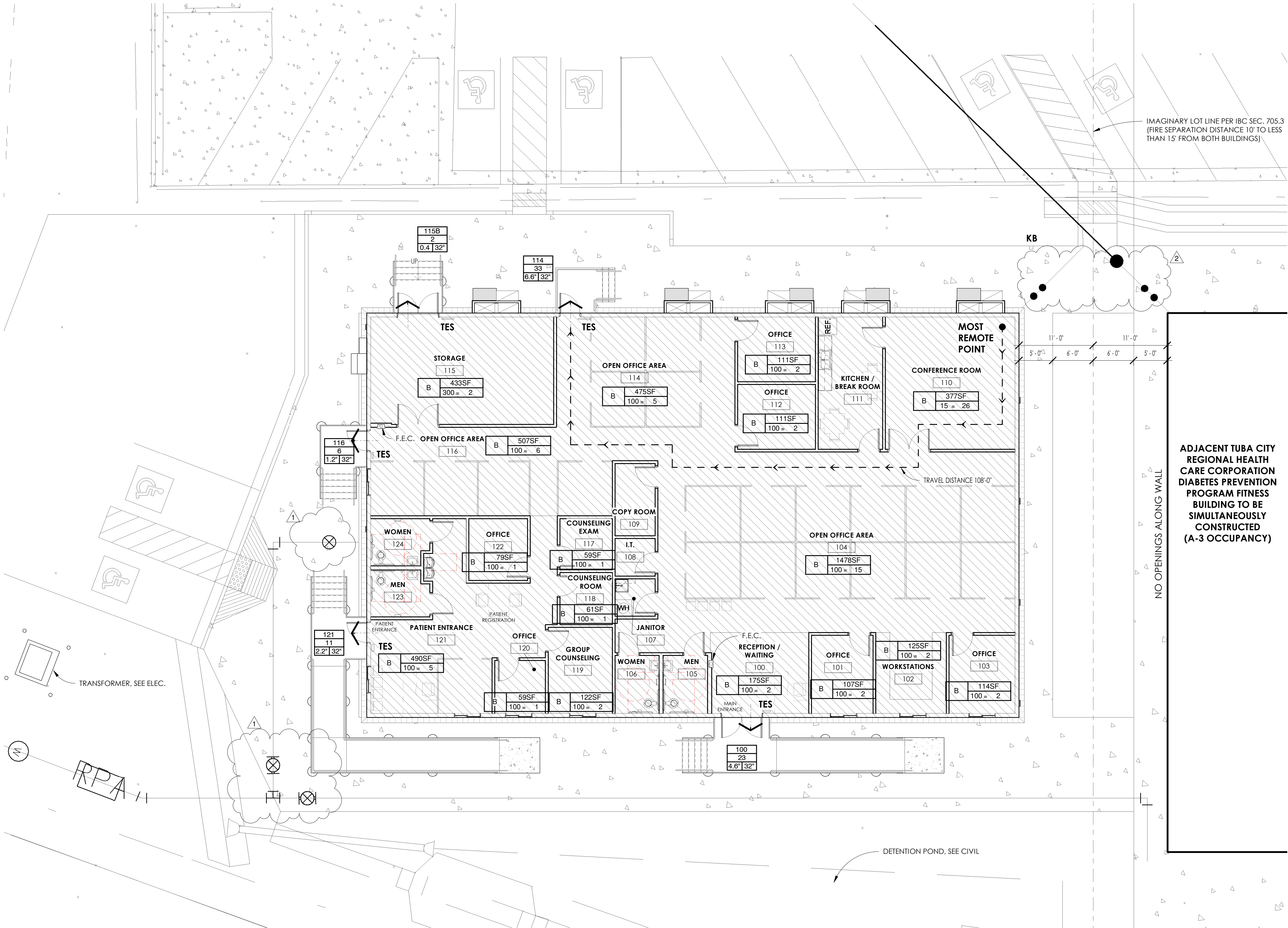


TAMARAX STREET  
TUBA CITY, ARIZONA 86045

(100% CONSTRUCTION DOCUMENTS PER JOC CONTRACTOR)

## G101



### CODE PLAN

1/8" = 1'-0"

EXIT

EXIT ACCESS TRAVEL DISTANCE

EXIT DISCHARGE

PANIC HARDWARE

ROOM NAME & NUMBER

ROOM AREA

# OCCUPANTS

OCCUPANT LOAD

OCCUPANT LOAD FACTOR

DOOR NO.

REQUIRED CLEAR WIDTH

B OCCUPANCY (5,810 SF)

T.E.S.

MANEUVERING SPACE REQUIREMENTS AT EACH DOOR PER ICC/ANSI A117.1

PARTIALLY RECESSED FIRE EXTINGUISHER AND CABINET.

EXIT SIGN. SEE ELECTRICAL

KNOX BOX

ADA (HI-LO) DRINKING FOUNTAIN

SF

SQUARE FOOT

### LEGEND OF SYMBOLS:

### PLUMBING FIXTURE CALCULATIONS:

CALCULATIONS PER IBC TABLE 2902.1 AND PER DESIGN OCCUPANT LOAD PER 1004.1

OCCUPANCY	WATER CLOSET (M/F)	LAVATORY (M/F)	DRINKING FOUNTAINS	SERVICE SINK
'B'	REQUIRED: 1 PER 25 FOR FIRST 50, 1 PER 50 FOR THE REMAINDER EXCEEDING 50 80/2 = 40M 40F 40x 1/25 = 1.6 OR 2 2 W.C. REQUIRED M 2 W.C. REQUIRED F PROVIDED: 2 M, 2 F	REQUIRED: 1 PER 40 FOR FIRST 80, 1 PER 80 FOR REMAINDER EXCEEDING 80 80/2 = 40M 40F 40x 1/40 = 1 OR 1 1 LAV REQUIRED M 1 LAV REQUIRED F PROVIDED: 2 M, 2 F	REQUIRED: 1 PER 100 OCCUPANTS 80 x 1/100 = 1 REQ'D PROVIDED: 1 HI-LO	REQUIRED: 1 PROVIDED: 1

### PROJECT INFORMATION:

ADDRESS: HRSA COUNSELING CENTER  
TUBA CITY REGIONAL HEALTH CARE CORPORATION  
TAMARAX STREET  
TUBA CITY, ARIZONA 86045

PARCEL NUMBER: N/A (NAVAJO NATION)

ZONING: N/A

### PROJECT DESCRIPTION:

RELOCATION AND RETROFIT OF AN EXISTING APPROXIMATELY 5,810 SF MODULAR BUILDING, INCLUDING PARKING, LANDSCAPING AND DRIVEWAYS. JOC TO PROVIDE CONSTRUCTION DOCUMENTS WITH CURRENT REGISTERED ARCHITECT/ENGINEER SEALS FOR BUILDING PLAN REVIEW AND PERMITS.

### APPLICABLE CODES & STANDARDS:

- 2012 INTERNATIONAL BUILDING CODE
- 2012 INTERNATIONAL PLUMBING CODE
- 2012 INTERNATIONAL MECHANICAL CODE
- 2012 INTERNATIONAL FUEL GAS CODE
- 2011 NATIONAL ELECTRIC CODE
- 2009 ICC ANSI A117.1 WITH 2010 ADA STANDARDS AS ADOPTED BY THE STATE OF ARIZONA (MOST RESTRICTIVE GOVERNS)
- 2012 INTERNATIONAL FIRE CODE AS ADOPTED BY ARIZONA STATE FIRE MARSHAL
- 2012 INTERNATIONAL ENERGY CONSERVATION CODE

### GENERAL BUILDING INFORMATION:

OCCUPANCY GROUP: B, NON-SEPARATED MIXED USE

CONSTRUCTION TYPE: V-B

FIRE PROTECTION: NONE, NON-SPRINKLERED  
12,000 SF, < 300 OCCUPANT SPRINKLER THRESHOLD  
FOR GROUP B PER IBC SECTION 903.2.1.3

### BUILDING HEIGHT AND AREA:

ALLOWABLE PER TABLE 503 (USE MORE RESTRICTIVE B OCCUPANCY)  
TABULAR AREA PER STORY (AT): 9,000SF  
STORIES PERMITTED: 2  
HEIGHT: 40'

PROVIDED:  
BUILDING AREA: 5,810 SF  
STORIES: 1  
MAXIMUM HEIGHT: 15'-0"

### BUILDING DATA:

2 BUILDINGS ON SAME LOT PER IBC SEC. 705.3

### OPENINGS IN EXTERIOR WALLS:

FIRE SEPARATION DISTANCE 10' TO 15', UNPROTECTED, NON-SPRINKLERED = 15%  
THERE ARE NO OPENINGS ON THE WALLS BETWEEN BUILDINGS

### TRAVEL DISTANCE:

EXIT ACCESS TRAVEL DISTANCE (IBC TABLE 1016.2, WITHOUT SPRINKLER SYSTEM):  
A OR B OCCUPANCY: MAX. 200'

COMMON PATH OF EGRESS TRAVEL (IBC TABLE 1014.3, WITHOUT SPRINKLER SYSTEM):  
B OCCUPANCY: ≤ 30 OCCUPANTS MAX. 100'  
> 30 OCCUPANTS MAX 75'

### FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS):

PER TABLE 601:  
TYPE VB CONSTRUCTION = ZERO (0) HOURS - NO BUILDING ELEMENTS REQUIRED TO BE RATED

PER TABLE 602:  
TYPE VB CONSTRUCTION, OCCUPANCY GROUP B  
FIRE SEPARATION (FSD) 10' ≤ X < 30' = ZERO (0) HOURS  
FIRE SEPARATION (FSD) > 30' = ZERO (0) HOURS  
NO EXTERIOR WALLS REQUIRED TO BE RATED

### DESIGN OCCUPANT LOAD:

REFER TO OCCUPANT LOAD TABLE BELOW

OCCUPANCY LOAD TABLE					
ROOM NO.	ROOM NAME	AREA	OCC. FUNCTION PER 1004.1.1	OCC. FACTOR	OCC. TOTAL
100	RECEPTION / WAITING	173	BUSINESS AREAS	100	2
101	OFFICE	106	BUSINESS AREAS	100	2
102	WORKSTATIONS	125	BUSINESS AREAS	100	2
103	OFFICE	114	BUSINESS AREAS	100	2
104	OPEN OFFICE AREA	1478	BUSINESS AREAS	100	15
105	MEN	57	N/A RESTROOM		0
106	WOMEN	57	N/A RESTROOM		0
107	JANITOR	34	N/A ACCESSORY AREA		0
108	I.T.	34	N/A ACCESSORY AREA		0
109	COPY ROOM	64	N/A ACCESSORY AREA		0
110	CONFERENCE ROOM	377	ACCESSORY ASSEMBLY AREA	15	26
111	KITCHEN / BREAK ROOM	188	N/A ACCESSORY AREA		0
112	OFFICE	111	BUSINESS AREAS	100	2
113	OFFICE	111	BUSINESS AREAS	100	2
114	OPEN OFFICE AREA	474	BUSINESS AREAS	100	5
115	STORAGE	432	ACCESSORY STORAGE AREA	300	5
116	OPEN OFFICE AREA	506	BUSINESS AREAS	100	6
117	COUNSELING EXAM	59	BUSINESS AREAS	100	1
118	COUNSELING ROOM	60	BUSINESS AREAS	100	1
119	GROUP COUNSELING	121	BUSINESS AREAS	100	2
120	OFFICE	59	BUSINESS AREAS	100	1
121	PATIENT ENTRANCE	490	BUSINESS AREAS	100	5
122	OFFICE	80	BUSINESS AREAS	100	1
123	MEN	59	N/A RESTROOM		0
124	WOMEN	58	N/A RESTROOM		0
Grand total		5424			80



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TAMARAX STREET  
TUBA CITY, ARIZONA 86045  
CODE SHEET

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REVISIONS		
MARK	DATE	DESCRIPTION
1	09-25-17	NTUA COMMENTS
2	10-09-2017	NTUA COMMENTS

REVIEWED BY: JTB  
DRAWN BY: MWR



ORIGINAL ISSUE  
DATE: 07-21-2017

JOB No: 1641A

SHEET:

G102

GENERAL NOTES

MATERIALS AND WORKMANSHIP

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS AND SPECIFICATIONS, AND ANY SPECIAL PROVISIONS PREPARED FOR THE PROJECT. THE TERM "CURRENT" MEANS THE DATE OF THE SPECIFICATIONS IN EFFECT AS OF THE DATE OF THE ENGINEERS SEAL ON THESE PLANS.

MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION  
 AMERICAN WATER WORKS ASSOCIATION STANDARDS  
 ARIZONA ADMINISTRATIVE CODE  
 INTERNATIONAL PLUMBING CODE (IPC)  
 INTERNATIONAL BUILDING CODE (IBC)  
 NAVAJO TRIBAL UTILITY AUTHORITY (NTUA)

IF TWO OR MORE GIVEN SPECIFICATIONS DIFFER IN CONTENT, THE MORE RESTRICTIVE OR STRINGENT STANDARD OR SPECIFICATION, IN THE OPINION OF THE ENGINEER, WILL GOVERN.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF THE ABOVE STANDARDS, SPECIFICATIONS AND DETAILS, AS WELL AS ALL OTHER STANDARDS AND SPECIFICATIONS WHICH MAY BE NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THESE PLANS. THIS REQUIREMENT EXTENDS TO ANY STANDARDS, DETAILS OR SPECIFICATIONS REFERENCED BY THE CONSTRUCTION DOCUMENTS AND NOT INCLUDED IN THE LIST ABOVE.

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MAY REQUIRE THE SUBMITTAL OF A "CERTIFICATE OF COMPLIANCE" AND/OR "MANUFACTURER'S GUIDELINES" FOR ANY MATERIALS USED IN THE WORK. MANUFACTURER'S GUIDELINES SHALL CONSIST OF WRITTEN INSTRUCTIONS FOR SHIPPING, HANDLING, UNLOADING, CUTTING, JOINING, INSTALLATION, STORAGE, AND/OR ANY OTHER FACETS OF WORKING.

SHOP DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR PER SPECIFICATIONS.

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MAY ORDER ANY OR ALL MATERIALS USED IN THE WORK TO BE TESTED ACCORDING TO THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) AND THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS. THE CONTRACTOR SHALL, AT HIS EXPENSE, SUPPLY ALL SAMPLES FOR THE TESTING AND CERTIFICATES OR RESULTS OF TESTING.

ALTERNATE MANUFACTURER AND MODEL

THE CONTRACTOR SHALL SUBMIT CAREFULLY DOCUMENTED AND CONSIDERED WRITTEN PROPOSALS FOR ALTERNATE MATERIALS AND CONSTRUCTION METHODS. THOSE PROPOSALS THAT ARE FOUND TO BE IN CONFORMITY WITH GOOD ENGINEERING DESIGN AND CAN BE EASILY MAINTAINED BY JURISDICTIONAL FORCES MAY BE GIVEN WRITTEN APPROVAL FOR INCORPORATION IN THE CONSTRUCTION PLANS IF THEY ARE FOUND TO BE IN THE OWNER'S BEST INTEREST.

UNAUTHORIZED WORK

ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL OF THE OWNER OR HIS AUTHORIZED REPRESENTATIVE IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

SUSPENSION OF WORK

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN HIS JUDGMENT, PROGRESS IS UNSATISFACTORY, IMPROPER WORKMANSHIP IS BEING PERFORMED, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSUITABLE, OR THERE IS DANGER TO THE PUBLIC HEALTH OR SAFETY.

QUALIFICATIONS OF CONTRACTOR

ALL IMPROVEMENTS SHALL BE CONSTRUCTED BY CONTRACTORS LICENSED BY THE ARIZONA STATE REGISTRAR OF CONTRACTORS, WITH A CLASS OF LICENSE(S) FOR THE SPECIFIC WORK BEING PERFORMED.

CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION METHODS, SEQUENCING, AND SAFETY DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS APPLICABLE TO THE CONSTRUCTION OF THIS PROJECT.

WATER SUPPLY DURING CONSTRUCTION

ALL WEATHER ACCESS, FIRE HYDRANTS AND WATER MAINS, SHALL BE IN PLACE, APPROVED AND OPERATIONAL AT ALL TIMES DURING CONSTRUCTION OF ON-SITE COMBUSTIBLE CONSTRUCTION. UTILITY OWNER APPROVAL IS REQUIRED FOR OBSTRUCTION OF ACCESS OR WATER SYSTEM SHUT DOWN.

THE LOCATION OF ALL WATER VALVES AND FIRE HYDRANTS MUST AT ALL TIMES DURING CONSTRUCTION BE REFERENCED AND MADE ACCESSIBLE TO THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND PROVIDE ALL NECESSARY WATER FOR HIS CONSTRUCTION OPERATION AT HIS OWN EXPENSE.

ESTIMATED QUANTITIES

ALL QUANTITIES SHOWN ARE APPROXIMATE AND ARE FURNISHED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACTUAL QUANTITIES OF WORK REQUIRED AND BASE HIS BID ON HIS OWN INDEPENDENT ESTIMATE OF THE WORK SCOPE AND QUANTITIES OF MATERIALS REQUIRED. THEY DO NOT NECESSARILY CORRESPOND TO BID SCHEDULE ITEMS. PAYMENT WILL BE BASED ON BID SCHEDULE ITEMS. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR INDEPENDENTLY ESTIMATING QUANTITIES PRIOR TO BIDDING. THE CONTRACTOR REPRESENTS THAT THE TOTAL CONTRACT SUM IS ADEQUATE COMPENSATION FOR COMPLETING THE ENTIRE PROJECT AS SHOWN ON THE PLANS.

THE LOCATION OF EXISTING FEATURES INDICATED ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR MAKING COMPLETE AND ACCURATE ON-SITE DETERMINATIONS OF THE LOCATIONS OF ALL UTILITIES, STRUCTURES AND FIELD CONDITIONS, WHICH MAY AFFECT THE PROGRESS OF THE WORK.

CONSTRUCTION OBSERVATIONS

AN OBSERVATION OF CONSTRUCTED IMPROVEMENTS WILL BE CONDUCTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. SPECIAL OBSERVATION AND TESTING SERVICES SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE, AS REQUIRED BY THE PERMITTING AGENCY.

NO BASE COURSE CONSTRUCTION SHALL BE STARTED UNTIL ALL UTILITY LINES ARE COMPLETED AND TESTED UNDER PROPOSED AREAS AND THE SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

NO PAVEMENT SHALL BE PLACED UNTIL BASE COURSE CONSTRUCTION IS INSPECTED AND APPROVED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO BEGINNING DIFFERENT PHASES OF CONSTRUCTION SO THAT OBSERVATIONS MAY BE SCHEDULED.

AN ENGINEER SHALL CERTIFY THE OF COMPLETION FOR ALL WATER AND SEWER SYSTEM CONSTRUCTION. ANY REQUIRED OBSERVATION AND/OR TESTING SHALL BE PROVIDED BY THE CONTRACTOR AT THEIR EXPENSE.

MAINTENANCE OF FACILITIES AND WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE STREETS AND OF PARTIALLY COMPLETED PORTIONS OF THE WORK UNTIL FINAL ACCEPTANCE OF THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE QUALITY OF EXISTING STREETS LEADING TO THE PROJECT SITE. EXISTING STREETS FOUND TO BE DAMAGED BY CONSTRUCTION TRAFFIC SHALL BE REPAIRED TO THE SATISFACTION OF THE FACILITIES MANAGEMENT DEPARTMENT BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

THE CONTRACTOR SHALL KEEP THE WORK AREA, ADJACENT PROPERTIES AND STREETS CLEAN AND FREE FROM RUBBISH, EXCESS MATERIALS, DUST AND DEBRIS GENERATED BY THE CONSTRUCTION ACTIVITY.

DAILY CLEANUP OF THE CONSTRUCTION SITE, INCLUDING SWEEPING STREETS, MAINTAINING TRENCHES, PROVIDING PROPER TRAFFIC CONTROL DEVICES, ETC., IS REQUIRED.

FINAL ACCEPTANCE

FINAL ACCEPTANCE OF THE CONSTRUCTION, BY THE PERMITTING AGENCY, IS REQUIRED BEFORE RELEASING PERMITS AND/OR TRANSFERRING OWNERSHIP OF THE IMPROVEMENTS TO THE OWNER.

APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL WRITTEN FINAL ACCEPTANCE OF A COMPLETE WORKABLE UNIT. ACCEPTANCE OF COMPLETED IMPROVEMENTS WILL NOT BE GIVEN UNTIL DEFECTIVE OR UNAUTHORIZED WORK IS REMOVED AND FINAL CLEAN-UP IS COMPLETE.

THE OWNER RESERVES THE RIGHT TO REQUEST MODIFICATIONS TO THESE PLANS DURING CONSTRUCTION IF FIELD CONDITIONS WARRANT AND THE DESIGN ENGINEER CONCURS.

NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURB, PAVEMENT AND SIDEWALKS HAVE BEEN SWEEP CLEAN OF DIRT AND DEBRIS TO THE SATISFACTION OF THE OWNER OR HIS AUTHORIZED REPRESENTATIVE AND ALL SURVEY MONUMENTS ARE INSTALLED.

WARRANTY

ANY DEFECTS WHICH APPEAR IN THE WORK WITHIN TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE AND WHICH ARE DUE TO IMPROPER WORKMANSHIP OR INFERIOR MATERIALS SUPPLIED SHALL BE CORRECTED BY, AND AT THE EXPENSE OF, THE CONTRACTOR.

UTILITIES

THESE PLANS REPRESENT A REASONABLE EFFORT TO SHOW LOCATIONS OF EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES CAUSED DURING CONSTRUCTION. THE CONTRACTOR IS TO VERIFY THE LOCATION AND THE ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO ANY EXCAVATION OR CONSTRUCTION. WHERE PROPOSED UTILITIES ARE TO TIE INTO EXISTING STUBOUTS, MANHOLES, ETC., THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION BY POTHOLING, IF NECESSARY, TWO WEEKS PRIOR TO CONSTRUCTION. SHOULD ANY LOCATION OR ELEVATION DIFFER FROM THAT SHOWN ON PLANS, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE PROPER UTILITY OWNER'S AGENT.

UTILITIES MUST BE LOCATED TO MINIMIZE INTERFERENCE WITH ONE ANOTHER, TO PROVIDE REQUIRED HORIZONTAL AND VERTICAL SEPARATIONS, AND TO PROVIDE MAINTENANCE ACCESS WITHOUT VIOLATING EASEMENT BOUNDARIES.

UTILITY FACILITIES IN CONFLICT WITH THIS WORK WILL BE RELOCATED BY THE PERMITTEE OR THE UTILITY OWNER. THIS ACTIVITY SHALL BE COORDINATED WITH THE OWNER OF THE UTILITY TO PREVENT ANY UNNECESSARY INTERRUPTION OF SERVICE TO EXISTING CUSTOMERS.

IT IS NOT WITHIN THE SCOPE OF THE PLANS FOR THE ENGINEER TO LOCATE, IDENTIFY OR FORESEE EVERY UTILITY CONFLICT WHICH MAY ARISE DURING THE CONSTRUCTION PHASE OF THE PROJECT BUT IT IS THE INTENT OF THE OWNER TO REASONABLY COMPENSATE THE CONTRACTOR FOR THE WORK REQUIRED TO RELOCATE OR ADJUST UTILITIES CONFLICTING WITH THE CONSTRUCTION OF THE PROJECT. TO THAT END, UTILITIES WHICH ARE ENCOUNTERED WILL BE ADDRESSED AS FOLLOWS:

1) UTILITY RELOCATION'S OR ADJUSTMENTS NOTED ON THE PLANS SHALL BE PAID FOR PER THE BID SCHEDULE.

2) UTILITY RELOCATION'S OR ADJUSTMENTS NOT NOTED ON THE PLANS SHALL BE ADDRESSED ON A CASE BY CASE BASIS. THE ENGINEER SHALL DETERMINE WHAT WORK IS REQUIRED TO PRODUCE THE DESIRED FINAL PRODUCT. IF A UNIT BID PRICE DOES NOT EXIST THEN COMPENSATION MUTUALLY ACCEPTABLE TO THE OWNER, CONTRACTOR, AND ENGINEER SHALL BE MADE.

IN EITHER SITUATION, WORK ON THE SPECIFIC CASE SHALL NOT PROCEED UNTIL THE AMOUNT OF COMPENSATION IS AGREED UPON. COMPENSATION FOR UTILITY RELOCATIONS AND ADJUSTMENTS SHALL NOT INCLUDE COSTS FOR REPAIR TO THE UTILITY DAMAGED BY THE CONTRACTOR OR HIS SUBCONTRACTOR(S). THE CONTRACTOR IS NOT RELIEVED OF THE RESPONSIBILITY FOR DETERMINING THE LOCATION OF ALL UTILITIES AFFECTING THE WORK. THE APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. CERTAIN UTILITIES ARE TO REMAIN IN SERVICE DURING THE CONSTRUCTION OF THE FILL AND UPON COMPLETION OF THE CONTRACT. THESE UTILITIES SHALL BE PROTECTED DURING THE

CONSTRUCTION AND CUT OR FILL PLACEMENT SHALL NOT PROHIBIT MAINTENANCE ACCESS TO THESE UTILITIES.

A UTILITY COORDINATION MEETING SHALL BE COORDINATED BY THE CONTRACTOR PRIOR TO THE START OF ANY WORK. ALL UTILITY ISSUES SHALL BE ADDRESSED IN ACCORDANCE WITH MAG SECTION 105.6.

BLUE STAKE

LOCATION OF UNDERGROUND UTILITIES SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ARS 40-360.22 PRIOR TO ANY EXCAVATION. BLUE STAKE SHALL BE CALLED AT 1-800-321-ALERT FOR AN ACCURATE LOCATION OF UTILITIES AS NECESSARY AND PRIOR TO ANY EXCAVATION.

STREET CLOSURE

STREETS CLOSED BECAUSE OF CONSTRUCTION, SHALL BE PROVIDED WITH BARRICADES AND/OR HAZARD SIGNS AS REQUIRED BY THE ENGINEER AND APPROVED BY THE OWNER.

AS-BUILT PLANS

THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF ALL APPROVED SHOP DRAWINGS AND AN ACCURATE, CURRENT, AS-BUILT SET OF PLANS ON SITE FOR REFERENCE AT ALL TIMES. THE AS-BUILT PLANS WILL BE FURNISHED BY THE CONTRACTOR TO THE OWNER AT THE COMPLETION OF THE PROJECT FOR RECORD. THE AS-BUILT PLANS MUST BE UPDATED DAILY BY THE CONTRACTOR AND INCLUDE, IN ADDITION TO THE PLANNED CONSTRUCTION, ANY CHANGES AUTHORIZED BY THE OWNER AND ANY UTILITIES DISCOVERED DURING THE TRENCHING OPERATIONS BY SIZE, LOCATION, AND TYPE REDLINED ONTO THE PLANS BY STATION/DISTANCE/DEPTH.

PRIOR TO APPROVAL OF AN IMPROVEMENT PROJECT, AN "AS-BUILT" PLAN MUST BE SUBMITTED TO THE PERMITTING AGENCY. THE AS-BUILT PLAN SHALL INDICATE THE ACTUAL LOCATION OF WATER MAINS, SEWER MAINS, UNDERGROUND DRAINAGE STRUCTURES, ALL SEWER AND WATER SERVICES, ALL FITTINGS, VALVES AND MANHOLES RELATIVE TO RIGHT-OF-WAY BOUNDARIES, LOT LINE, OR OTHER POINTS OF SURVEY.

THE ENGINEER SHALL PLACE ALL INFORMATION ON REPRODUCIBLE CONSTRUCTION PLANS. THE AS-BUILT REPRODUCIBLE PLANS WILL THEN BE PLACED IN THE PERMITTING AGENCY'S RECORDS. APPROPRIATE SUBMITTALS SHALL BE MADE AS REQUIRED TO ALL AGENCIES BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE.

CONSTRUCTION STAKING

THE ACCURACY OF ALL CONSTRUCTION WORK SHALL BE MAINTAINED AND VERIFIED BY THE CONTRACTOR'S SURVEYOR AT THEIR EXPENSE BY PROVIDING CONSTRUCTION STAKING SUITABLE TO THE OWNER OR HIS AUTHORIZED REPRESENTATIVE. STAKES WILL BE SET ESTABLISHING LINES AND GRADES (FINISH OR FLOWLINE) FOR ALL CONSTRUCTION INCLUDING ROADS, CURB AND GUTTER, SIDEWALKS, UTILITIES, STRUCTURES, AND OTHER WORK AS CONSIDERED NECESSARY BY THE ENGINEER. ALL SURVEY CONTROL SHALL BE SET BY THE CONTRACTOR'S SURVEYOR FROM MONUMENTS ACCEPTABLE TO THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR RESTAKING EXPENSES.

INTERPRETATION OF PLANS

THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE DIRECTED TO THE ENGINEER. ANY INTERPRETATION OF THE PLANS BY ANYONE OTHER THAN THE ENGINEER SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES THEREOF.

COORDINATION WITH OTHER PROJECTS

CONTRACTOR SHALL COORDINATE WORK WITH ON-GOING AND PROPOSED WORK ADJACENT TO OR NEAR THE PROJECT SITE.

PERMITS AND APPROVALS

THE PERMITTING AGENCY REQUIRES THE ISSUANCE OF A GRADING PERMIT FOR ANY EXCAVATION OR GRADING (INCLUDING PLACEMENT OF FILL). CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (NOI) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER AN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT. REFER TO THE CURRENT U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) CONSTRUCTION GENERAL PERMIT FOR REQUIREMENTS. THE U.S. BUREAU OF INDIAN AFFAIRS REQUIRES THE ISSUANCE OF A DRIVEWAY PERMIT PRIOR TO COMMENCING ANY WORK WITHIN ANY INDIAN ROUTE ROADWAYS. CONTACT MR. ROLAND BECENTI WITH THE WESTERN NAVAJO AGENCY, DIVISION OF TRANSPORTATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND EASEMENTS FROM ALL APPLICABLE JURISDICTIONS PRIOR TO CONSTRUCTION.

PERMITS SHALL BE ISSUED PRIOR TO NEW CONSTRUCTION, EXTENSION TO, OR MODIFICATION OF A WATER DISTRIBUTION SYSTEM, SEWAGE COLLECTION OR INDIVIDUAL SEWAGE TREATMENT SYSTEM

EARTHWORK

THE ENGINEER HAS USED HIS BEST JUDGMENT IN THE ESTIMATION OF THE EARTHWORK FOR THIS PROJECT. THE ENGINEER HAS NO CONTROL OVER VARYING FIELD CONDITIONS AND CONSTRUCTION METHODS INVOLVED IN THE SITE GRADING. CONSEQUENTLY, ACTUAL QUANTITIES, COST AND TIME REQUIRED FOR THIS PROJECT MAY BE AFFECTED BY MANY FACTORS BEYOND THE ENGINEER'S CONTROL, AND THE ENGINEER SHALL NOT BE HELD LIABLE FOR ANY DEVIATION FROM ITS ESTIMATED QUANTITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EARTHWORK QUANTITIES. NO ADJUSTMENT FOR SHRINK OR SWELL WAS MADE AND, THEREFORE, ESTIMATES SHOWN INDICATE "IN PLACE" QUANTITIES.

ALL FILL AREAS WILL HAVE COMPACTION TESTING REQUIREMENTS PER M.A.G. SPECIFICATION 211. EARTHWORK QUANTITIES DO NOT INCLUDE TRENCHING FOR UTILITIES OR ANY MISCELLANEOUS ARCHITECTURAL LANDSCAPING TREATMENT. FILL CONSTRUCTION IS INTENDED TO INCLUDE FULL PAYMENT FOR ALL MATERIAL REQUIRED TO BUILD THE PROJECT AND THE DISPOSAL OF ANY EXCESS MATERIAL FROM THE SITE.

PAVING NOTES

THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATION AND GENERAL CONDITION OF ALL EXISTING TIE-IN AND MATCHING POINTS OF PAVEMENT PRIOR TO ANY STREET CONSTRUCTION. SHOULD ANY LOCATIONS, ELEVATIONS, CROSS SLOPES, OR CONDITIONS DIFFER FROM WHAT IS SHOWN ON THE PLANS, THE CONTRACTOR SHALL CONTACT THE OWNERS AGENT IMMEDIATELY FOR APPROPRIATE

CORRECTIVE ACTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY COSTS INCURRED IF THIS PROCEDURE IS NOT FOLLOWED.

ALL VALVE BOXES, MANHOLE FRAMES AND COVERS, OR OTHER UTILITY APPURTENANCES WITHIN THE CONSTRUCTION LIMITS SHALL BE ADJUSTED TO FINAL FINISH GRADE, WHETHER SPECIFICALLY SHOWN ON THE PLANS OR NOT, AS NECESSARY FOR A COMPLETE JOB, OR AS DESIGNATED BY THE ENGINEER. WHERE NEW WATER METERS ARE INSTALLED IN THE SIDEWALKS, THE NEW BOXES AND COVERS SHALL BE SET FLUSH WITH THE SIDEWALK GRADE. FIRE HYDRANT SIDEWALK FLANGES SHALL BE SET 0.1' ABOVE ADJACENT FINISH GRADES.

POSITIVE DRAINAGE SHALL BE PROVIDED DURING CONSTRUCTION OF THE PROPOSED PAVEMENT STRUCTURE. THE CONSTRUCTED GRADIENT OF PAVED SURFACES SHALL ENSURE POSITIVE DRAINAGE AND WATER IS NOT ALLOWED TO POND IN AREAS DIRECTLY ADJOINING PAVED SECTIONS.

EXACT POINT OF MATCHING TERMINATION AND PAVING, IF NECESSARY, SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

EXISTING STREET AND TRAFFIC SIGNS WILL BE MAINTAINED DURING CONSTRUCTION AND RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE OWNER'S ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

AN ACCEPTABLE PAVEMENT SURFACE SHALL NOT VARY MORE THAN ¼ INCH FROM THE LOWER EDGE OF A 25-FOOT STRAIGHTEDGE WHEN THE STRAIGHTEDGE IS PLACED PARALLEL TO THE CENTER LINE OF THE ROADWAY. THE STRAIGHTEDGE SHALL BE FURNISHED BY THE CONTRACTOR AND BE ACCEPTABLE TO THE OWNER'S ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

RELOCATIONS AND REMOVALS

REMOVAL OF EXISTING IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH M.A.G. SPECIFICATIONS.

SIGNS, TREES SHRUBS, MAILBOXES AND OTHER INCIDENTALS REQUIRING RELOCATION SHALL BE MOVED ONLY FAR ENOUGH TO ALLOW CONSTRUCTION OF THE PROJECT AND CAUSE THE LEAST DISRUPTION TO PRIVATE PROPERTY, AND LANDSCAPE. FINAL POSITIONS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO RELOCATION. ALL RELOCATED ITEMS SHALL CONTINUE TO WORK IN THEIR INTENDED CAPACITY AFTER THE RELOCATION HAS BEEN ACCOMPLISHED. NO SIGNS SHALL BE RELOCATED TO POSITIONS OUTSIDE DESIGNATED RIGHTS-OF-WAY. SAFETY SHALL BE A PRIMARY CONSIDERATION IN THE PLACEMENT OF SHRUBBERY AND SIGNS WHICH COULD POSSIBLY DISRUPT THE SIGHT DISTANCE OF MOTORISTS.

MISCELLANEOUS REMOVALS AND OTHER WORK NECESSITATED BY THE WORK AS IT PROGRESSES AND NOT SPECIFICALLY CALLED OUT ON THE PLANS WILL BE CONSIDERED INCIDENTAL WORK.

DRAINAGE

VERTICAL SEPARATION TO DRAINAGE PIPES

WHERE CULVERTS OR DRAINAGE PIPES CROSS GRAVITY SEWERS, PRESSURE SEWERS, OR WATER MAINS, A MINIMUM OF ONE FOOT OF VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE TWO PIPES.

DRAINAGE CHANNELS AND DITCHES

CHANNELS AND DITCHES SHOWN ON PLANS SHALL DAYLIGHT TO THE APPROPRIATE DESIGN LOCATIONS SO THAT POSITIVE DRAINAGE IS ACHIEVED.

DRAINAGE MAINTENANCE DURING CONSTRUCTION

ADEQUATE DRAINAGE OF THE CONSTRUCTION AREA SHALL BE PROVIDED AT ALL TIMES. CONSTRUCTION DRAINS SHALL BE PROVIDED AS NEEDED TO ENABLE WATER TO DRAIN FROM THE CONSTRUCTION AREA RAPIDLY AND WITHOUT DAMAGING THE WORK IN PROGRESS. TO FURTHER PROMOTE GOOD DRAINAGE OF THE SITE, DRAINAGE CHANNELS, CULVERTS, AND STRUCTURES, SHALL BE CONSTRUCTED FROM DOWNSTREAM TO UPSTREAM IN SUCH A WAY THAT DURING CONSTRUCTION, THEY DO NOT IMPEDE THE FLOW OF WATER FROM THE CONSTRUCTION AREA.

DAMAGE TO ADJACENT PROPERTIES OR TO ANY PORTION OF THE WORK CAUSED BY THE CONTRACTOR'S FAILURE TO PROVIDE ADEQUATE DRAINAGE OF THE CONSTRUCTION SITE OR TO ORDER THE WORK SO AS TO MINIMIZE THE POSSIBLE EXTENT OF SUCH DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE

TRAFFIC CONTROL, STRIPING AND SIGNING

THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TRAFFIC CONTROL DEVICES REQUIRED FOR THE CONTROL OF VEHICLE AND PEDESTRIAN TRAFFIC AFFECTED BY THE CONSTRUCTION. ALL TRAFFIC CONTROL PLANS MUST CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," LATEST EDITION, WITH ADOT MODIFICATIONS AND REVISIONS AND BE APPROVED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE PRIOR TO IMPLEMENTATION.

REGULATORY AND WARNING SIGNS SHALL BE THIRTY (30) INCHES IN HEIGHT, UNLESS OTHERWISE SPECIFIED BY THE MUTCD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS ON FINAL SURFACE COURSE, USING A STRING LINE. FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 10 FEET APART ALONG LINES TO BE STRIPED.

ALL STRIPING SHALL BE A MINIMUM OF 4 INCHES EXCEPT WHERE NOTED ON PLANS.

THE STRIPING AND SIGNING DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, DETAILS, AND STANDARDS WHEN INSTALLING PAVEMENT STRIPES, MARKINGS, AND MARKERS.

THE CONTRACTOR SHALL REFER ANY QUESTIONS CONCERNING TRAFFIC MARKINGS TO THE ENGINEER. AN INSPECTION OF THE LAYOUT IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE WILL BE REQUIRED PRIOR TO ANY PERMANENT STRIPING APPLICATIONS. THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE THAT THE ROAD IS READY FOR INSPECTION AFTER THE LAYOUT AND SPOTTING OF THE ENTIRE PROJECT IS COMPLETE.

SHOULD FIELD CONDITIONS CHANGE DUE TO THE CONSTRUCTION OF AN ADJACENT PIECE OF ROADWAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER'S AUTHORIZED REPRESENTATIVE AND FOR SUBMITTING AN UPDATED STRIPING PLAN

TWENTY--ONE DAYS PRIOR TO PAVING.

THE CONTRACTOR IS REQUIRED TO APPLY A SECOND COAT OF PAINT BETWEEN 30 AND 45 DAYS AFTER FIRST APPLICATION FOR ALL PAVEMENT MARKINGS AND STRIPES.

SIGN LOCATIONS ARE APPROXIMATE. FINAL SIGN LOCATIONS SHALL BE PLACED IN AREAS FREE OF VISUAL OBSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE AT LEAST 48 HOURS IN ADVANCE PRIOR TO INSTALLING SIGNS. THE OWNER'S AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO MODIFY THE SHOWN SIGN LOCATIONS DEPICTED ON THE PLANS PRIOR TO FINAL INSTALLATION.

FIRE HYDRANTS

FIRE HYDRANTS SHALL BE MARKED IN ACCORDANCE WITH NFPA 291, RECOMMENDED PRACTICE FOR FIRE FLOW TESTING AND MARKING OF HYDRANTS, AND SHALL BE MADE VISIBLE FROM THE ROAD BY REFLECTIVE MARKING OR SIGNAGE AS DESIGNATED BY THE AUTHORITY HAVING JURISDICTION.

WATER AND SEWER:

WATER AND SEWER CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF NTUA INCLUDING:

- TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTE WATER FACILITIES MOST RECENT EDITION.
- STANDARD DETAILS FOR WATER
- STANDARD DETAILS FOR WASTE WATER

THERE ARE NO WATER MAINS ON THIS PROJECT, ALL WATER SERVICE.

ALL FIRE LINE CONSTRUCTION SHALL MEET ALL NTUA REQUIREMENTS FOR WATER LINES EXCEPT THAT DISINFECTION IS NOT REQUIRED NOR BACTERIOLOGICAL TESTING.

WATER MAINS CARRYING POTABLE WATER UNDER PRESSURE SHALL BE PVC PRESSURE PIPE (AWWA C900) PER SPECIFICATIONS.

WATER LINE TESTING (PRESSURE & LEAKAGE), DISINFECTION AND BACTERIOLOGICAL TESTING SHALL CONFORM TO THE REQUIREMENTS OF NAVAJO TRIBAL UTILITY AUTHORITY (NTUA) TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP OF WATER AND WASTEWATER FACILITIES (LATEST EDITION), SECTION TP 3.09 AND TP 3.10.

WATER LINE BLOCKING SHALL BE PROVIDED AS PER NTUA TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP OF WATER AND WASTEWATER FACILITIES (LATEST EDITION) SECTION TP 3.05 AND NTUA DETAILS WS-19 AND WS-19A.

CONTRACTOR SHALL OBTAIN APPROVED PERMISSION TO TAP (PTT) FORM PRIOR TO TAPPING EXISTING WATER AND SEWER MAIN.

CONTRACTOR SHALL OBTAIN APPROVED CONSTRUCTION PERMIT FOR WATER AND WASTEWATER FROM NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY (NNEPA) PRIOR TO TAPPING EXISTING WATER AND SEWER MAIN.

CONTRACTOR TO COORDINATE WITH NTUA REGARDING WATER SHUT OFF WITH AT LEAST THREE (3) DAYS ADVANCE NOTICE TO ISOLATE LINE(S), TO NOTIFY AFFECTED CUSTOMERS AND TO MINIMIZE OUTAGE TIME PRIOR TO CONNECTION OF NEW WATER SERVICE.

CONTRACTOR SHALL COORDINATE WITH NTUA PRESENT AT THE SITE TO VERIFY LOCATION, DEPTH, SIZE AND TYPE OF UNDERGROUND UTILITIES.

UNLESS OTHERWISE DIRECTED, ONLY AUTHORIZED NTUA STAFF WILL BE ALLOWED TO CLOSE/OPEN WATER VALVES FOR THE USAGE OF WATER. CONNECTIONS TO EXISTING LINES AND FOR THE USAGE OF WATER.

SEWER MAIN AND SERVICE SHALL BE PVC, ASTM D3034 PER N.T.U.A. TECHNICAL SPECIFICATIONS FOR MATERIALS AND WORKMANSHIP FOR WATER AND WASTE WATER FACILITIES MOST RECENT EDITION

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CIVIL NOTES SHEET

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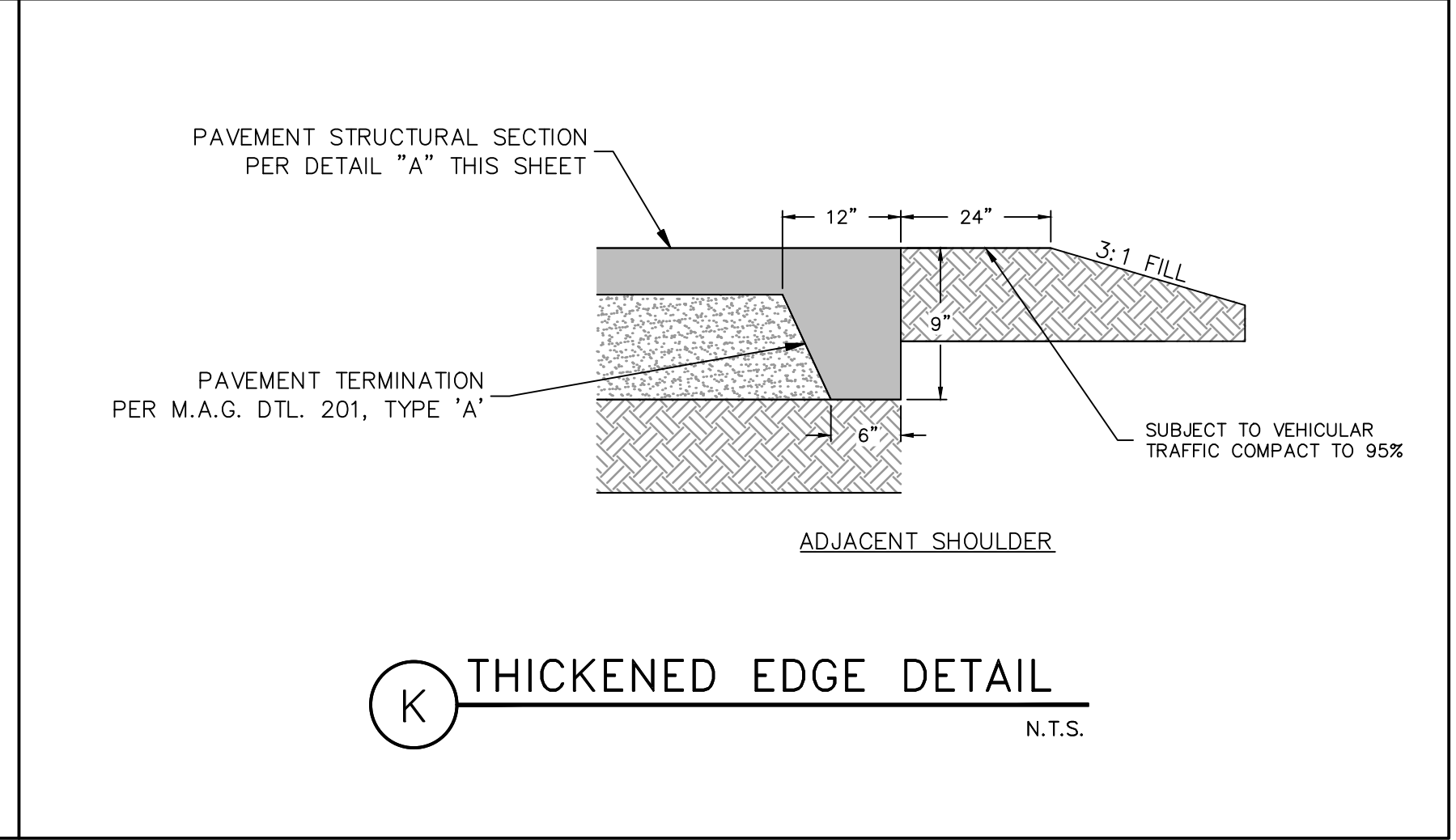
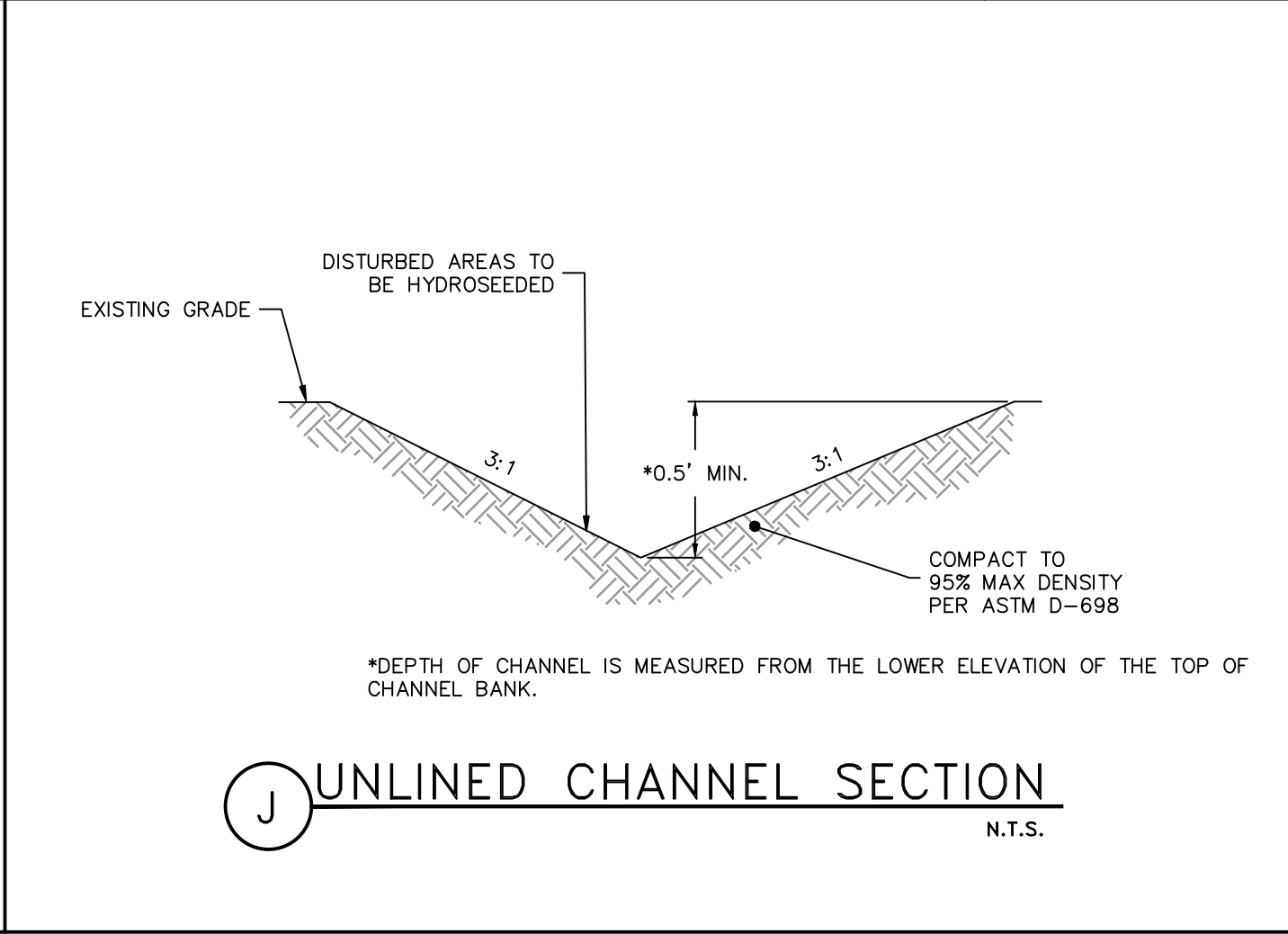
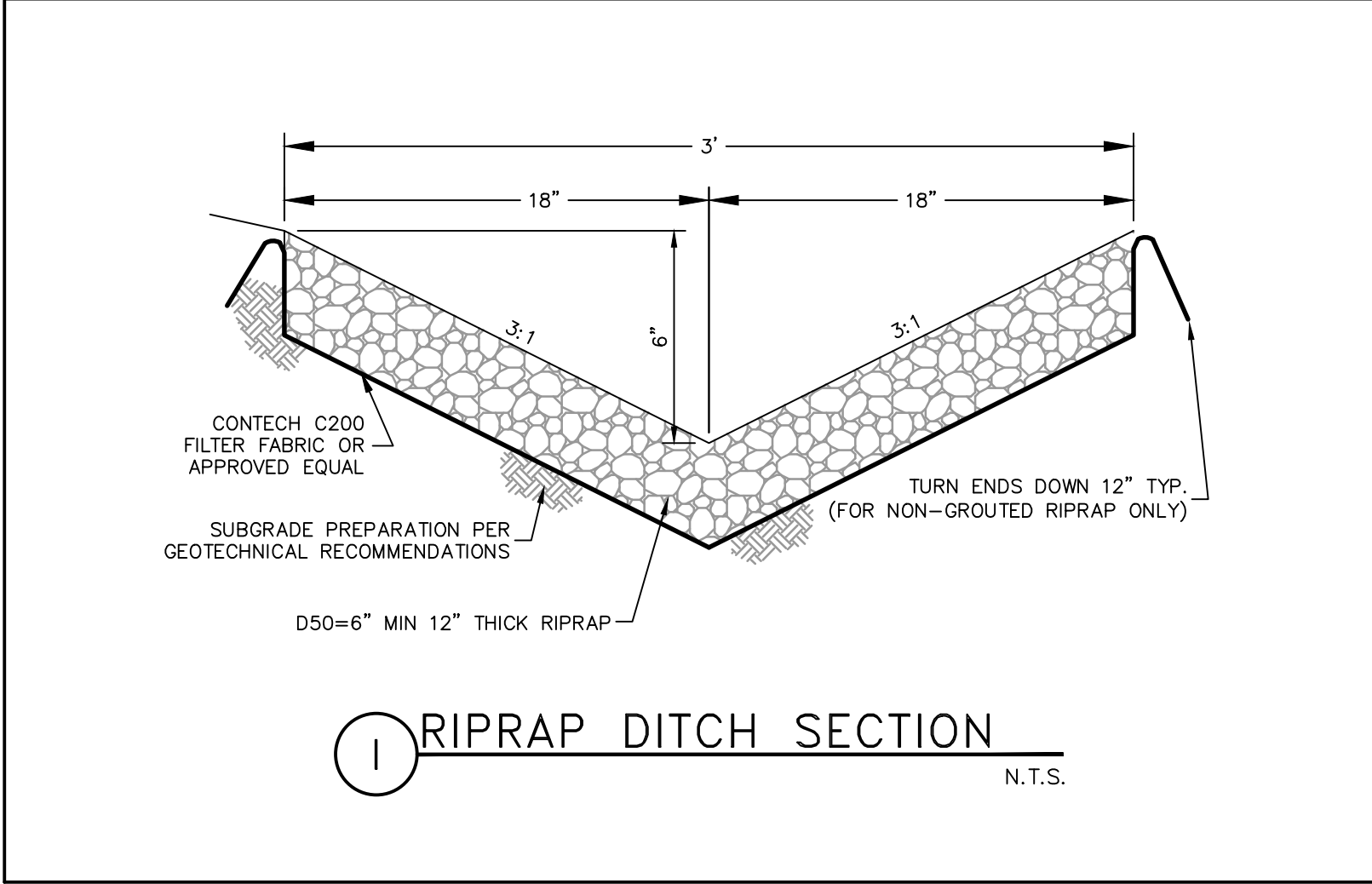
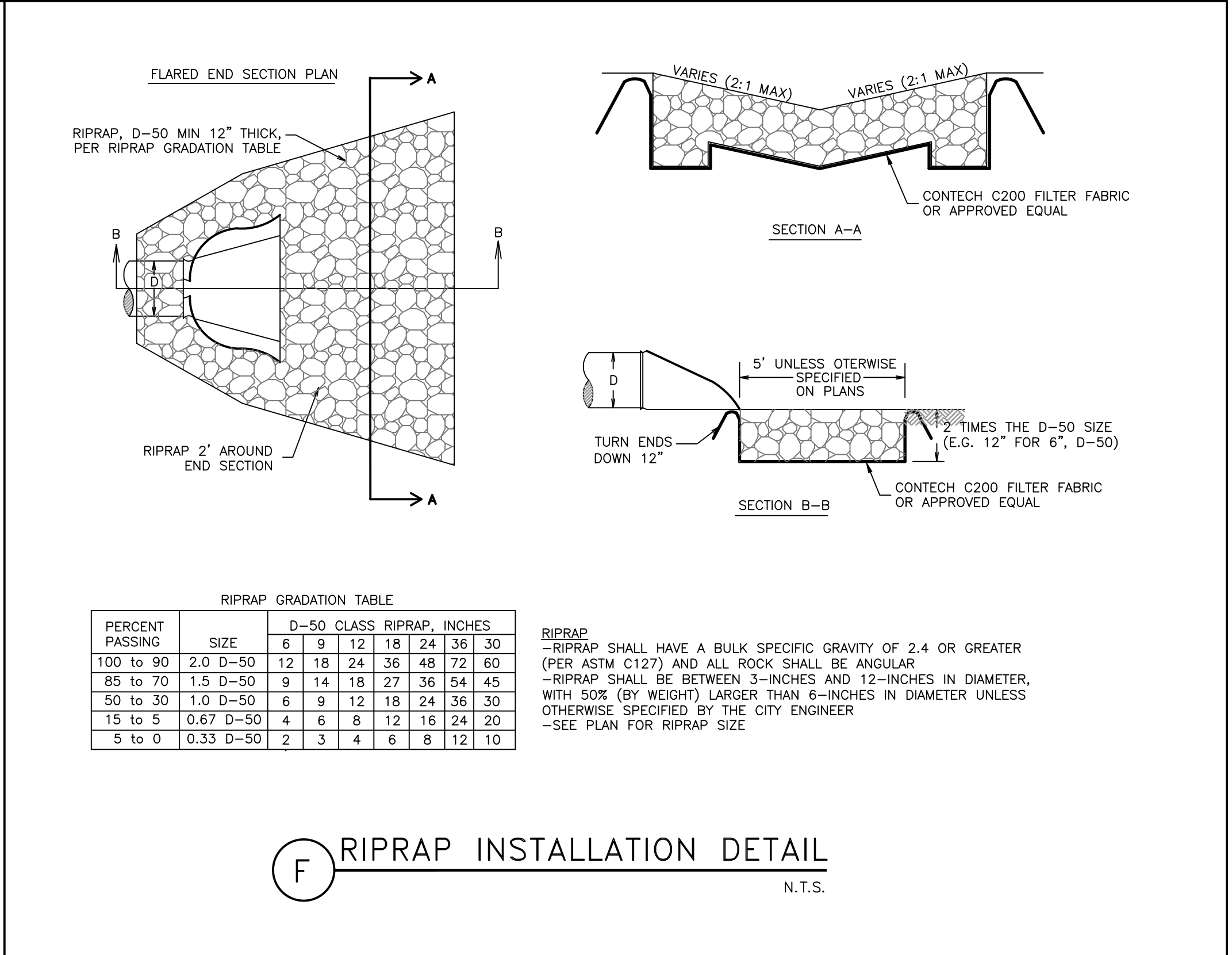
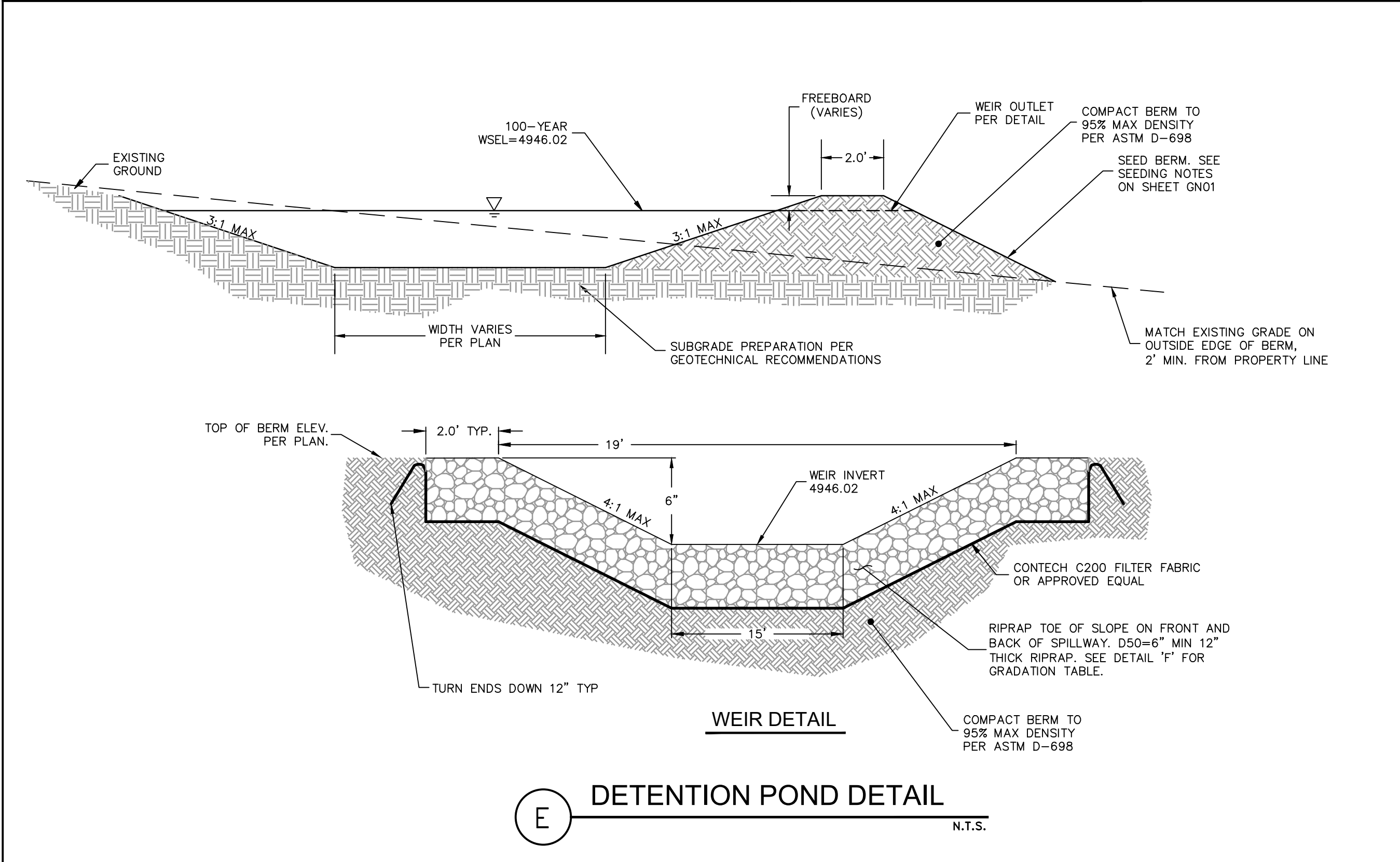
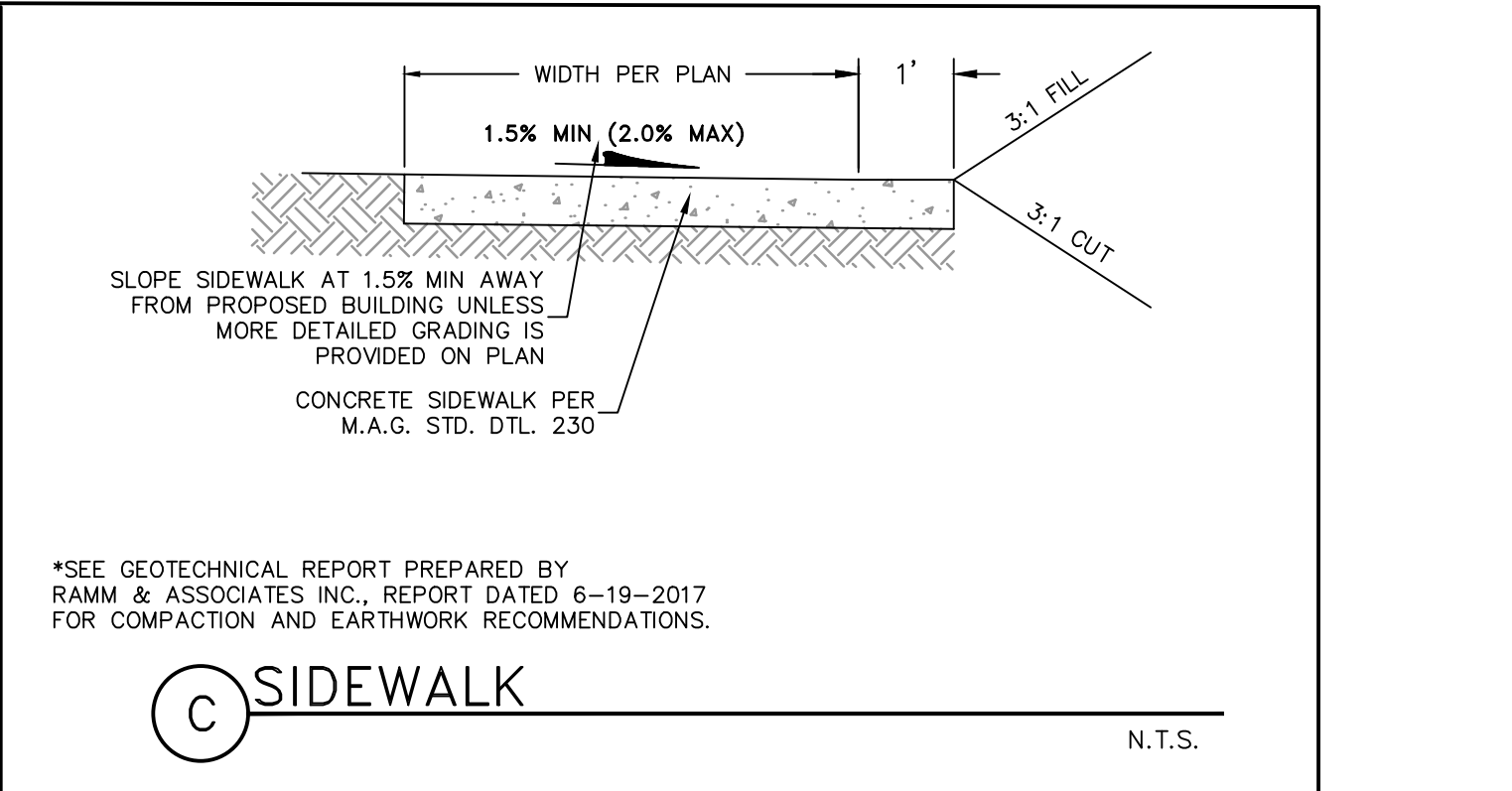
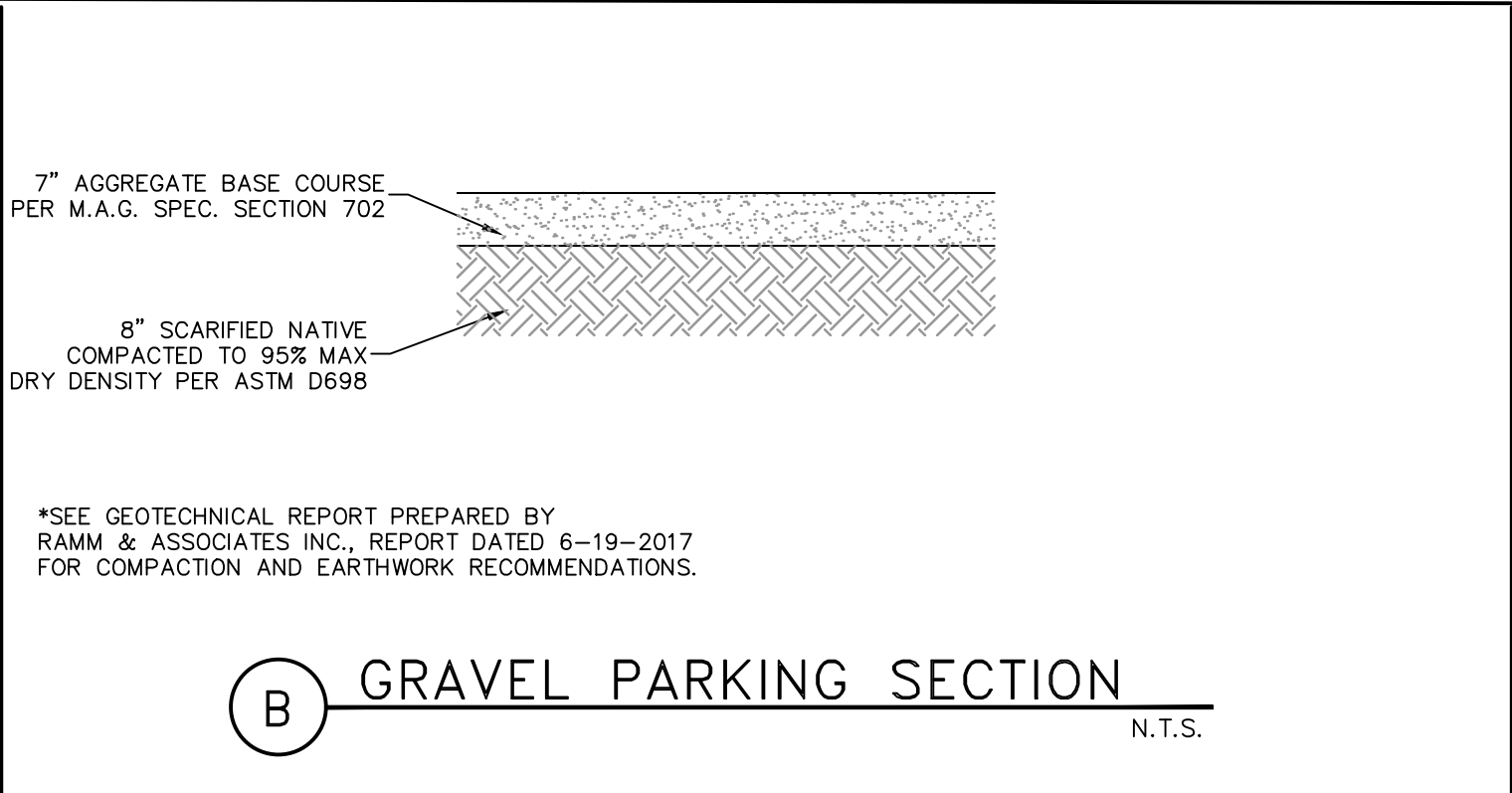
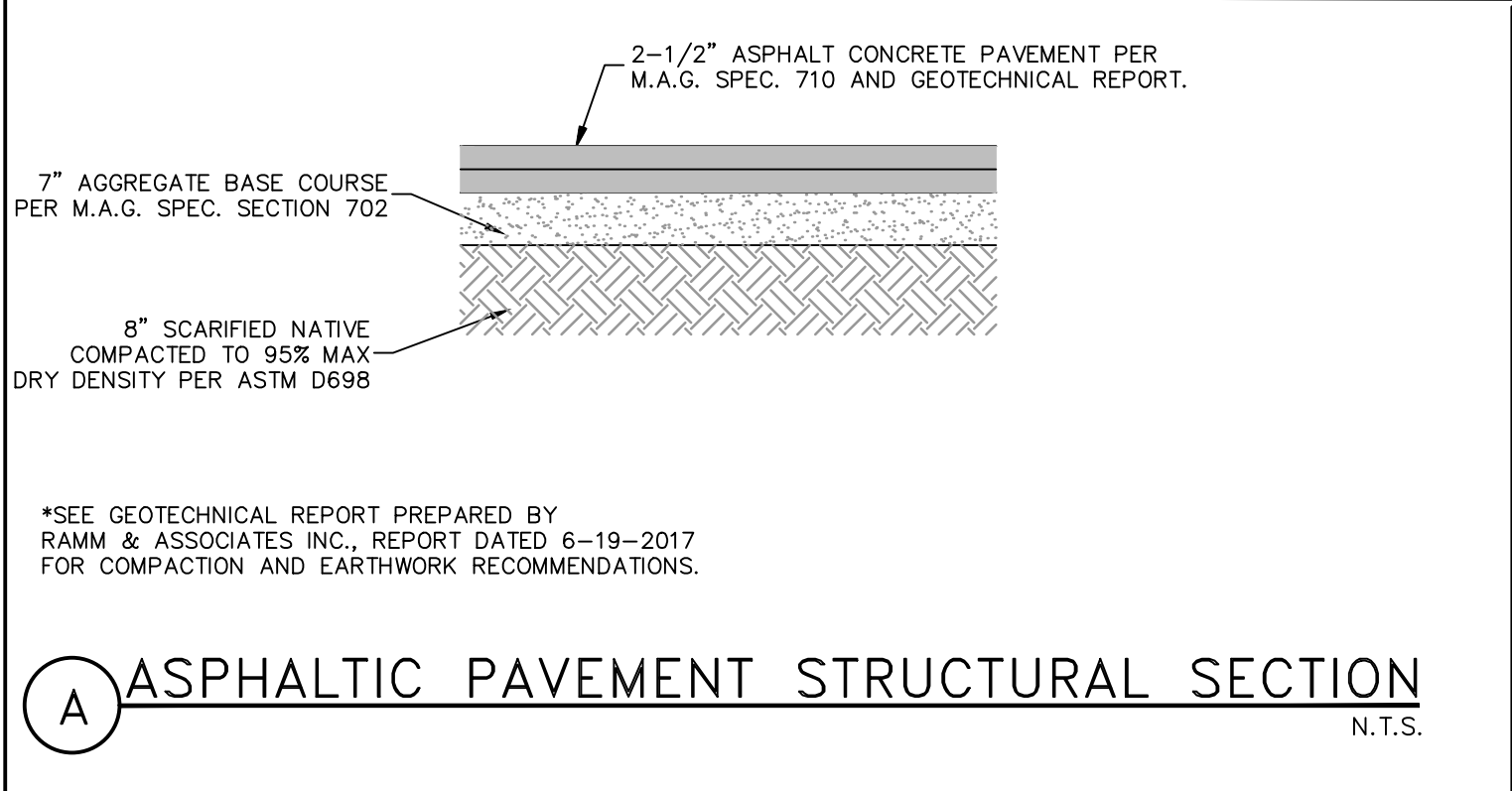
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GN01  
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FILE: P:\2017\17095\DRAWINGS\CONSTRUCTION PLANS\1641A\17095 - DETAILS A.DWG ETAGUE

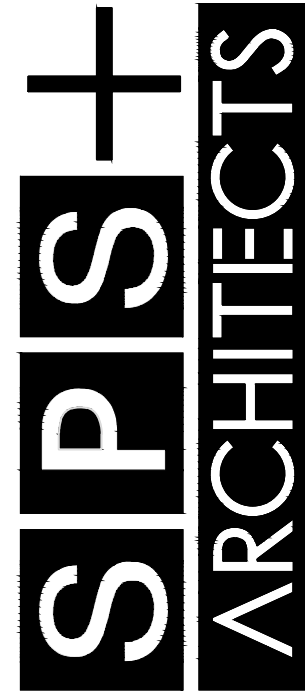
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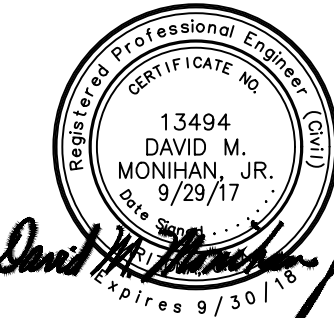
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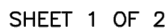
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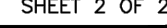
SHEET 4 OF 7

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APPROVED BY:	NTUA
DATE:	04/08
PROJECT NO.	
SCALE:	NTS
ACAD FILENAME:	Water Standard
DWG. NO.	WS-1c.DWG



DATE PERFORMED: \_\_\_\_\_. LAB SAMPLE NO.: \_\_\_\_\_. INITIALED (NTUA): \_\_\_\_\_

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ACAD FILENAME:	Water Standard
DWG. NO.	WS-2.DWG



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SCALE:	NTS
ACAD FILENAME:	water Standard
DWG. NO.	WS-2a.DWG

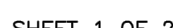
SHEET 1 OF 2

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PROJECT NO.	
SCALE:	NTS
ACAD FILENAME:	Water Standard
DWG. NO.	WS-19 DWG



ANSWER: 4923 LBS. x 160 PSI/100 PSI DIVIDED BY 150 LBS./CUBIC FT. = 52.5 CUBIC FEET  
OR 2 CUBIC YARDS.

