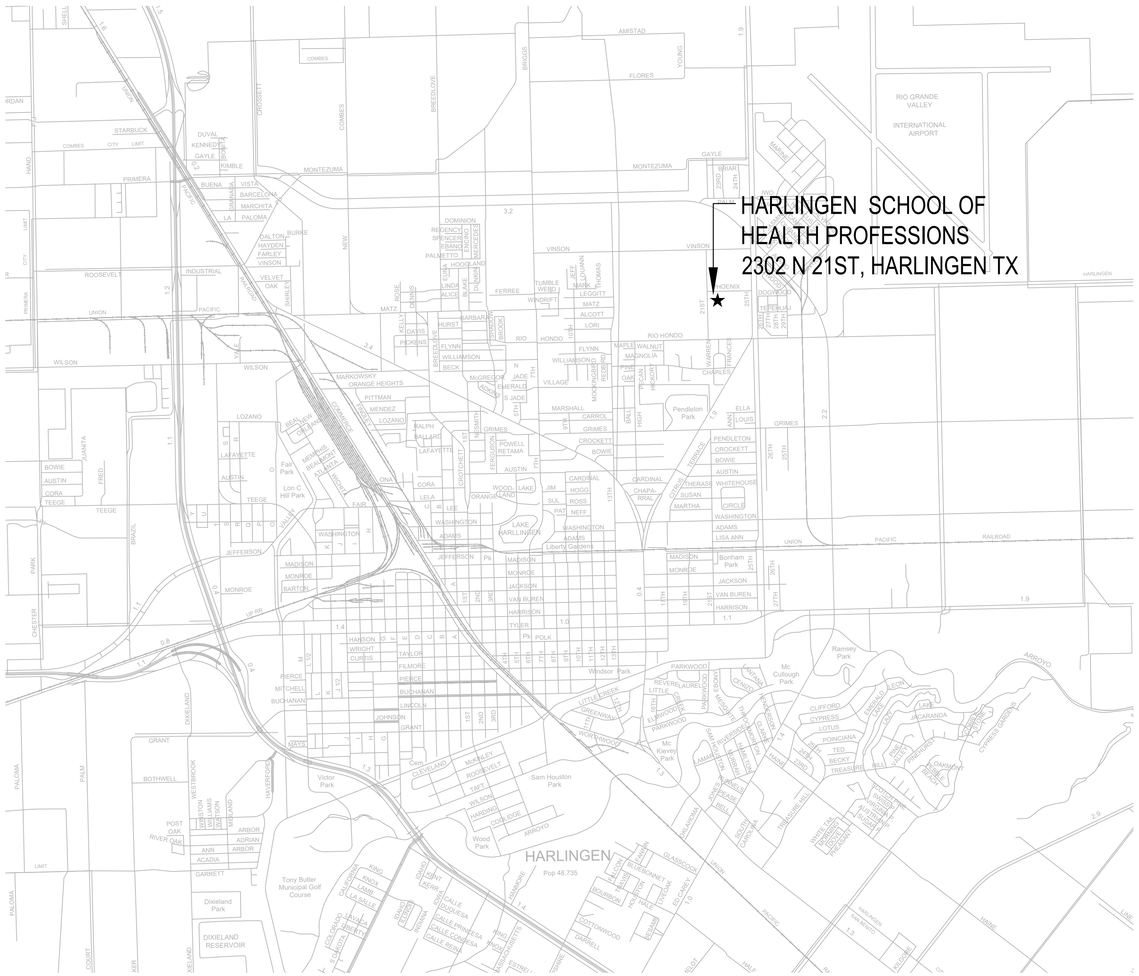
HARLINGEN C.I.S.D.

2018 HARLINGEN SCHOOL OF HEALTH PROFESSIONS

NEW WALK-IN COOLER AND FREEZER

HARLINGEN, TEXAS

VICINITY MAP



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PROJECT NARRATIVE

A. SCOPE OF WORK: PROVIDE ALL MATERIALS AND LABOR ASSOCIATED WITH COMPLETE OPERATIONAL SYSTEMS. MAJOR ITEMS OF WORK INCLUDE, BUT ARE NOT LIMITED TO:

1. PROVIDE WALK-IN COOLER/FREEZER AS PER DRAWINGS AND SPECIFICATIONS.
2. PROVIDE FOUNDATION, CONCRETE SLAB AND CANOPY AS PER STRUCTURAL DRAWINGS.
3. PROVIDE ELECTRICAL POWER SUPPLY AND RELATED SYSTEMS FOR THE WALK-IN COOLER/FREEZER AS PER ELECTRICAL DRAWINGS.
4. PROVIDE CONDENSATE COLLECTION SYSTEM FOR THE WALK-IN COOLER/FREEZER AS PER PLUMBING DRAWINGS.
5. PROVIDE WINDSTORM CERTIFICATION FOR EXTERIOR WORK INSTALLED ON GRADE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING WIND STORM CERTIFICATION INSPECTIONS AND CERTIFICATIONS FOR ROOFTOP EQUIPMENT. CONTRACTOR MUST NOTIFY INSPECTOR PRIOR TO INSTALLING EQUIPMENT, AND APPRISE INSPECTOR OF WORK SCHEDULING INVOLVING EQUIPMENT REQUIRING WIND INSPECTION / CERTIFICATION, SO THAT INSPECTIONS MAY BE CARRIED OUT AT REQUIRED STAGE(S) OF CONSTRUCTION. COST FOR INSPECTION SHALL BE BORNE BY THE CONTRACTOR. INSPECTOR SHALL BE CERTIFIED BY THE TEXAS DEPARTMENT OF INSURANCE (SEE WWW.IDI-STATE-TX.US FOR A LIST OF CERTIFIED INSPECTORS).
6. ALLOWANCES: THE OWNER HAS SET ASIDE ALLOWANCES FOR UNFORESEEN CIRCUMSTANCES. SEE SECTION 012100.

DATE OF ISSUE

SEPTEMBER 19, 2018

LIST OF DRAWINGS

NO:	REVISION:	BY:

COPY NO:

STATE OF TEXAS
CESAR A. GONZALEZ
108611
LICENSED
PROFESSIONAL ENGINEER
9.19.2018

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2018 HARLINGEN SCHOOL OF HEALTH PROFESSIONS
NEW WALK-IN COOLER AND FREEZER
HARLINGEN TEXAS

ethos engineering
119 W. VAN BUREN AVE. STE.101
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED
ENGINEERING FIRM
F-15998

DATE: SEPTEMBER 19, 2018
CHECKED BY: R.K./C.A.G.
DRAWN BY: ETHOS
PROJECT NO.: 17V51
CAD FILE: -
SHEET: COVER

M.E.P. SITE PLAN

1/8" = 1'-0"

1

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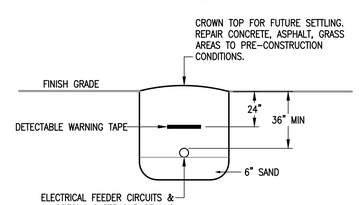


BURIAL DETAIL FOR ELECTRICAL RACEWAYS

02

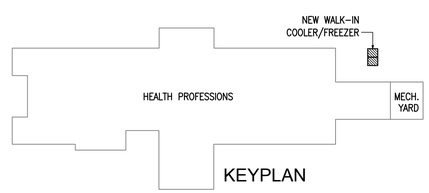
SCALE :NONE

GENERAL NOTES:

1. COORDINATE WORK AMONG ALL DISCIPLINES. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR.
2. FIELD VERIFY PROJECT SITE EXISTING CONDITIONS AND ELEVATIONS PRIOR TO BEGINNING ANY WORK.
3. COORDINATE ELECTRICAL AND PLUMBING WITH GENERAL CONSTRUCTION.
4. PHASING AND SEQUENCE OF CONSTRUCTION SHALL BE PER ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
5. FIELD VERIFY/SPOT EXACT LOCATIONS AND EXISTING CONDITIONS OF EXISTING PLUMBING, AND ELECTRICAL. IT IS THE INTENT OF THESE PLANS TO PROVIDE A COMPLETE AND WORKABLE SYSTEMS. SHOULD BIDDER FIND OMISSIONS OR DISCREPANCIES IN THE PLANS, BIDDER SHALL NOTIFY THE ENGINEER PRIOR TO THE BID DATE AND A WRITTEN CLARIFICATION WILL BE ISSUED.
6. DAMAGED ITEMS SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER. CONTRACTORS ARE REQUIRED TO SEARCH AND INVESTIGATE FOR EXISTING UTILITIES BEFORE EXCAVATING.
7. ALL MATERIALS AND LABOR, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR. INCLUDE ALL COSTS OF CHANGES, IF/AS REQUIRED IN BID PROPOSAL.
8. PROVIDE J-BOXES (POLYMER CONCRETE) AS REQUIRED FOR PULL WIRING.
9. ELECTRICAL WIRING SHALL NOT BE SPLICED BELOW GRADE.
10. PERFORM ALL WORK PER LATEST VERSION OF NATIONAL ELECTRICAL CODE, AND APPLICABLE LOCAL CODES AND ORDINANCES, UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS.
11. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
12. CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
13. NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
14. COORDINATE ALL WORK WITH OTHER TRADES; COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
15. SEAL AROUND ELECTRICAL RACEWAYS AT ALL WALLS, A/C ROOMS AND WALL LOUVER PENETRATIONS WITH FIREPROOF CAULKING. RE: SPECS. PROVIDE FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE, TO PROVIDE FINISHED LOOK.
16. TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE UTILITY CONFLICTS THAT CAN BE REASONABLY RESOLVED BY COORDINATION DURING SHOP DRAWING PHASE.
17. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND ELECTRICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
18. MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT.
19. AFFIX ID TAGS TO ALL DIVISION 26 EQUIPMENT.
20. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH MECHANICAL AND PLUMBING CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
21. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
22. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY THEIR CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
23. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
24. WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
25. SLEEVE ALL EXTERIOR WALL PENETRATIONS.
26. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.

