNICAL INVESTIGATION MAY BE REQUIRED.

**CONCRETE:**

- 1. MIX DESIGN REQUIREMENTS: (NORMAL WEIGHT CONCRETE)

Table with 6 columns: STRENGTH Fc (28 DAYS), W/C RATIO (NON-AIR ENTRAINED), W/C RATIO (AIR ENTRAINED), AIR ENTRAINMENT, SLUMP (± 1"), UNIT WEIGHT (NORMAL WEIGHT). Row 1: 5000 PSI, 0.45, 0.4, 6%, 4", 150 PCF

- 2. CHANGES TO THE MIX DESIGN MUST BE APPROVED BY THE ENGINEER OR ARCHITECT OF RECORD AND DSA
3. AGGREGATES SHALL CONFORM TO ASTM C33. MAX AGGREGATE SIZE = 1".
4. CEMENT SHALL CONFORM TO ASTM C150 (TYPE V) UNLESS NOTED OTHERWISE ON THE DRAWINGS.
5. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE DAYS AFTER PLACEMENT. ALTERNATE METHODS WILL BE APPROVED IF SATISFACTORY PERFORMANCE CAN BE ASSURED.
6. CONCRETE SHALL NOT FREE FALL MORE THAN FIVE FEET.
7. CONCRETE SHALL BE PROPORTIONED PER ACI 318-14 26.4.
8. CONCRETE SHALL BE TESTED PER CBC 1905A.1.3, 1901A.1, 1705A.3, AND ACI 318-14 24.13.

**REINFORCING STEEL:**

- 1. REINFORCING STEEL SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A615. (DEFORMATIONS SHALL BE IN ACCORDANCE WITH ASTM A305) AS FOLLOWS:
GR 40; (#4 BARS AND LARGER)
GR 40; (#3 BARS)
2. DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS SHALL CONFORM THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES."
3. MIN. COVER FOR CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
A. CAST AGAINST EARTH..... 3"
B. CAST AGAINST FORM BELOW GRADE..... 2"
C. FORMED SLABS (#11 BAR & SMALLER)..... 3/4"
D. SLABS ON GRADE (FROM TOP OF SLAB)..... 1"
E. COLUMNS AND BEAMS (MAIN BARS)..... 2"
F. WALLS EXPOSED TO WEATHER (#6-#18 BARS)..... 2" (#5 & SMALLER)..... 1 1/2" (#11 & SMALLER)..... 3/4"
G. NOT EXPOSED TO WEATHER..... 3/4"
4. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
5. FOR #6 BARS AND SMALLER, REINFORCING SHALL BE LAP SPICED 45 BAR DIA MINIMUM IN CONCRETE. FOR #7 BARS AND LARGER, REINFORCING SHALL BE LAP SPICED 55 BAR DIAMETERS MINIMUM IN CONCRETE. ALL LAP SPICES MUST COMPLY WITH ACI 318-14.
6. PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
7. WELDING OF REINFORCING IS NOT ALLOWED
8. REINFORCING STEEL SHALL BE SAMPLED AND TESTED PER CBC 1910A.2.

**POWDER COATED AND EPOXY PRIMED FINISH:**

- 1. ENTIRE POWDER COATING PROCESS COMPLETED IN SAME FACILITY AS STEEL FABRICATION.
2. ALL CARBON STEEL MEMBERS (COLUMNS, BEAMS, PLATES, ETC.) PAINTED WITH PRIME COAT PER THE "AISC CODE OF STANDARD PRACTICE" AND THE "AISC SPECIFICATION SECTION M3" (UNLESS NOTED OTHERWISE).
3. PARTS PRETREATED IN A 3 STAGE IRON PHOSPHATE WASHER (OR EQUIV.).
4. EPOXY PRIMER POWDER COAT APPLIED TO PARTS FOR SUPERIOR CORROSION PROTECTION.
5. TOP POWDER COAT OF SUPER DURABLE TGIC (COLOR SELECTED FROM MANUFACTURER'S STANDARD OPTIONS OR CUSTOM COLOR).
6. SAMPLE PRODUCTION PARTS TESTED TO MEET THE FOLLOWING CRITERIA:
A. SALT SPRAY RESISTANCE PER ASTM B 117/ ASTM D 1454 10000 HOURS WITH NO CREEP FROM SCRIBE LINE AND RATING OF 10
B. HUMIDITY RESISTANCE PER ASTM D2247-02
1. 5000 HOURS WITH NO LOSS OF ADHESION OR BLISTERING
C. COLOR/UV RESISTANCE PER ASTM G154-04
1. 2000 HOURS EXPOSURE ALTERNATE CYCLES WITH NO CHALKING, 75% COLOR RETENTION, AND COLOR VARIATION MAXIMUM 3.0 E VARIATION OF FORMULA (BEFORE AND AFTER 2000 HOURS EXPOSURE)

**CONSTRUCTION NOTES**

- 1. A DSA-CERTIFIED CLASS 2 INSPECTOR IS REQUIRED FOR THIS PROJECT.
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24 CCR.
3. A "DSA-CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE OWNER (E.G. DISTRICT, ETC.) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE OWNER (E.G. DISTRICT, ETC.) SHALL CONDUCT ALL THE REQUIRED TEST AND INSPECTIONS FOR THE PROJECT.

**NOTICE OF DISCLAIMER FOR STRUCTURAL ENGINEER RESPONSIBILITY**

- 1. FOR THE SITE-SPECIFIC PROJECT, NEITHER POLYGON OR GHD ARE THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE IN CHARGE.
2. FOR THE SITE-SPECIFIC PROJECT, GHD AND POLYGON'S RESPONSIBILITY IS LIMITED TO THE PREPARATION OF THE PLANS AND SPECIFICATIONS FOR THE STRUCTURES OF THIS PC ONLY.
3. STRUCTURAL OBSERVATION OF CONSTRUCTION IS SPECIFICALLY EXCLUDED FROM GHD AND POLYGON'S RESPONSIBILITY FOR THE SITE-SPECIFIC PROJECT.
4. ALL CONSTRUCTION ACTIVITIES RELATED TO STRUCTURAL ENGINEERING SHALL BE DELEGATED TO A QUALIFIED ENGINEER BY THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE. THESE ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO, APPROVAL OF INSPECTOR QUALIFICATIONS, STRUCTURAL OBSERVATIONS OF CONSTRUCTION, REVIEW OF INSPECTIONS REPORTS, AND SIGNING OFF ON THE VERIFIED REPORT FOR COMPLETED WORK.
5. POLYGON WILL BE RESPONSIBLE FOR RESPONDING TO QUESTIONS PERTAINING TO THE PLANS AND SPECIFICATIONS FOR THE STRUCTURES OF THIS PC WHICH ARISE DURING PLAN REVIEW AND CONSTRUCTION.

**SPECIAL INSPECTION NOTES:**

- 1. THE PROJECT INSPECTOR AND TESTING AGENCY SHALL BE SELECTED BY THE SCHOOL DISTRICT AND APPROVED BY DSA AND THE ARCHITECT OF RECORD.
2. COSTS OF THE PROJECT INSPECTOR AND THE TESTING AGENCY SHALL BE BORN BY THE SCHOOL DISTRICT.
3. THE PROJECT INSPECTOR, AND ENTIRE CONSTRUCTION OVERSIGHT PROCESS, SHALL COMPLY WITH DSA PR 13-01.
4. ON APPROVED PC DRAWINGS, THE STATEMENT OF STRUCTURAL TESTS AND SPECIAL INSPECTIONS (FORM DSA-103) BELOWS ONLY AN EXAMPLE. ON APPROVED PC DRAWINGS, THE EXAMPLE FORM DSA-103 MUST BE CROSSED OUT BEFORE THE PC DRAWINGS CAN BE APPROVED AS PART OF A SITE-SPECIFIC (OR STOCKPILE) PROJECT SO THEY WILL NOT CONFLICT WITH THE OFFICIAL FORM DSA-103 FOR THE PROJECT.
5. A SITE CLASS 2 INSPECTOR OF RECORD IS REQUIRED.

DSA-103 List of Required Structural Tests & Special Inspections - 2016 CBC. Includes fields for School Name, District, Date Submitted, and Application No.

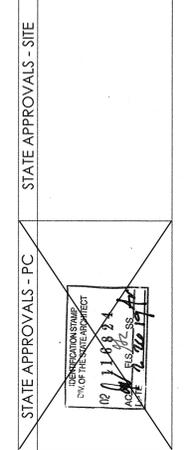
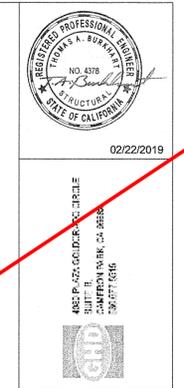
IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A. NOTE: This form is also available for projects submitted for review under the 2007, 2010, and 2013 CBC.

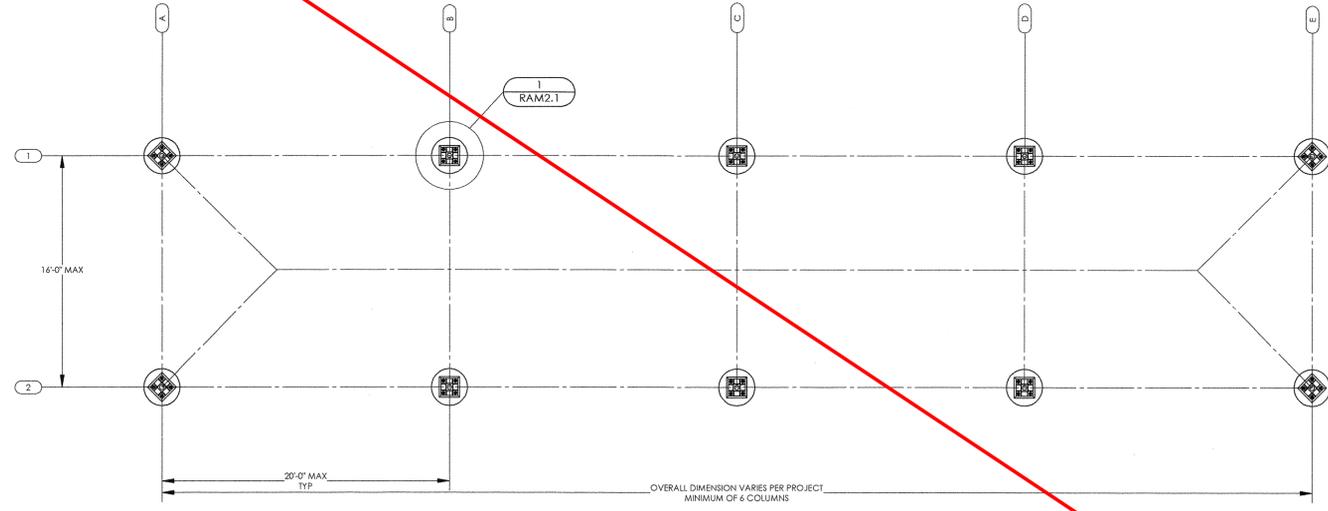
Table with columns: REQUIRED, TEST OR SPECIAL INSPECTION, TYPE, PRE-REQUIRED BY, CODE REFERENCE AND NOTES. Includes sections for SOILS, CONCRETE, MASONRY, STEEL, ALUMINUM, HIGH STRENGTH BOLTS, WELDING, and WOOD.

- List of required verified reports:
1. Soils Testing and Inspection: Geotechnical Verified Report - Form DSA-293
2. All Structural Testing: Laboratory Verified Report - Form DSA-291
3. Shop Welding Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292
4. HS Bolt Installation Inspection: Laboratory Verified Report - Form DSA-291, or, for independently contracting SI, Special Inspection Verified Report - Form DSA-292

KEY to Columns table with 2 columns: 1 Type, 2 Performed By. Includes definitions for Continuous, Periodic, and Test inspection types.

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**FOUNDATION PLAN (DRILLED PIER)**  
SCALE: 3/16" = 1'-0"

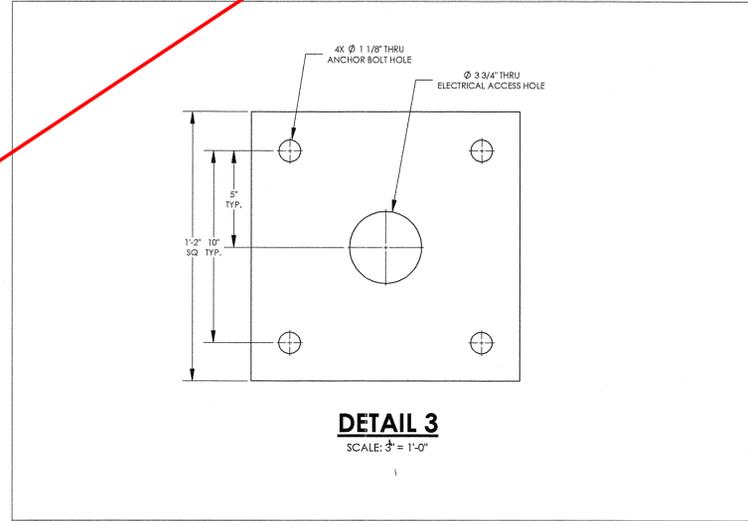
- FOUNDATION PLAN NOTES:**
- TOP OF ALL FOUNDATIONS MUST BE CONSTRUCTED AT ONE COMMON ELEVATION (COORDINATE WITH SITE PLANS - NOT BY POLYGON)
  - ALL FOUNDATIONS MUST BE CENTERED UNDER COLUMNS (UNO).
  - SEE SHEET RAM1.1 FOR CONCRETE REQUIREMENTS.
  - PRIOR TO FORMING AND CASTING FOUNDATIONS, REVIEW FOUNDATION PLAN FOR REQUIRED ORIENTATION.
  - FOUNDATION MATERIAL AND INSTALLATION NOT BY POLYGON.
  - VIBRATE CONCRETE FULL DEPTH OF FOUNDATION.
  - FOR DRILLED PIER FOUNDATIONS, PREVENT SOIL FROM ENTERING EXCAVATED HOLE (FORM, ETC).



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DATE: 07/20/2021



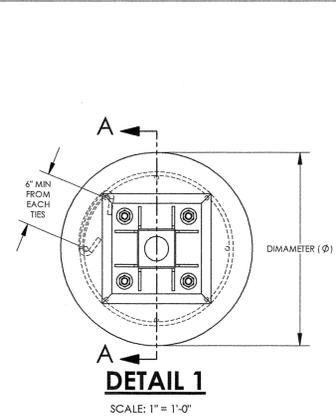
**poligon**  
PORTER



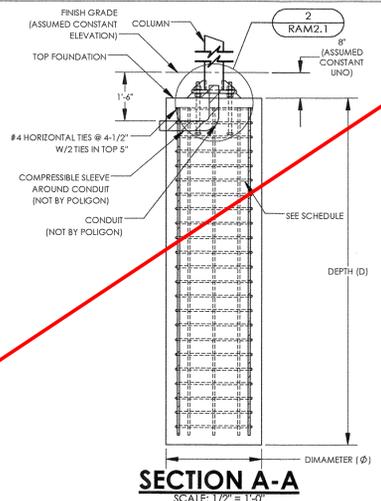
**DETAIL 3**  
SCALE: 3/8" = 1'-0"

COLUMN BASEPLATE

3



**DETAIL 1**  
SCALE: 1" = 1'-0"



**SECTION A-A**  
SCALE: 1/2" = 1'-0"

DRILLED PIER FOUNDATION

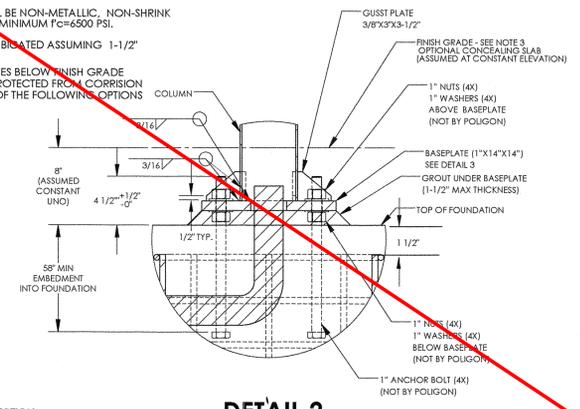
FOUNDATION REQUIREMENTS VARY PER PROJECT  
SEE SHEET RAM1.0 FOR REQUIRED LOAD SCENARIO AND FOUNDATION TYPE (STEP 8 OF 'INSTRUCTIONS')  
ONLY REFERENCE COPY OF PC DRAWINGS SUBMITTED FOR THIS PROJECT

LOAD SCENARIO	DIAMETER (Ø)	DEPTH (D)	VERTICAL REINFORCING <sup>1</sup>	
			QTY	SIZE
1 <sup>2</sup>	2'-6"	11'-0"	8	#6
2 <sup>3</sup>	2'-6"	11'-6"	8	#6

<sup>1</sup> EQUALLY SPACED AROUND DRILLED PIER  
<sup>2</sup> UPLIFT CAPACITY: 17.9 KIPS (FOUNDATION WEIGHT 8.10 KIPS, SKIN FRICTION 9.82 KIPS)  
<sup>3</sup> UPLIFT CAPACITY: 18.8 KIPS (FOUNDATION WEIGHT 8.47 KIPS, SKIN FRICTION 10.3 KIPS)

**NOTES:**

- GROUT SHALL BE NON-METALLIC, NON-SHRINK GROUT WITH MINIMUM Fc=6500 PSI.
- COLUMNS FABRICATED ASSUMING 1-1/2" GROUT PAD.
- COLUMN BASES BELOW FINISH GRADE SHOULD BE PROTECTED FROM CORROSION. SELECT ONE OF THE FOLLOWING OPTIONS BELOW



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

**COLUMN BASE PROTECTION**  
SURFACE MOUNTED COLUMN INSTALLATION  
1 NO BELOW GRADE PROTECTION REQUIRED  
BELOW GRADE COLUMN INSTALLATION  
1 CONCRETE SLAB - 3" MIN ANCHOR BOLT COVER  
1 MASTIC COATING - 1/4" THICK MIN COATING ON ALL STEEL SURFACES BELOW GRADE

COLUMN BASEPLATE AND ANCHOR BOLTS

2

PRE-CHECK (PC) DOCUMENT  
CODE: 2016 CBC  
A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED.

FOUNDATION PLAN  
DRILLED PIER

RAM2.1

HIP ROOF - RAM 20

STATE APPROVALS - SITE

STATE APPROVALS - PC



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 APP: 02-119209 INC.  
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 DATE: 07/20/2021

REGISTERED PROFESSIONAL ENGINEER  
 NO. 4378  
 THOMAS A. SURBER  
 STRUCTURAL  
 STATE OF CALIFORNIA  
 02/22/2019

**poligon**  
**PORTER**  
 ARCHITECTS

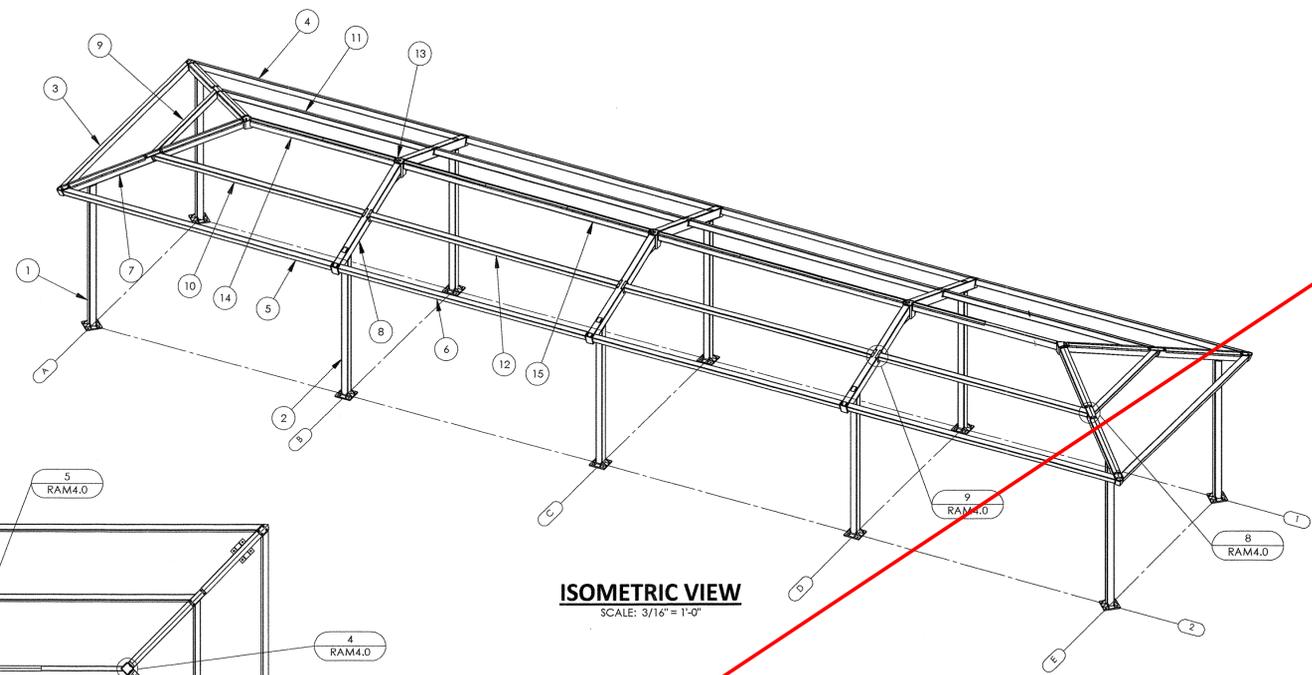
STATE APPROVALS - SITE  
 STATE APPROVALS - PC

PRE-CHECK (PC)  
 DOCUMENT  
 CODE: 2016 CBC  
 A SEPARATE PROJECT  
 APPLICATION FOR  
 CONSTRUCTION IS REQUIRED.

