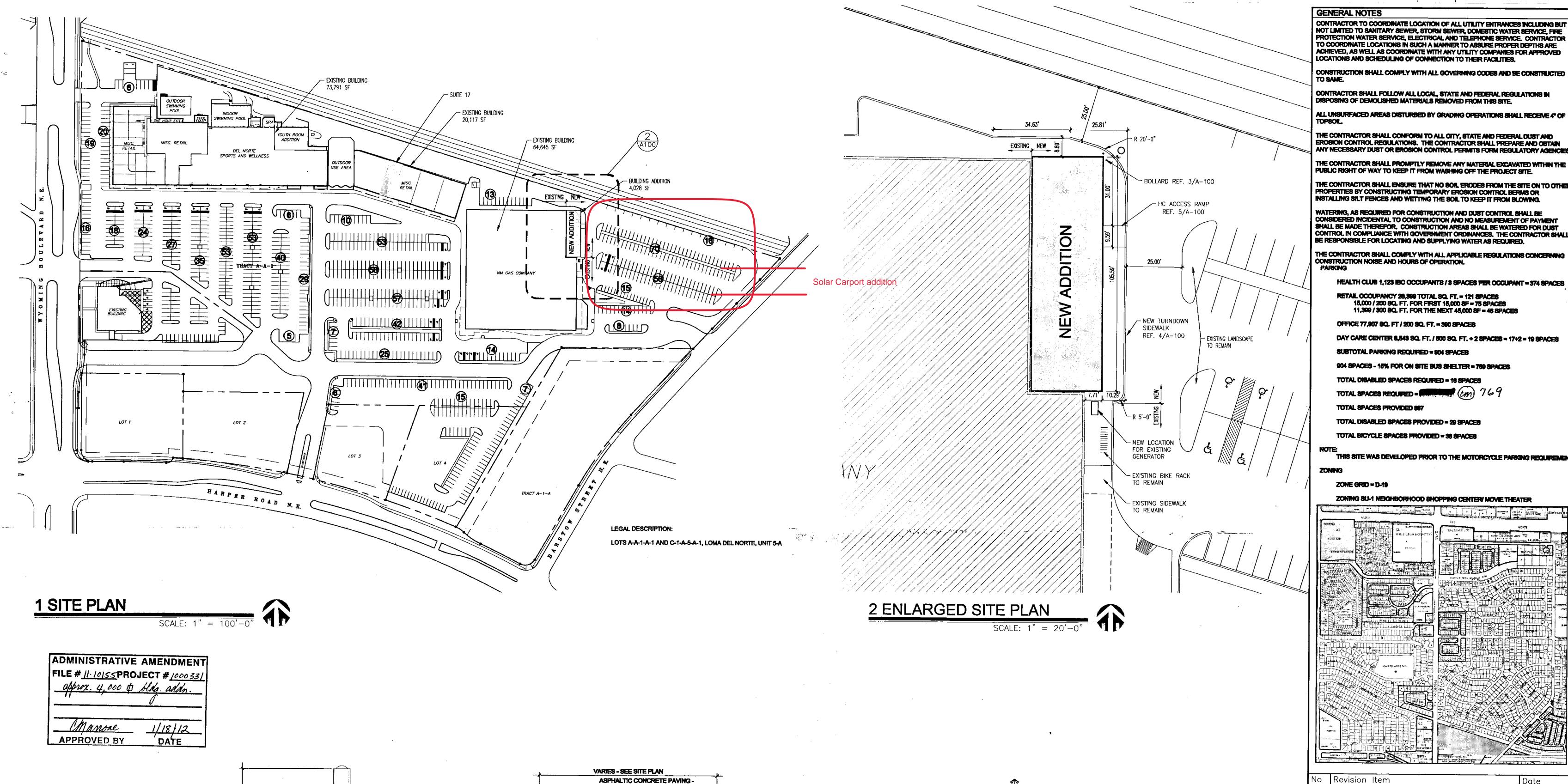
# 



COMPACTED SUB-GRADE - SEE

4 TURN DOWN SIDEWALK

SCALE:  $1 \frac{1}{2} = 1' - 0'$ 

SLOPE DN - Q

6'-0"

(1) SLOPE = Y/X WHERE X IS A LEVEL PLANE (2) COUNTERSLOPE SHALL NOT EXCEED 1:20

RUNNING SLOPE RUNNING SLOPE 1:20 MAXIMUM 1:12 MAXIMUM

SLOPE DN -AT 1:12 = 6"

COUNTERSLOPE

5 ACCESSIBLE CURB CUT ACCESS RAMP

NOTE: CURB SLOPES UP ON BOTH

SCALE: 1/4" = 1'-0

, 1:20 MAXIMUM

SPECIFICATIONS -

TOOL EDGE WITH 3/4" DIAMETER CONCRETE FINISHING TOOL-

CONCRETE SIDEWALK SLOPE 1/8" PER 1'-0" TOWARDS

LANDSCAPE FILL

COMPACTED FILL -

TOP & BOTTOM -

NOTE: PROVIDE CONTROL JOINTS AT 6'-0" O.C. AND EXPANSION JOINTS AT 18'-0" O.C.