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SCALE:	NTS
ACAS FILENAME:	Water Standard



1. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1010, 1010-1, 1010-2 AND 1010-3.
2. NO WATERLINE CONNECTIONS ARE ALLOWED BETWEEN THE METER AND BACKFLOW PREVENTION ASSEMBLY.
3. BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED WITHIN 5'-FT OF THE METER BOX.
4. BACKFLOW PREVENTION ASSEMBLY SHALL BE CENTERED ON CONCRETE PAD AND COVERED WITH ENCLOSEURE.
5. MINIMUM INSULATED CLASS II, ASSE 1060 WEATHERPROOF ENCLOSEURE REQUIRED.
6. PROTECT PIPES & BACKFLOW PREVENTION ASSEMBLY FROM DAMAGE DURING INSTALLATION AND OPTIMAL HEATING SOURCE.
7. OPTIONAL 120V GFI ELECTRICAL RECEPTACLE TO BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE FOR OUTDOOR AND DAMP ENCLOSURE OPERATION.
8. PIPE MATERIAL SHALL BE CLASS 350 OR BETTER POLYMER (TYPE IV OR V) WITH SDR 35.
9. INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE SPECIFICATIONS.
10. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW PREVENTION ASSEMBLY IN COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.
11. MINIMUM 24" CLEARANCE FROM WALL ON THE OUTSIDE PORTS FOR ACCESS TO TESTING.
12. CLEARANCE FOR TOP OF ENCLOSEURE TO ASSEMBLY VARIES PER ASSEMBLY MODEL AND ENCLOSEURE.

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SHEET 2 OF 2

1. A.R. = AS REQUIRED  
2. OAE = OR APPROVED EQUAL

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Registered Professional Engineer (Civil)  
 CERTIFICATE NO.  
 13494  
 DAVID M.  
 MONIHAN, JR.  
 Date 9/29/17  
*David M. Monihan*  
 Expires 9/30/18

# TOPOGRAPHIC SURVEY

LOCATED IN PORTIONS OF SECTION 20,  
 TOWNSHIP 32 NORTH, RANGE 11 EAST  
 GILA AND SALT RIVER BASELINE AND MERIDIAN  
 COCONINO COUNTY, ARIZONA

## COORDINATE SYSTEM DETAILS

LINEAR UNIT: INTERNATIONAL FEET  
 GEODETIC DATUM: NAD 83 (CONUS)  
 VERTICAL DATUM: NAVD 88, REFERENCED FROM NGS CONTROL POINT  
 SYSTEM: U.S. STATE PLANE 1983  
 ZONE: ARIZONA CENTRAL

PROJECTION:  
 TRANSVERSE MERCATOR  
 LATITUDE OF GRID ORIGIN: 31° 00' 00" N  
 LONGITUDE OF CENTRAL MERIDIAN: 111° 55' 00" W  
 NORTHING AT GRID ORIGIN: 0 FT  
 EASTING AT CENTRAL MERIDIAN: 700,000 FT  
 CENTRAL MERIDIAN SCALE FACTOR: 0.9999000000 (EXACT)  
 GROUND SCALE FACTOR: 1.0002891546  
 PROJECT LOCATION: LATITUDE - 36°08'00"  
 LONGITUDE - 111°13'25.5"  
 HEIGHT - 4966.15

ALL MEASURED DISTANCES AND BEARINGS SHOWN HEREON ARE GRID VALUES BASED ON THE PRECEDING PROJECTION DEFINITION. THE PROJECTION WAS DEFINED SUCH THAT GRID DISTANCES ARE EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.

THE BASIS OF BEARINGS IS TRUE GEODEDIC NORTH; NOTE THAT THE MEASURED GRID BEARINGS SHOWN HEREON (OR IMPLIED BY GRID COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE.

ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE TRANSFERRED TO THE SITE FROM NGS CONTROL POINT "TUBA CITY" USING GPS WITH NGS GEOD MODEL "GEOID12A". ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE PUBLISHED ELEVATION OF THIS STATION.

THE SURVEY WAS CONDUCTED USING GPS REFERENCED TO THE NATIONAL SPATIAL REFERENCE SYSTEM. A PARTIAL LIST OF POINT COORDINATES FOR THIS SURVEY IS GIVEN BELOW (ADDITIONAL COORDINATES ARE AVAILABLE UPON REQUEST). LOCAL NETWORK ESTIMATES ARE GIVEN AT THE 95% CONFIDENCE LEVEL AND ARE BASED ON AN APPROPRIATELY CONSTRAINED LEAST-SQUARES ADJUSTMENT OF OVER-DETERMINED AND STATISTICALLY INDEPENDENT OBSERVATIONS.

POINT "TUBA CITY" (OFF SITE) = 3" BRASS DISK, USCGS 1951  
 LATITUDE = 36°08'00.00678"N  
 LONGITUDE = 111°13'25.53611"W  
 ELLIPSOID HEIGHT = 4966.141 FT  
 NORTHING = 1868532.437 FT  
 EASTING = 904606.009 FT  
 ELEVATION = 5042.896 FT

ESTIMATED ACCURACY  
 HORIZONTAL = FIXED  
 VERTICAL = FIXED

POINT #1000 = 2" ALUMINUM CAP "COCONINO ENG LS 23372"  
 LATITUDE = 36°08'10.46973"N  
 LONGITUDE = 111°14'03.81714"W  
 ELLIPSOID HEIGHT = 4871.793 FT  
 NORTHING = 1869568.489 FT  
 EASTING = 901457.659 FT  
 ELEVATION = 4948.539 FT

ESTIMATED ACCURACY  
 HORIZONTAL = +/- 0.013'  
 VERTICAL = +/- 0.031'

POINT #1001 = 1.5" ALUMINUM CAP "MCM LS 27232"  
 LATITUDE = 36°08'01.07134"N  
 LONGITUDE = 111°14'08.12484"W  
 ELLIPSOID HEIGHT = 4863.860 FT  
 NORTHING = 1868615.405 FT  
 EASTING = 901110.894 FT  
 ELEVATION = 4940.636 FT

ESTIMATED ACCURACY  
 HORIZONTAL = +/- 0.029'  
 VERTICAL = +/- 0.043'

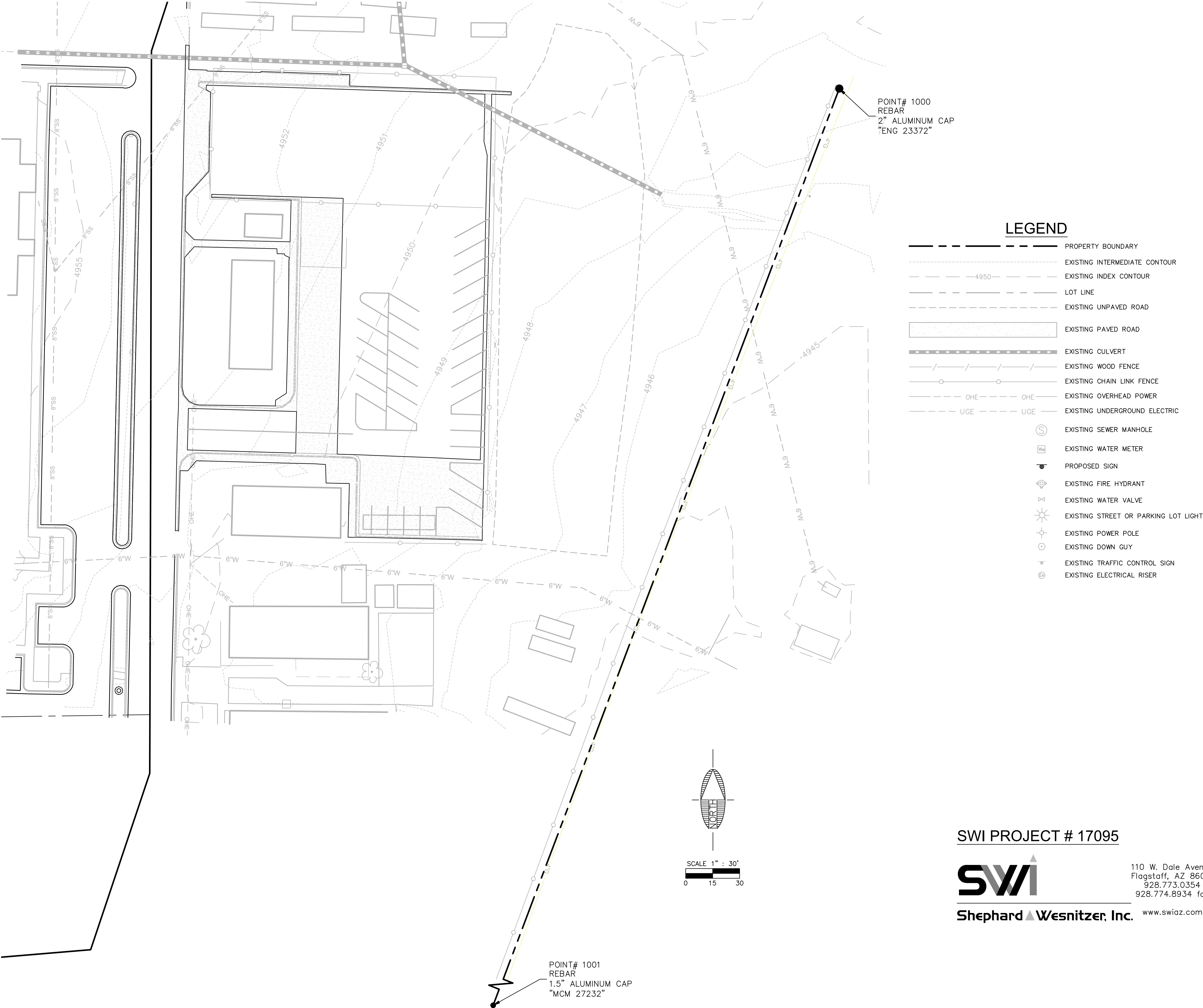
## CERTIFICATE OF LAND SURVEYOR

I HEREBY STATE THAT THE SURVEY SHOWN HEREON WAS DONE UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Aaron D. Borling

AARON D. BORLING, RLS 48756

- NOTES:  
 1. TOPOGRAPHIC SURVEY INFORMATION PROVIDED BY SHEPHARD-WESNITZER, INC.  
 2. BOUNDARY INFORMATION PER BOUNDARY SURVEY PLAT OF PARCEL A-1, TUBA CITY HOSPITAL SITE DATED BY AUGUST 2010 BY SURVEYING CONTROL INC. (SCI JOB NO. 2010-060).  
 3. THE INFORMATION ON THESE CONSTRUCTION PLANS CONCERNING THE TYPE, SIZE & LOCATION OF UTILITIES HAS BEEN BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINATION OF EXACT LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES, IN PLACE, UNLESS OTHERWISE NOTED OR SPECIFIED.



SWI PROJECT # 17095



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COVER SHEET

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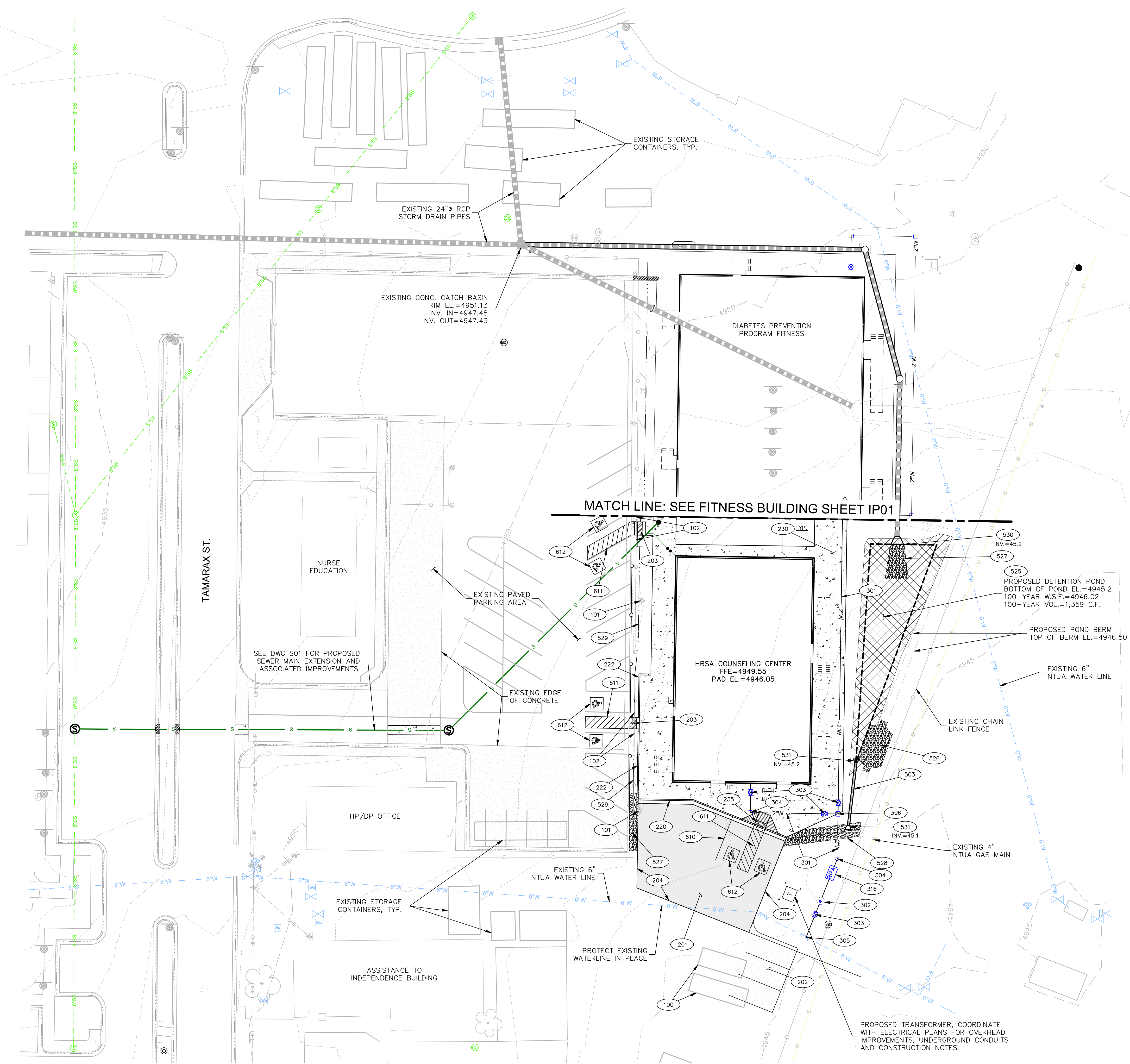
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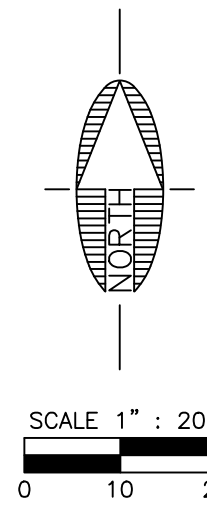
RS01

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CONSTRUCTION NOTES

- 100 (2 E.A.) REMOVE AND RELOCATE EXISTING STORAGE CONTAINERS. COORDINATE WITH T.C.R.H.C.C. FACILITIES MANAGEMENT DEPARTMENT FOR NEW LOCATION.
- 101 (2 E.A.) REMOVE EXISTING LIGHT POLE BASE. COORDINATE WITH FACILITIES MANAGEMENT.
- 102 (10 L.F.) REMOVE EXISTING FENCING 2' FROM THE EDGE OF SIDEWALK SCUPPER. INSTALL END OF LINE POSTS AT EACH END OF FENCE. END POSTS, CONCRETE BASE FOUNDATION AND WIRE TIE PER M.A.G. DTL. 160 AND M.A.G. SPEC. 420.
- 201 (275 S.Y.) CONSTRUCT ASPHALT PAVEMENT STRUCTURAL SECTION PER DETAIL 'A' ON DWG DT01.
- 202 (75 S.Y.) CONSTRUCT GRAVEL PARKING STRUCTURAL SECTION PER DETAIL 'B' ON DWG DT01.
- 203 (2 EA.) CONSTRUCT SIDEWALK SCUPPER PER M.A.G. DTL. 203.
- 204 (135 L.F.) CONSTRUCT PAVEMENT THICKENED EDGE PER DETAIL 'K' ON DWG DT01.
- 220 (68 L.F.) CONSTRUCT CONCRETE VERTICAL CURB & GUTTER PER M.A.G. DTL. 220, TYPE 'A'.
- 222 (57 L.F.) CONSTRUCT CONCRETE SINGLE CURB PER M.A.G. DTL. 222, TYPE 'A'.
- 230 (4,490 S.F.) CONSTRUCT CONCRETE SIDEWALK PER M.A.G. DTL. 230 AND DETAIL 'C' ON DWG DT01.
- 235 (1 EA.) CONSTRUCT CONCRETE SIDEWALK RAMP PER M.A.G. DTL. 235-1.
- 301 (202 L.F.) INSTALL 2" WATER SERVICE LINE PER N.T.U.A. DETAILS WS-1c, WS-2 & WS-2a ON DWG DT03. COORDINATE WITH PLUMBING PLANS FOR SERVICE LINE CONNECTION AT BUILDING.
- 302 (1 EA.) INSTALL 2" WATER METER PER N.T.U.A. DTLS. WS-2, WS-2a & WS-1c ON DWG DT03.
- 303 (4 EA.) INSTALL 2" VALVE WITH BOX AND THRUST BLOCK PER N.T.U.A. DTLS. WS-2, WS-2a, AND WS-1c ON DWG DT03.
- 304 (2 EA.) INSTALL 2" FITTINGS WITH THRUST BLOCKS PER N.T.U.A. DTLS. WS-19 AND WS-19A ON DWG DT03.
- 305 (1 EA.) CONNECT TO EXISTING 6" WATERLINE, INSTALL 2" SADDLE WITH DOUBLE STRAP PER N.T.U.A. DTLS. WS-2, W-2a, AND WS-1c ON DWG DT03. CONTRACTOR SHALL VERIFY EXISTING LOCATION, SIZE, MATERIAL AND DEPTH, COORDINATE WITH THE ENGINEER AND ADJUST THE ALIGNMENT AS REQUIRED FOR CONNECTION.
- 306 (1 EA.) INSTALL 2" TEE WITH THRUST BLOCKS PER N.T.U.A. DTLS. WS-19 AND WS-19A ON DWG DT03.
- 316 (1 EA.) INSTALL 2" BACKFLOW PREVENTION ASSEMBLY PER N.T.U.A. DTLS. WS-22 & WS-22a ON DWG DT03.
- 503 (28 L.F.) INSTALL 12" HDPE ADS (N-12) DUAL WALL STORM DRAIN (OR APPROVED EQUAL) PER M.A.G. SPEC. 618. TRENCH EXCAVATION, BACKFILLING, AND COMPACTION PER M.A.G. SPEC. 601 AND DETAIL 'G' ON SHEET DT01.
- 525 (1 EA.) CONSTRUCT DETENTION POND AND BERM PER DETAIL 'E' ON DWG DT01 AND GRADING PER DWG GD01.
- 526 (1 EA.) CONSTRUCT RIPRAP OVERFLOW WEIR PER DETAIL 'E' ON DWG DT01 AND GRADING PER DWG GD01.
- 527 (235 S.F.) INSTALL D50=6" RIPRAP EROSION PROTECTION PER DETAIL 'F' ON DWG DT01.
- 528 (33 L.F.) CONSTRUCT 6" WIDE RIPRAP LINED CHANNEL PER DETAIL 'I' ON DWG DT01.
- 529 (105 L.F.) CONSTRUCT UNLINED CHANNEL PER DETAIL 'J' ON DWG DT01.
- 530 (1 E.A.) INSTALL 24" HDPE FLARED END SECTION PER MANUFACTURER'S SPECIFICATIONS.
- 531 (2 E.A.) INSTALL 12" HDPE FLARED END SECTION PER MANUFACTURER'S SPECIFICATIONS.
- 610 (20 L.F.) PAINT 4" WHITE PARKING STRIPES.
- 611 (210 S.F.) PAINT NO PARKING AREA, 4" YELLOW DIAGONAL PARKING MARKINGS, 2' APART.
- 612 (6 E.A.) PAINT UNIVERSAL "HANDICAPPED PARKING ONLY" SYMBOL IN ACCORDANCE WITH A.D.A. STANDARDS.



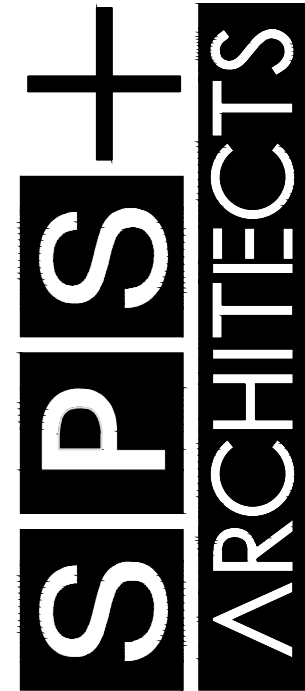
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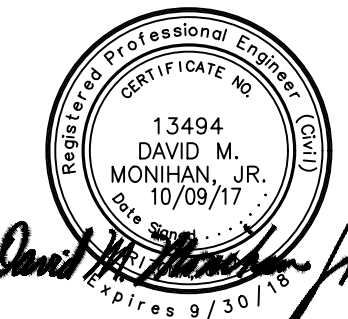
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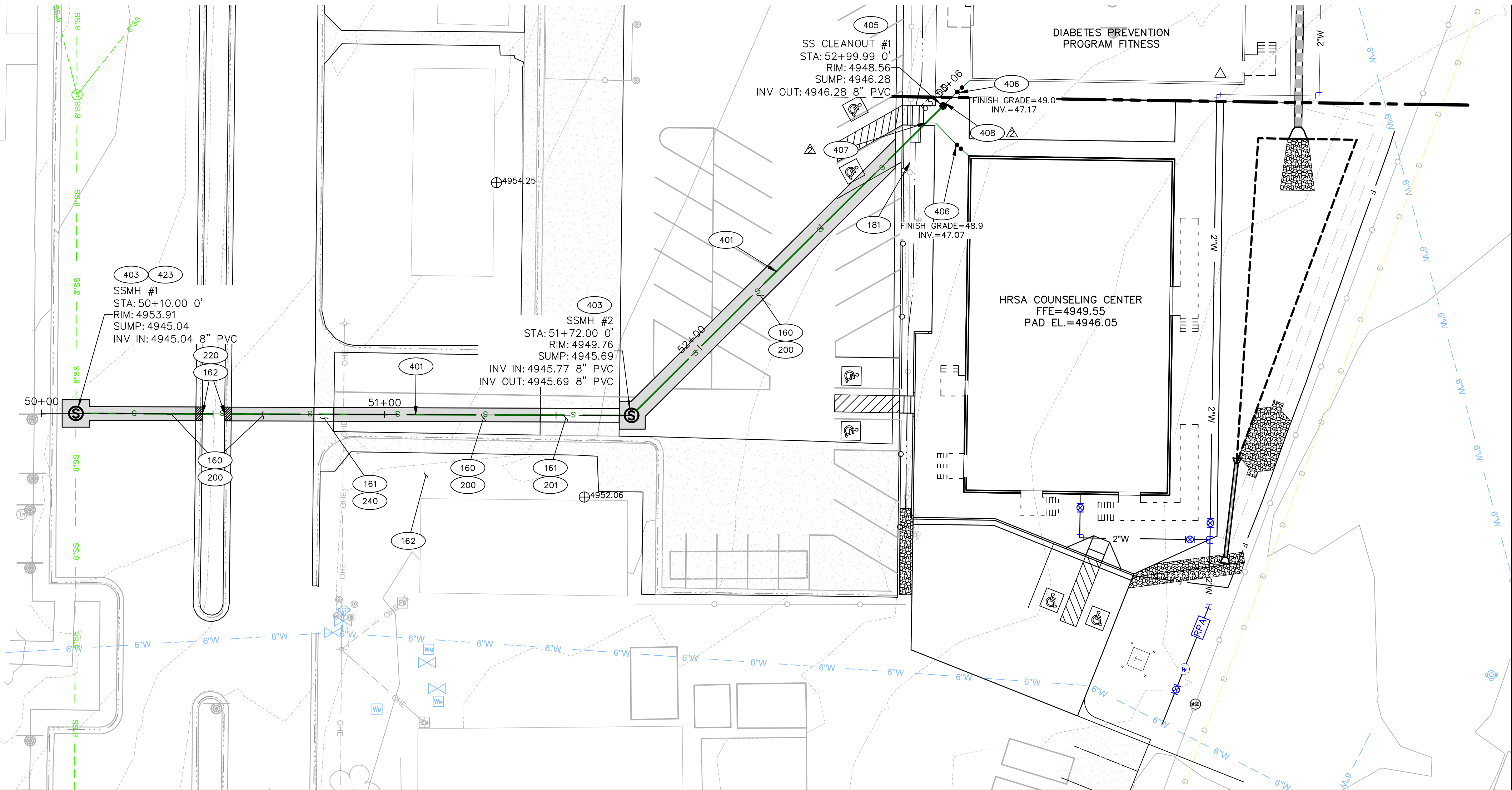
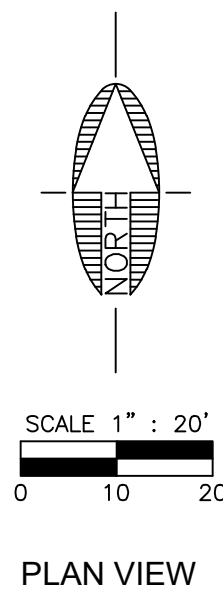
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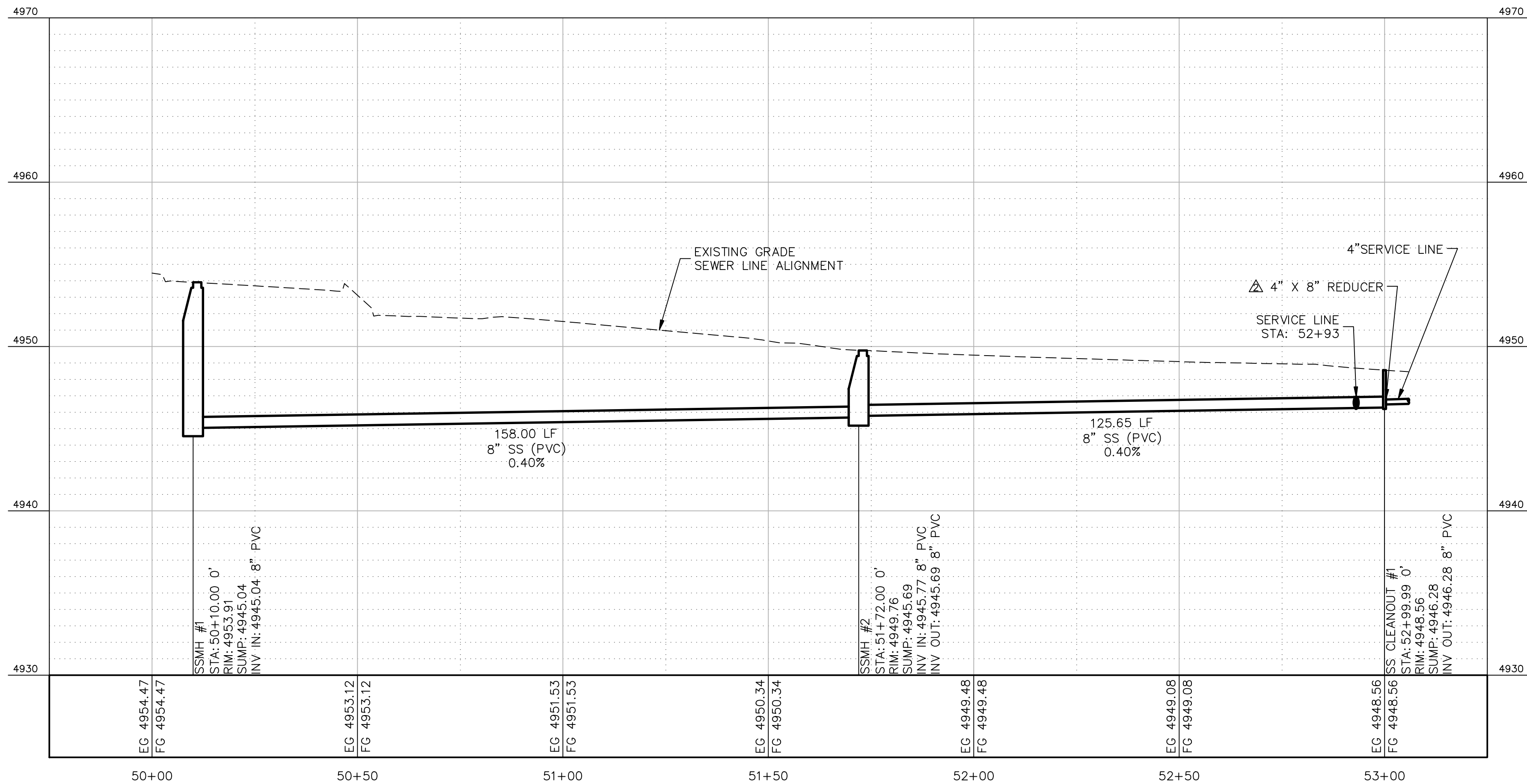
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PROFILE VIEW SCALE  
HORIZ.: 1"=20'  
VERT: 1"=5'



### CONSTRUCTION NOTES

- 160 (490 L.F.) SAWCUT AND (1,220 S.F.) REMOVE & DISPOSE OF EXISTING ASPHALT PAVEMENT PER M.A.G. DTL. 200, "T-TOP TRENCH", AND M.A.G. SPECS. 336 & 350.
- 161 (46 L.F.) SAWCUT AND (92 S.F.) REMOVE & DISPOSE OF EXISTING CONCRETE PAVEMENT PER M.A.G. DTL. 200, "T-TOP" TRENCH", AND M.A.G. SPECS. 336 & 350.
- 162 (4 L.F.) SAWCUT AND (10 L.F.) REMOVE & DISPOSE OF EXISTING CONCRETE VERTICAL CURB & GUTTER PER M.A.G. SPECS. 336 AND 350.
- 181 (45 L.F.) REMOVE AS NEEDED FOR CONSTRUCTION AND REPLACE EXISTING CHAIN LINK FENCE IN KIND.
- 200 (1,220 S.F.) REPLACE ASPHALT PAVEMENT STRUCTURAL SECTION (INCLUDING AGGREGATE BASE COURSE) PER M.A.G. DETAIL 200. THE MINIMUM STRUCTURAL SECTION SHALL BE 3" ASPHALTIC CONCRETE OVER 6" AGGREGATE BASE COURSE OR MATCH EXISTING, WHICHEVER IS GREATER.
- 201 (92 S.F.) REPLACE CONCRETE PAVEMENT STRUCTURAL SECTION (INCLUDING AGGREGATE BASE COURSE) PER M.A.G. DETAIL 200. THE MINIMUM STRUCTURAL SECTION SHALL BE PER DETAIL 'A' ON DWG DT01 OR MATCH EXISTING, WHICHEVER IS GREATER.
- 240 (24 S.F., 4 L.F.) REPLACE CONCRETE VALLEY GUTTER PER M.A.G. DTL. 200 & 240. THE MINIMUM STRUCTURAL SECTION SHALL BE PER M.A.G. DTL. 240 OR MATCH EXISTING, WHICHEVER IS GREATER.
- 220 (8 L.F.) CONSTRUCT CONCRETE VERTICAL CURB & GUTTER PER DETAIL 'B' ON DWG DT01
- 401 (250 L.F.) INSTALL 8" SEWER LINE (SDR-35 PVC). TRENCH, EXCAVATION, BACKFILLING, AND COMPACTION PER N.T.U.A. DTL. WWS-10 ON DWG DT02.
- 403 (2 E.A.) INSTALL STANDARD 48" DIA. PRE-CAST SEWER MANHOLE WITH 24" FRAME AND COVER IN ACCORDANCE WITH N.T.U.A. DTL. WWS-4 AND WWS-5 ON DWG DT02.
- 405 (1 E.A.) INSTALL 8" SEWER CLEANOUT IN PER N.T.U.A. DTL. WWS-11 ON DWG DT02 AND M.A.G. DTL. 441 ON DWG DT02.
- 406 (2 E.A.) INSTALL 4" SEWER SERVICE DOUBLE CLEANOUT AND SERVICE LINE PER N.T.U.A. DTL. WWS-1 ON DWG DT02. COORDINATE WITH BUILDING PLUMBING PLANS.
- 407 (1 E.A.) INSTALL 4" SEWER SERVICE TAP PER N.T.U.A. DTL. WWS-1 ON DWG DT02.
- 408 (1 E.A.) INSTALL 8"x4" REDUCER PER M.A.G. DTL. 441 ON DWG DT02.
- 423 (1 E.A.) CUT AND CONNECT TO EXISTING 8" SEWER MAIN. CONTRACTOR SHALL VERIFY EXISTING LOCATION, SIZE, MATERIAL AND DEPTH, COORDINATE WITH THE ENGINEER AND ADJUST THE ALIGNMENT AS REQUIRED FOR CONNECTION.

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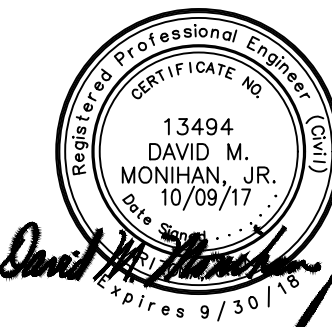
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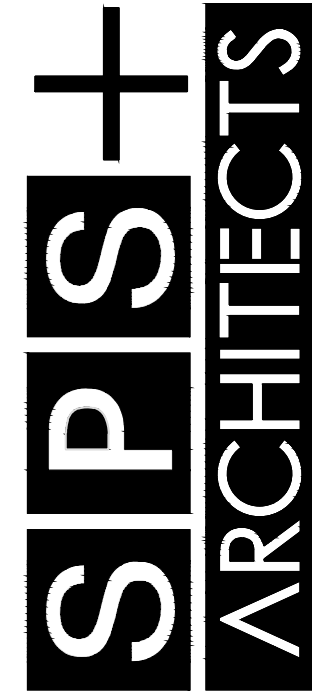


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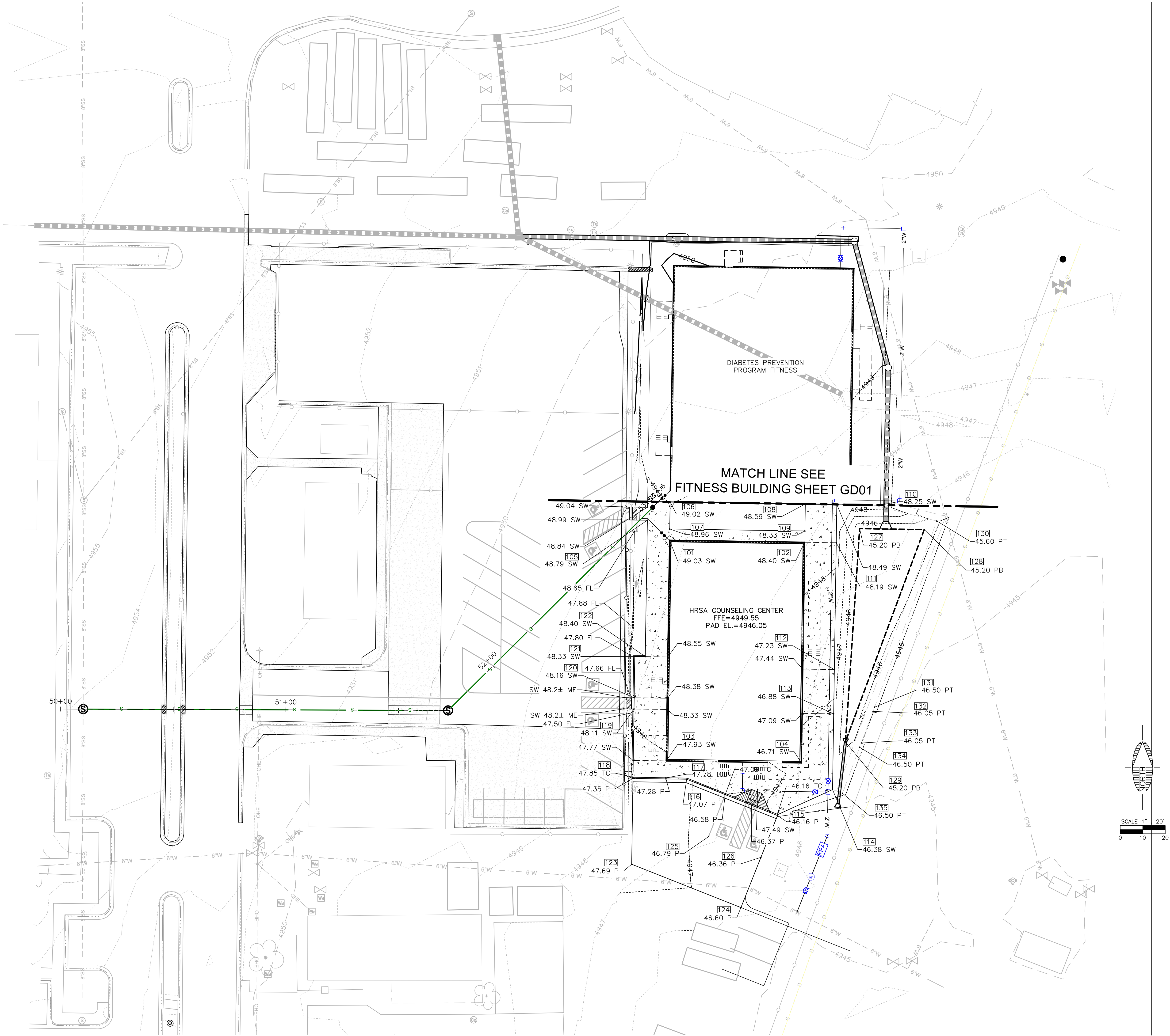
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SEWER PLAN & PROFILE



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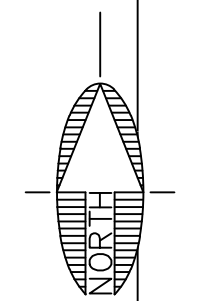


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POINT #	NORTHING	EASTING
101	1869443.68	901283.03
102	1869442.78	901343.02
103	1869345.69	901281.55
104	1869344.79	901341.55
105	1869452.57	901273.16
106	1869460.68	901283.28
107	1869448.68	901283.10
108	1869459.78	901343.27
109	1869447.78	901343.09
110	1869459.28	901376.66
111	1869442.57	901357.02
112	1869386.24	901356.17
113	1869366.57	901355.88
114	1869332.95	901355.37
115	1869321.43	901330.94
116	1869337.56	901290.60
117	1869338.19	901281.44
118	1869338.41	901266.78
119	1869368.73	901267.23
120	1869373.73	901267.31
121	1869392.08	901267.58
122	1869392.01	901272.25
123	1869299.80	901266.19
124	1869280.54	901314.71
125	1869312.07	901300.33
126	1869302.84	901323.56
127	1869448.85	901367.42
128	1869448.42	901396.09
129	1869354.12	901361.09
130	1869452.23	901401.66
131	1869369.56	901374.06
132	1869367.69	901373.36
133	1869353.64	901368.12
134	1869351.76	901367.42
135	1869331.30	901359.79

GRADING DESCRIPTIONS LEGEND	
ME	MATCH EXISTING*
FG	FINISHED GRADE
FL	FLOWLINE
C	CONCRETE
TC	TOP OF CURB
P	ASPHALT PAVEMENT
SW	SIDEWALK
TW	TOP OF WALL
BW	BOTTOM OF WALL
PB	BOTTOM OF DETENTION POND
PT	TOP OF DETENTION POND

#	POINT NUMBER
---	GRADE BREAK
---	PROPOSED INDEX CONT.
---	PROPOSED INTERMEDIATE CONT.

NOTE:  
1. "MATCH EXISTING" GRADES ARE FOR REFERENCE ONLY. MATCHING EXISTING IS MORE IMPORTANT THAN THE GRADE SHOWN.  
2. HORIZONTAL CONTROL POINTS AT PROPOSED CURB ARE LOCATED AT TOP BACK OF CURB.



SCALE 1" = 20'  
0 10 20

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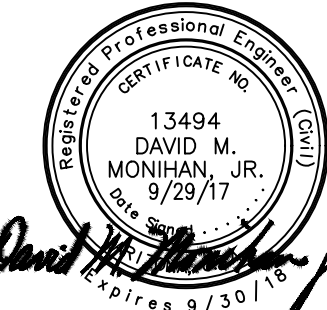
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GRADING AND DRAINAGE

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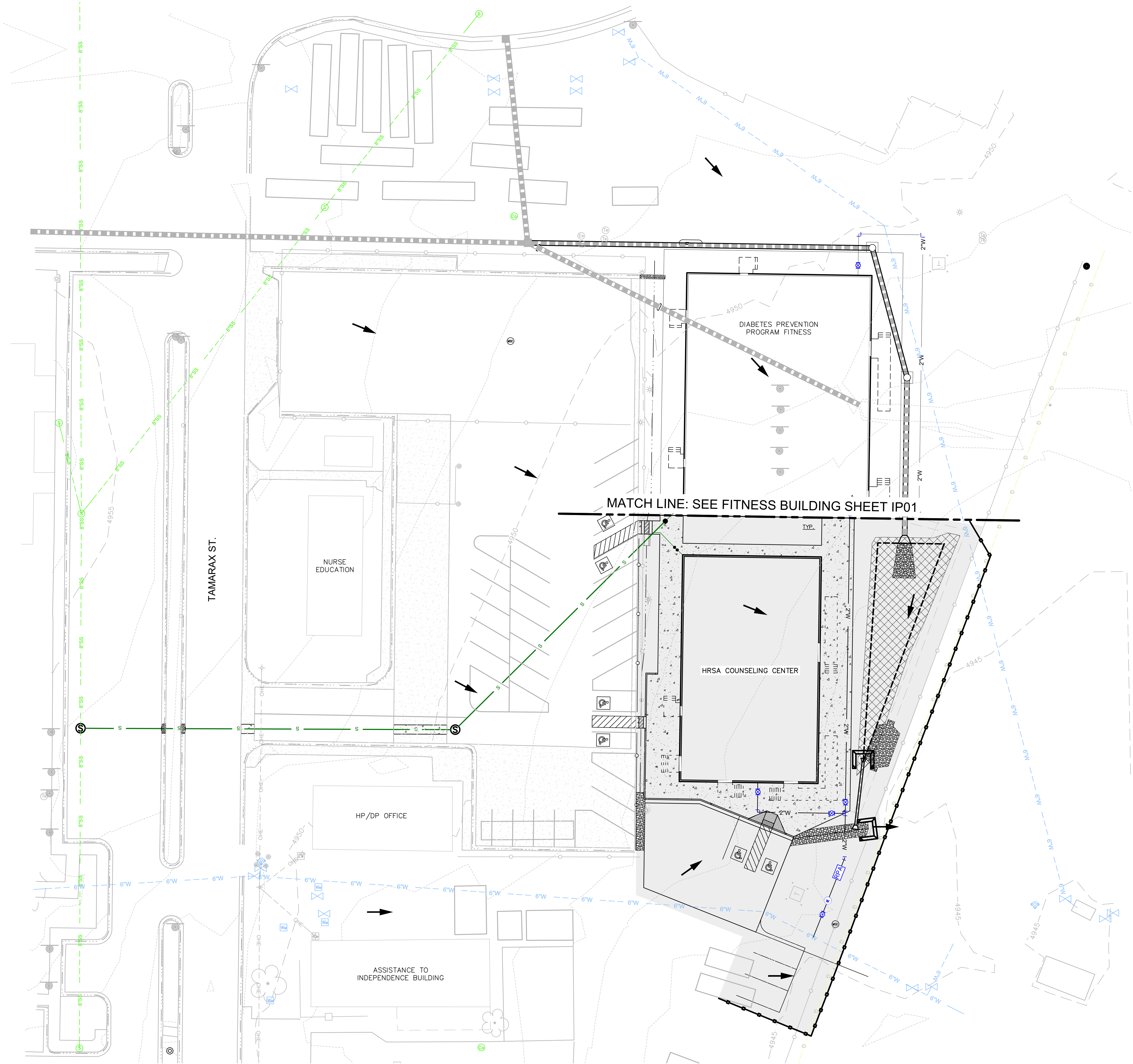
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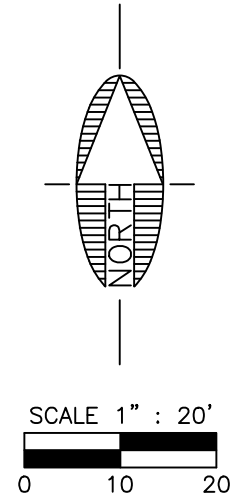
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**LEGEND**

- DISTURBED AREA
- "TEMPORARY STONE CONSTRUCTION ENTRANCE" PER DETAIL ON SW03. LOCATION PER CONTRACTOR.
- DRAINAGE FLOW DIRECTION
- "CURB INLET SEDIMENT BARRIER"
- "CULVERT INLET/OUTLET PROTECTION" PER DETAIL SW03.
- "STRAW ROLL" PER APPROPRIATE DETAIL ON SW03.



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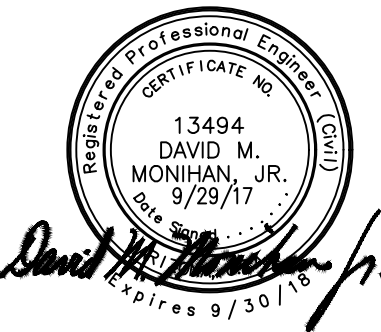
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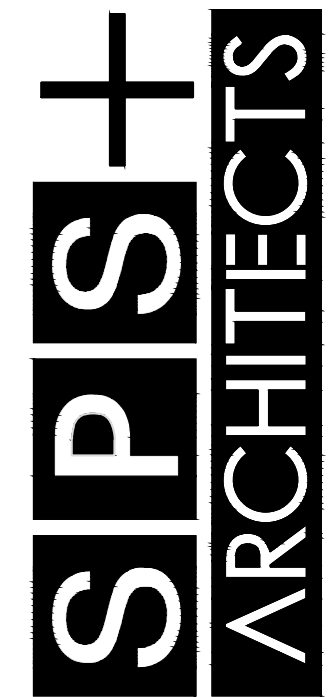
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STORMWATER POLLUTION PREVENTION PLAN

A EROSION & SEDIMENT CONTROL STANDARD NOTES

- THE CONTRACTOR MUST NOTIFY BLUE STAKE AT 1-800-STAKE-IT AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE ORDINANCES AND POLICIES.
- THE CONTRACTOR GRANTS THE RIGHT-OF-ENTRY ON TO THIS PROPERTY TO THE DESIGNATED PERSONNEL FOR THE PURPOSE OF INSPECTING AND MONITORING FOR COMPLIANCE WITH EROSION AND SEDIMENT CONTROL LAW AND THE DESIGN AND CONSTRUCTION STANDARDS MANUAL.
- ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE, INSPECTED AND APPROVED PRIOR TO CLEARING, STRIPPING OF TOPSOIL OR GRADING.
- THE CONTRACTOR SHALL POST A SIGN AT THE MAIN ENTRANCE TO THE CONSTRUCTION SITE CONTAINING ONE NPDES AUTHORIZATION NUMBER AND/OR COPY OF NOTICE OF INTENT AUTHORIZATION, CONSTRUCTION SITE OPERATOR CONTACT NAME AND TELEPHONE NUMBER, A BRIEF PROJECT DESCRIPTION, AND THE LOCATION OF THE APPROVED STORM WATER POLLUTION PREVENTION PLAN. THE SIGN SHALL ALSO DISPLAY THE NAME, CONTACT INFORMATION, AND QUALIFICATIONS OF THE PERSONNEL PERFORMING ROUTINE INSPECTIONS.
- THE CONTRACTOR'S REPRESENTATIVE IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ADEQUATE STABILIZATION IS ACHIEVED.
- WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.
- THE CONTRACTOR'S REPRESENTATIVE SHALL INSPECT AND DOCUMENT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:
  - SEDIMENT BASINS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT ELEVATION INDICATED ON THE RISER PIPE. SEDIMENT SHALL BE DISPOSED IN SUITABLE AREAS AND IN SUCH A MANNER THAT WILL NOT ERODE OR CAUSE SEDIMENTATION PROBLEMS. THE BASIN EMBANKMENT SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. EMERGENCY SPILLWAYS SHOULD BE CHECKED REGULARLY TO ENSURE THAT ITS LINING IS WELL ESTABLISHED AND EROSION RESISTANT.
  - SEDIMENT BASINS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. SEDIMENT SHALL BE REMOVED AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE. SEDIMENT REMOVED FROM THE BASIN SHALL BE DEPOSITED IN A SUITABLE AREA AND IN A SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
  - GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.
  - SILT FENCE AND/OR STRAW ROLL BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
  - SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.
  - STREAM DIVERSION AND STORM CONVEYANCE CHANNELS SHALL BE INSPECTED DAILY AND AFTER EACH RAIN TO ENSURE THEY ARE FUNCTIONING PROPERLY AND THAT THE INTEGRITY OF THE LININGS ARE NOT IMPAIRED, ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES MUST BE MADE IMMEDIATELY AFTER THE INSPECTION.
- INSPECTION FORMS SHALL BE COMPLETED BY THE CONTRACTOR'S INSPECTOR WITH THE MINIMUM FOLLOWING INFORMATION: INSPECTION DATE, TITLE AND QUALIFICATIONS OF EACH INSPECTOR, WEATHER INFORMATION FOR PERIOD SINCE LAST INSPECTION, LOCATION OF DISCHARGE OF SEDIMENT OR OTHER POLLUTANTS, LIST OF BMPs THAT NEED TO BE MAINTAINED OR ARE INADEQUATE, LIST ADDITIONAL NEEDED BMPs, CORRECTIVE ACTION REQUIRED, SOURCES OF ALL NON-STORMWATER AND CONTROL MEASURES, DATES WHEN MAJOR GRADING ACTIONS OCCURRED, POLLUTANT DISCHARGE STATUS OF STORAGE AREAS, AND DATES WHEN CONSTRUCTION ACTIVITIES CEASED.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING INSPECTION RECORDS FOR AT LEAST THREE (3) YEARS FOLLOWING THE COMPLETION OF PROJECT. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE KEPT ON SITE AT ALL TIMES AND SHALL BE AMENDED AS NECESSARY TO REFLECT CURRENT SWPPP BMP'S
- THE SWPPP SHALL BE MODIFIED BY THE CONTRACTOR WITHIN 7 CALENDAR DAYS FOLLOWING AN INSPECTION THAT DISCOVERS AN INADEQUATE BMP. BMPs SHALL BE MODIFIED OR ADDED AS SOON AS PRACTICABLE AFTER THE BMP HAS BEEN DETERMINED INADEQUATE.
- SEDIMENT BASIN MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
- PERMANENT SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED AND ALL WORK COMPLETED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS, ROADS AND PARKING AREAS SHALL BE STABILIZED AS SOON AS PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER ADEQUATE SITE STABILIZATION AND AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AS AUTHORIZED BY DESIGNATED INSPECTORS. TRAPPED SEDIMENT AND THE DIKS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT AND OTHER DEBRIS AT THE STREETS USED FOR ACCESS TO THE PROJECT SITE. WHEN SEDIMENT APPEARS ON THE PAVED ROAD SURFACE, THE ROAD WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING AND/OR SWEEPING, AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
- THROUGH THE PHASES OF WORK THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PROJECT SITE AND ADJACENT STREETS FREE FROM DUST AND DEBRIS GENERATED BY CONSTRUCTION ACTIVITIES. WATER AND/OR DUST PALLIATIVE FOR LAYING DUST CAUSED FROM CONSTRUCTION ACTIVITIES AND DISTURBANCE OF NATURALLY VEGETATED AREAS, SHALL BE APPLIED IN AMOUNTS AS NECESSARY TO CONTROL THE DUST TO THE SATISFACTION OF THE COUNTY INSPECTOR. DUST PALLIATIVE SHALL BE PER MAG SPECIFICATION SECTION 792.
- AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
- A COPY OF THE PROJECT'S STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE MAINTAINED AT THE CONSTRUCTION SITE AND SHALL ALWAYS BE AVAILABLE FOR REVIEW.
- CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE SWPPP THROUGHOUT CONSTRUCTION AND INDICATE ANY AND ALL REVISIONS / UPDATES ON THIS PLAN.
- APPROVAL OF PLANS DOES NOT RELIEVE THE OPERATOR FROM CORRECTING ERRORS OR OMISSIONS DISCOVERED DURING CONSTRUCTION. CONFORMANCE WITH THE REQUIREMENTS OF THIS PLAN SHALL IN NO WAY RELIEVE THE OPERATOR FROM HIS RESPONSIBILITIES TO THE SITE AND ADJACENT PROPERTIES. TEMPORARY EROSION CONTROL SHALL CONSIST OF, BUT NOT BE LIMITED TO, CONSTRUCTING SUCH FACILITIES AND TAKING SUCH MEASURES AS ARE NECESSARY TO PREVENT, CONTROL AND ABATE WATER, MUD AND EROSION DAMAGE TO PUBLIC AND PRIVATE PROPERTY AS A RESULT OF THE CONSTRUCTION OF THIS PROPERTY.
- CONTRACTOR SHALL IMMEDIATELY RESTORE ANY DAMAGED EROSION CONTROL MEASURE WITHIN THE PROJECT BOUNDARY.

- FLOOD PLAIN LIMITS SHALL BE CLEARLY MARKED IN THE FIELD BY FLAGS, SIGNS, ETC.
- TREE SAVE AREAS SHALL BE CLEARLY MARKED IN THE FIELD BY ORANGE SAFETY FENCE.
- AN ORANGE SAFETY FENCE MUST BE INSTALLED AROUND ALL SILT TRAPS AND SEDIMENT BASINS.
- THE SWPPP SHALL BE MODIFIED BY THE CONTRACTOR WITHIN 15 BUSINESS DAYS FOLLOWING ANY CHANGE IN DESIGN, CONSTRUCTION OPERATION, OR MAINTENANCE THAT HAS A SIGNIFICANT EFFECT ON DISCHARGE OR NOT PREVIOUSLY ADDRESSED IN THE SWPPP.
- THE SWPPP SHALL BE MODIFIED BY THE CONTRACTOR WITHIN 15 BUSINESS DAYS IF IT IS DETERMINED THAT DISCHARGE IS CAUSING OR CONTRIBUTING TO WATER QUALITY EXCEEDENCES OR THE SWPPP IS INEFFECTIVE.
- ALL WORK IN ADOT RIGHT OF WAY SHALL MEET THE REQUIREMENTS OF THE ADOT CONSTRUCTION PERMIT.

D EROSION CONTROL MEASURES

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS ESTABLISHED HEREIN.

C STRUCTURAL PRACTICES

- SILT FENCE BARRIER: SILT FENCE AND/OR STRAW ROLL SEDIMENT BARRIERS WILL BE INSTALLED DOWNSLOPE OF AREAS WITH MINIMAL GRADES TO FILTER SEDIMENT LADEN RUNOFF FROM SHEET FLOW AS INDICATED ON THE PLANS.
- A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREA INTERSECTS WITH EXISTING ROADS. DURING MUDDY CONDITIONS DRIVERS OF CONSTRUCTION VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE HIGHWAY.
- STORM DRAIN INLET & SPILLWAY PROTECTION: ALL STORM SEWER INLETS AND SPILLWAYS SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT-LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER INLETS AND CULVERTS.

D VEGETATIVE PRACTICES

- TOP SOILING (STOCKPILE) TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATIONS ARE TO BE STABILIZED WITH TEMPORARY VEGETATION. PRIOR TO LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION & SEDIMENT PLAN TO THE OWNER COVERING THE STOCKPILE AREA WHICH MAY HAVE TO BE APPROVED BY THE PLAN APPROVING AUTHORITY BEFORE ANY ACTIVITY COMMENCES.
- TEMPORARY SEEDING FOR ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.
- EXISTING VEGETATION WILL BE PRESERVED OUTSIDE ALL LIMITS OF DISTURBANCE.