KEYED NOTES:

1. APPROXIMATE LOCATION OF EXISTING SQUARE "D", NQ, 225A, 120/208V, 3Ø, 4W, 10KAIC, PANEL "K2". REMOVE EXISTING 6-20A/1P SPARE BREAKERS AND RETURN TO OWNER. PROVIDE NEW 2-20A/3P BREAKERS TO CONNECT EACH NEW FREEZER AND COOLER CONDENSERS.
2. PROVIDE ABOVE ACCESSIBLE CEILING SPACE.
3. DROP DOWN ALONG EXTERIOR WALL.
4. SAW CUT UNDER EXISTING CONCRETE SIDEWALK.
5. RACEWAYS SHALL RISE ALONG COOLER/FREEZER EXTERIOR WALL UP TO ROOF.



KEYPLAN

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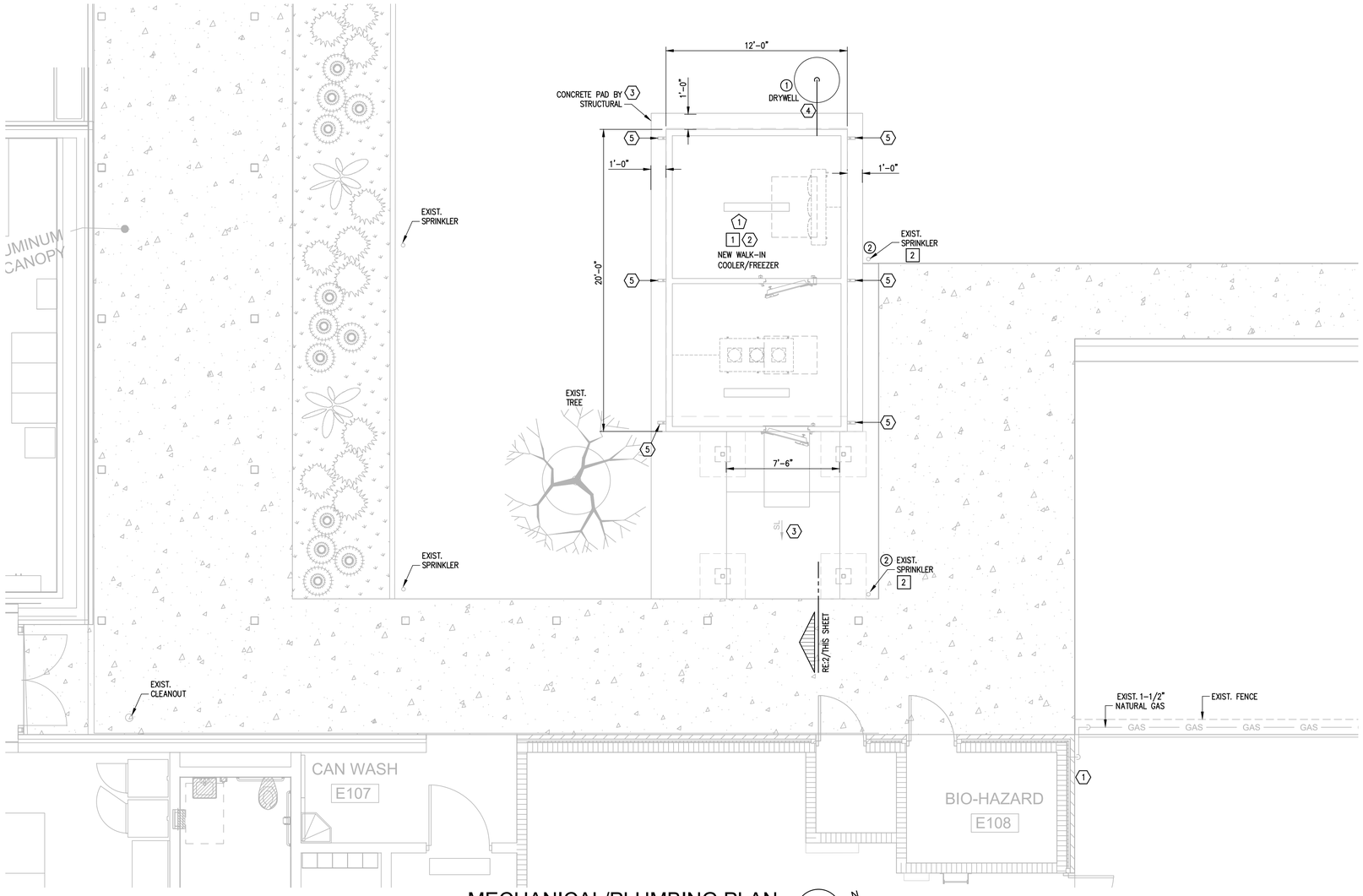
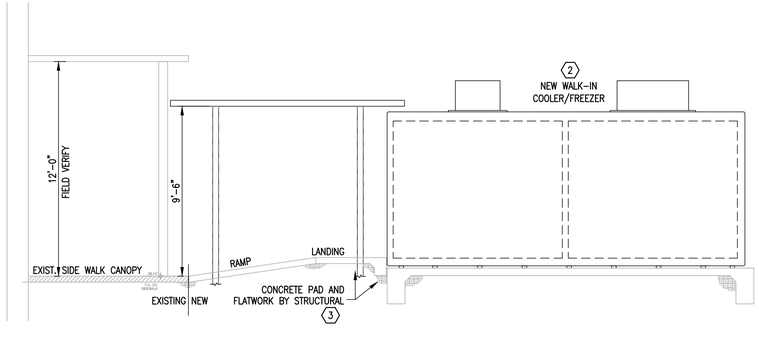


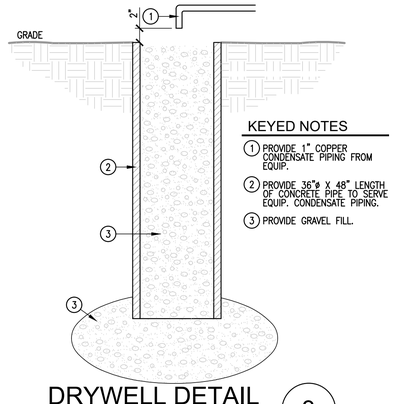
MECHANICAL/PLUMBING PLAN 1

1/4" = 1'-0"



MECHANICAL ELEVATION 2

1/4" = 1'-0"



DRYWELL DETAIL 3

NOT TO SCALE

EQUIPMENT:

1. EQUIPMENT INSPECTION:
   a. FIELD VERIFY ALL CONDITIONS AND MEASURE DIMENSIONS WITHIN THE BUILDING PRIOR TO ORDERING EQUIPMENT AND/OR PROCEEDING WITH INSTALLATION.
   b. ALL EQUIPMENT SHALL BE FACTORY TESTED, AND CONTRACTOR SHALL VERIFY EQUIPMENT CONDITION PRIOR TO INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR EQUIPMENT DAMAGED DURING MOVING AND INSTALLATION.
   c. EQUIPMENT FOUND DEFECTIVE PRIOR TO FINAL ACCEPTANCE SHALL BE REPLACED AT NO COST TO OWNER.
2. EQUIPMENT ACCESS:
   a. PROVIDE MANUFACTURER RECOMMENDED AND CODE ENFORCED CLEARANCES AROUND EQUIPMENT.
3. EQUIPMENT INSTALLATION:
   a. AFFIX ID TAGS TO ALL MECHANICAL EQUIPMENT PER SPECIFICATIONS.
5. PLUMBING:
   a. COORDINATE LOCATIONS WITH PLUMBING CONTRACTOR.
6. ELECTRICAL:
   a. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ELECTRICAL CONTRACTOR REGARDING EQUIPMENT SIZES AND TYPES OF ELECTRICAL INTERFACE EQUIPMENT REQUIRED.
   b. DUE TO VARIATIONS IN EQUIPMENT CHARACTERISTICS BY DIFFERENT EQUIPMENT SUPPLIERS, MECHANICAL EQUIPMENT ULTIMATELY PROVIDED MAY DIFFER IN HORSEPOWER OR AMPERAGE REQUIREMENTS FROM THAT SPECIFIED IN THESE DRAWINGS. COORDINATE WITH GENERAL CONTRACTOR PRIOR TO BIDDING, AND PRIOR TO SUBMITTALS AND ORDERING EQUIPMENT, TO ENSURE THAT EQUIPMENT ELECTRICAL REQUIREMENTS ARE CONVEYED TO ELECTRICAL CONTRACTOR. IT IS SOLELY CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPATIBILITY ISSUES ARE COORDINATED.