#4 REBAR - CONTINUOUS

- 6" DIAMETER STEEL PIPE -

FILL WITH CONCRETE AND PAINT TRAFFIC YELLOW

**ASPHALTIC CONCRETE PAVING OR CONCRETE** 

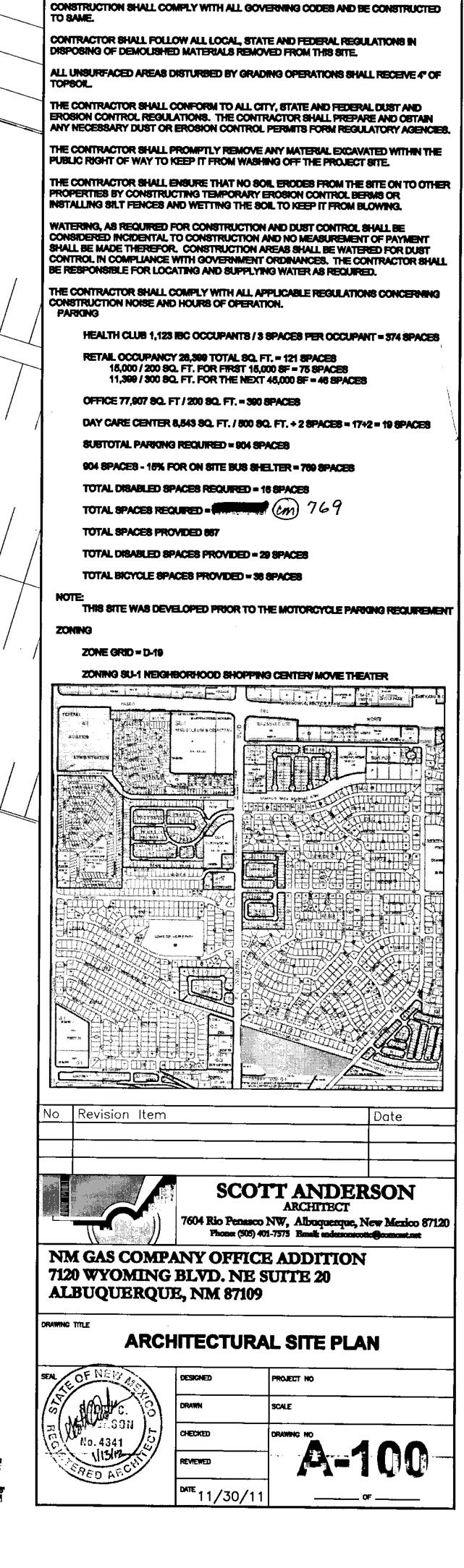
COMPACTED FILL

6" CONCRETE ALL

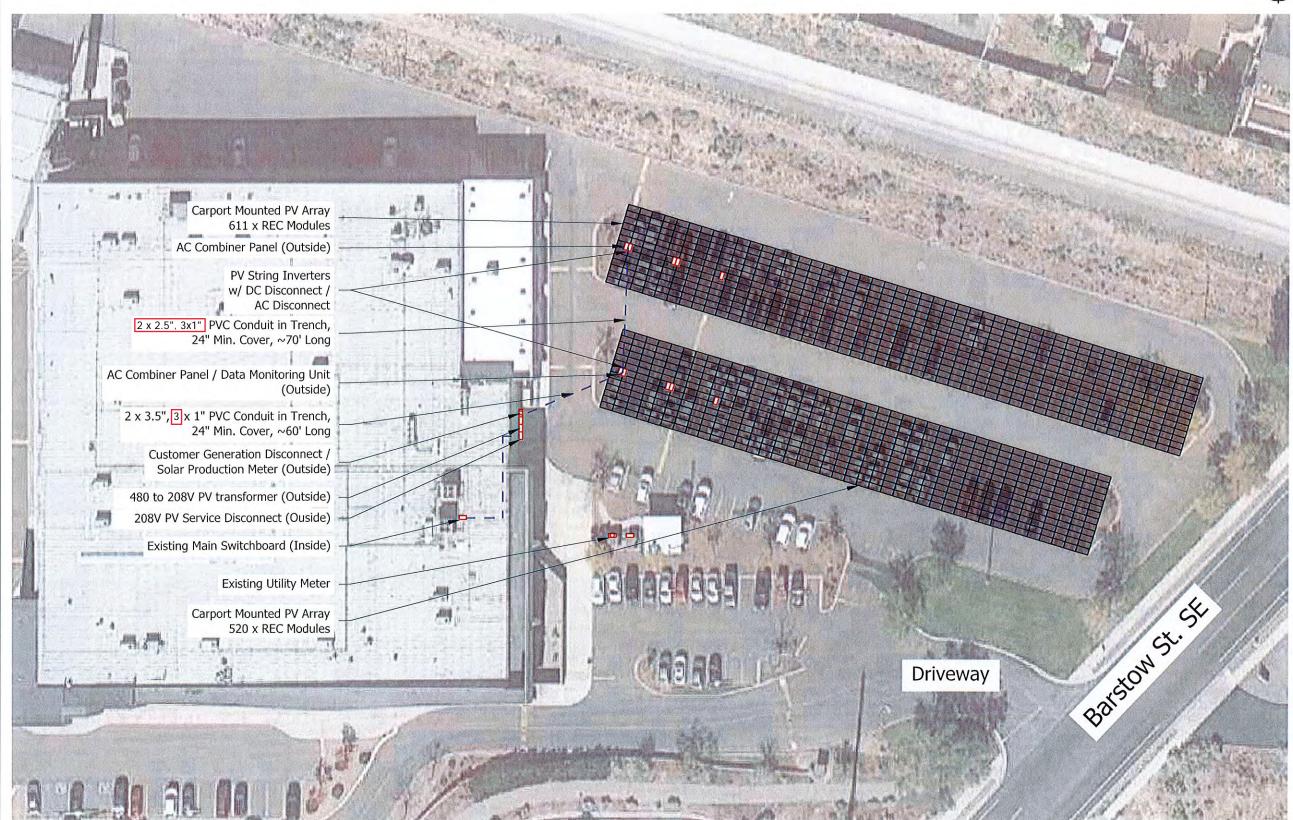
3 BOLLÁRD

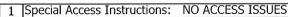
IMBED STEEL PIPE IN

SCALE: 3/4" = 1'-0









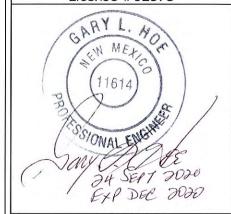
Exact location of equipment and conduit is subject to minor variations during

Estimated annual energy production is based on existing site conditions and this array layout. Annual variations in weather and module degradation will affect production.

Inverters AC Capacity: 2 x 62500W + 6 x 50000 W = 425.00 kWac Array STC Watts: 1131 x 440 W = 497.64 kWdc Combined Fault Current: 3520 Apk, 624.2 Arms; 26 ms



3651 Princeton Dr NE Albuquerque, NM 87107 (505) 344-0071 NM Electrical Contractor's License #82573



#### Job 4437

# NM Gas Co. Wyoming

Business Center
Utility-Interactive Photovoltaic System
System Size = 497.64 kWdc
7120 Wyoming Blvd NE
Albuquerque NM

#### **DESIGN SUMMARY**

Number of Modules 1,131

Module Tilt Angle 10°

Module Azimuth 195°

Average Annual Shading 3.00%

Year 1 Production Estimate kWh

#### DESIGN APPROVAL

I approve of this design showing all equipment and locations, and estimated production. Any change to this design may result in delays and additional costs.

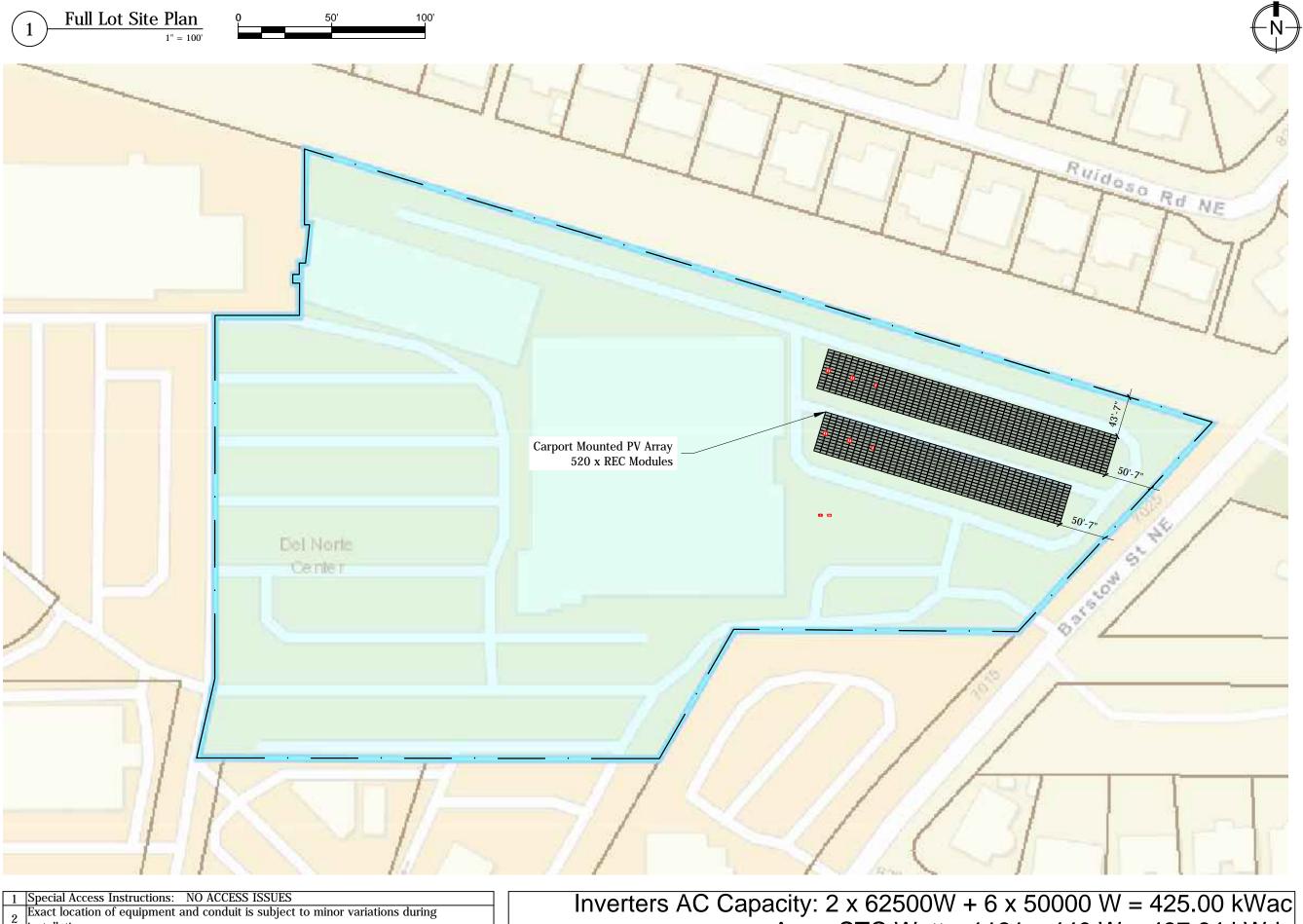
Signature:

Date:

# DESIGNER: David Dashiells

REV DESCRIPTION DATE
0 Initial Release 9/18/20

SITE PLAN PV100





3651 Princeton Dr NE Albuquerque, NM 87107 (505) 344-0071 NM Electrical Contractor's License #82573

Job 4437

# NM Gas Co. Wyoming

Business Center Utility-Interactive Photovoltaic System System Size = 497.64 kWdc 7120 Wyoming Blvd NE Albuquerque NM

#### DESIGN SUMMARY

Number of Modules 1,131 Module Tilt Angle 10° Module Azimuth 195° Average Annual Shading 3.00%

Year 1 Production Estimate 883420 kWh

#### DESIGN APPROVAL

I approve of this design showing all equipment and locations, and estimated production. Any change to this design may result in delays and additional costs.

Signature:

Date:

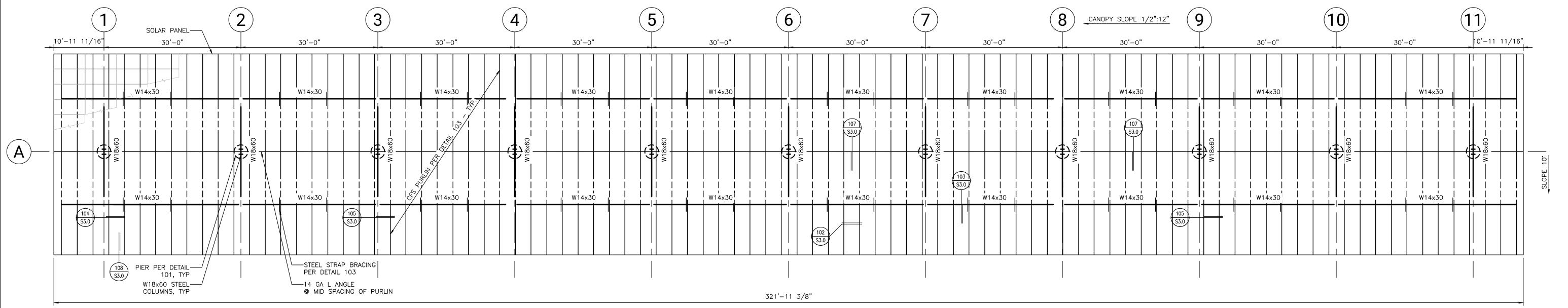
#### DESIGNER: **David Dashiells**

REV DESCRIPTION DATE 6/30/21 **Initial Release** 

> SITE PLAN **PV103**

installation.
Estimated annual energy production is based on existing site conditions and this array layout. Annual variations in weather and module degradation will affect production.

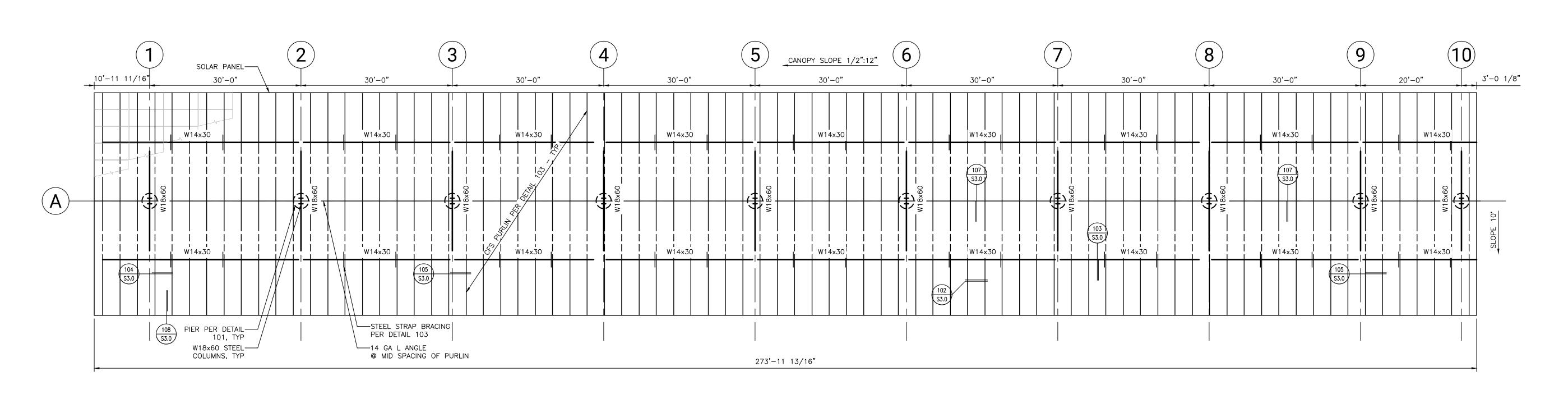
Array STC Watts: 1131 x 440 W = 497.64 kWdc Combined Fault Current: 3520 Apk, 624.2 Arms; 26 ms





# SOLAR STRUCTURE CANOPY FRAMING PLAN

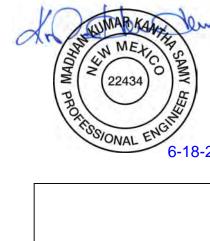
SCALE: 3/32" = 1'-0"





SOLAR STRUCTURE CANOPY FRAMING PLAN

SCALE: 3/32" = 1'-0"