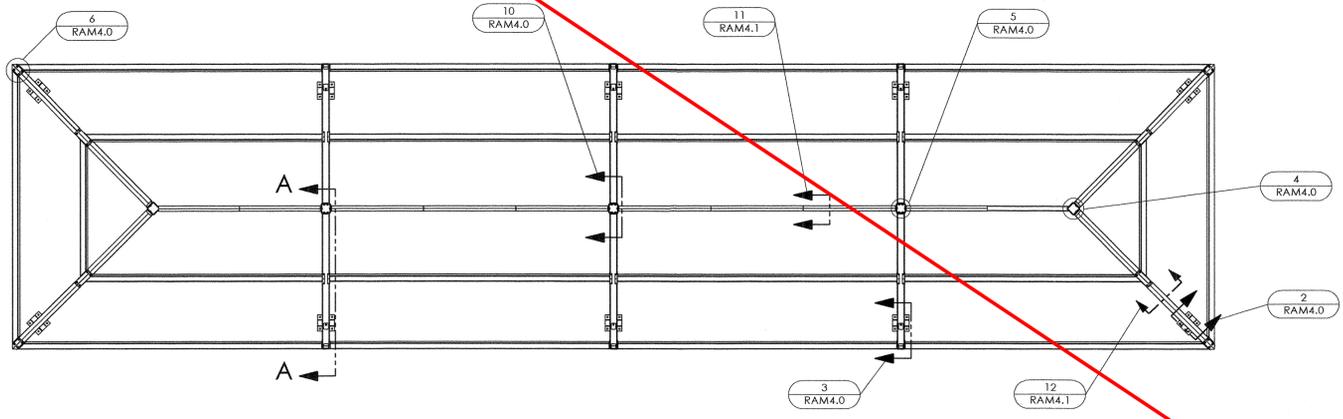
FRAMING PLAN

**RAM3.0**

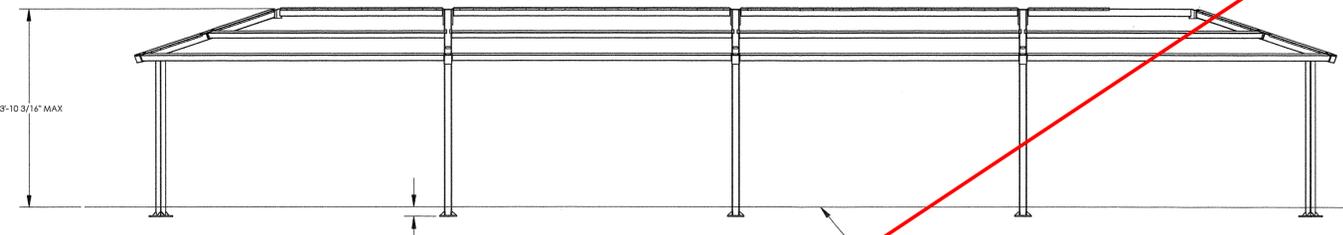
HIP ROOF - RAM 20



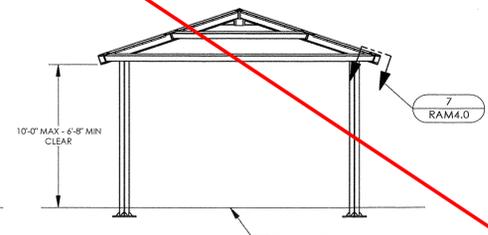
**ISOMETRIC VIEW**  
 SCALE: 3/16" = 1'-0"



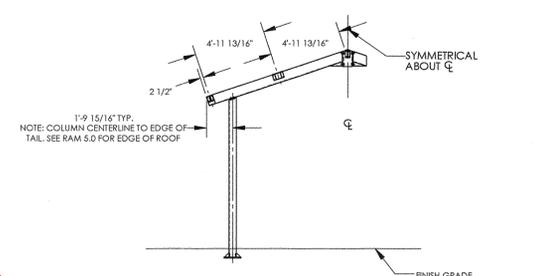
**PLAN VIEW**  
 SCALE: 3/16" = 1'-0"



**FRONT ELEVATION**  
 SCALE: 3/16" = 1'-0"



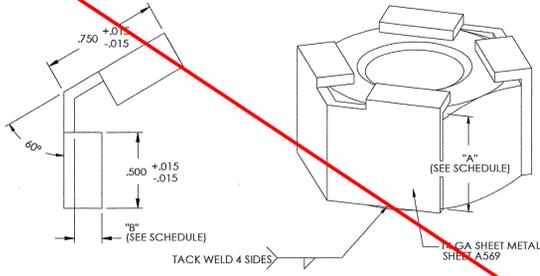
**SIDE ELEVATION**  
 SCALE: 3/16" = 1'-0"



**SECTION A-A**  
 SCALE: 3/16" = 1'-0"

ITEM	QTY.	PART NO.	DESCRIPTION	MATERIAL	WEIGHT
15	2	1M1178117	R-BEAM ASM	HSS6X4X1/8	163.76
14	2	1M1178112	END R-BEAM ASM	HSS6X4X1/8	130.50
13	6	1M1178110	C-TUBE ASM	HSS8X8X5/8	62.53
12	4	1M1178106	SIDE PURLIN ASM	HSS5X5X3/16	236.20
11	2	1M1178108	CORNER PURLIN ASM	HSS5X5X3/16	197.28
10	2	1M1178103	CORNER PURLIN ASM	HSS5X5X3/16	197.43
9	2	1M1178099	END PURLIN ASM	HSS5X5X3/16	110.65
8	6	1M1178091	GABLE BEAM ASM	HSS8X6X3/16	193.39
7	4	1M1178119	HIP BEAM ASM	HSS6X6X3/16	211.24
6	4	1M1178089	SIDE EAVE BEAM ASM	HSS5X5X1/8	162.81
5	2	1M1178085	CORNER EAVE BEAM ASM	HSS5X5X1/8	175.09
4	2	1M1178079	CORNER EAVE BEAM ASM	HSS5X5X1/8	175.09
3	2	1M1178073	END EAVE BEAM ASM	HSS5X5X1/8	155.31
2	6	1M1178069	SIDE COLUMN ASM	HSS6X6X1/4	220.08
1	4	1M1178064	CORNER COLUMN ASM	HSS6X6X1/4	221.88

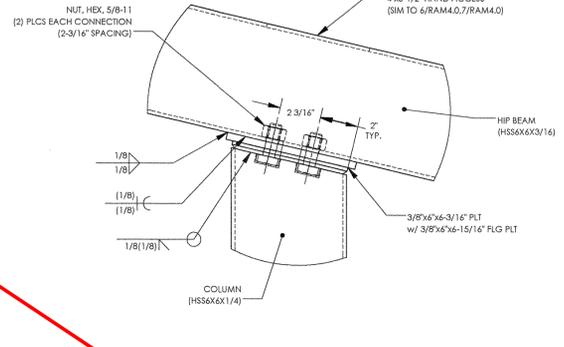
ALL HIDDEN NUTS AND BOLTS (INSTALLED IN SHOP DURING FABRICATION) ARE SECURED WITH THIS NUT AND BOLT RESTAINING SYSTEM.



DIMENSION SCHEDULE		
FASTENER	DIM A	DIM B
5/8" NUT	.631 +.000 -.015	.180 +.015 -.015
5/8" BOLT	.403 +.000 -.015	.250 +.015 -.015
3/4" NUT	.738 +.000 -.015	.180 +.015 -.015
3/4" BOLT	.483 +.000 -.015	.375 +.015 -.015
1" NUT	1.012 +.000 -.015	.180 +.015 -.015
1" BOLT	.643 +.000 -.015	.375 +.015 -.015

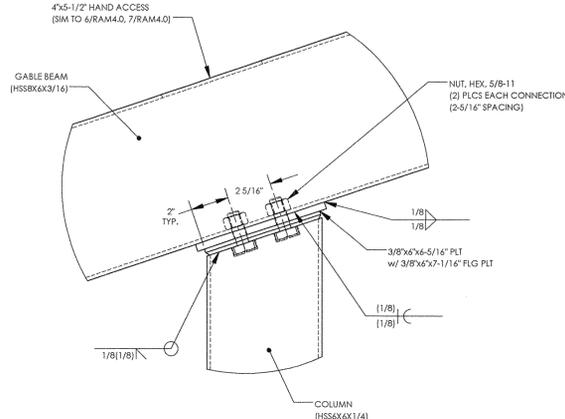
NUT & BOLT RESTAINING SYSTEM

1



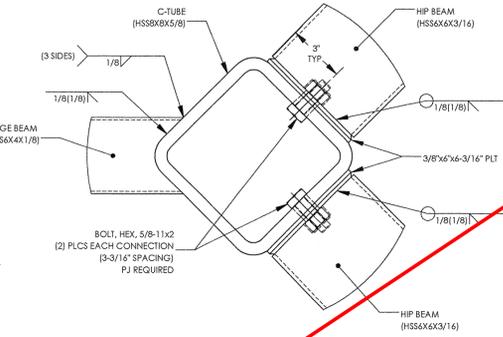
HIP BEAM CONNECTION @ COLUMN

2



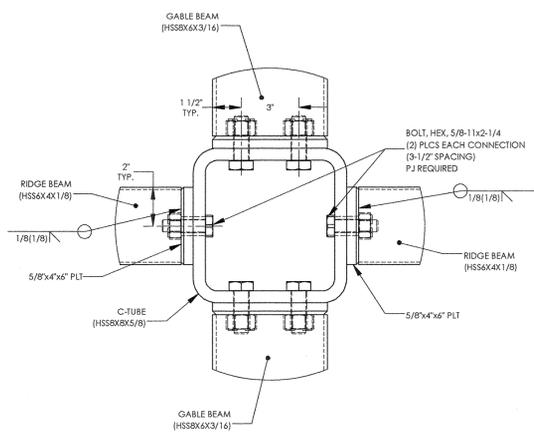
GABLE BEAM CONNECTION @ COLUMN

3



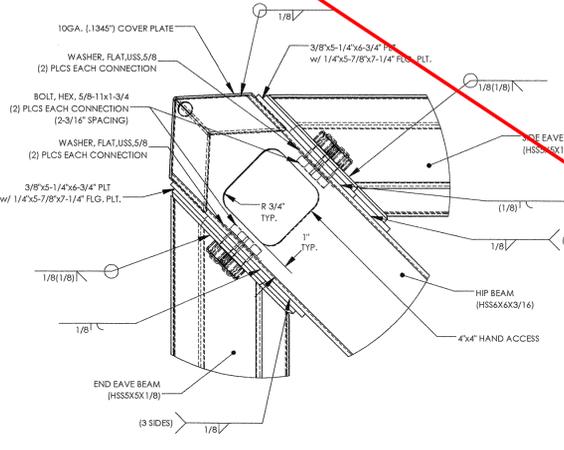
HIP BEAM CONNECTION @ COMPRESSION TUBE

4



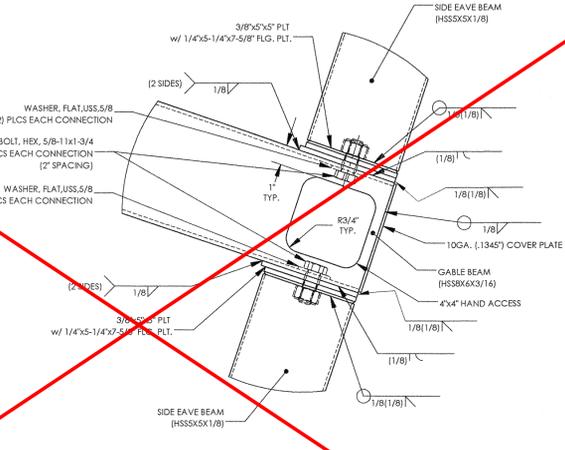
RIDGE BEAM CONNECTION @ COMPRESSION TUBE

5



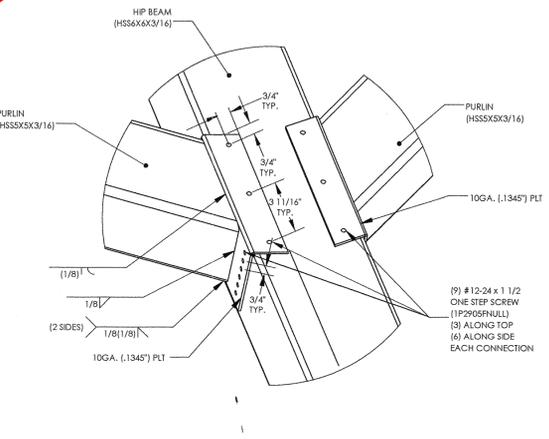
EAVE BEAM CONNECTION @ HIP BEAM

6



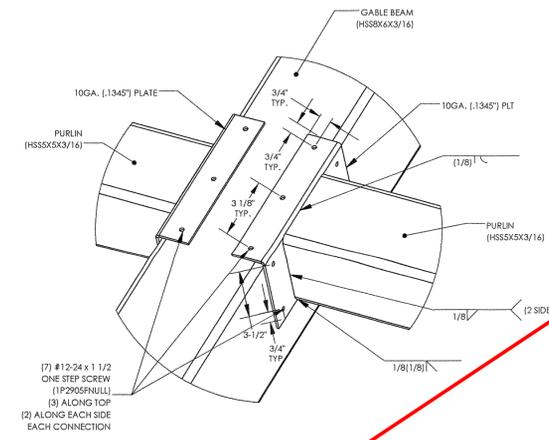
EAVE BEAM CONNECTION @ GABLE BEAM

7



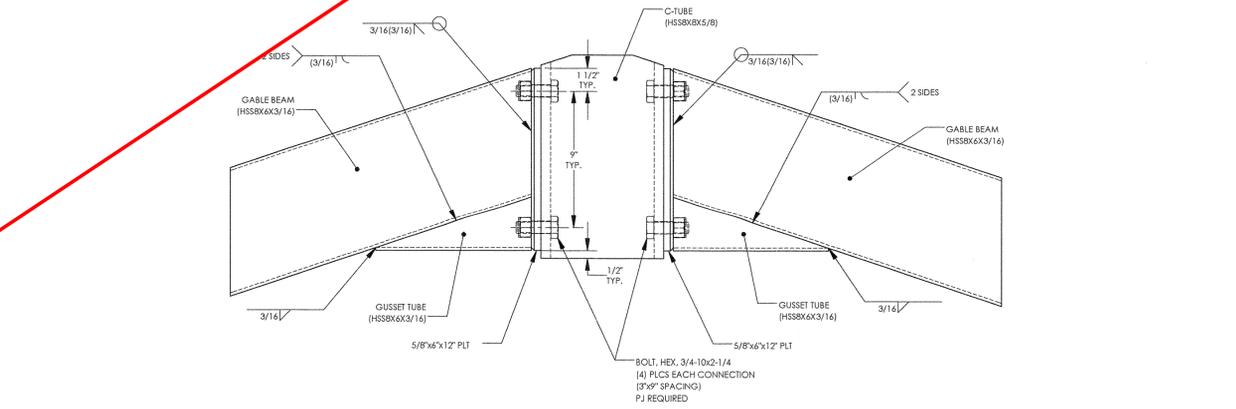
PURLIN CONNECTION @ HIP BEAM

8



PURLIN CONNECTION @ GABLE BEAM

9



GABLE BEAM CONNECTION @ COMPRESSION TUBE

10

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 02-118209 INC.  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 07/20/2021



poligon

STATE APPROVALS - SITE

PRE-CHECK (PC) DOCUMENT CODE: 2016 CBC A SEPARATE PROJECT APPLICATION FOR CONSTRUCTION IS REQUIRED.

FRAME CONNECTION DETAILS

RAM4.0

HIP ROOF - RAM 20

IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 02-118209 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 07/20/2021



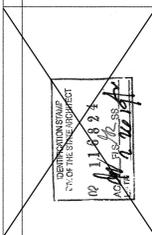
02/22/2019

482 P. 25, GOLDENROCK ELEC  
 CONTRACTORS INC., CA PERM  
 19, APT. 1016



**poligon**  
 PORTERS  
 ENGINEERS ARCHITECTS

STATE APPROVALS - SITE

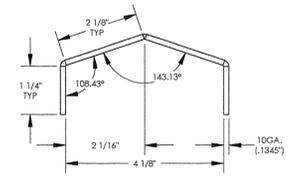
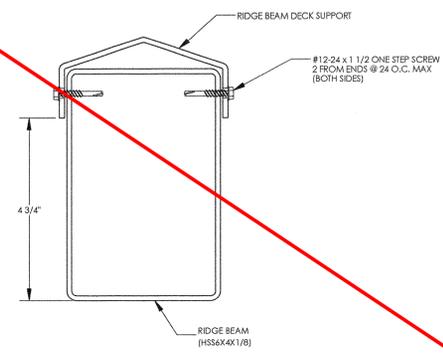


**PRE-CHECK (PC)  
 DOCUMENT**  
 CODE: 2016 CBC  
 A SEPARATE PROJECT  
 APPLICATION FOR  
 CONSTRUCTION IS REQUIRED.

SECTION DETAILS

HIP ROOF - RAM 20

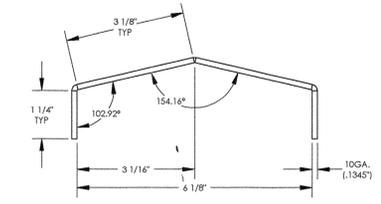
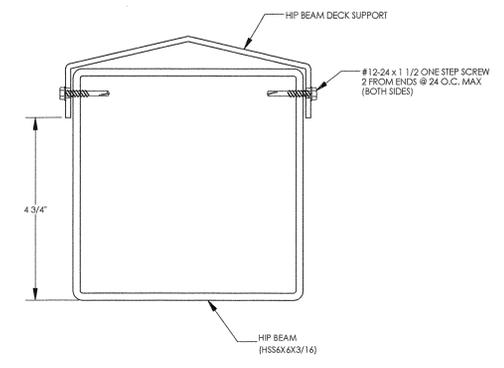
**RAM4.1**



RAM 20 - RIDGE  
 Fy = 36 KSI  
 A = 0.948 IN^2  
 Ix = 0.570 IN^4  
 Iy = 2.476 IN^4  
 Sx = 0.444 IN^3  
 Sy = 1.127 IN^3

RIDGE BEAM DECK SUPPORT DETAIL

11



RAM 20 - HIP  
 Fy = 36 KSI  
 A = 1.208 IN^2  
 Ix = 0.809 IN^4  
 Iy = 6.194 IN^4  
 Sx = 0.590 IN^3  
 Sy = 1.938 IN^3

HIP BEAM DECK SUPPORT DETAIL

12



IDENTIFICATION STAMP  
 DIV. OF THE STATE ARCHITECT  
 APP: 02-118209 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 07/20/2021

NO. 10, GOLDENROCKVILLE  
 10000  
 CAMDEN WY, WY 83002  
 307.777.5516



**poligon**  
 PORTER &  
 ARCHITECTS

STATE APPROVALS - SITE

STATE APPROVALS - PC

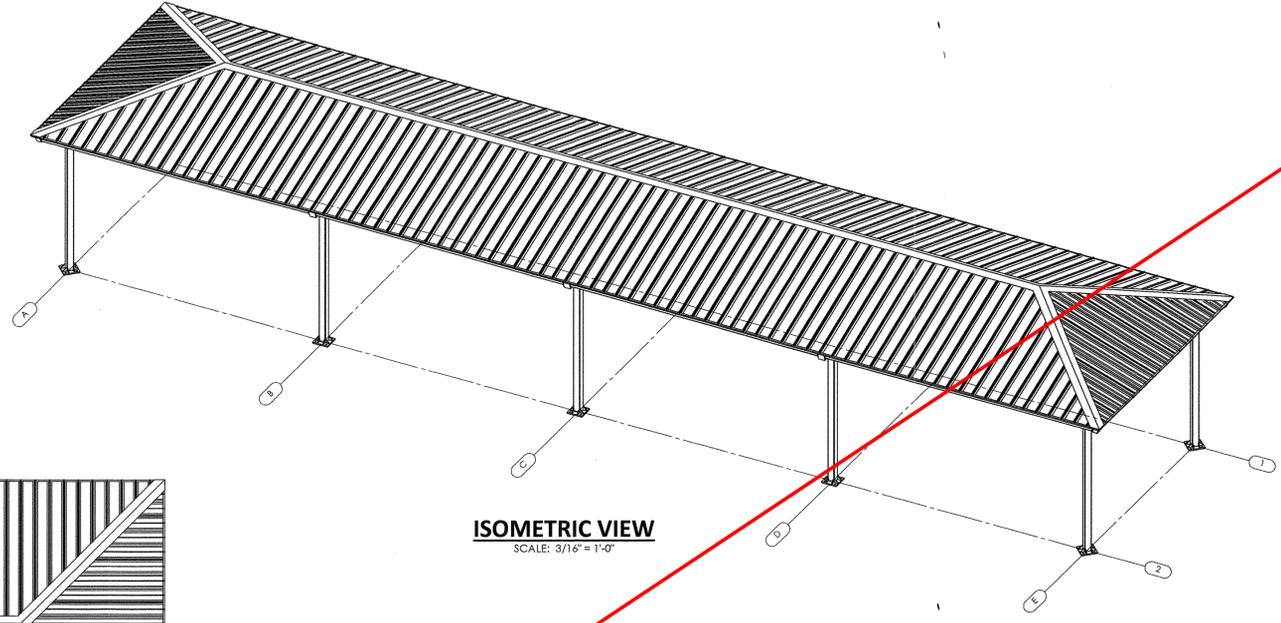
10/11/18  
 10/11/18  
 10/11/18

PRE-CHECK (PC)  
 DOCUMENT  
 CODE: 2016 CBC  
 A SEPARATE PROJECT  
 APPLICATION FOR  
 CONSTRUCTION IS REQUIRED.