CODES & ORDINANCES:

1. GENERAL:
   a. UNLESS DRAWINGS OR SPECIFICATIONS HAVE MORE STRINGENT REQUIREMENTS, PERFORM ALL WORK PER APPLICABLE VERSION OF INTERNATIONAL BUILDING CODES, AND LOCAL CODES AND ORDINANCES.
   b. PRIOR TO SUBMITTING PROPOSAL, NOTIFY ENGINEER OF ANY ASPECTS OF DESIGN WHICH ARE THOUGHT TO BE IN NONCOMPLIANCE WITH APPLICABLE CODES.
2. WIND STORM CERTIFICATION:
   a. CONTRACTOR SHALL DESIGN, CONSTRUCT AND INSTALL EXTERIOR AND ROOF MOUNTED EQUIPMENT TO MEET GOVERNING BUILDING CODES.
3. PERMITS:
   a. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH PROJECT, INCLUDING FEES FOR INSPECTIONS, APPLICATIONS, AND PROVISION OF NEW SERVICES.
   b. CONTRACTOR WHO WILL ACTUALLY PERFORM WORK MUST APPLY FOR ALL REQUIRED PERMITS.
4. APPROVALS AND INSPECTIONS:
   a. OBTAIN APPROVAL FROM CITY FIRE DEPARTMENT AND BUILDING AND SAFETY DEPARTMENT PRIOR TO INSTALLATION OF ANY FIRE RELATED ITEMS.
   b. COORDINATE PRESSURE TESTS, INSPECTIONS AND APPROVAL FOR ALL SYSTEMS WITH PERMITTING OFFICER, OWNER AND ENGINEER.
   c. PROVIDE WINDSTORM CERTIFICATION FOR EXTERIOR WORK INSTALLED ON GRADE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING WIND STORM CERTIFICATION INSPECTIONS AND CERTIFICATIONS FOR ROOFTOP EQUIPMENT. CONTRACTOR MUST NOTIFY INSPECTOR PRIOR TO INSTALLING EQUIPMENT, AND APPRISE INSPECTOR OF WORK SCHEDULING INVOLVING EQUIPMENT REQUIRING WIND INSPECTION/CERTIFICATION, SO THAT INSPECTIONS MAY BE CARRIED OUT AT REQUIRED STAGE(S) OF CONSTRUCTION. COST FOR INSPECTION SHALL BE BORNE BY THE CONTRACTOR. INSPECTOR SHALL BE CERTIFIED BY THE TEXAS DEPARTMENT OF INSURANCE (SEE WWW.TDI.STATE.TX.US FOR A LIST OF CERTIFIED INSPECTORS).

COORDINATION:

1. GENERAL:
   a. CONTRACTOR SHALL REVIEW COMPLETE DOCUMENTS PRIOR TO SUBMITTAL OF PROPOSAL TO GAIN COMPLETE UNDERSTANDING OF PROJECT SCOPE, WORK BY OTHERS, AND MECHANICAL WORK ASSOCIATED WITH OTHER DISCIPLINES.
   b. IT IS NOT THE INTENT OF THESE DOCUMENTS TO DICTATE WHO MUST DO THE WORK. ALL WORK SHOWN IS THE RESPONSIBILITY OF THE (PRIME) CONTRACTOR. COORDINATE MECHANICAL WITH OTHER TRADES SUCH AS PLUMBING, ELECTRICAL AND STRUCTURAL WORK. COORDINATE SCHEDULE OF WORK WITH ALL SUB-CONTRACTORS TO ACHIEVE SMOOTH FLOW OF CONSTRUCTION.
   c. TIME OR MONEY ALLOWANCES WILL NOT BE MADE TO ACCOMMODATE UTILITY CONFLICTS THAT CAN BE REASONABLY RESOLVED BY COORDINATION DURING SHOP DRAWING STAGE.
   d. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S APPROVAL IN WRITING. UNLESS ENGINEER HAS AGREED TO SUCH CHANGE PRIOR TO IT BEING DONE, AND HAS AGREED THAT AN INCREASE IN COST ASSOCIATED WITH SUCH CHANGE IS WARRANTED; CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
   e. WORK TO BE DONE UNDER ALLOWANCES BECOMES AN INTEGRAL PART OF THE PROJECT AND RESPONSIBILITY OF CONTRACTOR ONCE ALLOWANCE IS APPROVED.
2. SITE:
   a. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SITE CONDITIONS IN ORDER TO MAKE ANY NECESSARY ADJUSTMENTS, PRIOR TO ORDERING MATERIALS OR COMMENCING INSTALLATION. CHANGE ORDERS WILL NOT BE APPROVED FOR DIMENSIONAL VERIFICATIONS REQUIRING MINOR ADJUSTMENTS NEEDED TO COMPLETE INSTALLATION.
3. STRUCTURAL:
   a. REFER TO STRUCTURAL PLANS FOR DETAILS OF CONSTRUCTION, INCLUDING BEAMS, FLOOR AND WALL PENETRATIONS. VERIFY OPENING SIZES WITH EQUIPMENT FURNISHED.
   b. WHERE EXPRESSLY PERMITTED BY THE STRUCTURAL ENGINEER, GRADE BEAM PENETRATIONS SHALL BE MADE WITHIN MIDDLE 1/3 OF VERTICAL SPAN OF BEAM. SLEEVE ALL EXTERIOR WALL AND GRADE BEAM PENETRATIONS.

MECHANICAL KEYED NOTES:

1. CODE AND WORKING CLEARANCE FOR ELECTRICAL PANELS. DO NOT ROUTE DUCT OR PIPING DIRECTLY ABOVE ELECTRICAL EQUIPMENT FOOTPRINT. SEE ELECTRICAL PLANS FOR EXACT LOCATION. (TYP.)
2. PROVIDE NEW WALK-IN COOLER/FREEZER OUTDOORS AS PER SPECIFICATIONS. INSTALL ON NEW CONCRETE PAD BY STRUCTURAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
3. CONCRETE SLAB, RAMP, AND CANOPY BY STRUCTURAL. REFER TO STRUCTURAL PLANS.
4. SLEEVE ALL WALL PENETRATIONS PER SPECIFICATIONS. SEAL AROUND PIPING AT ALL WALLS WITH FIRE-PROOF CAULKING. PROVIDE ESCUTCHEON PLATES AND FLASHING AROUND PENETRATION, BOTH INSIDE AND OUTSIDE TO PROVIDE A FINISHED LOOK. (TYP.)
5. ANCHOR THE WALK-IN COOLER/FREEZER STRUCTURE TO THE CONCRETE SLAB USING THE SYSTEM (STEEL FRAMING, STEEL PLATES, STEEL TUBING, BOLTS, ETC.) PROVIDED BY THE EQUIPMENT MANUFACTURER. INSTALL AS PER MANUFACTURER'S INSTRUCTIONS. ANCHORING POINTS SHALL BE PROVIDED ON THE LONG SIDES ONLY TO AVOID CONFLICT WITH THE FOUNDATION, RAMP, LANDING AND DOOR OF THE WALK-IN COOLER/FREEZER. COORDINATE WITH EQUIPMENT MANUFACTURER.

PLUMBING KEYED NOTES:

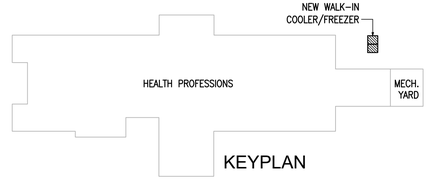
1. PROVIDE DRYWELL TO SERVE CONDENSATE FROM WALK-IN COOLER AND FREEZER EVAPORATORS. ROUTE COPPER CONDENSATE LINE TO DRYWELL. SEE ASSOCIATED DETAIL ON DETAIL SHEET.
2. COORDINATE EXCAVATION WITH EXISTING SPRINKLER SYSTEM.

IRRIGATION SYSTEM KEYED NOTES:

1. CONTRACTOR SHALL MODIFY THE EXISTING IRRIGATION PIPING SYSTEM LOCATED WITHIN THE FOOTPRINT OF THE NEW WALK-IN COOLER FREEZER AS NECESSARY TO ACCOMMODATE THE NEW FOUNDATION AND TO KEEP IRRIGATION SYSTEM OPERATIONAL.
2. CAP EXISTING IRRIGATION SPRINKLER AND ABANDON PIPING IN PLACE.