E MANAGEMENT STRATEGIES

- CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- INSTALL TEMPORARY CONSTRUCTION ENTRANCE. MUD AND DEBRIS SHALL BE WASHED FROM ALL CONSTRUCTION VEHICLES AND EQUIPMENT BEFORE LEAVING THE SITE. A WATER TANK TRUCK WILL BE USED IF PUBLIC WATER IS UNAVAILABLE.
- INSTALL PERIMETER CONTROLS AS SHOWN TO INCLUDE DIVERSION DIKES, SILT FENCE, AND STRAW ROLLS. SEDIMENT TRAPPING MEASURES SHALL BE INSTALLED AS A FIRST STEP IN GRADING.
- GRADING OPERATIONS MAY COMMENCE ONCE PERIMETER CONTROLS, DIVERSIONS AND TRAPPING MEASURES ARE INSTALLED.
- FILL SLOPE SURFACES SHALL BE LEFT IN ROUGHENED CONDITION TO REDUCE SHEET AND RILL EROSION OF THE SLOPES. THE CONTRACTOR SHALL REDIRECT CONCENTRATED FLOW AWAY FROM THE FILL SLOPES BY INSTALLING EARTH BERMS AND DIRECT THE RUN-OFF TO STABILIZED OUTLET OR SEDIMENT BASIN AND TRAPPING DEVICES.
- TEMPORARY SEEDING OR OTHER STABILIZATION METHODS WILL FOLLOW IMMEDIATELY AFTER GRADING.
- ONCE THE UTILITIES, CURB AND GUTTER, AND THE ROADS ARE BROUGHT NEAR FINAL GRADE IN A MANNER SUCH THAT STORM SEWER SYSTEMS ARE FUNCTIONAL, INSTALL THE STANDARD INLET PROTECTION AROUND THE STRUCTURES.
- ONCE FINAL GRADES ARE ESTABLISHED TO CREATE SHEET FLOW CONDITIONS IN ACCORDANCE WITH REQUIRED DRAINAGE PATTERNS, THE CONTRACTOR MAY INSTALL SILT FENCE AND REMOVE EXISTING DIVERSION DIKES AND BASIN ALONG THE SITE PERIMETER WHEN AUTHORIZED BY THE INSPECTOR. INSTALL CHECK DAMS AND OUTLET PROTECTION AS SHOWN ON THE PLAN.
- FOR VEGETATIVE STABILIZATION OF ALL DENUDED AREAS SEE EROSION CONTROL MEASURES AND VEGETATIVE PRACTICES.
- THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
- AFTER ACHIEVING PERMANENT STABILIZATION, THE TEMPORARY EROSION & SILTATION CONTROLS WILL BE CLEANED UP AND REMOVED FROM THE SITE.

F MAINTENANCE

C GENERAL LAND CONSERVATION NOTES

- VEGETATED STABILIZATION MEASURES MUST BE INITIATED AS SOON AS FINAL GRADING IS COMPLETE AND PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.

- ALL EROSION AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. THE FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
- ALL STORM AND SANITARY LINES NOT IN STREET ARE TO BE MULCHED AND SEEDED AS SOON AS PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
- ELECTRIC POWER, TELEPHONE, AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED, AND MULCHED AS SOON AS PRECIPITATION OCCURS OR IRRIGATION IS AVAILABLE.
- DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
- ANY DISTURBED AREAS NOT PAVED, SODDED OR BUILT UPON ARE TO BE MULCHED WITH HAY OR STRAW MULCH AT THE RATE OF TWO TONS PER ACRE AND OVER-SEEDED AS SOON AS PRECIPITATION OR IRRIGATION IS AVAILABLE.
- AT THE COMPLETION OF CONSTRUCTION PROJECTS, AND PRIOR TO THE RELEASE OF THE BOND, ALL TEMPORARY SILTATION AND EROSION CONTROLS SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED.
- TEMPORARY DIVERSIONS, SILT FENCE, STRAW ROLL, STONE CONSTRUCTION ENTRANCE AND OTHER CONTROL MEASURES AS NECESSARY ARE TO BE PLACED AS INDICATED ON THE DRAWINGS PRIOR TO OR DURING THE FIRST STEP IN EXCAVATION.
- WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL IS TO BE PLACED IN STREAMBEDS. WHERE SOIL IS PLACED ON DOWNHILL SIDE OF TRENCHES, IT IS TO BE BACK-SLOPED TO DRAIN TOWARD THE TRENCH. WHEN NECESSARY TO DEWATER THE TRENCHES, THE PUMP DISCHARGE HOSE MUST OUTLET IN A STABILIZED AREA.

H GENERAL NOTES

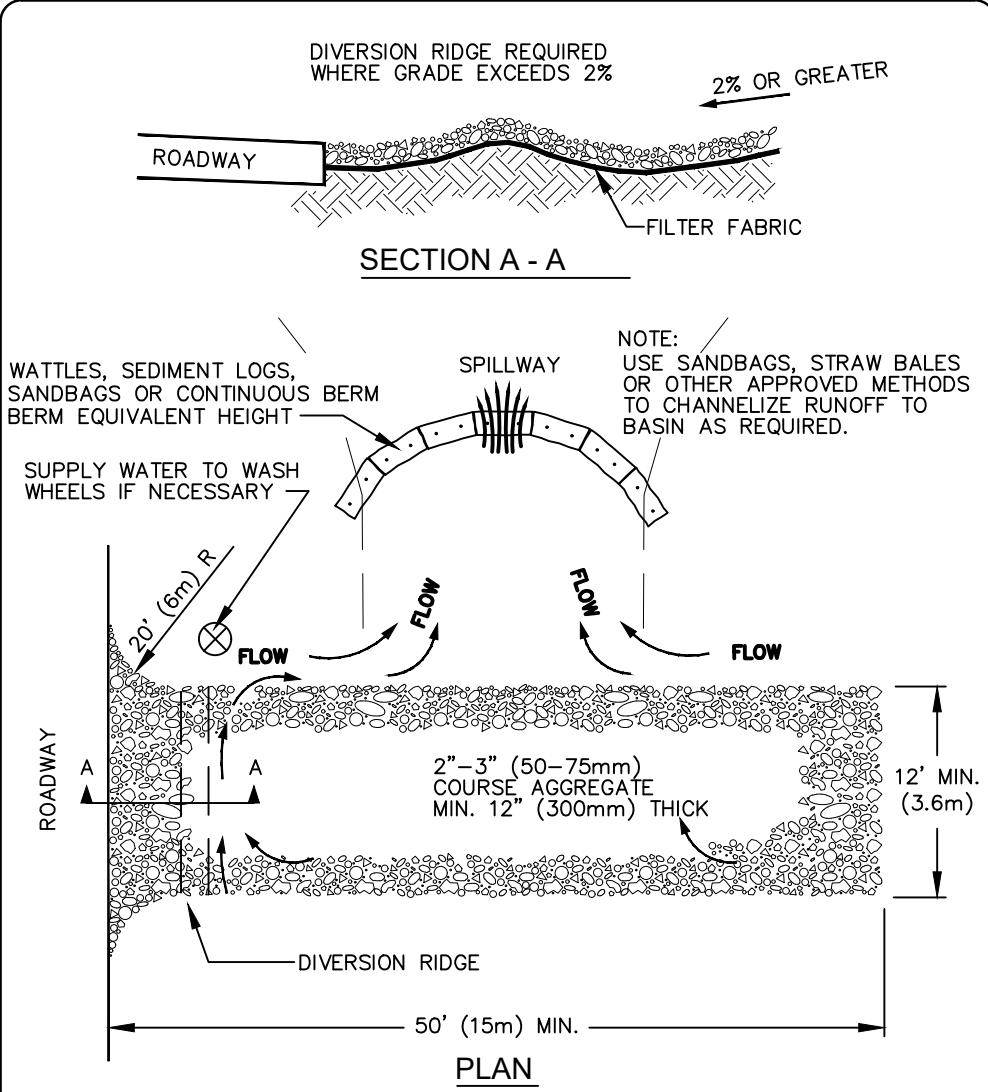
- ALL CONSTRUCTION SHALL CONFORM TO MAG STANDARDS, NPDES STANDARDS AND SPECIFICATIONS, AND GENERALLY ACCEPTED CONSTRUCTION PRACTICE.
- THESE PLANS REPRESENT A REASONABLE EFFORT TO IMPLEMENT THE MOST CURRENT AND BEST MANAGEMENT PRACTICES (BMPs) IN MITIGATING STORM WATER POLLUTION DURING CONSTRUCTION. THE EFFECTIVENESS OF THE MITIGATION MEASURES DEPICTED IN THESE PLANS DEPEND IN PART ON PROPER INSTALLATION, IMPLEMENTATION, MAINTENANCE AND REPAIR OF THE DEVICES SELECTED.
- THE DETAILS SHOWN ON THE DETAIL SHEET ARE BY SHEPHARD - WESNITZER, INC. AND BY EROSION DRAW 4.0 (COPYRIGHT 2002 ©JOHN MCULLAH) UNDER A LICENSE AGREEMENT.
- TOPOGRAPHIC AND BASE MAP INFORMATION (SHOWN FADED ON PLANS) PROVIDED BY SHEPHARD - WESNITZER, INC.
- SILT FENCE AND/OR STRAW ROLL AND SLOPE TREATMENT LOCATIONS SHOWN ON BASE MAP FILES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT FILL SLOPE LOCATIONS AND PROVIDING SILT FENCE FOR ALL FILL SLOPES.

I SEEDING AND MULCHING

UNLESS OTHERWISE SPECIFIED IN THE CONSTRUCTION PLANS, ALL DISTURBED SLOPES SHALL BE MULCHED AND SEEDED PER THE FOLLOWING SEED SPECIFICATIONS:

SEED SHALL BE OF VARIETY SPECIFIED, AND SHALL BE APPLIED AT THE RATE SPECIFIED.	PURE LIVE SEED SPECIES	RATE/ACRE
	SAND DRIPSEED (SPOROBOLUS CRYPTANDRUS)	2 LB
	SIDEOTS GRAMA (BOUTELIOUS CURTIPENDULA)	10 LB
	CRESTED WHEATGRASS (AGROPYRON CRISTATUM)	10 LB

- SEEDING OPERATIONS SHALL NOT BE PERFORMED WHEN WIND WOULD PREVENT UNIFORM APPLICATION OF MATERIALS OR WOULD CARRY SEEDING MATERIALS INTO AREAS NOT DESIGNATED TO BE SEEDED.
- THE EQUIPMENT AND METHODS USED TO DISTRIBUTE SEEDING MATERIALS SHALL BE SUCH AS TO PROVIDE AN EVEN AND UNIFORM APPLICATION OF SEED, MULCH AND OR OTHER MATERIALS AT THE SPECIFIED RATES.
- SEEDING OPERATIONS SHALL NOT BE PERFORMED ON UNDISTURBED SOIL OUTSIDE THE CLEARING AND GRUBBING LIMITS OF THE PROJECT OR ON STEEP ROCK OUTS.
- IMMEDIATELY BEFORE SEEDING, THE SURFACE AREA SHALL BE RAKED OR OTHERWISE LOOSENED TO OBTAIN A SMOOTH FRIABLE SURFACE FREE OF EARTH CLODS, HUMPS AND DEPRESSIONS. LOOSE STONES HAVING A DIMENSION GREATER THAN ONE INCH AND DEBRIS BROUGHT TO THE SURFACE DURING CULTIVATION SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- THE AREA TO BE SEEDED SHALL BE ROUGHENED WITH GROOVES PARALLEL TO THE CONTOURS PRIOR TO SEEDING. A BULLDOZER OR CRAWLER TRACTOR SHALL BE DRIVEN UP AND DOWN THE SLOPE PARALLEL TO THE FALL LINE TO CREATE A TRACKWALKED SLOPE. THE SEEDS SHALL BE UNIFORMLY APPLIED IN A DIRECTION PARALLEL TO THE CONTOURS OF THE SLOPE. ALTERNATE SURFACE TREATMENT METHODS MAY BE APPROVED BY THE ENGINEER.
- IMMEDIATELY AFTER SEEDING, THE AREA SHALL BE UNIFORMLY COVERED WITH SCREENED MANURE AT THE RATE OF ONE CUBIC YARD PER 1,000 SQUARE FEET AND THEN WATERED UNTIL THE GROUND IS WET TO A MINIMUM DEPTH OF TWO INCHES.
- WATER SHALL BE FREE OF OIL, ACID, SALTS OR OTHER SUBSTANCES WHICH ARE HARMFUL TO PLANTS. THE SOURCE SHALL BE AS APPROVED BY THE ENGINEER PRIOR TO USE.
- THE CONTRACTOR SHALL PROTECT SEEDED AREAS FROM DAMAGE BY TRAFFIC OR CONSTRUCTION EQUIPMENT. SURFACES WHICH ARE ERODED OR OTHERWISE DAMAGED FOLLOWING SEEDING AND PRIOR TO FINAL ACCEPTANCE SHALL BE REPAIRED BY REGRADING, RESEEDING AND REMULCHING AS DIRECTED BY THE ENGINEER.

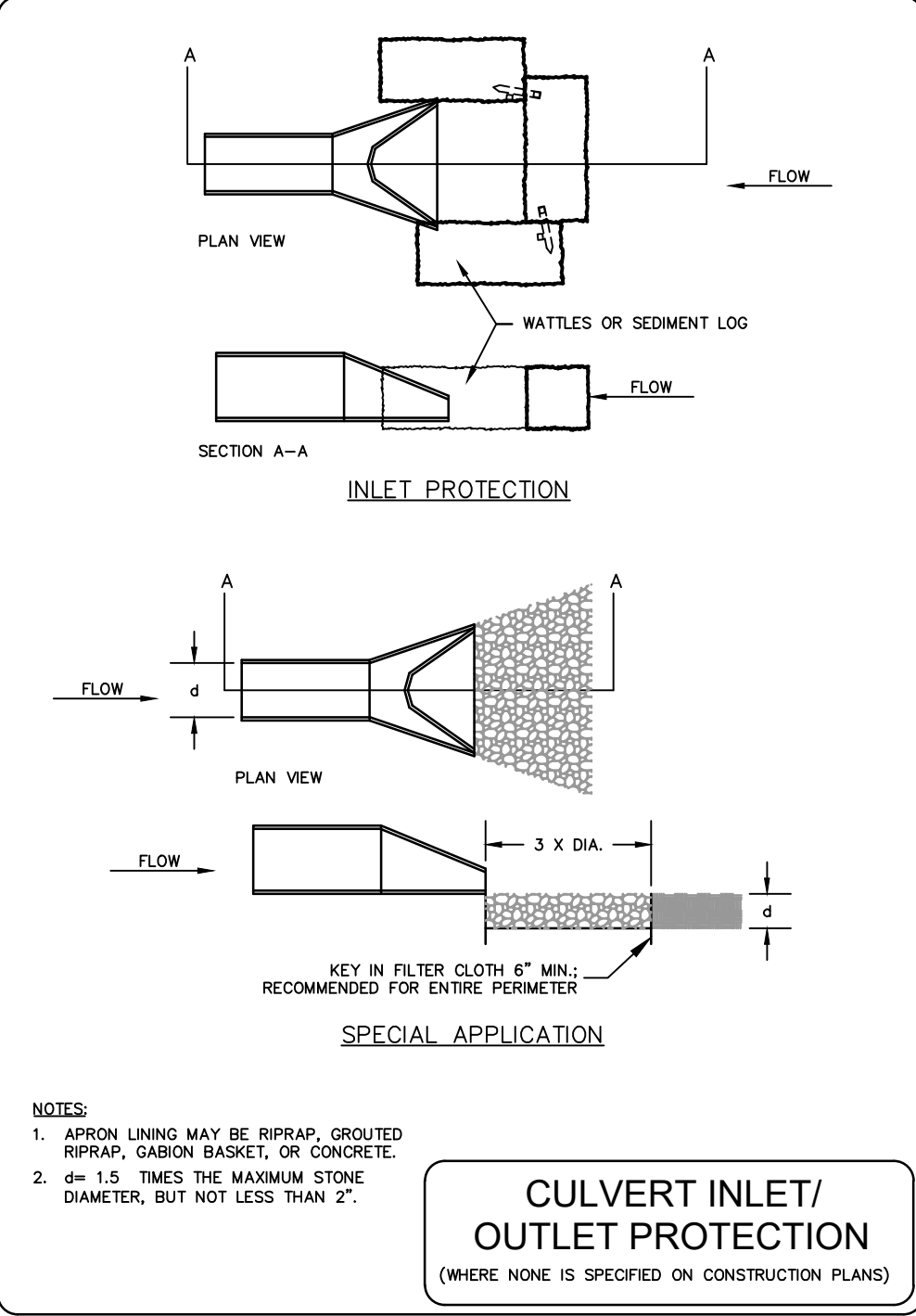


NOTES:

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

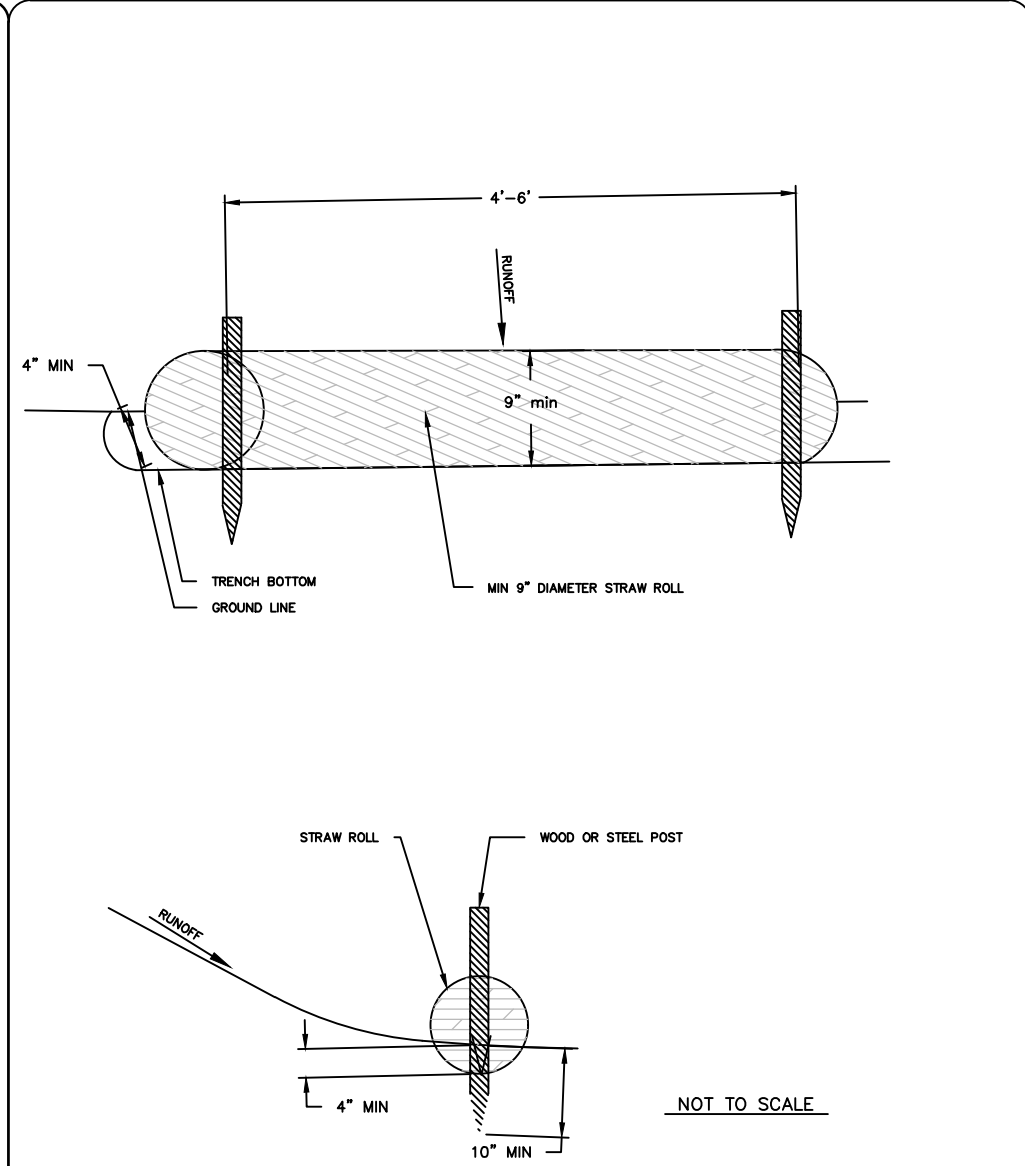
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT

STRAW ROLL STAKED



- NOTES:
- APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
  - 4" 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NOT LESS THAN 2".

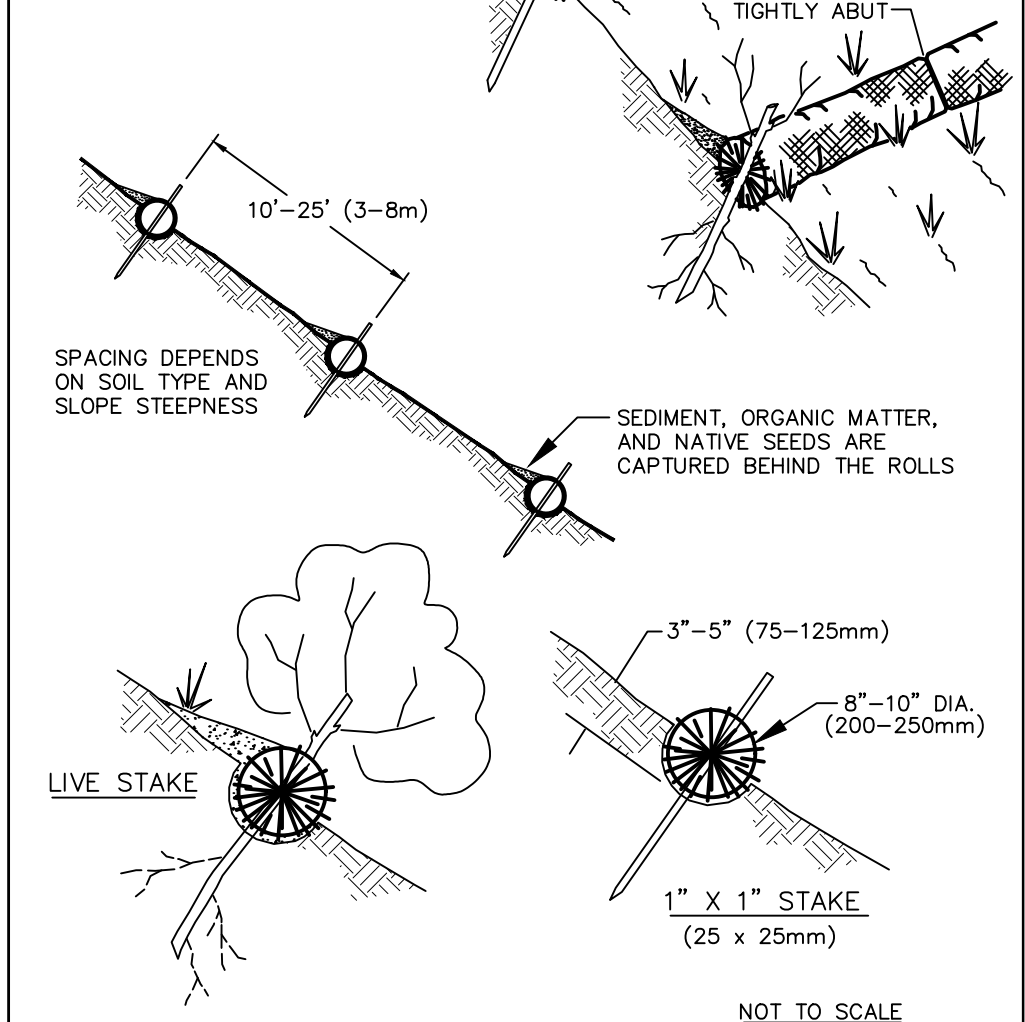
CULVERT INLET/ OUTLET PROTECTION  
(WHERE NONE IS SPECIFIED ON CONSTRUCTION PLANS)



NOTES:

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS



NOTE:

- STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.

STRAW ROLLS DETAIL

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SWI PROJECT # 17095



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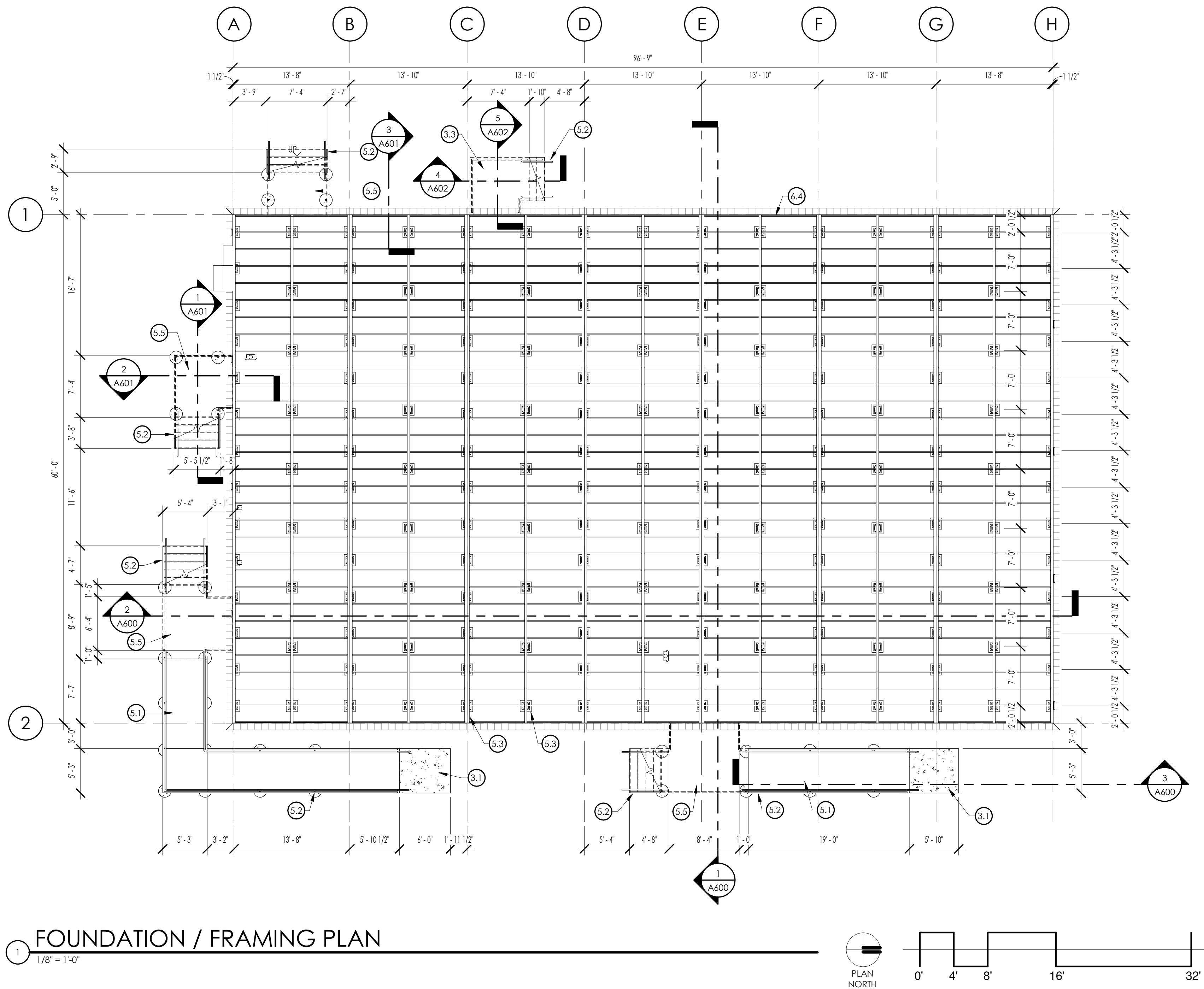
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SWPPP NOTES AND DETAILS

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1 FOUNDATION / FRAMING PLAN  
1/8" = 1'-0"

## FOUNDATION / FRAMING NOTES

1. DRAWINGS ARE FOR DESIGN INTENT ONLY. CONTRACTOR RESPONSIBLE FOR STRUCTURAL DESIGN AND ALL PERMITTING, ETC.

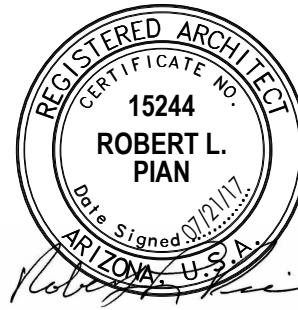
## KEYNOTES

- |     |   |
|-----|---|
| 3.1 | CONCRETE FROST FOOTING, MIN. 2'-6" BELOW GRADE  |
| 3.3 | CAST-IN-PLACE CONCRETE STAIR  |
| 5.1 | ADA COMPLIANT METAL RAMP  |
| 5.2 | 1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES            |
| 5.3 | STEEL CHANNEL SUPPORTS, PIERS, JACKS AND PADS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES |
| 5.5 | METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS  |
| 6.4 | EXISTING MODULAR BUILDING FLOOR FRAMING   |

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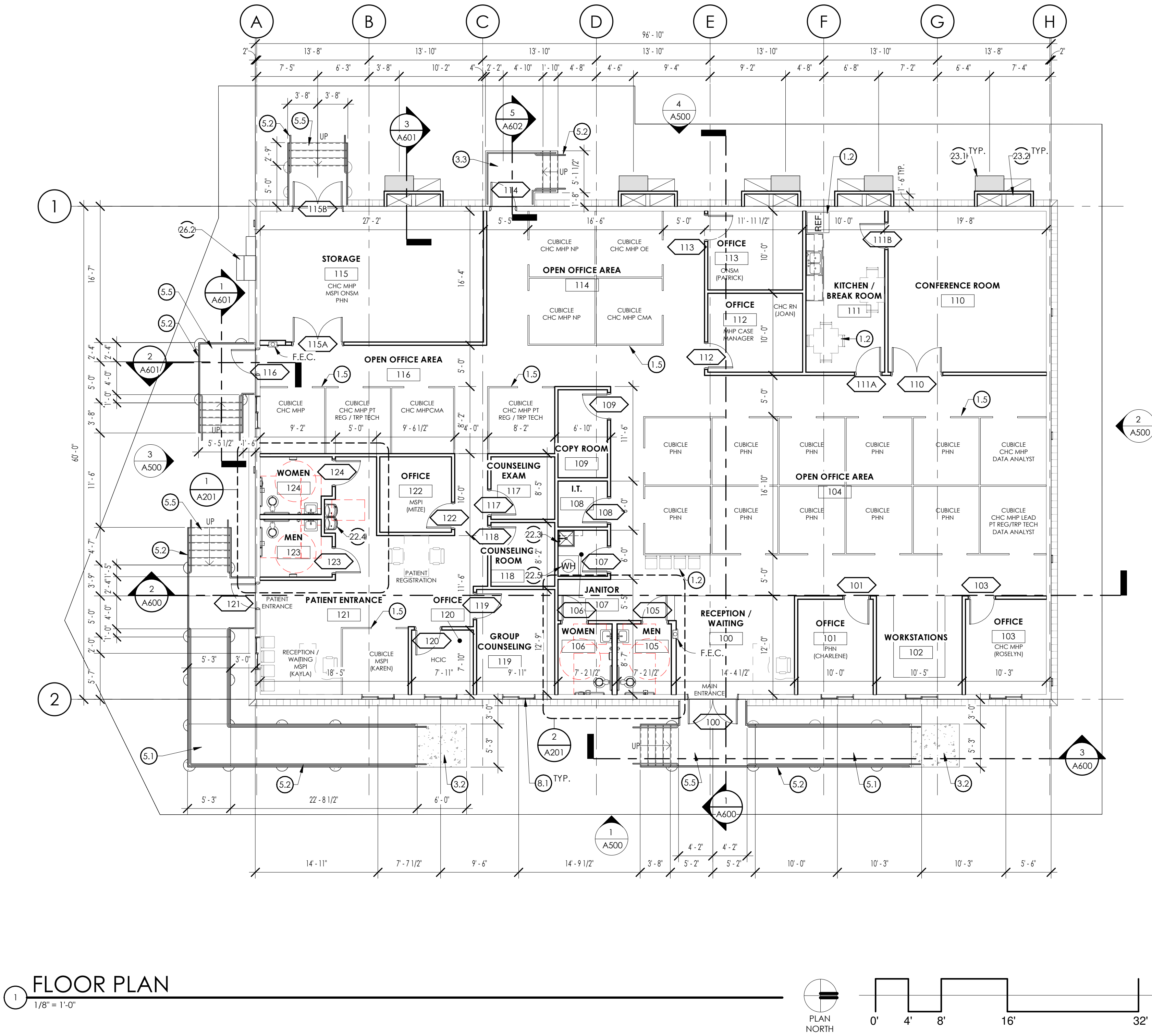
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DATE: 07-21-2017

JOB No: 1641A

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1 FLOOR PLAN  
1/8" = 1'-0"

## KEYNOTES

- 1.2 FURNITURE & EQUIPMENT BY OWNER, NOT IN CONTRACT
- 1.5 CUBICLES BY OWNER, NOT IN CONTRACT
- 3.2 SEE CIVIL DRAWINGS FOR SIDEWALK CONTINUATION
- 3.3 CAST-IN-PLACE CONCRETE STAIR
- 5.1 ADA COMPLIANT METAL RAMP
- 5.2 1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
- 5.5 METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
- 8.1 VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS
- 22.3 MOP SINK, SEE PLUMBING DRAWINGS
- 22.4 ADA COMPLIANT DUAL-HEIGHT DRINKING FOUNTAIN, SEE PLUMBING DRAWINGS
- 22.5 WATER HEATER, SEE PLUMBING DRAWINGS
- 23.1 MECHANICAL EQUIPMENT, SEE MECHANICAL DRAWINGS
- 23.2 MECHANICAL CHASE, SEE MECHANICAL DRAWINGS
- 26.2 ELECTRICAL SERVICE PANEL, SEE ELECTRICAL

## GENERAL PLAN NOTES

NOTE: NOT ALL NOTES APPLY ON THIS SHEET

1. SEE ALSO CIVIL PLAN FOR WORK OUTSIDE OF THE BUILDING PERIMETER.
2. FINISH FLOOR ELEVATION TO BE +100.00 U.N.O. (4,949.55 ACTUAL PER CIVIL)
3. ALL STUD WALLS TO RECEIVE TWO BEADS OF SEALANT AT BOTTOM TRACK & TOP TRACK
4. ALL STUD WALLS TO RECEIVE INSULATION U.N.O. AS FOLLOWS:  

5-1/2" OR 6" INTERIOR STUDS	=	R-19 BATT
3-1/2" OR 3-5/8" INTERIOR STUDS	=	R-13 BATT
2-1/2" INTERIOR STUDS	=	R-11 BATT

NOTE: PROVIDE ALUMINUM FACED INSULATION AT ALL WET AREAS, MENS, WOMENS, JAN, ETC.
5. BUILDING IS DESIGNED FOR PERMANENT OCCUPANCY INCLUDING HEATING DURING FREEZING CLIMATE
6. ADJUST PIER JACKS AS REQUIRED TO MAINTAIN LEVEL BUILDING
7. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES BELOW GRADE AND RELATED SERVICES CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANIES.
8. BUILDING TO BE SECURED IN PLACE WITH CROSS DRIVE ANCHOR TIE DOWNS TO MEET CURRENT APPLICABLE BUILDING CODES.
9. DRAWINGS ARE FOR DESIGN INTENT ONLY. CONTRACTOR RESPONSIBLE FOR CONSTRUCTION DOCUMENT PERMITTING.

## GENERAL TECHNICAL SPECIFICATIONS

1. ROOF IS EXISTING. PATCH AND REPAIR AS REQ'D. TO MAINTAIN WEATHERPROOF.
2. ALL ROOMS EXCEPT MEN 105, WOMEN 106, JANITOR 107, KITCHEN / BREAK ROOM 111, STORAGE 115, MEN 123 AND WOMEN 124 FLOORING TO BE 24x24 COMMERCIAL GRADE CARPET TILE. COLOR & PATTERN AS SELECTED BY OWNER.  
PRODUCTS:  
a. MOHAWK GROUP. www.mohawkgroup.com  
b. SHAW CONTRACT. www.shawcontract.com  
c. OR EQUAL.
3. MEN 105, WOMEN 106, JANITOR 107, KITCHEN / BREAK ROOM 111, STORAGE 115, MEN 123 AND WOMEN 124 FLOORING TO BE 12x12 VINYL TILE. COLOR AS SELECTED BY OWNER.  
PRODUCTS:  
a. ARMSTRONG. www.armstrongflooring.com  
b. JOHNSONITE. www.johnsonite.com  
c. OR EQUAL.
4. ALL ROOMS TO HAVE RESILIENT BASE, 1/8" THICK, 4" HIGH, BY ARMSTRONG OR EQUAL. COLOR AS SELECTED BY OWNER.
5. CEILING TILES TO BE ARMSTRONG OR EQUAL "FISSURED" MEDIUM TEXTURE, SQUARE EDGE. FLAME SPREAD 0-25.
6. CEILING GRID TO BE USG DONN DX26 HEAVY DUTY OR EQUAL.
7. CABINERY TO BE STANDARD BUILDERS GRADE MELAMINE SURFACED. COLOR AS SELECTED BY OWNER.
8. COUNTERTOPS TO BE STANDARD PLASTIC LAMINATE, HIGH PRESSURE LAMINATED. COLOR AS SELECTED BY OWNER.
9. PROVIDE ADA & ICC 117.1 COMPLIANT ROOM ID SIGNAGE WHERE REQUIRED, MOHAWK SERIES 200A OR EQUAL. CONFORM TO TCRHCC STANDARD.
10. EXTERIOR DOORS TO BE INSULATED HOLLOW METAL DOOR (18 GA) & FRAME (16 GA). INTERIOR DOORS TO BE H.C. 1 3/8" THICK WITH HOLLOW METAL FRAMES (20 GA). PAINT COLOR AS SELECTED BY OWNER.
11. HARDWARE:  
a. CONTACT CHAS SHOW WITH C&I SHOW HARDWARE 480-947-8568 FOR HARDWARE.  
b. EXTERIOR DOORS TO HAVE LCN CLOSERS, DOOR SWEEPERS, ADA COMPLIANT THRESHOLDS, DRIP CAPS, BEST 9K LOCKSETS.  
c. INTERIOR DOORS TO HAVE STANDARD PASSAGE SETS (PRIVACY AT RESTROOMS). ALL OFFICES TO HAVE BEST 9K OFFICE LOCKSET.  
d. CONTRACTOR TO COORDINATE WITH OWNER FOR KEYING REQUIREMENTS.
12. ACCEPTABLE COMMERCIAL GRADE PAINT & PRIMER MANUFACTURERS TO BE SHERWIN WILLIAMS, DIAMOND VOGEL, DUNN EDWARDS OR EQUAL. COLORS AS SELECTED BY OWNER.
13. GYPSUM BOARD TO BE 5/8" TYPE "X" USG SHEETROCK BRAND FIRECODE X OR EQUAL. AT ALL WET LOCATIONS, GYPSUM BOARD TO BE MOISTURE RESISTANT TYPE "X".
14. WINDOWS TO BE VINYL PELLA 250 SERIES SLIDING, LOW E, DUAL PANE OR EQUAL.
15. TOILET ACCESSORIES:  
PROVIDE UNITS MANUFACTURED BY BOBRICK OR EQUAL, MODEL #S AS SCHEDULED PER PLAN.
16. PIPE & TUBE RAILINGS:  
A. ENGINEER RAILINGS TO WITHSTAND LOADS INDICATED, DETERMINE ALLOWABLE DESIGN WORKING STRESSES OF RAILING MATERIALS BASED ON 72% OF MIN. YIELD STRENGTH OF STEEL.  
B. STRUCTURAL PERFORMANCE:  
1. HANDRAILS:  
a. 50 LB/FT APPLIED IN ANY DIRECTION.  
b. 200 LB/FT CONCENTRATED LOAD APPLIED IN ANY DIRECTION.  
c. UNIFORM & CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.  
2. TOP RAILS OF GUARDS:  
a. 50 LB/FT APPLIED HORIZONTALLY CONCURRENTLY WITH 100 LB/FT APPLIED VERTICALLY DOWNWARD.  
b. 200 LB/FT CONCENTRATED LOAD APPLIED IN ANY DIRECTION.  
c. UNIFORM & CONCENTRATED LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.  
3. INFILL OF GUARDS:  
a. 200 LB/FT CONCENTRATED LOAD APPLIED HORIZONTALLY ON A 1 SF AREA.  
b. UNIFORM LOAD OF 25 LB/SF APPLIED HORIZONTALLY.  
c. INFILL & OTHER LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.  
C. CONTROL OF CORROSION: PREVENT GALVANIC ACTION & OTHER FORMS OF CORROSION BY INSULATING METALS & OTHER MATERIALS FROM DIRECT CONTACT W/ INCOMPATIBLE MATERIALS.  
D. QUALITY:  
1. WELDING: QUALIFY PROCEDURES & PERSONNEL PER AWS D1.1 "STRUCTURAL WELDING CODE - STEEL"  
2. PROVIDE HOT DIP GALVANIZED FINISH AT EXTERIOR APPLICATIONS.  
3. PRIME & PAINT ALL EXPOSED STEEL  
4. FULLY WELD ALL CONNECTIONS & JOINTS, FINISH SMOOTH & BLENDED W/ NO ROUGHNESS, MATCH ADJACENT CONTOURS.  
5. CLOSE EXPOSED ENDS OF RAILS, ETC. W/ FULL WELDED END PLATES.  
6. PRIMER: SHOP PRIMER PREPARED SURFACES & COMPLY W/ SSPC-PA.1.

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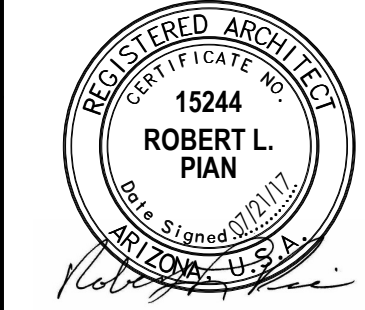
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**FLOOR PLAN**

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## TOILET ACCESSORIES SCHEDULE

1	SURFACE-MOUNTED MULTIROLL TOILET TISSUE DISPENSER B-2888. OWNER SUPPLIED, CONTRACTOR INSTALLED.
2	SURFACE-MOUNTED SANITARY NAPKIN DISPOSAL B-270
3	SURFACE-MOUNTED SOAP DISPENSER B-2111. OWNER SUPPLIED, CONTRACTOR INSTALLED.
4	SURFACE-MOUNTED PAPER TOWEL DISPENSER B-262. OWNER SUPPLIED, CONTRACTOR INSTALLED.
5	MIRROR W/ STAINLESS STEEL ANGLE FRAME B-290-2436
6	STAINLESS STEEL GRAB BAR B-5806x42
7	STAINLESS STEEL GRAB BAR B-5806x36
8	STAINLESS STEEL GRAB BAR B-5806x18
9	UTILITY SHELF W/ MOP/ BROOM HOLDERS AND RAG HOOKS B-224

- NOTE:**  
NOT ALL KEYNOTES APPLY TO THIS SHEET  
DIMENSIONS SHOWN ARE TO CENTERLINE OF STUD  
STEEL OR GUIDELINES, UNLESS NOTED OTHERWISE.

## GENERAL NOTES

1. SEE TYPICAL MOUNTING HEIGHTS FOR ADDITIONAL INFORMATION.
2. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION ON PLUMBING FIXTURES AND TOILET ACCESSORIES.
3. PROVIDE ALL BLOCKING AS REQUIRED FOR ALL TOILET ACCESSORIES AND EQUIPMENT



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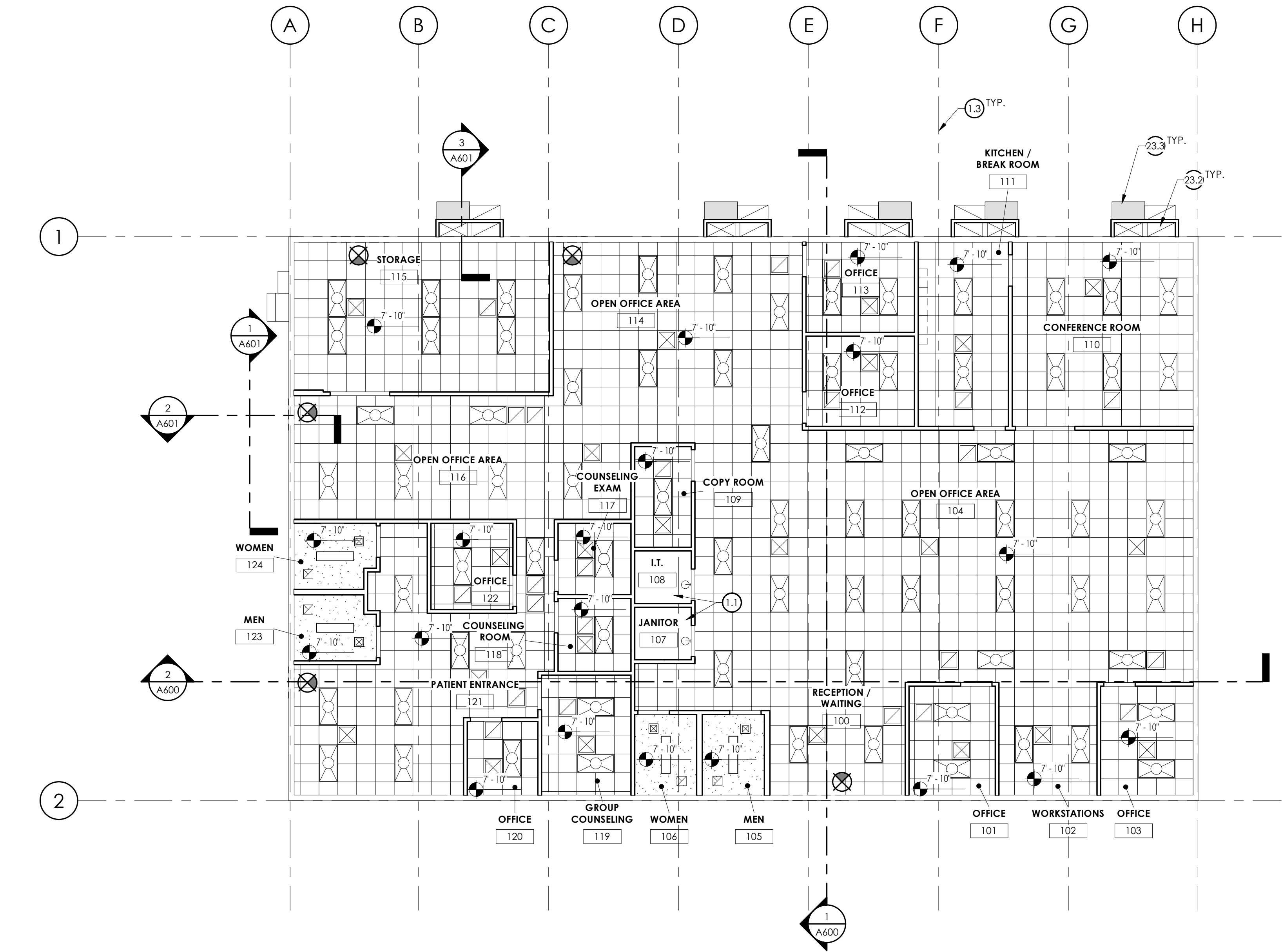
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DATE: 07-21-2017

JOB No: 1641A

SHEET:

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1 REFLECTED CEILING PLAN  
1/8" = 1'-0"

## CEILING SYMBOLS

- NOTE:  
-NOT ALL LIGHT FIXTURE & CEILING TYPES APPLY.  
2x2' SUSPENDED ACOUSTIC CEILING.
- FGB HARD CEILING. SEE FINISH SCHEDULE.
- EXPOSED UNDERSIDE OF DECK.
- 2x4 LIGHT FIXTURE IN SUSPENDED CEILING, SEE ELECTRICAL DRAWINGS.
- PENDENT LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS.
- WALL MOUNTED LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS, FOR TYPE, MAKE AND SIZE.
- MECHANICAL SUPPLY AIR AT CEILING, SEE MECHANICAL DRAWINGS FOR SIZE.
- MECHANICAL - RETURN AIR AT CEILING, SEE MECHANICAL DRAWINGS FOR SIZE.
- MECHANICAL - EXHAUST AIR AT CEILING, SEE MECHANICAL DRAWINGS FOR SIZE.
- FULL HEIGHT EXTERIOR WALL OR NEW WALL EXTENDING TO B.O. DECK AS OCCURS.
- SMOKE DETECTOR, SEE ELECTRICAL DRAWINGS.
- CEILING ELECTRICAL JUNCTION BOX, SEE ELECTRICAL DRAWINGS.
- EXISTING TO REMAIN.
- EXIT SIGN FIXTURE, SEE ELECTRICAL DRAWINGS.

## CEILING GENERAL NOTES

- CEILING SYSTEMS SHALL PROVIDE FOR LIGHTING FIXTURES AND AIR CONDITIONING DIFFUSERS. INDEPENDENT FRAMING AND ATTACHMENTS TO THE STRUCTURE SHALL BE ADEQUATE TO SUPPORT THE CEILING SYSTEM WHERE DUCTWORK INTERFERES WITH NORMAL SUSPENSION. ATTACHMENT OF HANGERS OR FRAMING TO DUCTWORK PROHIBITED.
- COORDINATE EXACT LOCATION OF ALL CEILING ITEMS (DIFFUSERS, LIGHT FIXTURES, ETC.) NOT DIMENSIONED ON THIS OR OTHER DRAWINGS IN FIELD WITH ARCHITECT.
- LIGHT FIXTURES ARE SHOWN ON THIS DRAWING FOR THE ARCHITECTURAL LOCATIONS AND GENERAL FIXTURE TYPE ONLY. SEE ELECTRICAL DRAWINGS FOR THE EXACT FIXTURE TYPE AND CIRCUITING.
- MECHANICAL REGISTERS ARE SHOWN ON THIS DRAWING FOR THE ARCHITECTURAL LOCATIONS ONLY. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR SIZING, DISTRIBUTION, CONNECTIONS, AND ALL OTHER REQUIREMENTS.
- VERIFY MECHANICAL AND ELECTRICAL. COORDINATE AND ADJUST AS REQUIRED.
- FOR SMOKE DETECTOR LOCATIONS IN CEILING SEE SPECIAL SYSTEMS DWGS.
- ALL FGB OVER STUDS EXTENDING TO STRUCTURE WHERE NOT EXPOSED TO VIEW, NEED ONLY JOINTS TAPED, NO TEXTURE OR FINISH.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE VARIOUS TRADE ITEMS WITHIN THE SPACE ABOVE ALL CEILING (INCLUDING, BUT NOT LIMITED TO: STRUCTURAL MEMBERS, MECHANICAL DUCTS AND INSTALLATION, CONDUITS, RACEWAYS, SPRINKLER SYSTEMS, AND ANY SPECIAL STRUCTURAL SUPPORTS REQUIRED) AND SHALL BE RESPONSIBLE FOR MAINTAINING THE FINISH CEILING HEIGHT ABOVE THE FINISH FLOOR INDICATED IN THE DRAWINGS AND THE FINISH SCHEDULE. (CEILING HEIGHT DIMENSIONS ARE TO THE FINISH SURFACE OF CEILING)
- FOR TYPICAL HANGER WIRE ATTACHMENT TO EXISTING STRUCTURE ABOVE CEILING, SEE DETAIL.
- ACCESS PANELS SHALL BE PROVIDED & INSTALLED WHEREVER REQUIRED BY BUILDING CODE OR FOR THE PROPER OPERATION OR MAINTENANCE OF MECHANICAL OR ELECTRICAL EQUIPMENT, WHETHER OR NOT INDICATED ON DRAWINGS. CONTRACTOR SHALL COORDINATE SIZE, LOCATION AND TYPE OF ACCESS PANEL WITH OTHER CONTRACTORS WORK & RECEIVE APPROVAL OF THE ARCHITECT. NO ACCESS PANEL SHALL BE LOCATED, FRAMED OR INSTALLED WITHOUT THE EXPRESSED APPROVAL OF THE ARCHITECT.
- ALL DUCT PENETRATIONS THROUGH PARTITIONS & CEILING SHALL BE PROVIDED WITH NECESSARY FRAMES AND BRACING AROUND THE OPENING & SHALL BE PROVIDED WITH AUTOMATIC FIRE DAMPERS (IF REQUIRED) BY MECHANICAL DRAWINGS OR FOR FIRE-RATED PENETRATIONS.
- ALL EXPOSED DUCT WORK, FRAMING, JOIST, CONDUIT, ROOF DECK, INSULATION (W/ FABRIC COVER), AND ANY OTHER ITEM IN THE CEILING CAVITY, TO BE PAINTED PER FINISH SCHEDULE.
- FGB CEILING EDGES AT ROOMS 100 AND 103 SHALL BE CAULKED AND SEALED.

## KEYNOTES

- |      |   |
|------|---|
| 1.1  | OPEN TO ABOVE, NO CEILING                       |
| 1.3  | MOD LINE  |
| 23.2 | MECHANICAL CHASE, SEE MECHANICAL DRAWINGS       |
| 23.3 | WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS |

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**A300**

1. ROOF SIDE OF ALL EXPOSED METAL TO BE PAINTED.
2. NOT ALL ROOF PENETRATIONS ARE SHOWN, COORDINATE WITH MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS.
3. NOTE: COMPLY WITH SMACNA ARCHITECTURAL SHEET METAL MANUAL.

1. ROOF SIDE OF ALL EXPOSED METAL TO BE PAINTED.
2. NOT ALL ROOF PENETRATIONS ARE SHOWN, COORDINATE WITH MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS.
3. NOTE: COMPLY WITH SMACNA ARCHITECTURAL SHEET METAL MANUAL.

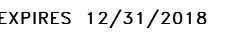
1.3	MOD LINE
5.4	PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
7.7	EXISTING ROOF SYSTEM, PATCH & REPAIR AS REQ'D TO WEATHERPROOF STANDARDS
23.3	WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS
26.2	ELECTRICAL SERVICE PANEL, SEE ELECTRICAL

- |      |   |
|------|---|
| 1.3  | MOD LINE  |
| 5.4  | PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE                   |
| 7.7  | EXISTING ROOF SYSTEM, PATCH & REPAIR AS REQ'D TO WEATHERPROOF STANDARDS |
| 23.3 | WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS                         |
| 26.2 | ELECTRICAL SERVICE PANEL, SEE ELECTRICAL                                |

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**FAX: 480.991.2623**  
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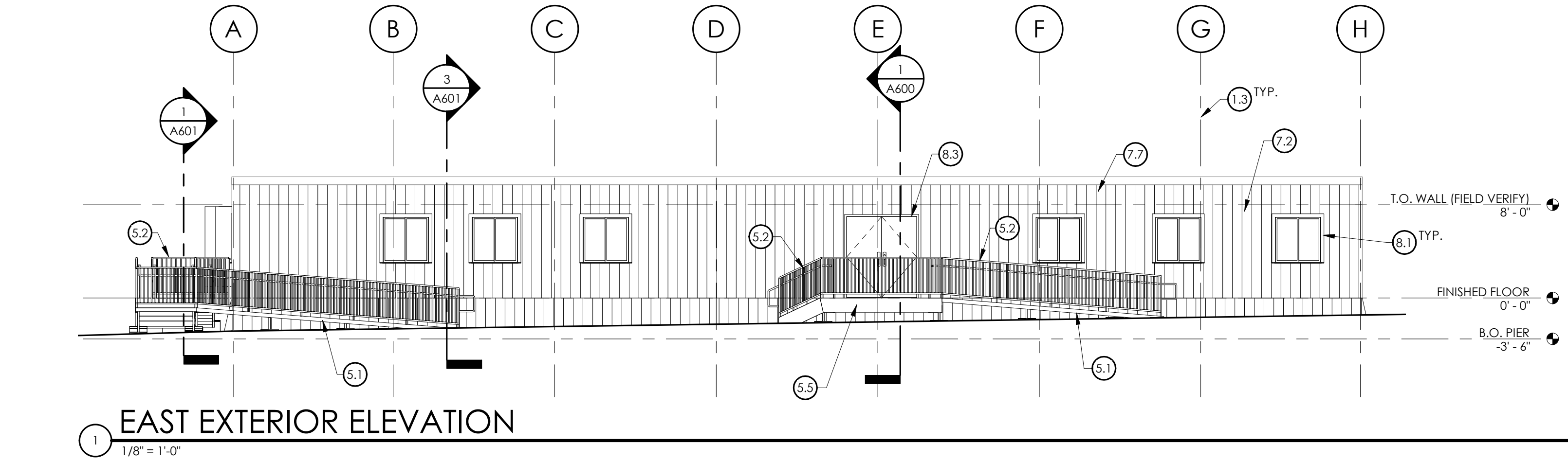


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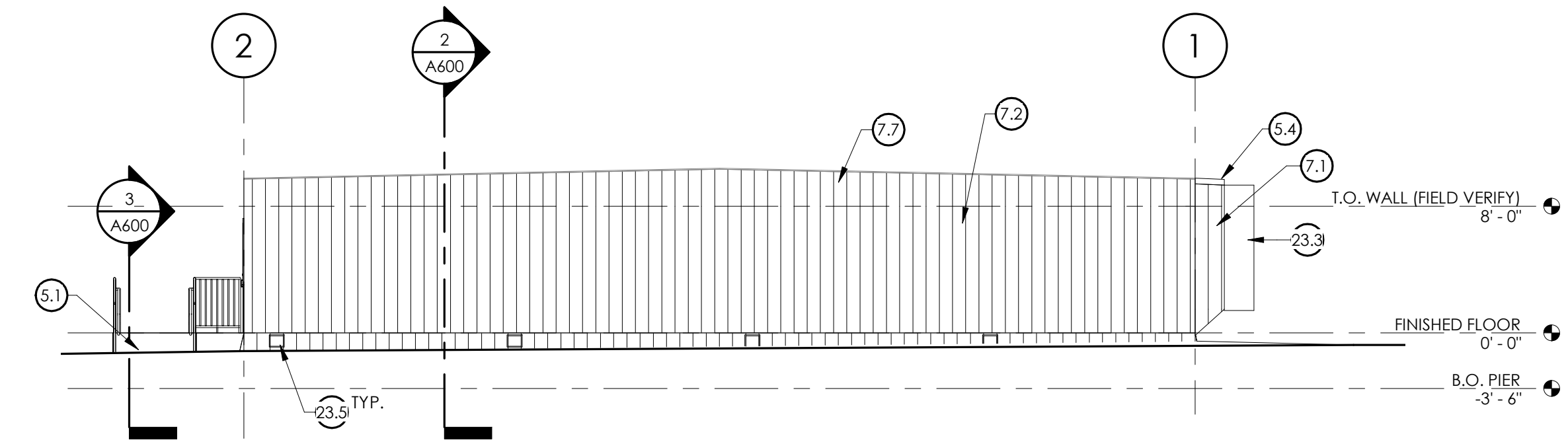


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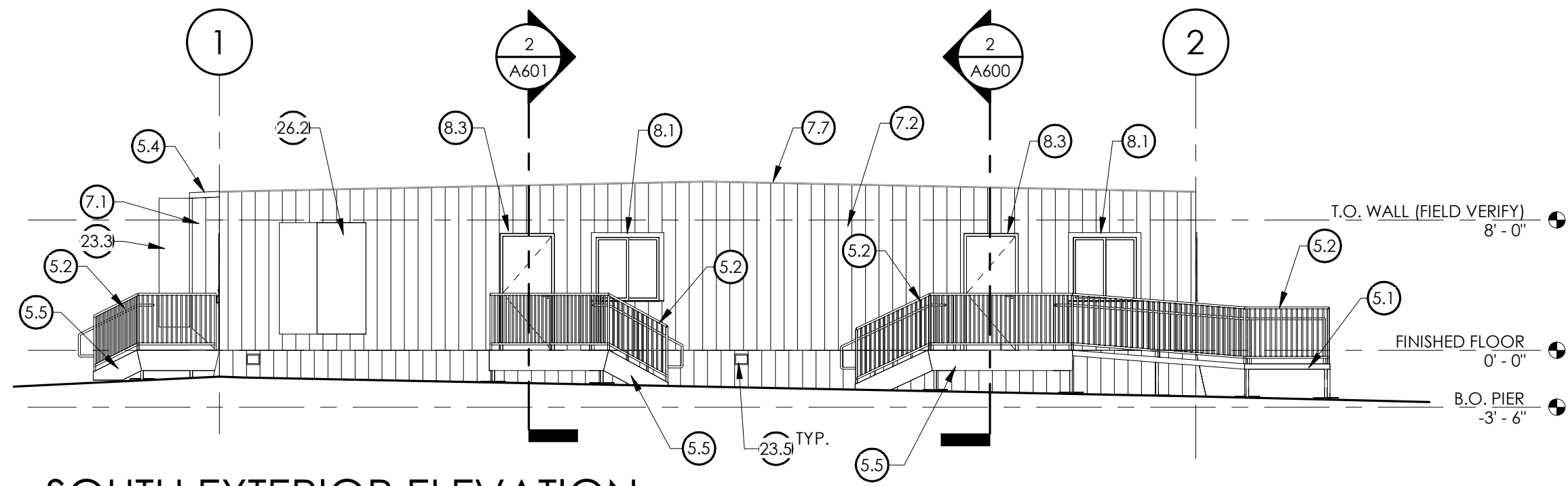
EAST EXTERIOR ELEVATION

1  
1/8" = 1'-0"



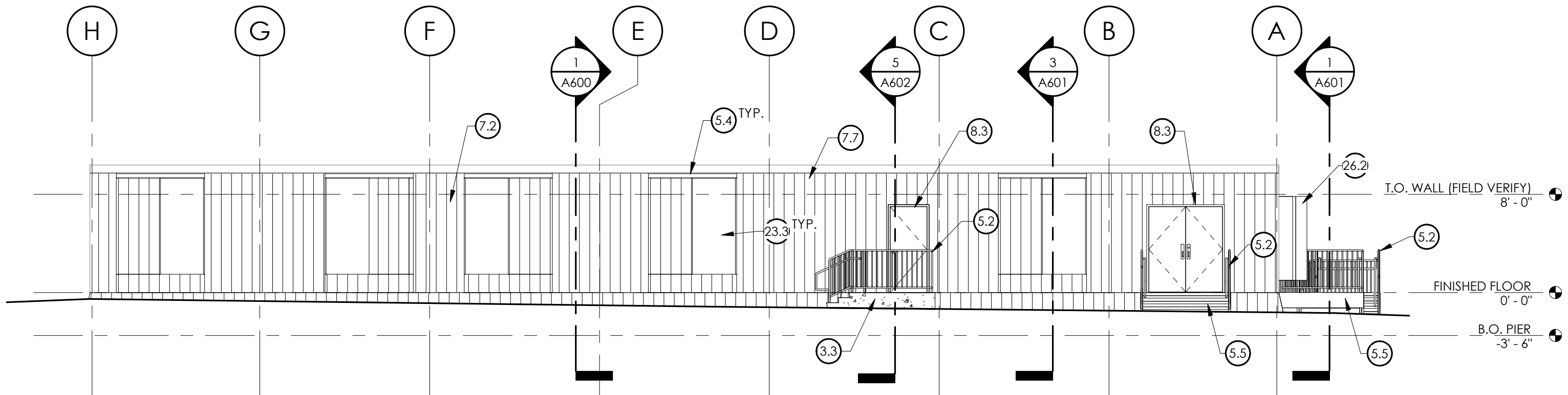
NORTH EXTERIOR ELEVATION

2  
1/8" = 1'-0"



SOUTH EXTERIOR ELEVATION

3  
1/8" = 1'-0"



WEST EXTERIOR ELEVATION

4  
1/8" = 1'-0"

# KEYNOTES

- 1.3 MOD LINE
- 3.3 CAST-IN-PLACE CONCRETE STAIR
- 5.1 ADA COMPLIANT METAL RAMP
- 5.2 1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
- 5.4 PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
- 5.5 METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
- 7.1 1/2" T1-11 T&G PLYWOOD SIDING PANELS, PAINT
- 7.2 EXISTING SIDING PANELS
- 7.7 EXISTING ROOF SYSTEM, PATCH & REPAIR AS REQ'D TO WEATHERPROOF STANDARDS
- 8.1 VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS
- 8.3 INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT
- 23.3 WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS
- 23.5 CRAWL SPACE VENT AS REQUIRED, MODULAR BUILDING MFR TO DETERMIN SIZE, QUANTITY AND LOCATION
- 26.2 ELECTRICAL SERVICE PANEL, SEE ELECTRICAL