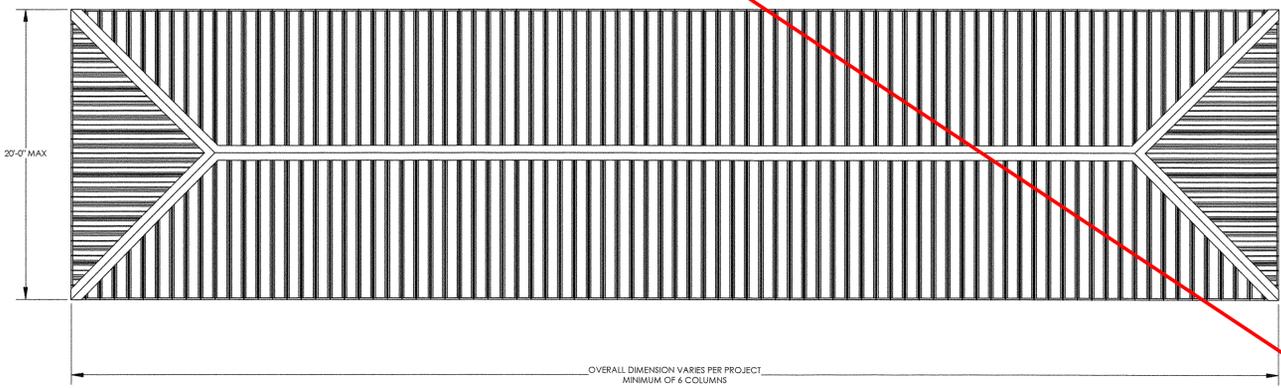
ARCHITECTURAL  
 VIEWS

HIP ROOF - RAM 20

RAM5.0

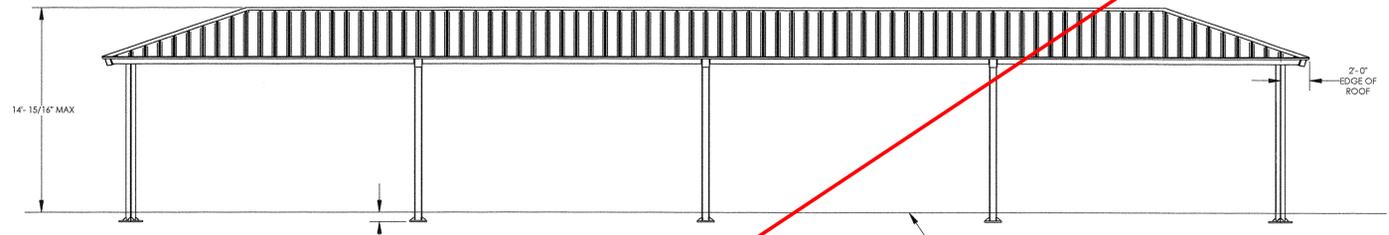


**ISOMETRIC VIEW**  
 SCALE: 3/16" = 1'-0"



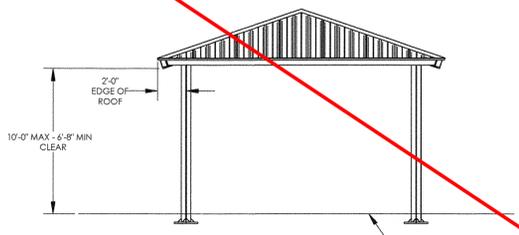
**PLAN VIEW**  
 SCALE: 3/16" = 1'-0"

OVERALL DIMENSION VARIES PER PROJECT  
 MINIMUM OF 6 COLUMNS



**FRONT ELEVATION**  
 SCALE: 3/16" = 1'-0"

SEE DETAIL 2  
 SHEET RAM2.0/RAM2.1



**SIDE ELEVATION**  
 SCALE: 3/16" = 1'-0"

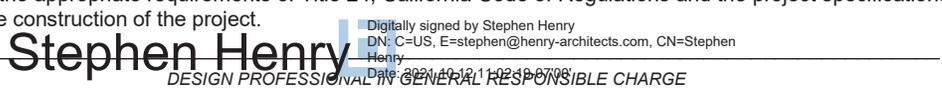
FINISH GRADE  
 (ASSUMED AT CONSTANT  
 ELEVATION UNLESS  
 OTHERWISE NOTED)

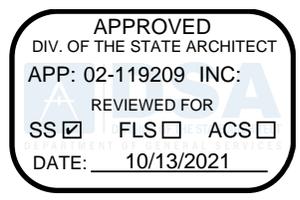


## APPLICATION FOR SUBMITTAL OF POST-APPROVAL DOCUMENT

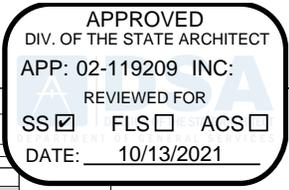
This application is for submittal of documents, after the initial approval of the project (post-approval documents), that require Division of the State Architect (DSA) review and approval. This form shall be completed by the Design Professional in General Responsible Charge of the project, in accordance with California Code of Regulations, Title 24, Part 1, Sections 4-317, 4-323 and 4-338 and in compliance with DSA IR A-6: Construction Change Document Submittal and Approval Process.

DSA documents referenced within this form are available on the [DSA Forms](#) or [DSA Publications](#) webpages.

<b>1. SUBMITTAL TYPE: (Is this a resubmittal? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>)</b>				
Deferred Submittal <input type="checkbox"/>	Addendum Number:	Revision Number:	CCD Number: 01	Category A <input checked="" type="checkbox"/> or B <input type="checkbox"/>
<b>2. PROJECT INFORMATION:</b>				
School District/Owner: <a href="#">Lodi Unified School District</a>			DSA File Number: 39 H4	
Project Name/School: <a href="#">Shade Structure Lincoln Technical Institute</a>			DSA Application Number 02 119209	
<b>3. APPLICANT INFORMATION:</b>				
Date Submitted: 10/12/21		Attached Pages? No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Number of pages? 19		
Firm Name: <a href="#">Henry + Associates Architects</a>		Contact Name: <a href="#">Stephen Henry</a>		
Work Email: <a href="mailto:stephen@henry-architects.com">stephen@henry-architects.com</a>		Work Phone: (916) 921-2112		
Firm Address: 730 Howe Ave, Suite 450		City: <a href="#">Sacramento</a>	State: <a href="#">CA</a>	Zip Code: 95825
<b>4. REASON FOR SUBMITTAL: (Check applicable boxes)</b>				
<input checked="" type="checkbox"/> For revision or addendum prior to construction.			<input type="checkbox"/> For a project currently under construction.	
<input type="checkbox"/> For a project that has a form DSA 301-N: Notification of Requirement for Certification, DSA 301-P: Posted Notification of Requirement for Certification or a 90-Day Letter issued.				
<input type="checkbox"/> To obtain DSA approval of an existing uncertified building or buildings.				
<input type="checkbox"/> For Category B CCD this is: <input type="checkbox"/> a voluntary submittal, <input type="checkbox"/> a DSA required submittal (attach DSA notice requiring submission).				
<b>5. DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE:</b>				
Name of the Design Professional In General Responsible Charge: <a href="#">Stephen Henry</a>				
Professional License Number: C-22525		Discipline: <a href="#">Architecture</a>		
<b>Design Professional in General Responsible Charge Statement:</b> The attached post-approval documents have been examined by me for design intent and appear to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications. They are acceptable for incorporation into the construction of the project.				
Signature:  <small>Digitally signed by Stephen Henry            DN: C=US, E=stephen@henry-architects.com, CN=Stephen Henry</small>				
<b>6. CONFIRMATION, DESCRIPTION AND LISTING OF DOCUMENTS:</b>				
For addenda, revisions, or CCDs: CHECK THIS BOX <input checked="" type="checkbox"/> to confirm that <i>all</i> post-approval documents have been stamped and signed by the Responsible Design Professional listed on form DSA 1: Application for Approval of Plans and Specifications for this project. (For Deferred Submittals, refer to IR A-18: Use of Construction Documents Prepared by Other Professionals, and IR A-19: Design Professional's Signature and Seal (Stamp) on Construction Documents, when applicable, for signature and seal requirements.)				
Provide a brief description of construction scope for this post-approval document (attach additional sheets if needed): <a href="#">Replace shade structure drawings with PC 04-120013 drawings LS1.0, LS1.1, LS2.0, LS2.1 and LS2.2.</a>				
List of DSA-approved drawings affected by this post-approval document: <a href="#">Remove drawings PC 02-116824 drawings RAM1.0, RAM1.1, RAM2.1, RAM3.0, RAM4.0, RAM4.1, RAM5.0 and RAM 6.0</a>				

DSA USE ONLY		
	Returned	DSA STAMP
SSS _____ Date _____ <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input type="checkbox"/> Not Required Comments: _____	Date: _____  By: _____	
FLS _____ Date _____ <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input type="checkbox"/> Not Required Comments: _____		
ACS _____ Date _____ <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input type="checkbox"/> Not Required Comments: _____		





DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Middle School PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

2019 CBC

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections listed on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The Appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing.

\*NOTE: Underlined section and table references found in this document are from the CBC, or California Building Code.

Table with 2 columns: KEY TO COLUMN, 1-TYPE, 2-PERFORMED BY. Includes definitions for Continuous, Periodic, and Test inspections.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.1-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Steel and Aluminum), 2019 CBC

Application Number: School Name: School District:
100000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.2-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Steel and Aluminum), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Categorical Reports: Project has a geotechnical report, or CEs indicate soils special inspection is required by CE

Table 103A.1-2: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.2-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Signature), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.3-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Signature), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.1-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

Table 103A.2-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.2-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

Table 103A.3-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Signature), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LIST OF REQUIRED VERIFIED REPORTS, CBC 2019

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

- 1. Soils Testing and Inspection: Geotechnical Verified Report Form DSA 299
2. Structural Testing and Inspection: Laboratory Verified Report Form DSA 291
3. Shop Welding Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting: 3. Special Inspection Verified Report Form DSA 292
4. High-Strength Bolt Evaluation Inspection: Laboratory Verified Report Form DSA 291, or, for independently contracting: 4. Special Inspection Verified Report Form DSA 292

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.1-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

DSA 103-19- LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC

Application Number: School Name: School District:
060000000 KCMV Under Systems PC District
DSA File Number: ECRN Under Systems: Date Created: 2021-04-16 09:50:33

Table 103A.2-1: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (Concrete), 2019 CBC. Columns: Test or Special Inspection, Type, Performed By, Code References and Notes.

DSG DSA 103-19 Revised 07/16/2020 DEPARTMENT OF GENERAL SERVICES STATE OF CALIFORNIA

Table with columns: CON STD, DRAW BY, DATE, REV, REV DATE. Includes JIRMA ARCHITECTS ENGINEERS logo.

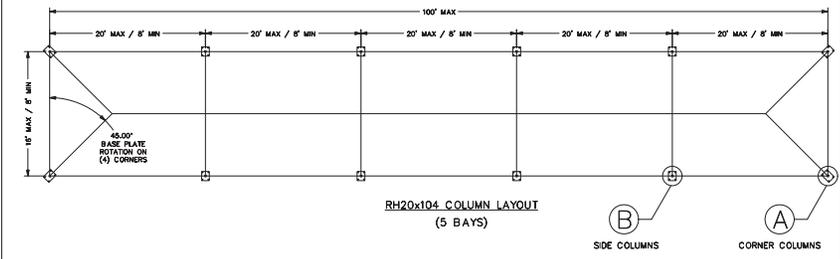
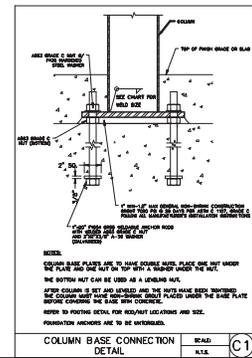
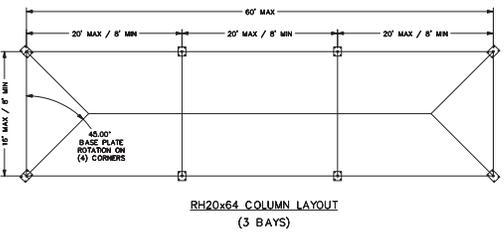
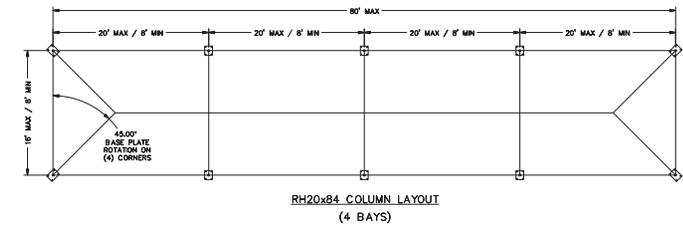
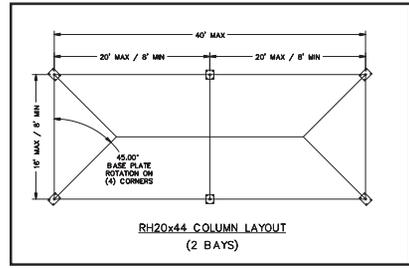
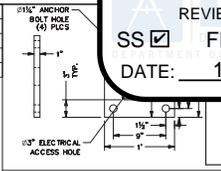


PRE-CHECK (PC) DOCUMENT A separate project application for construction is required.

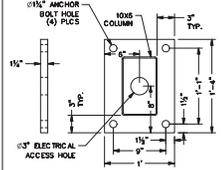
PRINTED ON: LS1.1

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 02-119209 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 10/13/2021

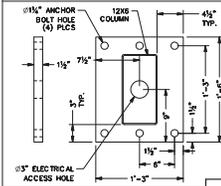
BASE PLATE LOCATION	
DETAIL A	DETAIL B
8'	BP2 BP1
10'	BP2 BP1
12'	BP3 BP2



8X6 COLUMN BASE PLATE DETAIL



10X6 COLUMN BASE PLATE DETAIL



12X6 COLUMN BASE PLATE DETAIL



NOTES:  
COLUMN SIZE AND LOCATION WILL VARY DEPENDING ON MODEL TYPE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL FOR CORRECT PLACEMENT AND SIZE.  
WHERE CONCRETE SLAB SPECIFIED PORTLAND CEMENT CONCRETE FINISH SHALL HAVE A MEDIUM SALTED (MEDIUM BROOM) FINISH ON ALL SURFACES SLOPED LESS THAN 6% AND SLUR RESISTANT (HEAVY BROOM FINISH) ON ALL SURFACES SLOPED GREATER THAN 6% CBC SECTION 1133B.7.1

NO	DATE	BY	FOR
1	4/2/2021	ANGEL	RW/DSA-PC
2			
3			

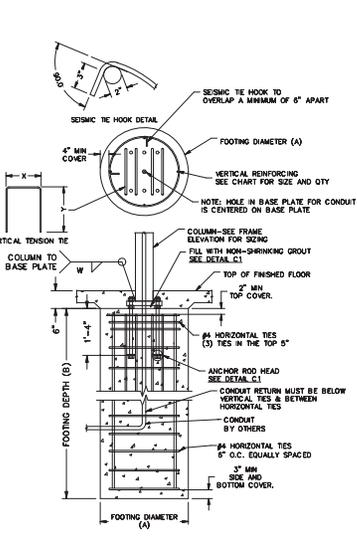
JRMA ARCHITECTS ENGINEERS  
302 S. LAUREL ST. #100  
SAN ANTONIO, TX 78204  
WWW.JRMA.COM

REGISTERED PROFESSIONAL ENGINEER  
STATE OF CALIFORNIA  
No. 12345

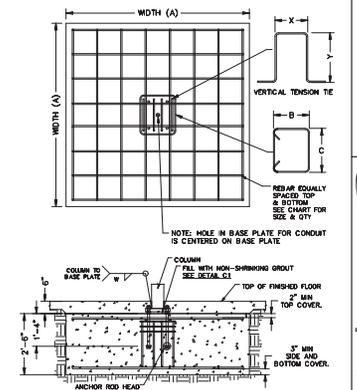
APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  C   
DATE: 08/05/2021

20' WIDE RECTANGULAR HIP

RH20 - PIER				8' height - Corner Columns				8' height - Corner Columns				8' height - Corner Columns				8' height - Corner Columns			
Soil Class 5 - 1500 pcf Bearing				Soil Class 4 - 2000 pcf Bearing				Soil Class 3 - 3000 pcf Bearing				Soil Class 2 - 4000 pcf Bearing				Soil Class 1 - 5000 pcf Bearing			
Size (A)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size
30	122	6	6	30	304	8	6	30	27	6	6	36	40	5	6	36	40	5	6



RH 20 - Spread				8' height - Corner Columns				8' height - Corner Columns				8' height - Corner Columns				8' Corner Columns			
Soil Class 5 - 1500 pcf Bearing				Soil Class 4 - 2000 pcf Bearing				Soil Class 3 - 3000 pcf Bearing				Soil Class 2 - 4000 pcf Bearing				Soil Class 1 - 5000 pcf Bearing			
Size (A)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size	Vertical (in)	Depth (B)	Rebar Qty	Rebar Size
66	30	5	6	63	30	4	6	63	30	4	6	63	30	4	6	16	20	13.6	19.3



SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS  
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT



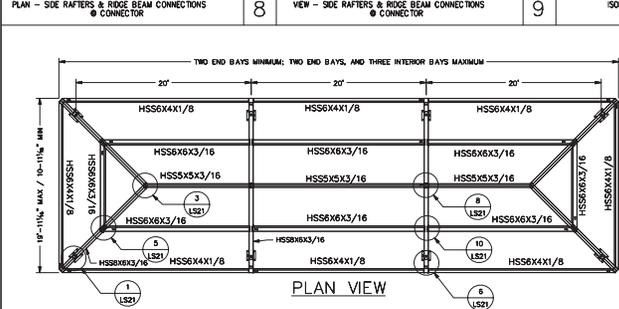
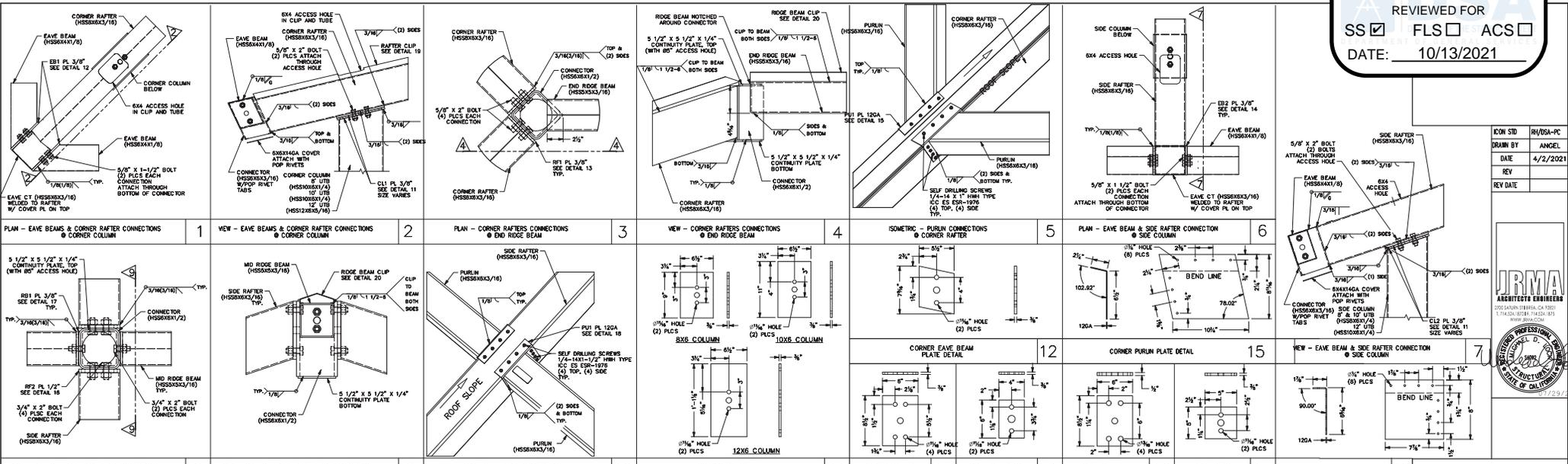
SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS  
BP1 & BP2 ARE (4) BOLT PATTERN WHILE B3 IS A (6) BOLT

PRE-CHECK (PC) DOCUMENT  
Guide 2016 CBC  
A separate project application for construction is required.

LS2.0

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DIV. OF THE STATE ARCHITECT  
APP: 02-119209 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 10/13/2021



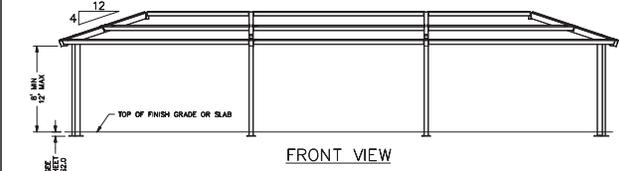
\*NOTE:  
QUANTITIES WILL VARY DEPENDING ON SHELTER SIZE ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4		CORNER COLUMN	*SEE NOTE BELOW	281	lb/ft
2	4		SIDE COLUMN	*SEE NOTE BELOW	220	lb/ft
3	2		LH SIDE EAVE BEAM	HSS6X4X1/8	179	lb/ft
4	2		RH SIDE EAVE BEAM	HSS6X4X1/8	179	lb/ft
5	2		END EAVE BEAM	HSS6X4X1/8	160	lb/ft
6	4		SIDE EAVE BEAM	HSS6X4X1/8	160	lb/ft
7	4		CORNER RAFTER	HSS6X3X1/8	276	lb/ft
8	4		SIDE RAFTER	HSS6X3X1/8	167	lb/ft
9	2		END RIDGE BEAM	HSS6X3X1/8	180	lb/ft
10	4		MID RIDGE BEAM	HSS6X3X1/8	274	lb/ft
11	4		CORNER PURLIN	HSS6X3X1/8	24	lb/ft
12	2		LH SIDE PURLIN	HSS6X3X1/8	242	lb/ft
13	2		RH SIDE PURLIN	HSS6X3X1/8	242	lb/ft
14	2		END PURLIN	HSS6X3X1/8	128	lb/ft
15	4		MID PURLIN	HSS6X3X1/8	287	lb/ft

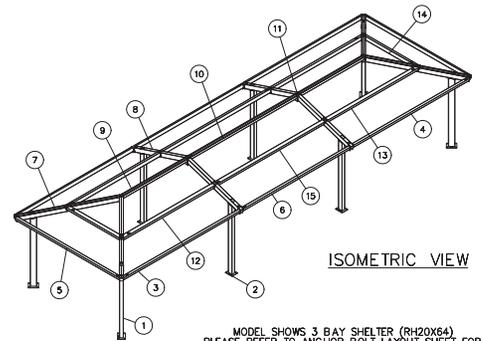
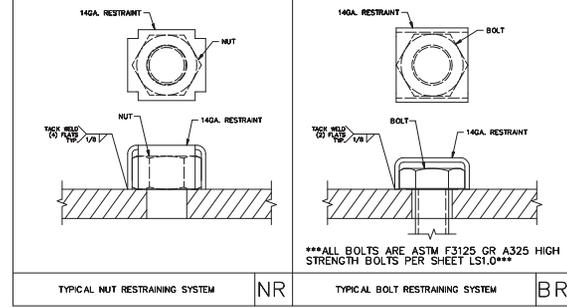
\*\*NOTE:  
MATERIAL WILL VARY DEPENDING ON SHELTER SIZE ORDERED.