LANDSCAPING KEYED NOTES:

1. PROVIDE AND INSTALL ONE PALLET OF NEW GRASS (MATCH EXISTING) TO RE-VEGETATE THE AREA AROUND THE FOUNDATION FOOTPRINT.



KEYPLAN

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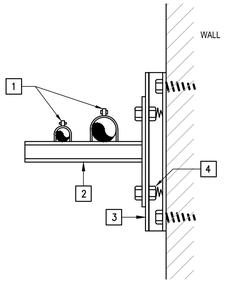
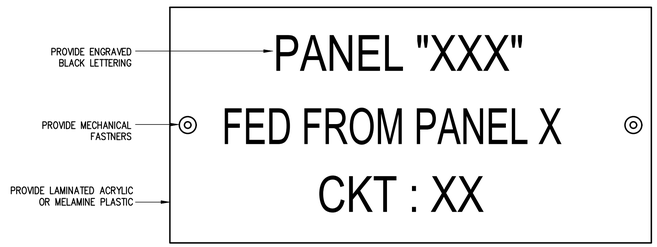


KEYED NOTES:

1. PROVIDE CONDUIT CLAMPS.
2. PROVIDE GALVANIZED UNISTRUT WALL BRACKET.
3. PROVIDE RAMSET OR BOLT GALVANIZED UNISTRUT TO WALL.
4. PROVIDE SELF HOLDING CLAMPING NUT WITH SPRING.

05 RACEWAY RUNS SUPPORT DETAIL

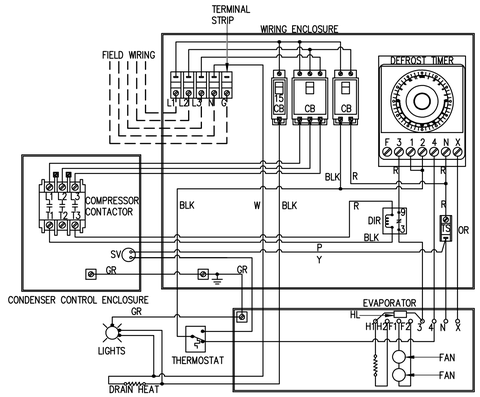
SCALE : NOT TO SCALE



NOTE: ATTACH NAMEPLATES TO ALL ELECTRICAL GEAR AS NOTED ON SECTION 260553.

06 EQUIPMENT IDENTIFICATION LABEL DETAIL

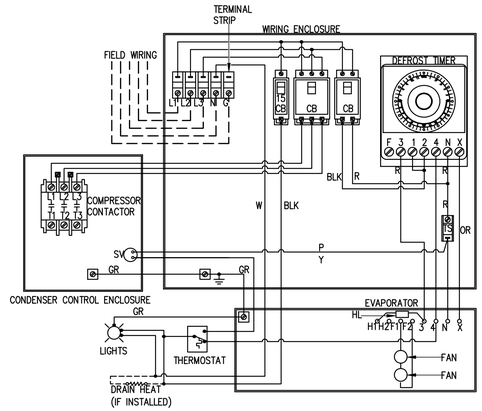
SCALE : NOT TO SCALE



BLK – BLACK	LIGHTS	CB – CIRCUIT BREAKER	
BLU – BLUE	OR – ORANGE	HL – HIGH LIMIT SWITCH	
BR – BROWN	P – PURPLE	SV – LIQUID LINE SOLENOID VALVE	ALL WIRE TO BE #14
GR – GREEN	R – RED	DIR – DEFROST INTERLOCK RELAY	EXCEPT WHERE NOTED
G – GROUND	W – WHITE	TS – TERMINAL SWITCH	
N – NEUTRAL	Y – YELLOW		

03 FREEZER TYPICAL WIRING DIAGRAM

SCALE : NOT TO SCALE



BLK – BLACK	LIGHTS	CB – CIRCUIT BREAKER	
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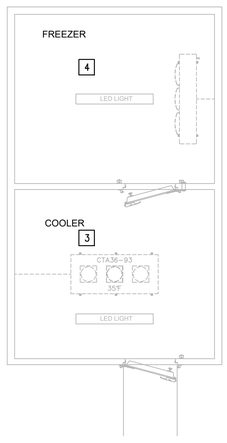
GR – GREEN	R – RED	DIR – DEFROST INTERLOCK RELAY	EXCEPT WHERE NOTED
G – GROUND	W – WHITE	TS – TERMINAL SWITCH	
N – NEUTRAL	Y – YELLOW		

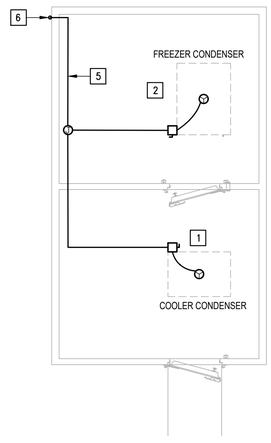
04 COOLER TYPICAL WIRING DIAGRAM

SCALE : NOT TO SCALE



KEYED NOTES:

1. CONNECT COOLER CONDENSER. SEE EQUIPMENT CONNECTION SCHEDULE.
2. CONNECT FREEZER CONDENSER. SEE EQUIPMENT CONNECTION SCHEDULE.
3. COOLER EVAPORATOR, LIGHTS AND HEAT DRAIN ARE FACTORY PRE-WIRED.
4. FREEZER EVAPORATOR, LIGHTS AND HEAT DRAIN ARE FACTORY PRE-WIRED.
5. PROVIDE RACEWAYS ON ROOF. PROVIDE A 1" RACEWAY HOMERUN BACK TO PANELBOARD.
6. RACEWAYS FROM BELOW.



NEW WALK-IN COOLER / FREEZER ELECTRICAL FLOOR PLAN 1

1/4" = 1'-0"

NEW WALK-IN COOLER / FREEZER ELECTRICAL ROOF PLAN 2

1/4" = 1'-0"

GENERAL NOTES:

1. VERIFY ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER.

GENERAL SYMBOL LEGEND:

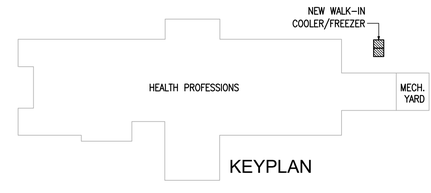
SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
	DISCONNECT SWITCH – NON FUSED	AS REQUIRED
	EQUIPMENT CONNECTION	AS REQUIRED
— — —	UNDERGROUND RACEWAY	AS REQUIRED
———	CONCEALED RACEWAY	AS REQUIRED

EQUIPMENT CONNECTION SCHEDULE:

ITEM DESCRIPTION	LOAD	VOLTAGE	CONNECTION REQUIRED	BRANCH CIRCUIT
WALK-IN REFRIGERATOR EVAPORATOR	–	208V/3PH/60HZ	FACTORY PRE-WIRED.	INTEGRAL
WALK-IN REFRIGERATOR CONDENSER	10.4A	208V/3PH/60HZ	PROVIDE A 30A, 3PNF, 240V, NEMA 3R DISCONNECT. COORDINATE DISCONNECT LOCATION WITH EQUIPMENT MANUFACTURER TO ENSURE NOT TO OBSTRUCT ACCESSIBLE PANELS.	3/4" – 3#10 & #12G
WALK-IN FREEZER EVAPORATOR	–A	208V/3PH/60HZ	FACTORY PRE-WIRED.	INTEGRAL
WALK-IN FREEZER CONDENSER	17.4A	208V/3PH/60HZ	PROVIDE A 30A, 3PNF, 240V, NEMA 3R DISCONNECT. COORDINATE DISCONNECT LOCATION WITH EQUIPMENT MANUFACTURER TO ENSURE NOT TO OBSTRUCT ACCESSIBLE PANELS.	3/4" – 3#10 & #10G

ABBREVIATIONS:

A	AMPS	DISC.	DISCONNECT	N/A	NOT APPLICABLE
ABC	ABOVE CEILING LINE	EXIST./EX	EXISTING	NIC	NOT IN CONTRACT
ACCU	AIR COOLED CONDENSING UNIT	EXT.	EXTERNAL OR EXTERIOR	NTS	NOT TO SCALE
AFF	ABOVE FINISHED FLOOR	G.	GROUND	P	POLE(S)
B.	BOTTOM	GA.	GAGE	RM.	ROOM
BLC.	BELOW CEILING LINE	GALV.	GALVANIZED	SS	STAINLESS STEEL
C.	CONDUIT OR COMMON	GRND.	GROUND	TYP.	TYPICAL
CLG.	CEILING	HP	HORSEPOWER	UG	UNDERGROUND
COMB.	COMBINATION	HVAC	HEATING, VENTILATION, & AIR CONDITIONING	UNO	UNLESS OTHERWISE NOTED
COND.	CONDUIT			V	VOLTS
CU.	COPPER	MECH	MECHANICAL	W	WIRE