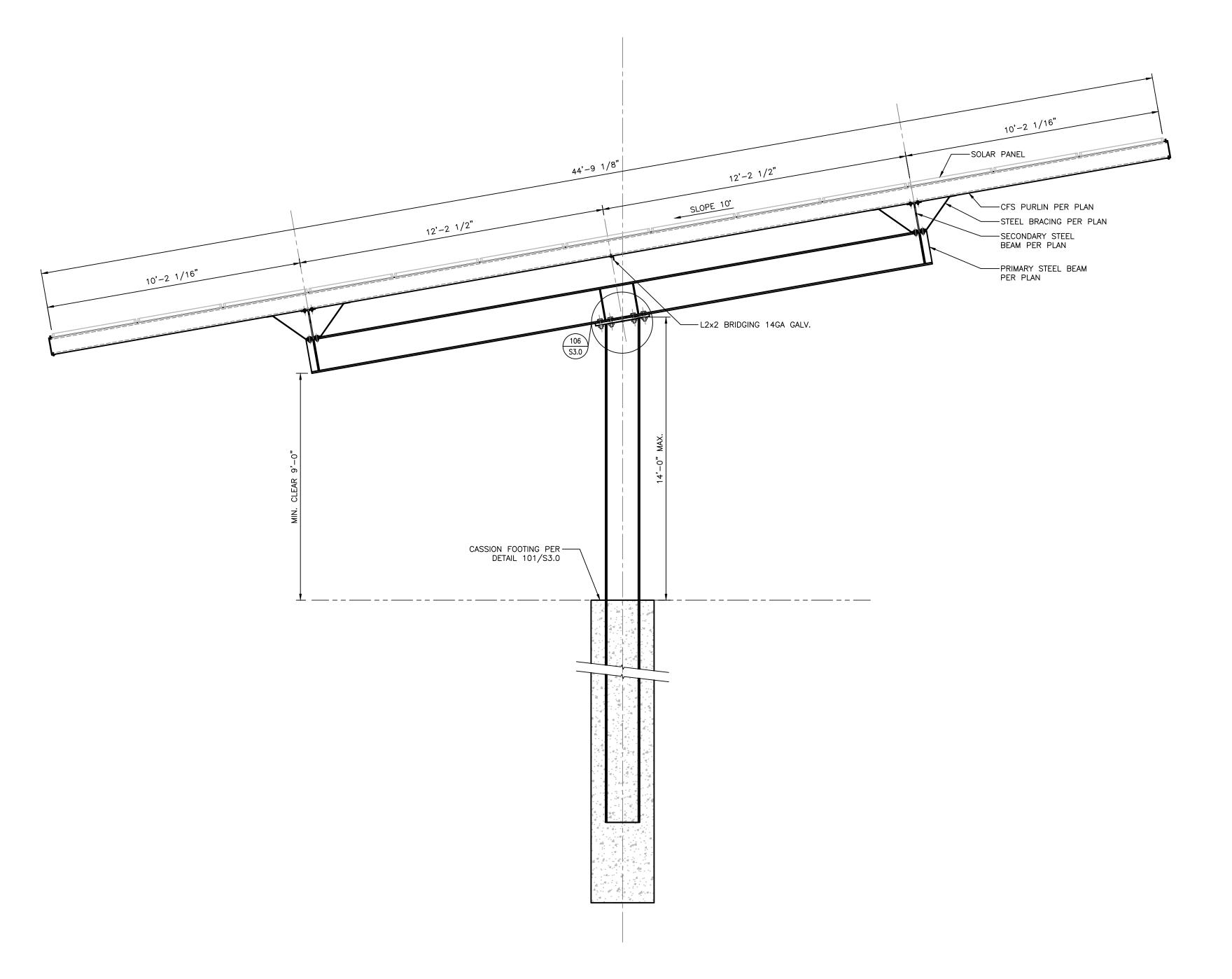
JOB NUMBER: 21006.003

NM Gas Co. Wyoming Business Center 7120 W Wyoming Blvd. NE Albuquerque NM STOMER: Positive Energy Solar

**RESOLUTE** 

PHONE (623) 208 7560 FAX (623) 748 0368 627 S 48th Street, Suite 105 TEMPE, AZ 85281

**Performance Contracting** 



SECTION STEEL COLUMN AND BEAM AT CONCRETE FOOTING

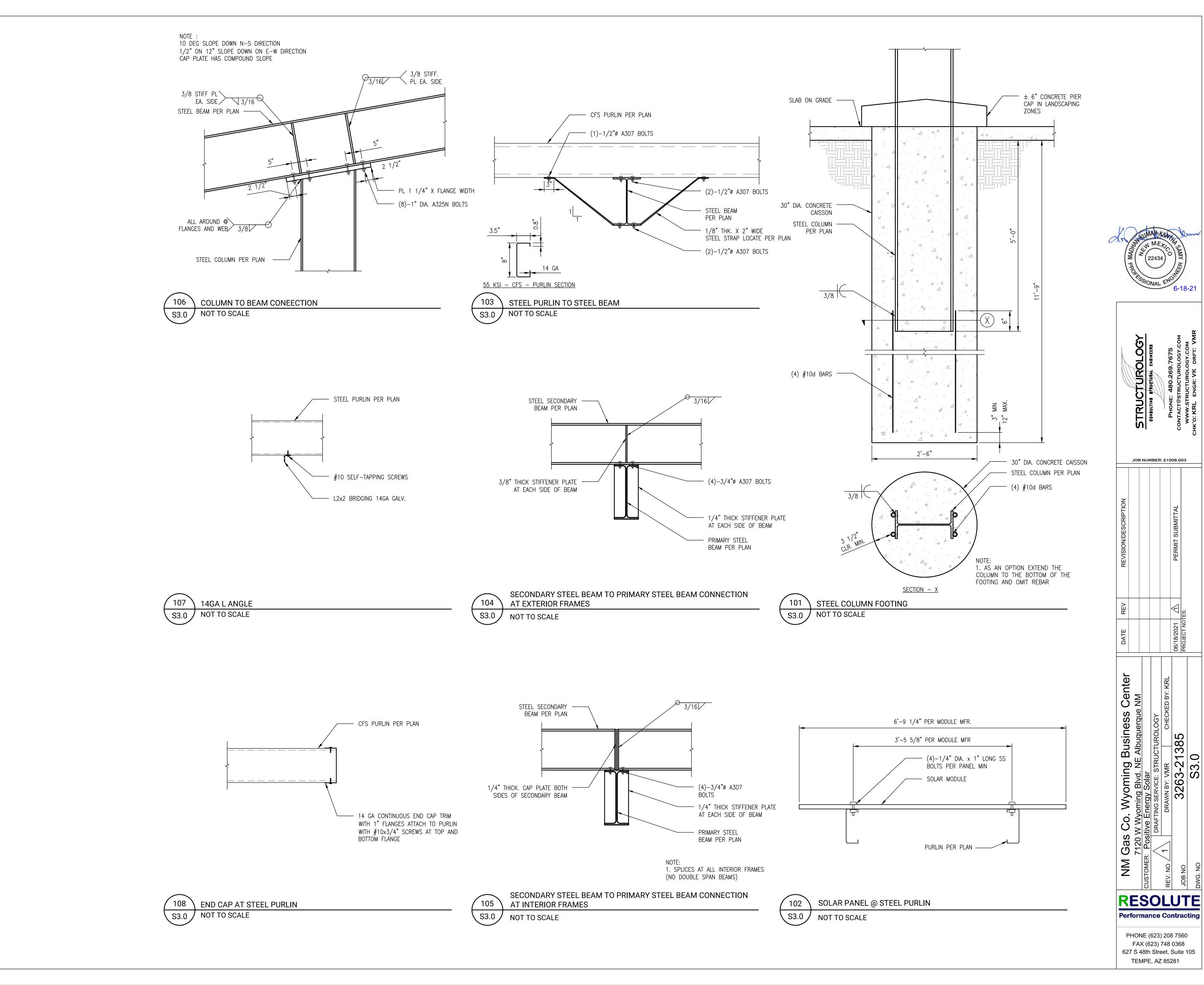
SCALE: 3/8" = 1'-0"

JOB NUMBER: 21006.003

NM Gas Co. Wyoming Business Center 7120 W Wyoming Blvd. NE Albuquerque NM STOME: Positive Energy Solar DRAFTING SERVICE: STRUCTUROLOGY

**RESOLUTE** Performance Contracting

PHONE (623) 208 7560 FAX (623) 748 0368 627 S 48th Street, Suite 105 TEMPE, AZ 85281



#### 1. GENERAL NOTES

1.1. PROJECT SCOPE:

THESE STRUCTURAL DRAWINGS MAY ONLY BE USED TO CONSTRUCT THE PROJECT SHOWN HEREIN, LOCATED AT: 7120 W WYOMING BLVD NE ALBUQUERQUE NM

THIS DESIGN IS BASED ON THE STATE BUILDING CODE AND INTERNATIONAL BUILDING CODE 2015. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THIS CODE AND PER NEW MEXICO