- CORNER COLUMN 8' UTB - (HSS10X6X1/4)
- SIDE COLUMN 8' UTB - (HSS8X6X1/4)
- CORNER COLUMN 10' UTB - (HSS10X6X1/4)
- SIDE COLUMN 10' UTB - (HSS8X6X1/4)
- CORNER COLUMN 12' UTB - (HSS12X6X5/16)
- SIDE COLUMN 12' UTB - (HSS10X6X1/4)

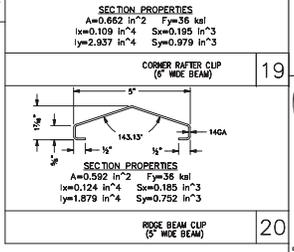
MODEL DESIGNATION	BAY
RH20X44	2 BAY
RH20X64	3 BAY
RH20X84	4 BAY
RH20X104	5 BAY



96" MIN IF USED OVER ACCESSIBLE PARKING OR ACCESS AISLES  
114" MIN IF LOCATED OVER ACCESSIBLE PASSENGER LOADING ZONES



MODEL SHOWS 3 BAY SHELTER (RH20X64)  
PLEASE REFER TO ANCHOR BOLT LAYOUT SHEET FOR CORRECT COLUMN PLACEMENT BASED ON SIZE ORDERED



APPROVED ARCHITECT  
C-22525  
10/13/21  
STATE OF CALIFORNIA

ICON STD	REV/ISSA-PC
DATE	4/2/2021
BY	
REV	
REV DATE	

JRMA  
ARCHITECTS ENGINEERS  
2302 CALIFORNIA ST. SUITE 100  
SAN FRANCISCO, CA 94109  
TEL: 415.774.8100 FAX: 415.774.8101  
WWW.JRMA.COM

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  CG   
DATE: 03/05/2021

20' WIDE  
RECTANGULAR HIP  
FRAMING &  
CONNECTION DETAILS

CON  
Shelter Systems Inc

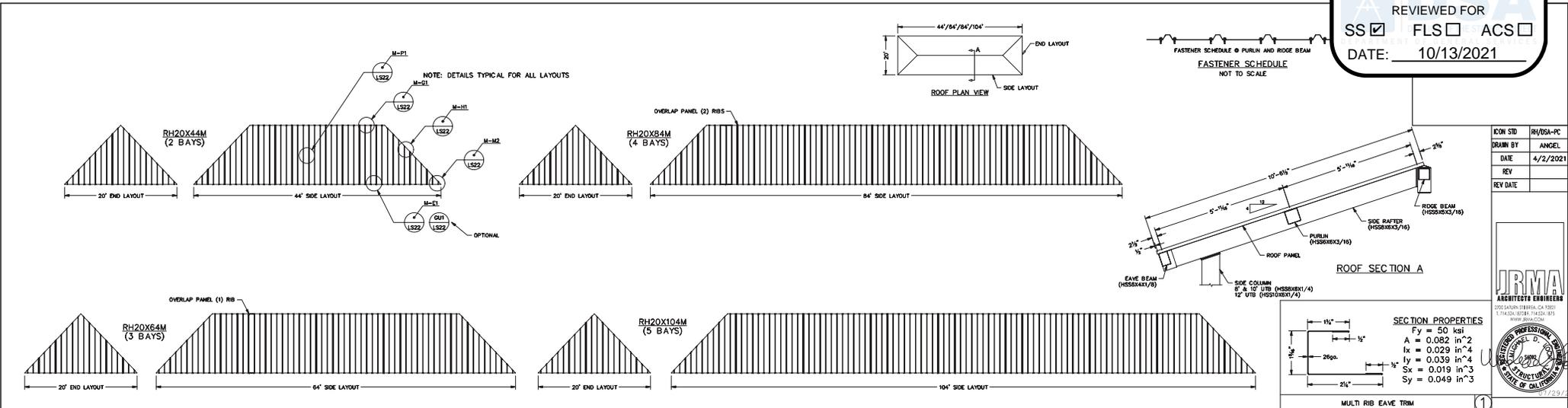
1455 LINCOLN AVE.  
HOLLAND MI, 49422  
616.396.0919  
800.748.0965  
616.396.0944 FX

PRE-CHECK (PC) DOCUMENT  
A separate project application for construction is required.

LS2.1

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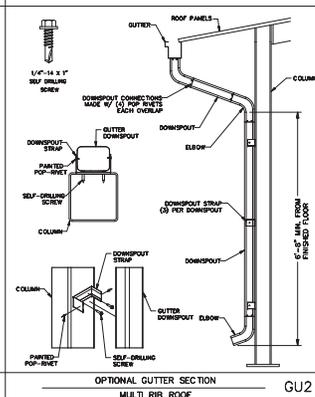
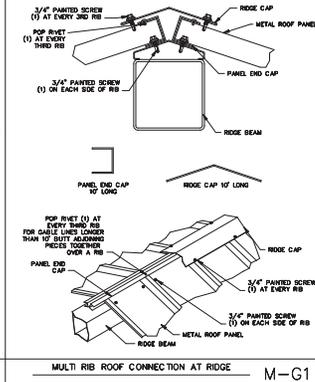
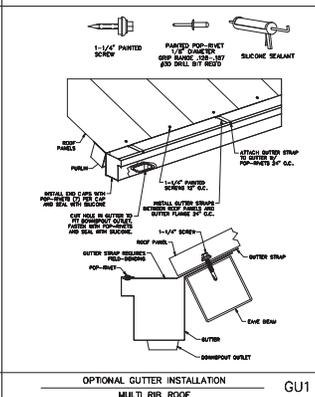
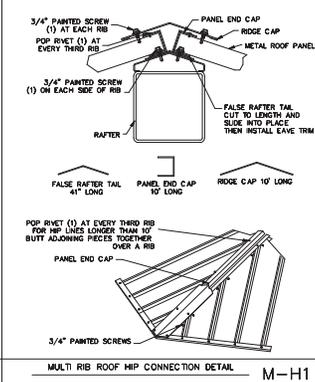
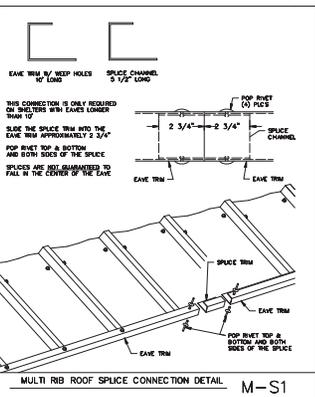
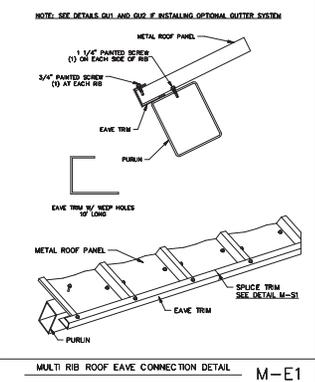
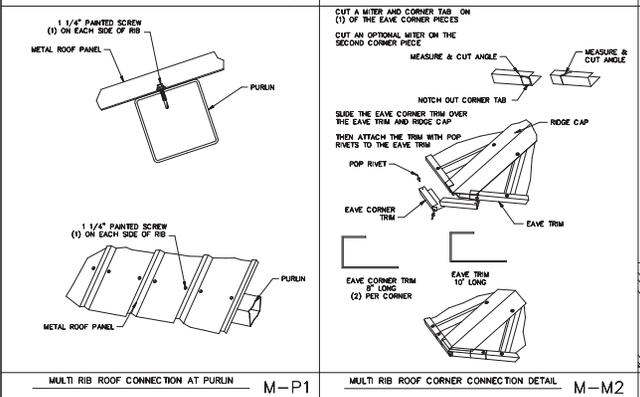
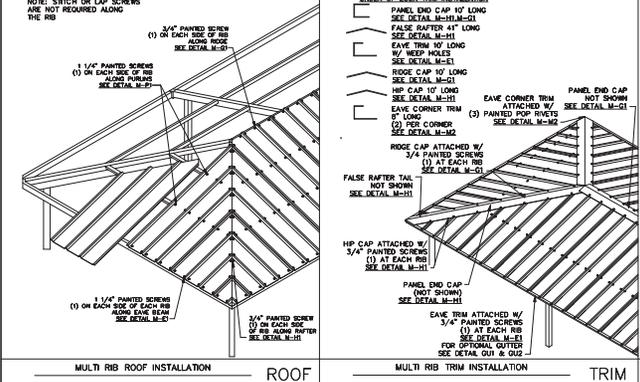
APPROVED  
 DIV. OF THE STATE ARCHITECT  
 APP: 02-119209 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 10/13/2021



ICON STD	RU/DA-PC
DRAWN BY	AMCEL
DATE	4/2/2021
REV	
REV DATE	



20' WIDE RECTANGULAR HIP MULTI RIB ROOFING



ROOF NOTES

ATTENTION INSTALLERS: METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF FINISH. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

37 1/2" OVERALL  
 36" COVER WIDTH  
 12" CENTER TO CENTER

MULTI RIB PANEL SECTION  
 24 ga. Fy=50 ksi Fu=65 ksi

SECTION PROPERTIES (PER FT. OF WIDTH)  
 TOP IN COMPRESSION  
 Ix=0.052 in<sup>4</sup>  
 Sx=0.0575 in<sup>3</sup>  
 My=1.723 in-lbps  
 BOTTOM IN COMPRESSION  
 Ix=0.031 in<sup>4</sup>  
 Sx=0.0495 in<sup>3</sup>  
 My=1.483 in-lbps

1 1/4" PAINTED SCREW 12-14 x 1 1/4" ICC ESR-1976

THE SEALING MATERIAL IS NOT WISER AROUND THE METAL WASHER

THE SEALING MATERIAL IS NOT WISER AROUND THE METAL WASHER

THE SEALING MATERIAL IS NOT WISER AROUND THE METAL WASHER

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, DESIGN OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MAJOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTOR WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.

PRE-CHECK (PC) DOCUMENT  
 Guide 2019.03C  
 A separate project application for construction is required.

APPROVED  
 DIV. OF THE STATE ARCHITECT  
 APP: 04-120013 PC  
 REVIEWED FOR  
 SS  FLS  ACS  CG   
 DATE: 08/06/2021



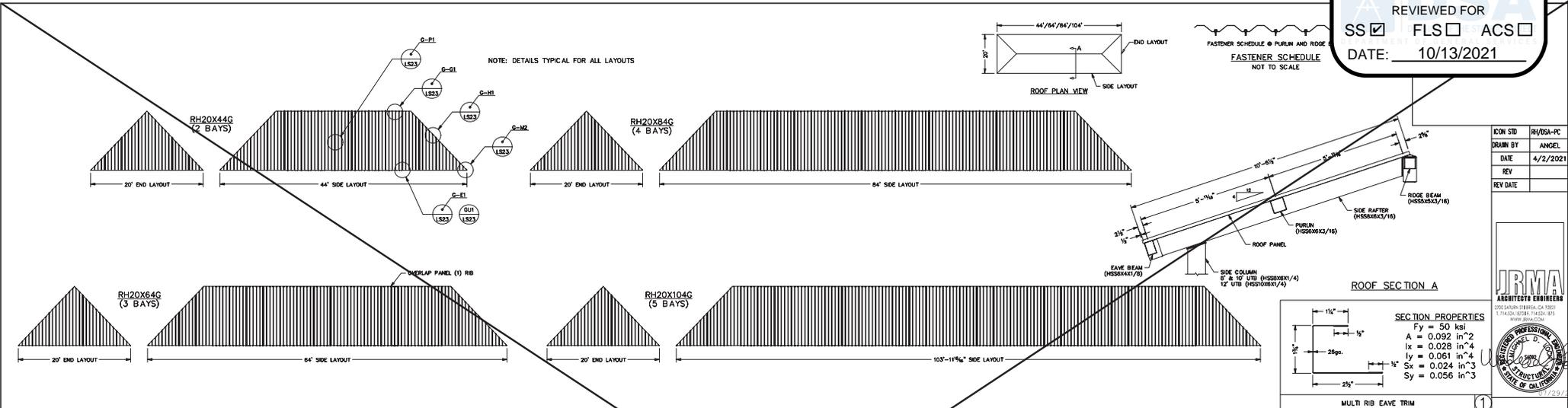
20' WIDE  
 RECTANGULAR HIP  
 MULTI RIB ROOFING  
 PLAN

CON  
 heiter Systems Inc

95131515 STEEL DESIGN  
 WWW.CONHEITER.COM  
 1455 LINCOLN AVE  
 HOLLAND MI, 49423  
 616.396.0919  
 616.396.0955  
 616.396.0944 FX

LS2.2

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 02-119209 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 10/13/2021



SECTION PROPERTIES  
 $F_y = 50 \text{ ksi}$   
 $A = 0.092 \text{ in}^2$   
 $I_x = 0.028 \text{ in}^4$   
 $I_y = 0.061 \text{ in}^4$   
 $S_x = 0.024 \text{ in}^3$   
 $S_y = 0.056 \text{ in}^3$

MULTI RIB EAVER TRIM

ICON STD	IN/USA-PC
DRAWN BY	AMCDEL
DATE	4/2/2021
REV	
REV DATE	

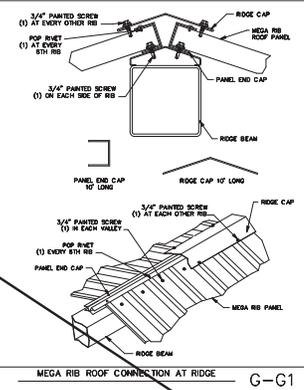
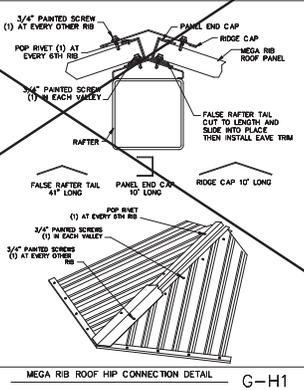
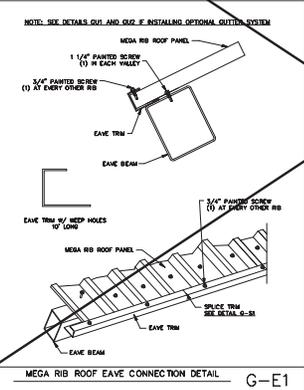
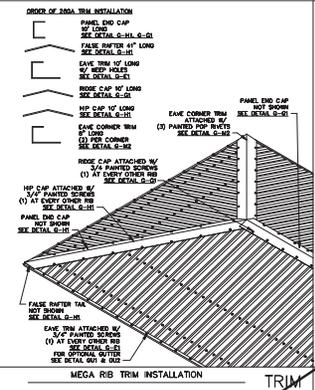
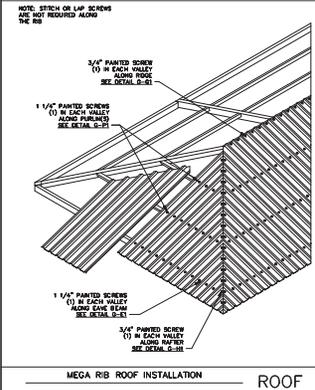
**JRMA**  
ARCHITECTS ENGINEERS

2020 LAKIN STREET, CA 95071  
1 TRACKS DRIVE, FOLSOM, CA 95630  
WWW.JRMA.COM

REGISTERED PROFESSIONAL ENGINEER  
STATE OF CALIFORNIA

20' WIDE RECTANGULAR HIP-MEGA RIB ROOFING

ROOF NOTES



ATTENTION INSTALLERS:  
METAL SHAVINGS LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF PANELS.  
DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

3/4" PAINTED SCREW  
1/4-14 x 3/4"  
ICC ESR-1976

MEGA RIB PANEL SECTION  
 $F_y = 50 \text{ ksi}$   
 $F_u = 65 \text{ ksi}$

SECTION PROPERTIES  
(PER FLG OF WIDTH)

TOP IN COMPRESSION  
 $I_x = 0.097 \text{ in}^4$   
 $M_x = 3.567 \text{ in-lb/in}$

BOTTOM IN COMPRESSION  
 $I_x = 0.097 \text{ in}^4$   
 $M_x = 0.1126 \text{ in}^3$   
 $M_y = 3.37 \text{ in-lb/in}$

INSTALLED CORRECTLY  
 THE SEALING MATERIAL IS APPLIED BEYOND THE EDGE OF THE METAL WASHER.

INSTALLED TOO TIGHT  
 THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER.

INSTALLED TOO LOOSE  
 THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER.

THE DETAILS SHOWN ARE SCHEDULES OR GUIDELINES ON HOW TO ERCT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS APPROXIMATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, ORDINANCES OR CODES. CHANGES TO DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERCTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

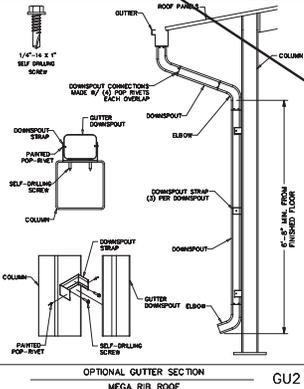
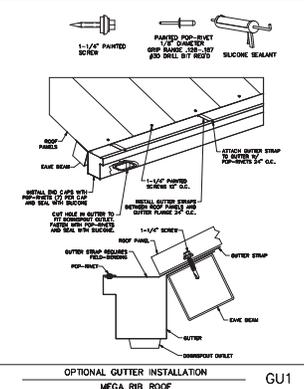
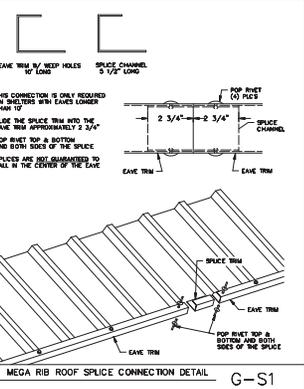
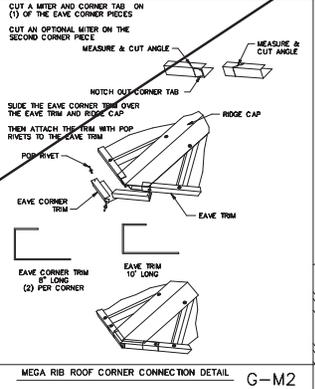
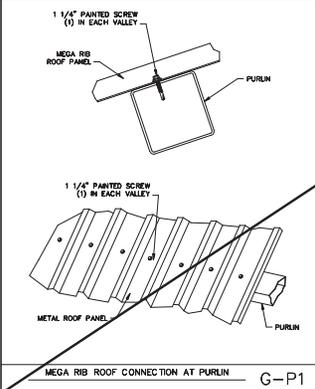
ERCTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERCTOR. MAJOR FIELD CORRECTING ARE PART OF NORMAL ERCTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSPERSON AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.

PRE-CHECK (PC) DOCUMENT  
 Guide 2019 CIRC  
 A separate project application for construction is required.



APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  C  
DATE: 08/05/2021

20' WIDE  
RECTANGULAR HIP  
MEGA RIB ROOFING  
PLAN

**ICON**  
heiter Systems Inc

9510 STEVEN STREET, SUITE 100  
WWW.ICONHEITERSYSTEMS.COM  
CONTRACT WORK FROM 1980 TO THE PRESENT  
1555 LINCOLN AVE  
HOLLAND MI, 49423

616.396.0919  
800.748.5955  
616.396.0944 FX

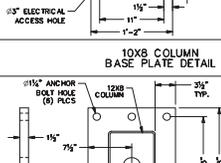
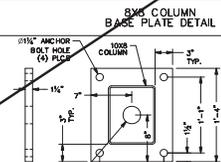
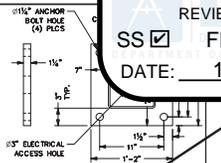
LS2 3

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DIV. OF THE STATE ARCHITECT  
APP: 02-119209 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 10/13/2021

BASE PLATE LOCATION		
DETAIL A	DETAIL B	
8'	BP1	BP2
10'	BP1	BP2
12'	BP2	BP3

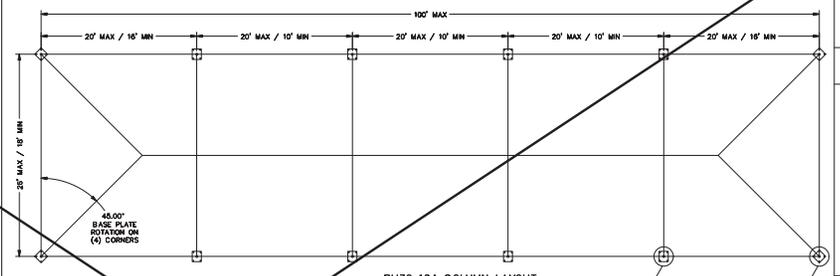
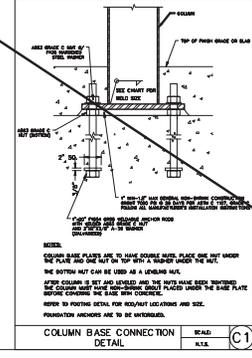
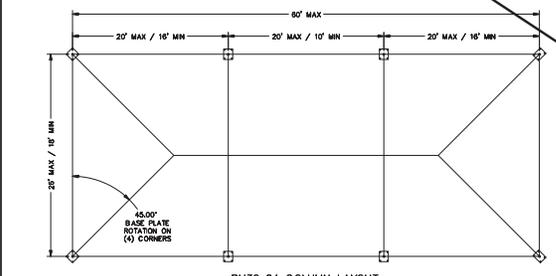
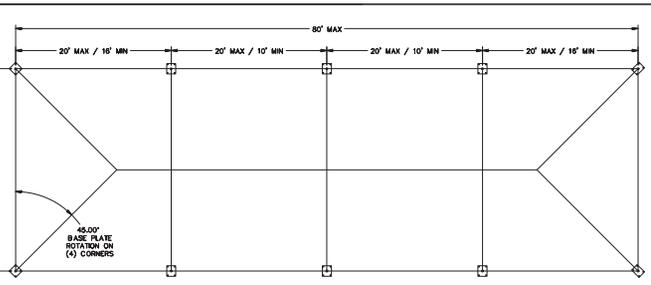
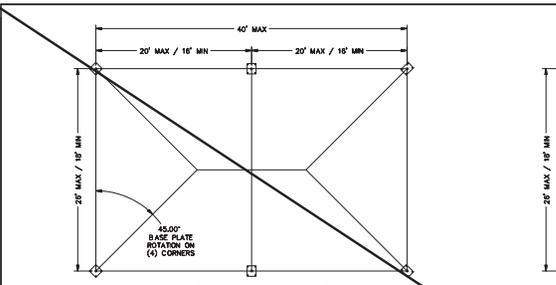


CON STD	REV/DATE-PC
DATE BY	ANGEL
REV	4/2/2021
REV DATE	



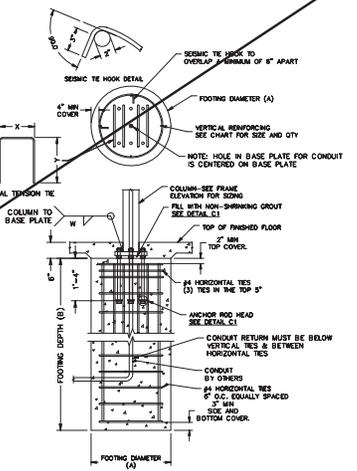
APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  C   
DATE: 08/06/2021

NOTES:  
COLUMN SIZE AND LOCATION WILL VARY DEPENDING ON MODEL TYPE ORDERED. PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL FOR CORRECT PLACEMENT AND SIZE.  
WHERE CONCRETE SLAB SPECIFIED PORTLAND CEMENT CONCRETE PAVING SHALL HAVE A MEDIUM SALTED (MEDIUM BROOM) FINISH ON ALL SURFACES SLOPED LESS THAN 6% AND SLIP RESISTANT (HEAVY BROOM FINISH) ON ALL SURFACES SLOPED GREATER THAN 6% CBC SECTION 11338.7.1

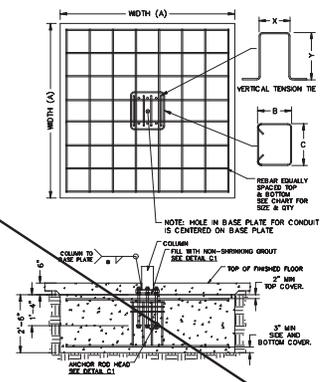


30' WIDE RECTANGULAR HIP

RH30 - PIER				RH30 - SPREAD			
8' height - Corner Columns				8' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
24 114 6 6	24 98 6 6	24 88 6 6	14 40 5 1/2	60 30 4 6	56 30 4 6	44 30 4 6	14 20 15.9 17.3 5 1/4
8' height - Side Columns				8' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 144 12 6	30 132 8 6	30 118 8 6	16 40 5 1/4	80 30 5 6	72 30 5 6	68 30 5 6	16 20 15.6 19.3 5 1/4
10' height - Corner Columns				10' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
24 200 6 6	24 102 6 6	24 92 6 6	24 40 5 3/4	66 30 5 6	60 30 4 6	57 30 4 6	14 20 15.9 17.3 5 1/4
10' height - Side Columns				10' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 136 12 6	30 124 8 6	30 112 8 6	16 40 5 3/4	81 30 5 6	72 30 5 6	69 30 5 6	16 20 15.6 19.3 5 1/4
12' height - Corner Columns				12' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 136 12 6	30 124 8 6	30 112 8 6	16 40 5 3/4	81 30 5 6	72 30 5 6	69 30 5 6	16 20 15.6 19.3 5 1/4
12' height - Side Columns				12' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 140 12 6	36 120 12 6	36 112 12 6	20 40 5 1/4	84 30 6 6	75 30 5 6	75 30 5 6	20 20 16.6 21.3 5 1/4



RH30 - PIER				RH30 - SPREAD			
8' height - Corner Columns				8' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
24 114 6 6	24 98 6 6	24 88 6 6	14 40 5 1/2	60 30 4 6	56 30 4 6	44 30 4 6	14 20 15.9 17.3 5 1/4
8' height - Side Columns				8' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 144 12 6	30 132 8 6	30 118 8 6	16 40 5 1/4	80 30 5 6	72 30 5 6	68 30 5 6	16 20 15.6 19.3 5 1/4
10' height - Corner Columns				10' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
24 200 6 6	24 102 6 6	24 92 6 6	24 40 5 3/4	66 30 5 6	60 30 4 6	57 30 4 6	14 20 15.9 17.3 5 1/4
10' height - Side Columns				10' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 136 12 6	30 124 8 6	30 112 8 6	16 40 5 3/4	81 30 5 6	72 30 5 6	69 30 5 6	16 20 15.6 19.3 5 1/4
12' height - Corner Columns				12' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 136 12 6	30 124 8 6	30 112 8 6	16 40 5 3/4	81 30 5 6	72 30 5 6	69 30 5 6	16 20 15.6 19.3 5 1/4
12' height - Side Columns				12' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Rebar Dimensions
Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Vertical Rebar Qty Size	Weld
36 140 12 6	36 120 12 6	36 112 12 6	20 40 5 1/4	84 30 6 6	75 30 5 6	75 30 5 6	20 20 16.6 21.3 5 1/4



SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS  
BP1 & BP2 ARE (4) BOLT PATTERN WHILE BP3 IS A (6) BOLT

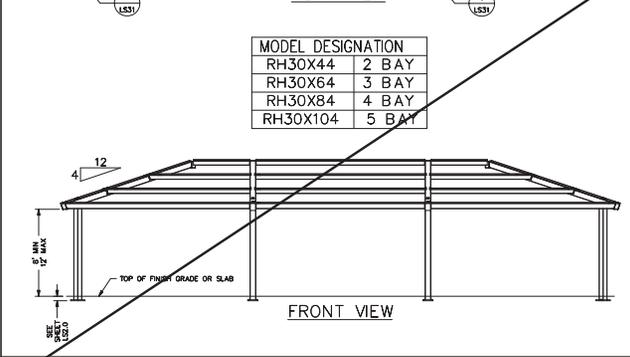
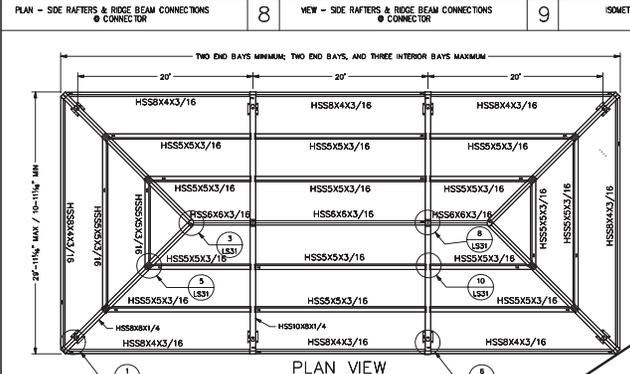
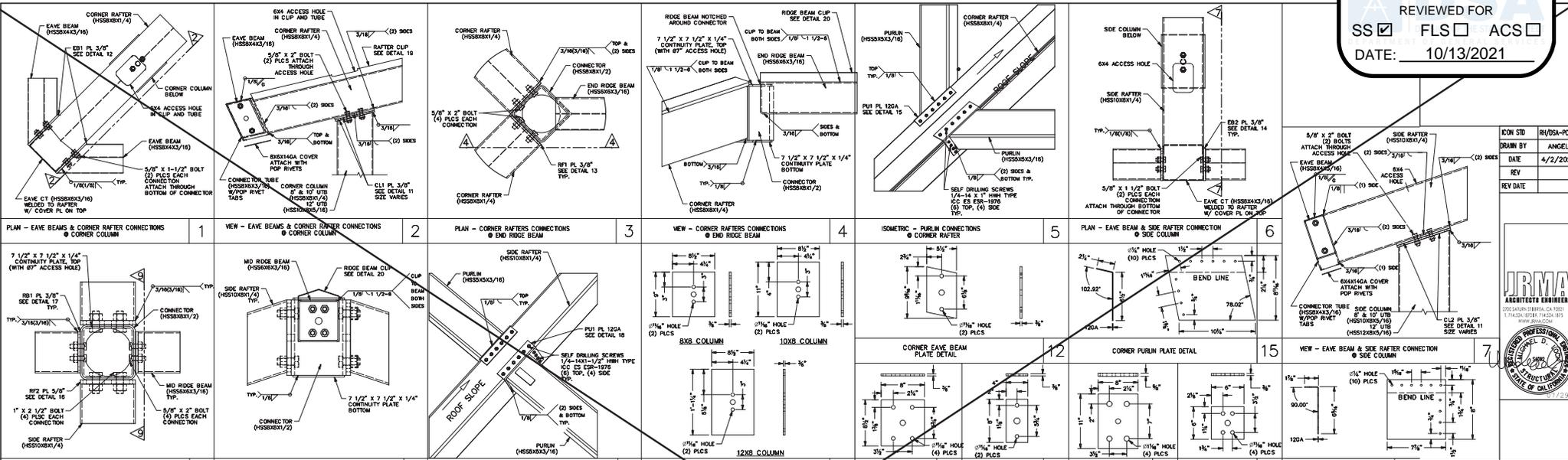
SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS  
BP1 & BP2 ARE (4) BOLT PATTERN WHILE BP3 IS A (6) BOLT

PRE-CHECK (PC) DOCUMENT  
Grade 60/65/70/80  
A separate project application for construction is required.

CONCRETE SYSTEMS Inc  
1455 LINCOLN AVE  
HOLLAND MI, 49422  
616.396.0919  
616.396.0955  
616.396.0944 FX

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APP: 02-119209 INC:  
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DATE: 10/13/2021

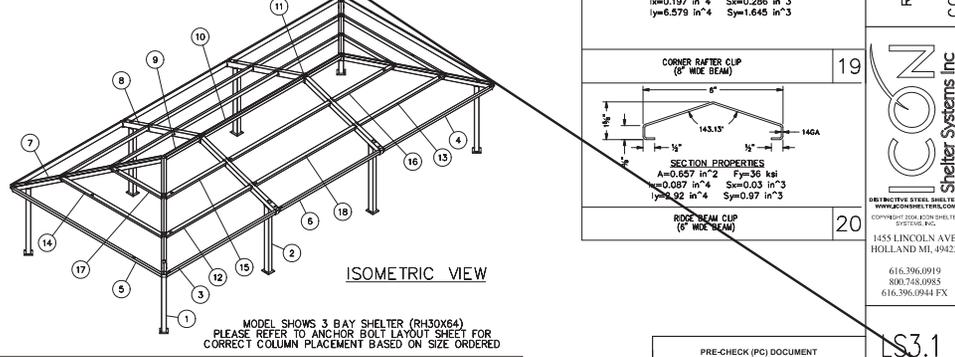
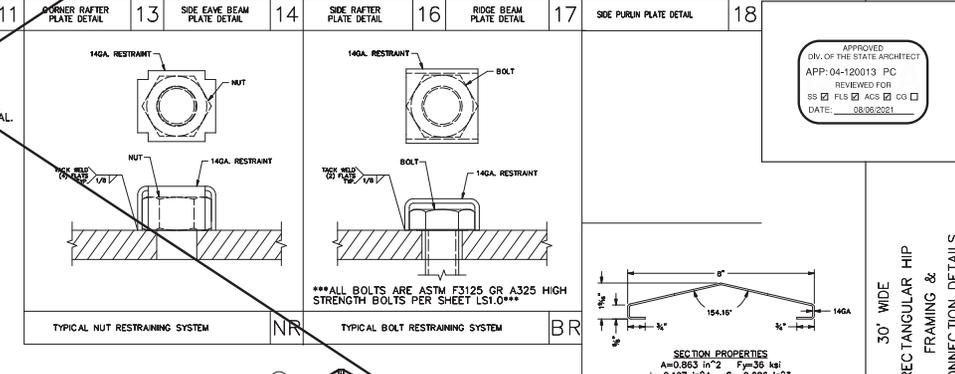


\*NOTE: QUANTITIES WILL VARY DEPENDING ON SHELTER SIZE ORDERED. PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4		CORNER COLUMN	HSS10X8X5/16	283	lb/ft
2	2		SIDE COLUMN	HSS10X8X5/16	311	lb/ft
3	2		LH SIDE EAVE BEAM	HSS6X6X3/16	211	lb/ft
4	2		RH SIDE EAVE BEAM	HSS6X6X3/16	211	lb/ft
5	2		END EAVE BEAM	HSS6X6X3/16	422	lb/ft
6	2		SIDE EAVE BEAM	HSS6X6X3/16	287	lb/ft
7	4		CORNER RAFTER	HSS10X8X5/16	607	lb/ft
8	4		SIDE RAFTER	HSS10X8X5/16	474	lb/ft
9	2		END RIDGE BEAM	HSS10X8X5/16	149	lb/ft
10	2		LH SIDE PURLIN	HSS10X8X5/16	329	lb/ft
11	2		RH SIDE PURLIN	HSS10X8X5/16	329	lb/ft
12	2		LH END PURLIN 1	HSS10X8X5/16	238	lb/ft
13	2		RH END PURLIN 1	HSS10X8X5/16	238	lb/ft
14	2		LH END PURLIN 2	HSS10X8X5/16	278	lb/ft
15	2		RH END PURLIN 2	HSS10X8X5/16	167	lb/ft
16	2		LH END PURLIN 3	HSS10X8X5/16	167	lb/ft
17	2		RH END PURLIN 3	HSS10X8X5/16	137	lb/ft
18	2		END PURLIN	HSS10X8X5/16	284	lb/ft

\*NOTE: MATERIAL WILL VARY DEPENDING ON SHELTER SIZE ORDERED.

- CORNER COLUMN 8' UTB - (HSS8X8X1/4)
- SIDE COLUMN 8' UTB - (HSS10X8X5/16)
- CORNER COLUMN 10' UTB - (HSS8X8X1/4)
- SIDE COLUMN 10' UTB - (HSS10X8X5/16)
- CORNER COLUMN 12' UTB - (HSS10X8X5/16)
- SIDE COLUMN 12' UTB - (HSS12X8X3/16)



SECTION PROPERTIES

A=0.863 in<sup>2</sup> F<sub>y</sub>=36 ksi  
I<sub>x</sub>=0.197 in<sup>4</sup> S<sub>x</sub>=0.286 in<sup>3</sup>  
I<sub>y</sub>=0.579 in<sup>4</sup> S<sub>y</sub>=1.645 in<sup>3</sup>

CORNER RAFTER CLIP (6" WIDE BEAM)

SECTION PROPERTIES

A=0.657 in<sup>2</sup> F<sub>y</sub>=36 ksi  
I<sub>x</sub>=0.087 in<sup>4</sup> S<sub>x</sub>=0.03 in<sup>3</sup>  
I<sub>y</sub>=0.92 in<sup>4</sup> S<sub>y</sub>=0.97 in<sup>3</sup>

ROOF BEAM CLIP (6" WIDE BEAM)

ICON STD	IN/USA-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

JRMA  
ARCHITECTS ENGINEERS

PROFESSIONAL SEAL  
STATE OF CALIFORNIA

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SS  FLS  ACS  CS   
DATE: 03/05/2021

30' WIDE  
RECTANGULAR HIP  
FRAMING &  
CONNECTION DETAILS

CON  
Shelter Systems Inc

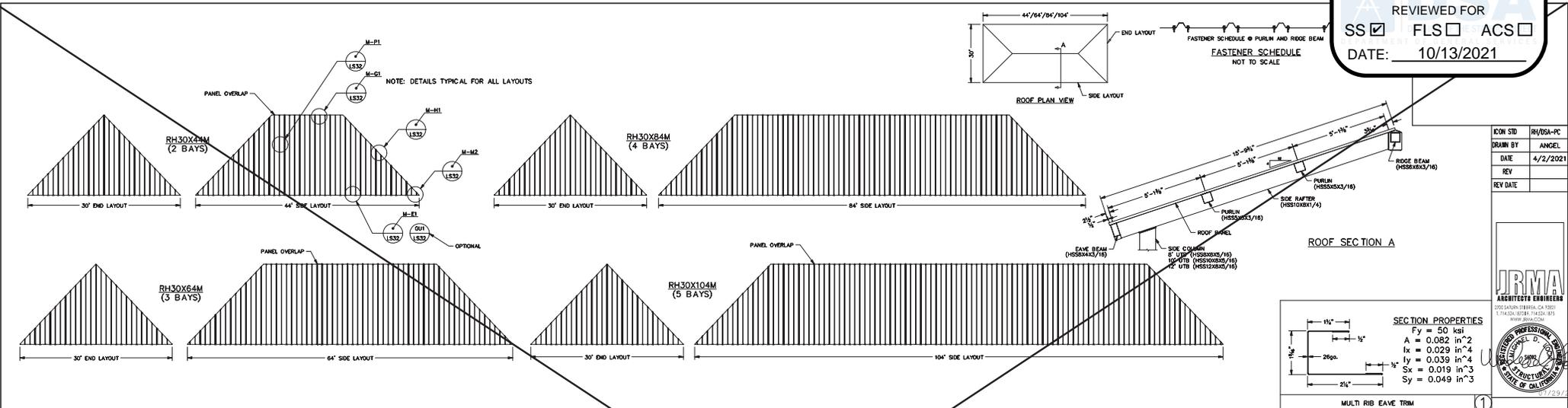
1455 LINCOLN AVE.  
HOLLAND MI, 49423  
616.396.0919  
800.748.9955  
616.396.0944 FX

PRE-CHECK (PC) DOCUMENT  
Guide 2019 CBC  
A separate project application for construction is required.

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SECTION PROPERTIES

Fy = 50 ksi  
 Fu = 65 ksi  
 A = 0.082 in<sup>2</sup>  
 Ix = 0.029 in<sup>4</sup>  
 Iy = 0.039 in<sup>4</sup>  
 Sx = 0.019 in<sup>3</sup>  
 Sy = 0.049 in<sup>3</sup>

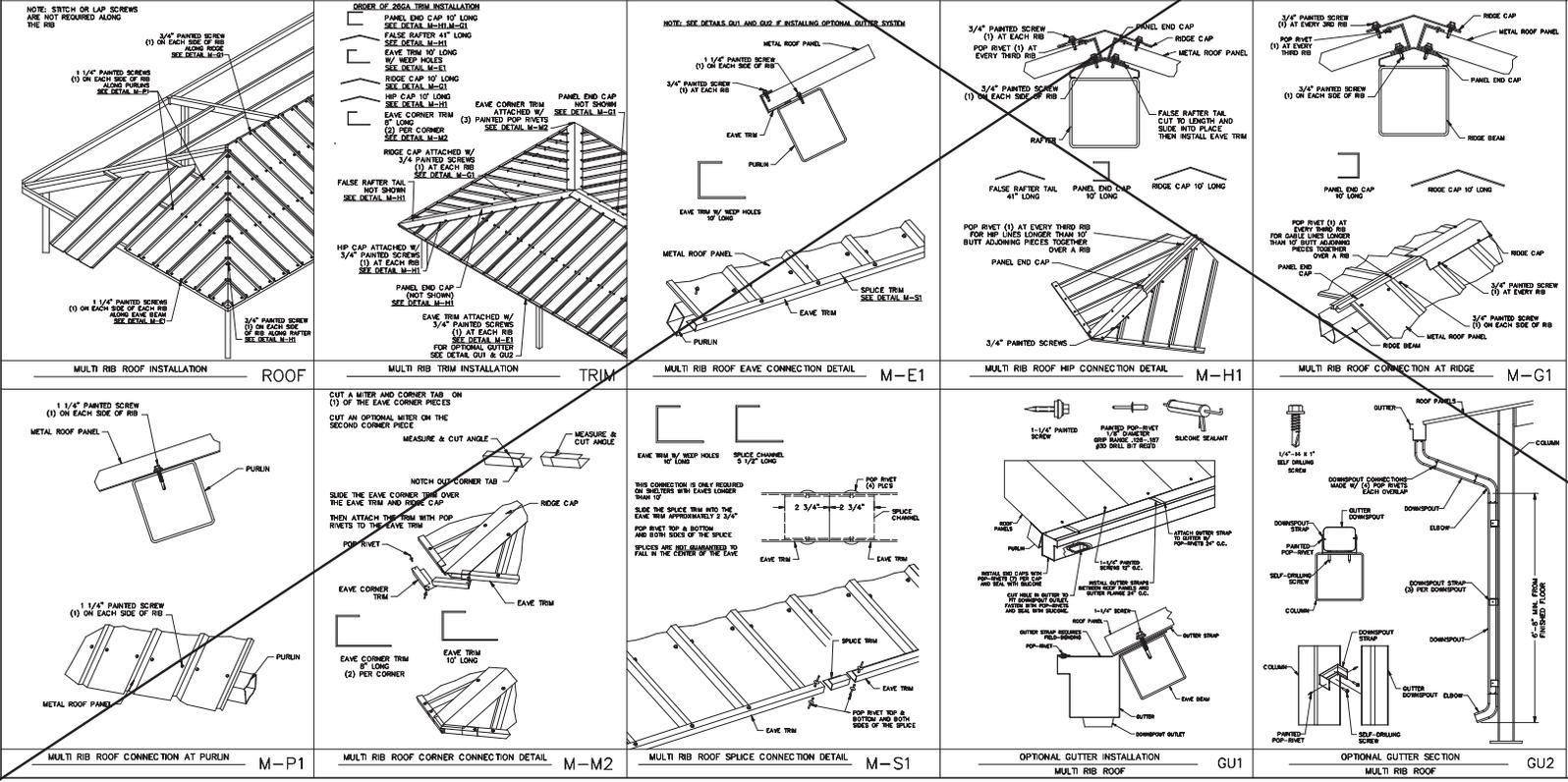
MULTI RIB EAVE TRIM

JRMA ARCHITECTS ENGINEERS  
 202 CALIFORNIA STREET  
 SUITE 1000  
 SAN FRANCISCO, CA 94102  
 WWW.JRMA.COM

PROFESSIONAL SEAL  
 JAMES R. MANNING  
 ARCHITECT  
 STATE OF CALIFORNIA

ICON STD: IN/05A-PC  
 DRAWN BY: ANJEL  
 DATE: 4/2/2021  
 REV DATE:

30' WIDE RECTANGULAR HIP MULTI RIB ROOFING



ROOF NOTES

ATTENTION INSTALLERS:  
 METAL SHAVINGS LEFT ON ROOF WILL CORRODE RUST AND STAIN THE ROOF FINISH.  
 DRILLING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED FROM THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

MULTI RIB PANEL SECTION  
 24 ga. Fy = 50 ksi Fu = 65 ksi  
 SECTION PROPERTIES (PER FT. OF WIDTH)  
 TOP IN COMPRESSION  
 Ix=0.052 in<sup>4</sup>  
 Sx=0.0275 in<sup>3</sup>  
 Iy=1.723 in<sup>4</sup>  
 Sy=1.453 in<sup>3</sup>  
 BOTTOM IN COMPRESSION  
 Ix=0.031 in<sup>4</sup>  
 Sx=0.0495 in<sup>3</sup>  
 Iy=1.453 in<sup>4</sup>  
 Sy=1.453 in<sup>3</sup>

DETAILS M-E1, M-H1, M-G1, M-P1, M-M2, M-S1, GU1, GU2

DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES, BUILDING REQUIREMENTS, INSURANCE CODES, CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTIONS FOR MATERIALS, BEFORE STARTING WORK.

THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

THE ERECTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL OVERLAP FASTENERS EQUALLY SPACED TO THE DETAILS HAVE SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL-CRAFTSMEN AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.

PRE-CHECK (PC) DOCUMENT  
 Code: 2019-01C

A separate project application for construction is required.

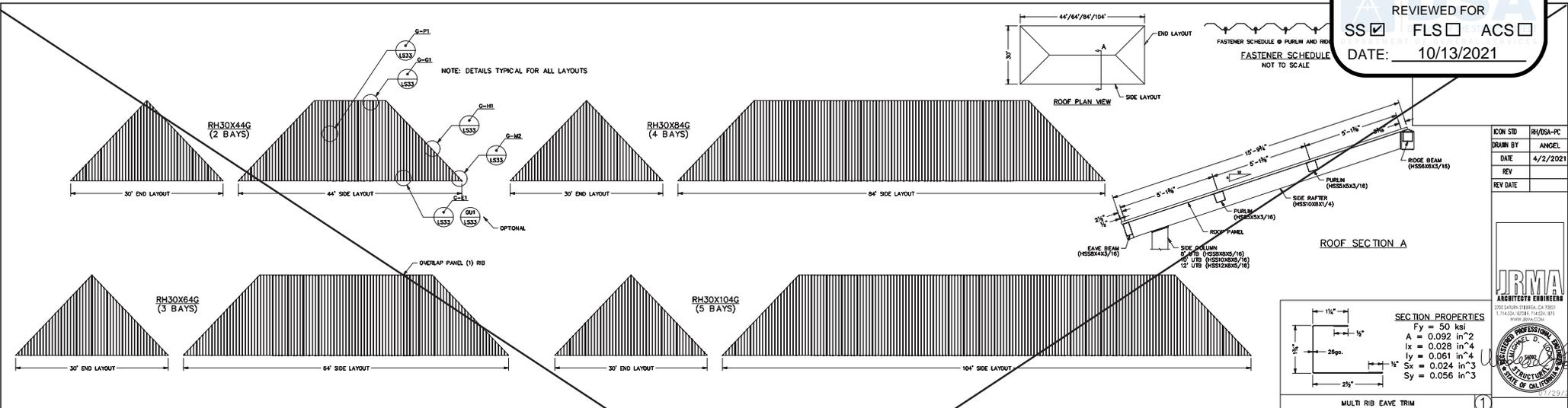
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 APP: 04-120013 PC  
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30' WIDE RECTANGULAR HIP MULTI RIB ROOFING PLAN

ICON heater Systems Inc  
 915 THIRTEEN STREET  
 HOLLAND, MI 49423  
 WWW.ICONHEATERSYSTEMS.COM  
 616.396.0919  
 616.396.0955  
 616.396.0944 FX

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DATE: 10/13/2021



ICON STD	IN/USA-PC
DRAWN BY	AMDEL
DATE	4/2/2021
REV	
REV DATE	

**JRMA**  
ARCHITECTS ENGINEERS

2020 LAKIN STREET, SUITE 401  
SAN JOSE, CALIFORNIA 95128  
WWW.JRMA.COM

PROFESSIONAL SEAL  
STATE OF CALIFORNIA

30' WIDE RECTANGULAR HIP MEGA RIB ROOFING

ROOF NOTES

<p>NOTE: STRICH ON LAP SCREWS ARE NOT REQUIRED ALONG THE RIDGE</p> <p>MEGA RIB ROOF INSTALLATION</p> <p>ROOF</p>	<p>ORDER OF INSTALLATION</p> <p>MEGA RIB TRIM INSTALLATION</p> <p>TRIM</p>	<p>NOTE: SEE DETAILS OUT AND OUT IF INSTALLING OPTIONAL CENTER SYSTEM</p> <p>MEGA RIB ROOF EAVE CONNECTION DETAIL</p> <p>G-E1</p>	<p>MEGA RIB ROOF HIP CONNECTION DETAIL</p> <p>G-H1</p>	<p>MEGA RIB ROOF CONNECTION AT RIDGE</p> <p>G-G1</p>	<p>ATTENTION INSTALLERS: METAL SHAVED LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF PANEL.</p> <p>MEGA RIB PANEL SECTION</p> <p>24 ga. <math>F_y = 50 \text{ ksi}</math> <math>F_u = 65 \text{ ksi}</math></p> <p>SECTION PROPERTIES PER FT. OF WIDTH</p> <p>TOP IN COMPRESSION  <math>I_x = 0.097 \text{ in}^4</math>  <math>S_x = 0.1215 \text{ in}^3</math>  <math>M_o = 3.367 \text{ in-in}^6</math></p> <p>BOTTOM IN COMPRESSION  <math>I_x = 0.097 \text{ in}^4</math>  <math>S_x = 0.1126 \text{ in}^3</math>  <math>M_o = 3.37 \text{ in-in}^6</math></p> <p>INSTALLED CORRECTLY</p> <p>INSTALLED TOO TIGHT</p> <p>INSTALLED TOO LOOSE</p> <p>THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES. BUILDING REQUIREMENTS, ORDINANCES OR CODES, CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.</p> <p>THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.</p> <p>THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.</p> <p>ERECTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.</p> <p>FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.</p> <p>SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MINOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.</p> <p>THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSPERSON AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.</p> <p>PRE-CHECK (PC) DOCUMENT A separate project application for construction is required.</p>
<p>MEGA RIB ROOF CONNECTION AT PURLIN</p> <p>G-P1</p>	<p>MEGA RIB ROOF CORNER CONNECTION DETAIL</p> <p>G-M2</p>	<p>MEGA RIB ROOF SPLICE CONNECTION DETAIL</p> <p>G-S1</p>	<p>OPTIONAL GUTTER INSTALLATION</p> <p>GU1</p>	<p>OPTIONAL GUTTER SECTION</p> <p>MEGA RIB ROOF</p> <p>GU2</p>	<p>30' WIDE RECTANGULAR HIP MEGA RIB ROOFING PLAN</p> <p>CON heiter Systems Inc</p> <p>1555 LINCOLN AVE HOLLAND MI, 49423</p> <p>616.396.0919 616.396.0955 616.396.0944 EX</p> <p>LS3.3</p>

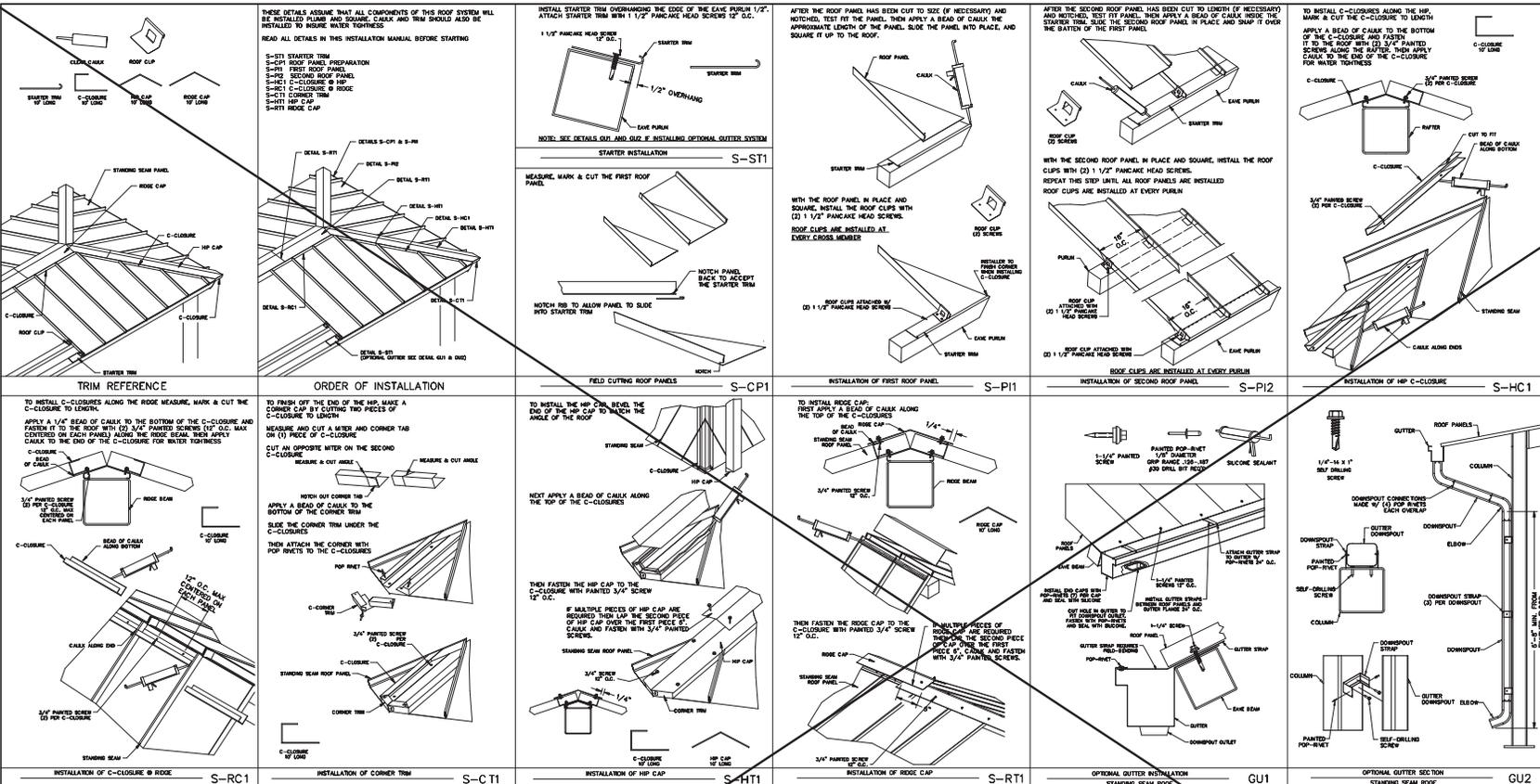
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DIV. OF THE STATE ARCHITECT  
APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  C9   
DATE: 08/05/2021

1555 LINCOLN AVE  
HOLLAND MI, 49423

616.396.0919  
616.396.0955  
616.396.0944 EX

LS3.3

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DATE: 10/13/2021



**ROOF**

ATTENTION: INSTALLED METAL SHOWN WILL QUICKLY RUST THE ROOF FLASHING.

DRILLING OR INSTALLING FASTENERS WILL CAUSE METAL SHAVINGS. THESE SHAVINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER SWEEPING OR BRUSHING THE INSTALLED ROOF.

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERECT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES. BUILDING REQUIREMENTS, DESIGNS OR CODES. CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

ERECTION SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS IDENTICALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MAJOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.

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DATE: 08/06/2021

SECTION PROPERTIES (PER FT. OF WIDTH)

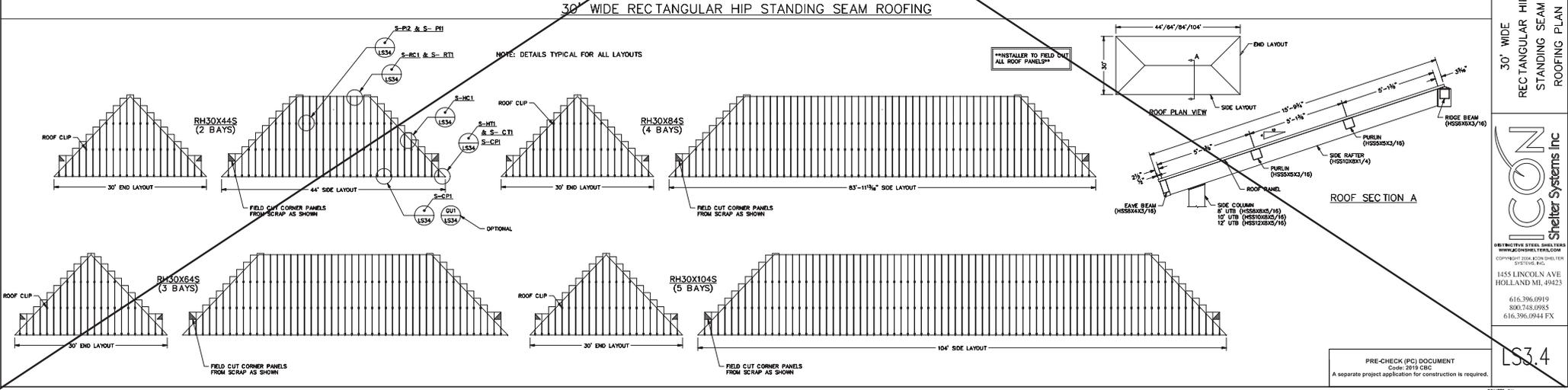
TOP IN COMPRESSION  
I=0.086 in<sup>4</sup>  
S=0.0051 in<sup>3</sup>  
M=1.68 in-kips

BOTTOM IN COMPRESSION  
I=0.040 in<sup>4</sup>  
S=0.0479 in<sup>3</sup>  
M=1.248 in-kips

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SS  FLS  ACS   
DATE: 10/13/2021

JRMA  
ARCHITECTS ENGINEERS  
202 S. LAKEVIEW BLVD. #101  
SANTA ANA, CA 92701  
PH: 714.241.1111  
WWW.JRMA.COM

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REVIEWED FOR  
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DATE: 08/06/2021



30° WIDE RECTANGULAR HIP STANDING SEAM ROOFING PLAN

CON  
Steel Systems Inc

1555 LINCOLN AVE.  
HOLLAND MI, 49421

616.396.0919  
800.748.9955  
616.396.0944 FX

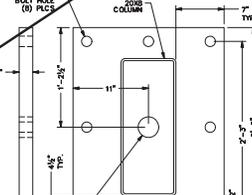
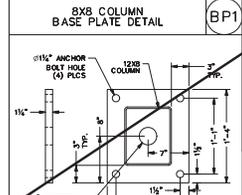
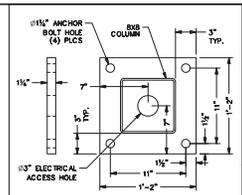
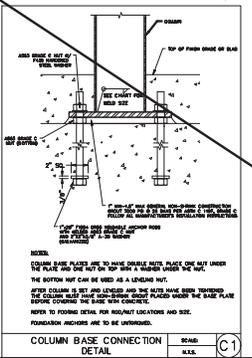
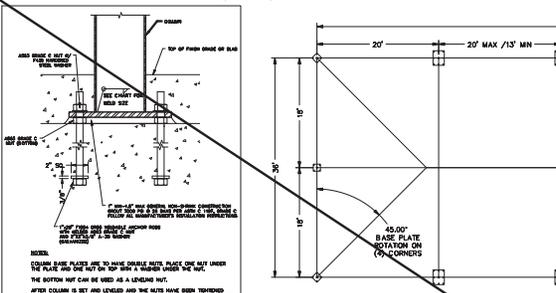
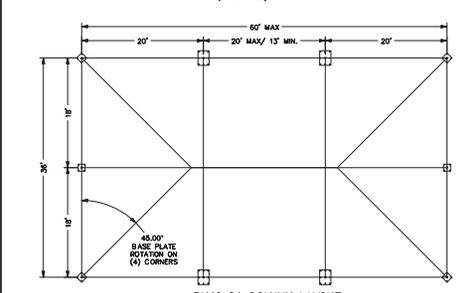
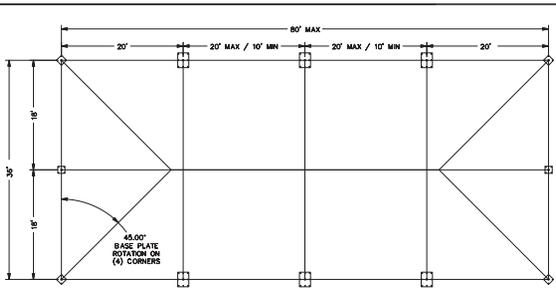
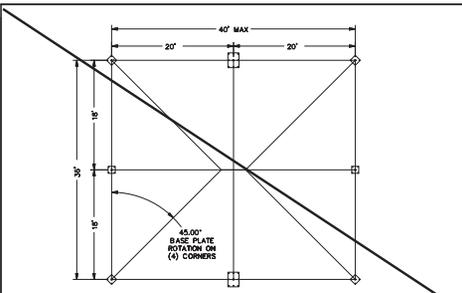
PRE-CHECK (PC) DOCUMENT  
Code: 2019 CBC  
A separate project application for construction is required.

LS3.4

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DIV. OF THE STATE ARCHITECT  
APP: 02-119209 INC:  
REVIEWED FOR  
SS  FLS  ACS   
DATE: 10/13/2021

NOTES:  
COLUMN SIZE AND LOCATION WILL VARY DEPENDING ON MODEL TYPE ORDERED. PLEASE REFER TO JOB SPECIFIC BILL OF MATERIALS AND INSTALLATION MANUAL FOR CORRECT PLACEMENT AND SIZE.  
WHERE CONCRETE SLAB SPECIFIED PORTLAND CEMENT CONCRETE PAVING SHALL HAVE A MEDIUM SALTED (MEDIUM BROOM) FINISH ON ALL SURFACES SLOPED LESS THAN 6% AND SLIP RESISTANT (HEAVY BROOM FINISH) ON ALL SURFACES SLOPED GREATER THAN 6% CBC SECTION 11336-7.1

BASE PLATE LOCATION			
DETAIL A	DETAIL B	DETAIL C	
8'	BP1	BP3	BP1
10'	BP1	BP3	BP1
12'	BP2	BP3	BP1



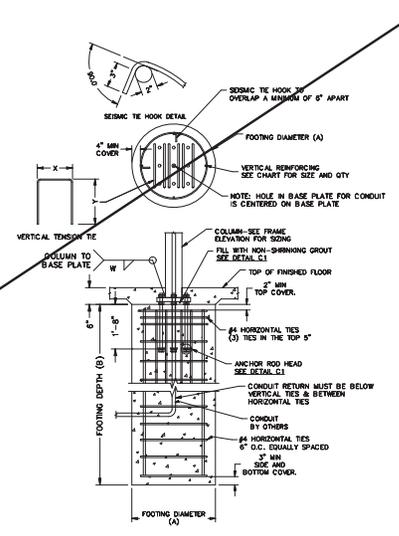
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DATE	4/2/2021
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REV DATE	



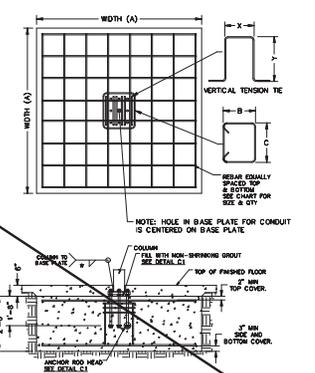
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APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  C   
DATE: 08/06/2021

40' WIDE RECTANGULAR HIP

RH40 - PIER				RH40 - SPREAD			
8' height - Corner Columns							
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2
8' height - Side Columns				8' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2
8' height - End Columns				8' height - End Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2
10' height - Corner Columns				10' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2
10' height - Side Columns				10' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2
12' height - Corner Columns				12' height - Corner Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2
12' height - Side Columns				12' height - Side Columns			
Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing	Soil Class 5 - 1500 psf Bearing	Soil Class 4 - 2000 psf Bearing	Soil Class 3 - 3000 psf Bearing	Soil Class 2 - 4000 psf Bearing
Rebar Dimensions							
Filler							
Weld							
X (in)	Y (in)	Rebar Size	Rebar Size	X (in)	Y (in)	Rebar Size	Rebar Size
Rebar Size							
City							
Size							
14	20	14	20	14	20	14	20
15.6	17.3	15.6	17.3	15.6	17.3	15.6	17.3
5	5	5	5	5	5	5	5
3/2	3/2	3/2	3/2	3/2	3/2	3/2	3/2



SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS  
BP1 & BP2 ARE (4) BOLT PATTERN WHILE BP3 IS AN (8) BOLT