NO:	REVISION:	BY:

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STATE OF TEXAS
RAY PEYNADO
125390
LICENSED
PROFESSIONAL ENGINEER
9.19.2018

HARLINGEN C.I.S.D.
2018 HARLINGEN SCHOOL OF HEALTH PROFESSIONS
NEW WALK-IN COOLER AND FREEZER
HARLINGEN TEXAS

ethos engineering
119 W. VAN BUREN AVE. STE.101
HARLINGEN, TX
PHONE: 956-230-3435
TEXAS REGISTERED
ENGINEERING FIRM
F-15998

DATE: SEPTEMBER 19, 2018
CHECKED BY: R.K./C.A.G.
DRAWN BY: ETHOS
PROJECT NO.: 17V51
CAD FILE: -
SHEET: E2.1

GENERAL STRUCTURAL NOTES

THESE GENERAL NOTES SHALL APPLY UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS OR DETAILS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SHALL COORDINATE ALL STRUCTURAL PLANS AND DETAILS WITH ARCHITECTURAL & MECHANICAL DRAWINGS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR CONTRACTOR MEANS AND METHODS OF CONSTRUCTION OR SITE SAFETY. DESIGN, CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE CONTROLLING PROVISIONS OF THE 2012 EDITION OF THE **INTERNATIONAL BUILDING CODE (IBC).**

DESIGN CRITERIA

1. BASIS FOR DESIGN AND CODE COMPLIANCE

   A. GOVERNING BUILDING CODE.....IBC 2012 EDITION

2. WIND DESIGN BASED ON THE GREATER OF:

   A. ASCE 7-10 REQUIREMENTS
   - ULTIMATE DESIGN WIND SPEED.....141 MPH (Vasd=110 MPH)
   - RISK CATEGORY.....II
   - WIND EXPOSURE CATEGORY.....C
   - INTERNAL PRESSURE COEFFICIENT (GCpi).....+/-0.00
   - Kzt.....1.0
   - Kd.....0.85

   B. ASCE 7-05 REQUIREMENTS
   - DESIGN WIND SPEED.....110 MPH
   - IMPORTANCE FACTOR.....1.0
   - WIND EXPOSURE CATEGORY.....C
   - INTERNAL PRESSURE COEFFICIENT (GCpi).....+/-0.00
   - Kzt.....1.0
   - Kd.....0.85

3. GRAVITY DESIGN
   A. ROOF:
   - DEAD LOAD.....SELF-WEIGHT OF STRUCTURE & ROOFING SYSTEM
   - COLLATERAL LOAD.....5 PSF
   - LIVE LOAD.....20 PSF (REDUCIBLE)

4. THESE STRUCTURES ARE DESIGNED TO MEET ASCE 7-05 & ASCE 7-10 WIND PRESSURES. ALL COMPONENTS AND CLADDINGS (E.G. METAL ROOF PANELS); MUST MEET MINIMUM WIND CODE REQUIREMENTS.

FOUNDATION DESIGN CRITERIA

1. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, AND IS BASED ON THE VALUES RECOMMENDED IN TABLE 1806.2-PRESUMPTIVE LOAD-BEARING VALUES, AS LISTED BELOW:

   VERTICAL FOUNDATION PRESSURE ..... 1,500 PSF

   LATERAL BEARING PRESSURE ..... 100 PSF / FT BELOW GRADE

   POTENTIAL VERTICAL RISE (PVR)..... 1.0 INCH

2. A GEOTECHNICAL ENGINEER OF RECORD SHALL BE RETAINED TO VERIFY THE ASSUMED PROPERTIES LISTED ABOVE.

EXISTING CONDITIONS

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DIMENSIONS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL OBTAIN ALL FIELD MEASUREMENTS AS NECESSARY TO COORDINATE NEW CONSTRUCTION TO EXISTING CONDITIONS.
2. IF EXISTING CONDITIONS DIFFER FROM THE DRAWINGS, INFORM THE ENGINEER AND ADDITIONAL DETAILS OR INTERPRETATION WILL BE PROVIDED. DO NOT PROCEED WITHOUT VERIFICATION.
3. THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK AND FULLY ACQUAINT THEMSELVES WITH THE EXISTING CONDITIONS.

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE SPECIFICATION, A.C.I. #301 AND BUILDING CODE REQUIREMENTS, A.C.I. #318, LATEST EDITION.
2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", A.C.I. #315, LATEST EDITION.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 3,000 PSI AT 28 DAYS.
4. A MAXIMUM OF 25% FLYASH MAY BE USED AS A CEMENT SUBSTITUTE AND SHALL CONFORM TO ASTM C618, CLASS C. THE WATER/CEMENT RATIO SHALL NOT EXCEED 0.6 AND SLUMPS SHALL BE 5 INCHES (±1 INCH). AGGREGATE SHALL BE WELL-GRADED, 1" MAXIMUM FOR THE SLAB ON GRADE, 1" MAXIMUM FOR CAST-IN-PLACE BEAMS AND ABOVE GRADE SLABS. COARSE AGGREGATE SHALL MEET ASTM C33, GRADATION #57. A QUALIFIED TESTING LABORATORY SHALL BE RETAINED TO FURNISH MIX DESIGNS FOR ALL CLASSES OF CONCRETE. A SAMPLE OF FOUR CYLINDERS SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 100 YD3 OF CONCRETE. ONE CYLINDER SHALL BE TESTED AT 7 DAYS AND TWO AT 28 DAYS. THE FOURTH CYLINDER MAY BE DISPOSED OF AFTER 45 DAYS IF NOT USED.
5. ADMIXTURES CONTAINING WATER SOLUBLE CHLORIDE IONS GREATER THAN 0.06% BY WEIGHT OF CEMENT SHALL NOT BE USED.
6. REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60. #3 BARS MAY BE GRADE 40.
7. STANDARD PROTECTIVE COVER OF REINFORCING BARS UNLESS OTHERWISE NOTED SHALL BE:

   WHERE CAST AGAINST DIRT OR FILL ..... 3 IN.
   EXPOSED TO EARTH OR WEATHER ..... 2 IN.
   SLABS AND WALLS ..... 1 IN.
   OTHER ..... 1-1/2 IN.

8. ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH THE A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", A.C.I. #315, LATEST EDITION.
9. SLAB MAT TO BE SUPPORTED BY MASONRY BRICK BATTS (MIN OF 1/2 BRICK) SPACED AT 4 FEET ON CENTER EACH WAY (MAX). BEAM CAGES SUPPORTED BY BATTS AT 4 FEET ON CENTER.
10. PROVIDE 2 TOP & BOTTOM CORNER BARS AT ALL DISCONTINUOUS GRADE BEAMS AND FOUNDATION CORNERS. CORNER BARS SHALL BE 4'-0" IN LENGTH (2'-0" LEGS). SIZE OF THE CORNER BARS SHALL MATCH THE SIZE OF THE GRADE BEAM REINFORCING AS SHOWN BY STRUCTURAL DRAWINGS.
11. MAINTAIN A MINIMUM OF ONE AND ONE-HALF (1-1/2) TIMES THE MAXIMUM COARSE AGGREGATE SIZE BETWEEN ALL REINFORCING BARS (EXCEPT AT LAPS).
12. BARS SCHEDULED OR DETAILED "CONT" SHALL BE LAPPED 40 BAR DIAMETERS (24 INCHES MINIMUM) UNLESS OTHERWISE NOTED.
13. WHERE CONCRETE IS TO HAVE UNEXPOSED SURFACES, THE FORMS MAY BE CONSTRUCTED OF #2 LUMBER OR BETTER. WHERE SURFACES ARE EXPOSED, SUCH AS FOR FINISH PAINTING OR STUCCO DASH, THE FORMS SHALL BE COMMERCIAL STANDARD DOUGLAS FIR, MOISTURE-RESISTANT CONCRETE FORM PLYWOOD; MINIMUM 5-PLY AND AT LEAST 9/16" THICK, OR FORMS LINED WITH COMMERCIAL STANDARD DOUGLAS FIR, CONCRETE FORM EXTERIOR, 3-PLY, NOT LESS THAN 1/4" THICK. WHERE CONCRETE IS EXPOSED, A SMOOTH SURFACE IS REQUIRED, FREE FROM FINS, HONEYCOMB, FORM MARKS OR OTHER DEFECTS.
14. EXPOSED SURFACES OF CONCRETE AT THE PERIMETER OF THE FOUNDATION SHALL BE FORMED WITH 2X10 #2 LUMBER OR BETTER. A SMOOTH SURFACE IS REQUIRED, FREE FROM FINS, HONEYCOMB, FORM MARKS OR OTHER DEFECTS.
15. CONSTRUCT FORMS SO THAT JOINTS ARE LEAKPROOF. MAINTAIN FORMS SUFFICIENTLY RIGID TO PREVENT DEFORMATION UNDER LOAD.