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EXTERIOR ELEVATIONS

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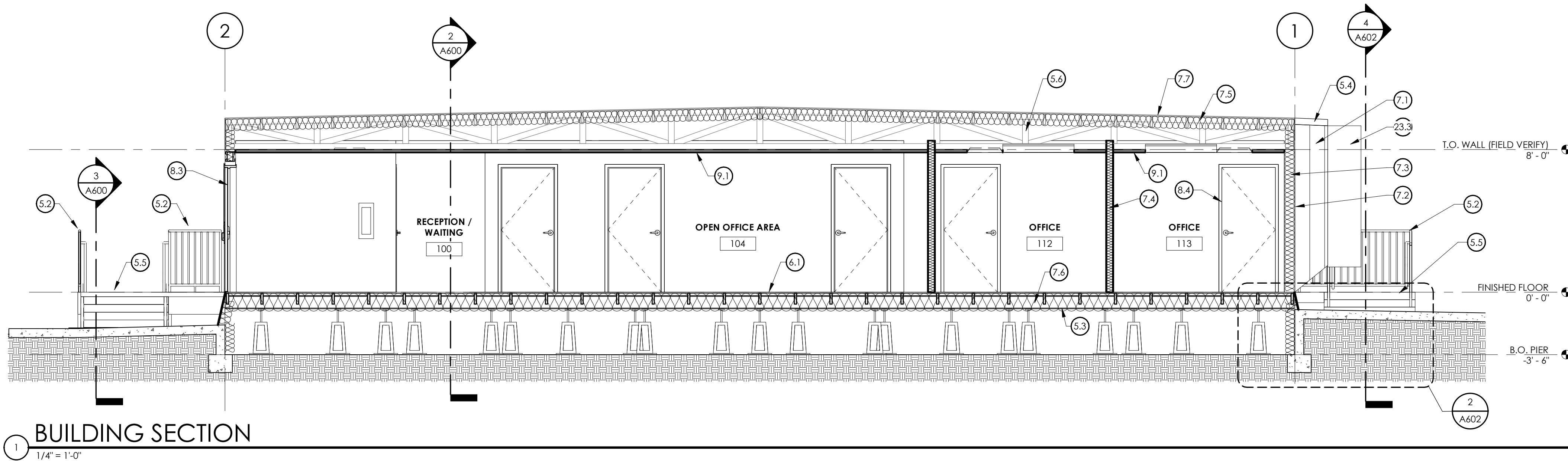
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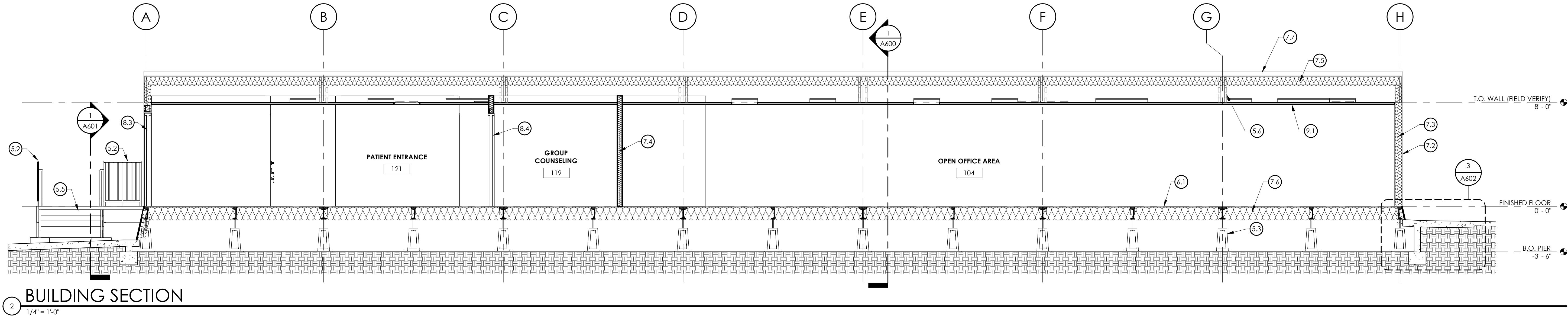
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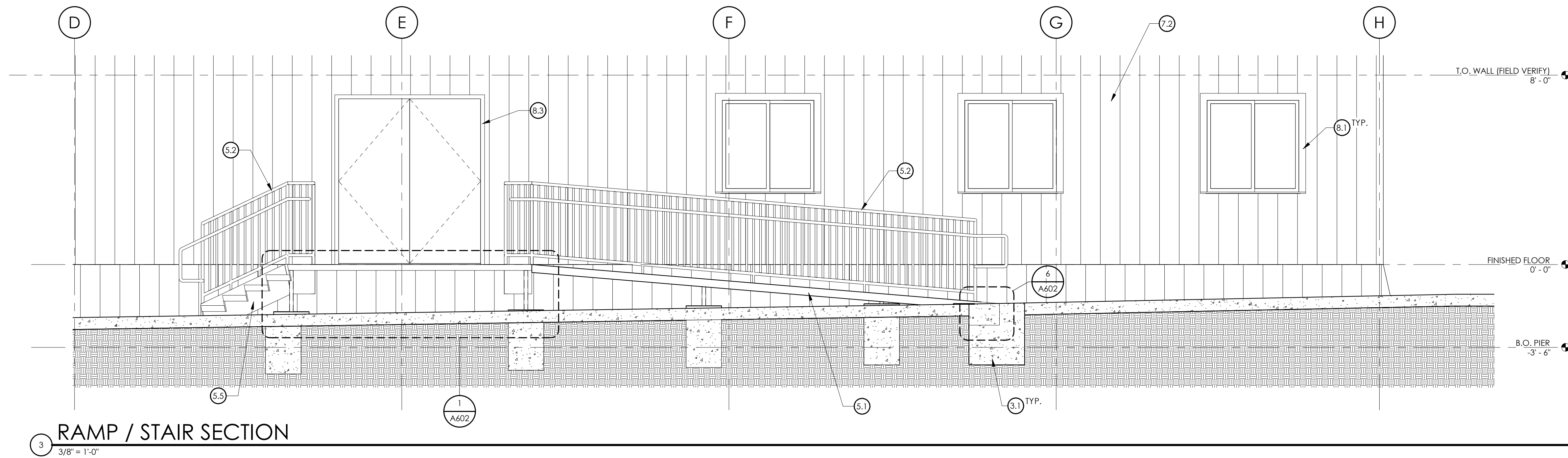
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1 BUILDING SECTION  
1/4" = 1'-0"



2 BUILDING SECTION  
1/4" = 1'-0"



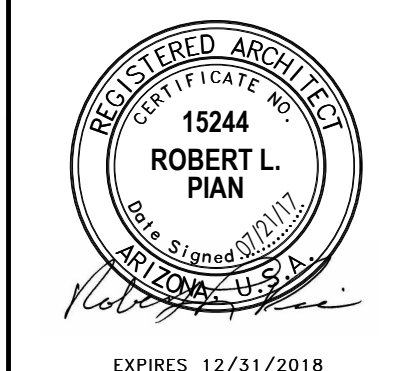
3 RAMP / STAIR SECTION  
3/8" = 1'-0"

- | #    | KEYNOTES   |
|------|--|
| 3.1  | CONCRETE FROST FOOTING, MIN. 2'-6" BELOW GRADE   |
| 5.1  | ADA COMPLIANT METAL RAMP   |
| 5.2  | 1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES   |
| 5.3  | STEEL CHANNEL SUPPORTS, PIERS, JACKS AND PADS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES                                      |
| 5.4  | PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE  |
| 5.5  | METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS   |
| 5.6  | EXISTING STEEL TRUSS   |
| 6.1  | EXISTING FLOOR SHEATHING, OVER EXISTING FRAMING  |
| 7.1  | 1/2" T1-11 T&G PLYWOOD SIDING PANELS, PAINT  |
| 7.2  | EXISTING SIDING PANELS   |
| 7.3  | EXISTING EXTERIOR WALL BATT INSULATION. PROVIDE MIN. R-19 EXTERIOR WALL BATT INSULATION WHEREVER INSULATION MAY BE MISSING. SEE GENERAL TECHNICAL SPECIFICATIONS |
| 7.4  | MIN. R-11 INTERIOR WALL BATT INSULATION. SEE GENERAL TECHNICAL SPECIFICATIONS  |
| 7.5  | EXISTING BATT INSULATION, PROVIDE MIN. R-38 UNFACED BATT INSULATION WHEREVER INSULATION MAY BE MISSING. WIRE IN PLACE. SEE GENERAL TECHNICAL SPECIFICATIONS      |
| 7.6  | MIN. R-19 FLOOR AND SKIRT BATT INSULATION. WIRE IN PLACE. SEE GENERAL TECHNICAL SPECIFICATIONS   |
| 7.7  | EXISTING ROOF SYSTEM, PATCH & REPAIR AS REQ'D TO WEATHERPROOF STANDARDS  |
| 8.1  | VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS   |
| 8.3  | INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT   |
| 8.4  | INTERIOR METAL FRAME & WOOD DOOR, PRIME & PAINT  |
| 9.1  | SUSPENDED CEILING SYSTEM, SEE CEILING PLAN & GENERAL TECHNICAL SPECIFICATIONS  |
| 23.3 | WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS  |

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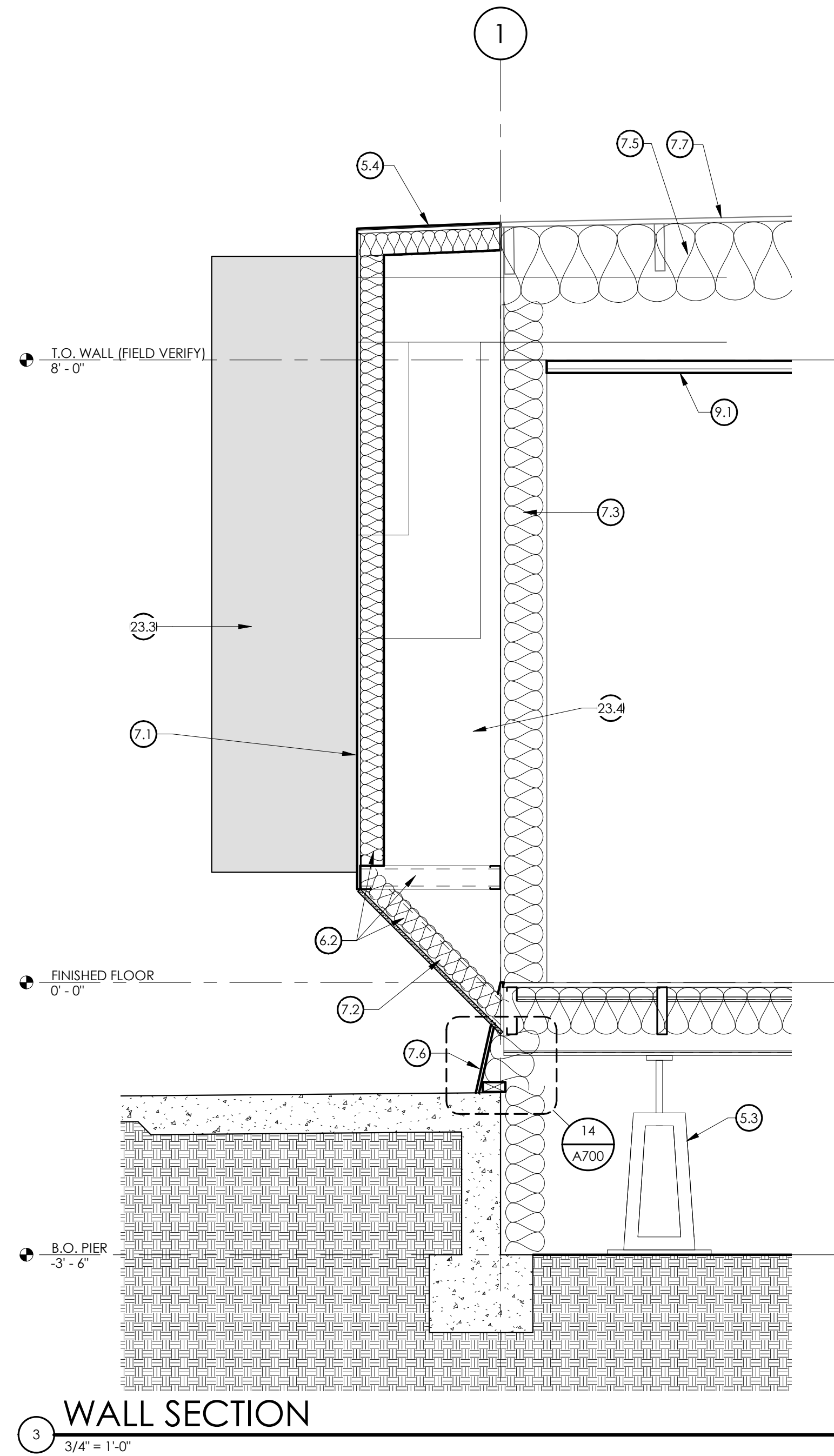
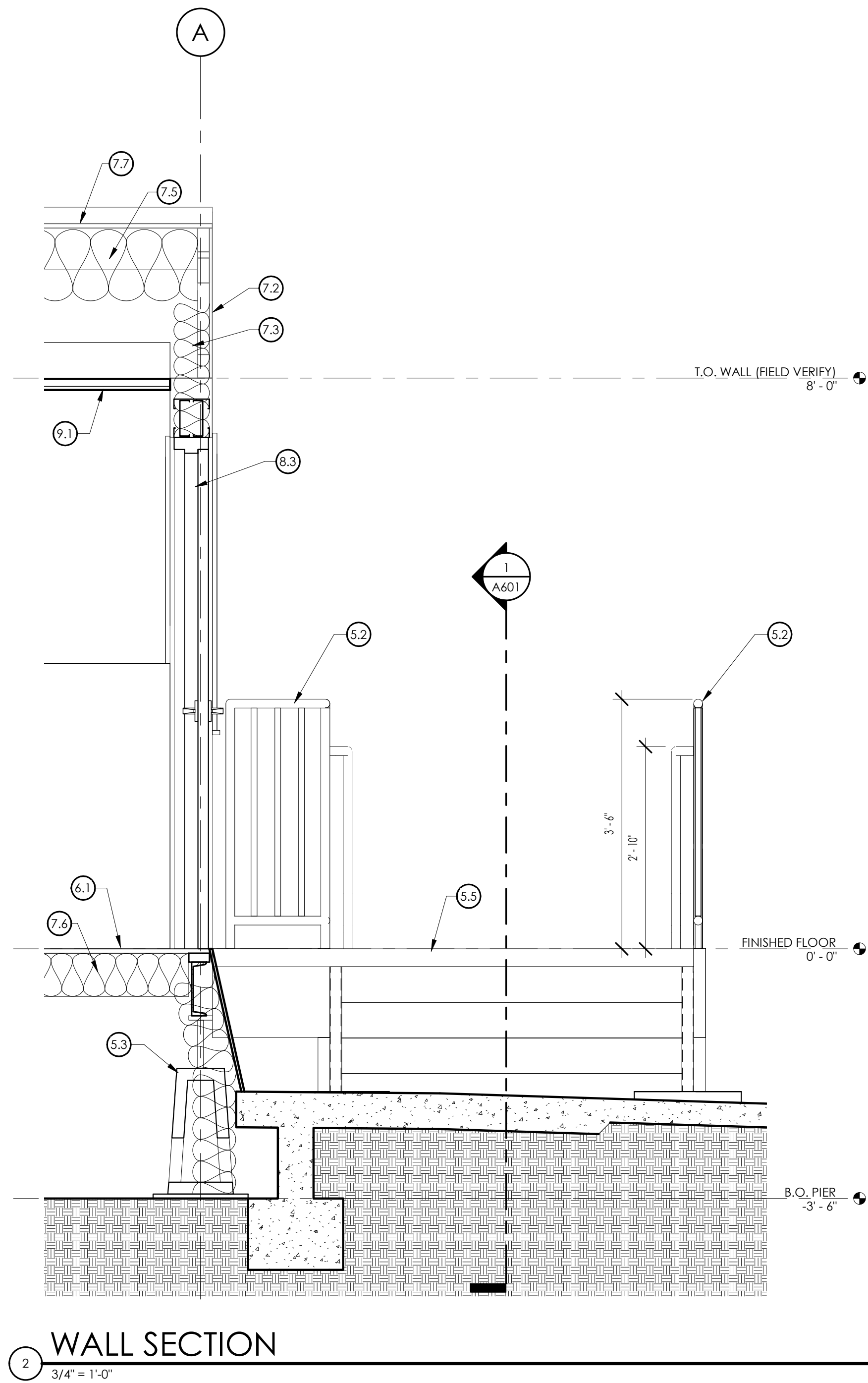
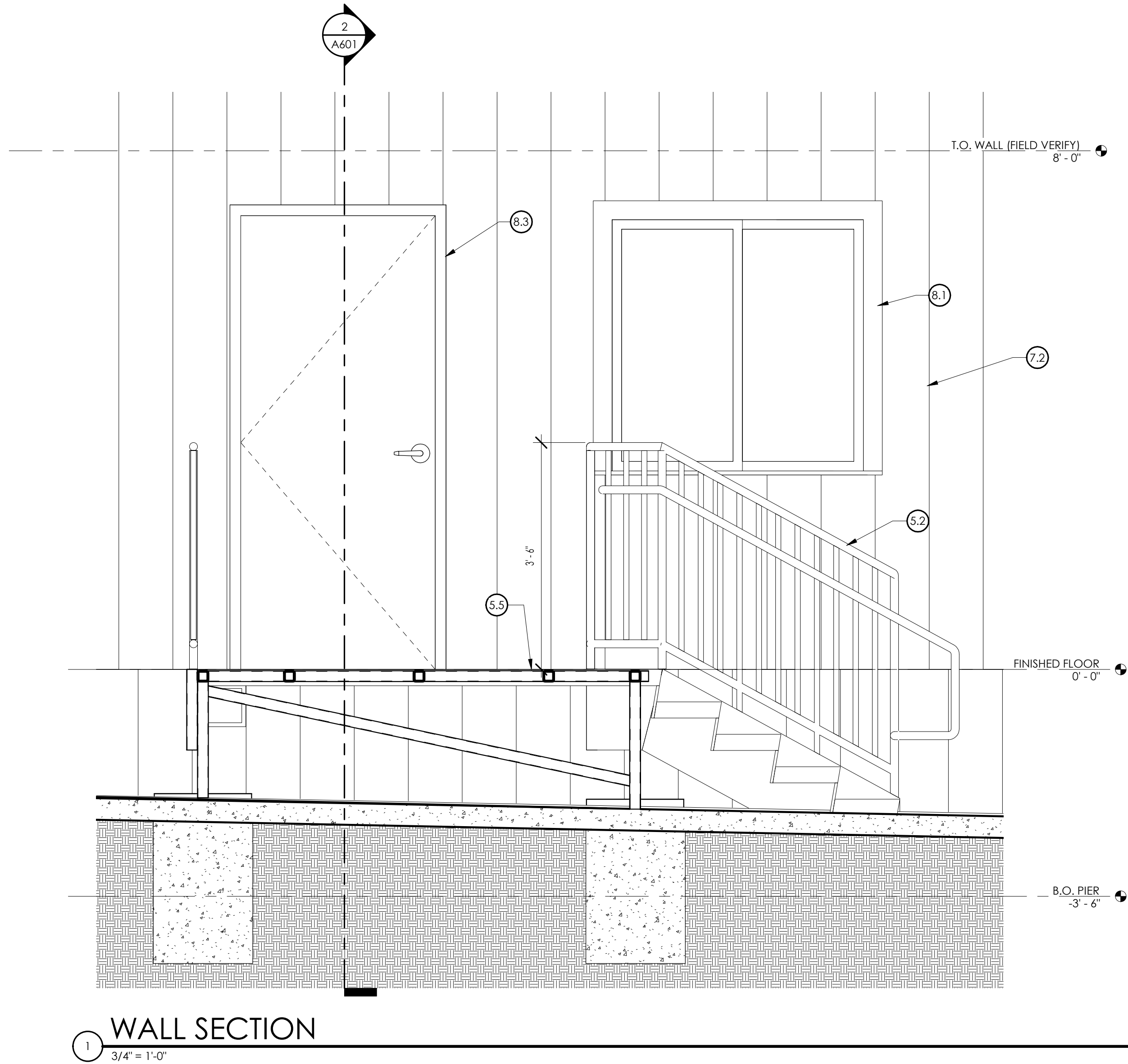
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#	KEYNOTES
5.2	1 1/2" DIA. STEEL GUARDRAIL & HANDRAIL, PRIME AND PAINT. SEE DETAILS, ELEVATIONS AND GENERAL SPECIFICATION NOTES
5.3	STEEL CHANNEL SUPPORTS, PIERS, JACKS AND PADS PER MODULAR BUILDING MANUFACTURER SPECIFICATIONS TO MEET ALL APPLICABLE CODES
5.4	PREFINISHED METAL FLASHING ROOF OVER MECHANICAL CHASE
5.5	METAL STAIRS, SEE DETAILS AND GENERAL TECHNICAL SPECIFICATIONS
6.1	EXISTING FLOOR SHEATHING, OVER EXISTING FRAMING
6.2	CONTRACTOR TO CONFIRM WEIGHT & SIZE OF MECHANICAL UNIT & ASSOCIATED EQUIPMENT. DESIGN SUPPORT MATERIALS AS REQUIRED.
7.1	1/2" T1-11 T&G PLYWOOD SIDING PANELS, PAINT
7.2	EXISTING SIDING PANELS
7.3	EXISTING EXTERIOR WALL BATT INSULATION. PROVIDE MIN. R-19 EXTERIOR WALL BATT INSULATION WHEREVER INSULATION MAY BE MISSING. SEE GENERAL TECHNICAL SPECIFICATIONS
7.5	EXISTING BATT INSULATION, PROVIDE MIN. R-38 UNFACED BATT INSULATION WHEREVER INSULATION MAY BE MISSING. WIRE IN PLACE. SEE GENERAL TECHNICAL SPECIFICATIONS
7.6	MIN. R-19 FLOOR AND SKIRT BATT INSULATION, WIRE IN PLACE. SEE GENERAL TECHNICAL SPECIFICATIONS
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8.1	VINYL SLIDING WINDOW, SEE GENERAL TECHNICAL SPECIFICATIONS
8.3	INSULATED EXTERIOR METAL DOOR & FRAME, PRIME & PAINT
9.1	SUSPENDED CEILING SYSTEM, SEE CEILING PLAN & GENERAL TECHNICAL SPECIFICATIONS
23.3	WALL MOUNTED HVAC UNIT, SEE MECHANICAL DRAWINGS
23.4	DUCT CHASE, SEE MECHANICAL DRAWINGS

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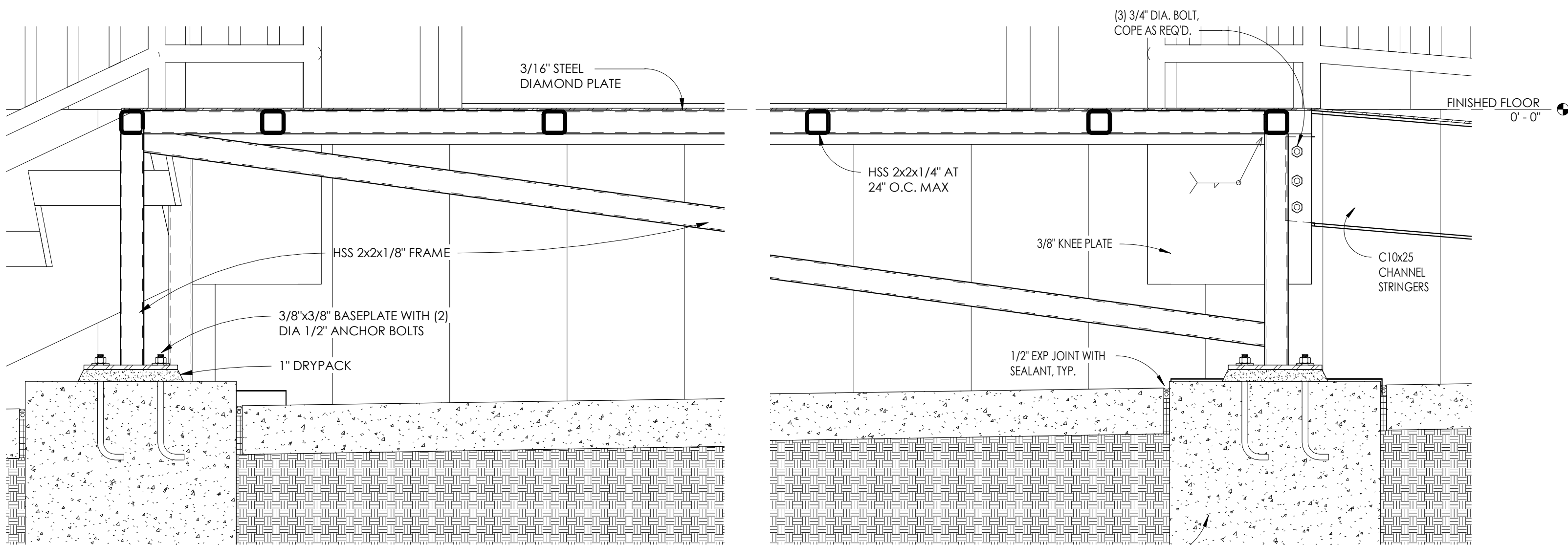
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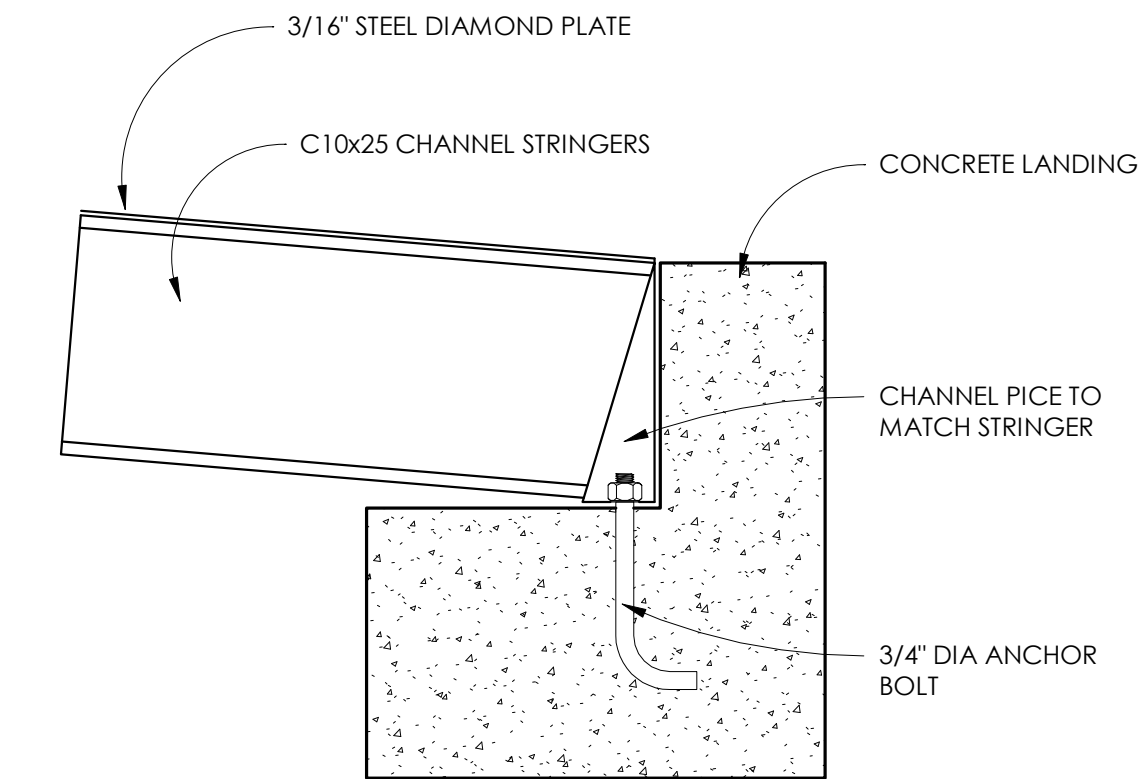


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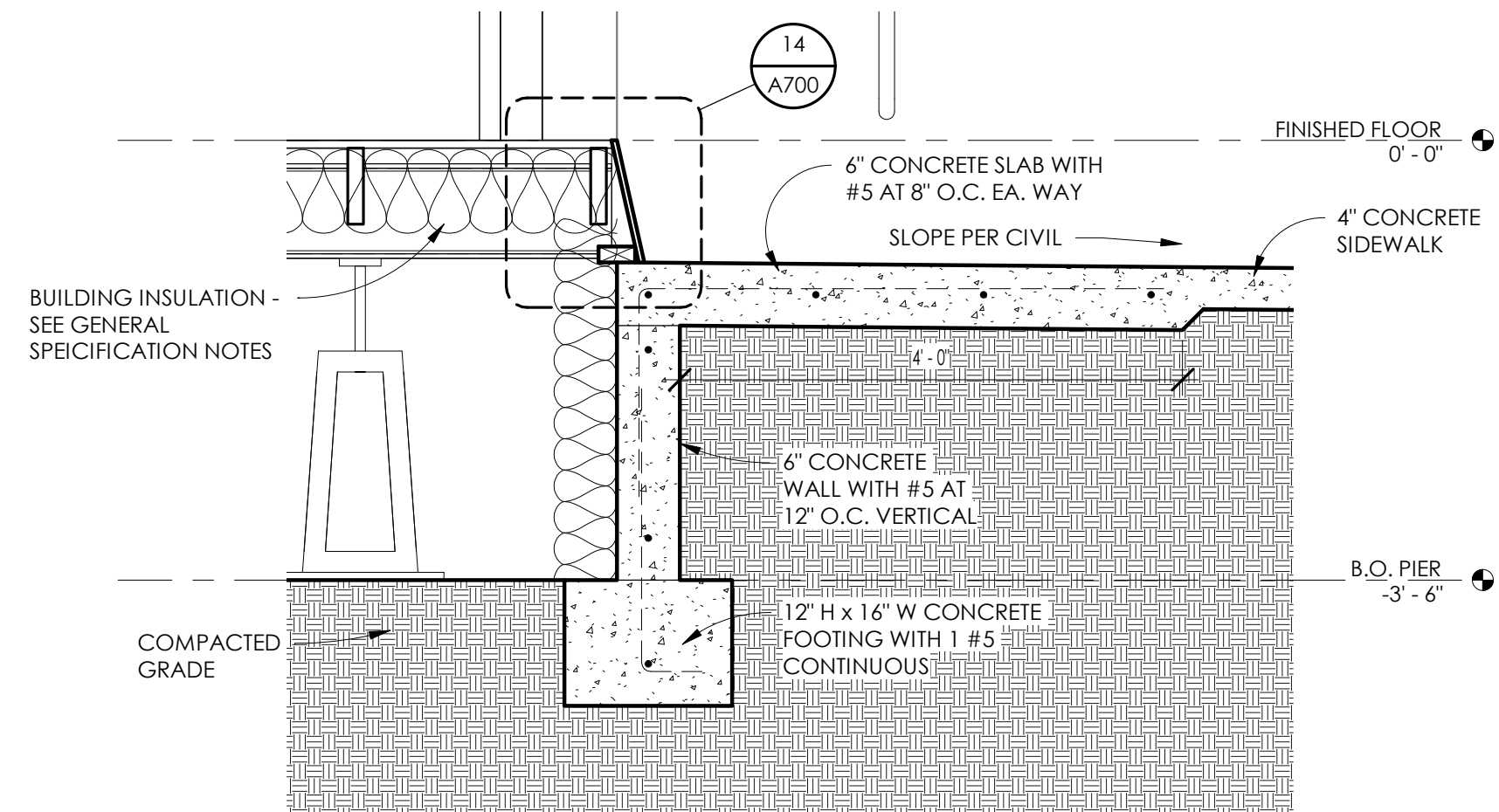
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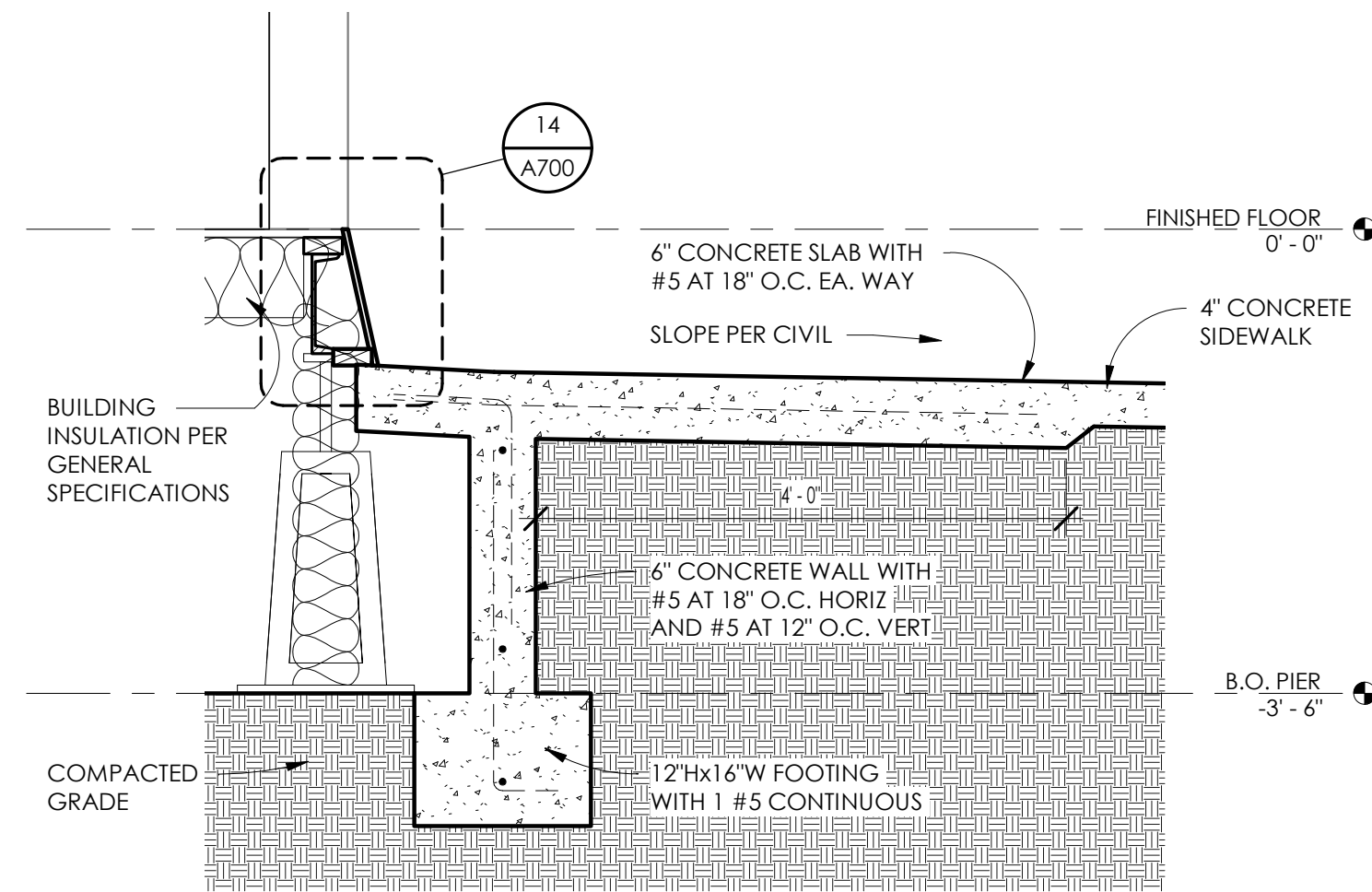
1 RAMP DETAIL  
1 1/2" = 1'-0"



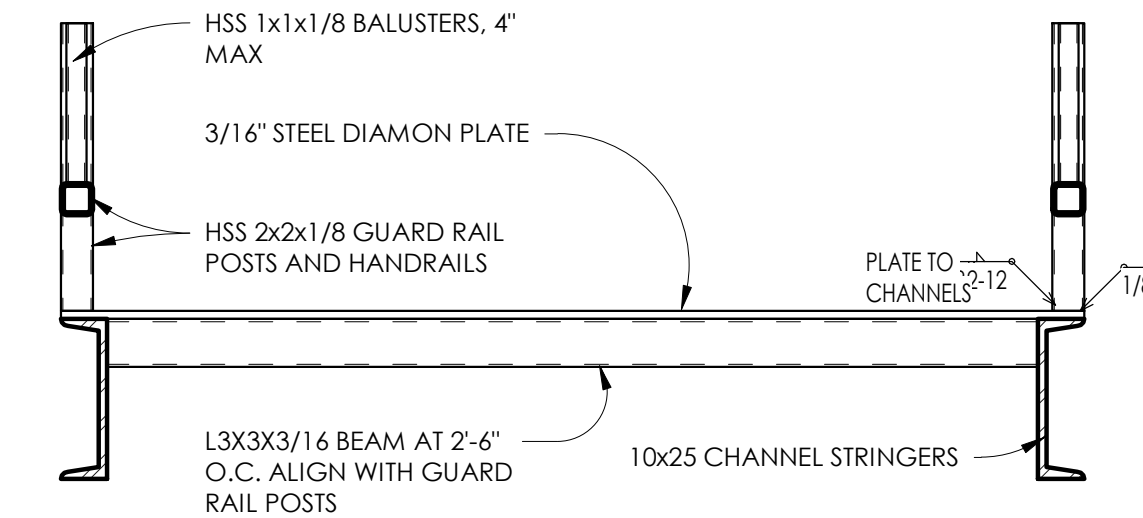
6 STEEL RAMP TO CONCRETE  
1 1/2" = 1'-0"



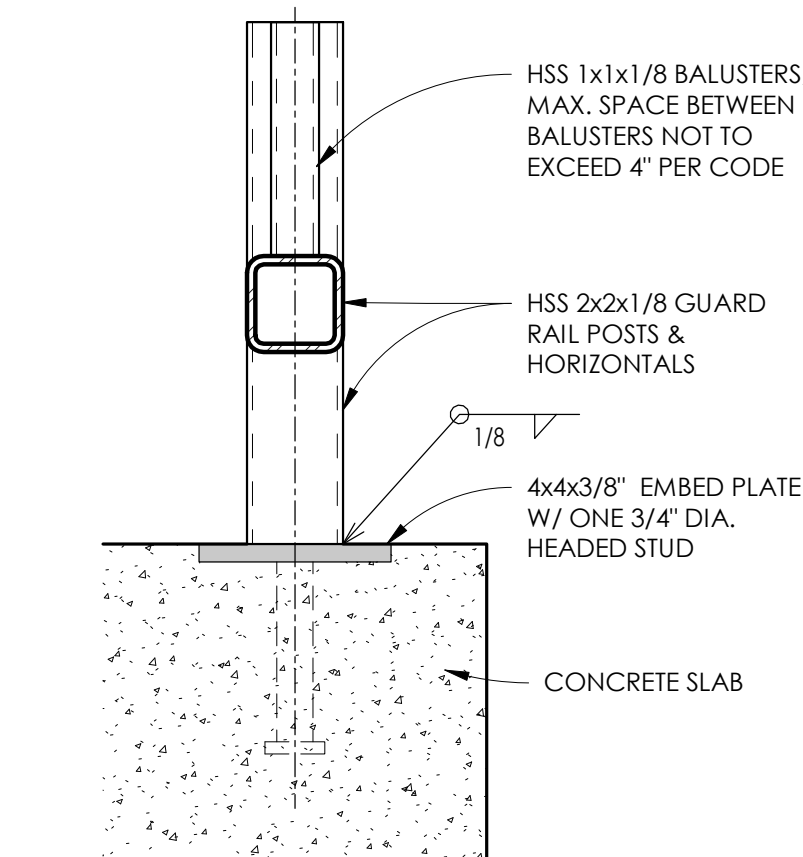
2 CONCRETE TURN DOWN AT SKIRT  
3/4" = 1'-0"



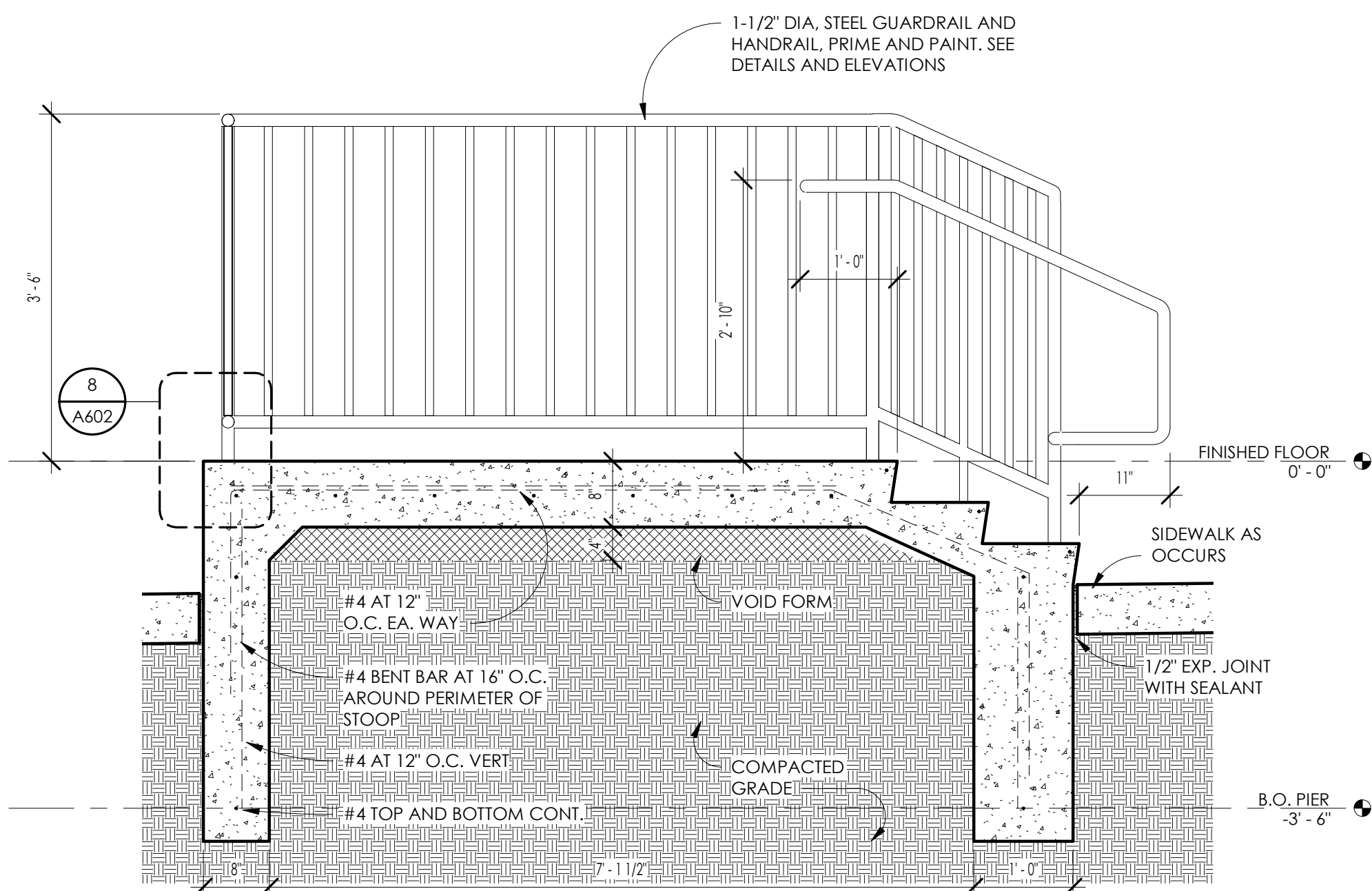
3 CONCRETE TURN DOWN AT SKIRT  
3/4" = 1'-0"



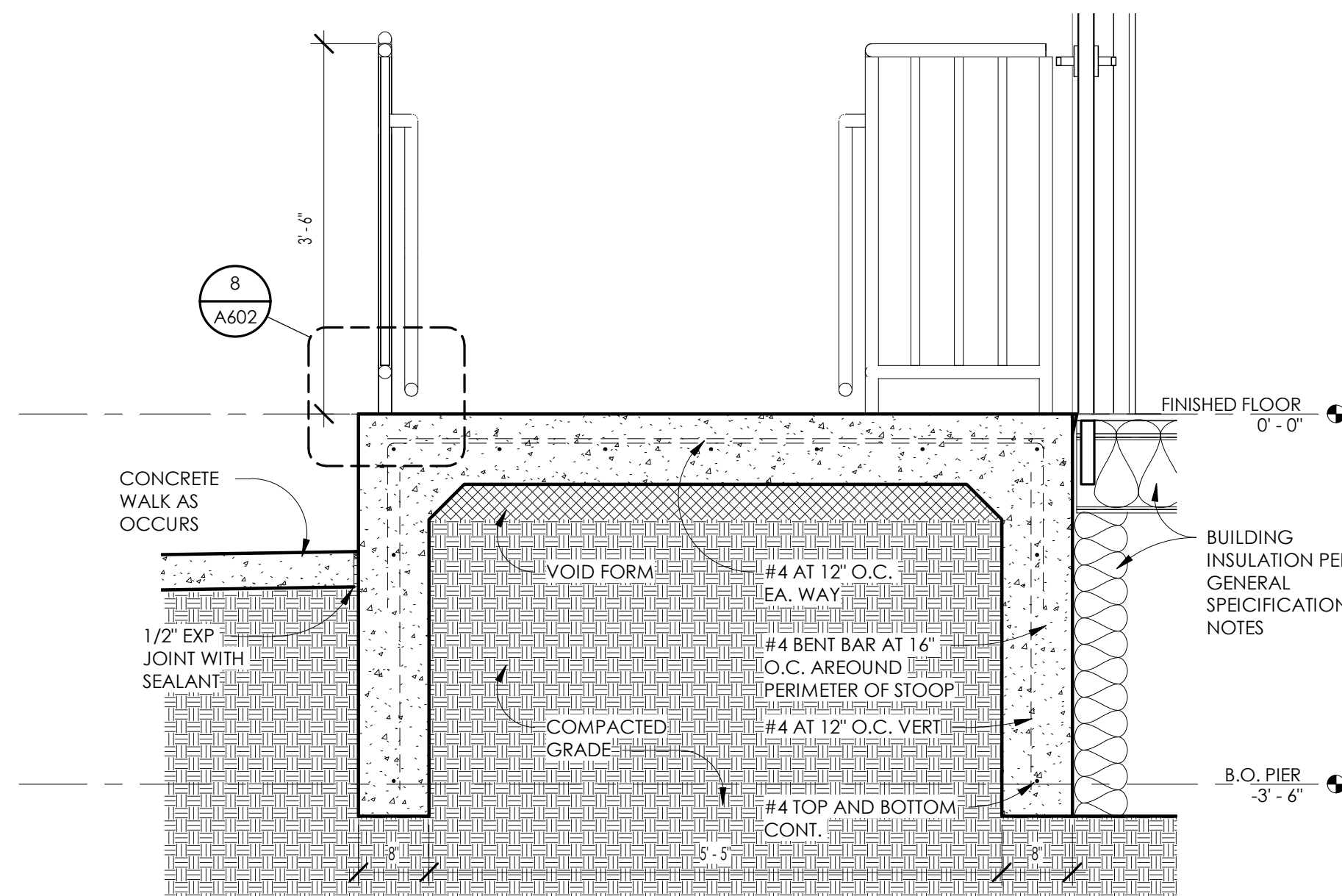
7 RAMP SECTION  
1" = 1'-0"



8 HANDRAIL AT CONCRETE  
3" = 1'-0"



4 WALL SECTION  
3/4" = 1'-0"



5 WALL SECTION  
3/4" = 1'-0"

NOTE: PRIME AND PAINT EXPOSED METAL RAMP, STAIRS, RAILINGS, GUARDRAILS, BALLUSTERS, TYP.

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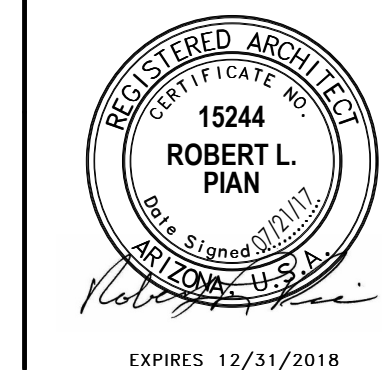
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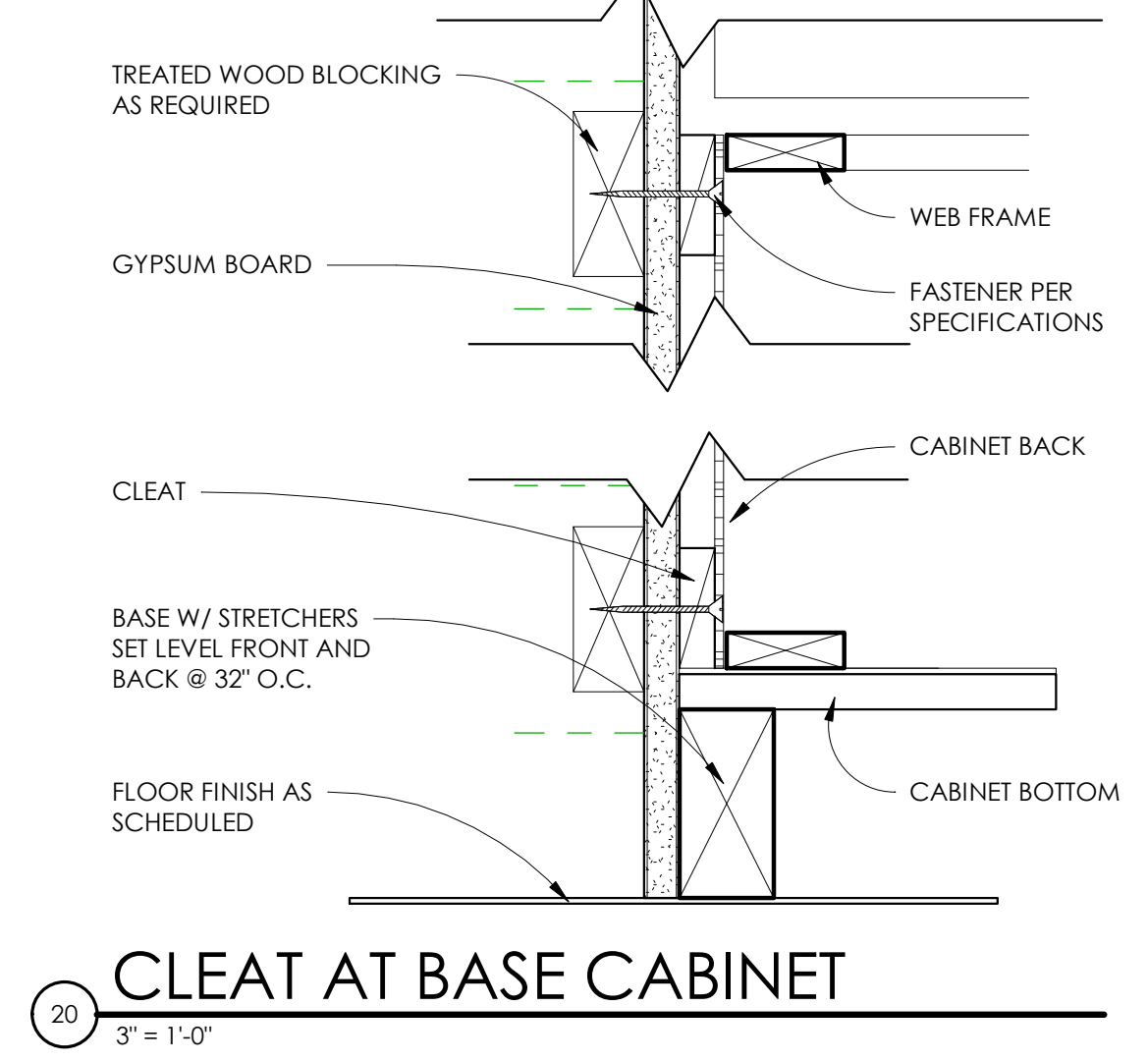
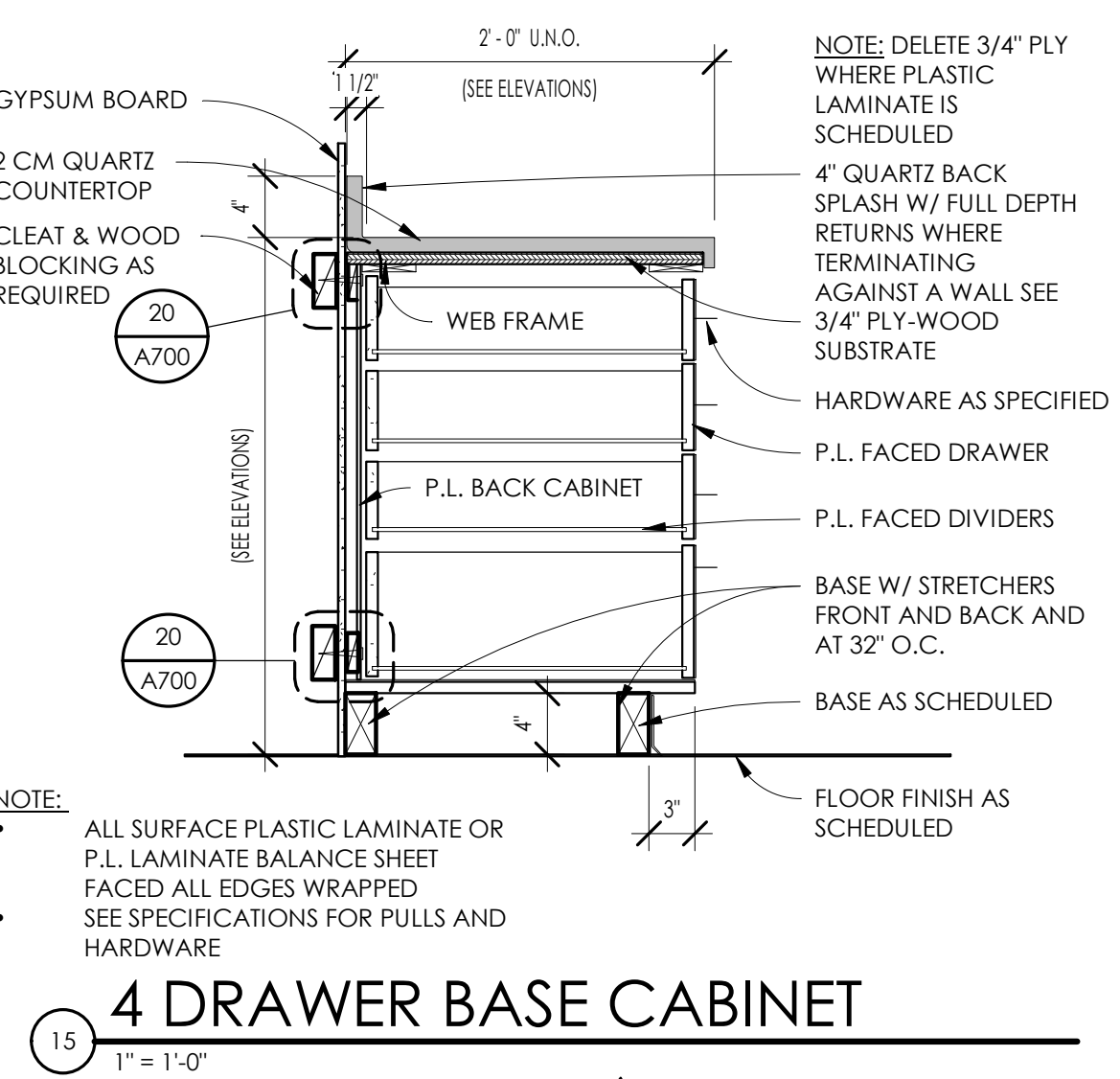
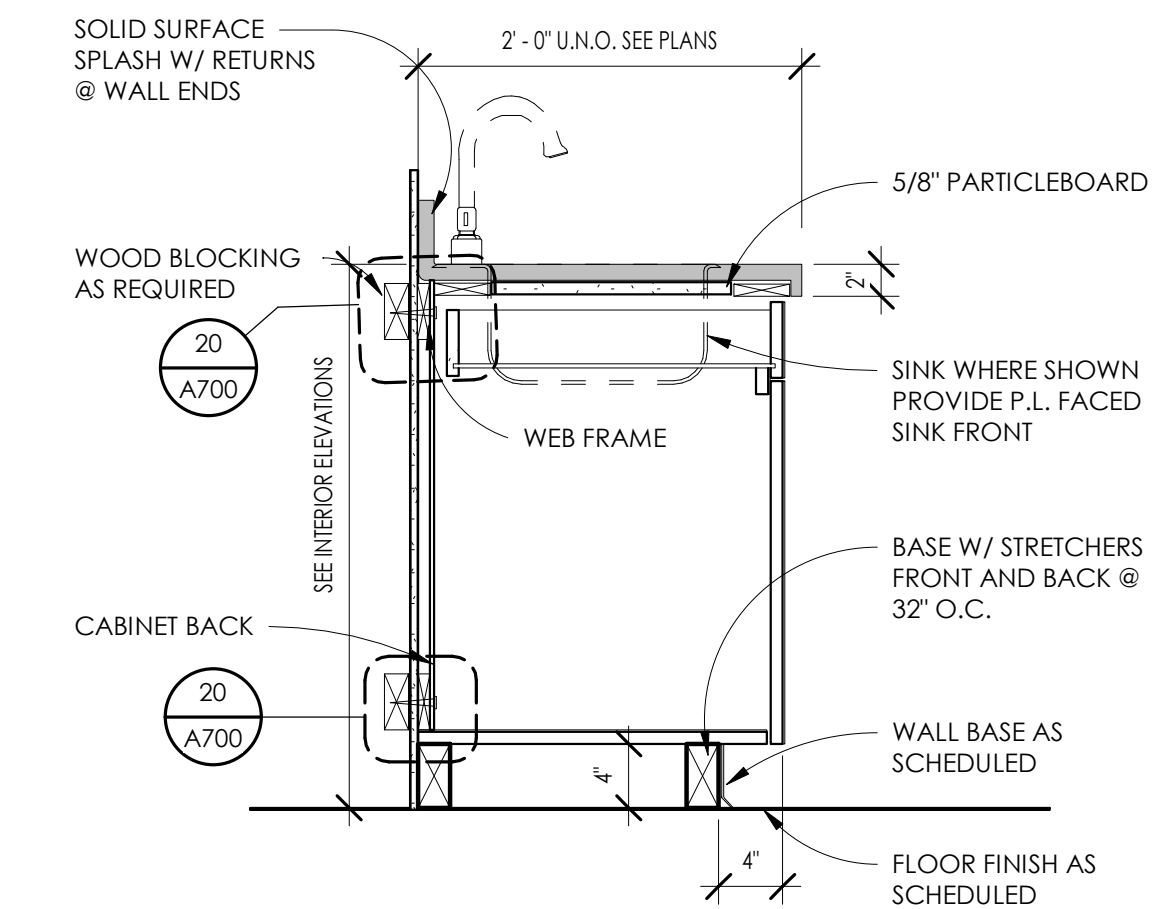
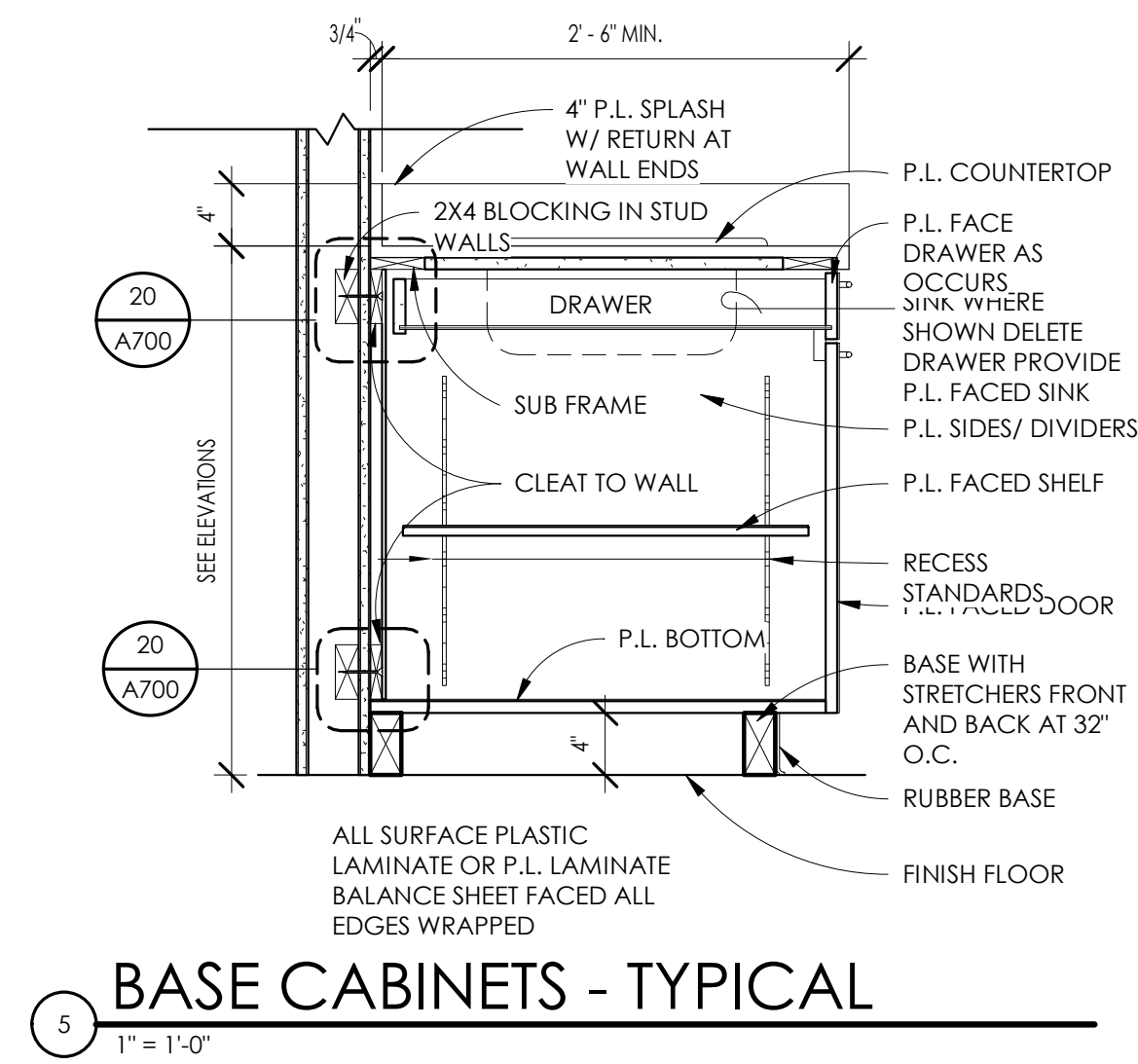
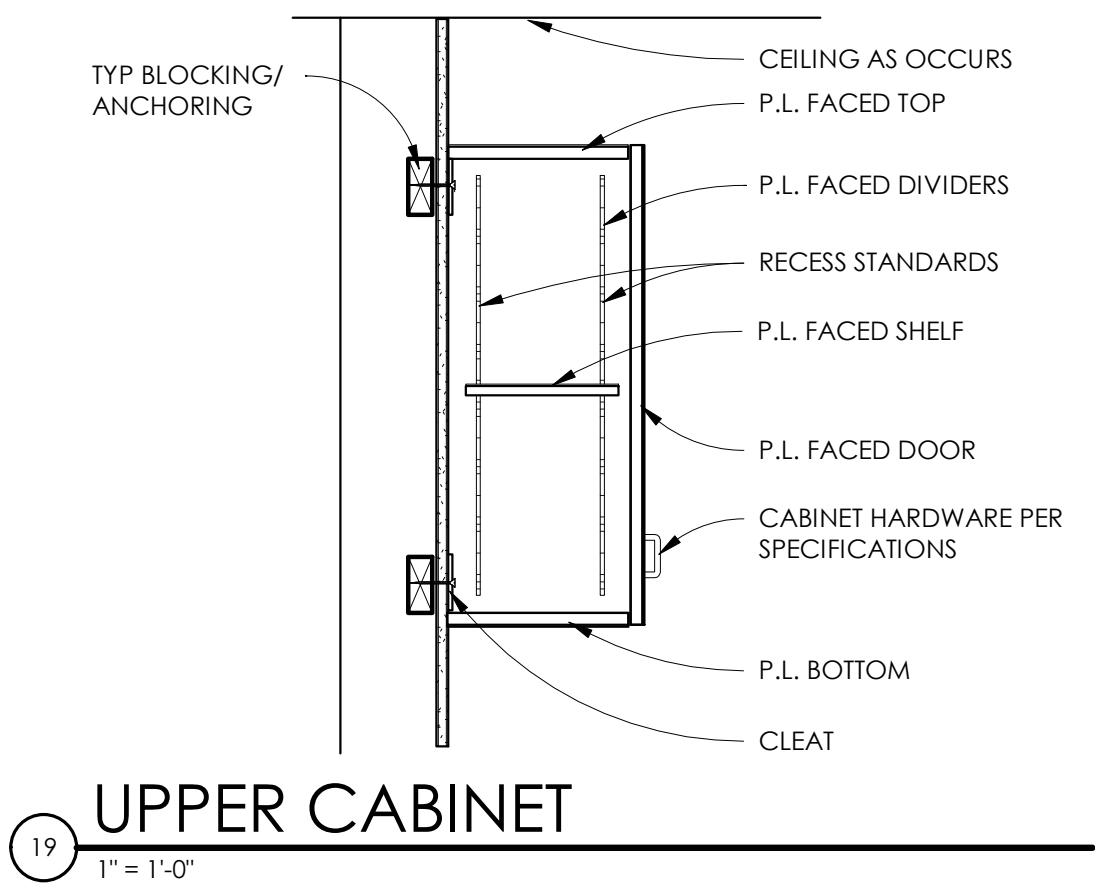
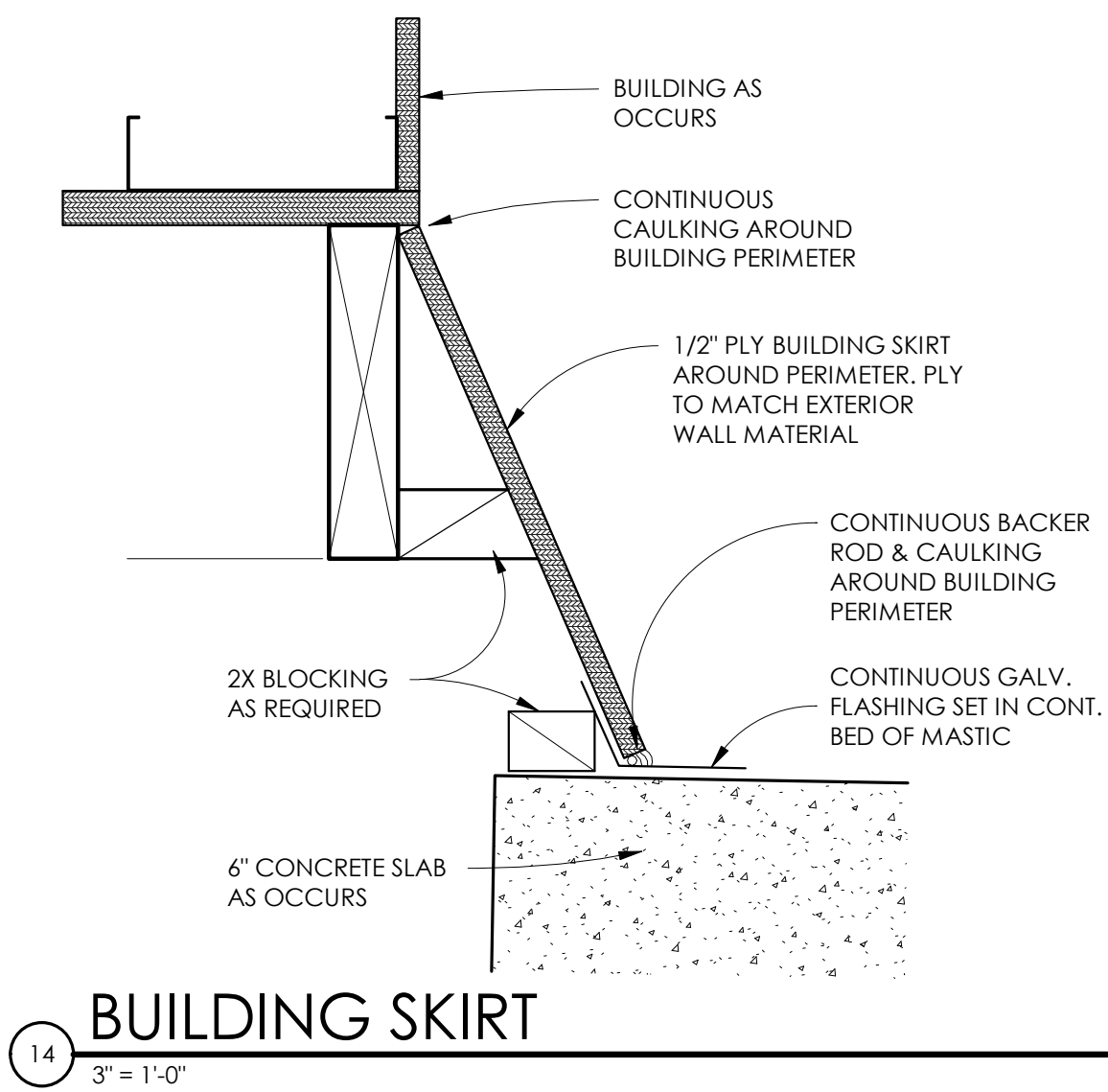
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REGISTERED ARCHITECT  
15244  
ROBERT L. PIAN  
Date Signed 07/10/18  
State of ARIZONA, U.S.A.  
EXPIRES 12/31/2018

ORIGINAL ISSUE  
DATE: 07-21-2017

JOB No: 1641A

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**BUILDING CODE:**  
SITE WORK - 2012 EDITION OF THE INTERNATIONAL BUILDING CODE AND STANDARDS REFERENCED THEREIN, WITH COCONINO COUNTY AMENDMENTS.  
MODULAR BUILDING - 2009 EDITION OF THE INTERNATIONAL BUILDING CODE AND STANDARDS REFERENCED THEREIN, WITH ARIZONA DEPARTMENT OF HOUSING – MANUFACTURED HOUSING DIVISION AMENDMENTS.