1.3. OCCUPANCY CATEGORY THIS STRUCTURE IS CLASSIFIED AS A CATEGORY I STRUCTURE, WHICH IS DEFINED AS: BUILDING AND OTHER STRUCTURES THAT REPRESENT A LOW HAZARD OF HUMAN LIFE OF A FAILURE

4. DESIGN LOADS:						
DEAD LOADS (BASED ON SELF WEIGHT OF CONSTRUCTION MATERIALS)						
LOAD CLASSIFICATION		AREA		CONCENTRATED	NOTES	
ROOFS		6 PSF				
WIND LOADS (BASED ON STATE BUILDING CODE) ASCE 7-10						
DESIGN VARIABLE		VALUE		NOTES		
3-SECOND WIND SPEED 105 MPH PER MAPS WITHIN THE STATE BUILDING COD				TE BUILDING CODE		
EXPOSURE CLASSIFICATION C URBAN AREAS, SUBURBAN AREAS & WOODED AREA				AS & WOODED AREAS		
SNOW LOADS (BASED ON ASCE 7, CHAPTER 7)						
DESIGN VARIABLE		VALUE	NOTES			
GROUND SNOW LOAD		10 PSF	PER MAPS WITHIN THE 2015 IBC			
EXPOSURE FACTOR		0.9	PARTIALLY EXPOSED IN TERRAIN CATEGORY B			
THERMAL FACTOR		1.2	OPEN AIR STRUCTURES			
IMPORTANCE FACTOR		0.8	OCCUPANCY CATEGORY: I			
SEISMIC L	OADS	S (BASED ON	ASCE	7, CHAPTERS 11 THROUG	GH 23)	
DESIGN VARIABLE		VALUE		NOTES		
Ss		0.436	SPECTRAL RESPONSE ACCEL. PARAMETER AT SPERIODS			
S1		0.132		SPECTRAL RESPONSE ACCE 1-SECOND PE		
COUL CITE OLAGO				1005 7 05071011 04	accioicut	

ASCE 7 SECTION COEFFICIENT

SHORT-PERIOD SITE COEFFICIENT

1-SECOND PERIOD SITE COEFFICIENT

DESIGN SPECTRAL RESPONSE ACCEL PARA AT

1—SECOND PERIOD
BASED ON 1—SEC AND SHORT PERIOD ACCELERATION

PARAMETER

RESPONSE MODIFICATION COEFFICIENT

STEEL ORDINARY CANTILEVER COLUMN SYSTEM

IGN SPECTRAL RESPONSE ACCEL. PARA AT SHORT

D

2.271

0.422

0.2

1.25

#### 1.5. GENERAL CONSTRUCTION REQUIREMENTS:

1.5.1. CONSTRUCTION METHOD

SOIL SITE CLASS

Fv

Sds

SEISMIC DESIGN CATEGOR

LATERAL FORCE SYSTEM

THE CONTRACT STRUCTURAL DRAWINGS & SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, PROCEDURES, SEQUENCES OF CONSTRUCTION OR JOB SITE SAFETY. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO FOLLOW PLANS, SPECIFICATIONS, AND/OR ENGINEERING RECOMMENDATIONS, NOR IS STRUCTUROLOGY RESPONSIBLE FOR ECONOMIC LOSS AND/OR DELAYS OF THE CONTRACTOR OR SUBCONTRACTORS.

WHERE CONSTRUCTION MATERIALS ARE PLACED ON FRAMED FLOORS AND/OR ROOFS, THEY SHALL BE SPREAD OUT AND NOT CONCENTRATED IN ANY GIVEN AREA. THE LIVE LOADS SHOWN IN THE TABLE ABOVE SHALL NOT BE EXCEEDED UNDER ANY CIRCUMSTANCES. ALL CONSTRUCTION SHALL BE ADEQUATELY BRACED TO PREVENT DISTORTION AND DAMAGE DUE TO CONSTRUCTION LOADS AND NATURAL FORCES.

THE CONTRACTOR IS RESPONSIBLE FOR SAFETY PRECAUTIONS, PROCEDURES AND PROGRAMS FOR THIS PROJECT THAT SHALL COMPLY WITH THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

# 1.5.2. TRADE COORDINATION

THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, PLUMBING AND SITE DRAWINGS. CONFLICTS IN DIMENSION AND INTERFERENCE SHALL BE DIRECTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.

# 1.5.3. DISCREPANCIES

IF CONFLICT ARISES FROM THE RECOMMENDATIONS OF THESE DRAWINGS AND THOSE CONTAINED IN THE SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

1.5.4. OPENINGS LOCATE AND VERIFY ALL OPENINGS, SLEEVES, POCKETS, CONDUITS, AND INSERTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING, WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. THESE OPENINGS, SLEEVES, POCKETS, CONDUITS, AND INSERTS SHALL NOT BE PLACED IN BEAMS, JOISTS, COLUMNS, ETC. UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. STRUCTUROLOGY IS TO BE NOTIFIED WHEN OPENINGS, SLEEVES, POCKETS, ETC., ARE TO BE LOCATED IN STRUCTURAL MEMBERS AND ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.

#### 1.5.5. TYPICAL DETAILS TYPICAL DETAILS ARE NOT NECESSARILY CUT ON THE DRAWINGS, BUT SHALL APPLY UNLESS NOTED OTHERWISE

# 1.5.6. ENGINEERED DESIGNS BY OTHERS

ANY ENGINEERED DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SIGNATURE AND SEAL OF THE ENGINEER PERFORMING THE WORK. THE ENGINEER IS TO BE REGISTERED IN THE STATE OF NEW MEXICO.

# 1.5.7. REFERENCED MATERIAL STANDARDS

WHERE REFERENCE IS MADE TO VARIOUS MATERIAL TEST STANDARDS, THE MOST CURRENT STANDARD AND ADDENDUM ARE TO BE INCORPORATED INTO THIS CONSTRUCTION, UNLESS NOTED OTHERWISE.

# 1.5.8. DRAWING DIMENSIONS

NO DIMENSION IS TO BE DETERMINED BY SCALING THE DRAWINGS OR DETAILS. IF A DIMENSION IS NOT INDICATED ON THE DRAWINGS AND IS NEEDED, CONTACT THE STRUCTURAL ENGINEER FOR CLARIFICATION. IF DISCREPANCIES ARE FOUND BETWEEN THE STRUCTURAL DRAWINGS AND THE RESOLUTE PC DRAWINGS, CONTACT THE STRUCTURAL ENGINEER FOR CLARIFICATION.

# 1.5.9. PROPRIETARY PRODUCTS

WHERE PROPRIETARY PRODUCTS FROM SPECIFIC MANUFACTURERS ARE LISTED IN THE STRUCTURAL DRAWINGS, THE CONTRACTOR MAY SUBSTITUTE OTHER PRODUCTS FROM OTHER MANUFACTURERS ONLY AFTER THE APPROVAL FROM STRUCTUROLOGY. THE CONTRACTOR IS TO PREPARE A SUBMITTAL THAT SPECIFICALLY STATES THE ORIGINALLY SPECIFIED PRODUCT, AND ITS ASSOCIATED PROPERTIES SHOWN IN THESE DRAWINGS, ALONG WITH THE REQUESTED REPLACEMENT PRODUCT, AND ITS ASSOCIATED PROPERTIES. THE PROPERTIES OF THE REPLACEMENT PRODUCT ARE TO MEET OR EXCEED THOSE LISTED FOR THE ORIGINAL PRODUCT. THE REPLACEMENT REQUEST IS TO BE SUBMITTED TO STRUCTUROLOGY A MINIMUM OF 2 WEEKS PRIOR TO THE START OF FABRICATION OR CONSTRUCTION. REPLACEMENT PRODUCT REQUESTS SUBMITTED AFTER THIS TIME WILL NOT BE CONSIDERED.