CONCRETE CONTINUED:

16. CONCRETE MAY BE PLACED WITH CHUTES UP TO 25' MAXIMUM. SLUMP SHALL NOT EXCEED 6" AT TRUCK DISCHARGE POINT.
17. CONCRETE PLACED BY PUMPING SHALL MEET THE FOLLOWING REQUIREMENTS:
    A. COARSE AGGREGATE SHALL BE GRADED FROM A MAXIMUM OF 1" DOWN
    B. MAXIMUM ALLOWABLE INCREASE IN CEMENT FACTOR SHALL BE 1/2 SACK PER CUBIC YARD OVER NORMAL MIX DESIGN.
    C. MAXIMUM WATER CEMENT RATIO SHALL BE 7-1/2 GALLONS PER SACK OF CEMENT. IF MORE WORKABILITY IS REQUIRED, AN ADMIXTURE MAY BE USED.
    D. MAXIMUM WEIGHT RATIO OF FINE AGGREGATES TO COARSE AGGREGATES SHALL NOT EXCEED 2/3.
    E. REFER TO A.C.I. #301, LATEST EDITION, SECTION 800, FOR OTHER PUMPING REQUIREMENTS.
    F. IN NO CASE SHALL CONCRETE BE PUMPED THROUGH AN ALUMINUM TUBE.
    G. SLUMP SHALL NOT EXCEED 6" AT TRUCK DISCHARGE POINT.
18. FLOOR FINISH (TOLERANCES)
    A. STEEL TROWEL FINISH 1/8" IN 10'
    B. FLOAT FINISH 1/4" IN 10'
    C. SCRATCH FINISH 1/2" IN 10'
19. CONCRETE TO BE CURED IN ACCORDANCE WITH ACI RECOMMENDATIONS. PROPOSED METHOD OF CURING TO BE COORDINATED WITH ENGINEER PRIOR TO CONCRETE PLACEMENT.
20. SHOP DRAWINGS SHALL BE PREPARED FOR ALL REINFORCING STEEL AND SUBMITTED FOR REVIEW BY ENGINEER. SUBMITTALS SHALL INCLUDE ELECTRONIC (PDF) COPIES OF EACH DRAWING. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
21. THE CONTRACTOR SHALL REVIEW AND ANNOTATE SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER FOR REVIEW. THE CONTRACTOR SHALL ALLOW ARCHITECT/ENGINEER 10 WORKING DAYS FOR REVIEW OF SHOP DRAWINGS.
22. ENGINEER TO BE NOTIFIED 48 HOURS PRIOR TO PLACEMENT OF FOUNDATION AND OF STRUCTURAL CONCRETE TO SCHEDULE REQUIRED OBSERVATIONS.

STRUCTURAL STEEL

1. TOP OF BEAM/PLATE (TOB OR TOP) IS USED INTERCHANGEABLY ON PLANS. REFERENCE APPLICABLE SECTION FOR CLARIFICATION.
2. STRUCTURAL STEEL WIDE FLANGE MEMBERS SHALL CONFORM TO ASTM SPECIFICATION A 572 AND/OR ASTM A 992 (Fy = 50 KSI) UNLESS OTHERWISE SHOWN OR NOTED. PLATE AND ANGLES MAY BE A36 (Fy = 36 KSI).
3. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM SPECIFICATION A-500, GRADE B (Fy=46 KSI). STEEL PIPE SHALL COMPLY WITH ASTM A53 TYPE E OR S (Fy=35 KSI).
4. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
5. ALL BOLTS SHALL BE 3/4 DIAMETER ASTM A325. WASHERS SHALL BE PROVIDED AT OVERSIZED HOLES AND AT SLOTTED CONNECTIONS AT EXPANSION JOINTS. A325 CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE. ANCHOR BOLTS MAY BE ASTM A307 UNLESS NOTED OTHERWISE.
6. REFER TO ARCHITECTURAL & MECHANICAL PLANS FOR VERIFICATION OF ALL BOLTS, BLOCKING ANCHORS, ETC., FOR THE ANCHORAGE OF THEIR RESPECTIVE ITEMS.
7. ALL BEAMS AND COLUMNS SHALL BE FULL LENGTH WITHOUT SPLICES UNLESS INDICATED ON PLANS OR APPROVED BY THE ENGINEER IN WRITING.
8. ALL SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS (A.W.S. D-1.1).
9. WELDS SHALL BE MADE WITH COVERED MILD STEEL ELECTRODES COMPLYING WITH AWS D1-72 CODE AND SERIES E 70XX.
10. ERECTION CONNECTORS SHALL BE PROVIDED IN ORDER TO PROPERLY ALIGN AND BE TRUE AND PLUMB WHEN WELDS ARE MADE.
11. ALL COMPLETE PENETRATION WELDS, BOTH SHOP AND FIELD, SHALL BE TESTED BY A QUALIFIED TESTING LABORATORY UTILIZING ULTRA SONIC TESTING PROCEDURES IN ACCORDANCE WITH A.W.S. D-1.1. ANY WELDS FOUND DEFECTIVE SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER. ALL X-RAYED WELDS SHALL BE GROUND SMOOTH.
12. THE FABRICATOR SHALL SUPPLY BACK-UP PLATES AND EXTENSION TABS FOR ALL COMPLETE PENETRATION WELDS.
13. ALL STEEL MEMBERS SHALL BE SHOP PRIMED AND PAINTED, WITH A MINIMUM OF TWO (2) COATS OF CUSTOM COLOR TO BE SELECTED BY OWNER.
14. WELDED HEADED STUDS (WHS) SHALL BE "NELSON ANCHORS", OR EQUAL, Fs = 60 KSI, DIAMETER AND LENGTH AS SHOWN ON PLANS. STUDS TO BE WELDED& SHOP TESTED IN ACCORDANCE W/ THE MANUFACTURER'S RECOMMENDATIONS.
15. AFTER ERECTION, PRIME WELDS, ABRASIONS AND SURFACES NOT PRIMED. USE PRIMER CONSISTENT WITH SHOP COAT. GALVANIZED SURFACES (HOT DIPPED OR COLD) SHALL BE CLEANED AND PAINTED WITH "ZRC".
16. FIELD WELDS AND BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED BY A QUALIFIED INDEPENDENT INSPECTOR. THE INSPECTOR SHALL PROVIDE A WRITTEN REPORT TO THE STRUCTURAL ENGINEER.
17. A SINGLE ELECTRONIC FILE (PDF FORMAT) SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL STEEL COMPONENTS AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
18. THE CONTRACTOR SHALL REVIEW AND ANNOTATE SHOP DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT/ENGINEER FOR REVIEW. THE CONTRACTOR SHALL ALLOW ARCHITECT/ENGINEER 10 WORKING DAYS FOR REVIEW OF SHOP DRAWINGS.
19. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR A FRAMING OBSERVATION IMMEDIATELY AFTER ROOF DECK IS INSTALLED.

COLD FORMED STEEL BUILDING COMPONENTS

1. ALL COMPONENTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS AND STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND THE LIGHT GAGE STRUCTURAL INSTITUTE.
2. CEE PURLINS SHALL BE FABRICATED FROM STEEL HAVING A MINIMUM YIELD OF 55 KSI. ALL MEMBERS SHALL BE COLD ROLLED FROM HOT-DIPPED GALVANIZED MATERIAL PER ASTM A653.

   MINIMUM SECTION PROPERTIES:

   8x3.1/2x16 GA. CEE PURLIN Ix = 9.008 IN.4 Sx = 1.769 IN.3

   PURLINS SHALL BE SHOP PUNCHED AND SECURED WITH 5/8 DIAMETER BOLTS (A307 GRADE).