**LOADS:**  
**ROOFS:**  
  
ROOF LIVE LOAD = 20 PSF (REDUCIBLE).GROUND SNOW LOAD, Pg = 45 PSF.  
ROOF SNOW LOAD, Pf = 30 PSF (NON-REDUCIBLE).

**FLOORS:**  
  
FLOOR LIVE LOAD = 50 PSF (NON-REDUCIBLE) (OFFICE).

**LATERAL:**  
  
**WIND:**  
  
BASIC WIND SPEED (3-SECOND GUST) = 90 MPH. (ASCE 7-05)  
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST), V(uH) = 115 MPH. (ASCE 7-10)  
OCCUPANCY CATEGORY, II. (ASCE7-05)  
WIND IMPORTANCE FACTOR, I = 1.0. (ASCE 7-05)  
EXPOSURE C  
RISK CATEGORY, II. (ASCE 7-10)

**SEISMIC:**  
  
SEISMIC IMPORTANCE FACTOR, I = 1.0  
OCCUPANCY CATEGORY, II. (ASCE7-05)  
RISK CATEGORY II (ASCE7-10)  
MAPPED SHORT PERIOD SPECTRAL ACCELERATION, Ss = 0.300  
MAPPED ONE SECOND SPECTRAL ACCELERATION, S1 = 0.089  
SOIL SITE CLASS, C  
DESIGN SHORT PERIOD SPECTRAL ACCELERATION, Sds = 0.240  
DESIGN ONE SECOND SPECTRAL ACCELERATION, Sd1 = 0.101  
SEISMIC DESIGN CATEGORY, B

**FOUNDATIONS:**  
  
GEOTECHNICAL REPORT BY RAMM AND ASSOCIATES: JOB NO. G24105A. ISOLATED AND CONTINUOUS FOOTINGS BELOW FROST LINE SHALL BEAR ON FIRM, UNDISTURBED SOIL. 30" MINIMUM BELOW ADJACENT FINISHED GRADE, AS STATED IN GEOTECHNICAL REPORT FOR EXTERIOR FOOTINGS SUBJECTED TO FROST OR BEAR AT 4943.5 ELEVATION FOR INTERIOR FOOTINGS NOT SUBJECTED TO FROST. FINISHED GRADE IS DEFINED AS TOP OF SLAB FOR INTERIOR FOOTINGS AND LOWEST ADJACENT GRADE WITHIN 5 FEET FOR PERIMETER FOOTINGS. DESIGN SOIL BEARING VALUE = 2900 PSF FOR EXTERIOR FOOTINGS BELOW FROST LINE OR 1500 PSF FOR AT-GRADE FOOTINGS. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION PRIOR TO COMMENCEMENT OF EARTHWORK. GEOTECHNICAL ENGINEER SHALL INSPECT FOUNDATION EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.

**CONCRETE:**  
  
SPECIFIED 28 DAY COMPRESSIVE STRENGTH F'c:  
  
FOUNDATIONS (DESIGN BASED ON 2,500 PSI)----- 3,000 PSI  
EXTERIOR SLAB ON GRADE----- 3,000 PSI

**GENERAL:**  
  
ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE REFERENCED EDITION OF THE ACI. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED UNLESS NOTED OTHERWISE. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED. NO OTHER ADMIXTURES PERMITTED WITHOUT APPROVAL. FOR CONCRETE WITHOUT PLASTICIZER, MAXIMUM SLUMP 4 1/2" AT POINT OF PLACEMENT U.N.O.. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL.

FOR REINFORCING INFORMATION, SEE REINFORCING SECTION OF G.S.N., PLANS, SCHEDULES AND DETAILS.

UNLESS NOTED OTHERWISE ON THE DRAWINGS, THE EMBEDMENT OF CONDUITS, PIPES, SLEEVES, ETC. OF ANY MATERIAL SHALL NOT BE PERMITTED WITHIN ANY CONCRETE STRUCTURAL ELEMENT (IE: COLUMNS, BEAMS, ELEVATED SLABS, ETC.) OR STRUCTURAL CONCRETE TOPPINGS WITHOUT THE EXPRESSED APPROVAL OF THE STRUCTURAL ENGINEER.

FLY ASH - IF PERMITTED BY ARCHITECTURAL SPECIFICATIONS, SHALL BE LIMITED TO 25% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT. FLY ASH SHALL BE INCLUDED IN THE CALCULATION OF W/C RATIOS SPECIFIED ABOVE. FLY ASH ADDITIVES SHALL NOT BE USED ON SLABS WITH A BURNISHED OR ACID FINISH.

TEST DATA FOR EACH CONCRETE MIX SHALL BE SUBMITTED FOR REVIEW PER CHAPTER 5 OF ACI 318. REFERENCE FIGURE R5.3 FOR SUBMITTAL REQUIREMENTS AND OPTIONS. CONCRETE MIX DESIGNS THAT ARE SUBMITTED WITHOUT THE APPROPRIATE TEST DATA CANNOT BE REVIEWED.

**SLABS ON GRADE:**  
  
MAXIMUM SLUMP WITHOUT PLASTICIZER AT POINT OF PLACEMENT SHALL BE 5 INCHES. (FOR WAREHOUSE, INDUSTRIAL OR HIGH TRAFFIC SLAB USES, MIX DESIGN SHALL HAVE A MINIMUM AMOUNT OF CEMENTITIOUS MATERIALS (CEMENT PLUS FLY ASH), 540 POUNDS PER CUBIC YARD (FOR 3/4 INCH NOMINAL MAXIMUM AGGREGATE SIZE) PER ACI 302.1R-04 TABLE 6.2). MIX DESIGNS SHALL TAKE CARE TO PROVIDE THE LARGEST POSSIBLE SIZE OF COARSE AGGREGATE WHILE MAINTAINING CONCRETE WORKABILITY. NOMINAL MAXIMUM AGGREGATE SIZE SHALL NOT BE LESS THAN 3/4 INCH NOR MORE THAN 1/3 THE DEPTH OF THE SLAB. MIX DESIGNERS SHALL SUBMIT SLAB ON GRADE DESIGNS WITH SHRINKAGE CHARACTERISTICS NOT EXCEEDING 0.00078 IN/IN TO MEET THE REQUIREMENTS OF ACI 360R-06, FIGS.6 FOR TYPICAL CONCRETE. SLABS SHALL BE PLACED ON A FLAT, SMOOTH, FIRM, COMPACTED SUBGRADE.

CONCRETE SHALL BE MIXED, PLACED, FINISHED AND CURED PER REFERENCED EDITION OF ACI 302.1 FOR THE APPROPRIATE FLOOR CLASS TYPE PER TABLE 1.1 AND SECTION 7. CURING COMPOUND SHALL BE COMPATIBLE WITH ARCHITECTURAL FLOOR FINISH.

SLABS ON GRADE SHALL BE VIBRATED ONLY AT TRENCHES, FLOOR DUCTS, TURNDOWNS, ETC.. CAST CLOSURE POUR AROUND COLUMNS AFTER COLUMN DEAD LOAD IS APPLIED. UNLESS APPROVED OTHERWISE IN WRITING BY THE ARCHITECT, ALL CONCRETE SLABS ON GRADE SHALL BE BOUND BY CONTROL JOINTS (CONSTRUCTION OR SAW CUT) PER TYPICAL DETAILS, AS SHOWN ON THE FOUNDATION PLAN, SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 150 SQUARE FEET. CONSTRUCTION CONTROL JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING, ALL OTHER JOINTS MAY BE SAW CUT. SLAB REINFORCING, WHERE SHOWN, SHALL NOT EXTEND MORE THAN 125 FEET WITHOUT STOPPING THE REINFORCEMENT AT A CONTROL JOINT.

VAPOR BARRIER IF REQUIRED BY ARCHITECTURAL SPECIFICATION OR SOILS REPORT SHALL CONSIST OF A MINIMUM 10 MIL MATERIAL LAPPED A MINIMUM OF 6 INCHES AND TAPED PER MANUFACTURER RECOMMENDATIONS. THE BARRIER SHALL BE PLACED ON TOP OF A SMOOTH AND COMPACTED SUBGRADE SURFACE. THE FLOOR SLAB SHALL BE PLACED OVER A FOUR INCH LAYER OF COMPACTED AGGREGATE BASE COURSE ON TOP OF THE VAPOR BARRIER. ANY DAMAGE TO VAPOR BARRIER SHALL BE REPAIRED PRIOR TO AGGREGATE COURSE PLACEMENT. CARE SHALL BE TAKEN TO KEEP MOISTURE AWAY FROM THE COMPACTED SUBBASE. SUBGRADE MUST BE ALLOWED TO DRY AFTER RAINS PRIOR TO SLAB PLACEMENT. FLOOD CURING IS NOT ALLOWED. SAND IS NOT AN ALTERNATIVE FOR THE SUB-BASE COURSE.

**REINFORCING:**  
  
ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy = 60 KSI / GRADE 60) DEFORMED BARS FOR ALL BARS #5 AND LARGER, ASTM A615 (Fy = 40 KSI / GRADE 40) DEFORMED BARS FOR ALL BARS #4 AND SMALLER. WHERE SHOWN ON DRAWINGS ALL GRADE 60 REINFORCING TO BE WELDED SHALL BE ASTM A706. WELDED WIRE FABRIC PER ASTM A185, WIRE PER ASTM A82. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. REFERENCED ACI CODE AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:  
  
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ----- 3"  
EXPOSED TO EARTH OR WEATHER ----- 2"  
#6 OR LARGER ----- 2"  
#5 AND SMALLER ----- 1 1/2"  
ALL OTHER PER REFERENCED EDITION OF ACI 318

ALL REINFORCING SHALL BE CHAIRED TO ENSURE PROPER CLEARANCES. SUPPORT OF FOUNDATION REINFORCING MUST PROVIDE ISOLATION FROM MOISTURE/CORROSION BY USE OF A PLASTIC OR CONCRETE CHAIR. DUCT-TAPE COVERED REINFORCING IS NOT AN ACCEPTABLE CHAIR.

ALL DIMENSIONS REFERENCED IN DRAWINGS AS "CLEAR" SHALL BE FROM FACE OF STRUCTURE TO EDGE OF REINFORCING, AND SHALL NOT BE LESS THAN STATED, NOR GREATER THAN "CLEAR" DIMENSION PLUS 3/8". ALL OTHERS SHALL BE PLUS OR MINUS 1/4" TYPICAL UNLESS NOTED OTHERWISE.

FIELD BENDING OR STRAIGHTENING OF DEFORMED BARS SHALL BE LIMITED TO #5 BARS AND SMALLER AND SHALL BE FIELD BENT OR STRAIGHTENED ONLY ONCE. ANY BEND SHALL BE LIMITED TO 90 DEGREES. IF FIELD BENDING OR STRAIGHTENING OF #6 BARS OR LARGER IS REQUIRED, OR IF A SECOND BEND IS REQUIRED FOR #5 BARS AND SMALLER, HEAT SHALL BE APPLIED FOR BENDING OR STRAIGHTENING. CONTRACTOR SHALL SUBMIT PROCEDURE FOR APPLYING HEAT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BENDING OR STRAIGHTENING BARS.

**LAP SPICES IN CONCRETE:**  
  
ALL SPICE LOCATIONS SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS. REINFORCING BAR SPACING GIVEN ARE MAXIMUM ON CENTERS. DOWEL VERTICAL REINFORCING TO FOUNDATION WITH STANDARD 90-DEGREE HOOKS UNLESS NOTED OTHERWISE. SECURELY TIE ALL BARS IN LOCATION BEFORE PLACING CONCRETE.

LAP SPICES, UNLESS NOTED OTHERWISE, SHALL BE CLASS "B" TENSION LAP SPICES PER REFERENCED EDITION OF ACI 318.

LAPS IN WELDED WIRE REINFORCING SHALL BE MADE SO THAT THE OVERLAP, MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH REINFORCING SHEET, IS NOT LESS THAN THE SPACING OF CROSS WIRES PLUS 2 INCHES.

**DRYPACK:**  
  
DRYPACK SHALL BE 5,000 PSI NON-SHRINK GROUT, FIVE STAR OR EQUIVALENTS. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL DRYPACK UNDER BASE PLATES AFTER THE STRUCTURAL STEEL FRAME HAS BEEN PLUMBED BUT PRIOR TO SUPPORTED DECKING BEING INSTALLED.

**STRUCTURAL STEEL:**  
  
**GENERAL:**  
  
ALL CONSTRUCTION PER REFERENCED AISC STEEL CONSTRUCTION MANUAL. ALL WIDE FLANGE STEEL SHALL BE ASTM A992 (Fy = 50 KSI). ALL PIPE STEEL SHALL BE ASTM A500 (Fy = 42 KSI) OR ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI). ALL TUBE STEEL SHALL BE ASTM A500 (Fy = 46 KSI). ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE SHALL BE ASTM A36 (Fy = 36 KSI). THE TERMS PIPE AND ROUND HOLLOW STRUCTURAL SHAPE (HSS) ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS ALONG WITH THE TERMS TUBE STEEL AND RECTANGULAR OR SQUARE HSS.  
  
ALL STRUCTURAL ROLLED STEEL MEMBERS WITH Fy GREATER THAN 36 KSI ARE TO BE IDENTIFIED WITH AN ASTM SPECIFICATION MARK OR TAG PER IBC SEC. 2203.1.  
  
UNLESS NOTED OTHERWISE, ALL BOLTS SHALL BE ASTM A307. A325 BOLTS MAY BE SUBSTITUTED FOR A307 BOLTS AT THE CONTRACTOR'S OPTION, REVERSE SUBSTITUTION IS NOT PERMITTED. ALL BOLTS SHALL BE INSTALLED WITH STEEL WASHERS AT SHORT SLOTTED HOLES USING SNUG TIGHT INSTALLATION, UNLESS NOTED OTHERWISE.

**ANCHOR RODS:**  
  
ANCHOR RODS INCLUDE HOOKED, HEADED, AND THREADED AND NUTTED ANCHORS. THE TERMS ANCHOR BOLT AND ANCHOR ROD ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS. ALL ANCHOR ROD MATERIAL SHALL BE PER ASTM F1554 GRADE 36. A307 ANCHOR RODS MAY BE SUBSTITUTED FOR ASTM F1554 GRADE 36 AT CONTRACTOR'S OPTION. ALL ANCHOR RODS SHALL BE INSTALLED WITH STEEL WASHERS AT OVERSIZED ROUND HOLES USING SNUG TIGHT INSTALLATION, UNLESS NOTED OTHERWISE.

THE ANCHORING MECHANISM FOR NUTTED ANCHOR RODS SHALL CONSIST OF DOUBLE NUTS WITH A WASHER BETWEEN. THE NUTS AND WASHER ARE TO BE EMBEDDED INTO THE CONCRETE PER THE DETAILS AND PLANS. THE WASHER SHALL BE 1/4"x4"x4" U.N.O.. THE CONTRACTOR SHALL PREVENT THE NUTS FROM SPINNING OFF DURING THE VIBRATION OF THE CONCRETE. THIS COULD BE ACCOMPLISHED BY TIGHTENING THE NUTS AGAINST EACH OTHER THEREBY LOCKING THEM IN PLACE OR BY TACK WELDING EACH NUT TO THE ANCHOR ROD.

WHERE THE ANCHORS ARE TO BE GALVANIZED, THE ANCHOR ROD AND THE NUTS SHALL BE GALVANIZED WITH THE SAME PROCESS TO ENSURE THE THREADS MATCH.  
  
AT CONTRACTOR'S OPTION HEADED ANCHORS PER ABOVE MAY BE SUBSTITUTED FOR CONVENTIONAL ANCHORS AND MACHINE BOLTS (REVERSE SUBSTITUTION NOT ALLOWABLE).

**POST- INSTALLED ANCHORS:**  
  
**GENERAL:**  
  
ALL POST-INSTALLED ANCHORS SHALL UTILIZE THE EXACT ANCHORAGE SYSTEM SPECIFIED IN THE STRUCTURAL DETAILS. WHERE ANCHORAGE "PER GSN" IS SPECIFIED, SEE BELOW. ANCHORAGE PRODUCTS MAY NOT BE SWAPPED BETWEEN MANUFACTURERS WITHOUT APPROVAL OF THE ENGINEER OF RECORD. ALL REQUESTS FOR EQUIVALENT ANCHORAGE PRODUCTS MUST BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO BEING INSTALLED IN THE FIELD.  
  
UNLESS NOTED OTHERWISE POST INSTALLED ANCHORS SHALL NOT BE INSTALLED UNTIL CONCRETE OR MASONRY MATERIAL HAVE REACHED DESIGN STRENGTH AND HAVE BEEN FULLY CURED FOR A MINIMUM OF 21 DAYS.  
  
MANUFACTURER'S INSTALLATION TRAINING AND CERTIFICATE ARE REQUIRED FOR ALL INSTALLERS OF POST-INSTALLED ANCHORS. ALL ANCHORS SHALL BE INSTALLED WITH STEEL WASHERS AT SHORT SLOTTED HOLES IN ACCORDANCE WITH THE MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS (MPII). ALL ANCHORS SHALL TIGHTENED/TORQUED AS REQUIRED PER MANUFACTURERS INSTRUCTIONS AND EVALUATION REPORTS.

**POST-INSTALLED ANCHORS IN CONCRETE:**  
  
ALL EXPANSION TYPE ANCHORAGE FOR CONCRETE INSTALLATION ONLY SHALL BE PER HILTI 'KWIK BOLT'-IZ' EXPANSION ANCHOR PER ICC ESR-1917 OR APPROVED ICC EQUIVALENT. ALL EPOXY ADHESIVE TYPE ANCHORAGE FOR CONCRETE INSTALLATION ONLY SHALL BE PER HILTI 'HIT-HY 200' ADHESIVE ANCHORS PER ICC ESR-3187 OR APPROVED ICC EQUIVALENT. ALL SCREW TYPE ANCHORAGE FOR CONCRETE INSTALLATION ONLY SHALL BE PER HILTI 'KWIK HUS-EZ' SCREW ANCHOR PER ICC ESR-3027 OR APPROVED ICC EQUIVALENT.

**POST-INSTALLED ANCHORS IN MASONRY:**  
  
ALL EXPANSION TYPE ANCHORAGE FOR MASONRY INSTALLATION ONLY SHALL BE PER HILTI 'KWIK BOLT' 3' EXPANSION ANCHOR PER ICC ESR-1385 OR APPROVED ICC EQUIVALENT. ALL ADHESIVE (EPOXY) ANCHORAGE FOR MASONRY SHALL BE PER HILTI 'HIT-HY 70' ADHESIVE ANCHOR ICC ESR-2692 OR APPROVED ICC EQUIVALENT. ALL SCREW TYPE ANCHORAGE FOR MASONRY INSTALLATION ONLY SHALL BE PER HILTI 'KWIK HUS-EZ' SCREW ANCHOR PER ICC ESR-3056 OR APPROVED ICC EQUIVALENT.

**WELDING:**  
  
UNLESS NOTED OTHERWISE, ALL SHOP AND FIELD WELDS PER REFERENCED EDITION OF THE AWS STANDARDS. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING DOCUMENTED CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E60 SERIES. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW.

**WOOD:**  
  
**GENERAL:**  
  
WOOD FRAMING MEMBERS SHALL NOT BE NOTCHED OR DRILLED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT. ALL NAILING NOT NOTED SHALL BE PER TYPICAL DETAIL AND COMMON NAIL DIAMETER TABLE BELOW. ALL BOLTING SHALL BE PER STRUCTURAL STEEL SECTION ABOVE. WOOD CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. OR OTHER MANUFACTURER WITH CURRENT AND EQUIVALENT ICC APPROVAL. WHERE "TYPE" OF CONNECTOR IS INDICATED ON THE DRAWINGS, THE CONNECTOR AND ATTACHMENT SHALL BE PER THE MAXIMUM MODEL NUMBER BASED ON THE SIZE OF THE MEMBERS CONNECTED.

NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH	NAIL TYPE	REQ'D DIA	REQ'D GA	LENGTH
6d	0.113"	11 1/2	2"	12d	0.148"	9	3 1/4"
8d	0.131"	10 1/4	2 1/2"	16d	0.162"	8	3 1/2"
10d	0.148"	9	3"	20d	0.192"	6	4"

IN STUD WALLS, UNLESS NOTED OTHERWISE, INSTALL DOUBLE STUDS AT ALL JAMBS, CORNERS, INTERSECTIONS AND AT ISOLATED BEARING POINTS OF FRAMING MEMBERS ABOVE. WOOD FRAME BEARING WALLS SHALL HAVE A SIMPSON RSP ANCHOR TOP AND BOTTOM OF STUDS AT 32" O.C. MAXIMUM, EXCEPT AT THOSE WALLS WHERE PLYWOOD SHEATHING IS NAILED DIRECTLY TO THE TOP AND BOTTOM PLATES. PROVIDE 2X SOLID BLOCKING AT MID-HEIGHT OF BEARING STUD WALLS.

PROVIDE A MINIMUM OF 0.225" X 3" X 3" GALVANIZED STEEL PLATE WASHER UNDER EACH NUT AT FOUNDATION ANCHOR BOLTS OF SHEAR WALLS. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-3/4". PROVIDE A STANDARD CUT WASHER BETWEEN THE PLATE WASHER AND THE NUT.

**PRESERVATIVE-TREATED WOOD:**  
  
ALL SILL PLATES IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE-TREATED WOOD. WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE SHALL BE PRESERVATIVE-TREATED WOOD.

ALL WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING THAT ARE LOCATED AT EXTERIOR WALLS THAT ARE LESS THAN 8 INCHES FROM FINISHED GRADE SHALL BE PRESERVATIVE-TREATED WOOD.

ALL FASTENERS INCLUDING NUTS AND WASHERS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL OR STAINLESS STEEL. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE PER ASTM A 153. FASTENERS OTHER THAN NAILS, WOOD SCREWS AND LAG SCREWS ARE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS PER ASTM B 695, CLASS 55 MINIMUM.

PROVIDE 2" SOLID BLOCKING AT SUPPORTS OF ALL JOISTS. DOUBLE UP FLOOR JOISTS AND BLOCKING UNDER PARTITIONS.

**SAWN LUMBER:**  
  
FRAMING LUMBER SHALL COMPLY WITH THE REFERENCED EDITION OF THE GRADING RULES OF THE WMPA OR THE WCLUB. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY AND SHALL HAVE MINIMUM PROPERTIES WHICH MEET OR EXCEED THE FOLLOWING WOOD TYPES:

WOOD TYPE	
<b>JOISTS</b>	
2 X 4 -----	H.F. STND
2 X 6 OR LARGER -----	H.F. #2
<b>BEAMS</b>	
WIDTH 4" OR LESS -----	D.F.L. #1
THAN 4" -----	D.F.L. #1
<b>LEDGERS AND TOP PLATES</b>	
2 X 4 -----	D.F.L. #2
2 X 6 OR LARGER -----	H.F. STND
2 X 6 OR LARGER -----	H.F. #2
<b>POSTS</b>	
4 X 4 -----	H.F. #2
4 X 6 OR LARGER -----	H.F. #2
6 X 6 OR LARGER -----	H.F. #1

**FLOOR FRAMING:**  
  
A. DEFLECTION: FLOOR TOTAL LOAD MAXIMUM = L/360, LIVE LOAD MAXIMUM = L/600. ROOFS WITHOUT PLASTER OR GYPBOARD CEILINGS TOTAL LOAD MAXIMUM = L/180, LIVE LOAD MAXIMUM = L/240. ROOFS WITH PLASTER OR GYPBOARD CEILINGS TOTAL LOAD MAXIMUM = L/240, LIVE LOAD MAXIMUM = L/360. FABRICATOR SHALL DESIGN MEMBERS FOR PONDING WHERE ROOF SLOPES ARE LESS THAN 1/4" PER FOOT.

**PLYWOOD:**  
  
ALL PLYWOOD SHALL BE APA "CDX" RATED SHEATHING OR BETTER AND SHALL BEAR THE STAMP OF AN APPROVED TESTING AGENCY. LAY UP PLYWOOD WITH FACE GRAIN PERPENDICULAR TO SUPPORTS. (ON ROOFS WHERE PLYWOOD IS LAID UP WITH FACE GRAIN PARALLEL TO SUPPORTS, USE A MINIMUM OF 5-PLY PLYWOOD). STAGGER JOINTS. ALL NAILING, COMMON NAILS. WHERE SCREWS ARE INDICATED FOR WOOD TO WOOD ATTACHMENTS, USE WOOD SCREWS. ALL PLYWOOD SHALL BE OF THE FOLLOWING NOMINAL THICKNESS, SPAN/INDEX RATIO AND SHALL BE ATTACHED AS FOLLOWS UNLESS NOTED OTHERWISE:

USE	THICKNESS NOTED ON DRAWINGS	SPAN/INDEX RATIO	EDGE ATTACHMENT	INTERMEDIATE ATTACHMENT
ROOF	1/2" (15/32" MIN)	32/16	8d AT 6" O.C.	8d AT 12" O.C.
FLOOR	3/4" (23/32" MIN) T&G	48/24	SCREWS AT 6" O.C.	SCREWS AT 12" O.C.

SCREWS AT FLOOR SHEATHING SHALL BE #8 X 2 1/2" LONG FOR SHEATHING LESS THAN 1" THICK. ALL FLOOR SHEATHING SHALL BE GLUED TO SUPPORTING MEMBERS WITH APA AFG-01 QUALIFIED GLUE.

NAILS AT FLOOR SHEATHING SHALL BE 0.138 DIA X 2 1/4" LONG RING SHANK NAILS FOR SHEATHING LESS THAN 1" THICK. ALL FLOOR SHEATHING SHALL BE GLUED TO SUPPORTING MEMBERS WITH APA AFG-01 QUALIFIED GLUE.

ALL SHEATHING SHALL BE GAPPED 1/8" ON THE EDGES AND ENDS. ROOF SHEATHING SHALL HAVE PANEL SHEATHING CLIPS APPROPRIATELY INSTALLED BETWEEN THE TRUSSES.

ATTACHMENT AT STEEL MEMBERS SHALL BE ITW RAMSET 1500K SERIES, 0.14" DIAMETER X 1 1/2" LONG (3/4" PLYWOOD MAX), POWER-DRIVEN FASTENERS INSTALLED PER ICC ESR-1799, TABLE 4, OR APPROVED ICC EQUIVALENT. SPACING SHALL BE AS NOTED ABOVE.

ALTERNATE:  
  
APA PERFORMANCE RATED SHEATHING MAY BE USED AS AN ALTERNATE TO PLYWOOD WITH PRIOR APPROVAL OF OWNER, ARCHITECT AND INSTALLING CONTRACTOR. WHERE ROOFING, BALCONY WATERPROOFING, OR OUTDOOR DECK WATERPROOFING IS TO BE GUARANTEED, IT MAY NOT BE USED WITHOUT PRIOR APPROVAL FROM ROOFING OR WATERPROOFING SYSTEM MANUFACTURER. RATED SHEATHING SHALL COMPLY WITH APA PRP-108, EXPOSURE 1, AND SHALL HAVE A SPAN RATING AND SHEAR VALUES EQUIVALENT TO OR BETTER THAN THE PLYWOOD IT REPLACES. ATTACHMENT AND THICKNESS (WITHIN 1/32") SHALL BE THE SAME AS THE PLYWOOD IT REPLACES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

THIS DRAWING HAS BEEN PREPARED BY OTHERS AND REVIEWED BY:

CARUSO TURLEY SCOTT, INC.  
CONSULTING STRUCTURAL ENGINEERS  
FOR CORRECTNESS OF STRUCTURAL ITEMS ONLY



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REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: JTB  
DRAWN BY: MWR



ORIGINAL ISSUE  
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SHEET:

S100



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GENERAL STRUCTURAL NOTES

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SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS IN ADDITION TO ITEMS REQUIRED BY ARCHITECTURAL SPECIFICATIONS. CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 HARD COPY SUBMITTAL SETS OF EACH ITEM TO CTS FOR REVIEW, UNLESS NOTED OTHERWISE IN ARCHITECTURAL SPECIFICATIONS. ELECTRONIC SUBMITTALS ARE ALSO ACCEPTABLE.

THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON CONTRACTOR'S REVIEW.

VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS.

MANUFACTURER OR FABRICATOR SHALL CLOUD ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS. ANY OF THE AFOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY.

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANYTIME BEFORE OR AFTER SHOP DRAWING REVIEW.

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT SHALL NOT BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS.

THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY.

REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

DEFERRED SUBMITTALS:

SHOP DRAWING SUBMITTALS REQUIRED BY THESE GENERAL STRUCTURAL NOTES WHICH CONTAIN DESIGN CALCULATIONS SEALED BY A REGISTERED ENGINEER OTHER THAN THE ENGINEER OF RECORD, SHALL BE SUBMITTED DURING CONSTRUCTION TO THE CITY FIELD INSPECTOR FOR REVIEW. THE DOCUMENTS WILL FIRST BE REVIEWED BY THE ENGINEER OF RECORD AND DETERMINED TO BE IN GENERAL CONFORMANCE WITH THE BUILDING DESIGN. THESE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. THE FOLLOWING ITEMS SHALL BE SUBMITTED PER THIS SECTION:

PRE-ENGINEERED BUILDINGS  
ALTERNATIVE STAIR DESIGNS

GENERAL NOTES:

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE REFERENCED EDITION AND/OR ADDENDA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE.

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS CHOSEN, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES, APPROVALS AND THE COORDINATION OF THE WORK WITH ALL RELATED TRADES AND SUPPLIERS.

SPECIAL INSPECTION - STRUCTURAL ONLY:

SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A STATE REGISTERED STRUCTURAL ENGINEER WHO IS FAMILIAR WITH THE STRUCTURAL DESIGN OF THIS PROJECT. THE SUPERVISING STRUCTURAL ENGINEER SHALL SEAL THE SPECIAL INSPECTION CERTIFICATE.

SPECIAL INSPECTION IS TO BE PROVIDED FOR THE ITEMS LISTED BELOW IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE BUILDING JURISDICTION. "SPECIAL STRUCTURAL INSPECTION" SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM REQUESTING THE BUILDING JURISDICTION INSPECTIONS REQUIRED BY SECTION 109 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 FOR THE FOLLOWING:

CONCRETE CONSTRUCTION:

- CONCRETE:
  - DURING THE TAKING OF TEST SPECIMENS.
  - CONTINUOUS INSPECTION DURING THE PLACEMENT OF ALL REINFORCED CONCRETE, UNLESS NOTED OTHERWISE.
  - CONTINUOUS INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING THE PLACEMENT OF CONCRETE AROUND BOLTS.  
(EXCEPTION: NO INSPECTION IS REQUIRED FOR PLACEMENT OF CONCRETE AROUND FOUNDATION ANCHOR BOLTS.)
  - NO INSPECTION IS REQUIRED FOR PLACEMENT OF SLAB ON GRADE CONCRETE. INSPECTION OF SLAB ON GRADE REINFORCING IS REQUIRED PER "REINFORCING STEEL" SECTION BELOW.
  - NO INSPECTION IS REQUIRED FOR THE PLACEMENT OF FOUNDATION CONCRETE (FOR BUILDINGS THREE STORIES OR LESS WHEN DESIGNED WITH 2,500PSI). INSPECTION OF FOUNDATION REINFORCING IS REQUIRED PER "REINFORCING STEEL" SECTION BELOW.
- REINFORCING STEEL: INSPECTION OF IN-PLACE REINFORCING FOR CONFORMANCE PRIOR TO THE CLOSING OF FORMS OR THE DELIVERY OF CONCRETE TO THE JOBSITE FOR THE FOLLOWING:
  - REINFORCING FOR ALL CONCRETE REQUIRED TO HAVE INSPECTION NOTED ABOVE.
  - REINFORCING FOR CONCRETE FOUNDATIONS.
  - REINFORCING FOR SLABS ON GRADE.
  - REINFORCING FOR ALL MASONRY REQUIRED TO HAVE INSPECTION NOTED BELOW.

STEEL CONSTRUCTION:

- WELDING:
  - VERIFICATION OF VALID WELDER'S CERTIFICATES.
  - PERIODIC VISUAL INSPECTION OF ALL SHOP AND FIELD WELDS.
  - ALL STRUCTURAL STEEL FABRICATORS SHALL EMPLOY AN AWS CERTIFIED INDEPENDENT TESTING AGENCY TO PROVIDE SHOP WELD INSPECTIONS PER CODE. INSPECTION REPORTS AND REQUIRED DOCUMENTATION SHALL BE SUBMITTED TO ENGINEER OF RECORD PRIOR TO STEEL INSTALLATION.
  - CONTINUOUS INSPECTION OF ALL MULTIPASS FILLET WELDS, SINGLE PASS FILLET WELDS LARGER THAN 5/16", COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS, PLUG AND SLOT WELDS.
  - NON-DESTRUCTIVE TESTING OF ALL COMPLETE PENETRATION WELDS BY AN AWS CERTIFIED INDEPENDENT TESTING AGENCY AT THE CONTRACTORS EXPENSE.

SPECIAL CASES:

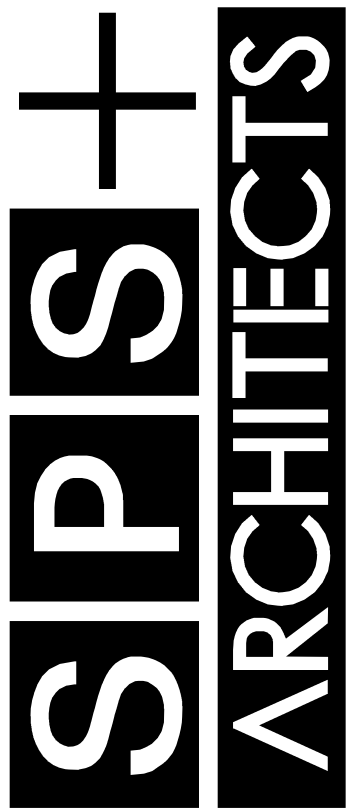
- EXPANSION, EPOXY, ADHESIVE, AND SCREW ANCHORS: DURING THE PLACEMENT OF ALL ANCHORS SHOWN ON STRUCTURAL DRAWINGS. ADDITIONAL INSPECTIONS REQUIRED FOR REPAIR DETAILS SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
  - INSPECTION OF HOLE DIAMETER, HOLE DEPTH AND DRILL BIT CONFORMANCE.
  - INSPECTION OF HOLE CLEANING WITH WIRE BRUSH AND COMPRESSED AIR.
  - INSPECTION OF ANCHOR INSTALLATION USING SPECIFIED PRODUCT AND MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.
  - INSPECTION OF EXPANSION ANCHORS SHALL INCLUDE THE VERIFICATION OF THE TIGHTENING TORQUE THAT IS SPECIFIED BY THE ANCHOR MANUFACTURER.

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

- THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATION.
- THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO APPROVE DEVIATIONS FROM THE DESIGN DRAWINGS OR SPECIFICATIONS, AND ALL DEVIATIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO PROCEEDING WITH THE WORK. ALL REQUESTS FOR DEVIATIONS SHALL BE INITIATED BY THE CONTRACTOR VIA WRITTEN REQUEST FOR INFORMATION (RFI).
- THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE ENGINEER OR ARCHITECT OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL.
- CONTRACTOR SHALL PROVIDE THE SPECIAL INSPECTOR ACCESS TO ALL ITEMS REQUIRING SPECIAL INSPECTION. ACCESS SHALL BE PROVIDED BY IN-PLACE LADDERS, SCAFFOLDS, LIFTS AND/OR OTHER EQUIPMENT OPERATED BY THE CONTRACTOR'S PERSONNEL AS REQUIRED FOR SAFE OBSERVATION. INSPECTOR IS NOT RESPONSIBLE OR AUTHORIZED TO OPERATE CONTRACTOR'S EQUIPMENT.
- UPON COMPLETION OF THE ASSIGNED WORK THE ENGINEER OR ARCHITECT SHALL COMPLETE AND SIGN THE APPROPRIATE FORMS CERTIFYING THAT TO THE BEST OF THEIR KNOWLEDGE THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

THIS DRAWING HAS BEEN PREPARED BY  
OTHERS AND REVIEWED BY:

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GENERAL STRUCTURAL NOTES

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REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: JTB  
DRAWN BY: MWR

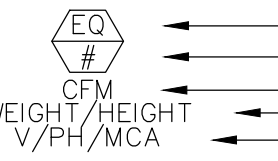
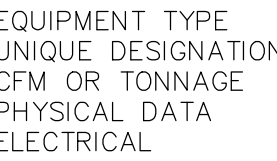


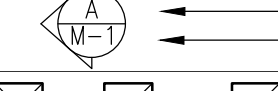


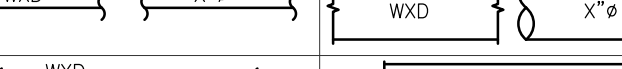


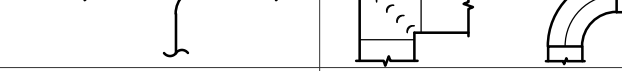




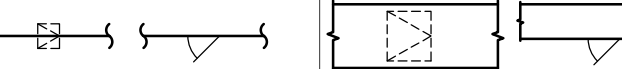
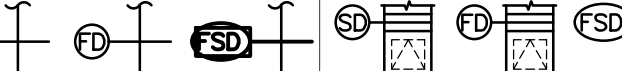




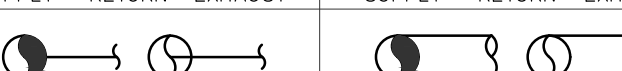
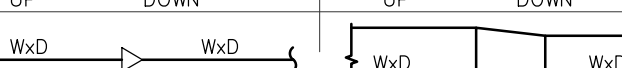



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MECHANICAL SPECIFICATIONS	
1.	ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ALL AUTHORITIES HAVING JURISDICTION INCLUDING, BUT NOT LIMITED TO THE 2012 IMC, 2012 IBC, 2012 IPC, 2012 IECC AS ADOPTED BY TUBA CITY, COCONINO COUNTY, ARIZONA WITH AMENDMENTS.
2.	WORK SHALL INCLUDE ALL MATERIALS, LABOR, SERVICES AND EQUIPMENT NECESSARY TO PROVIDE AN OPERATING SYSTEM AS SHOWN ON THE PLANS. PLANS ARE SCHEMATIC AND ARE NOT INTENDED TO SPECIFY ALL INCIDENTAL HARDWARE OR IDENTIFY ALL OFFSETS OR DIFFICULTIES WHICH MAY BE ENCOUNTERED IN THE COURSE OF COMPLETING THE PROJECT. DO NOT SCALE THE PLANS. CONTRACTORS SHALL FIELD MEASURE AND CREATE SHOP DRAWINGS FOR DUCT FABRICATION.
3.	FIELD VERIFY ALL CLEARANCES PRIOR TO FABRICATION OR ORDERING DUCTWORK. CONTRACTOR SHALL NOT CHARGE OWNER, ARCHITECT, GENERAL CONTRACTOR, ENGINEER OR OTHERS FOR ADJUSTMENT DUE TO FIELD CONDITIONS. CONTRACTOR MUST INCLUDE IN FEE TO COMPLETE PROJECT MISCELLANEOUS DUCT FITTINGS TO/FROM AIR HANDLERS, PACKAGE UNITS, DUCTS REQUIRING OFFSETS, SPECIAL FITTINGS AROUND BEAMS, COLUMNS OR STRUCTURAL BRACES. FIELD VERIFICATION AND INSTALLATION SHALL BE CONSIDERED INCLUDED IN BASE SCOPE OF WORK WITHOUT ADDITIONAL COMPENSATION FEES. MECHANICAL CONTRACTOR SHALL OBTAIN ARCHITECTURAL PLANS AND VERIFY INTENDED CEILING HEIGHTS, SOFFIT LOCATIONS, AND OTHER ARCHITECTURAL FEATURE LOCATIONS AND SHALL ROUTE DUCTWORK ACCORDINGLY TO ALLOW CONSTRUCTION OF ELEMENTS OF BUILDING TO BE CONSTRUCTED AFTER MECHANICAL INSTALLATION PHASE. LOCATE ALL DUCTS TO PROVIDE SUFFICIENT CLEARANCE FOR CEILING HARDWARE, ALL LIGHTS, AND ANY ARCHITECTURAL FEATURES IN CEILINGS. DUCT ROUTING MAY NEED TO BE FIELD ADJUSTED FROM PLANS FOR FIELD CONDITIONS AND FITTINGS PROVIDED TO SUIT. AIR FLOW TOTAL CROSS SECTIONAL AREA SHALL BE MAINTAINED THROUGH SUCH FITTINGS.
4.	DISCREPANCIES ON MECHANICAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION PRIOR TO SUBMISSION OF BID TO CONSTRUCT MECHANICAL SYSTEM. DISCREPANCIES BROUGHT TO ENGINEER'S ATTENTION AFTER SUBMISSION OF BID SHALL NOT BE BILLABLE TO ENGINEER, ARCHITECT, CLIENT OR OTHERS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMEDY PER CODE AND WITH THE ASSISTANCE OF THE ENGINEER. ENGINEER WILL ASSIST CONTRACTOR IN DETERMINING REMEDY AND SHALL STRIVE IN GOOD FAITH TO FIND A LEAST COST AND CODE COMPLIANT SOLUTION TO SUCH DISCREPANCIES. CONTRACTOR'S SUBMISSION OF BID TO CONSTRUCT MECHANICAL SYSTEM IS SEEN AS AGREEMENT TO THESE TERMS.
5.	SEE DUCT CONSTRUCTION AND INSULATION REQUIREMENTS THIS SHEET.
6.	PROVIDE EACH DUCT SUPPLY BRANCH WITH OWNER ADJUSTABLE VOLUME CONTROL USING A LOCKING BRANCH DAMPER 18" FROM MAIN TAKEOFF OR OBD IN DEVICE IF BRANCH IS INACCESSIBLE. PROVIDE AUTOMATIC SHUT OFF DAMPERS ON EXHAUST SYSTEMS & SUPPLY SYSTEMS WITH AIRFLOW > 3,000 CFM. OUTSIDE AIR SYSTEM SHALL BE CAPABLE OF REDUCING OUTSIDE AIR TO REQUIRED MINIMUM.
7.	ALL PLATE DAMPERS WITH A DIMENSION GREATER THAN 12" SHALL HAVE A CONTINUOUS PIVOT ROD. FOR DAMPERS WITH THE LARGEST DIMENSION LESS THAN 12", NON-CONTINUOUS PIVOT ROD IS ACCEPTABLE. DAMPER BLADES TO BE CONSTRUCTED OF AT LEAST 2 GAUGES HEAVIER THAN THE DUCT IN WHICH THEY ARE INSTALLED AND NO LIGHTER THAN 22 GAUGE. DAMPERS SHALL FEATURE TIGHT FITTING SYNTHETIC BUSHINGS AND BEARINGS AT PIVOT ROD TO DUCT CONTACT. DAMPERS SHALL BE MANUAL QUADRANT LOCKING TYPE UNLESS OTHERWISE SPECIFIED ON PLANS. FRICTION LOCK HANDLE DAMPERS NOT ACCEPTABLE. INSTALLATIONS SHALL BE FREE OF OBJECTIONABLE VIBRATION AND NOISE. ALL BAROMETRIC DAMPERS TO BE COUNTERBALANCED TO BE FULLY CLOSED AT NO AIR FLOW AND COMPLETELY OPEN AT MAXIMUM 0.10"SP, UNLESS INDICATED OTHERWISE ON DRAWINGS.
8.	FIELD VERIFY EXACT LOCATIONS OF STRUCTURE AND INSTALL NEW EQUIPMENT ACCORDINGLY. FIELD VERIFY 15' CLEARANCE OF BUILDING AIR INTAKES FROM BUILDING AIR EXHAUSTS, MECHANICAL VENTS, AND PLUMBING VENTS PER CODE.
9.	PROVIDE AS-BUILT DRAWINGS AND EQUIPMENT INSTALLATION AND MAINTENANCE MANUALS TO OWNER FOLLOWING PROJECT COMPLETION.
10.	ALL HVAC EQUIPMENT SHALL BE UL LISTED AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
11.	SEE STRUCTURAL PLANS FOR MECHANICAL EQUIPMENT SUPPORTS AND BRACING.
12.	DO NOT CUT STRUCTURAL MEMBERS TO INSTALL DUCTS OR UNITS.
13.	PROVIDE EMBOSSED UV RESISTANT PHENOLIC ID LABEL EACH PIECE OF HVAC EQUIPMENT NEAR DISCONNECT. LABEL SHALL IDENTIFY EACH PIECE OF EQUIPMENT PER PLAN IDENTIFICATION NUMBER.
14.	COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE COURTESY 120V OUTLET IN WEATHERPROOF ENCLOSURE FOR A/C SERVICE. HARDWARE AND INSTALLATION BY ELECTRICAL CONTRACTOR. PROVIDE 1 RECEPTACLE WITHIN 25' OF EACH AC/E/C.
15.	ALL MATERIALS EXPOSED WITHIN DUCTS OR INSULATION AROUND DUCTS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50. UL LISTING REQUIRED.
16.	PROVIDE INTERLOCKS. INTERLOCKS MAY BE REQUIRED BETWEEN EXHAUST FANS, SUPPLY FANS, MOTORIZED DAMPERS, OR OTHER EQUIPMENT AS SPECIFIED ON PLANS. INTERLOCK HARDWARE WILL BE PROVIDED BY MECHANICAL CONTRACTOR. SEE SMOKE DETECTION SPECIFICATIONS FOR INDOOR UNIT INTERLOCKS TO FACTP.
17.	PROVIDE 2012 IECC COMPLIANT THERMOSTATS. FURNISH INSULATED SUB-BASE WHEN MOUNTING THERMOSTATS ON EXTERIOR WALLS. TEMPERATURE CONTROL MUST BE CAPABLE OF THE FOLLOWING: SETBACK TEMP TO 55°F DURING UNOCCUPIED HEATING AND SETUP TEMP TO 85°F DURING UNOCCUPIED COOLING. CLOSING OSA DAMPERS DURING UNOCCUPIED HOURS USING 7 DIFFERENT DAY SCHEDULES. ACCESSIBLE 2-HOUR OCCUPANT OVERRIDE. AUTOMATIC START. BATTERY BACKUP CAPABLE OF MAINTAINING PROGRAMMED SETTINGS FOR AT LEAST 10 HOURS WITHOUT LINE POWER.
18.	CONTRACTOR SHALL DEMONSTRATE THAT ALL NEW EQUIPMENT AND ALL AIR DEVICES ARE BALANCED AND ADJUSTED AS SHOWN ON PLANS.
19.	CONTRACTOR TO PROVIDE SIGNED AND SEALED TEST AND BALANCE REPORT TO ENGINEER AND OWNER. TEST AND BALANCE OF SYSTEM TO BE PERFORMED BY AN AABC OR NEBB CONTRACTOR CERTIFIED IN THE STATE OF ARIZONA. PRIOR TO FINAL INSPECTION, PROVIDE A COPY OF THE SIGNED AND SEALED AIR-BALANCE REPORT TO THE MECHANICAL INSPECTOR FOR FINAL APPROVAL AS REQUIRED BY IMC.
DEFINITIONS: PROVIDE - FURNISH AND INSTALL. FURNISH - DELIVER EQUIPMENT AND/OR MATERIALS TO SITE. INSTALL - PHYSICALLY PLACE IN POSITION AND PUT INTO OPERATION.	

DUCT CONSTRUCTION AND DUCT INSULATION REQUIREMENTS			
DUCT TYPE	INSULATION AND CONSTRUCTION TYPE	INSULATION MINIMUM R-VALUE	NOTES
SUPPLY AND RETURN MAINS LOCATED OUTSIDE THE BUILDING ENVELOPE	INTERNALLY LINED. EXTERIOR DUCTS SHALL BE WEATHER SEALED AND WATER TIGHT	R-8	1-9
CONCEALED RECTANGULAR SUPPLY AND RETURN MAINS AND BRANCHES IN UNCONDITIONED SPACES AND PLENUMS BELOW ROOF, AND DUCTS INSIDE THE BUILDING ENVELOPE	EXTERNALLY WRAPPED WITH FOIL BACKED INSULATION, SEE REQUIREMENTS FOR FLEX DUCTS	R-6	1-9
NOTES: 1. ALL DUCT DIMENSIONS SHOWN ON PLANS ARE NET INSIDE DIMENSIONS. CONTRACTOR SHALL INCREASE DUCT DIMENSIONS FOR INTERNALLY LINED DUCT TO ACCOUNT FOR THE THICKNESS OF INSULATION LINER WHERE REQUIRED. 2. ALL DUCTWORK SHALL BE LOCK FORMED QUALITY STEEL. ALL DUCTS WITH A DIMENSION OVER 16" SHALL BE FLANGED TYPE CONNECTIONS. CONCEALED DUCT BRANCHES SHALL BE ROUND STEEL. ALL DUCTS SHALL BE SUSPENDED FROM STRUCTURE OF BUILDING PER CODE. 3. DUCT SEAMS AND FLANGES SHALL BE TIGHT AND WITHOUT VISIBLE GAPS. 4. DUCT CONSTRUCTION SHALL BE SMAONA CLASS A: ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS SHALL BE SEALED. ALL SEAMS ON HIDDEN RIGID DUCTS SHALL BE SEALED USING UL 181A OR 181B MASTICS. EXCEPTION: CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS. APPLY MASTIC TO EXTERIOR SEAMS OF ALL CONCEALED DUCTS PRIOR TO WRAPPING. 5. ALL WORK OUTDOORS SHALL BE WEATHER SEALED AND WATERTIGHT. 6. PROVIDE TURNING VANES AT ALL RECTANGULAR ELLS AND TEES PER DETAILS ON PLANS. 7. FLEXIBLE DUCTS SHALL BE UL 181 LISTED, CLASS 1, WITH AN INNER CORE OF STEEL WIRE HELIX WRAPPED IN FIBERGLASS AND SHEATHED IN A DOUBLE LAMINATION OF POLYESTER. FLEX DUCT SHALL HAVE A MINIMUM R VALUE OF 6.0 AND SHALL BE RATED FOR 4" WG POSITIVE AND 0.75" WG NEGATIVE PRESSURES (MINIMUM). UP TO 8 FEET MAXIMUM U.L. LISTED INSULATED FLEXIBLE DUCT IS PERMISSIBLE AT BRANCH ENDS IN CONCEALED LOCATIONS ONLY. ALL FLEXIBLE DUCTWORK SHALL BE INSTALLED PER CODE FULLY EXTENDED WITHOUT CRIMPING OR RESTRICTIVE SHORT RADIUS BENDS. FLEX DUCTS SHALL NOT BE USED FOR EXHAUST SYSTEMS. 8. ALL DUCTS AND FITTINGS SHALL BE FABRICATED PER LATEST EDITION SMAONA. 9. ALL MATERIALS EXPOSED WITHIN DUCTS OR AS INSULATION AROUND DUCTS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPMENT RATING OF NOT MORE THAN 50. UL LISTING REQUIRED. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIR FLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED CODE REQUIREMENTS. POLYSTYRENE PRODUCTS SHALL MEET AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C578 91. ALL INSULATION SHALL BE LOW EMITTING WITH NOT GREATER THAN .05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE APPLICABLE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.			

MECHANICAL SYMBOLS LEGEND		
SINGLE LINE DUCTWORK	DOUBLE LINE DUCTWORK	DESCRIPTION
		MECHANICAL EQUIPMENT TAG
		GRILLE, REGISTER OR DIFFUSER TAG WITH CFM AND NECK SIZE.
		MECHANICAL SECTION TAG.
		GRILLES REGISTERS AND DIFFUSERS.
		RECTANGULAR AND ROUND DUCT. DUCT SIZES ARE IN INCHES. DUCT SIZES REPRESENT INSIDE DIMENSIONS OF DUCTWORK.
		45° TAP USED AT BRANCH DUCTS ONLY.
		CONICAL TAP USED AT ROUND BRANCH DUCTS.
		90° ELBOW WITH SINGLE RADIUS TURNING VANES CURVED ELBOW (MIN. RADIUS R = 1.5 WIDTH)
		FLEXIBLE DUCT CONNECTION
		SPIN-IN FLEX DUCT TAKE-OFF WITH MANUAL BALANCE DAMPER. FLEX DUCT NOT TO EXCEED 6'-0"
		MANUAL BALANCING DAMPER (USE OBD IN RECTANGULAR DUCTS AND PLATE DAMPER IN ROUND DUCTS UNLESS OTHERWISE NOTED)
		MOTORIZED DAMPER.
		ACCESS PANEL.
		SMOKE DAMPER, FIRE DAMPER, AND COMBINATION FIRE SMOKE DAMPER WITH ACCESS PANEL.
		DUCT SMOKE DETECTOR.
		BACKDRAFT DAMPER / MANUAL VOLUME DAMPER.
		DUCTWORK DOWN.
		DUCTWORK UP.
		ROUND DUCTWORK.
		DUCT TRANSITION.
		THERMOSTATIC SENSOR, TEMPERATURE SENSOR, CO SENSOR, REMOTE SENSOR, CO2 SENSOR AND OCCUPANCY SENSOR
*** NOT ALL SYMBOLS ARE APPLICABLE FOR THIS PROJECT ***		

SMOKE DETECTION AND TESTING REQUIREMENTS
SMOKE DETECTION: AREA SMOKE DETECTION WILL BE PROVIDED BY THE FIRE ALARM SYSTEM CONTRACTOR. UPON POSITIVE DETECTION OF SMOKE BY THE AREA SMOKE DETECTION SYSTEM ALL HP UNITS SHALL SHUTDOWN. INTERLOCK WIRING FROM FACP TO HP UNITS PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
COORDINATE WITH THE FIRE ALARM SYSTEM INSTALLER ON INTERLOCK INSTALLATION AND TESTING.
SMOKE DETECTION ASSOCIATED WITH HVAC SHUTOFFS SHALL BE TESTED BY AN APPROVED TESTING AGENCY OR A THIRD PARTY SPECIAL INSPECTOR. THE SPECIAL INSPECTOR/TESTING AGENCY SHALL BE AN INDEPENDENT THIRD PARTY INDIVIDUAL OR FIRM AND SHALL NOT BE THE INSTALLING CONTRACTOR. THE THIRD PARTY SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED AND SEALED TEST REPORT TO THE MECHANICAL INSPECTOR PRIOR TO ISSUANCE OF FINAL INSPECTION APPROVAL OR OCCUPANCY APPROVAL, INCLUDING CONDITIONAL OCCUPANCY APPROVAL.

MECHANICAL CONTROL REQUIREMENTS
MECHANICAL CONTROLS DEVICES, LABOR, THERMOSTATS, RELAYS, TIMERS, INTERLOCK WIRING (SHIELDED), CONDUIT, SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND SHALL BE ALL INCLUSIVE FOR A FULLY FUNCTIONAL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
AH UNITS: PROVIDE ASHRAE 90.1 COMPLIANT 7-DAY PROGRAMMABLE THERMOSTATS. PROGRAM OCCUPANCY SCHEDULE AND TEMPERATURE SETBACKS PER OWNER REQUIREMENTS (SETBACK OF 60°F IN HEATING MODE AND SETUP OF 85°F IN COOLING MODE SUGGESTED). CONFIGURE THE MOTORIZED OUTSIDE AIR DAMPER TO REMAIN CLOSED DURING UNOCCUPIED SCHEDULE, AND TO BE OPEN TO MINIMUM BALANCED POSITION DURING OCCUPIED SCHEDULE (AS DETERMINED BY THE TEST AND BALANCE CONTRACTOR). SEE SMOKE DETECTION AND TESTING REQUIREMENTS FOR INTERLOCKS TO THE FACTP. ANY CONTROL WIRING LOCATED OUTDOORS SHALL BE INSTALLED IN RIGID METAL CONDUIT, SUPPORT WITH UNISTRUT OR EQUAL SUPPORTS.
EF 1-5: (CEILING EXHAUST FAN) CONTROL: PROVIDE A LOCAL WALL SWITCH LOCATED NEXT TO THE LIGHT SWITCH IN THE ROOM SERVED.
CEE 1-4: CRAWL SPACE EXHAUST FANS TO INCLUDE A DEHUMIDISTAT AS SCHEDULED. SET TO EXHAUST WHEN HUMIDITY IS DETECTED ABOVE 50%.

MECHANICAL ABBREVIATIONS			
ABBV	DESCRIPTION	ABBV	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AC	AIR CONDITIONING UNIT	MFR	MANUFACTURER
AHU	AIR HANDLING UNIT	MAX	MAXIMUM
ALT	ALTERNATE	MECH	MECHANICAL
AP	ACCESS PANEL	MC	MECHANICAL CONTRACTOR
BDD	BACKDRAFT DAMPER	MBH	THOUSAND BTU/ HOUR
BHP	BRAKE HORSEPOWER	MIN	MINIMUM
BLDG	BUILDING	MAT	MIXED AIR TEMPERATURE
CAP	CAPACITY	MCC	MOTOR CONTROL CENTER
CLG	CEILING	NEG	NEGATIVE
CCT	CIRCUIT	NEUT	NEUTRAL
CW	COLD WATER	NC	NORMALLY CLOSED
CONN	CONNECTION	NO	NORMALLY OPEN
CONT	CONTINUED	NA	APPLICABLE
CPR	COPPER	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NTS	NOT TO SCALE
DTR	DUCT THROUGH ROOF	OAT	OUTSIDE AIR TEMPERATURE
DIA, Ø	DIAMETER	OBD	OPPOSED BLADE DAMPER
DIF	DIFFUSER	PSI	POUNDS PER SQUARE INCH
DIM	DIMENSION	PRESS	PRESSURE
DAT	DIS. AIR TEMPERATURE	PD	PRESSURE DROP
DTR	DUCT THROUGH ROOF	PRV	PRESSURE REDUCING VALVE
DWG	DRAWING	P	PUMP
DX	DIRECT EXPANSION	Q	QUANTITY
EA	EACH	RA	RETURN AIR
EC	ELECTRICAL CONTRACTOR	RAT	RETURN AIR TEMPERATURE
EL	ELEVATION	RF	RETURN FAN
EMER	EMERGENCY	REF	REFERENCE
EAT	ENTERING AIR TEMPERATURE	REG	REGISTER
EWI	ENT. WATER TEMPERATURE	REQD	REQUIRED
EQUIP	EQUIPMENT	REV	REVISION
EXH	EXHAUST	RM	ROOM
FC	FAN COIL	SECT	SECTION
FPM	PER MINUTE	SHT	SHEET
FLEX	FLEXIBLE	SA	SUPPLY AIR
FLR	FLOOR	SPEC	SPECIFICATION
FD	FLOOR DRAIN	SS	STAINLESS STEEL
FUT	FUTURE	STD	STANDARD
GPM	GALLONS PER MINUTE	SF	SUPPLY FAN
GALV	GALVANIZED	SQFT	SQUARE FEET
GRD	GRADE	TEMP	TEMPERATURE
GR	GRILLE	TG	TRANSFER AIR GRILLE
HVAC	HEATING/VENTILATING/AC	TYP	TYPICAL
HT	HEIGHT	UL	UNDERWRITER'S LABORATORY
HOR	HORIZONTAL	UH	UNIT HEATER
HP	HORSEPOWER	VAV	VARIABLE AIR VOLUME
HW	HOT WATER	VFD	VARIABLE FREQUENCY DRIVE
IN	INCH	VENT	VENTILATION
KW	KILOWATT	VERT	VERTICAL
LAT	LEAVING AIR TEMPERATURE	VD	VOLUME DAMPER
LWT	LEAVING WATER TEMPERATURE	WG	WATER GAGE
*** NOT ALL ABBREVIATIONS ARE APPLICABLE FOR THIS PROJECT ***			



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MECHANICAL SPECIFICATIONS, AND LEGEND

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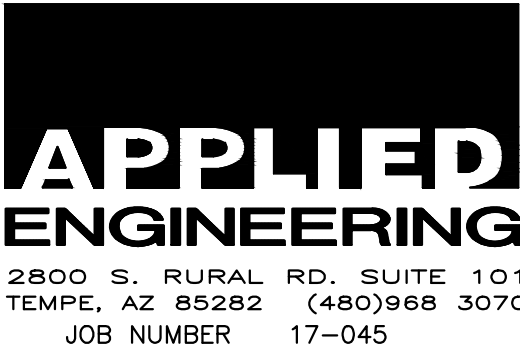
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OUTSIDE AIR VENTILATION CALCULATIONS PER IMC 2012 SECTION 403 AND TEST AND BALANCE NOTES																
VENTILATION RATE PROCEDURE											SYSTEM CALCULATION					
POTENTIALLY CRITICAL ZONES	Az AREA(SF )	Rp TABLE 6-1 (CFM/PERSON)	Ra TABLE 6-1 (CFM/SF)	OCCUPANT DENSITY (#/1000 SF)	Pz ZONE POPULATI ON	Vp (CFM)	Va (CFM)	Vbz BREATHIN G ZONE OSA (CFM)	Ez TABLE 6-2 ZONE EFFCTIVENES S	Voz MIN REQ'D OSA TO ZONE PER ASHRAE 62.1 (CFM)	Vpzm=Vdzm ZONE PRIMARY AIRFLOW (CFM)	Zp=Voz/Vpz PRIMARY OUTDOOR AIR FRACTION	D OCCUPANT DIVERSITY	Vou UNCORRECTED OSA REQUIREMENT FOR SYSTEM (CFM)	Ev APPENDIX A SYSTEM VENTILATION EFFICIENCY	Vot DESIGN OUTDOOR INTAKE FLOW AT SYSTEM (CFM)
ENTRY LOBBY	138	7.5	0.06	30	4.14	31	8	39	0.80	49	375	0.13				0.97
STORAGE	431	0	0.12	0	0.00	0	52	52	0.80	65	395	0.16				0.93
OFFICE	969	5	0.06	5	4.85	24	58	82	0.80	103	1025	0.10				1.00
SYSTEM AH-1											Max (Zp)	0.16	1.00	173	0.93	186
OFFICE	809	5	0.06	5	4.05	20	49	69	0.80	86	1100	0.08				1.00
SYSTEM AH-2											Max (Zp)	0.08	1.00	86	1.00	86
OFFICE	1740	5	0.06	5	8.70	44	104	148	0.80	185	1860	0.11				1.00
SYSTEM AH-3											Max (Zp)	0.11	1.00	185	1.00	185
RECEPTION	175	5	0.06	30	5.25	26	11	37	0.80	46	270	0.17				0.90
OFFICE	345	5	0.06	5	1.73	9	21	29	0.80	37	690	0.05				1.02
SYSTEM HP-4											Max (Zp)	0.17	1.00	86	0.90	74
CONFERENCE	375	5	0.06	50	18.75	94	23	116	0.80	145	1020	0.14				1.00
SYSTEM AH-5											Max (Zp)	0.14	1.00	145	1.00	145
COOLING AND HEATING VENTILATION CALCULATIONS ARE IN ACCORDANCE WITH ASHRAE 62.1 AND IMC REQUIREMENTS. TOTAL DESIGN OSA AVAILABLE EXCEEDS IMC REQUIREMENTS TOTAL REQUIRED OSA = 676 CFM TOTAL PROVIDED OSA = 700 CFM																
TEST AND BALANCE CONTRACTOR TO ADJUST EACH UNITS OUTSIDE AIR INTAKE PER THE EQUIPMENT SCHEDULE OSA CFM COLUMN:																
BUILDING AIR BALANCE: 700 CFM OSA – 700 CFM EXHAUST = 0 CFM = NEUTRAL PRESSURIZATION																
CALCULATION NOTES: 1. ALL RESTROOMS AREAS ARE EXHAUSTED IN ACCORDANCE WITH IMC TABLE 403.3. 2. FOR HEATING CALCULATIONS: 0.80 USED FOR Ez FOR HEATING IN ACCORDANCE WITH TABLE 403.3.1.2 (CEILING SUPPLY OF WARM AIR & CEILING RETURN). 3. Vot=Voz FOR SINGLE ZONE SYSTEMS. 4. THE MINIMUM SYSTEM VENTILATION EFFICIENCY (Ev) IS USED TO CALCULATE THE DESIGN OUTDOOR INTAKE AT THE SYSTEM (Vot) AS SHOWN IN THE RIGHT-HAND COLUMNS ABOVE. 5. MECHANICAL VENTILATION IS PROVIDED TO THE CRAWLSPACE AND IS GREATER THAN 0.02 CFM PER SF OF AREA, AND AUTOMATICALLY CONTROLLED TO OPERATE WHEN THE RELATIVE HUMIDITY IN THE SPACE EXCEEDS 60 PERCENT PER IMC SECTION 406.																