# 1.5.10. OPTIONS & SUBSTITUTIONS

WHERE OPTIONS ARE SHOWN ON THE DRAWINGS, OR WHERE THE CONTRACTOR SUBSTITUTES ONE PRODUCT FOR AN APPROVED ALTERNATE PRODUCT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RESULTING CHANGES NECESSARY AND SHALL COORDINATE ALL DETAILS FOR THE OPTION OR SUBSTITUTION WITH OTHER TRADES.

# 2. FOUNDATIONS

2.1. GEOTECHNICAL INVESTIGATION:

STRUCTUROLOGY WILL NOT BE RESPONSIBLE FOR ADVERSE EFFECTS THAT ARISE IN THE STRUCTURE THAT RESULT FROM UNKNOWN SOIL CONDITIONS. STRUCTUROLOGY IS NOT RESPONSIBLE FOR THE SOIL VERIFICATION AND SOILS SPECIAL INSPECTION

IN THE ABSENCE OF A GEOTECHNICAL REPORT, MINIMUM DESIGN VALUES AS SPECIFIED IN THE IBC HAVE BEEN USED IN THE DESIGN OF THE FOUNDATIONS.

FOUNDATION DESIGN V	ALUES AND NOT	ES PER IBC 2015
PARAMETER	VALUE	VALUE
ALLOWABLE BEARING PRESSURE	1500 PSF	BEARING DEPTH OF 18"
LATERAL BEARING PRESSURE	150 PSF/FT	

2.2. DRILLED PIERS (CAISSONS): DRILLED PIERS HAVE BEEN DESIGNED FOR THE VALUES SHOW IN THE CHART ABOVE AND SHALL BE EMBEDDED A MINIMUM OF 18" BELOW GRADE. CONCRETE IS TO BE PLACED WITH A TREMIE IF THERE IS MORE THAN 3" OF STANDING WATER IN THE BOTTOM OF THE DRILLED HOLE.

DRILLED PIER CONCRETE IS TO BE DIRECTED TO FREE FALL DOWN THE DRILLED SHAFT WITHOUT HITTING THE SIDES OF THE EXCAVATION OR THE REINFORCING. NO CONCRETE SHALL BE ALLOWED TO FREE FALL MORE THAN 10 FEET.

#### 3. CONCRETE

3.1. GENERAL REQUIREMENTS ALL CONCRETE SHALL BE MIXED. TRANSPORTED AND PLACED IN ACCORDANCE WITH ACI STANDARD 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI STANDARD 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE". ALL CONCRETE SHALL BE CONSTRUCTED WITHIN THE TOLERANCES SPECIFIED IN ACI STANDARD 117 "SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".

#### 3.2. MIXING REQUIREMENTS

CONCRETE MIX REQUIREMENTS						
INTENDED USE	f'c	SLUMP AT PLACEMENT	MAX w/c RATIO	MAX AGGREGATE	AIR ENTRAINMENT	
ALL CONCRETE EXCEPT AS NOTED BELOW	3000 PSI	3" TO 5"		3/4"	6 ± 1.5	
CAISSONS / DRILLED PIERS	3000 PSI	5" TO 7"		3/4"	6 ± 1.5	

NO WATER SHALL BE ADDED TO THE MIX ON SITE OR DURING TRANSPORT, UNLESS IT HAS SPECIFICALLY BEEN WITHHELD FROM THE MIX AT THE BATCH PLANT. IF WATER WAS WITHHELD, THE BATCH TICKET SHALL SPECIFICALLY INDICATE THE AMOUNT OF WATER THAT WAS WITHHELD AND THE AMOUNT OF WATER THAT IS ALLOWED TO BE ADDED BEFORE PLACEMENT. AFTER THE ADDITION OF ALL WATER, THE MAXIMUM WATER TO CEMENTITIOUS MATERIAL RATIO NOTED ABOVE IS NOT TO BE EXCEEDED.

IF CONCRETE IS TO RECEIVE A SUPERPLASTICIZING ADMIXTURE, THE SLUMP OF THE CONCRETE SHALL NOT EXCEED 4" ± 1" BEFORE ADDITION OF THE ADMIXTURE. THE SLUMP OF THE CONCRETE AFTER THE ADDITION OF THE ADMIXTURE SHALL NOT EXCEED  $8"\pm 1"$  AFTER THE ADDITION OF THE ADMIXTURE.

VARIOUS CEMENTITIOUS MATERIAL MAY BE USED IN THE CONCRETE MIXES NOTED ABOVE, BUT ARE LIMITED TO THE MAXIMUM PERCENTAGES OF TOTAL CEMENTITIOUS MATERIAL SHOWN IN THE TABLE BELOW. USE OF ALL CEMENTITIOUS MATERIALS NOTED BELOW SHALL BE VERIFIED BY THE CONTRACTOR WITH THE ARCHITECTURAL REQUIREMENTS FOR THE PROJECT.

CEMENTITIOUS MATERIAL	REQUIREMENTS	
CEMENTITIOUS MATERIAL	REFERENCED STANDARD	MAXIMUM AMOUNT
FLY ASH OR OTHER POZZOLANS	ASTM C618	25%
SLAG	ASTM C989	50%
SILICA FUME	ASTM C1240	10%
TOTAL OF FLY ASH, OTHER POZZOLANS, SLAG AND SILICA FUME		50%
TOTAL OF FLY ASH, OTHER POZZOLANS AND SILICA FUME		35%

WHERE ANY OF THE ABOVE MATERIALS ARE USED IN COMBINATION, THE INDIVIDUAL LIMITS ARE STILL APPLICABLE, IN ADDITION TO THE TOTAL LIMITS.

STRENGTH TEST RECORDS FOR EACH CONCRETE MIX USED ON THE PROJECT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318, CHAPTER 5.

#### 3.2.1. PLACEMENT REQUIREMENTS

ALL CONCRETE IS TO BE MECHANICALLY VIBRATED UPON PLACEMENT. SLABS ON GRADE NEED ONLY BE VIBRATED AT REINFORCING LOCATIONS, ANCHOR LOCATIONS, SLAB EDGES, AND KEYS. REINFORCING LOCATIONS, ANCHOR LOCATIONS, SLAB EDGES, AND KEYS. FOR CONCRETE DRILLED PIER FOUNDATIONS, ONLY THE TOP 5 FEET OF THE PIER REQUIRES MECHANICAL VIBRATION AND IT IS TO BE RE VIBRATED 15 MINUTES AFTER CONCRETE PLACEMENT.

AMBIENT AIR TEMPERATURE, CONCRETE TEMPERATURE, RELATIVE HUMIDITY, WIND SPEED AND SOLAR RADIATION ALL INFLUENCE CONCRETE'S PROPERTIES. FOR THIS REASON, THE REQUIREMENTS OF ACI 305 "HOT WEATHER CONCRETING" AND ACI 306 "COLD WEATHER CONCRETING" ARE TO BE TO FOLLOWED.

#### 4. STRUCTURAL STEEL 4.1. GENERAL REQUIREMENTS

4.1.1. REFERENCED CODES & STANDARDS

ALL STEEL SHALL BE MANUFACTURED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC 360, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.", AISC 303, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", AND AISC 341, "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS"

AND AISC 358, "PREQUALIFIED CONNECTIONS FOR SPECIAL AND INTERMEDIATE STEEL MOMENT FRAMES FOR SEISMIC APPLICATIONS".

4.1.2. APPLICABILITY OF THIS SECTION UNLESS INDICATED OTHERWISE, THE PROVISIONS OF THIS SECTION APPLY TO STEEL WITH THICKNESSES GREATER THAN OR EQUAL TO 3/16". REFER TO THE COLD FORMED STEEL SECTION OF THIS GSN FOR STEEL THINNER THAN 3/16".