SEE DETAILS BP1, BP2 OR BP3 FOR ANCHOR BOLT PATTERNS  
BP1 & BP2 ARE (4) BOLT PATTERN WHILE BP3 IS AN (8) BOLT

40' WIDE  
RECTANGULAR HIP  
FOUNDATION PLAN

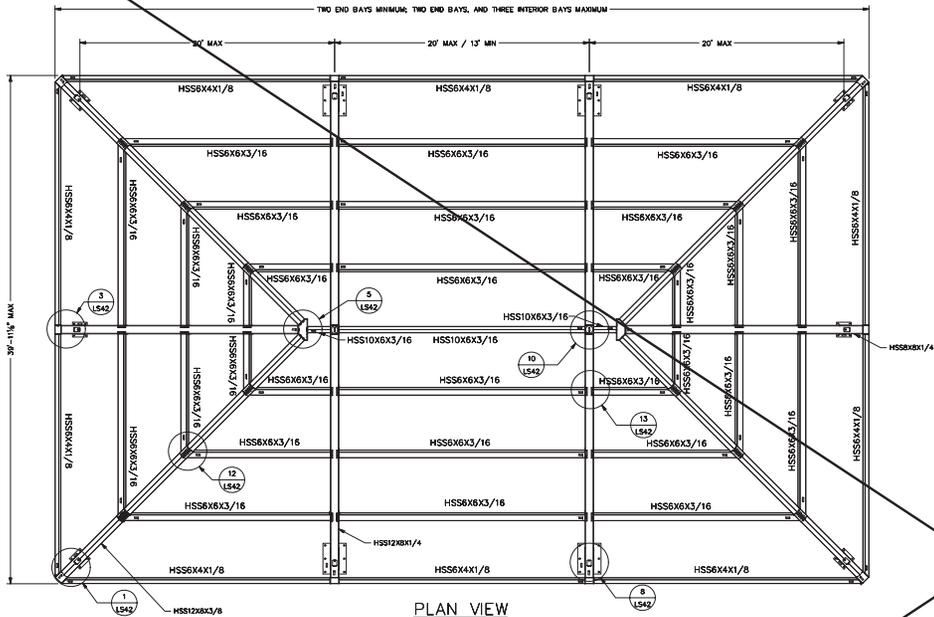


616.396.0919  
800.748.9953  
616.396.0944 FX

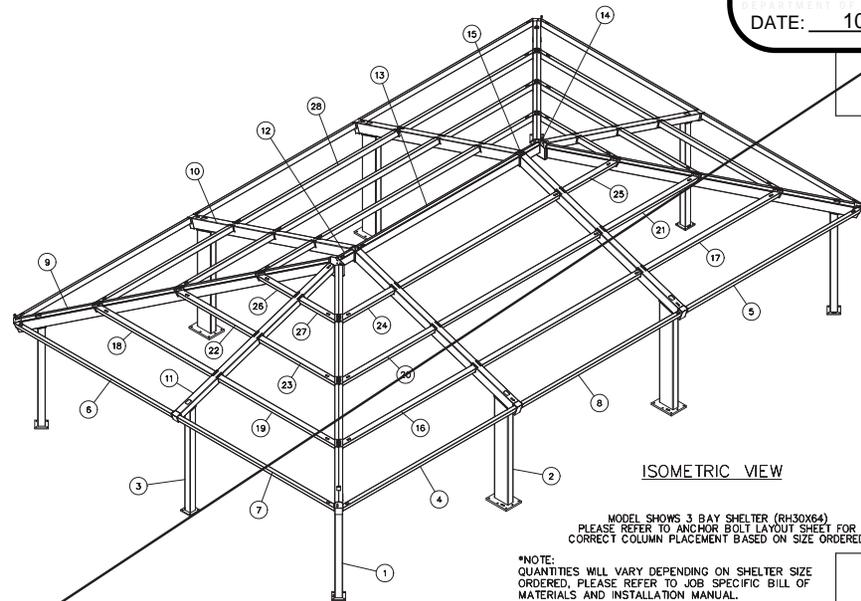
PRE-CHECK (PC) DOCUMENT  
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PLAN VIEW



ISOMETRIC VIEW

MODEL SHOWS 3 BAY SHELTER (RH30X64)  
 PLEASE REFER TO ANCHOR BOLT LAYOUT SHEET FOR  
 CORRECT COLUMN PLACEMENT BASED ON SIZE ORDERED

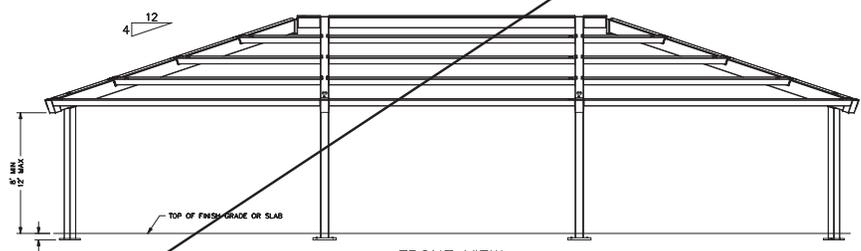
\*NOTE:  
 QUANTITIES WILL VARY DEPENDING ON SHELTER SIZE  
 ORDERED, PLEASE REFER TO JOB SPECIFIC BILL OF  
 MATERIALS AND INSTALLATION MANUAL.

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	LENGTH	UNIT WEIGHT
1	4		CORNER COLUMN	HSS6X8X1/4	300	lb/ft
2	*		SIDE COLUMN	HSS6X6X3/16	1502	lb/ft
3	2		END COLUMN	HSS6X6X3/16	351	lb/ft
4	2		LH SIDE EAVE BEAM	HSS6X4X1/8	177	lb/ft
5	2		RH SIDE EAVE BEAM	HSS6X4X1/8	177	lb/ft
6	2		LH END EAVE BEAM	HSS6X4X1/8	181	lb/ft
7	2		RH END EAVE BEAM	HSS6X4X1/8	181	lb/ft
8	*		SIDE EAVE BEAM	HSS6X4X1/8	183	lb/ft
9	4		CORNER RAFTER	HSS12X8X1/4	847	lb/ft
10	*		SIDE RAFTER	HSS12X8X1/4	707	lb/ft
11	2		END RAFTER	HSS12X8X1/4	330	lb/ft
12	2		END ROOF BEAM	HSS10X6X3/16	83	lb/ft
13	*		MID ROOF BEAM	HSS10X6X3/16	432	lb/ft
14	2		COMPRESSION RING	1/2" PLATE	114	lb/ft
15	*		CONNECTOR	HSS6X4X1/8	87	lb/ft
16	2		LH SIDE PURLIN 1	HSS6X4X1/8	238	lb/ft
17	2		RH SIDE PURLIN 1	HSS6X4X1/8	238	lb/ft
18	2		LH END PURLIN 1	HSS6X4X1/8	207	lb/ft
19	2		RH END PURLIN 1	HSS6X4X1/8	207	lb/ft
20	2		LH SIDE PURLIN 2	HSS6X4X1/8	184	lb/ft
21	2		RH SIDE PURLIN 2	HSS6X4X1/8	184	lb/ft
22	2		LH END PURLIN 2	HSS6X4X1/8	135	lb/ft
23	2		RH END PURLIN 2	HSS6X4X1/8	135	lb/ft
24	2		LH SIDE PURLIN 3	HSS6X4X1/8	83	lb/ft
25	2		RH SIDE PURLIN 3	HSS6X4X1/8	83	lb/ft
26	2		LH END PURLIN 3	HSS6X4X1/8	64	lb/ft
27	2		RH END PURLIN 3	HSS6X4X1/8	64	lb/ft
28	*		MID PURLIN	HSS6X4X1/8	288	lb/ft

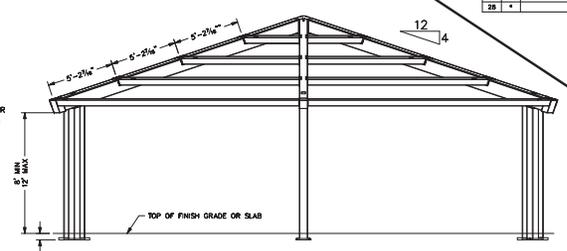
\*NOTE:  
 MATERIAL WILL VARY DEPENDING ON SHELTER  
 SIZE ORDERED.

- CORNER COLUMN 8' UTB - (HSS8X8X1/4)
- SIDE COLUMN 8' UTB - (HSS20X8X3/8)
- END COLUMN 8' UTB - (HSS8X8X1/4)
- CORNER COLUMN 10' UTB - (HSS8X8X1/4)
- SIDE COLUMN 10' UTB - (HSS20X8X3/8)
- END COLUMN 10' UTB - (HSS8X8X1/4)
- CORNER COLUMN 12' UTB - (HSS10X8X1/4)
- SIDE COLUMN 12' UTB - (HSS20X8X3/8)
- END COLUMN 12' UTB - (HSS8X8X1/4)

MODEL DESIGNATION	
RH40X44	2 BAY
RH40X64	3 BAY
RH40X84	4 BAY
RH40X104	5 BAY



FRONT VIEW



SIDE VIEW

40' WIDE RECTANGULAR HIP

ICON STD	REV/ISS-PC
DATE	4/2/2021
REV	
REV DATE	

JRMA  
 ARCHITECTS ENGINEERS  
 200 S. CALIFORNIA ST., SUITE 1000  
 LOS ANGELES, CA 90012  
 WWW.JRMA.COM

PROFESSIONAL SEAL  
 J. R. M. A.  
 ARCHITECT & ENGINEER  
 STATE OF CALIFORNIA

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 DATE: 08/05/2021

40' WIDE  
 RECTANGULAR HIP  
 FRAMING &  
 CONNECTION DETAILS

CON  
 Shelter Systems Inc

PROSPECTIVE STEEL TRUSS  
 WWW.CONSHelters.com  
 COPYRIGHT 2018 CON SHUTTER SYSTEMS, INC.

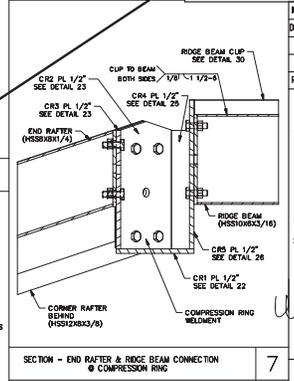
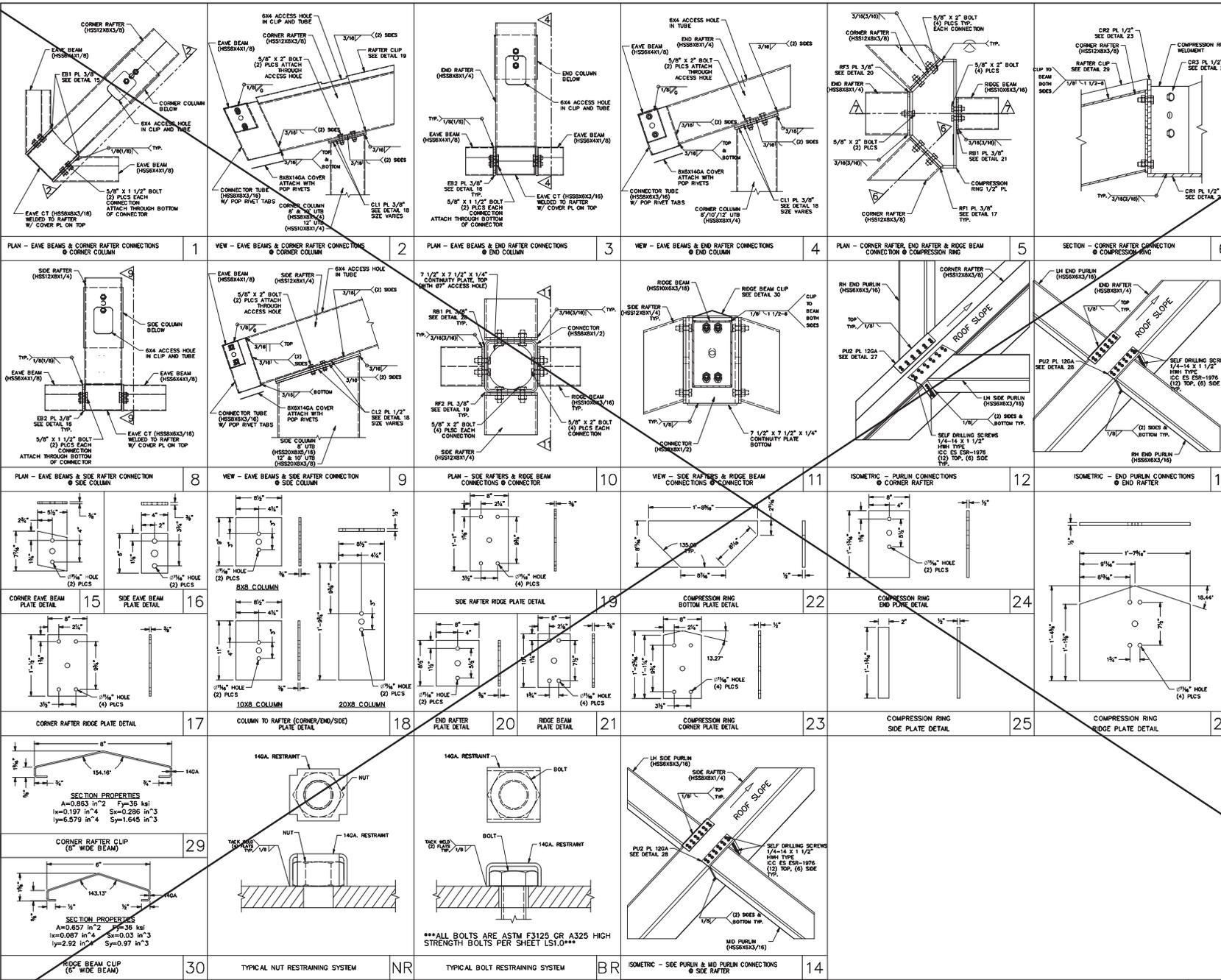
1455 LINCOLN AVE.  
 HOLLAND MI, 49423

616.396.0919  
 800.743.3955  
 616.396.0944 FX

PRE-CHECK (PC) DOCUMENT  
 A separate project application for construction is required.

LS4.1

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40' WIDE  
RECTANGULAR HIP  
FRAMING &  
CONNECTION DETAILS

**CON**  
Shear Systems Inc  
1455 LINCOLN AVE.  
HOLLAND MI, 49423  
616.396.0919  
800.743.9955  
616.396.0944 FX

40' WIDE RECTANGULAR HIP

TYPICAL NUT RESTRAINING SYSTEM NR

TYPICAL BOLT RESTRAINING SYSTEM BR

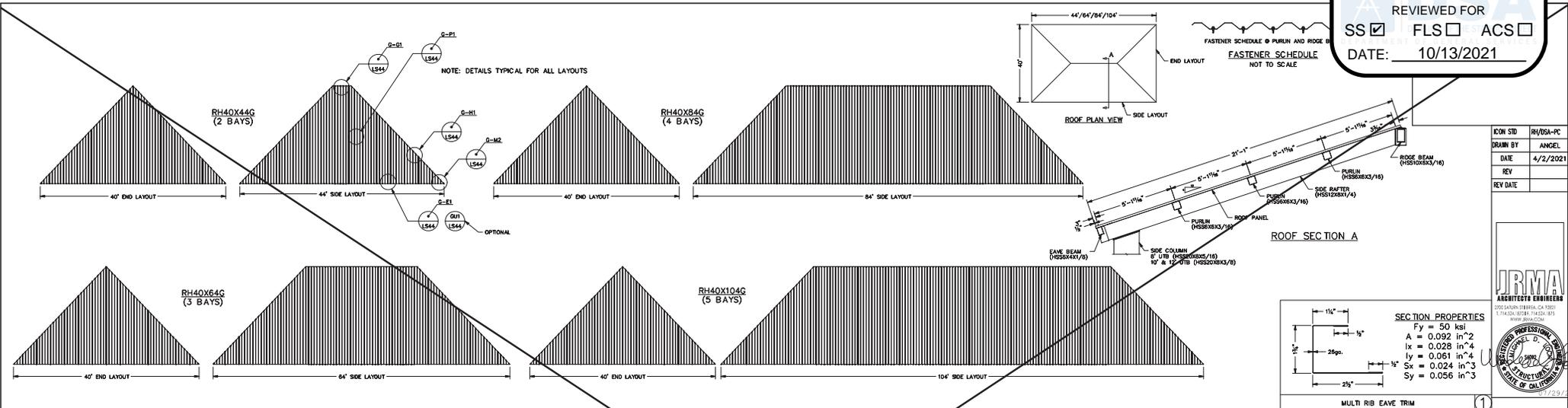
ISOMETRIC - SIDE PURLIN & MID PURLIN CONNECTIONS @ SIDE RAFTER 14

PRE-CHECK (PC) DOCUMENT  
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LS4.2



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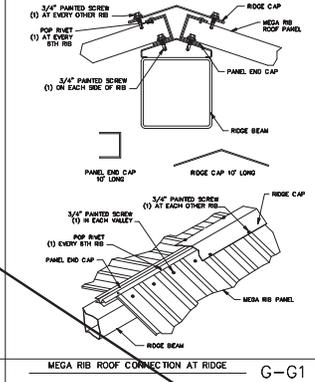
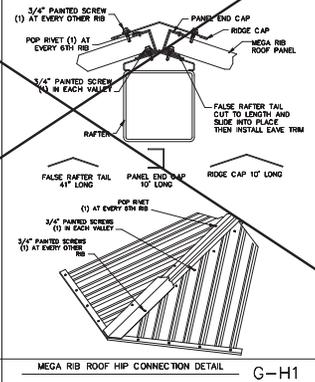
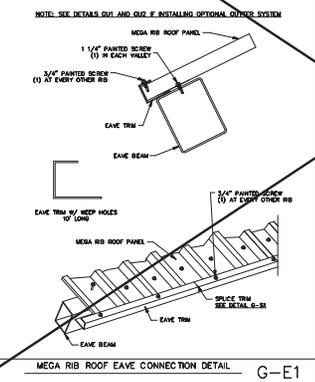
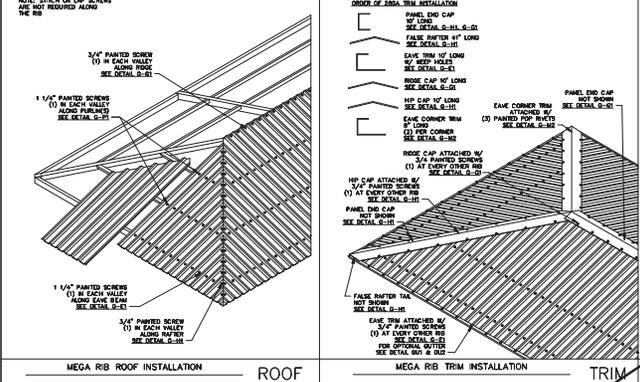


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DRAWN BY	AMCEL
DATE	4/2/2021
REV	
REV DATE	

**JRMA**  
ARCHITECTS ENGINEERS  
202 S. LAKEVIEW BLVD. SUITE 401  
DALLAS, TEXAS 75244-1411  
WWW.JRMA.COM

PROFESSIONAL SEAL  
STATE OF CALIFORNIA

40' WIDE RECTANGULAR HIP MEGA RIB ROOFING



ROOF NOTES

ATTENTION INSTALLERS: METAL FLASHING LEFT ON ROOF WILL QUICKLY RUST AND STAIN THE ROOF PANELS. BRUSHING OR INSTALLING ROOF FASTENERS WILL CAUSE METAL FLASHINGS TO BE SHAWNEE. THESE SHAWNEE MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER BRUSHING OR BRUSHING THE INSTALLER'S ROOF.

MEGA RIB PANEL SECTION  
24 ga. Fy=50 ksi Panel=084

SECTION PROPERTIES (PER FT. OF WIDTH)

TOP IN COMPRESSION  
I<sub>x</sub>=0.027 in<sup>4</sup>  
I<sub>y</sub>=0.027 in<sup>4</sup>  
S<sub>x</sub>=0.1215 in<sup>3</sup>  
S<sub>y</sub>=0.1215 in<sup>3</sup>

BOTTOM IN COMPRESSION  
I<sub>x</sub>=0.027 in<sup>4</sup>  
I<sub>y</sub>=0.027 in<sup>4</sup>  
S<sub>x</sub>=0.1126 in<sup>3</sup>  
S<sub>y</sub>=0.1126 in<sup>3</sup>

INSTALLED CORRECTLY

INSTALLED TOO TIGHT

INSTALLED TOO LOOSE

THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER.

THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER.

THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER.

THE DETAILS SHOWN ARE SUGGESTIONS OR GUIDELINES ON HOW TO ERCT THE METAL ROOFING SYSTEM. THE INFORMATION SHOWN IS ACCURATE, BUT IT IS NOT INTENDED TO COVER ALL INSTANCES. BUILDING REQUIREMENTS, INSURANCE OR CODES, CHANGES TO THE DETAILS MAY BE REQUIRED DUE TO FIELD CONDITIONS.

THE ERECTOR SHOULD THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL INSTALLATION INSTRUCTION MATERIAL BEFORE STARTING WORK.

THE PANELS SHOULD BE INSTALLED PLUMB, STRAIGHT, AND ACCURATELY TO THE ADJACENT WORK.

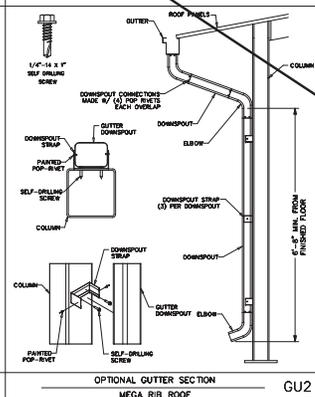
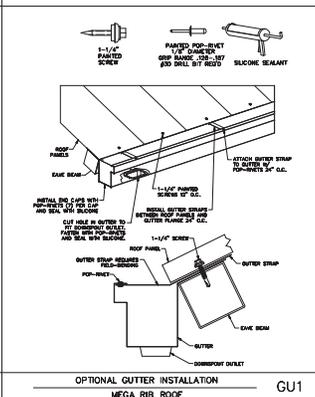
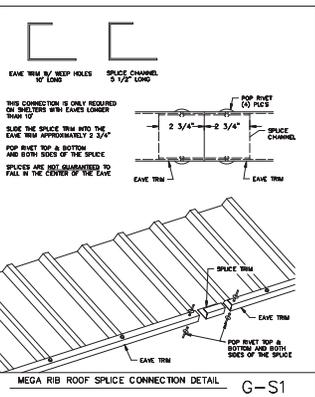
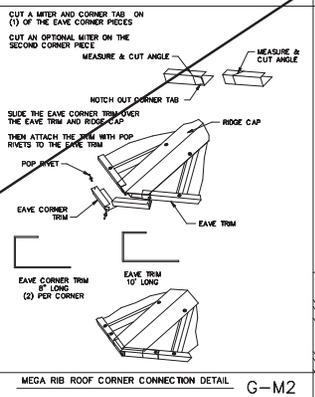
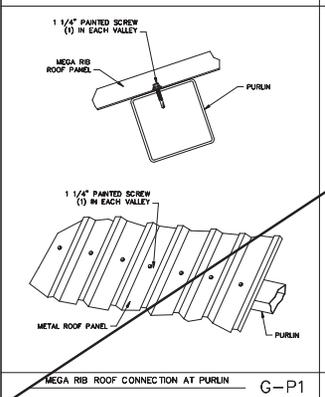
EREKTORS SHALL BE RESPONSIBLE TO ENSURE THAT THE DETAILS MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATER TIGHTNESS.

FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE, AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS EQUALLY SPACED.

SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPEDITED BY THE ERECTOR. MAKING FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.

THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.

PRE-CHECK (PC) DOCUMENT  
A separate project application for construction is required.



40' WIDE RECTANGULAR HIP MEGA RIB ROOFING PLAN

CON  
heiter Systems Inc

915 STEVEN STREET, SUITE 100  
WWW.CONHEITER.COM  
CONHEITER SYSTEMS, INC.  
1555 LINCOLN AVE.  
HOLLAND MI, 49423  
616.396.0919  
800.748.5955  
616.396.0944 EX

LS4.4

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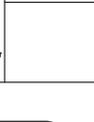
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ROOF

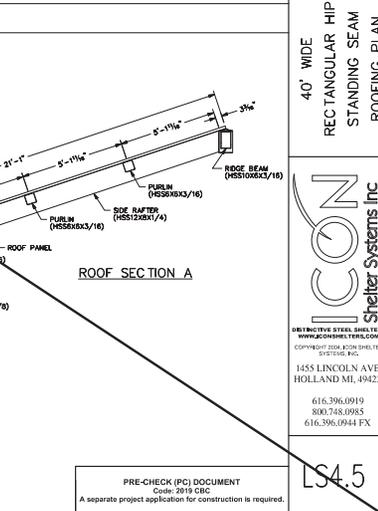
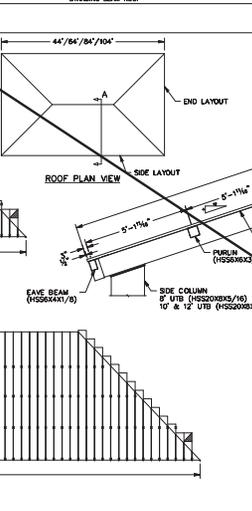
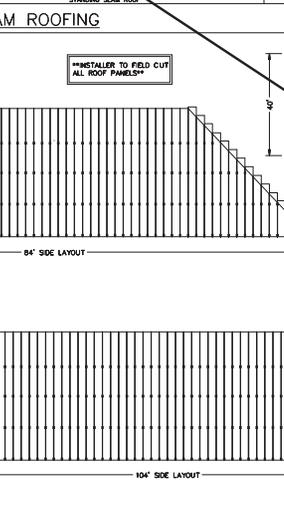
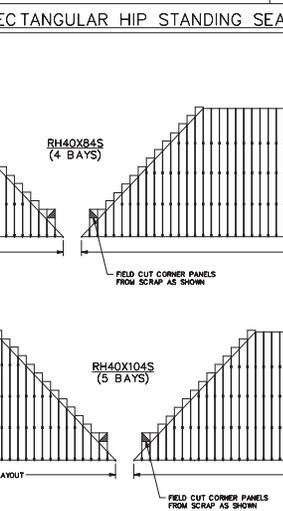
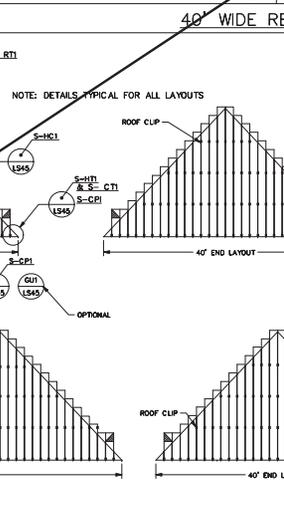
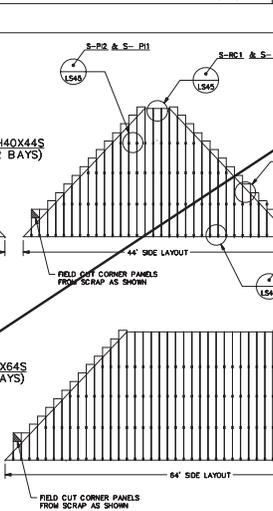
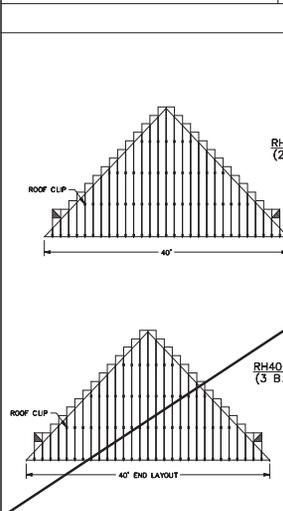
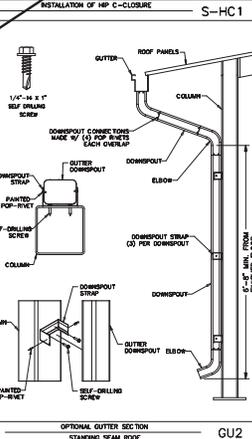
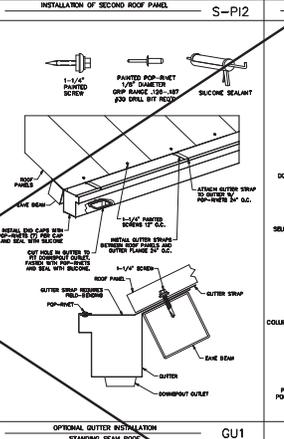
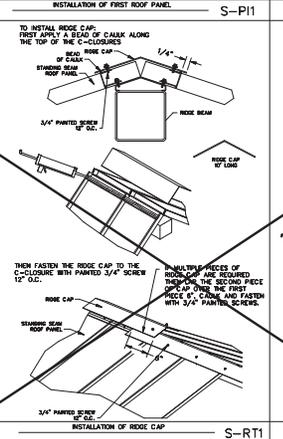
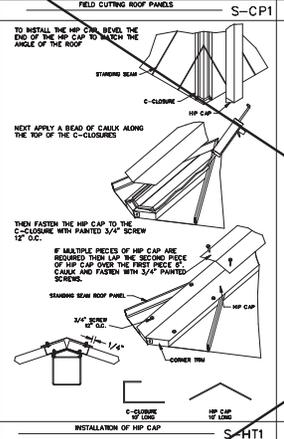
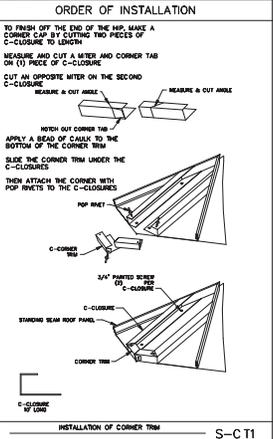
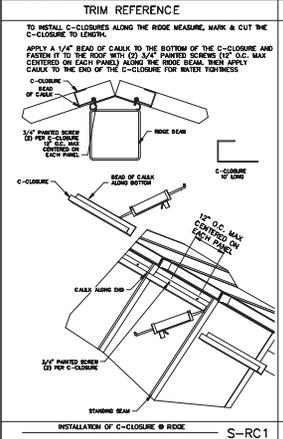
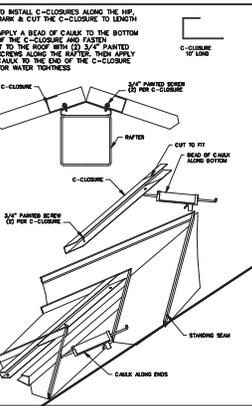
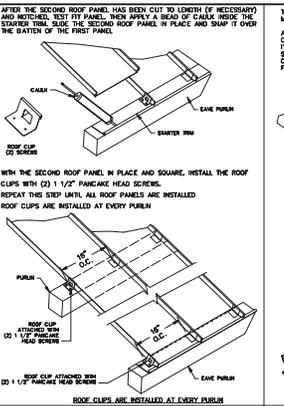
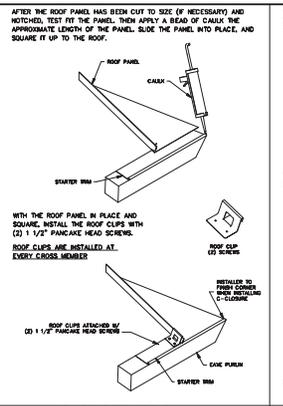
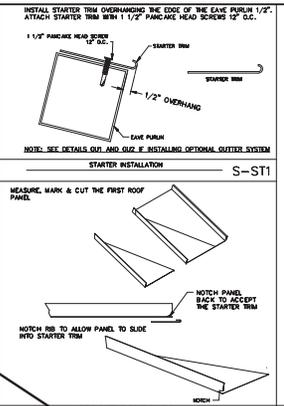
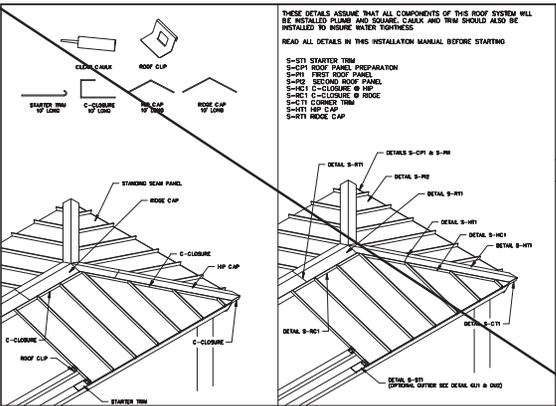
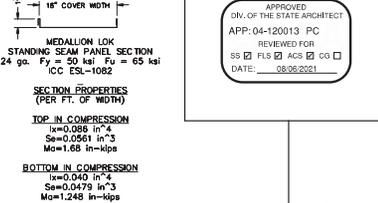
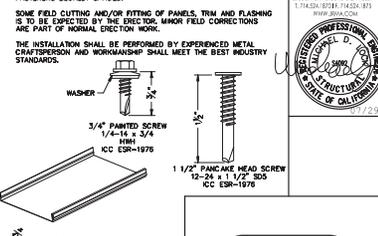
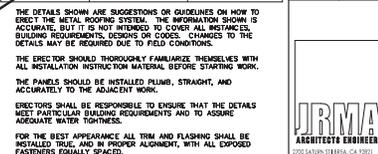
<p>ATTENTION: INSTALLED METAL SHAPINGS LEAD WILL QUICKLY RUST THE ROOF FINISH</p> <p>DRILLING OR INSTALLING FASTENERS WILL CAUSE MIS-SHAPINGS. THESE SHAPINGS MUST BE CAREFULLY REMOVED AT THE END OF EACH DAY BY EITHER BRUSHING OR BRUSHING THE INSTALLED ROOF.</p>	<p>INSTALLED CORRECTLY</p> <p>THE SEALING MATERIAL IS APPLIED TO THE METAL WASHER</p>	<p>INSTALLED TOO TIGHT</p> <p>THE SEALING MATERIAL IS DEFORMED BEYOND THE EDGE OF THE METAL WASHER</p>	<p>INSTALLED TOO LOOSE</p> <p>THE SEALING MATERIAL IS NOT VISIBLE AROUND THE EDGE OF THE METAL WASHER</p>
<p>FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS USUALLY SPACED.</p> <p>SOME FIELD CUTTING AND/OR FITTING OF PANELS, TRIM AND FLASHING IS TO BE EXPECTED BY THE ERECTOR. MAJOR FIELD CORRECTIONS ARE PART OF NORMAL ERECTION WORK.</p> <p>THE INSTALLATION SHALL BE PERFORMED BY EXPERIENCED METAL CRAFTSMEN AND WORKMANSHIP SHALL MEET THE BEST INDUSTRY STANDARDS.</p>	<p>FOR THE BEST APPEARANCE ALL TRIM AND FLASHING SHALL BE INSTALLED TRUE AND IN PROPER ALIGNMENT, WITH ALL EXPOSED FASTENERS USUALLY SPACED.</p>		

IRMA  
ARCHITECTS ENGINEERS

202 CALIFORNIA ST., SUITE 200  
SAN FRANCISCO, CA 94102  
415.774.1100  
WWW.IRMA.COM



APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 04-120013 PC  
REVIEWED FOR  
SS  FLS  ACS  GU   
DATE: 08/05/2021



40' WIDE RECTANGULAR HIP STANDING SEAM ROOFING

NOTE: DETAILS TYPICAL FOR ALL LAYOUTS

INSTALLER TO FIELD CUT ALL ROOF PANELS

SECTION PROPERTIES (PER FT. OF WIDTH)

TOP IN COMPRESSION  
I<sub>x</sub>=0.086 in<sup>4</sup>  
S<sub>x</sub>=0.0561 in<sup>3</sup>  
MOMENT OF INERTIA=108

BOTTOM IN COMPRESSION  
I<sub>x</sub>=0.040 in<sup>4</sup>  
S<sub>x</sub>=0.0479 in<sup>3</sup>  
MOMENT OF INERTIA=108

PRE-CHECK (PC) DOCUMENT  
A separate project application for construction is required.

IRMA ARCHITECTS ENGINEERS  
202 CALIFORNIA ST., SUITE 200  
SAN FRANCISCO, CA 94102  
415.774.1100  
WWW.IRMA.COM

CONCRETE SYSTEMS Inc  
1455 LINCOLN AVE.  
HOLLAND MI, 49422  
616.396.0919  
800.748.9955  
616.396.0944 FX

LS4.5

APPROVED  
 DIV. OF THE STATE ARCHITECT  
 APP: 02-119209 INC:  
 REVIEWED FOR  
 SS  FLS  ACS   
 DATE: 10/13/2021

# ELECTRICAL INFORMATION - RECTANGULAR HIP

ICON'S STANDARD ELECTRICAL IS DESIGNED TO ACCOMMODATE Ø1/2" CONDUIT WITH A Ø3" INLET HOLE ON THE BOTTOM OF EACH COLUMN. THE CONDUIT PATHWAY RUNS THROUGH THE COLUMN, RAFTER, AND RIDGE BEAM THROUGH ALL BOLTED CONNECTIONS AS SHOWN. IF YOU HAVE SPECIAL ELECTRICAL REQUIREMENTS, PLEASE OUTLINE ANY CHANGES BELOW AS DESCRIBED.

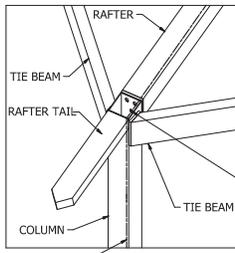
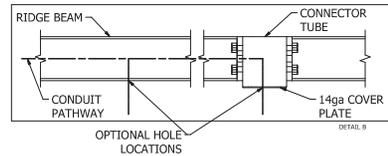
PLEASE NOTE: DESIGN LIMITATIONS ON HOLE/CUTOUT SIZES MAY APPLY. ICON WILL REACH OUT TO DISCUSS ANY SUCH LIMITATIONS AS NEEDED.

NOTE: ICON SHELTER FRAME IS NOT UL LISTED TO ACT AS A CONDUIT FOR ELECTRICAL WIRING. CONSULT LOCAL BUILDING CODES WHEN PLANNING YOUR ELECTRICAL SYSTEM.

PRELIMINARY: NOT FOR CONSTRUCTION

### OPTIONAL EXIT HOLES

IF REQUIRED, EXIT HOLES FOR LIGHTING, ETC. CAN BE PLACED IN THE RIDGE BEAM AND/OR CONNECTOR TUBE WITH 14ga COVER PLATE AS SHOWN (CHARGES APPLY). USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED EXIT HOLE LOCATIONS AND SIZE.



ICON PROVIDES A MINIMUM OF (1) 3/4" HOLE AT EACH CONNECTION FOR 1/2" CONDUIT. IF APPLICABLE, PLEASE SPECIFY REQUIRED CONDUIT SIZE: (CHARGES APPLY)

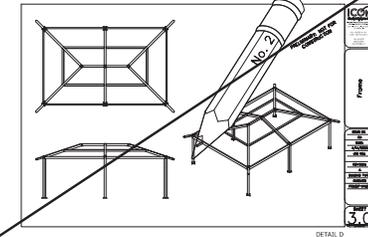
- 3/4" CONDUIT (1" HOLES)
- 1" CONDUIT (1 1/4" HOLES)
- OTHER (PLEASE SPECIFY)

NOTE: BUILDING DEPICTED ON THIS SHEET FOR ILLUSTRATION PURPOSES ONLY. ACTUAL LAYOUT AND FRAME MEMBER QUANTITIES VARY BY DESIGN. PLEASE REFER TO ELEVATION AND FRAME SHEETS IN THIS PRELIMINARY FOR ORDER-SPECIFIC CONFIGURATION.

### STEPS:

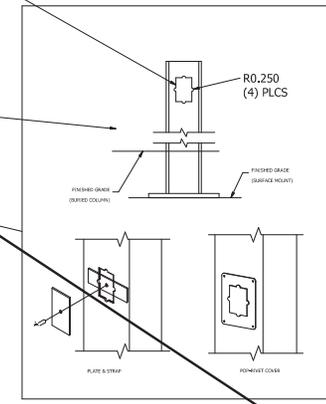
1. CONDUIT HOLE SIZE (DETAIL A)
2. ELECTRICAL EXIT HOLES (DETAIL B)
3. ELECTRICAL ACCESS & COVER PLATES (DETAIL C)
4. ELECTRICAL CONDUIT PATHWAY (DETAIL D)

IF REQUIRED, PLEASE DRAW THE NECESSARY ELECTRICAL CONDUIT PATHWAY ON THE FRAME SHEET OF THIS PRELIMINARY.

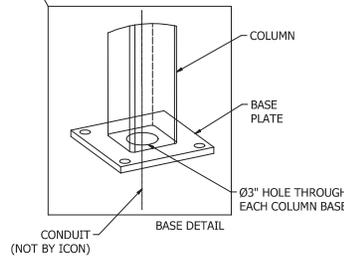


OPTIONAL CUTOUTS  
 USE FRAME SHEET OF THIS PRELIMINARY TO SPECIFY REQUIRED CUTOUT LOCATIONS (CHARGES APPLY). SEE REQUIRED INFO BELOW

- (1) STANDARD CUTOUT SIZE SHOWN. SPECIFY IF OTHER SIZE REQUIRED.
- (2) CUTOUTS WILL BE ON INSIDE FACE OF COLUMN UNLESS OTHERWISE INDICATED ON FRAME SHEET.
- (3) SPECIFY HEIGHT ABOVE FINISHED GRADE FOR EACH CUTOUT AS SHOWN.



- (4) COVER PLATES PROVIDED UPON REQUEST (CHARGES APPLY). PLEASE SPECIFY TYPE AND QUANTITY REQUIRED:
- PLATE & STRAP
  - POP-RIVET COVER PLATE
- HOW MANY REQUIRED? \_\_\_\_\_



ICON STD	IN/05A-PC
DRAWN BY	ANGEL
DATE	4/2/2021
REV	
REV DATE	

**JIRMA**  
 ARCHITECTS ENGINEERS  
 2302 SALTUN STREET, SUITE 100  
 17000 W. 5TH AVENUE  
 SUITE 100  
 DENVER, CO 80202  
 WWW.JIRMA.COM

PROFESSIONAL SEAL  
 JIRMA ARCHITECTS ENGINEERS  
 STATE OF CALIFORNIA  
 12/27/2021

APPROVED  
 DIV. OF THE STATE ARCHITECT  
 APP: 04-120013 PC  
 REVIEWED FOR  
 SS  FLS  ACS  CG   
 DATE: 08/06/2021

ELECTRICAL ACCESS

**ICON**  
 Shelter Systems Inc  
 1455 LINCOLN AVE  
 HOLLAND MI, 49423  
 616.396.0919  
 800.743.0955  
 616.396.0944 FX

PRE-CHECK (PC) DOCUMENT  
 Guide 2019 CBC  
 A separate project application for construction is required.

LS5.0  
 PRINTED ON:

# INSTRUCTIONS: FORM DSA 140

## APPLICATION FOR SUBMITTAL OF POST-APPROVAL DOCUMENT

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**PURPOSE:** Form *DSA 140: Application for Submittal of Post-Approval Document* is an application for submittal of the following post-approval documents to DSA for review and approval:

- A. Deferred Submittals
- B. Addenda
- C. Revisions (*NOTE:* Revisions are significant changes to the DSA-approved construction documents or redesign of previously approved items.)
- D. Construction Change Documents (CCDs)

### INSTRUCTIONS FOR EACH SECTION:

1. Identify the type of submitted document (including whether it is a resubmittal or not) and, when applicable, the number and category (e.g., for CCDs, reference *IR A-6: Construction Change Document Submittal and Approval Process*).
2. School District/Owner is the same as line two on form *DSA 1: Application For Approval of Plans and Specifications*. Project Name/School is the same as line one on form *DSA 1*. DSA file and application numbers are the same as indicated on the DSA identification stamp on the plans and the signature sheet of the specifications.
3. Enter the submittal date, whether additional pages are attached, and how many. Enter the “applicant” (the architect or engineer in general responsible charge identified on line 21 of form *DSA 1*) contact information including the name and address of the firm where they are employed.
4. Check the applicable boxes based on the nature of the post-approval submittal document and related project information. For projects with a *form DSA 301-N: Notification of Requirement for Certification*, *DSA 301-P: Posted Notification of Requirement for Certification*, or 90-day Letter, refer to *PR 13-02: Project Certification Process* for further information and requirements.
5. Enter the following information for the individual identified on line 21 of form *DSA 1*: name, California professional license number, discipline and signature.
6. For addenda, revisions, or CCDs, check the box to indicate compliance with the statement. Provide a brief description of construction scope for the post-approval document and listing of approved drawings affected by the submitted post-approval documents.

*NOTE:* For addenda and revisions, a summary letter of all changes and affected DSA-approved construction documents shall be provided in addition to the brief descriptions provided in this section.