WALL MOUNT A/C UNIT WITH ELECTRIC HEAT SCHEDULE															*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS				
MARK	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY CFM	MINIMUM ESP	OSA CFM	ELECTRICAL DATA			EER	COOLING (MBH)		HEATING		WT (LB)	NOTES			
							VOLTS/PHASE	MCA	MOCP		TOTAL	SENSIBLE	KW	TEMP RISE (°F)					
1	BARD	W72AA–A20MP	6	1,925	0.5	200	230/1	114	125	10	71	50	20	33	640	1–12			
2	BARD	WA3S3–A10MP	3	1,100	0.5	90	230/1	61	70	11.4	35.2	27.0	10	29	640	1–12			
3	BARD	W72AA–A20MP	6	1,925	0.5	190	230/1	114	125	10	71	50	20	33	640	1–12			
4	BARD	WA3S3–A10MP	3	1,100	0.5	75	230/1	61	70	11.4	35.2	27.0	10	29	640	1–12			
5	BARD	W30AA–A8MP	2.5	1,020	0.5	145	230/1	47	50	10.3	30	21.6	8	32	450	1–12			
NOTES: 1. GROSS COOLING CAPACITY BASED ON 80°F DB / 67°F WB, EAT 95° AMBIENT FOR OPERATION AT 5,000 FT ELEVATION. 2. COOLING CAPACITY, HEATING CAPACITY, CFM AT ESP AND (S)EER ARE MINIMUM CAPACITIES REQUIRED. ALL UNITS SHALL HAVE NO LESS THAN THESE CAPACITIES. MCA, MOCP AND WEIGHT ARE MAXIMUM CAPACITIES ALLOWED. 3. EXTERNAL STATIC PRESSURE SHALL INCLUDE DUCT AND DUCT–MOUNTED COMPONENTS SHOWN ON DRAWINGS ONLY. VENDOR SHALL CALCULATE INTERNAL STATIC PRESSURES FOR SUCH ACCESSORIES AS FILTERS, DAMPERS, COILS, PLENUMS, ETC. 4. PROVIDE UNIT WITH SINGLE POINT POWER. 5. PROVIDE 3–TON UNITS UNITS WITH (2–STAGE) SCROLL COMPRESSOR. 6. PROVIDE UNIT WITH R–410A REFRIGERANT. 7. PROVIDE UNIT WITH FACTORY INSTALLED CRANKCASE HEATER. 8. PROVIDE UNIT WITH ECM SUPPLY AIR BLOWER MOTORS. 9. PROVIDE UNITS WITH MOTORIZED FRESH AIR DAMPER OPTION. 10. PROVIDE UNITS CONFIGURED FOR 2" MERV 8 PLEATED FILTERS. PROVIDE WITH TWO SETS OF MERV 8 PLEATED FILTERS. INITIAL SET FOR USE DURING CONSTRUCTION, FINAL SET USED AFTER FINAL CLEAN, PRIOR TO TEST AND BALANCE, AND PRIOR TO OWNER OCCUPANCY. 11. PROVIDE ALL UNITS WITH ELECTRIC HEAT AS SCHEDULED, UNITS WITH HEATERS ABOVE 10KW SHALL HAVE 2–STAGE HEATING. 12. PROVIDE ALL UNITS WITH ASHRAE 90.1 COMPLIANT PROGRAMMABLE THERMOSTAT WITH 2–STAGES OF COOLING AND 2–STAGES OF HEATING. PROGRAM STEBACK TEMPERATURES AND SCHEDULES PER OWNER REQUIREMENTS.																			

AIR DEVICE SCHEDULE											*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS	
MARK	DEVICE TYPE	MFGR	MODEL	SIZE	FACE OR BORDER	MATERIAL	MAX NC LEVEL	FRONTAL BLADES	DEVICE DAMPER	FILTER IN	NOTES	
CD1	CEILING DIFFUSER	TITUS	TMS	24X24	LAY-IN	STEEL	25	LOUVERED	NONE	N/A	1-4	
CD2	CEILING DIFUSER	TITUS	MCD-AA	6X6	TYPE 1 SURFACE MOUNT	ALUMINUM	25	LOUVERED	OBD	N/A	1-4	
RG1	RETURN GRILLE	TITUS	350 RL	22X22	LAY-IN	STEEL	25	LOUVERED	NONE	N/A	1-4	
TG1	TRANSFER GRILLE	TITUS	350 RL	22X22	LAY-IN	STEEL	25	LOUVERED	NONE	N/A	1-4	
	MANUAL DAMPER	GREENHECK	MBD / MBDR	SEE PLAN	DUCT MOUNT	STEEL	N/A	N/A	YES	N/A	1, 5	
<div>NOTES: 1. INSTALL PER DETAILS ON PLANS AND PER MANUFACTURER'S INSTALLATION REQUIREMENTS AND RECOMMENDATIONS. 2. PROVIDE SQUARE TO ROUND ADAPTER IF REQUIRED. 3. PERFORMANCE NOT TO EXCEED 25 NC AND 0.08"S.P. 4. CEILING DIFFUSERS OR GRILLES TO BE WHITE IN COLOR UNLESS DIRECTED OTHERWISE BY ARCHITECT. 5. PROVIDE GREENHECK MODEL MBD FOR OBD'S AND MODEL MBDR FOR ROUND DAMPERS. MANUAL BALANCE DAMPER SHALL BE MINIMUM 20 GAUGE WITH SYNTHETIC OR OR BRONZE BUSHING, LOCKING HANDLE WITH INSULATION STANDOFF. DAMPERS OVER 12" SHALL HAVE A CONTINUOUS PIVOT ROD. DO NOT USE JIFFY DAMPERS, LIGHT GAUGE, NON-CONTINUOUS RODS, OR WING-NUT ON AXLE TYPE DAMPERS WHICH ARE NOT ACCEPTABLE.</div>											<div></div>	

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE																*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS	
AIR HANDLING UNIT (INDOOR UNIT) CONDENSING UNIT (OUTDOOR UNIT)						ELECTRICAL				COOLING			HEATING		MAX WT (LBS.)	NOTES	
MARK	MFGR	MODEL	AREA SERVED	NOM TONS	SUPPLY CFM	MIN. (S)EER	VOLTS/PHASE	MCA AMPS	MOCP	TOT MBH	ENT. AIR		TOT MBH	ENT. AIR DB			
IU-1 OU-1	MITSUBISHI	PKA-A18HA PUZ-A18NHA	IDF ROOM	1.5	290-425	(15.3)	230/208/1	13	20	8-18	80	67	8-19	60			
															50 125		1-14
NOTES: 1. INSTALL INDOOR AND OUTDOOR UNITS PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS. 2. COOLING CAPACITY BASED ON 95F DB AMBIENT, EAT 80/67F WB. HEATING CAPACITY BASED ON 47F OADB TEMPERATURE. PROJECT 5,000 FT ELEVATION. 3. PROVIDE WITH R-410A REFRIGERANT. 4. PROVIDE WALL MOUNTED INDOOR UNIT. 5. INSTALL OUTDOOR UNIT ON 4" CONCRETE HOUSEKEEPING PAD WITH LOCKABLE GATED ENCLOSURE. 6. PROVIDE WITH WALL MOUNTED HARD WIRED CONTROLLER/THERMOSTAT. 7. SEE MANUFACTURER'S DOCUMENTATION FOR MAXIMUM LENGTH OF REFRIGERANT LINES. PROVIDE PRE-CHARGED REFRIGERATION PIPING SIZED PER THE MANUFACTURER'S GUIDELINES FOR THE ACTUAL REFRIGERANT PIPING LENGTH. REFRIGERANT LINES SHALL BE TYPE-K HARD COPPER ONLY AND INSULATED. EXTERIOR INSULATION SHALL BE WRAPPED WITH ALUMINUM JACKET AND SS BANDS PER DETAIL ON PLANS. 8. PROVIDE UNIT WITH LOW AMBIENT COOLING OPTION AND ACCESSORIES FOR OPERATION DOWN TO 0F. 9. REFER TO PLUMBING PLANS FOR CONDENSATE DRAIN PIPING. 10. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION. 11. INSULATE BOTH LIQUID AND SUCTION LINES PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MIN. 1/2" PIPE INSULATION ON BOTH REFRIGERANT LINES BETWEEN INDOOR AND OUTDOOR UNITS. INSULATE WITH CLOSED CELL RUBITEX OR EQUAL BLACK INSULATION. COVER INSULATION WITH ALUMINUM JACKET AT EXTERIOR. 12. PROVIDE WITH FACTORY CONDENSATE PUMP. SEE PLUMBING PLANS. 13. PROVIDE WITH AUXILIARY DRAIN PAN SENSOR OPTION TO TURN IU OFF ON HIGH CONDENSATE LEVEL.																	

EXHAUST FAN SCHEDULE												*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS	
MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	ESP	VOLTS	PHASE	AMPS	RPM	MAX ZONES	WT	NOTES	
1-4	RESTROOM	GREENHECK	SP-A290	150	0.5	115	1	0.72	988	3.0	26	1-3	
5	JANITOR	GREENHECK	SP-A290	100	0.5	115	1	0.72	928	3.0	26	1-3	
NOTES: 1. PROVIDE FAN FOR OPERATION AT 5,000 FT ELEVATION. 2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 3. CEILING MOUNTED FAN. PROVIDE UL LISTED AND AMCA CERTIFIED DIRECT DRIVE CEILING MOUNTED EXHAUST FAN. PROVIDE WITH BACKDRAFT DAMPER, ACOUSTICALLY INSULATED CABINET, MOUNTING BRACKETS, GALVANIZED STEEL HOUSING, DYNAMICALLY BALANCED FAN, MOTOR WITH THERMAL OVERLOAD PROTECTION, FACTORY VIBRATION ISOLATION KIT, AND DISCHARGE PER PLANS. PROVIDE WITH SOLID STATE SPEED CONTROLLER AND LOCATE INTERNALLY CONCEALED IN THE UNIT FOR ADJUSTMENT BY THE TAB CONTRACTOR. PROVIDE WITH AN ON/OFF SWITCH AND INSTALL NEXT TO THE LIGHT SWITCH IN THE ROOM SERVED.													

CRAWL SPACE EXHAUST FAN SCHEDULE												*PROVIDE SCHEDULED OR APPROVED EQUAL EQUIPMENT BY OTHER MANUFACTURERS	
MARK	AREA SERVED	MANUFACTURER	MODEL	CFM	ESP	VOLTS	PHASE	AMPS	RPM	MAX ZONES	WT	NOTES	
1-4	CRAWLSPACE	TJERNLUND	V2D	220	N/A	120	1	0.6	N/A	N/A	10	1-3	
NOTES: 1. PROVIDE FAN FOR OPERATION AT 5,000 FT ELEVATION. 2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. 3. CRAWL SPACE EXHAUST FAN: PROVIDE UL OR E.T.L. VENTILATOR FAN WITH A DEHUMIDISTAT CONTROL THAT ACTIVATES THE FAN WHEN RELATIVE HUMIDITY RISES ABOVE THE SET-POINT (50% RH). UNIT SHALL INCLUDE FACTORY INSTALLED PRE-WIRED THERMOSTAT AND DE-HUMIDISTAT, AND SHALL PREVENT OPERATION BELOW 35°F.													



# LOUVER SCHEDULE

\*PROVIDE SCHEDULED OR APPROVED  
EQUAL EQUIPMENT BY OTHER MANUFACTURERS

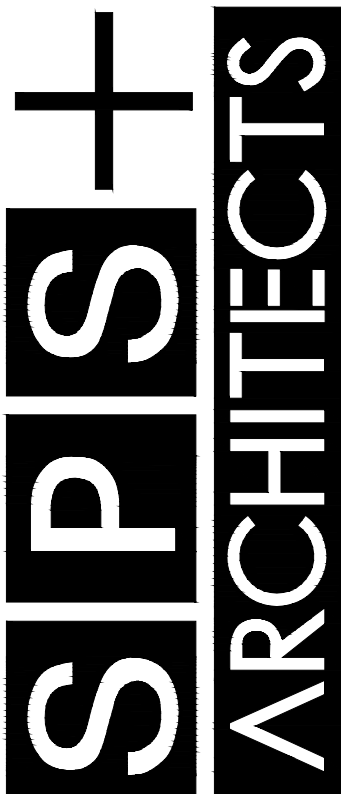
MARK	MANUFACTURER	MODEL	AREA SERVED	NOMINAL SIZE	NOTES
1	AIR VENT INC	RA	AUTOMATIC CRAWLSPACE VENT	16" x 8"	1-2
2	AIR VENT INC	RM	MANUAL CRAWLSPACE VENT	16" x 8"	1, 3

NOTES:

1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
2. VENT AUTOMATICALLY OPEN FULLY AT APPROXIMATELY 70 DEGREES AND CLOSE FULLY AT 40 DEGREES.
3. INSTALL CRAWL SPACE FAN AT LOUVER, SEE EF SCHEDULE. PROVIDE ALL MOUNTING HARDWARE REQUIRED TO ADAPT FAN TO LOUVER.

APPLIED  
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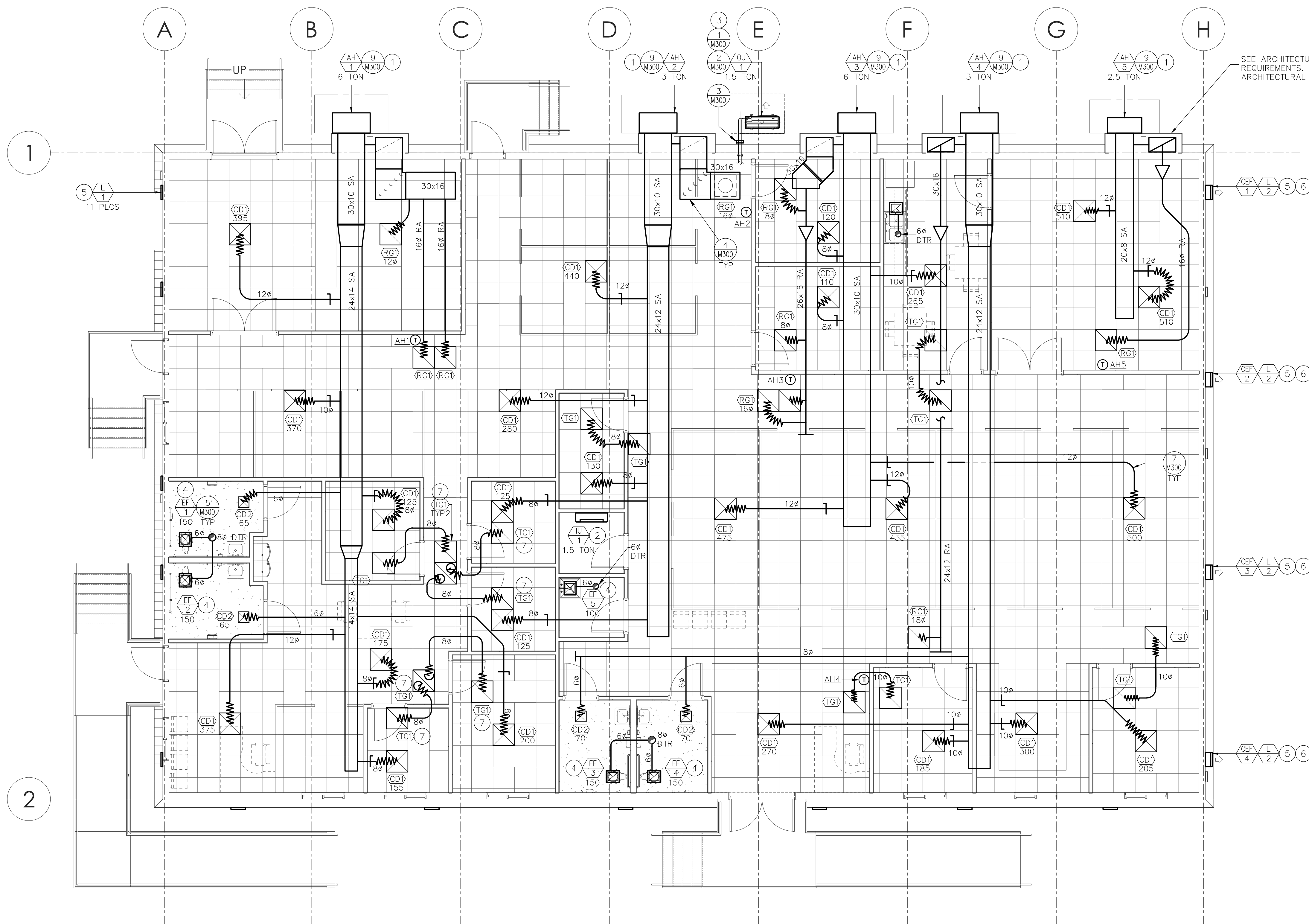
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- MECHANICAL KEYED NOTES:**
1. PROVIDE AND INSTALL NEW WALL MOUNT AIR HANDLING UNIT AS SCHEDULED. EXTEND DUCTS AT SIZE INDICATED TO AIR DEVICES. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
  2. PROVIDE AND INSTALL NEW DUCTLESS SPLIT SYSTEM (IU) AS SCHEDULED AND PER DETAILS INDICATED. COORDINATE LOCATION OF UNIT WITH IT INSTALLER, ELECTRICAL CONTRACTOR, AND OTHER TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS. EXTEND LINE-SET CONCEALED IN WALLS AND ABOVE CEILING TO OUTDOOR UNIT.
  3. PROVIDE AND INSTALL OUTDOOR UNIT (OU) FOR DUCTLESS SPLIT SYSTEM, AND LOCATE ON A CONCRETE HOUSEKEEPING PAD. BOTH EXTERIOR LINE-SETS SHALL BE INSULATED AND WRAPPED WITH AN ALUMINUM JACKET PER DETAIL INDICATED. EXTEND LINE-SETS TO IU CONCEALED IN WALLS AND ABOVE CEILING.
  4. PROVIDE AND INSTALL EXHAUST FAN AS SCHEDULED, AND ROUTE DUCTS TO ROOF VENT AS INDICATED. PROVIDE WITH SWITCH FOR FAN CONTROL, AND LOCATE NEXT TO LIGHT SWITCH.
  5. PROVIDE LOUVERS TO CRAWL SPACE AS SCHEDULED. COORDINATE INSTALLATION SUCH THAT ALL LOUVERS ARE INSTALLED AT A UNIFORM ELEVATION AND SPACING PER PLAN. MANUAL LOUVERS SHALL BE INSTALLED AT EXHAUST FANS, AND DAMPERS SHALL BE REMOVED OR LOCKED OPEN.
  6. PROVIDE CRAWL SPACE EXHAUST FAN AS SCHEDULED. SET EXHAUST FAN TO OPERATE WHEN HUMIDITY IN THE SPACE MEETS OR EXCEEDS 50% RH.
  7. AT ALL COUNSELING ROOMS PROVIDE TRANSFER GRILLES WITH LINED PLENUM BOXES (UPSTREAM AND DOWNSTREAM GRILLES). ALSO PROVIDE A MINIMUM OF (4) 90° ELBOWS IN THE TRANSFER DUCT FOR SOUND ABATEMENT.

**TRADE COORDINATION REQUIREMENT:**

PROVISION MUST BE MADE FOR DUCTS TO PASS THROUGH OPEN WEB JOISTS BETWEEN MODULAR BUILDING SECTIONS. AREAS ABOVE CEILINGS, ESPECIALLY AT JOISTS HAVE RESTRICTED SPACE LIMITATIONS. CONTRACTOR SHALL REVIEW PLANS AND FIELD CONDITIONS, ATTEND COORDINATION MEETINGS WITH ALL TRADES PRESENT, AND SET ALL DUCT, PIPE, DAMPER, AND ELECTRICAL CONDUIT ROUTES TO ACCOMMODATE ALL TRADES, ALL BUILDING ELEMENTS, LIGHTING AND EQUIPMENT. FIELD VERIFY ALL REQUIRED CLEARANCES AND EQUIPMENT LOCATIONS PRIOR TO COMMENCING PROJECT, FABRICATING OR INSTALLING SYSTEMS. TRADES SHALL ESTABLISH A RIGHT-OF-WAY PLAN PRIOR TO CONSTRUCTION AND CLOSELY COORDINATE ROUTING TO AVOID CONFLICTS. CONTRACTOR SHALL NOT CHARGE OWNER, ARCHITECT, GENERAL CONTRACTOR, ENGINEER OR OTHERS FOR FIELD ADJUSTMENT DUE TO FIELD CONDITIONS. CONTRACTOR MUST INCLUDE IN FEE TO COMPLETE PROJECT INCLUDING MISCELLANEOUS DUCT, FITTINGS, AND OFFSETS. PRIOR CLOSE COORDINATION SHALL BE CONSIDERED INCLUDED IN BASE SCOPE OF WORK WITHOUT ADDITIONAL COMPENSATION FEES. CONTRACTOR SHALL OBTAIN ARCHITECTURAL PLANS, MECHANICAL PLANS, AND ELECTRICAL PLANS AND VERIFY INTENDED EQUIPMENT LOCATIONS, CEILING HEIGHTS, AND OTHER ARCHITECTURAL FEATURE LOCATIONS AND SHALL INSTALL AND ROUTE SYSTEMS ACCORDINGLY. TO ENSURE EQUIPMENT FITS AND THAT EQUIPMENT SERVICE ACCESS IS UNOBSTRUCTED. FIELD ROUTING OF SYSTEMS MAY NEED TO BE ADJUSTED FROM THESE SCHEMATIC PLANS, AND ANY REQUIRED DUCT AND FITTINGS SHALL BE PROVIDED TO SUIT.

**MECHANICAL FLOOR PLAN**  
3/16" = 1'-0"

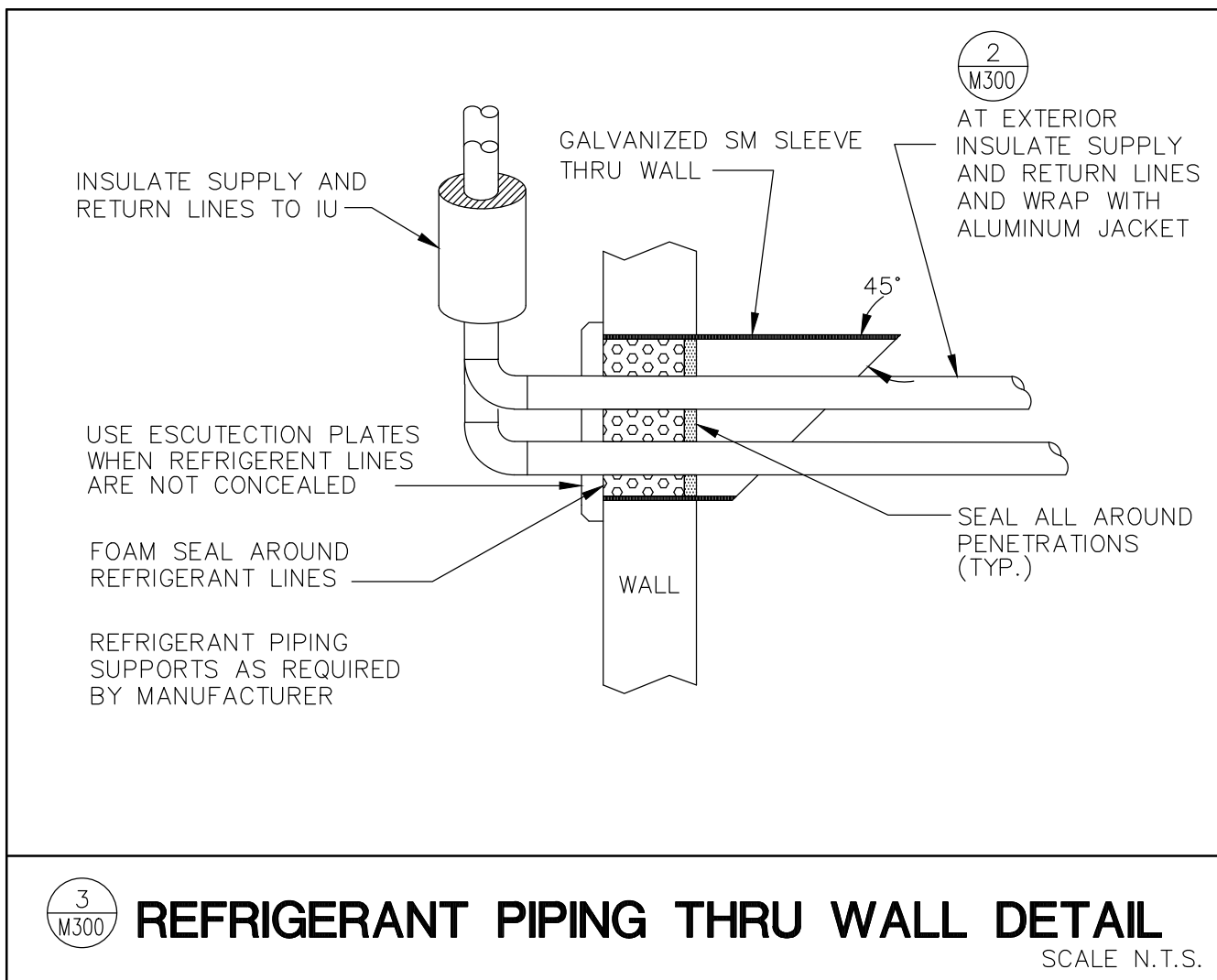
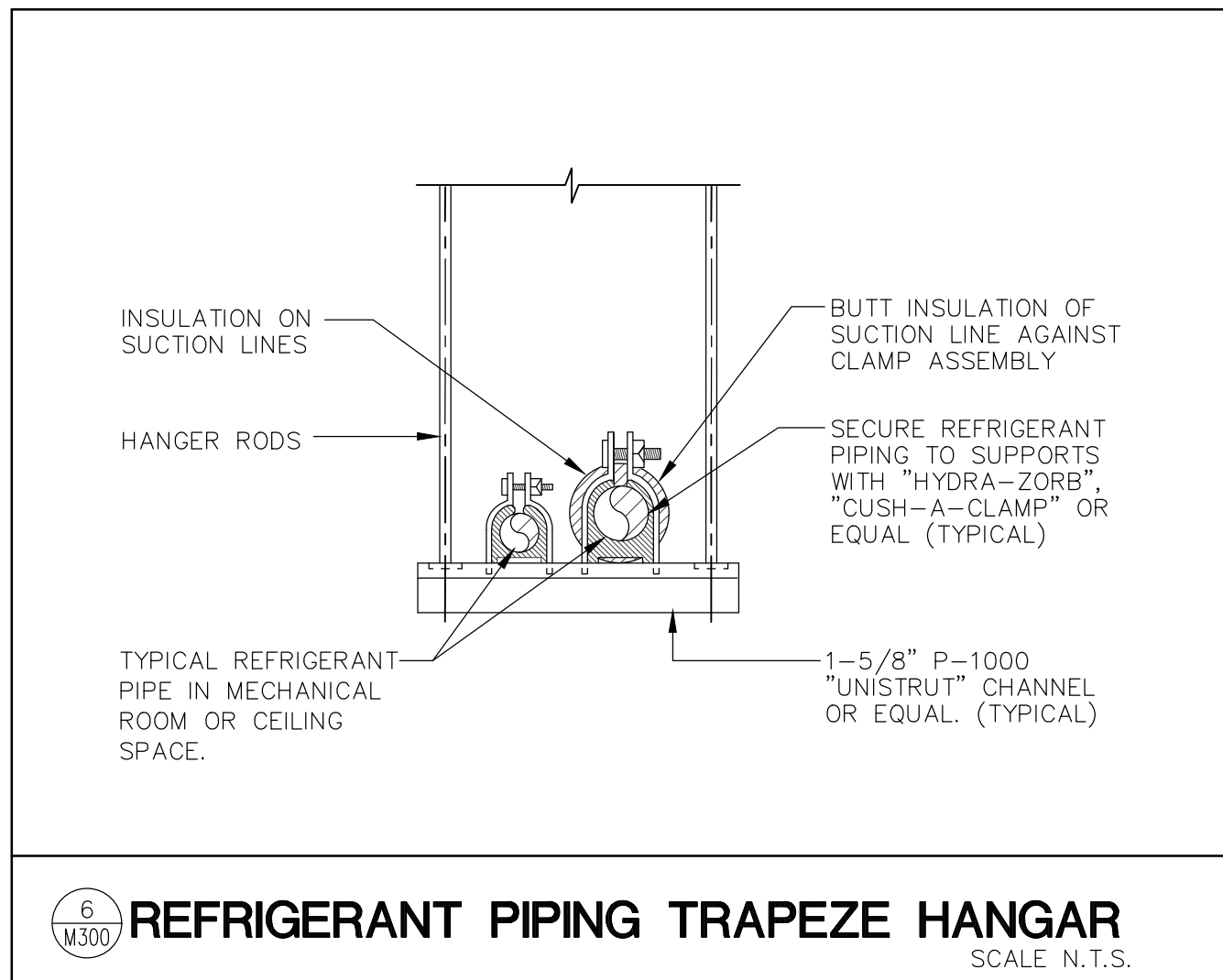
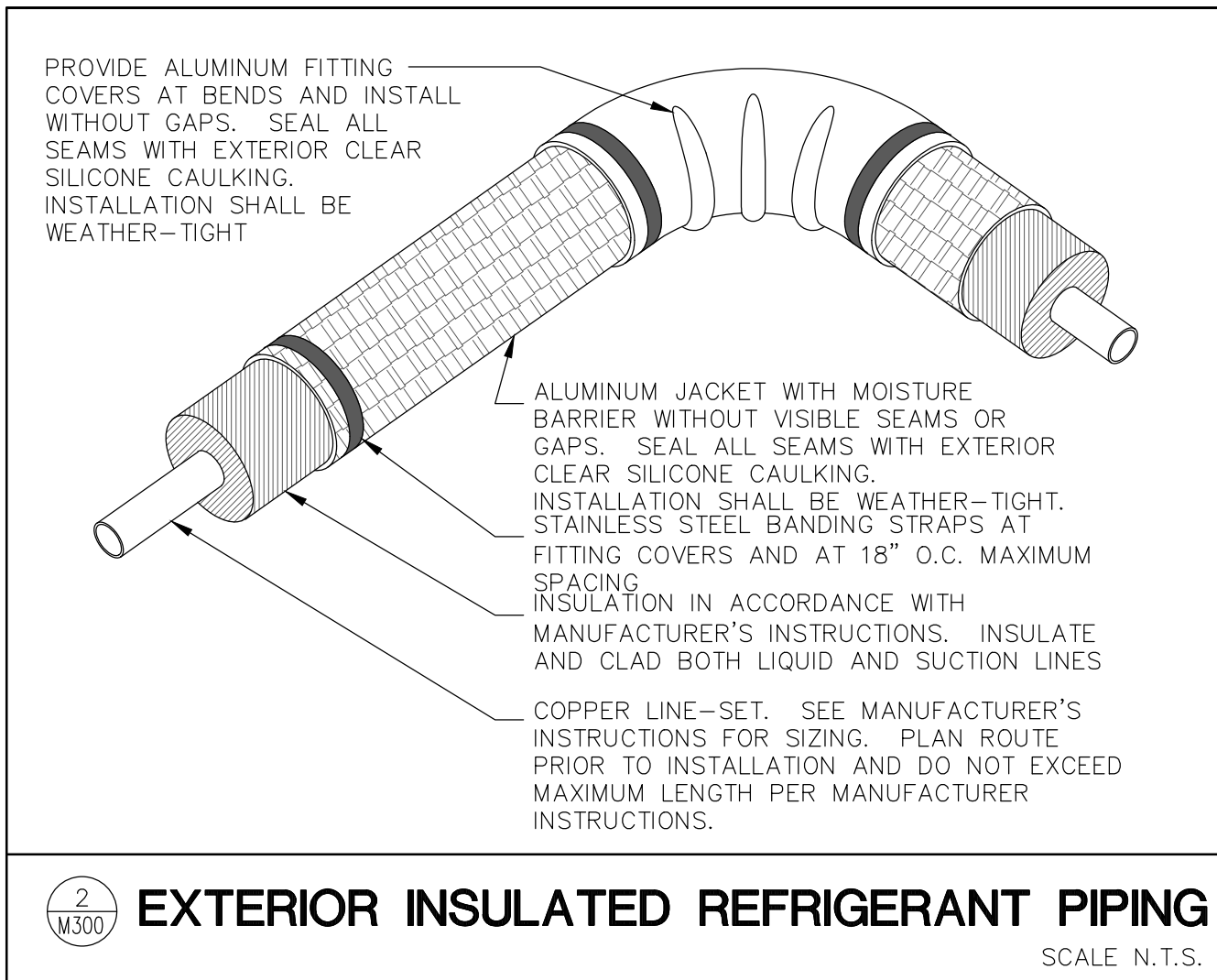
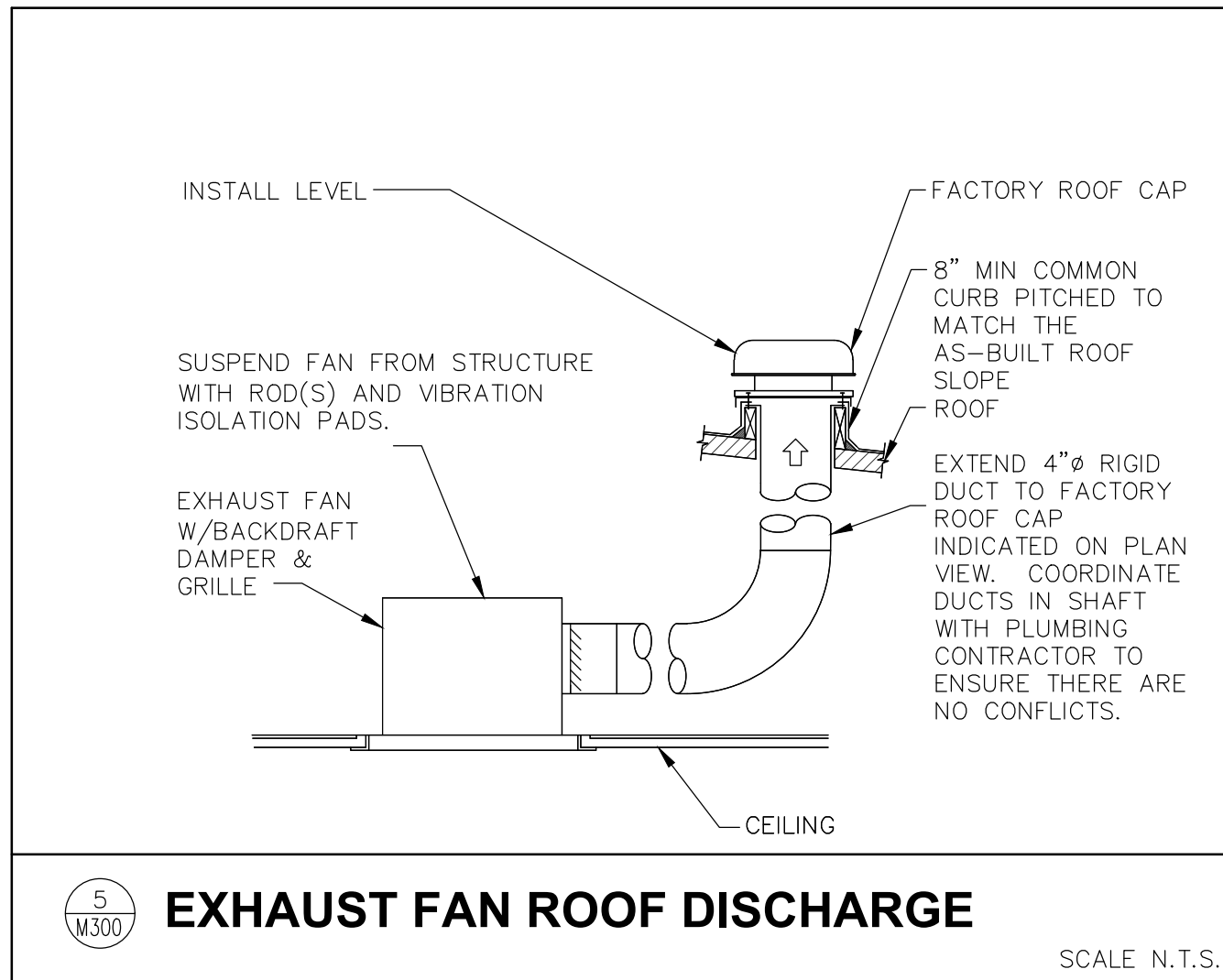
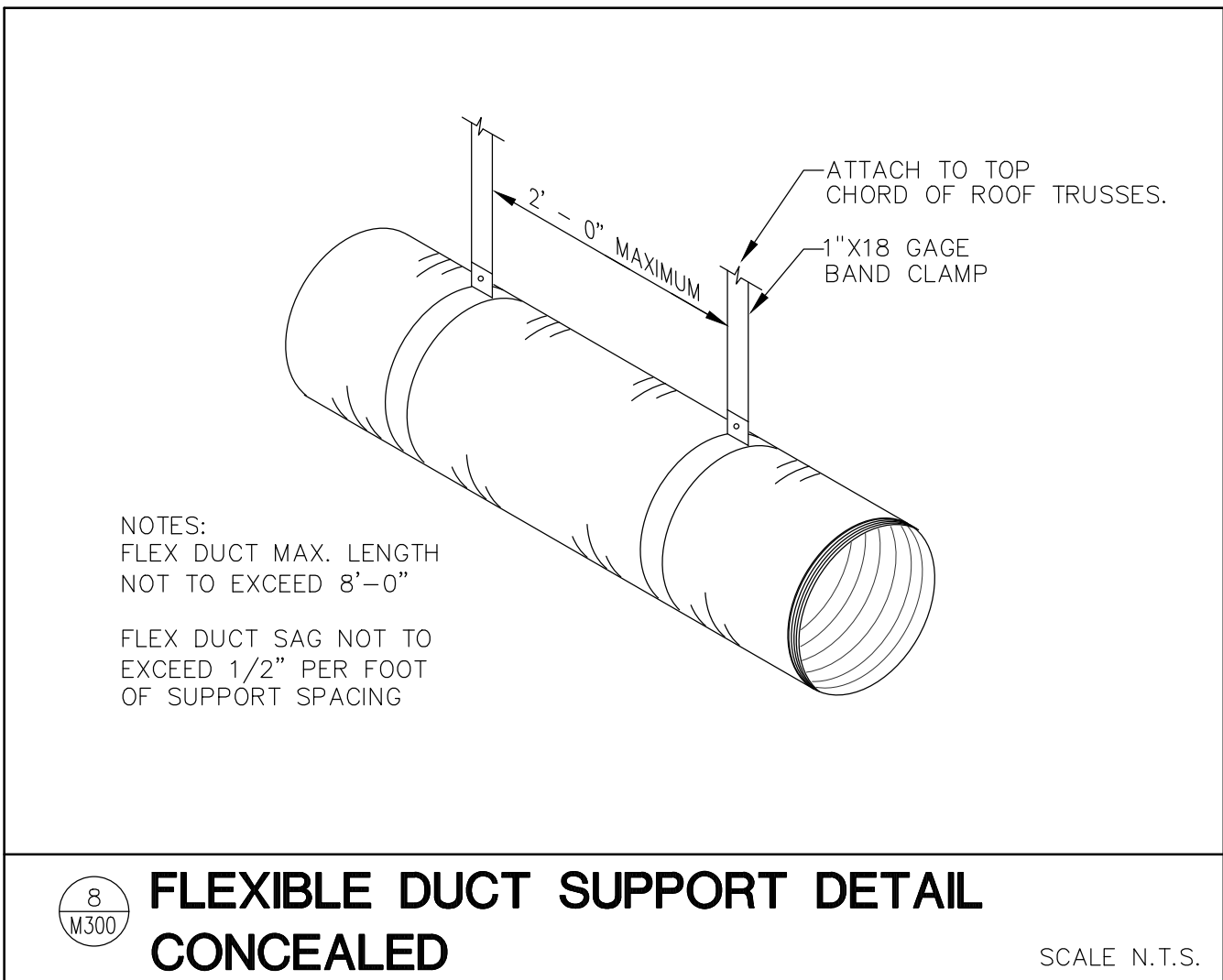
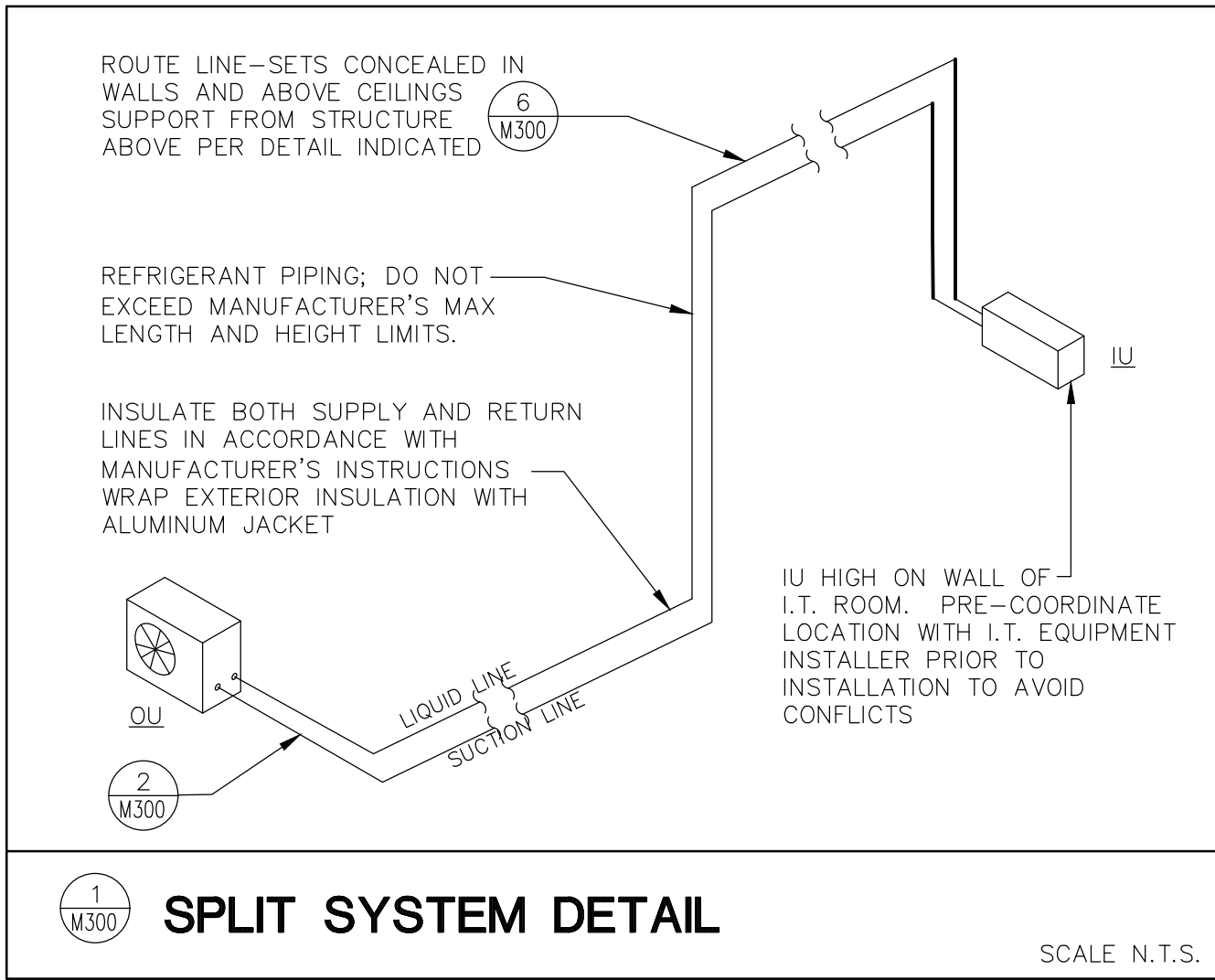
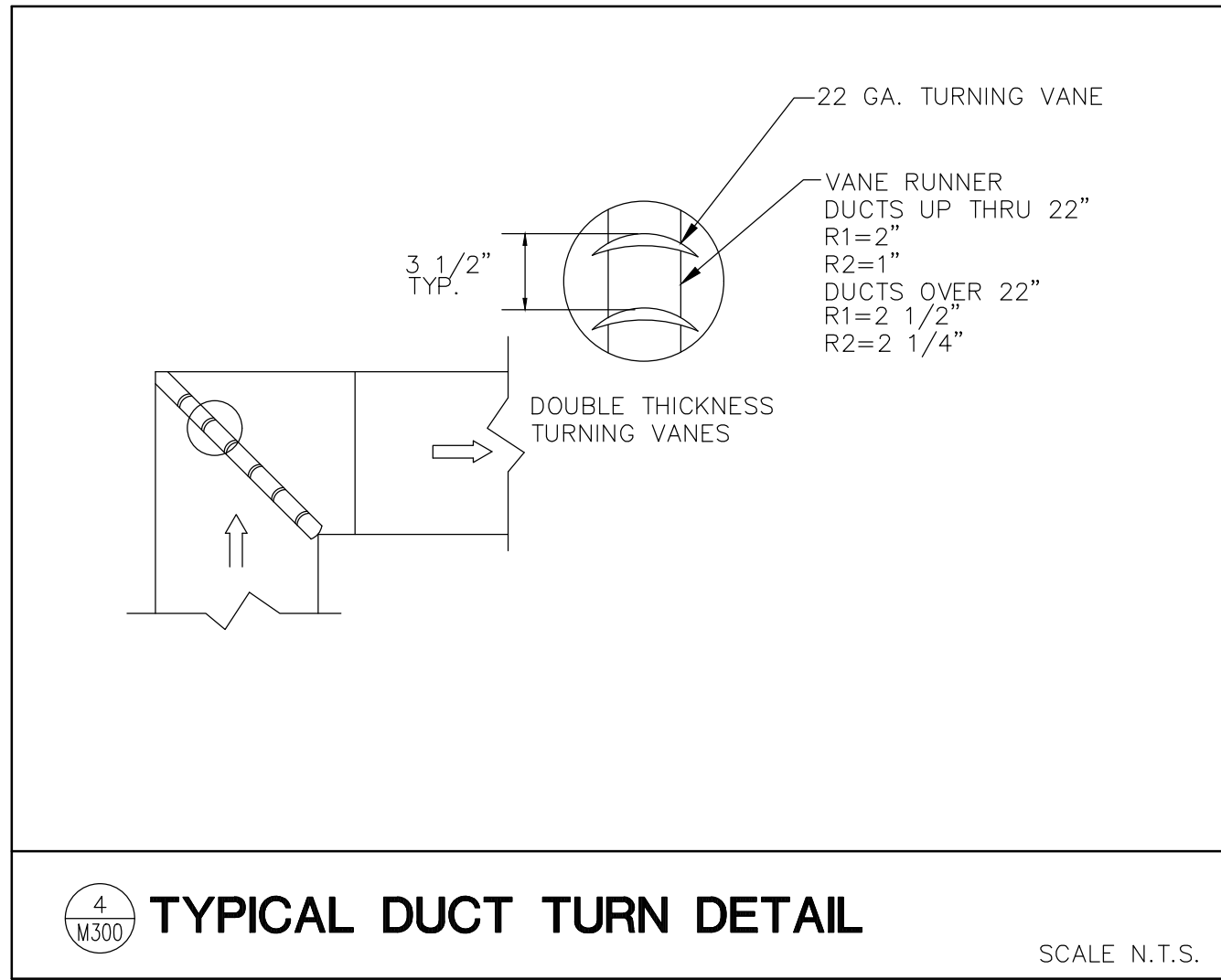
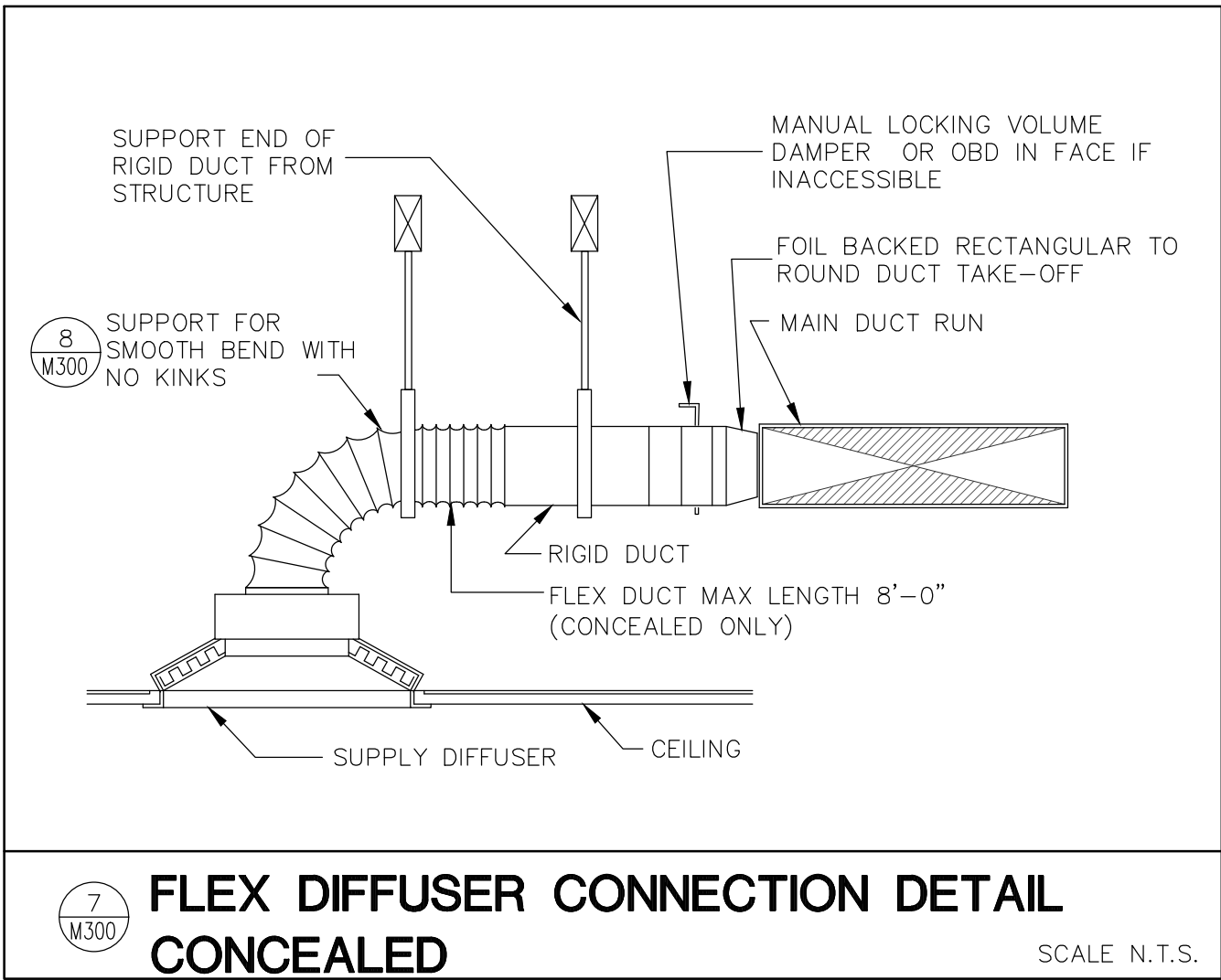
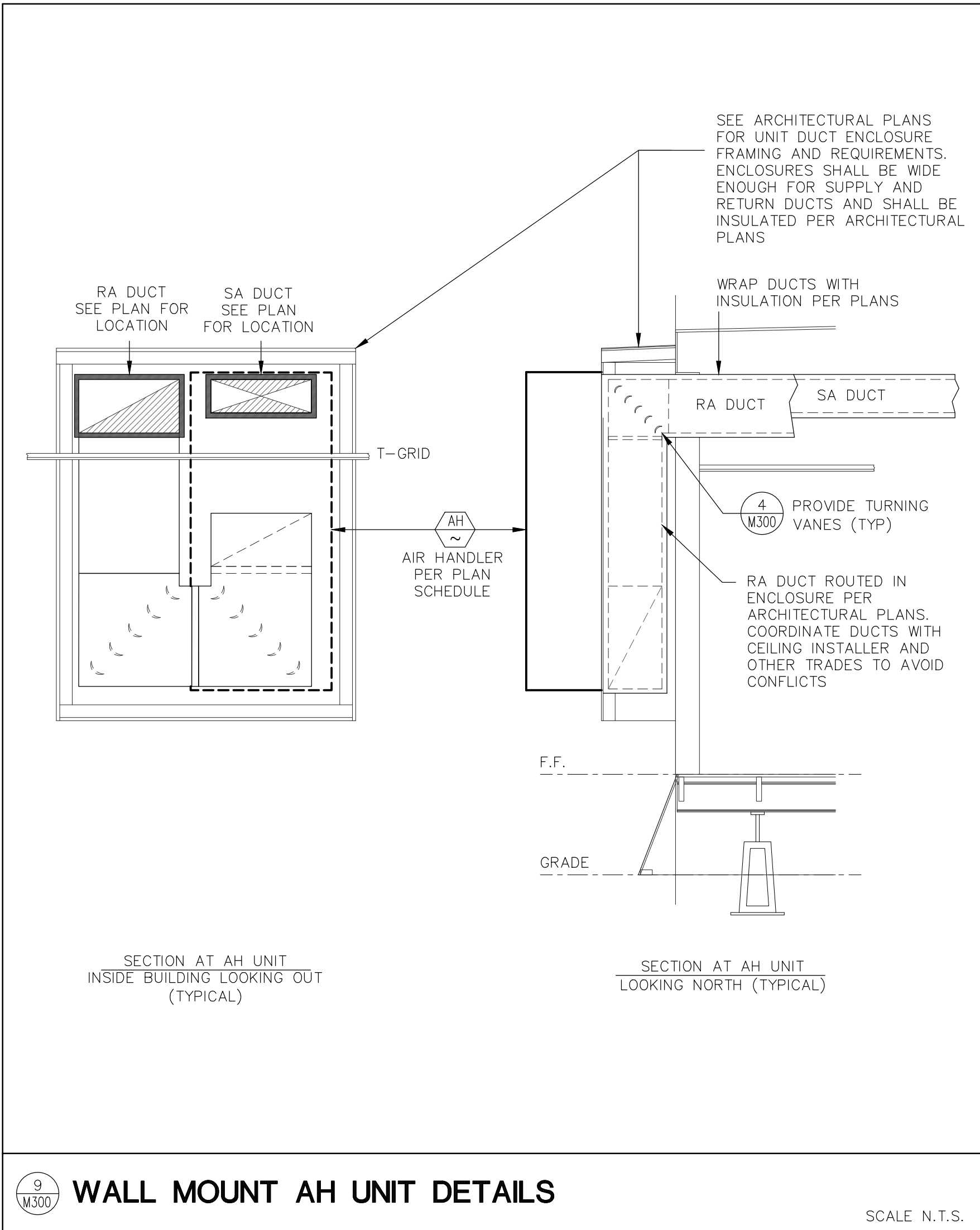
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MARK	DATE	DESCRIPTION

REVIEWED BY: GSP  
DRAWN BY: WDK/R/C



DATE: 07-21-2017  
JOB No: 1641A  
SHEET:

**M200**



REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: GSP  
DRAWN BY: WDK/R/C



Expires 12/31/2019

DATE: 07-21-2017

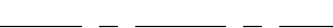

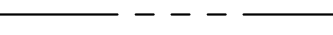
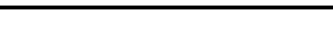

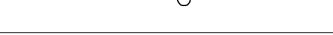










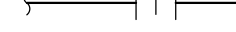

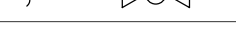









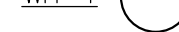
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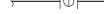
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# PLUMBING SPECIFICATIONS

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ALL AUTHORITIES HAVING JURISDICTION, INCLUDING, BUT NOT LIMITED TO THE 2012 INTERNATIONAL PLUMBING CODE AND ADOPTED CODE OF TUBA CITY WITH AMENDMENTS. OBTAIN PERMIT PRIOR TO CONSTRUCTION. WORK SHALL INCLUDE ALL MATERIALS, LABOR, SERVICES AND EQUIPMENT NECESSARY TO PROVIDE AN OPERATING SYSTEM AS SHOWN ON THE PLANS. PLANS ARE SCHEMATIC AND ARE NOT INTENDED TO SPECIFY ALL INCIDENTAL HARDWARE OR IDENTIFY ALL OFFSETS OR DIFFICULTIES WHICH MAY BE ENCOUNTERED IN THE COURSE OF COMPLETING THE PROJECT. DO NOT SCALE THE PLANS. CONTRACTORS SHALL FIELD MEASURE AND COORDINATE WITH OTHER TRADES PRIOR TO ORDERING HARDWARE. PLANS SHALL NOT BE SCALED OR USED FOR FABRICATION WITHOUT FIELD ADJUSTMENTS. WORK AND MATERIALS SHALL BE SUBJECT TO ACCEPTANCE BY OWNER'S REPRESENTATIVE.
2. PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL CLEARANCES AND EQUIPMENT LOCATIONS PRIOR TO COMMENCING PROJECT. PLUMBING CONTRACTOR SHALL SCHEDULE COORDINATION MEETINGS WITH THE MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR, FIRE PROTECTION CONTRACTOR, AND A/C CONTRACTORS. FRAMING OR INSTALLING STRUCTURE SO AS TO SET EQUIPMENT, FIELD ELEVATIONS AND FINAL PIPE ROUTING TO ACCOMMODATE ALL TRADES AND ALL EXISTING BUILDING ELEMENTS AND RESTRICTIONS. TRADES SHALL ESTABLISH A RIGHT-OF WAY PLAN PRIOR TO CONSTRUCTION. THESE COORDINATION MEETINGS WILL BE HELD ON SITE WITH ALL PARTIES IN ATTENDANCE IN ADVANCE OF ANY PIPE INSTALLATION. AS THIS RESTORATION PROJECT INVOLVES NUMEROUS SPACE LIMITATIONS, COORDINATED ARTS AND CHALLENGING RESTRICTIONS, FIELD COORDINATION INCLUDING SEVERAL COORDINATION MEETINGS IS ESSENTIAL AND REQUIRED. CONTRACTOR SHALL NOT CHARGE OWNER, ARCHITECT, GENERAL CONTRACTOR, ENGINEER OR OTHERS FOR FIELD ADJUSTMENT DUE TO FIELD CONDITIONS. CONTRACTOR MUST INCLUDE IN FEE TO COMPLETE PROJECT MISCELLANEOUS PIPES REQUIRING OFFSETS AND/OR DOWNS BEAMS, COLUMNS, DUCTS, CONDUIT OR STRUCTURAL ELEMENTS OR BRACES. FIELD VERIFICATION AND INSTALLATION SHALL BE CONSIDERED INCLUDED IN BASE SCOPE OF WORK WITHOUT ADDITIONAL COMPENSATION FEES. PLUMBING CONTRACTOR SHALL OBTAIN ARCHITECTURAL PLANS, STRUCTURAL PLANS, MECHANICAL PLANS, AND ELECTRICAL PLANS AND VERIFY INTENDED CEILING HEIGHTS, SOFFIT LOCATIONS, AND OTHER ARCHITECTURAL FEATURE LOCATIONS AND SHALL ROUTE PIPING ACCORDINGLY TO ALLOW CONSTRUCTION OF OTHER ELEMENTS OF THE BUILDING TO BE CONSTRUCTED. PIPING ROUTING WILL NEED TO BE FIELD ADJUSTED FROM PLANS FOR FIELD CONDITIONS AND NUMEROUS FITTINGS PROVIDED TO SUIT.
3. WASTE AND VENT PIPING SHALL BE SCHEDULE 40 PVC SOUL CORE PLASTIC ABOVE AND BELOW GRADE. FOREIGN PIPE WILL NOT BE ALLOWED. ACCEPTABLE PIPE MANUFACTURERS ARE CHARLOTTE PIPE AND FOUNDRY COMPANY, TYLER SOIL PIPE, OR EQUAL DOMESTIC MANUFACTURERS. INSULATE WASTE PIPE IN CRAWL SPACE WITH 1" RUBITEX CLOSED CELL OR EQUAL INSULATION. INSULATION SHALL BE TIED WITH OUTDOOR RATED CABLE TIES EVERY 3'.
4. ALL WATER, VENT, AND WASTE PIPING SHALL BE PRESSURE TESTED PER LOCAL CODES.
5. WATER SYSTEM SHALL BE DISINFECTED PER ENVIRONMENTAL HEALTH SERVICES' CURRENT EDITION.
6. COLD AND HOT WATER PIPING SHALL BE TYPE L COPPER WITH WROUGHT LEAD FREE FITTINGS AND SOLDER.
7. INSULATE HOT WATER SUPPLY AND RETURN PIPING WITH 1" RUBITEX CLOSED CELL OR EQUAL INSULATION. COPPER PIPE INSULATION SHALL HAVE A CONDUCTIVITY NO <0.27 BTU-IN/(H-F<sup>2</sup>-DEGREE F.).
8. CONDENSATE DRAINS FOR STANDARD EFFICIENCY APPLIANCES SHALL BE COPPER TYPE DWV. CONDENSATE DRAINS FOR HIGH EFFICIENCY AND/OR CONDENSING EQUIPMENT (FURNACES, BOILERS, WATER HEATERS, FLUES) SHALL BE PVC OR AS INSTRUCTED IN THE INSTALLATION MANUAL FOR THE EQUIPMENT. INSULATE COPPER CONDENSATE LINES WITH CLOSED CELL BLACK RUBITEX OR EQUAL INSULATION TO 10' FROM COOLING COILS.
9. ELECTRICAL WATER HEATER EFFICIENCY SHALL MEET THE IECC STANDARD.
10. INSTALL DIELECTRIC UNION AT DISSIMILAR METAL CONNECTIONS.
11. INSTALL CLEANOUTS BELOW ALL SINKS AND LAVATORIES AND OVER ALL WATER CLOSETS.
12. VENT LINES ARE DETAILED ON ISOMETRIC SHEETS. REFER TO ISOMETRICS FOR INSTALLATION OF VENT LINES.
13. SLOPE WASTE LINES 1/4"/FT AND SLOPE VENT LINES 1/8"/FT UNLESS SPECIFIED OTHERWISE ON THE PLANS.
14. PROVIDE BRASS/CRAFT STOPS AT ALL WATER EQUIPMENT. PROVIDE STAINLESS STEEL ESCUTCHEONS ON ALL VISIBLE PIPING PENETRATIONS THROUGH FINISHED WALLS. PROVIDE STAINLESS STEEL ROUND ACCESS COVER PLATE ON CLEAN OUT LOCATIONS THROUGH FINISHED WALLS. PROVIDE ADA COMPLIANT PRE-MOLDED VINYL COVERED PADDING ON CONNECTIONS AND TAILPIECE UNDER ALL ADA LAVATORIES IN BRIGHT WHITE. FLEXIBLE CONNECTIONS TO PLUMBING EQUIPMENT SHALL BE STAINLESS STEEL BRAID REINFORCED.
15. PLUMBING VENTS SHALL BE TERMINATED 10' FROM OR 3' ABOVE ANY BUILDING AIR INTAKES. REFER TO PLUMBING CODE FOR DETAILS ON PLUMBING VENT TERMINATION.
16. PROVIDE STEEL ACCESS DOORS, 14 GAUGE WITH 16 GAUGE FRAME, PIANO HINGE, AND ALLEN KEY LATCH ON TRAP PRIMERS, WATER HAMMER ARRESTERS, VALVE ACCESS DOORS, AND ANY EQUIPMENT IN WALLS REQUIRING SERVICE ACCESS. SIZE AS REQUIRED TO ALLOW SUFFICIENT SERVICE ACCESS.
17. FIRE SEALS @ RATED PENETRATIONS SHALL BE APPROPRIATE U-L RATED DESIGNS AND INSTALLATIONS.
18. COPPER PIPE INSTALLED BELOW GRADE SHALL BE WITHOUT JOINTS AND WRAPPED WITH 20 MIL POLYETHYLENE TAPE WITH A MINIMUM OF 50% OVERLAP OR SHALL BE INSTALLED IN 20 MIL POLYETHYLENE SLEEVE.
19. CONDENSATE PIPING: REFER TO PLANS FOR APPROXIMATE ROUTING. ROUTING SHOWN IS SCHEMATIC ONLY. FIELD ROUTE AND OFFSET PIPING AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, OTHER PIPING SYSTEMS OR STRUCTURE. USE CODE APPROVED COPPER TYPE "DWV" PIPE PER SPECIFICATION NOTE 8. PROVIDE TRAP AND VENT AT MECHANICAL EQUIPMENT, SLOPE TO LOCATION SHOWN ON PLANS. COORDINATE WITH MECHANICAL CONTRACTOR TO SET UNIT HEIGHT / LOCATION FOR PROPER DRAINAGE FALL.
20. WATER HEATER EQUIPMENT MUST BE PROVIDED WITH CONTROLS, THERMOSTATIC MIXING DEVICES, OR TEMP SET STOPS THAT ALLOW THE USER TO SET THE WATER TEMPERATURES TO THE FOLLOWING LEVEL: PUBLIC FACILITY RESTROOM LAVATORIES TO 110F.
21. WATER, WASTE, AND VENT PIPING IS SHOWN SCHEMATICALLY. PLUMBING CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. DO NOT MOUNT ANY PIPING OVER ELECTRICAL PANELS. DO NOT LOCATE WASTE LINES UNDER FOOTINGS. REVIEW STRUCTURAL PLANS PRIOR TO PLACEMENT OF WASTE LINES TO AVOID CONFLICTS.