# 4.1.3. MEMBER IDENTIFICATION

ALL STEEL MEMBERS SHALL BE MARKED WITH THEIR RESPECTIVE ASTM STANDARDS IN ORDER TO ESTABLISH CONFORMITY WITH THE SPECIFIED ASTM STANDARD.

# 4.1.4. MEMBER PROTECTION

ALL STEEL MEMBERS ARE TO BE PROTECTED FROM CORROSION WITH AISC APPROVED COAT OF PAINT, FNAMEL OR OTHER APPROVED PROTECTION, UNLESS NOTED OTHERWISE.

TAINT, ENAMED ON OTHER ATTROVED TROTEOTOR, ONLESS NOTED OTHERWISE.								
STEEL — MATERIAL REQUIREMENTS								
SHAPE CLASSIFICATION DESIGNATION GRADE NOTES								
W SHAPES	ASTM A992		FY= 50 KSI					
STEEL PLATE	ASTM A36		FY= 36 KSI					

4.2. STEEL — CONSTRUCTION REQUIREMENTS THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE FIELD FABRICATION, WITH

PREFERENCE GIVEN TO SHOP FABRICATION.

ALL MEMBERS ARE TO BE SET, PLUMBED AND LEVELED WITHIN THE TOLERANCES INDICATED IN THE REFERENCED STANDARDS.

DURING THE FINAL PLACING OF SOLID WEB STRUCTURAL WEB MEMBERS, THE LOAD MUST NOT BE RELEASED FROM THE HOISTING LINE UNTIL THE BEAMS IS SECURED IN PLACE WITH A MINIMUM OF TWO BOLTS PER CONNECTION, OF THE SAME SIZE AND STRENGTH AS SHOWN ON THE STRUCTURAL DRAWINGS. BOLTS SHALL BE SECURED WRENCH-TIGHT. AT CANTILEVERED BEAMS, INSTALL ALL BOLTS BEFORE RELEASING IT FROM THE HOISTING LINE.

#### 4.3. BOLTED CONNECTIONS 4.3.1. REFERENCED STANDARD

ALL BOLTS BE INSTALLED PER THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"

# 4.3.2. BOLTED CONNECTION REQUIREMENTS

.......

UNLESS NOTED OTHERWISE, BOLTED CONNECTIONS ARE TO BE PER THE TABLE BELOW.							
BOLTED CONNECTION REQUIREMENTS							
SPECIFICATION	VALUE	THREAD CONDITION	HOLE TYPE	JOINT TYPE	NOTES		
A325	1"	N	SHORT -SLOTTED	SNUG TIGHTENED			
A307	3/4"	N	SHORT -SLOTTED	SNUG TIGHTENED	ZINC FINISH		

4.4. WELDED CONNECTIONS

4.4.1. REFERENCED STANDARD ALL WELDED CONNECTIONS SHALL BE PER AWS D1.1 "STRUCTURAL WELDING CODE - STEEL",

AND AWS D1.8 "STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT".

#### 4.4.2. WELDED CONNECTION REQUIREMENTS

UNLESS NOTED OTHERWISE, WELDED CONNECTIONS ARE TO BE PER THE TABLE BELOW. LOW HYDROGEN ELECTRODES ARE TO BE USED. IF THE CONTRACTOR WISHES TO DEVIATE FROM THE REQUIREMENTS STATED BELOW, THE CONTRACTOR SHALL SUBMIT A PROCEDURAL STATEMENT TO STRUCTUROLOGY FOR REVIEW PRIOR TO FABRICATION.

WELDED CONNECTION REQUIREMENTS							
BAS	E METAL		FILLER METAL				
GROUP	STEEL SPECIFICATION	WELDING PROCESS	AWS ELECTRODE SPECIFICATION	ELECTRODE CLASSIFICATION	NOTES		
	ASTM A36<3/4"	SMAW	A5.1	E70XX			
l	ASTM ASOCS/4 ASTM A53		A5.5	E70XX-X			
'	ASTM A500	FCAW	A5.20	E70XT-X, E7XT-XM			
		1 CAW	A5.29	E70XT-X, E7XTX-XM			
	ASTM A36<3/4"	SMAW	A5.1	E7015, E7016, E7019, E7028			
II	ASTM A572-GR 50		A5.5	E70XX-X			
	ASTM A992	FCAW	A5.20	E70XT-X, E8XT-XM			
		FCAW	A5.29	E70XT-X, E7XTX-XM			

FOR FCAW AWS 5.20 ELECTRODES: ELECTRODES WITH THE -2, -2M, -3, -4, -7, -10, -11, -13, -14, G, AND -GS SUFFIXES ARE NOT TO BE USED, WHILE ELECTRODES WITH THE -11 SUFFIX IS NOT TO BE USED FOR THICKNESSES GREATER THAN 1/2".

FOR FCAW AWS 5.29 ELECTRODES: FILLER METALS OF ALLOY GROUP B3, B3L, B4, B4L, B5, B5L, B6, B6L, B7, B7L, B8, B8L, B9, OR ANY BXH GRADE ARE NOT TO BE USED.

#### 4.4.3. WELDED CONNECTION — CONSTRUCTION REQUIREMENTS

ALL WELDING IS TO BE PERFORMED BY A WELDER EXPERIENCED IN WELDING STEEL. EACH WELDER MUST DEMONSTRATE THE ABILITY TO PRODUCE WELDS USING THE PROCEDURES OF AWS D1.1 BY SUCCESSFULLY PASSING THE WELDER QUALIFICATION TESTS SHOWN IN SECTION 4, PART C OF AWS D1.1.

#### 5. COLD FORMED STEEL (CFS)

5.1. GENERAL REQUIREMENTS

5.1.1. REFERENCED STANDARDS — GENERAL ALL CFS MEMBERS ARE TO BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISI \$200, "NORTH AMERICAN SPECIFICATION FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS", AND THE AISIS100, "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"

5.1.2. APPLICABILITY OF THIS SECTION UNLESS INDICATED OTHERWISE, THE PROVISIONS OF THIS SECTION APPLY TO STEEL WITH THICKNESS IS LESS THAN 3/16". REFER TO THE STRUCTURAL STEEL SECTION OF THIS GSN FOR STEEL THICKER THAN OR EQUAL TO 3/16".

ALL CFS MEMBERS ARE TO COATED IN ACCORDANCE WITH THE OPTIONS SHOWN IN PARAGRAPH 4.3 AND TABLE 1 OF ASTM C955 AND SHALL HAVE A MINIMUM COATING PROTECTION LEVEL OF

#### 5.2. CFS CONNECTIONS — SCREWS 5.2.1. SCREW CONNECTION REQUIREMENTS

UNLESS NOTED OTHERWISE SCREW CONNECTIONS ARE TO BE PER THE TABLE BELOW SCREW OTHER THAN THOSE LISTED BELOW MAY BE USED IF APPROVED BY STRUCTUROLOGY PRIOR TO START OF CONNECTION ALTERNATE SCREWS MUST HAVE SHEAR AND TENSION STRENGTHS THAT MEET OR EXCEED THOSE LISTED IN THE TABLE

CFS CONNECTION REQUIREMENTS									
MANUFACT	ICC ES	NO	NOMINAL TENSION & SHEAR STRENGTHS OF SCREWS (LBS)						
URER	REPORT	#8-18		#10-	-16	#12	-14	1/4-	-14
		TENSION	SHEAR	TENSION	SHEAR	TENSION	SHEAR	TENSION	SHEAR
ITW BUILDEX	ESR 1976			2654	1718	3551	2171	4816	2970