FASTENERS

1. CAST-IN-PLACE AND POST-INSTALLED ANCHORS SHALL BE PER ANCHOR DIAMETER AND EMBEDMENT DEPTH NOTED ON THE DRAWINGS. POST-INSTALLED ANCHORS SHALL BE UTILIZED ONLY WHERE SPECIFIED. ALL ANCHORS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153
2. ALL ANCHORS NOTED BELOW SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL CONTACT MANUFACTURER'S REPRESENTATIVE FOR THE INITIAL TRAINING AND INSTALLATION OF ANCHORS, AND FOR PRODUCT RELATED QUESTIONS AND AVAILABILITY.
3. SPECIAL INSPECTIONS SHALL BE PROVIDED FOR ALL MECHANICAL AND ADHESIVE ANCHORS PER THE APPLICABLE EVALUATION REPORT NOTED BELOW. SPECIAL INSPECTIONS SHALL BE PERFORMED BY INDEPENDENT TESTING LABORATORY PERFORMING QA/QC SERVICES ON PROJECT.
4. EXPANSION BOLTS (EB) IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
   A. KWIK BOLT III (ICC-ES ESR-2302) BY HILTI (CONCRETE)
   B. KWIK BOLT III (ICC-ES-ESR-1385) BY HILTI (MASONRY)
   C. STRONG-BOLT 2 (ICC-ES ESR-3037) BY SIMPSON STRONG-TIE (CONCRETE)
   D. WEDGE-ALL ANCHOR (ICC-ES ESR-1396) BY SIMPSON STRONG-TIE (MASONRY)
5. HEAVY DUTY SLEEVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED OR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. EXPANSION BOLTS (EB) SHALL NOT BE SUBSTITUTED FOR SLEEVE ANCHORS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER. ACCEPTABLE PRODUCTS:
   A. HSL-3 (ICC-ES ESR-1545) BY HILTI (CONCRETE)
6. SCREW ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
   A. KWIK HUS-EZ (ICC-ES ESR-3027) BY HILTI (CONCRETE)
   B. KWIK HUS-EZ (ICC-ES ESR-3056) BY HILTI (MASONRY)
   C. TITEN HD (ICC-ES ESR-2713) BY SIMPSON STRONG-TIE (CONCRETE)
   D. TAPCON ANCHORS (ICC-ES ESR-1671) (MASONRY)
   E. POWERS WEDGE BOLT (ICC-ES ESR-1678) (MASONRY)
7. UNDERCUT ANCHORS IN CONCRETE SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
   A. HDA (ICC-ES ESR-1546) BY HILTI (CONCRETE)
   B. TORQ-CUT (ICC-ES ESR-2705) BY SIMPSON STRONG-TIE (CONCRETE)
8. POWDER ACTUATED FASTENERS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193. ACCEPTABLE PRODUCTS:
   A. X-U (ICC-ES ESR-2269) BY HILTI (CONCRETE/MASONRY)
   B. POWDER ACTUATED FASTENERS (ICC-ES ESR-2138) BY SIMPSON STRONG TIE (CONCRETE/MASONRY)
9. ADHESIVE ANCHORS IN CONCRETE/CMU SHALL BE TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308. ACCEPTABLE PRODUCTS:
   A. HIT-RE 500-SD (ICC-ES ESR-2322) BY HILTI (CONCRETE)
   B. HIT-HY 70 (ICC-ES ESR-1967) BY HILTI (MASONRY)
   C. SET-XP (ICC-ES ESR-2508) BY SIMPSON STRONG-TIE (CONCRETE)
10. J-BOLTS SHALL BE FABRICATED FROM ASTM A36/A307 ROD. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. EXPANSION BOLTS/SLEEVE ANCHORS SHALL NOT BE SUBSTITUTED FOR J-BOLTS WITHOUT PRIOR WRITTEN APPROVAL BY STRUCTURAL ENGINEER.
11. HEADED ANCHOR RODS SHALL BE FABRICATED FROM ASTM F1554 MATERIAL, FY=36 KSI
12. SUBSTITUTION REQUESTS FOR PRODUCTS LISTED ABOVE SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER ALONG WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS. SUBSTITUTED ANCHORS SHALL HAVE A VALID CURRENT EVALUATION (ICC-ES OR IAPMO-ES) REPORT.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS INDEPENDENT OF THE CONTRACTOR, THE ARCHITECT, OR THE ENGINEER, SHALL BE PROVIDED BY A SPECIAL INSPECTOR EMPLOYED BY THE OWNER ACCORDING TO CHAPTER 17 OF THE IBC 2012. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. THE SPECIAL INSPECTOR SHALL SEND WRITTEN REPORTS TO THE OWNER, THE ARCHITECT, THE ENGINEER AND THE CONTRACTOR. THE REPORTS SHALL INDICATE IF WORK INSPECTED WAS DONE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE SPECIAL INSPECTOR SHALL BRING THE DISCREPANCIES TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING THAT THE SPECIAL INSPECTION WORK WAS, TO THE BEST OF THEIR KNOWLEDGE, IN OR NOT IN CONFORMANCE WITH THE DRAWINGS, SPECIFICATIONS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC 2012.

CONTINUOUS OR PERIODIC SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING WORK:

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

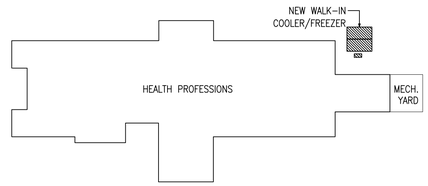
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT		X
INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE	X	
VERIFY USE OF REQUIRED DESIGN MIX		X
PERFORM SLUMP AND AIR CONTENT TEST, AND DETERMINE THE TEMPERATURE OF THE CONCRETE AT THE TIME OF SAMPLING FRESH CONCRETE FOR MAKING SPECIMENS FOR STRENGTH TESTS PER ACI 318	X	
INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
INSPECTION OF PRESTRESSED CONCRETE APPLICATION OF PRESTRESSING FORCES	X	
VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X
ERECTION OF PRECAST CONCRETE MEMBERS		X
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		X
INSPECTION OF HIGH STRENGTH BOLTING		X
INSPECTION OF WELDING:		
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X	
MULTIPASS FILLET WELDS	X	
SINGLE-PASS FILLET WELDS		X
FLOOR AND ROOF DECK WELDS		X
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS		X

REQUIRED VERIFICATION AND INSPECTION OF ANCHORS

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
CAST-IN-PLACE, POST-INSTALLED, MECHANICAL AND EPOXY SET ANCHORS: AS APPLICABLE, THE INSPECTION PROGRAM SHALL VERIFY THE ANCHOR TYPE, EMBEDMENT, TIGHTENING TORQUE, DIMENSIONS, HOLE DEPTH & DIAMETER AND CLEANOUT, EPOXY MIXING AND PLACEMENT PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND THE CURRENT ICC-ES EVALUATION REPORT	FREQUENCY OF INSPECTION SHALL BE IN ACCORDANCE WITH THE CURRENT ICC-ES EVALUATION REPORT, OR PER THE SPECIAL INSPECTION REQUIREMENTS OF THE ANCHOR SUBSTRATE, WHICHEVER IS MORE STRINGENT	



KEYPLAN

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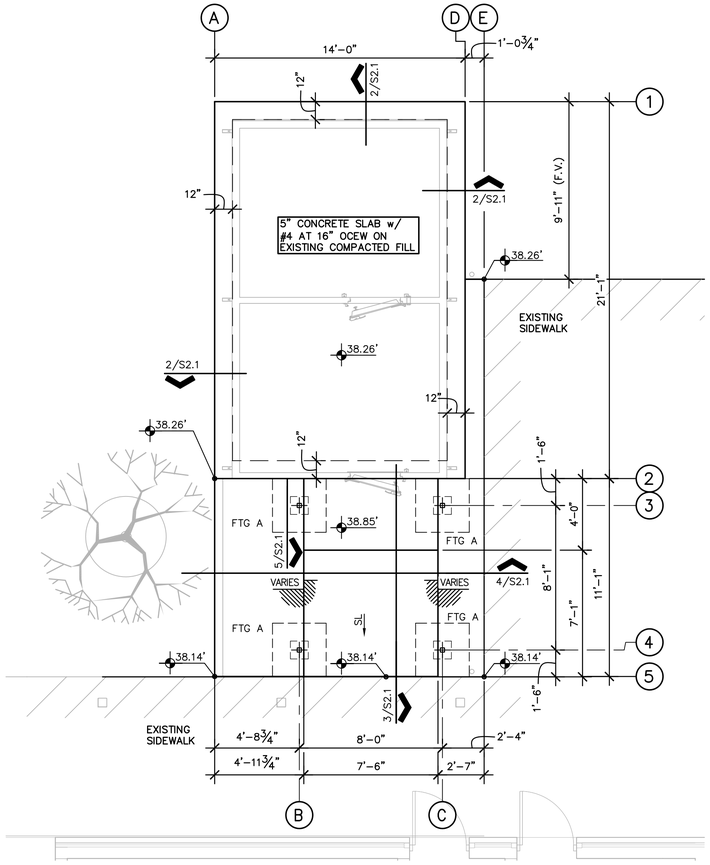
DATE: SEPT. 19, 2018
CHECKED BY: JS
DRAWN BY: AV.SP
PROJECT NO.: 1178-11

SHEET: **S1.1**



1 FOUNDATION PLAN

1/4" = 1'-0"

N

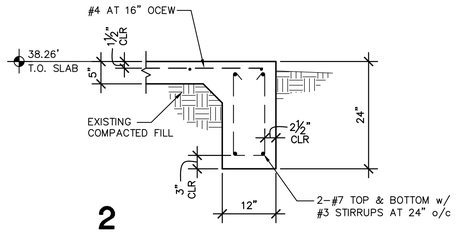
PLAN NORTH

NOTES:

1. COORDINATE FOUNDATION LOCATION, ORIENTATION AND FINISH FLOOR ELEVATION WITH M.E.P. & CIVIL SITE PLANS.
2. REFERENCE M.E.P. DRAWINGS FOR EXACT LOCATION OF WALK-IN COOLER/FREEZER.
3. ALL CONDUIT GREATER THAN 1.1/2" IN DIAMETER SHALL BE RECESSED TO PROVIDE 1.1/2" CLEAR DISTANCE BETWEEN SLAB REBAR & CONDUIT.
4. MAINTAIN 2" MINIMUM CLEAR DISTANCE BETWEEN ALL CONDUIT IN SLAB.
5. A SINGLE CONDUIT (MAX 3" O.D.) MAY BE PLACED WITHIN THE BEAM CAGE. ALL CONDUIT IN BEAM CAGES TO BE TIED TO STIRRUPS MINIMUM OF 4" FROM HORIZONTAL BARS.
6. PLUMBING LINES SHALL NOT BE PLACED IN BOTTOM OF GRADE BEAM TRENCHES.