PLUMBING LEGEND		
SYMBOL	ABBR.	DESCRIPTION
	CW	DOMESTIC COLD WATER PIPING
	HW	DOMESTIC HOT WATER PIPING
	HWR	DOMESTIC HOT WATER RETURN PIPING
	W	WASTE PIPING
	V	VENT PIPING
	G	GAS PIPING
	RC	RECLAIM WATER
	A	COMPRESS AIR LINE
	RD, OD	ROOF DRAIN AND OVERFLOW DRAIN
	SCO, FCO	SURFACE OR FLOOR CLEAN
	WCO, CO	WALL CLEAN OUT OR CLEAN OUT
	VTR	VENT THRU ROOF
	FS	FLOOR SINK
	FD	FLOOR DRAIN
	FR	FIRE RISER
	HB	HOSE BIBB
	BV	BALL VALVE
	BFV	BUTTERFLY VALVE
	PV	PLUG VALVE
	PRV	PRESSURE REDUCING VALVE
	S.O.V.	SHUTOFF VALVE
	CV	CHECK VALVE
	DN.	PIPE DOWN
	UP	PIPE UP
	CONN.	PIPE CONNECTION
	P&T	RESSURE AND T&P RELIEF VALVE
	SA	SHOCK ABSORBER
	TP	TRAP PRIMER WITH UNION
	RD	ROOF DRAIN
	OFD	OVERFLOW DRAIN
	WH	WATER HEATER
*** NOT ALL SYMBOLS ARE APPLICABLE FOR THIS PROJECT ***		

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PLUMBING FIXTURE SCHEDULE		
CODE	DESCRIPTION	PROVIDE LISTED OR APPROVED EQUIPMENT BY OTHER MANUFACTURERS
WC-1	<p>WATER CLOSET (ADA FLOOR MOUNTED):            FIXTURE: AMERICAN STANDARD MODEL 3461.001 (1.28 GPF) MADERA FLOWSE, VITREOUS CHINA, LOW CONSUMPTION, ADA ELONGATED BOWL, SIPHON JET FLUSHING ACTION, 1 1/2" TOP SPUD INLET. MOUNT TO MEET ADA REQUIREMENTS            FLUSH VALVE: SLOAN FLUSH VALVE MODEL #111-1.28, (1.28 GPF), HIGH EFFICIENCY TOILET FLUSH VALVE.            SEAT: PROVIDE WHITE SEAT WITH OPEN FRONT SEAT WITH SELF-SUSTAINING CHECK HINGE AND WITHOUT COVER. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
L-1	<p>LAVATORY WALL HUNG:            FIXTURE: AMERICAN STANDARD "MISSOURI" MODEL #0436.004, LAVATORY VITREOUS CHINA, FRONT OVERFLOW, SUPPLIED WITH TEMPLATE.            SUPPLY FITTINGS: CHICAGO FAUCET MODEL# 3300-ABCP (.5 GPM AERATOR MAX).            SUPPLIES: ANGLE STOPS WITH FLEXIBLE TUBE RISERS.            TRAP: ADJUSTABLE CAST BODY P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, CHROME FINISH.            INSULATION: ADA-CONFORMING, WHEELCHAIR ACCESSIBLE LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE COVERED WITH MOLDED, ANTI MICROBIAL, LAV GUARD UNDER SINK PROTECTIVE PIPE COVER. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
MS-1	<p>JANITOR SINK            FIXTURE: FIAT #MSB-2424 MOLDED STONE 24" X 24" X 10" MOP SINK BASIN WITH INTEGRAL STAINLESS STEEL STRAINER.            SUPPLY FITTING: FIAT #B30-AA ROUGH CHROME PLATED WITH INTEGRAL STOPS, VACUUM BREAKER, 3/4" HOSE THREAD AND WALL BRACE. PROVIDE FIAT #B32-AA 30" HEAVY DUTY FLEXIBLE RUBBER HOSE AND HOSE BRACKET.            PROVIDE FIAT #B33-AA (BROOME J.O. AERATOR) SILICONE SEALANT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.            MOP HANGER: FIAT #B89-CC, 18 GAUGE, TYPE 302 STAINLESS STEEL WITH THREE RUBBER TOOL GRIPS. PROVIDE WALL GUARD MODEL MSG 2424.</p>	
DF-1	<p>DRINKING FOUNTAIN (ADA):            FIXTURE: ELKAY #ZSLTBSLSK (TWO LEVEL) FILTERED EZH2O BOTTLE FILLING STATION WITH VERSATILE BI LEVEL ADA, WATER SYSTEM FREE OF LEAD-CONTAINING BRASS PARTS, FLEX-GUARD SAFETY BUBBLER, SELF CLOSING FRONT PUSH BUTTON, 120V/1PH/5.0 AMPS SUPPLIES: ANGLE STOPS WITH FLEXIBLE TUBE RISERS. TRAP: P-TRAP WITH CLEAN OUT PLUG, ESCUTCHEON, CHROME FINISH. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
WH-1	<p>WATER HEATER:            FIXTURE: AO SMITH ENT-30 - 30 GALLON 24 DIA.            POWER REQUIREMENTS: 240V/1PH/4500WATTS - WATER RECOVERY @ 90° RISE 21 GAL./HR - PROVIDE ASME TEMP. / PRESS RELIEF VALVE AND INSTALL PER CODE &amp; MANUFACTURER'S INSTRUCTIONS. WATER HEATER SHALL MEET ASHRAE/IESNA STANDARD 90.1 B. PROVIDE WATER HEATER WITH STAND MODEL 40-S-30-U AND PAN WITH DRAIN. DRAIN T&amp;P RELIEF AND PAN DRAIN TO OUTDOORS AT 6" A.F.F.</p>	
EX-1	<p>EXPANSION TANK:            FIXTURE: WATTS MODEL PLT-12 - 4.5 GAL - INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
CP-1	<p>CIRCULATOR PUMP:            FIXTURE: BELL &amp; GOSSETT MODEL #NBF-36 3 SPEED WITH AUTOMATIC TIMER KIT MODEL #7C-1 AND AQUASTAT MODEL #AQS-3/4 - 3/4" CONNECTION - ELECTRICAL REQUIREMENTS: 115/60/1PH/260 WATTS.</p>	
TMV-1	<p>THERMOSTATIC MIXING VALVE (RESTROOM AND KITCHEN):            FIXTURE: POWER MODEL LFLM492-2 - PROVIDE TEMP GAUGES EACH SIDE OF TEMP. MIXING VALVE - SET TEMP TO 110°F. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
HT-1	<p>HEAT TAPE:            PROVIDE FROSTEX HEAT TAPE: ALL EXPOSED PVC WASTE PIPING SHALL BE WRAPPED WITH WINTERGARD WET 6 H-612 120V HEAT TAPE WHERE INDICATED ON PLANS. PIPING SYSTEM SHALL BE WRAPPED WITH WINTERGARD WET 6 HEAT TAPE 120V/6 WATT/FT (120°) AND INSULATED. INSULATION SHALL BE RUBITEX CLOSED CELL WITH OUTDOOR RATED CABLE TIES EVERY 3'. PROVIDE FROSTEX WINTERGARD PLUS PLUG KIT WITH GFI, WINTERGARD WET TAPE &amp; LABELS, GEL FILLED END KITS, 120V ELECTRONIC TEMPERATURE CONTROL (MODEL #AMCF5), AND ALL MISCELLANEOUS HARDWARE AND EQUIPMENT TO COMPLETELY FROST PROOF PIPING SYSTEMS. SYSTEM TO BE UL LISTED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
HT-2	<p>HEAT TAPE:            PROVIDE FROSTEX HEAT TAPE: ALL EXPOSED WATER SUPPLY PIPING SHALL BE WRAPPED WITH WINTERGARD WET 6 H-612 120V HEAT TAPE WHERE INDICATED ON PLANS. PIPING SYSTEM SHALL BE WRAPPED WITH WINTERGARD WET 6 HEAT TAPE 120V/6 WATT/FT (10°) AND INSULATED. INSULATION SHALL BE RUBITEX CLOSED CELL AND JACKETED WITH ALUMINUM. PROVIDE FROSTEX WINTERGARD PLUS PLUG KIT WITH GFI, WINTERGARD WET TAPE &amp; LABELS, GEL FILLED END KITS, 120V ELECTRONIC TEMPERATURE CONTROL (MODEL #AMCF5), AND ALL MISCELLANEOUS HARDWARE AND EQUIPMENT TO COMPLETELY FROST PROOF PIPING SYSTEMS. SYSTEM TO BE UL LISTED. INSTALL PER MANUFACTURER'S INSTRUCTIONS. REFER TO DETAILS ON PLANS.</p>	
HB-1	<p>HOSE BIBB (FROSTPROOF):            FITTING: WOODFORD MODEL 65 (8" STEM) CAST BRASS FROST PROOF AUTOMATIC DRAINING HOSE BIBB WITH NICKEL-PLATED FINISH. HOSE BIBB SHALL HAVE A 3/4" COPPER INLET &amp; 3/4" HOSE OUTLET. HOSE BIBB SHALL BE PROVIDE VACUUM BREAKER.</p>	
FCO DCO	<p>FLOOR CLEAN-OUT:            FIXTURE: WATTS MODEL #CO-200-R - CAST IRON BODY AND FRAME WITH ROUND ADJUSTABLE NICKEL BRONZE TAP, TAPER THREADED BRONZE PLUG, SAME SIZE OF PIPE IN WHICH IS INSTALLED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
REF-1	<p>REFRIGERATOR VALVE BOX:            FIXTURE: SIOUX CHIEF MODEL 696-G1010MF, PLASTIC OUTLET BOX WITH QUARTER TURN HAMMER ARRESTER VALVE, 1/2" SWEAT CONNECTION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
WCO	<p>WALL CLEAN-OUT            FIXTURE: WATTS MODEL #CO-460-RD - CAST IRON BODY AND WITH STAINLESS STEEL COVER. SAME SIZE OF PIPE IN WHICH INSTALLED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
S-1	<p>DOUBLE COMPARTMENT SS SINK (ADA):            FIXTURE: ELKAY MODEL LRAD-33216S, 18 GAUGE STAINLESS STEEL SINK DOUBLE COMPARTMENT ADA/ANSI COMPLIANT, THREE HOLES (8" CENTERS), LK-35 DUO STRAINER, LK-53 DRAIN FITTING.            SUPPLY FITTINGS: ELKAY LKD-232-S-BH5 UNDERMOUNT FAUCET, 8" CENTERS, HEAVY DUTY GOOSENECK SPOUT, STANDARD AERATOR W/ 5" WRIST BLADE HANDLES. SUPPLIES: MCGUIRE MODEL D2165LK-R15 HEAVY FLEXIBLE SUPPLIES. COMPLETE WITH CHROME PLATED 1/2" IPS 3/8" @ ANGLE STOPS WITH LOOSE KEY HANDLES AND BRASS STEMS. INCLUDES 15" OPTIONAL RISER. TRAP: ADJUSTABLE CAST BRASS BODY P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, CHROME FINISH. INSULATION: ADA-CONFORMING, WHEELCHAIR ACCESSIBLE LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE COVERED WITH MOLDED, ANTI MICROBIAL, TRUEBRO, INC. WASTE DISPOSER IN SINK-ERATOR MODEL 555S3 3/4HP 120V/1@8.1 AMP. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	

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MS-1	<p>JANITOR SINK            FIXTURE: FIAT #MSB-2424 MOLDED STONE 24" X 24" X 10" MOP SINK BASIN WITH INTEGRAL STAINLESS STEEL STRAINER.            SUPPLY FITTING: FIAT #B30-AA ROUGH CHROME PLATED WITH INTEGRAL STOPS, VACUUM BREAKER, 3/4" HOSE THREAD AND WALL BRACE. PROVIDE FIAT #B32-AA 30" HEAVY DUTY FLEXIBLE RUBBER HOSE AND HOSE BRACKET.            PROVIDE FIAT #B33-AA (BROOME J.O. AERATOR) SILICONE SEALANT INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.            MOP HANGER: FIAT #B89-CC, 18 GAUGE, TYPE 302 STAINLESS STEEL WITH THREE RUBBER TOOL GRIPS. PROVIDE WALL GUARD MODEL MSG 2424.</p>	
DF-1	<p>DRINKING FOUNTAIN (ADA):            FIXTURE: ELKAY #ZSLTBSLSK (TWO LEVEL) FILTERED EZH2O BOTTLE FILLING STATION WITH VERSATILE BI LEVEL ADA, WATER SYSTEM FREE OF LEAD-CONTAINING BRASS PARTS, FLEX-GUARD SAFETY BUBBLER, SELF CLOSING FRONT PUSH BUTTON, 120V/1PH/5.0 AMPS SUPPLIES: ANGLE STOPS WITH FLEXIBLE TUBE RISERS. TRAP: P-TRAP WITH CLEAN OUT PLUG, ESCUTCHEON, CHROME FINISH. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
WH-1	<p>WATER HEATER:            FIXTURE: AO SMITH ENT-30 - 30 GALLON 24 DIA.            POWER REQUIREMENTS: 240V/1PH/4500WATTS - WATER RECOVERY @ 90° RISE 21 GAL./HR - PROVIDE ASME TEMP. / PRESS RELIEF VALVE AND INSTALL PER CODE &amp; MANUFACTURER'S INSTRUCTIONS. WATER HEATER SHALL MEET ASHRAE/IESNA STANDARD 90.1 B. PROVIDE WATER HEATER WITH STAND MODEL 40-S-30-U AND PAN WITH DRAIN. DRAIN T&amp;P RELIEF AND PAN DRAIN TO OUTDOORS AT 6" A.F.F.</p>	
EX-1	<p>EXPANSION TANK:            FIXTURE: WATTS MODEL PLT-12 - 4.5 GAL - INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
CP-1	<p>CIRCULATOR PUMP:            FIXTURE: BELL &amp; GOSSETT MODEL #NBF-36 3 SPEED WITH AUTOMATIC TIMER KIT MODEL #7C-1 AND AQUASTAT MODEL #AQS-3/4 - 3/4" CONNECTION - ELECTRICAL REQUIREMENTS: 115/60/1PH/260 WATTS.</p>	
TMV-1	<p>THERMOSTATIC MIXING VALVE (RESTROOM AND KITCHEN):            FIXTURE: POWER MODEL LFLM492-2 - PROVIDE TEMP GAUGES EACH SIDE OF TEMP. MIXING VALVE - SET TEMP TO 110°F. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
HT-1	<p>HEAT TAPE:            PROVIDE FROSTEX HEAT TAPE: ALL EXPOSED PVC WASTE PIPING SHALL BE WRAPPED WITH WINTERGARD WET 6 H-612 120V HEAT TAPE WHERE INDICATED ON PLANS. PIPING SYSTEM SHALL BE WRAPPED WITH WINTERGARD WET 6 HEAT TAPE 120V/6 WATT/FT (120°) AND INSULATED. INSULATION SHALL BE RUBITEX CLOSED CELL WITH OUTDOOR RATED CABLE TIES EVERY 3'. PROVIDE FROSTEX WINTERGARD PLUS PLUG KIT WITH GFI, WINTERGARD WET TAPE &amp; LABELS, GEL FILLED END KITS, 120V ELECTRONIC TEMPERATURE CONTROL (MODEL #AMCF5), AND ALL MISCELLANEOUS HARDWARE AND EQUIPMENT TO COMPLETELY FROST PROOF PIPING SYSTEMS. SYSTEM TO BE UL LISTED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
HT-2	<p>HEAT TAPE:            PROVIDE FROSTEX HEAT TAPE: ALL EXPOSED WATER SUPPLY PIPING SHALL BE WRAPPED WITH WINTERGARD WET 6 H-612 120V HEAT TAPE WHERE INDICATED ON PLANS. PIPING SYSTEM SHALL BE WRAPPED WITH WINTERGARD WET 6 HEAT TAPE 120V/6 WATT/FT (10°) AND INSULATED. INSULATION SHALL BE RUBITEX CLOSED CELL AND JACKETED WITH ALUMINUM. PROVIDE FROSTEX WINTERGARD PLUS PLUG KIT WITH GFI, WINTERGARD WET TAPE &amp; LABELS, GEL FILLED END KITS, 120V ELECTRONIC TEMPERATURE CONTROL (MODEL #AMCF5), AND ALL MISCELLANEOUS HARDWARE AND EQUIPMENT TO COMPLETELY FROST PROOF PIPING SYSTEMS. SYSTEM TO BE UL LISTED. INSTALL PER MANUFACTURER'S INSTRUCTIONS. REFER TO DETAILS ON PLANS.</p>	
HB-1	<p>HOSE BIBB (FROSTPROOF):            FITTING: WOODFORD MODEL 65 (8" STEM) CAST BRASS FROST PROOF AUTOMATIC DRAINING HOSE BIBB WITH NICKEL-PLATED FINISH. HOSE BIBB SHALL HAVE A 3/4" COPPER INLET &amp; 3/4" HOSE OUTLET. HOSE BIBB SHALL BE PROVIDE VACUUM BREAKER.</p>	
FCO DCO	<p>FLOOR CLEAN-OUT:            FIXTURE: WATTS MODEL #CO-200-R - CAST IRON BODY AND FRAME WITH ROUND ADJUSTABLE NICKEL BRONZE TAP, TAPER THREADED BRONZE PLUG, SAME SIZE OF PIPE IN WHICH IS INSTALLED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
REF-1	<p>REFRIGERATOR VALVE BOX:            FIXTURE: SIOUX CHIEF MODEL 696-G1010MF, PLASTIC OUTLET BOX WITH QUARTER TURN HAMMER ARRESTER VALVE, 1/2" SWEAT CONNECTION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
WCO	<p>WALL CLEAN-OUT            FIXTURE: WATTS MODEL #CO-460-RD - CAST IRON BODY AND WITH STAINLESS STEEL COVER. SAME SIZE OF PIPE IN WHICH INSTALLED. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	
S-1	<p>DOUBLE COMPARTMENT SS SINK (ADA):            FIXTURE: ELKAY MODEL LRAD-33216S, 18 GAUGE STAINLESS STEEL SINK DOUBLE COMPARTMENT ADA/ANSI COMPLIANT, THREE HOLES (8" CENTERS), LK-35 DUO STRAINER, LK-53 DRAIN FITTING.            SUPPLY FITTINGS: ELKAY LKD-232-S-BH5 UNDERMOUNT FAUCET, 8" CENTERS, HEAVY DUTY GOOSENECK SPOUT, STANDARD AERATOR W/ 5" WRIST BLADE HANDLES. SUPPLIES: MCGUIRE MODEL D2165LK-R15 HEAVY FLEXIBLE SUPPLIES. COMPLETE WITH CHROME PLATED 1/2" IPS 3/8" OD ANGLE STOPS WITH LOOSE KEY HANDLES AND BRASS STEMS. INCLUDES 15" OPTIONAL RISER. TRAP: ADJUSTABLE CAST BRASS BODY P-TRAP WITH CLEANOUT PLUG, ESCUTCHEON, CHROME FINISH. INSULATION: ADA-CONFORMING, WHEELCHAIR ACCESSIBLE LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE COVERED WITH MOLDED, ANTI MICROBIAL, TRUEBRO, INC. WASTE DISPOSER IN SINK-ERATOR MODEL 555S3 3/4HP 120V/1Ø/8.1 AMP. INSTALL PER MANUFACTURER'S INSTRUCTIONS.</p>	

WATER CALCULATIONS (FTFU)														
PLUMBING FIXTURE SCHEDULE										BUILDING CONDITIONS				
FIXTURE	PIPE SIZE				QTY	FIXTURE		TOTAL		ITEM (FLUSH TANK FIXTURE UNITS)	ID	VALUE	UNIT	
	CW	HW	SW	SV		WSFU	SFU	WSFU	SFU					
WC(FT)	1/2	—	4	2	4	10	4	50	20	<u>FIXTURE UNIT REQUIREMENTS</u>				
L	1/2	1/2	2	2	4	2	1	12	6	NEW FU'S ALLOWED FUTURE FU'S				
MS	1/2	1/2	2	2	1	4	2	3	2	FUT 5.75 WSFU				
DF	1/2	—	2	2	1	.25	.5	.25	.5	TOTAL FU'S				
S	1/2	1/2	2	2	1	4	2	4	2	FUT WSFU				
HB	3/4	—	—	—	2	5	—	5	—	<u>GPM REQUIREMENTS</u>				
										TOTAL FU'S TO GPM				
										GPM1 55 GPM2 55 GPM				
										<u>SERVICE/SUPPLY LENGTHS</u>				
										CITY SERVICE LINE				
										BUILDING SUPPLY LINE				
										<u>EXISTING LINE/FLOW EQUIP. SIZES</u>				
										SERVICE LINE SIZE				
										PS1 SEE INCHES				
										PS2 CIVIL DWG				
										PS3 INCHES				
										<u>PRESSURE REQUIREMENTS</u>				
										PRESSURE REQUIRED AT BUILDING				
										P1 70 PSI				
										P2 11 PSI				
										P3 7 PSI				
										P4 20 PSI				
										P5 28 PSI				
										MAX FL = P1-(P2+...+P5)				
										BUILDING PIPING FRICTION LOSS				
										DP1 11.2 PSI/100' FPS				
										BUILDING PIPING MAXIMUM VELOCITY				
										NOTE: CONTRACTOR SHALL OBTAIN WATER PRESSURE TEST AND VERIFY PRESSURE EXCEEDS 70 PSI PRIOR TO CONSTRUCTION. CONTACT ENGINEER IN WRITING IF REPORTED PRESSURE IS LESS THAN 80 PSI PRIOR TO CONSTRUCTION.				
TOTALS										66.25	24.5			

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TAMARAX STREET  
TUBA CITY, ARIZONA 86045

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**PLUMBING SCHEDULES AND SPECIFICATIONS**

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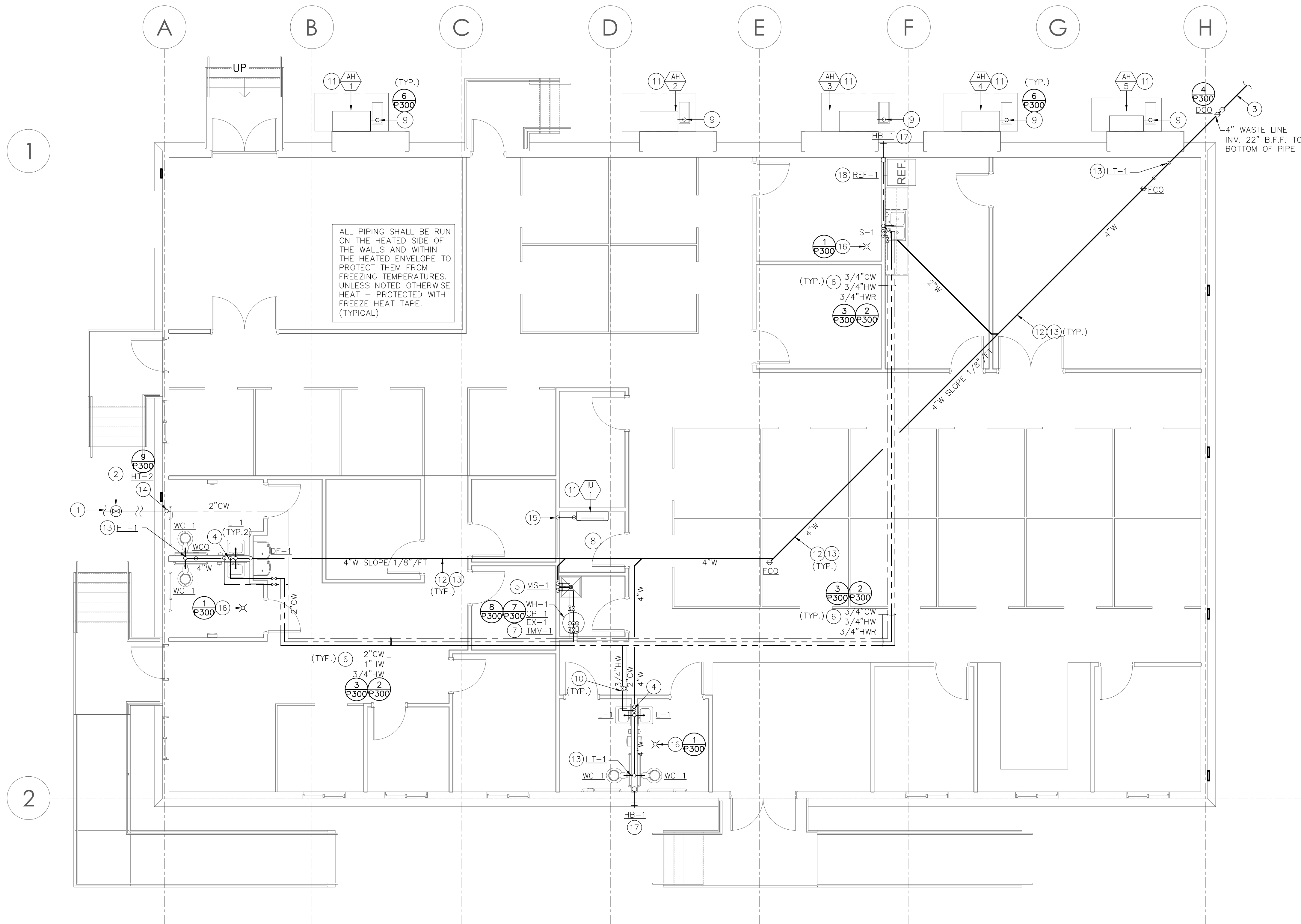
DATE: 07-21-2017

JOB No: 1641A

SHEET:

P100

**APPLIED  
ENGINEERING**  
2800 S. RURAL RD. SUITE 101  
TEMPE, AZ 85282 (480)968 3070  
JOB NUMBER 17-045



- PLUMBING KEYED NOTES:** (X)
- 2" SUPPLY LINE TO BUILDING PER NTUA STANDARDS. REFER TO CIVIL DRAWINGS FOR WATER METER, BACKFLOW PREVENTER, AND WATER SUPPLY LINE LOCATIONS, SIZES, AND CONNECTIONS. REFER NTUA STANDARD DETAILS FOR REQUIREMENTS.
  - FULLPORT SHUT-OFF VALVE IN TRAFFIC VALVE BOX. INSTALL WATER SUPPLY LINE AND LOCATE VALVE BELOW FROST DEPTH LINE.
  - 4" SANITARY WASTE MAIN. SEE CIVIL DRAWINGS FOR WASTE LINE CONTINUATION.
  - DROP 1-1/2"CW AND 3/4"HW LINES DOWN IN WALL AND ROUTE 1-1/2"CW AND 3/4"HW HEADERS IN PLUMBING WALL TO PLUMBING FIXTURES. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL.
  - DROP 3/4"CW/HW LINES DOWN IN WALL TO MOP SINK. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL.
  - WATER LINES SHALL BE ROUTED IN CEILING SPACE.
  - PROVIDE WATER HEATER WITH STAND, PAN, AND PAN DRAIN PER PLUMBING SCHEDULE. ROUTE T&P DOWN IN WALL AND TERMINATE OUTSIDE 6" A.F.F.
  - DO NOT INSTALL WATER, SANITARY VENT, AND CONDENSATE DRAIN LINES OVER ELECTRICAL ROOM OR IDF ROOMS. (TYPICAL)
  - ROUTE 3/4"CD LINE DOWN ON WALL AND TERMINATE AT 6" A.F.F.. PROVIDE CONDENSATE DRAIN LINE TERMINATION WITH SPLASH BLOCK.
  - LOCATE S.O.V'S IN ACCESSIBLE LOCATIONS. COORDINATE FINAL LOCATION OF ACCESS PANEL WITH ARCHITECT PRIOR TO INSTALLING. (TYPICAL ALL)
  - MECHANICAL EQUIPMENT - REFER TO MECHANICAL PLAN FOR FINAL LOCATION.
  - WASTE LINE TO BE ROUTED IN CRAWL SPACE.
  - ALL EXPOSED WASTE PIPES IN CRAWL SPACE SHALL BE PROTECTED WITH CLOSED CELL BLACK RUBITEX INSULATION AND HEAT TAPE. INSULATION SHALL BE PROVIDED WITH OUTDOOR RATED CABLE TIES EVERY 3'. PROVIDE (3) HEAT TAPE SYSTEMS WITH THERMOSTATIC CONTROLLERS. THE ELECTRICAL CONTRACTOR TO PROVIDE (3) J-BOXES IN THE CRAWL SPACE. REFER TO PLANS FOR LOCATIONS.
  - EXPOSED OUTDOORS WATER SUPPLY RISER SHALL BE PROTECTED WITH INSULATION, HEAT TAPE AND ALUMINUM JACKET.
  - ROUTE 3/4"CD LINE DOWN IN WALL AND TERMINATE AT MOP SINK WITH 3" AIR GAP ABOVE RIM.
  - FIELD LOCATE 3" VENT 10' MIN AWAY FROM ANY AIR IN TAKE.
  - DROP 3/4"CW LINES DOWN IN WALL TO HOSE BIBB. PROVIDE S.O.V ABOVE CEILING WITH ACCESS PANEL. LOCATE WASTE LINE DROP WITHIN THE HEATED ENVELOPE.
  - STUB 1/2"CW LINE TO REFRIGERATOR VALVE BOX.

**HRSA PLUMBING FLOOR PLAN**

3/16" = 1'-0"

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2800 S. RURAL RD., SUITE 101  
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**PLUMBING FLOOR PLAN**

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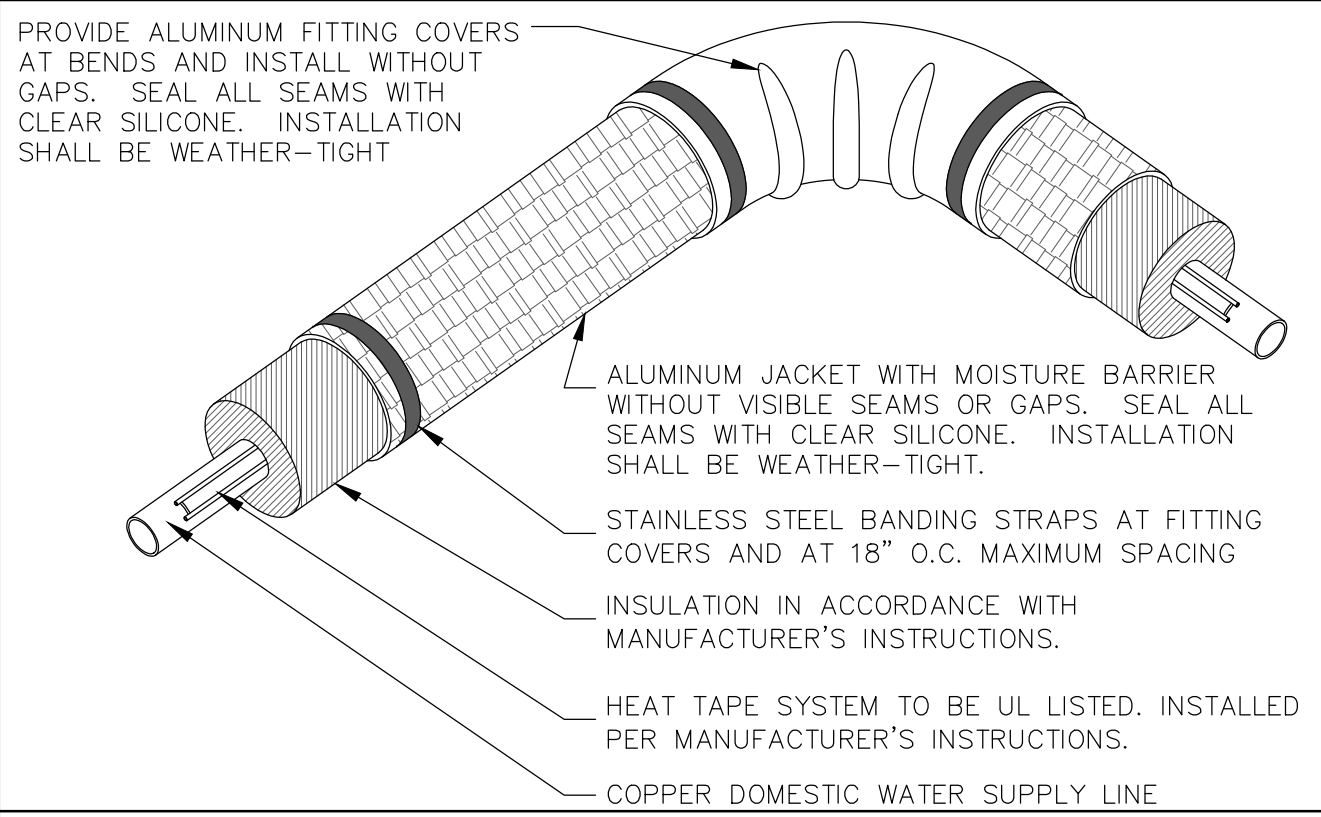
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DATE: 07-21-2017

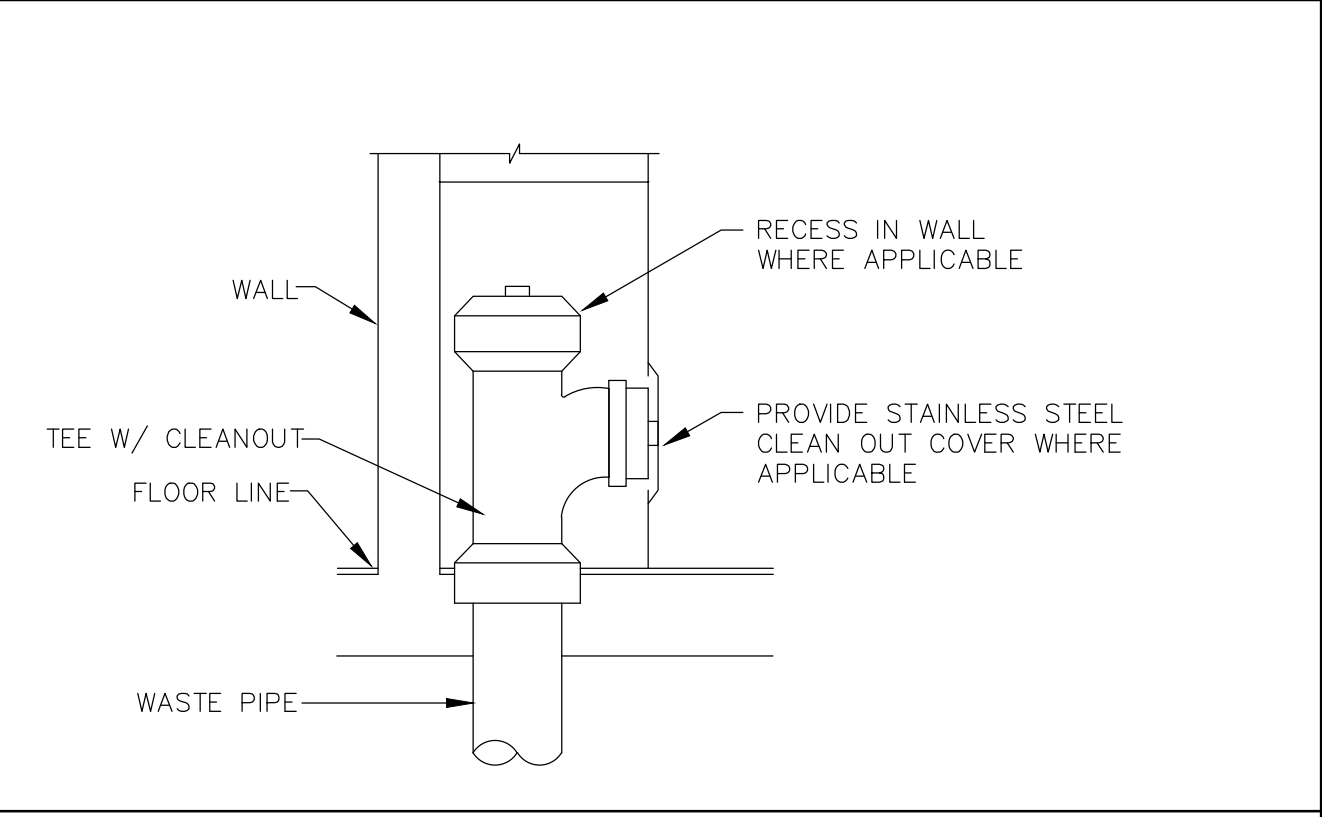
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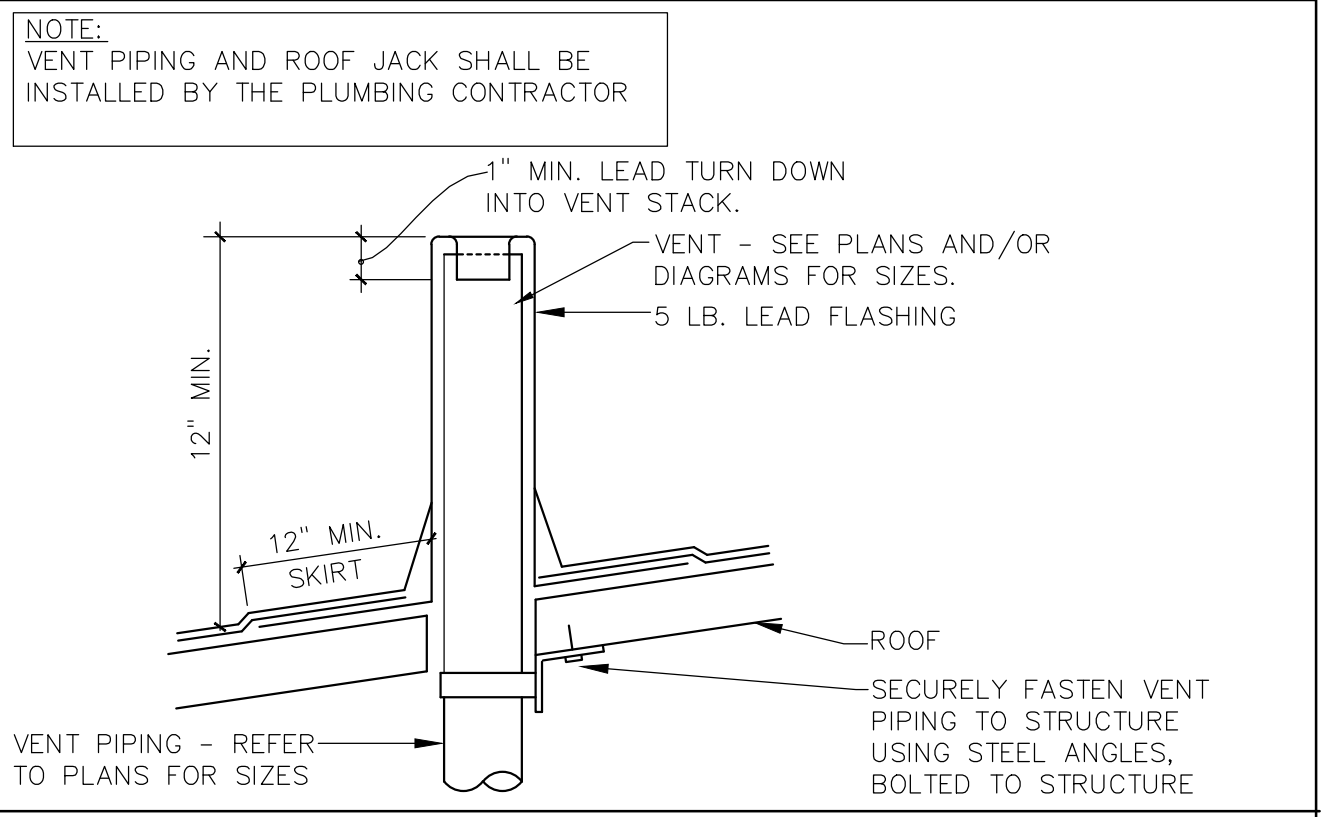
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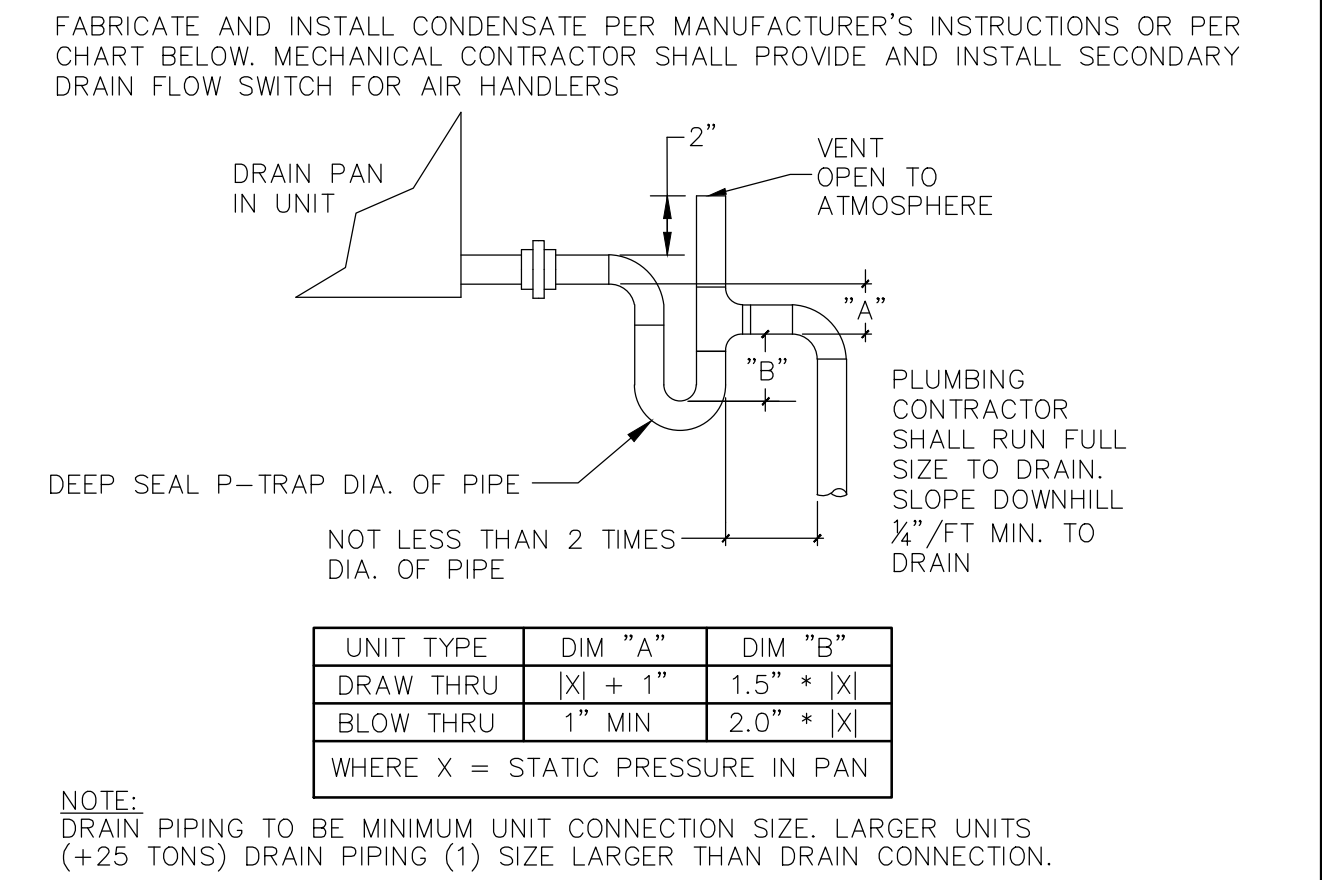
9 P300 EXTERIOR INSULATED DOMESTIC WATER SCALE N.T.S.



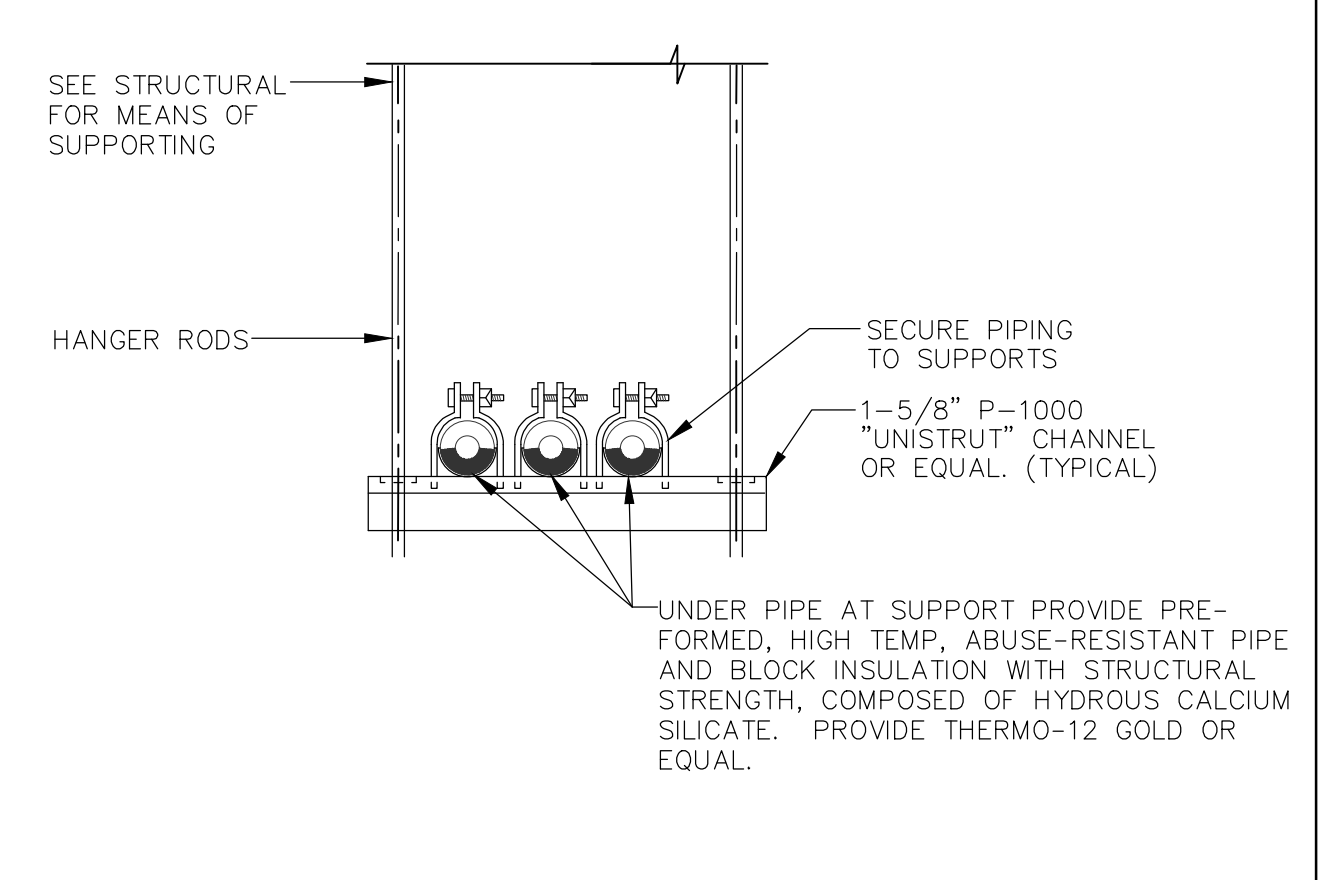
5 P300 WALL CLEAN-OUT DETAIL SCALE N.T.S.



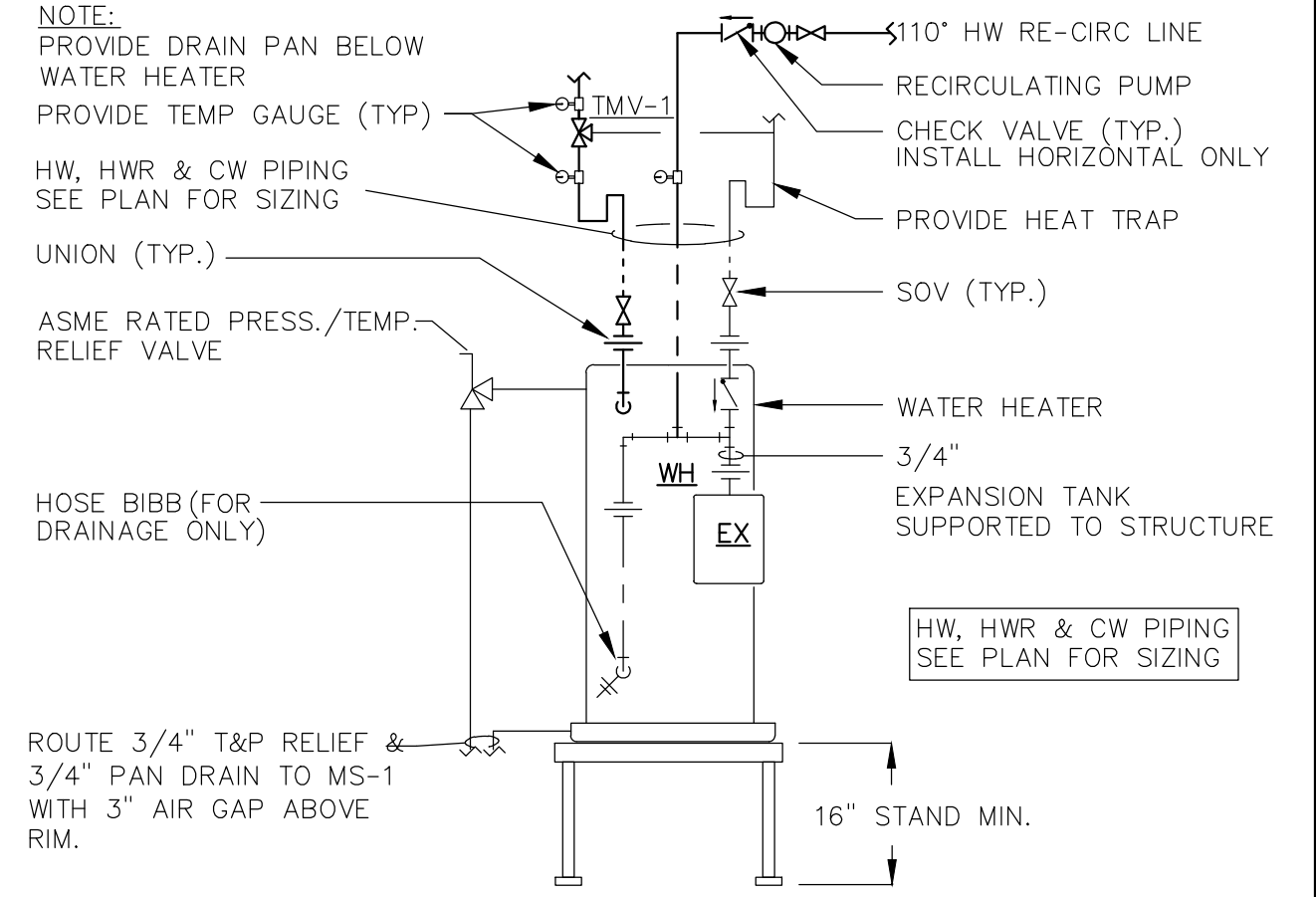
1 P300 VENT THRU ROOF DETAIL SCALE N.T.S.



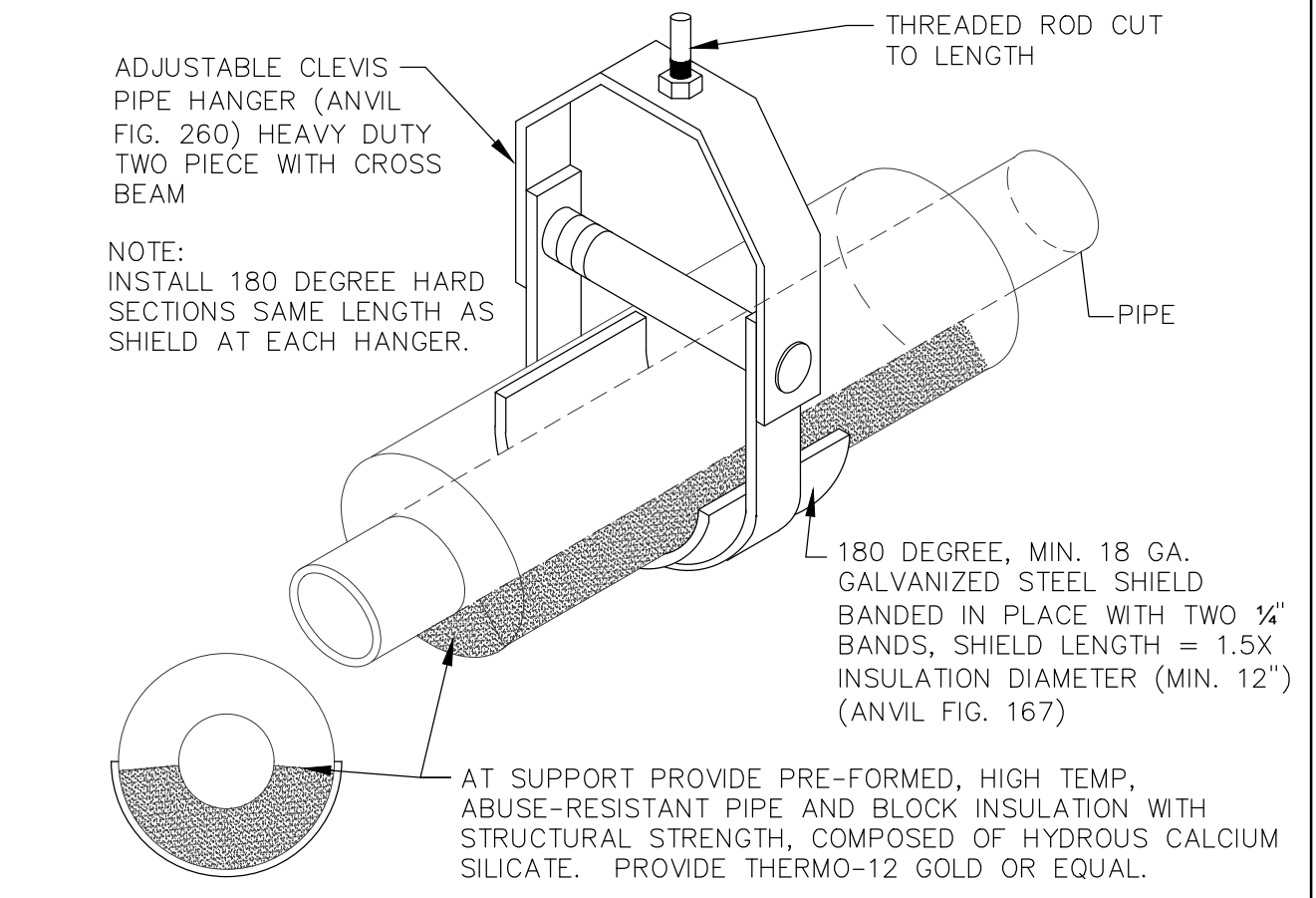
6 P300 UNIT CONDENSATE DRAIN SIDE P-TRAP SCALE N.T.S.



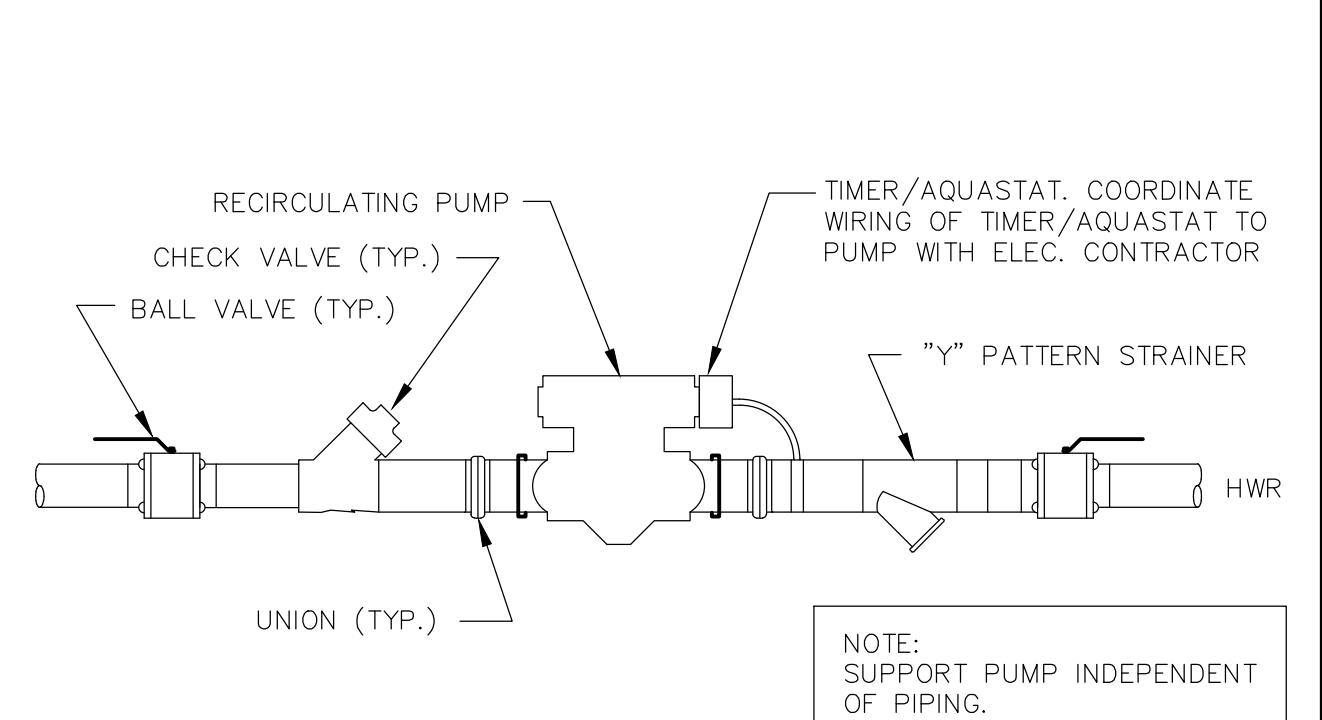
2 P300 MULTIPLE PIPE SUPPORT (2 OR MORE) SCALE N.T.S.



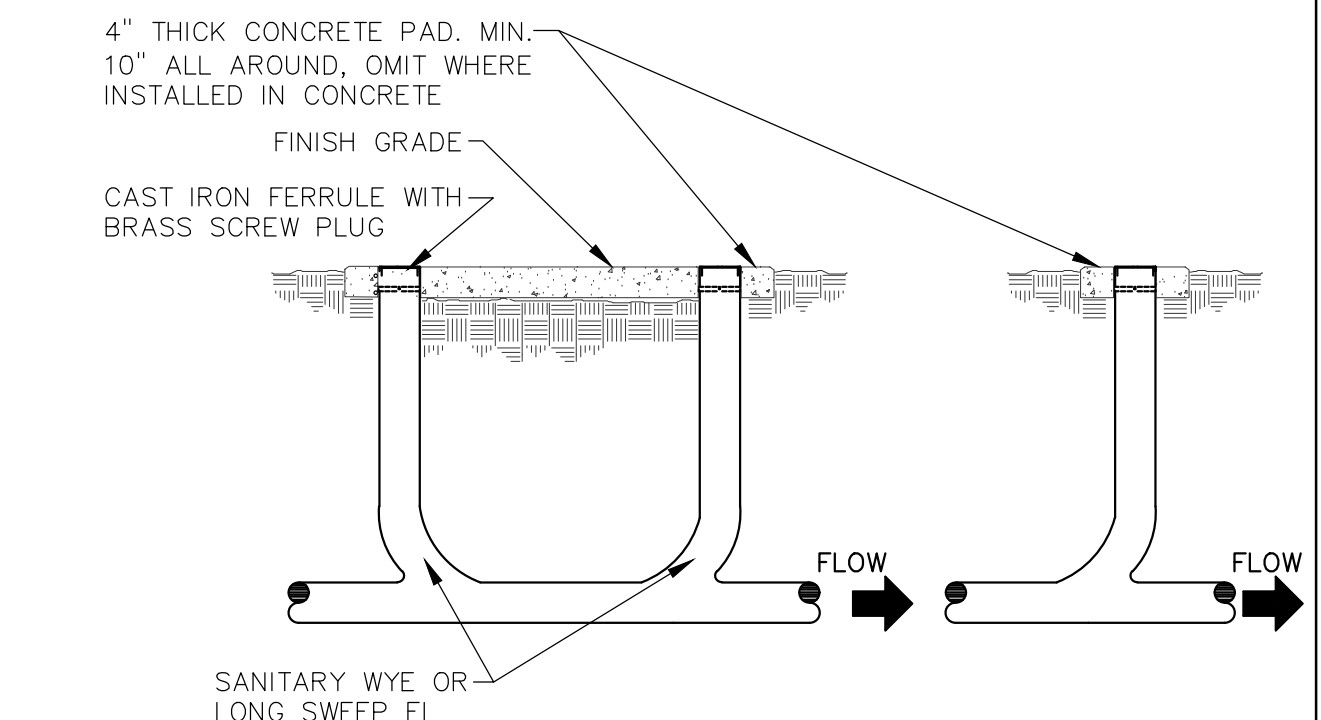
7 P300 WATER HEATER DETAIL SCALE N.T.S.



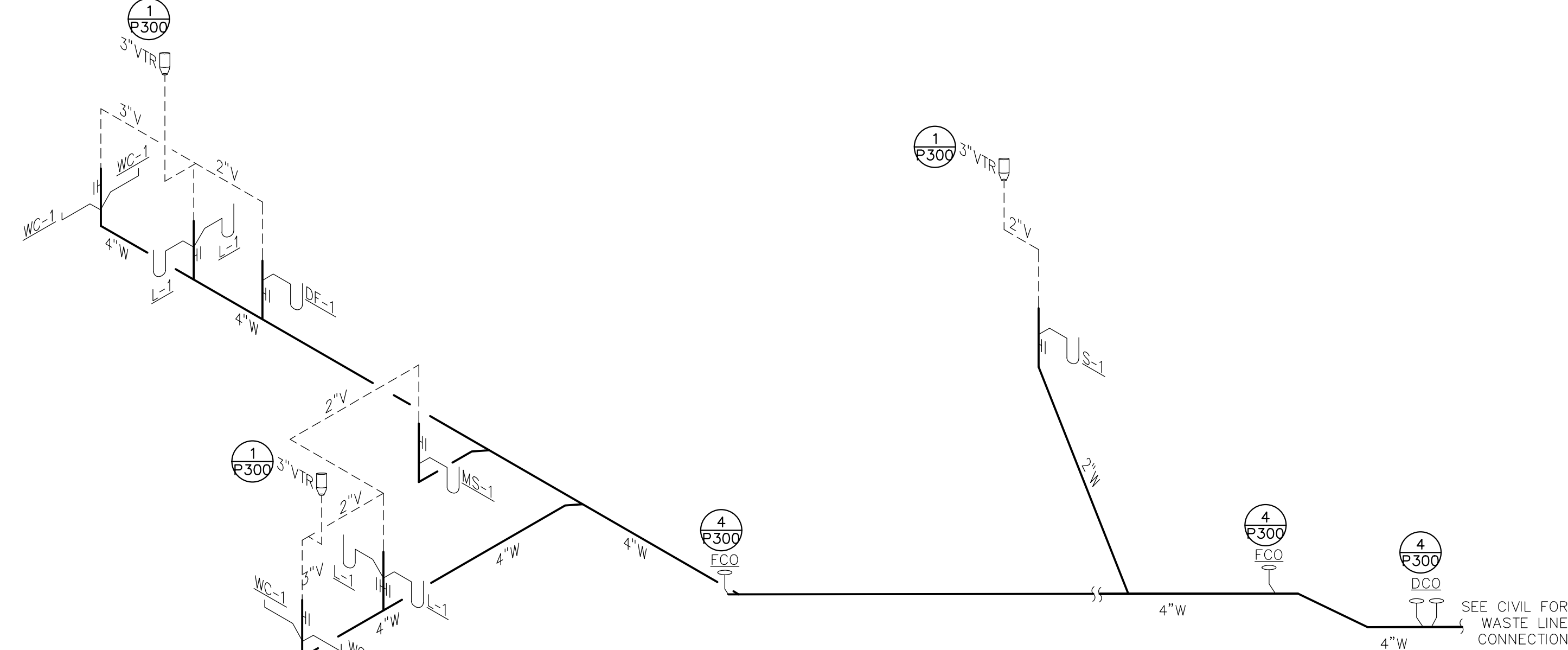
3 P300 INSULATED SUPPORT PIPE DETAIL SCALE N.T.S.



8 P300 RECIRCULATING PUMP DETAIL SCALE N.T.S.



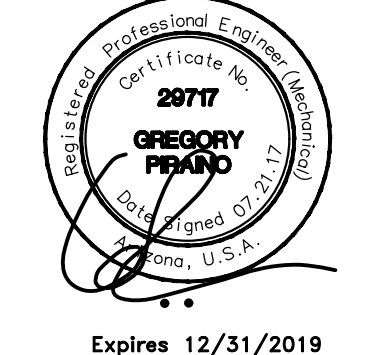
4 P300 SURFACE CLEANOUTS SCO/DCO SCALE N.T.S.



WASTE & VENT SCHEMATIC N.T.S.