5.2.2. CFS SCREWS — CONNECTION REQUIREMENTS ALL SCREWS ARE TO PROTRUDE A MINIMUM OF THREE FULL THREADS BEYOND THE CONNECTED PARTS UNLESS NOTED OTHERWISE WHERE THE CONNECTED PART ARE DIFFERENT THICKNESS MEMBER IN OTHER THE SCREW IS TO FIRST PENETRATE THE THINNER MEMBER THEN PENETRATE THE THINKER MEMBER IN OTHER WORD WORDS THE SCREW HEAD IS TO BE IN CONTACT WITH THE THINNER MEMBER UNLESS NOTED OTHERWISE

5.2.3. CFS SCREWS - MINIMUM DIMENSIONAL REQUIREMENTS FOR CONNECTIONS WHERE MULTIPLE FASTENERS ARE USED SCREWS SHALL TO HAVE A CENTER TO CENTER SPACING 3 TIMES THE NOMINAL SCREW DIAMETER SCREWS SHALL HAVE A CENTER OF CENTER TO EDGE OF STEEL DIMENSION OF AT LEAST 1.5 TIMES THE NOMINAL SCREW DIAMETER

# 5.3. CFS CONNECTIONS BOLTS

BOLTED CONNECTIONS REQUIREMENTS UNLESS NOTED OTHERWISE BOLTED CONNECTIONS IN CFS ARE TO BE PER THE TABLE BELOW ALL BOLTS ARE TO BE TIGHTENED SUNG-TIGHT, WHICH IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH THE FULL EFFORT OF A WORKER WITH AN ORDINARY SPUD WRENCH THAT BRINGS THE CONNECTED PLIES INTO FIRM CONTACT.

CFS BOLT CONNECTION REQUIREMENTS							
ASTM SPECIFICATI ON	BOLT DIAMETER	STANDARD HOLE DIAMETER	MINIMUM BOLT SPACING	MINIMUM BOLT EDGE SPACING	NOTES		
A307	1/2"	9/16"	1 1/2"	3/4"	ZINC FINISH		
F593	1/4"	9/32"	3/4"	3/8"	ZINC FINISH		
					•		

# 6. SPECIAL STRUCTURAL INSPECTION (SSI)

6.1. GENERAL REQUIREMENTS

THE CONTRACTOR IS ENCOURAGED TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH ALL SUBCONTRACTORS, AND 3RD PARTY TO REVIEW THE SSI REQUIREMENTS AND PROCEDURES FOR THIS PROJECT.

ALL SPECIAL INSPECTIONS ARE TO BE COMPLETED UNDER THE SUPERVISION OF A REGISTERED STRUCTURAL ENGINEER WITHIN THE STATE OF NEW MEXICO. AS A MINIMUM, ALL SPECIAL STRUCTURAL INSPECTORS SHALL BE EITHER ICC CERTIFIED IN THE AREA OF THE INSPECTION, OR SHALL HAVE AN EIT CERTIFICATION WITHIN THE STATE OF NEW MEXICO. THE QUALIFICATIONS FOR THE SPECIAL INSPECTORS SHALL BE REVIEWED AND APPROVED BY 3RD PARTY PRIOR TO CONSTRUCTION.

SPECIAL STRUCTURAL INSPECTIONS DO NOT TAKE THE PLACE OF ANY OTHER INSPECTIONS REQUIRED BY THE AHJ, AND/OR BY CHAPTER 1 OF THE 2015 IBC.

# 6.2. REQUIREMENTS OF THE SPECIAL STRUCTURAL INSPECTOR

THE SPECIAL STRUCTURAL INSPECTOR SHALL OBSERVE ALL WORK REQUIRING SSI FOR COMPLIANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR SHALL FURNISH REPORTS FOR EACH INSPECTION TO THE CONTRACTOR, ARCHITECT, OWNER. AND AHJ. ALL REPORTS SHALL BE SUBMITTED NO MORE THAN 24 HOURS AFTER THE INSPECTION. 3RD PARTY SHALL BE IMMEDIATELY NOTIFIED OF ALL DISCREPANCIES AND DEVIATIONS FOUND DURING THE INSPECTION.

6.3. ITEMS AND MATERIALS REQUIRING SPECIAL STRUCTURAL INSPECTION ALL SPECIAL STRUCTURAL INSPECTION IS TO BE PREFORMED IN ACCORDANCE WITH THE PROVISIONS OF IBC, CHAPTER 17, AND THE REQUIREMENTS OF THE AHJ. THE FOLLOWING ITEMS AND MATERIALS REQUIRE SPECIAL STRUCTURAL INSPECTION.

THE FREQUENCY OF THE SPECIAL STRUCTURAL INSPECTIONS ARE CLASSIFIED AS EITHER CONTINUOUS OR PERIODIC. CONTINUOUS INSPECTIONS REQUIRE THE FULL-TIME OBSERVATION OF WORK, WHILE PERIODIC INSPECTIONS REQUIRE PART-TIME, OR INTERMITTENT OBSERVATION OF WORK. TO FURTHER CLARIFY PERIODIC, A PERCENTAGE IS SHOWN NEXT TO EACH INSPECTION ITEM. THIS PERCENTAGE REPRESENTS THE REQUIRED PERCENTAGE OF THE WORK THAT NEEDS TO BE OBSERVED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THIS MINIMUM PERCENTAGE IS MET OR EXCEEDED.

ONLY ITEMS REQUIRING SPECIAL STRUCTURAL INSPECTION HAVE BEEN LISTED HEREIN. OTHER INSPECTIONS, INCLUDING, BUT NOT LIMITED TO, GEOTECHNICAL INSPECTIONS, FIRE RELATED INSPECTIONS, MECHANICAL, PLUMBING, AND ELECTRICAL INSPECTIONS ARE TO BE PREFORMED

DI UITEKS.						
CAST-IN-PLACE DEEP FOUNDATIONS (IBC 1705.8)						
FIRM	VERIFICATION AND INSPECTIONS	FREQUENCY	NOTES			
3RD PARTY	OBSERVE DRILLING OPERATIONS	100%				
3RD PARTY	INSTALLATIONS REQUIREMENTS	100%	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, LENGTHS, EMBEDMENT AND ADEQUATE END BEARING CAPACITY.  RECORD CONCRETE OR GROUT VOLUMES.			

### 7. STRUCTURAL OBSERVATIONS

7.1. GENERAL REQUIREMENTS

STRUCTURAL OBSERVATIONS ARE TO BE PROVIDED ON THE ITEMS LISTED IN THE TABLE BELOW. STRUCTURAL OBSERVATIONS ARE TO BE SCHEDULED A MINIMUM OF 48 HOURS IN ADVANCE.

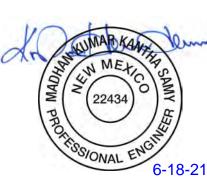
WRITTEN REPORTS WILL BE SUBMITTED TO THE CONTRACTOR THAT IDENTIFY ANY DEFICIENCIES FOUND FROM EACH OBSERVATION. THE CONTRACTOR SHALL THEN ADDRESS THE DEFICIENCIES AS SOON AS PRACTICAL AND CALL FOR A FOLLOW UP OBSERVATION. ALL ITEMS NOTED AS DEFICIENT ARE TO BE ADDRESSED PRIOR TO COMPLETION OF CONSTRUCTION.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE THE OBSERVATIONS IN ACCORDANCE WITH THE TABLE BELOW. THE CONTRACTOR IS ENCOURAGED TO HAVE A PRE-CONSTRUCTION MEETING WITH THE STRUCTURAL OBSERVER TO REVIEW ALL STRUCTURAL OBSERVATION REQUIREMENTS AND TIMING OF VISITS.

AT THE CONCLUSION OF THE WORK INCLUDED IN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE STRUCTURAL ENGINEER OF RECORD A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE

## STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

ITEMS REQUIRING STRUCTURAL OBSERVATION							
ITEM	FREQUENCY	NAME OF STRUCTURAL OBSERVATION	NOTES				
FOOTING	50%	3RD PARTY	_				



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