FOOTING SCHEDULE		
MARK	SIZE	REINFORCEMENT
FTG A	3'-0" x 3'-0"	#5 AT 12" O.C.E.W.

BASEPLATE SCHEDULE		
COLUMN	PLATE TxWxL	ANCHORS
HSS3x3	3/4 x 7 x 7	4-3/4" DIA x 8" WHS



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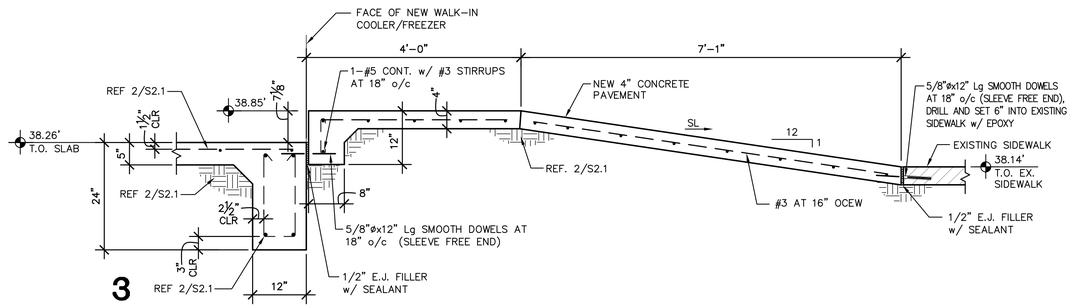

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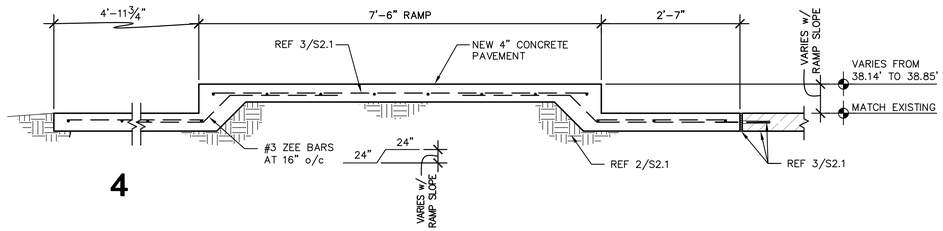

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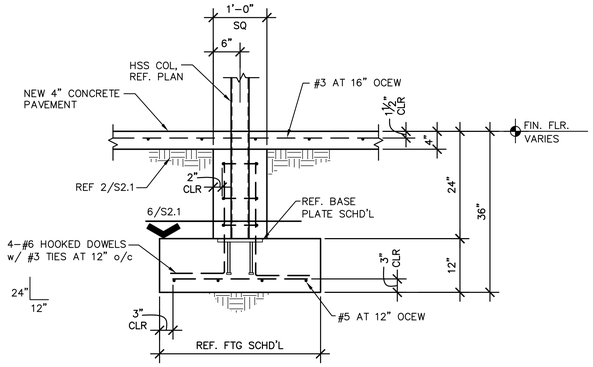
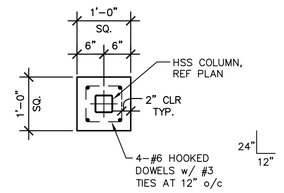
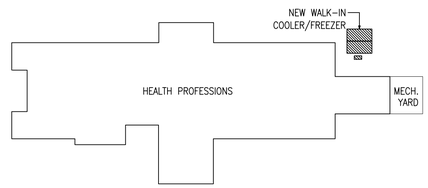


5 TYPICAL FOOTING DETAIL



6 TYPICAL PEDESTAL CROSS SECTION



KEYPLAN

NO:	REVISION:	BY:

COPY NO:

STATE OF TEXAS
HERIBERTO CAVAZOS
103450
LICENSED
PROFESSIONAL ENGINEER
9/19/18

HARLINGEN CISD SCHOOL OF HEALTH PROFESSIONS
NEW WALK-IN COOLER AND FREEZER

HARLINGEN, TEXAS

ethos engineering
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PHONE: 956-230-3435
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ENGINEERING FIRM
F-15998

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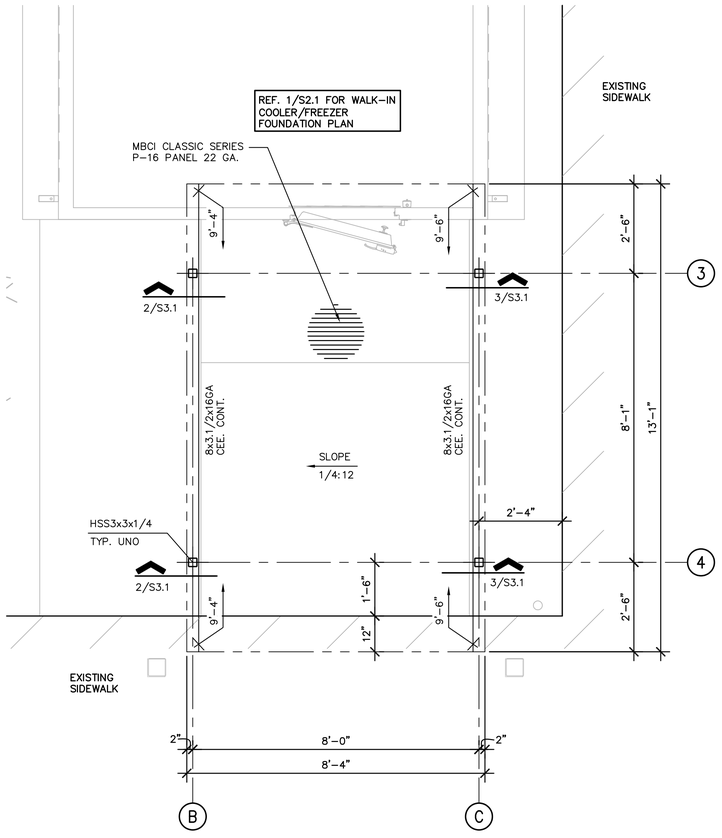

1 ROOF FRAMING PLAN

1/2" = 1'-0" CANOPY

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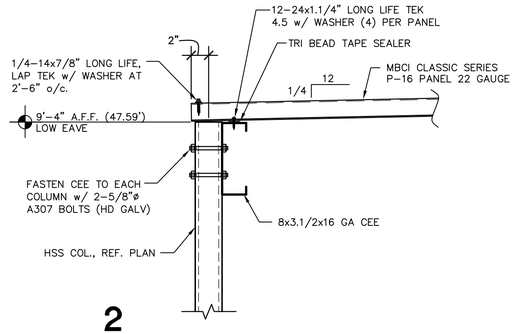
PLAN NORTH

NOTES:

1. ALL STRUCTURAL STEEL FRAMING MEMBERS SHALL BE SHOP PRIMED AND PAINTED, WITH A MINIMUM OF TWO (2) COATS OF CUSTOM COLOR TO BE SELECTED BY OWNER.
2. ROOF PANELS SHALL BE 16" WIDE P-16 22 GAUGE MBCI CLASSIC SERIES. PANELS SHALL HAVE CUSTOM PAINT COLOR TO BE SELECTED BY OWNER.
3. ALL HSS COLUMNS SHALL BE HSS3x3x1/4 UNLESS NOTED OTHERWISE.
4. ALL CEE PURLINS SHALL BE 8x3.1/2x16 GA UNLESS NOTED OTHERWISE.



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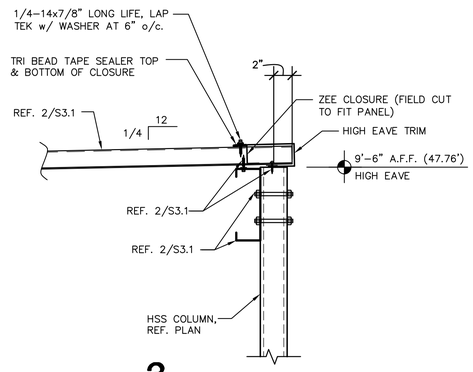

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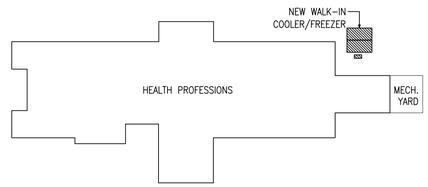

KEYPLAN

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