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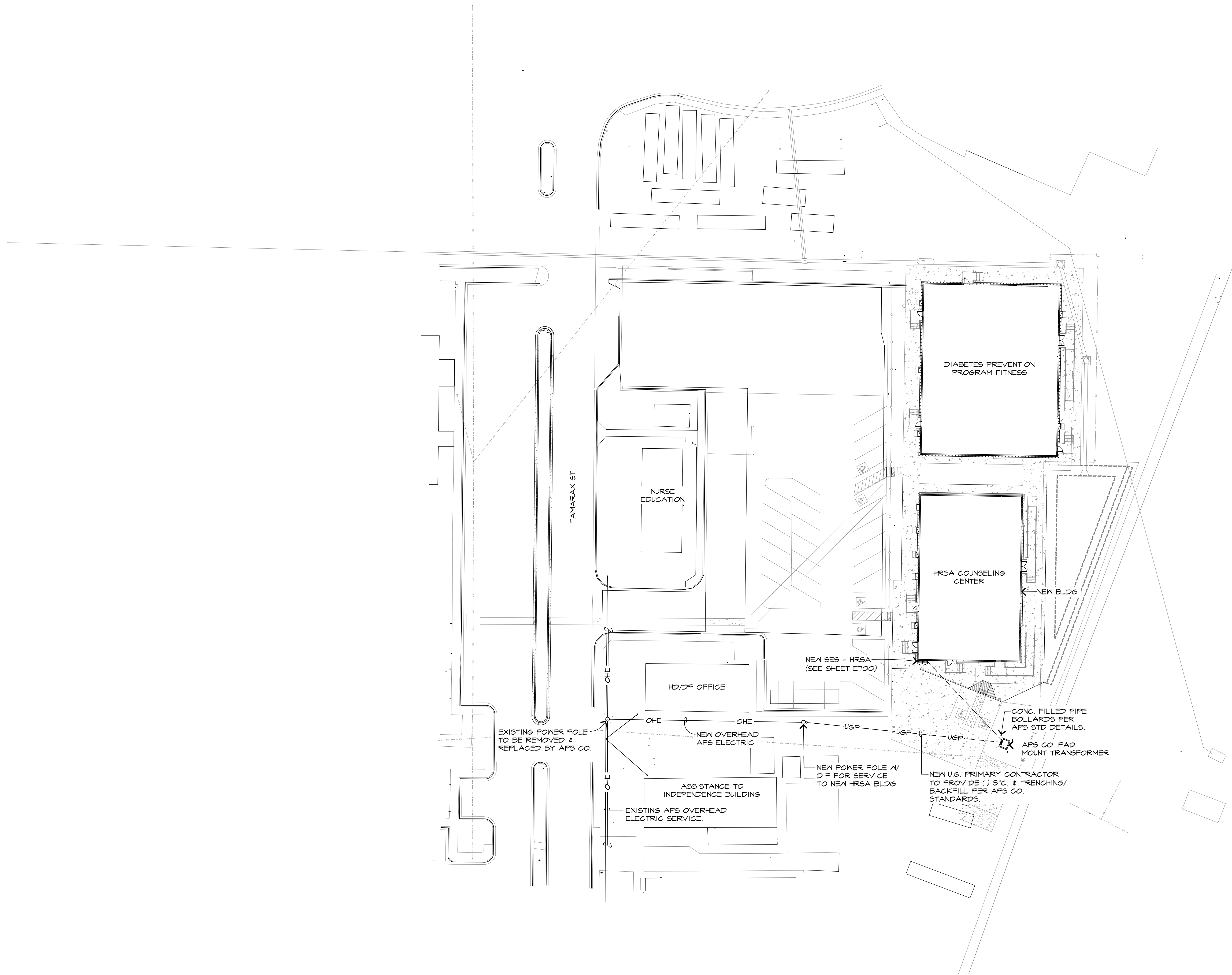


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DATE: 07-21-2017

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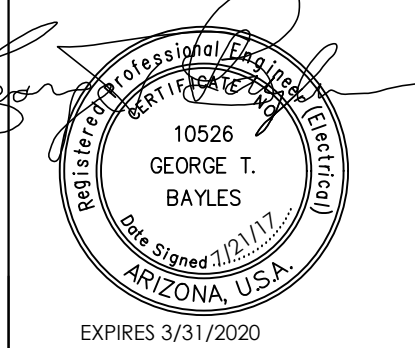
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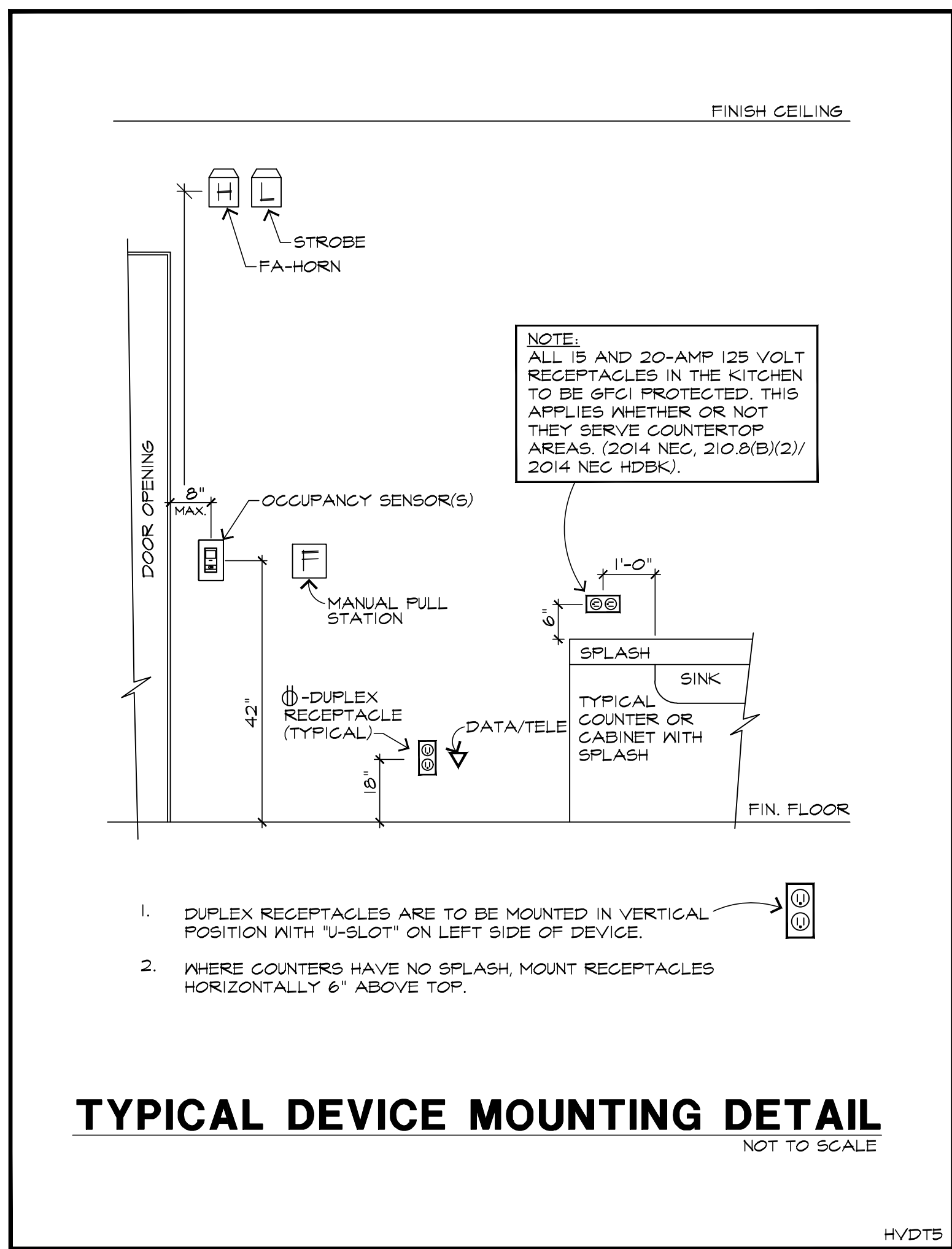


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- A. ALL DUPLEX RECEPTACLES MOUNTED IN COMMON WALLS SHALL BE OFFSET, DO NOT MOUNT ANY RECEPTACLES, ETC. BACK TO BACK.
- B. RECEPTACLES SHALL NOT BE MOUNTED BEHIND OR IN ANY TACKBOARD, CABINET, ETC. OR BEHIND MECH. OR PLUMBING EQUIPMENT.
- C. ALL DEVICES e.g. SMOKE DETECTORS, CEILING SPEAKERS, ETC. MOUNTED ON LAY-IN CEILINGS TO BE CENTERED IN TILE.
- D. AT COMPLETION OF ELECTRICAL INSTALLATION, PROVIDE OWNER WITH ACCURATE AS-BUILT DRAWINGS INDICATING ALL VARIATIONS FROM CONTRACT DRAWINGS AND A LETTER TO THE OWNER'S REPRESENTATIVE STATING PROJECT FULLY COMPLIES WITH ALL CONTRACT DOCUMENTS AND IF NOT, HOW INSTALLATION WAS ACCOMPLISHED, ALL CHANGES SHALL BE SUBJECT TO OWNER'S REPRESENTATIVE'S APPROVAL.
- E. THIS CONTRACT IS TO INCLUDE ALL CONTINGENCIES WHICH MAY ARISE AND WHICH MAY BE REQUIRED, NO ADDITIONAL COMPENSATION MAY BE PERMITTED FOR FAILURE TO FULLY ASCERTAIN ASPECTS OF THIS PROJECT.

	FLUORESCENT LIGHTING FIXTURE (LETTER INDICATES TYPE)
	CEILING OUTLET (LETTER INDICATES FIXTURE TYPE)
	WALL OUTLET (LETTER INDICATES FIXTURE TYPE)
	J-BOX (JUNCTION BOX)
	EMERGENCY EXIT LIGHT (WALL OR CEILING MOUNT)
	CEILING MOUNTED EXHAUST FAN (DIRECT CONNECT)
	DUPLEX CONVENIENCE RECEPTACLE
	DUPLEX RECEPTACLE W/ $\frac{1}{4}$ " LOCKABLE COVER WITH $\frac{1}{4}$ " SHACKLE FOR PAD LOCK BY OWNER.
	SPECIAL OUTLET (PROVIDE OUTLET, ASSEMBLE AND MAKE ALL FINAL CONNECTIONS AS REQUIRED)
	WALL DATA/TELEPHONE OUTLET (MOUNT $\pm 8"$ AFF)
	T-STAT (THERMOSTAT OUTLET) FURNISHED BY MECHANICAL
	MOTOR OUTLET (CONNECT AS REQUIRED)
	MAGNETIC STARTER AS NOTED ON PLANS (FURNISHED BY ELECTRICAL)
	MAGNETIC STARTER (CONTROLS ETC. FURNISHED WITH EQUIPMENT, MAKE ALL CONNECTIONS AS REQUIRED)
	DISCONNECT SWITCH AS NOTED ON PLANS (FURNISHED BY ELECTRICAL)
	INDICATES CIRCUIT CONTROLLED BY PHOTOCELL (SLATER PS-4A OR EQUAL TORK, MOUNT ABOVE ROOF AND ADJUST PER OWNER REQUIREMENTS).
	PANEL (REFER TO PANEL SCHEDULES)
	NON-FUSIBLE DISC. SWITCH
	FUSIBLE DISCONNECT SWITCH
	C/B (CIRCUIT BREAKER)
	CIRCUIT RUN IN CEILING OR WALL
	CIRCUIT RUN IN OR UNDER FLOOR
	CIRCUIT RUN TO PANEL OR AS NOTED
	DENOTES CONDUCTORS (NEUTRAL, CIRCUIT, TRAVELERS & SWITCH LEG)
	GROUND CONDUCTOR (EXTEND & CONNECT TO APPROVED GROUND)
	TMB (TELEPHONE MTG. BOARD) WITH DUPLEX RECEPTACLE & #6(CU) GROUND PER TEL. CO. REQUIREMENTS
	TOGGLE SWITCHES (SINGLE POLE AND THREE WAY)
	MANUAL MOTOR STARTERS (SINGLE POLE) WITH THERMAL O.L. SIZED AS REQUIRED.
	CONTROL WIRING AS REQUIRED ( $\frac{1}{2}$ "C. MINIMUM)
	FURNISHED BY OTHERS (THE ELECTRICAL CONTRACTOR SHALL INSTALL & PROVIDE ELECTRICAL SERVICE TO THE ITEM AND CONNECT AS SHOWN OR AS REQUIRED).
	HORSE POWER
	WEATHERPROOF
	TIMESWITCH (TORK #T200Z TIMESWITCH) MOUNT ADJACENT PANEL AVOIDING CONFLICT W/ O.H. CONDUIT RUNS
	INDICATES LIGHTING LOAD COMPUTED AT 125% DEMAND
	INDICATES C/B LOCK-OFF DEVICE, LOCKED IN "ON" POSITION
	LINE VOLTAGE VACANCY SENSOR (WALL MOUNT)
	<ul style="list-style-type: none"> <li>• WAX FDT 5A WALL MOUNTED POLE</li> <li>• SPDOM W/ - SINGLE POLE</li> <li>• PASSIVE DUAL TECHNOLOGY</li> <li>• LINE VOLTAGE - SINGLE GANG BOX REQUIRED</li> </ul>



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REVIEWED BY: HAV3  
DRAWN BY: GTB

10526  
GEORGE T.  
BAYLES  
Date signed 7/21/17  
ARIZONA, U.S.A.

EXPIRES 3/31/2020

DATE: 7/21/17

JOB No: 1641A

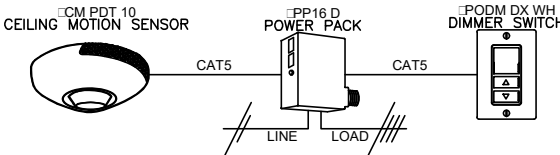
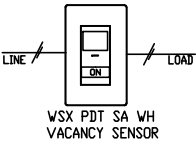
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CONNECTIONS			
SYMBOL	DESCRIPTION	CONNECTION	DETAIL
(2)	LIGHT	RM PDT 10	LIGHT RECESSED MOUNT DUAL TECH MOTION SENSOR
D (2) PC	LIGHT	RM PDT 10	LIGHT RECESSED MOUNT DUAL TECH MOTION SENSOR - DIMMING PHOTOCELL
(2)	LIGHT	WSX PDT SA WH	SENSOR SWITCH LINE VOLTAGE WALL SWITCH DUAL TECH VACANCY SENSOR
(DP)	LIGHT	PP16 DS	LIGHT DIMMING PACK 0-10V
(GW)	LIGHT	POD GFX	LIGHT GRAPHIC WALLPOD

RESTROOMS  
JANITOR  
OFFICES, STORAGE  
CONFERENCE, COPY

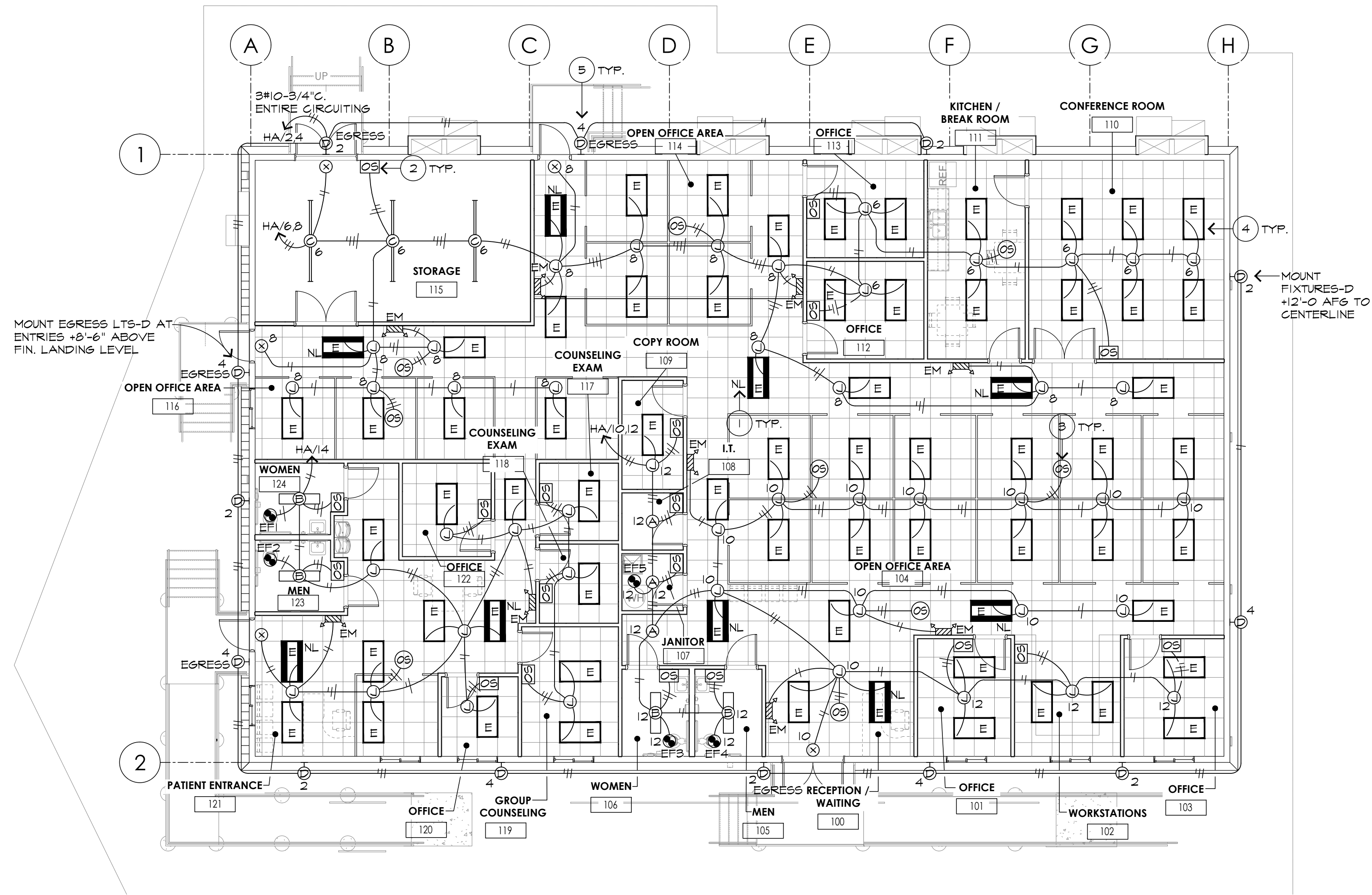
COUNSELING / EXAMS  
OPEN OFFICES  
ENTRANCES



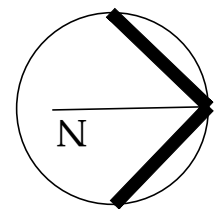
LIGHTING FIXTURE SCHEDULE								
MK	MTG	MANUF.	CATALOG NO.	NO. LAMPS	REMARKS	DEPTH	VOLTS	
A	R	LITHONIA	LDN6 35/10 L6BAR LD MVOLT EZIO	3500K LED	LED DOWNLIGHT	-	MVOLT	
B	S	LITHONIA	STL4-30L-EZI-LP835	3500K LED	1' X 4' WRAPAROUND	-	MVOLT	
C	S	LITHONIA	T2LIN-L92-6000LM-FST-MVOLT-40K-80CRI	3000K LED	8'-0" STRIPS	-	MVOLT	
D	WB	LITHONIA	CSXW-LED-30G-1000-40K-T4M-MVLOT-DDBXD	3000K LED	LED WALL LIGHT	-	MVOLT	
E	R	LITHONIA	2BLT4 40L ADP MVOLT EZI LP835	3500K LED	2' X 4' LED GRID TROFFER	2 3/8"	MVOLT	
EGRESS	WB	LITHONIA	CSXW-LED-30G-1000-40K-T4M-MVLOT-DDBXD	3000K LED	LED WALL LIGHT W/ EM BATTERY	-	MVOLT	
X	UNI	LITHONIA	ECBRLEDM6	FURN. W/ FIXTURE	EM EXIT LT COMBO	-	MVOLT	
EM	WB	SURE-LITES	SELN-25-WH		EM BATTERY PACK	-	MVOLT	

### FIXTURE SCHEDULE NOTES

- SUBMIT TO ENGINEER FOR REVIEW & APPROVAL ANY & ALL PROPOSED SUBSTITUTIONS OF EQUIPMENT SPECIFIED FOR THIS PROJECT. MANUFACTURERS SPECIFIED ARE TO ESTABLISH LEVEL OF QUALITY, DESIGN, MATERIALS, DIMENSION, ETC. IT IS RESPONSIBILITY OF CONTRACTOR & SUPPLIER(S) TO PROVIDE EQUAL PRODUCT TO THAT SPECIFIED. PER SPECIFICATIONS 10 DAY PRIOR APPROVAL REQUIRED ON ALL SUBSTITUTIONS. THE FOLLOWING MANUFACTURERS ARE APPROVED TO BID ON FIXTURES SPECIFIED ABOVE (LITHONIA, COLUMBIA & COOPER LGS).
- PROVIDE AND INSTALL BODINE OR EQUAL EMERGENCY BALLASTS IN ALL EM LTS & EXIT LTS NOTED ON PLAN. CONNECT TO UNSWITCHED "HOT" CIRCUIT OF THE SAME AREA IN WHICH IT IS LOCATED (MINIMUM 90 MINUTE OPERATION).
- CONTRACTOR SHALL VERIFY LIGHT FIXTURE TYPES PRIOR TO INSTALLATION AND COMPLY AS REQUIRED.



1 ELECTRICAL LIGHTING PLAN  
SCALE: 1/8" = 1'-0"



### LIGHTING KEYNOTES

- NL FIXTURE - "E" SHALL HAVE LAMPS CONNECTED TO AN UNSWITCHED "HOT" CIRCUIT OF THE SAME AREA IN WHICH IT IS LOCATED.
- REFER TO SHEET E200 FOR TYPICAL DEVICE MOUNTING DETAIL.
- COORDINATE ALL SENSOR DEVICES & CONTROLS WITH MANUFACTURER. PROVIDE ALL WIRING, ETC. AS REQUIRED FOR COMPLETE AUTO & MANUAL CONTROL.
- AT ALL LT. FIXTURES-"E" WHIP INDICATES 2#12 & 1#12 (BOND) IN 1/2" FLEX CONDUIT DOWN TO EACH LT. FIXTURE.
- AT ALL EGRESS FIXTURES "D" PROVIDE REMOTE EMERGENCY BATTERY PACK. MOUNT BATTERY IN ACCESSIBLE CEILING SPACE DIRECTLY BEHIND FIXTURE.

**SPS+ ARCHITECTS**

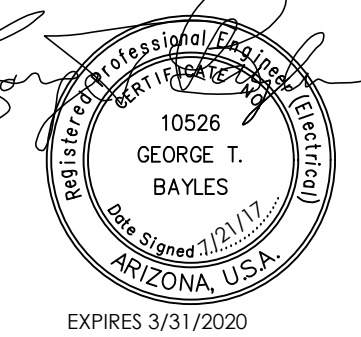
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HRSA COUNSELING CENTER  
TUBA CITY REGIONAL HEALTH CARE CORPORATION  
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ELECTRICAL LIGHTING PLAN

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E300



ELECTRICAL DESIGN CONSULTANTS, INC.  
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MESA, ARIZONA 85204  
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EDC Project #: 2017-41B

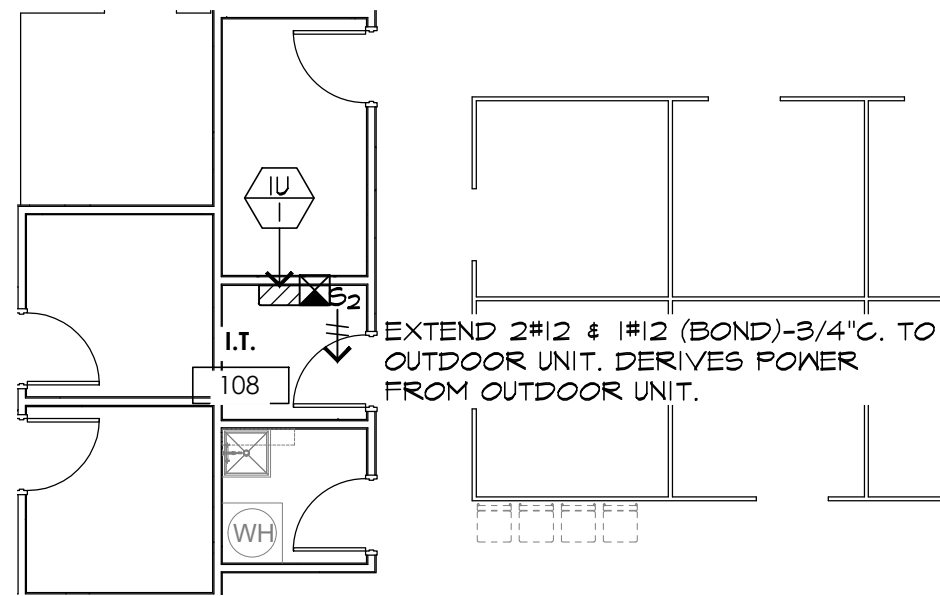
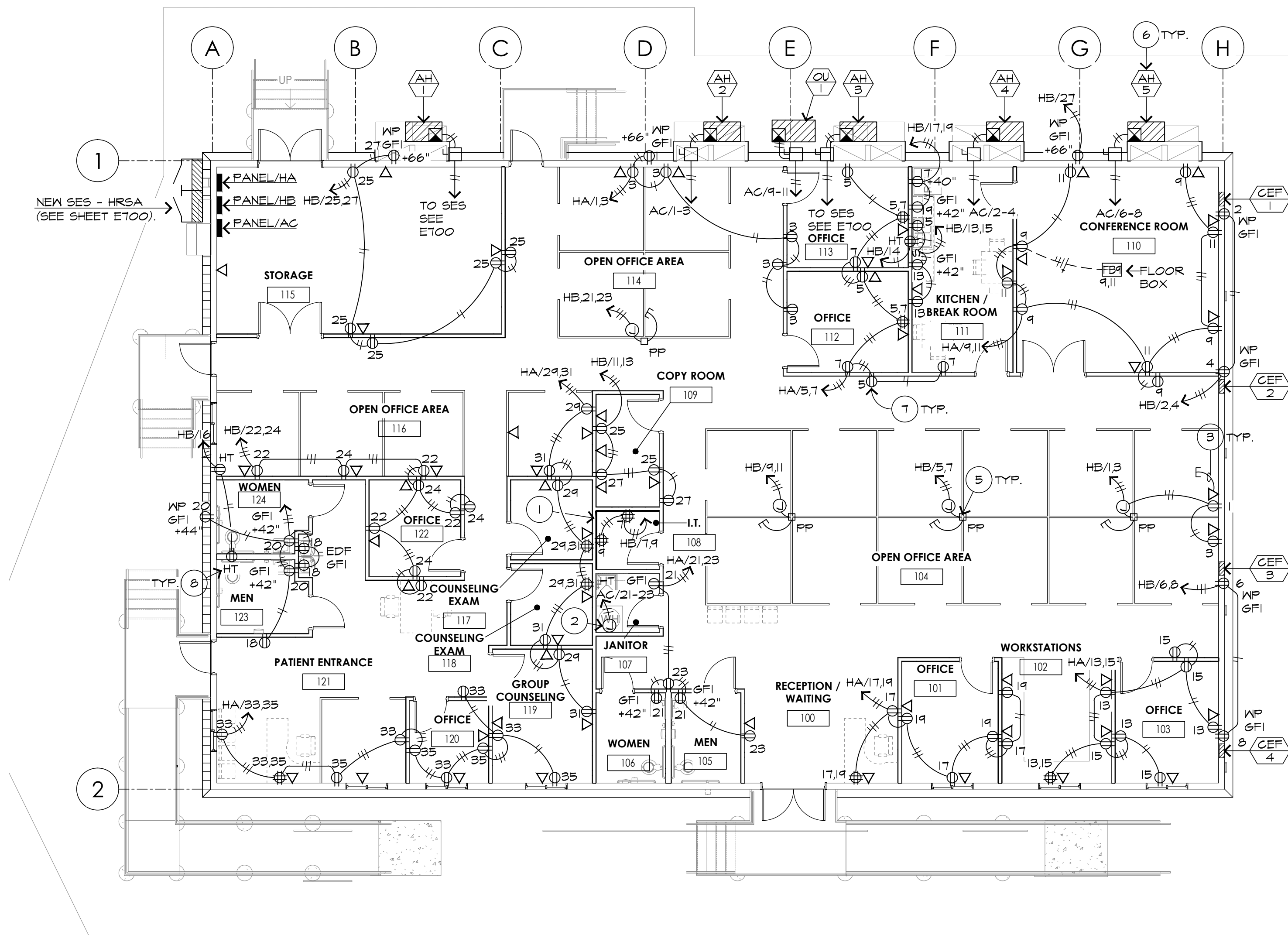
MECHANICAL EQUIPMENT SCHEDULE

MK	KW	LOAD/ea.	VOLTS-Ø	DISCONNECTING MEANS DISC. SWITCH W/ LPN-RK FUSES	(CU) FEEDERS/CONDUIT
WALL MTD A/C UNIT W/ ELECT. HEAT					
13	20	114.0MCA 125.0MOCP	230-1	WP, NF 200/2 (SEE E100)	2#1/0 & 1#6 (BOND) - 1 1/4"C.
24	10	61.0MCA 70.0MOCP	230-1	WP, 100/2 W/ (2) 10A	2#4 & 1#8 (BOND) - 1"C.
5	8	47.0MCA 50.0MOCP	230-1	WP, 60/2 W/ (2) 50A	2#6 & 1#8 (BOND) - 3/4"C.
SPLIT SYSTEM INDOOR/OUTDOOR UNIT					
12	-	13.0MCA 20.0MOCP	230-1	WP, 30/2 W/ (2) 20A	2#10 & 1#10 (BOND) - 3/4"C.

INDOOR UNIT DERIVES POWER SUPPLY FROM OUTDOOR UNIT.

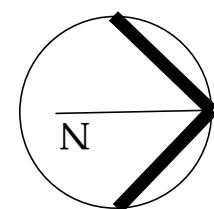
POWER KEYNOTES

- PROVIDE & INSTALL 4" X 8" X 3/4" FIRE TREATED TYPE PLYWOOD ON WEST & SOUTH WALLS OF I.T. ROOM 108. RECEPTACLES SHOWN SHALL BE EXTENDED THRU PLYWOOD, PAINT BOARD TO MATCH COLOR OF WALL.
- WATER HEATER - 4.5KW, 240V, 1Ø, PROVIDE 3Ø/2P DISCONNECT SWITCH WITH (2) LPN-RK 25A FUSES. EXTEND & MAKE ALL FINAL CONNECTIONS TO HEATER.
- AT ALL DATA/TELE OUTLETS PROVIDE MUD RING WITH PULLWIRE INTO ACCESSIBLE CEILING SPACE.
- J-BOX FOR CONNECTION OF TRAP PRIMER, 120V, 1Ø, VERIFY LOCATIONS WITH PLUMBING.
- PROVIDE & INSTALL DUAL SERVICE POWER POLE (FP) WIREMOLD #5RFP-25DTG-4AGT (8'-0") WITH ADAPTERS OPENINGS AS REQUIRED TO POWER SYSTEMS FURNITURE. VERIFY & COORDINATE CONNECTIONS ETC. W/ EQUIP. USED, EXTEND & MAKE ALL FINAL CONNECTIONS TO FURNITURE FULLY.
- REFER TO MECHANICAL EQUIPMENT SCHEDULE ON THIS SHEET FOR LOADS, DESCRIPTION, ETC.
- REFER TO SHEET E200 FOR TYPICAL DEVICE MOUNTING DETAIL.
- (HT) RECEPTACLE IN CRAWL SPACE FOR HEAT TAPE FURNISHED FOR PIPING (REFER TO PLUMBING NOTES ON SHEET P100 FOR ADDITIONAL INFO).



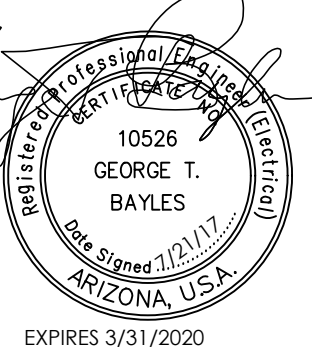
1 ELECTRICAL POWER PLAN

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



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ELECTRICAL POWER PLAN

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FIRE ALARM SYMBOLS			
SYMBOL	DESCRIPTION	BOX REQUIRED	MOUNTING HEIGHT
[FACP]	FIRE ALARM CONTROL PANEL	SPECIAL BACKBOX	66" TO TOP
[SNAC]	SUPPLEMENTARY NOTIFICATION APPLIANCE CIRCUIT	SPECIAL BACKBOX	66" TO TOP
[FAAP]	KEYPAD DISPLAY	SPECIAL BACKBOX	60" TO TOP
[FAJB]	32 PT. TERMINAL CABINET	SPECIAL BACKBOX	66" TO TOP
[S]	SMOKE DETECTOR	4/S DEEP W/3" OCTAGON MUD RING	VERIFY WITH ARCHITECT
[H]	HEAT DETECTOR	4/S DEEP W/3" OCTAGON MUD RING	VERIFY WITH ARCHITECT
	SMOKE/HEAT BASE		
[D]	DUCT SMOKE DETECTOR	SPECIAL BACKBOX	ON DUCT WORK BEFORE BRANCH
[F]	MANUAL PULL STATION	4" SQUARE 1 GANG MUD RING	48" ABOVE FINISHED FLOOR
[Z] <sup>2F</sup>	CLASS "B" MONITOR MODULE	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
[Z] <sup>3I</sup>	CLASS "B" DUAL MONITOR MODULE	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
[Z] <sup>4F</sup>	CLASS "A" MONITOR MODULE	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
[MMI-10]	MULTI-MODE 10 INPUT MODULE	32 PT TERMINAL CABINET	66" TO TOP
[T]	TAMPER SWITCH	4" SQUARE DEEP BOX	ADIACENT TO FLOW
[W]	FLOW SWITCH	4" SQUARE DEEP BOX	ADIACENT TO TAMPER
[R]	ANALOG OUTPUT MODULE (RELAY)	4" SQUARE DEEP BOX	WITHIN 4' OF MONITORED DEVICE
[MMO-6]	MULTI-MODE 6 OUTPUT MODULE	32 PT TERMINAL CABINET	66" TO TOP
[S]	ANALOG OUTPUT MODULE (SIGNAL)	4" SQUARE DEEP BOX	ADIACENT TO SNAC
[X]	RELAY	4" SQUARE DEEP BOX	ADIACENT TO 120V SWITCH LEG
[T]	EDWARDS TRANSFORMER	4" SQUARE DEEP BOX	ADIACENT TO 120V SWITCH LEG
[RTS]	REMOTE TEST STATION	4" SQUARE 1 GANG MUD RING	IN PLAIN SITE CLOSE TO DUCT DETECTOR
[M]	SYNCHRONIZATION MODULE	SUPPLIED	PER PRINT
[H]	WALL MOUNT HORN STROBE	4" SQUARE 2 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
[L] <sup>J</sup>	WALL MOUNT STROBE	4" SQUARE 2 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
[H] <sup>C</sup>	CEILING HORN STROBE	4/S DEEP W/3" OCTAGON MUD RING	MOUNT ON CEILING
[L] <sup>C</sup>	CEILING STROBE	4/S DEEP W/3" OCTAGON MUD RING	MOUNT ON CEILING
[H] <sup>M</sup>	MINI HORN	4" SQUARE 1 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
[H]	OUTSIDE HORN	4" SQUARE 1 GANG MUD RING	80"-96" AFF (VERIFY WITH ARCHITECT)
[I]	ISOLATION MODULE	4" SQUARE DEEP BOX	PER PRINT
[H] <sup>OP</sup>	WEATHERPROOF HORN STROBE ENCLOSURE	NONE	PER PRINT
[H] <sup>NO</sup>	WIREGUARD HORN STROBE DAMAGE STOPPER	NONE	PER PRINT
[F] <sup>IC</sup>	TAMPER COVER FOR MANUAL PULL STATION	NONE	PER PRINT
[FSD]	FIRE SMOKE DAMPER PER MECHANICAL PLANS	-	-

ALL SYMBOLS MAY NOT BE USED FOR THIS PROJECT. REFER TO PLANS FOR DEVICE LOCATIONS, ETC. CONTRACTOR IS RESPONSIBLE FOR ALL QUANTITIES, ETC. EVEN IF NOT SHOWN ON PLANS FOR A COMPLETE FULLY APPROVED AND OPERATIONAL FA SYSTEM.

FIRE ALARM NOTES

- ALL DEVICES USING PHYSICAL CONDUCTORS SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXITING AND RETURNING ARE ROUTED SEPARATELY. THE OUTGOING AND RETURN CONDUCTORS SHALL NOT BE RUN IN THE SAME CABLE ASSEMBLY, ENCLOSURE, OR RACEWAY. ALL OUTGOING AND RETURN CONDUCTORS MUST BE SEPARATED A MINIMUM OF 6 FEET.
- ALL CONDUCTORS FOR FIRE ALARM SHALL BE MIN. 16ga (CU).
- 1 EA. 16-2 FPLR CABLE SHALL BE EXTENDED THROUGHOUT THE FACILITY IN A CLASS "A" LOOP FOR EACH SLC CIRCUIT. 1 EA. 12-2 FPLR CABLE SHALL BE EXTENDED TO EACH NAC CIRCUIT IN A CLASS "A" LOOP.
- ALL F/A DEVICES e.g. (HORNS, PULL STATIONS, DETECTORS, ETC.) SHALL BE RIGIDLY AND SECURE FASTENED TO WALLS OR CEILINGS.
- NO SMOKE DETECTOR SHALL BE LOCATED CLOSER THAN 36" TO ANY AIR REGISTER OR DIFFUSER.
- NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 18" TO ANY AIR REGISTER OR DIFFUSER.
- NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 36" TO ANY PART OF ANY HEAT GENERATING DEVICE IN MECHANICAL ROOMS SUCH AS FLUES, BOILERS, WATER HEATERS, ETC.
- NO HEAT DETECTOR SHALL BE LOCATED CLOSER THAN 12" TO ANY PART OF ANY LIGHT FIXTURE.
- ALL FIRE ALARM DEVICES TO COMPLY FULLY WITH ALL A.D.A. REQUIREMENTS.
- ALL ROUTING IS A CLOSE INTERPRETATION OF FINAL DESIGN. NEC & NFPA REQUIREMENTS SHALL BE ADHERED TO AT ALL TIMES.

SCOPE OF WORK

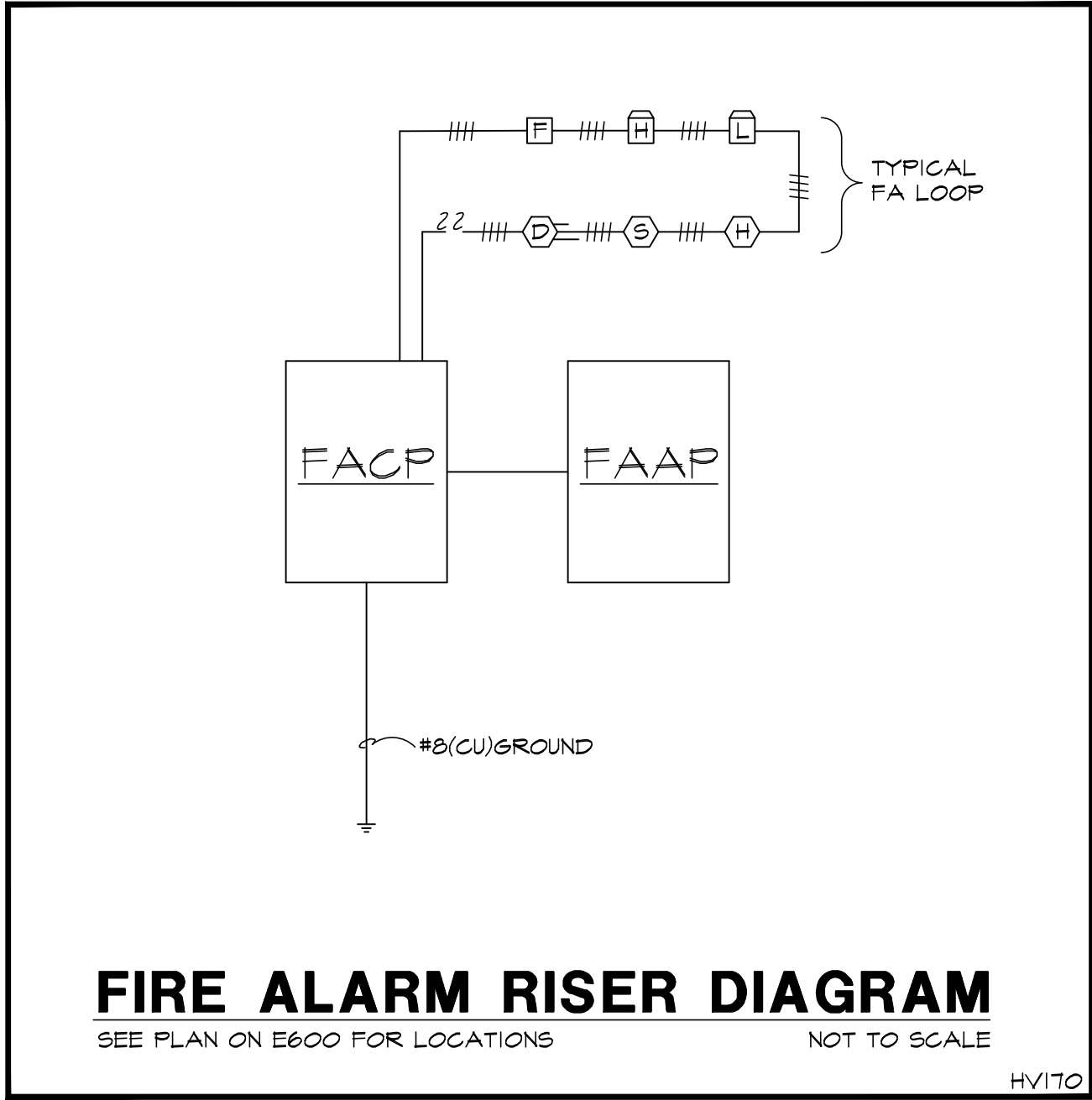
FIRE ALARM CONTRACTOR SHALL PROVIDE ALL THE FOLLOWING MINIMUM ITEMS FOR A FULLY OPERATIONAL NFPA APPROVED FIRE ALARM SYSTEM TO INCLUDE THE FOLLOWING:  
BATTERY CALCS, ETC.  
ENGINEERED DRAWINGS  
SUPPLY WIRE  
INSTALL WIRE  
SUPPLY DEVICES  
TRIM DEVICES  
SUPPLY HEAD-END  
TRIM HEAD-END  
PROGRAM SYSTEM  
TEST SYSTEM  
TRAINING

SEQUENCE OF OPERATION

- THE ACTIVATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS SHALL CAUSE FIRE ALARM OPERATION AS FOLLOWS:
  - AUDIBLE APPLIANCES (HORNS) TO SOUND AT A TEMPORAL PATTERN THROUGHOUT THE FACILITY.
  - VISUAL APPLIANCES (STROBE LIGHTS) TO ACTIVATE THROUGHOUT THE AFFECTED BUILDING OR AREA ONLY.
  - THE VISUAL INDICATION OF THE ALARM INITIATING AREA OF INCIDENCE BY DEVICE TYPE AND LOCATION AT THE FIRE ALARM CONTROL PANEL.
  - ACTIVATION OF AN AUDIBLE SIGNAL AT THE FIRE ALARM CONTROL PANEL AND REMOTE ANNUNCIATION PANELS.
  - SEND A TRIGGER SIGNAL TO THE BUILDING'S ACCESS CONTROL SYSTEM TO UNLOCK ALL CONTROL DOORS FOR FREE EGRESS.
- THE ACTIVATION OF FIRE ALARM SPRINKLER SYSTEM WATER FLOW SWITCHES SHALL CAUSE FIRE ALARM OPERATION AS FOLLOWS:
  - FIRE ALARM OPERATION AS STATED ABOVE IN PARAGRAPH A.
  - WATER FLOW SWITCHES SHALL BE ZONED ON A PER SWITCH BASIS AND BY LOCATION.
- DISPLAY INITIATING DEVICE CIRCUIT TROUBLE CONDITIONS, SINGLE OPENS AND SIGNAL GROUNDS, FOR EACH FIRE ALARM AND SUPERVISORY INITIATING CIRCUIT, AND PROVIDE A COMMON SYSTEM TROUBLE AT THE LOCAL FIRE ALARM CONTROL PANELS AND THE MAIN CONTROL PANEL IN THE FIRE CONTROL ROOM.
- DISPLAY NOTIFICATION APPLIANCE CIRCUIT TROUBLE CONDITIONS, SINGLE OPENS, SHORTS, AND SINGLE GROUNDS, FOR EACH CIRCUIT, AND A COMMON SYSTEM TROUBLE AT THE FIRE ALARM CONTROL PANELS. AND THE MAIN CONTROL PANEL IN THE FIRE CONTROL ROOM.
- THE EFFECTIVE INTENSITY OF ALL NOTIFICATION STROBES SHALL BE A MINIMUM FOR 75 CANDELA PRODUCING AN EQUIVALENT ILLUMINANCE OF 0.03 LUMENS / SQ. FT. AT 50 FEET ON A HORIZONTAL AXIX.
- SYSTEM OPERATION SHALL BE LOW VOLTAGE (24 VOLTS DC) INCLUDING ALL SUPERVISORY AND CONTROL FUNCTIONS.
- UPON LOSS OF 120 VAC OPERATING POWER, THE ENTIRE SYSTEM SHALL OPERATE ON STANDBY BATTERY POWER FOR 24 HOURS IN SUPERVISORY MODE AND THEN BE CAPABLE OF ALARM OPERATION FOR 15 MINUTES.
- THE TRANSFER TO STANDBY POWER SHALL NOT CAUSE A GENERAL ALARM TO BE GENERATED BUT SHALL BE INDICATED AT THE FIRE ALARM PANEL AND THE REMOTE ANNUNCIATOR AS SYSTEM AND BATTERY TROUBLE.
- AUDIBLE AND VISUAL EVACUATION SIGNALS SHALL MEET THE REQUIREMENTS AND RECOMMENDATIONS OF NFPA-72 AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- UPON DETECTION OF SMOKE IN THE ELEVATOR SHAFT OR LOBBY, A PRESSURIZATION FAN WILL BE ACTIVATED. SEE SHEET XXXX-XX FOR ALL ELEVATOR OPERATIONS.

FIRE ALARM CABLE SCHEDULE

A	16-02 UNSHIELDED (RED) FPLR - FIRE ALARM DATA CIRCUIT
B	12-02 UNSHIELDED THHN - FIRE ALARM NAC CIRCUIT
C	16-02 UNSHIELDED (RED) FPLR HYDROSEAL - UNDERGROUND

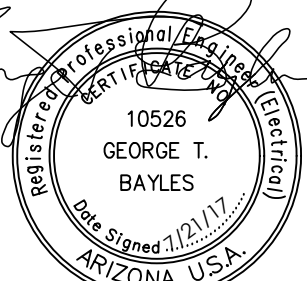


FIRE ALARM RISER DIAGRAM  
SEE PLAN ON E600 FOR LOCATIONS NOT TO SCALE

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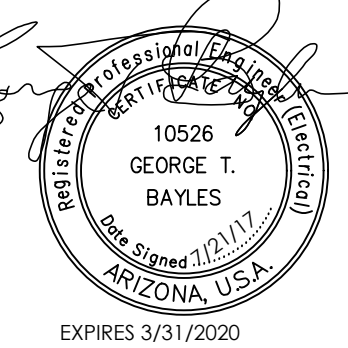


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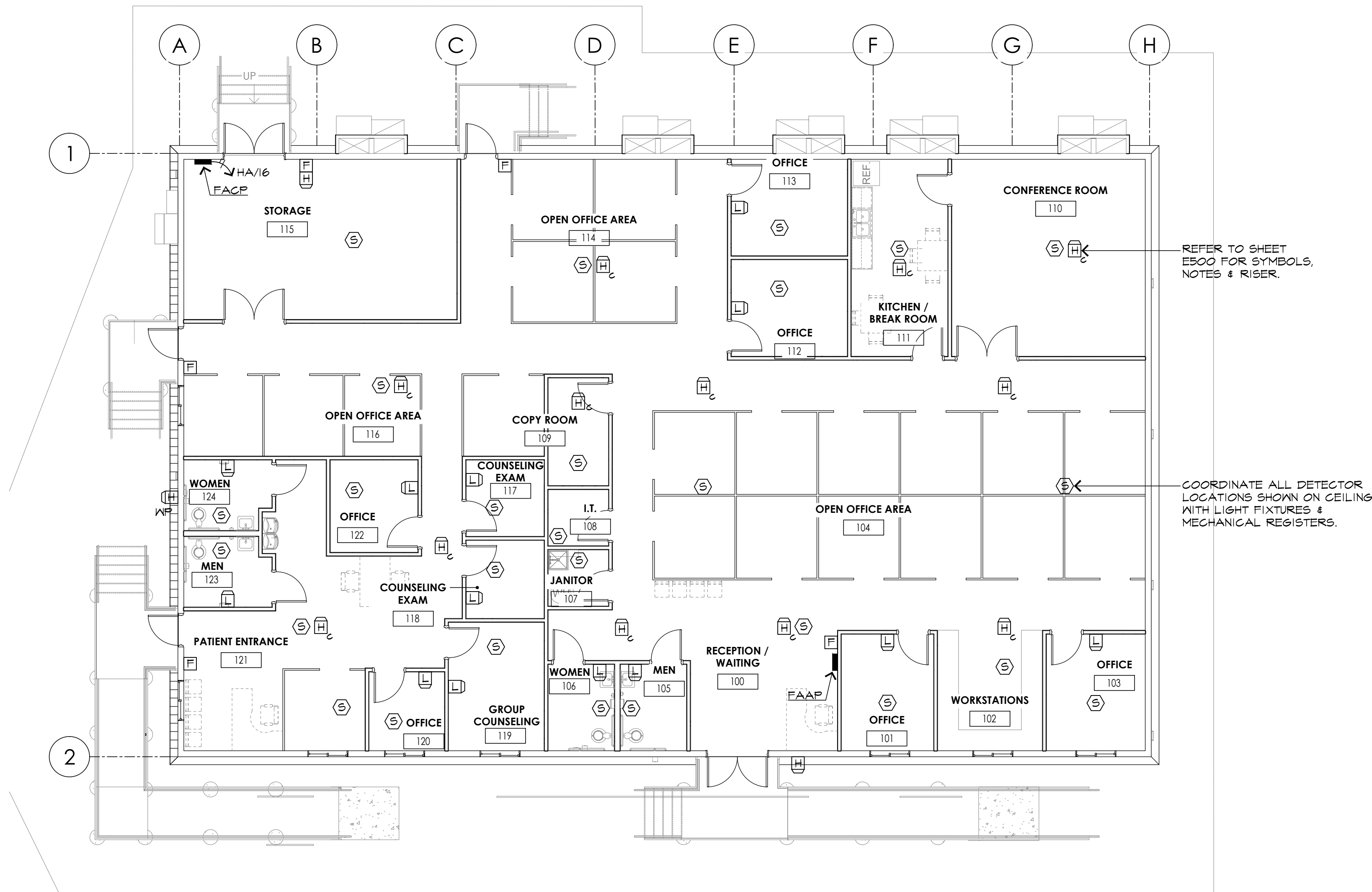


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E600



1 FIRE ALARM FLOOR PLAN  
SCALE: 1/8" = 1'-0"

TYPE : EATON PANELBOARD (FULLY RATED 65K) STORAGE RM 115									
VOLTAGE : 120/240V, 1Ø, 3W									
AMPERES: 400A MAINS : MLO									
LUGS : BOTTOM MOUNTING; SURFACE									
HEIGHT : 24" WIDTH: 20" DEPTH: 5 3/4"									
FEEDERS/CONDUIT: (2 SETS) 3#2/Ø & 1#6 (BOND) THIN (CU) - 2" C. (PARALLEL FEEDERS)									
PANEL/ AC									
CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION		
⊖ (AH 2) AIR HANDLER - 2	70	1	70/15		2	70	(AH 4) AIR HANDLER - 4		
	2	3		70/15	4	2			
SPARE	20	5	-		6	50	(AH 5) AIR HANDLER - 5		
SPARE	20	7	-		8	2			
SPARE	20	9	-		10	20	SPARE		
SPACE		11			12		SPACE		
		13			14				
		15			16				
		17			18				
		19			20				
WATER HTR	25	21	2250		22				
2#10 & 1#10 (BOND) - 3/4" C.	2	23		2250	24				
TOTAL VOLT-AMPS			21685	21685			X2= 43,370VA-240V= 180.7A		

⊕ INDICATES C/B LOCK-OFF DEVICE, LOCKED IN "ON" POSITION.

⊖ INDICATES HACR TYPE CIRCUIT BREAKER FOR HVAC EQUIPMENT.

\* INDICATES LIGHTING LOAD & LARGEST MOTOR LOAD COMPUTED AT 125% DEMAND.

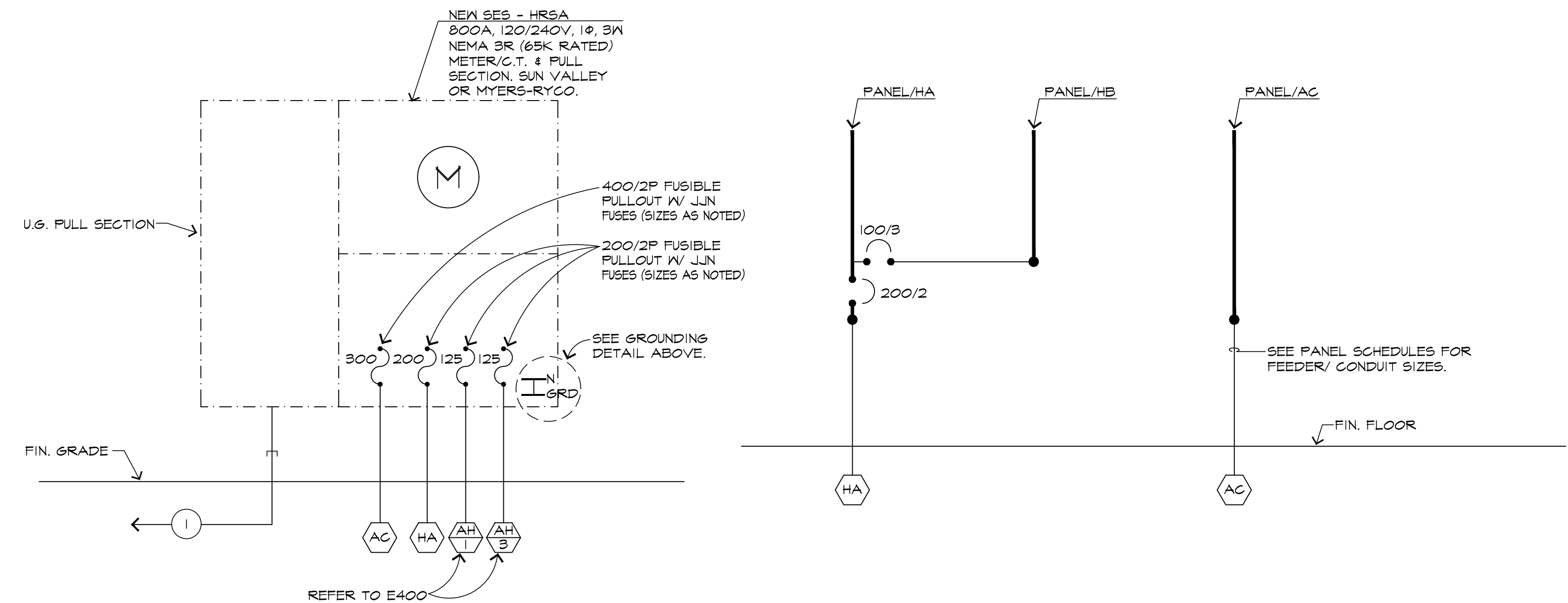
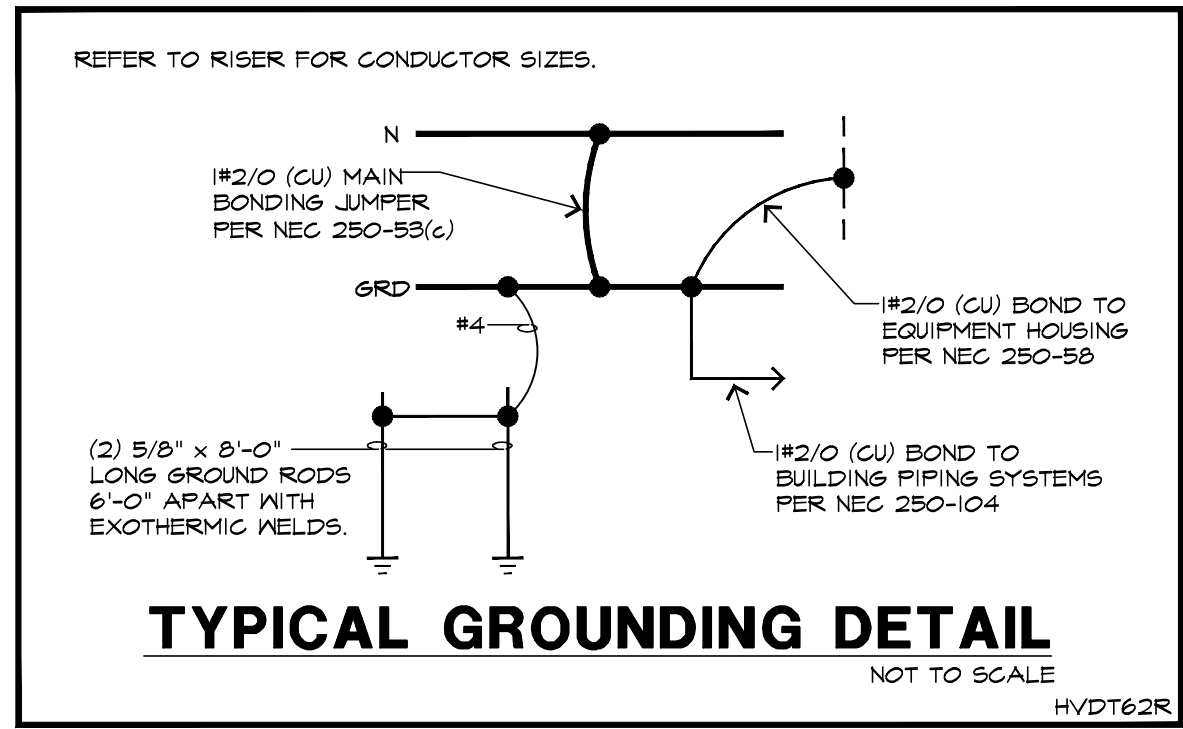
T/S INDICATES TORK OR INTERMATIC ASTRONOMIC TIMESWITCH (SEE SYMBOL LEGEND ON E200).

PANEL NOTES:

- EVERY CIRCUIT & CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT & SPECIFIC PURPOSE OR USE TO COMPLY W/ NEC 408.4. THE IDENTIFICATION SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. THIS ARTICLE REQUIRES THAT EACH CIRCUITS IDENTIFICATION SHOWN WITHIN THE PANELBOARD(S). THE CONTRACTOR SHALL ETCH OR PERMANENTLY MARK THE COVERPLATES OF RECEP TAGLES AND THE JUNCTION BOXES OF LUMINAIRES AND EQUIPMENT WITH THE CIRCUIT'S IDENTIFICATION (STICK-ON LABELS ARE NOT ACCEPTABLE). IT WOULD ALSO BE ACCEPTABLE TO TAG EACH CIRCUIT CONDUCTOR AT EACH JUNCTION BOX, OUTLET, SWITCH, ETC. WITH THE CIRCUIT'S IDENTIFICATION.
- DISCONNECT SHALL BE PROVIDED FOR ALL MULTIWIRED BRANCH CIRCUIT HOMERUNS PER NEC 210.4.
- THE UNGROUNDED AND GROUNDED CONDUCTORS OF EACH MULTIWIRED BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES OR SIMILAR MEANS IN AT LEAST ONE LOCATION WITHIN THE PANELBOARD OR OTHER POINT OF ORIGINATION PER NEC 210.4 (D).
- PAINT SERVICE EQUIPMENT ON EXTERIOR OF BUILDING TO MATCH BUILDING COLORS (REFER TO ARCH. COLOR SCHEMES).

TYPE : EATON PANELBOARD (SERIES RATED 65/10K) STORAGE RM 115									
VOLTAGE : 120/240V, 1Ø, 3W									
AMPERES: 225A MAINS : 200/2 C/B									
LUGS : BOTTOM MOUNTING; SURFACE									
HEIGHT : 35" WIDTH: 20" DEPTH: 5 3/4"									
FEEDERS/CONDUIT: 3#4/Ø & 1#2 (BOND) THIN (CU) - 2" C.									
PANEL/ HA									
CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION		
RECEPT (EXTERIOR)	20	1	360		2	20	EXTERIOR LTG		
RECEPTS (OFFICES)	2	3		540	4	2	EXTERIOR LTG		
RECEPTS (OFFICES 112, 113)	20	5	900		6	20	LTG (OFF, BREAK, CONF, STOR)		
RECEPTS (OFFICES 112, 113)	2	7		900	8	2	LTG (OPEN OFFICE, HALL)		
RECEPTS (CONFERENCE 110)	20	9	900		10	20	LTG (OPEN OFFICE/104, WAIT)		
RECEPTS (CONFERENCE 110)	2	11		1080	12	2	LTG (OFFICES, TLTS, COPY)		
RECEPTS (OFFICES 102, 103)	20	13	720		14	20	LTG (OFFICE 112, 120, EXAM)		
RECEPTS (OFFICES 102, 103)	2	15		720	16	20	FACP		
RECEPTS (OFF 101, 102, WAIT)	20	17	720		18	20	SPARE		
RECEPTS (OFF 101, 102, WAIT)	2	19		720	20	20	SPARE		
RECEPTS (TLTS, JANITOR)	20	21	540		22	20	SPARE		
RECEPTS (WAITING)	2	23		360	24		SPACE		
COPIER (COPY 109)	20	25	1500		26				
COPIER (COPY 109)	2	27		1500	28				
RECEPTS (COUNSEL, EXAM)	20	29	900		30				
RECEPTS (COUNSEL, EXAM)	2	31		900	32				
RECEPTS (ENTRY, OFF 119, 120)	20	33	1080		34				
RECEPTS (ENTRY, OFF 119, 120)	2	35		900	36				
SPARE	20	37			38				
PANEL/HB	100	39		8340	40				
	2	41	9100		42				
TOTAL VOLT-AMPS			20470	18660			X2= 40,940VA-240V= 170.6A		

TYPE : EATON PANELBOARD (10000 AIC RATED) STORAGE RM 115									
VOLTAGE : 120/240V, 1Ø, 3W									
AMPERES: 225A MAINS : MLO									
LUGS : BOTTOM MOUNTING; SURFACE									
HEIGHT : 35" WIDTH: 20" DEPTH: 5 3/4"									
FEEDERS/CONDUIT: 3#2 & 1#6 (BOND) - 1 1/2" C.									
PANEL/ HB									
CIRCUIT DESCRIPTION	BKR	clr	ØA	ØB	clr	BKR	CIRCUIT DESCRIPTION		
POWER POLE (OPEN OFFICE)	20	1	900		2	20	CEP CRAWL EXH. FAN - 1		
POWER POLE (OPEN OFFICE)	2	3		900	4	2	CEP CRAWL EXH. FAN - 2		
POWER POLE (OPEN OFFICE)	20	5	900		6	20	CEP CRAWL EXH. FAN - 3		
POWER POLE (OPEN OFFICE)	2	7		900	8	2	CEP CRAWL EXH. FAN - 4		
POWER POLE (OPEN OFFICE)	20	9	900		10	20	SPARE		
POWER POLE (OPEN OFFICE)	2	11		900	12	20	SPARE		
APPLIANCE RECEPT	20	13	1000		14	20	SPARE		
DISPOSAL/DISHWASHER	2	15		1200	16	20	HEAT TAPE GFCI		
REFRIGERATOR	20	17	1500		18	20	EDF RECEPTS		
APPLIANCE RECEPT	2	19		1000	20	2	RECEPTS (TLT, EXTERIOR)		
POWER POLE (OPEN OFF 114)	20	21	900		22	20	RECEPTS (OFFICES 116, 122)		
POWER POLE (OPEN OFF 114)	2	23		900	24	2	RECEPTS (OFFICES 116, 122)		
RECEPTS (STOR, HALL)	20	25	900		26	20	SPARE		
RECEPTS (EXTERIOR)	2	27		360	28		SPACE		
SPACE		29			30				
		31			32				
		33			34				
		35			36				
		37			38				
		39			40				
		41			42				
TOTAL VOLT-AMPS			9100	8340			X2= 18,200VA-240V= 75.8A		



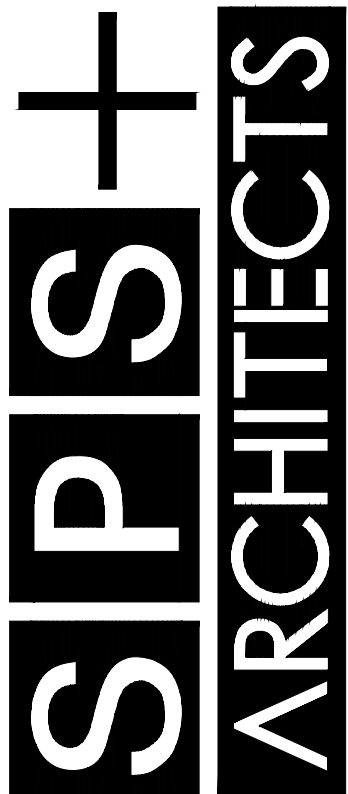
**ELECTRICAL SERVICE RISER DIAGRAM**  
NOT TO SCALE

**NOTES**

- EXTEND (2) 4" C. TO SERVING UTILITY CO. PAD MOUNTED TRANSFORMER FOR CONNECTION OF A COMPLETE UNDERGROUND ELECTRICAL SERVICE. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BASE BID ALL CONTRIBUTION COSTS, TRENCHING/BACKFILL, UTILITY CO'S ENGINEERING FEES, AND ANY ADDITIONAL REQMTS THAT ARE REQUIRED BY THE SERVING UTILITY CO. (MAKE ALL VERIFICATIONS WITH APS PRIOR TO ANY ROUGH-IN AND COMPLY AS REQUIRED).
- ENTIRE SERVICE ENTRANCE SWITCHGEAR ASSEMBLY AND ALL OF ITS COMPONENTS TO BE BRACED TO WITHSTAND 100% OF AVAILABLE FAULT CURRENT (65,000 AMPS) PER APS CO. SHORT CIRCUIT CURRENT TABLES.
- ALL EQUIPMENT TO BE FULLY BUSSED & COPPER, PARTIALLY BUSSED SECTIONS NOT ACCEPTABLE.
- ALL FUSES TO BE BUSSMAN TYPE LPN-RKI (250V) OR SOULD A2D-R (250V).
- REFER TO GENERAL NOTES ON SHEET E200 FOR ADDITIONAL INFORMATION.
- ALL PANEL COVERS TO BE DOOR IN DOOR TYPE WITH WELDED CARD HOLDERS. GLUE ON CARD HOLDERS NOT ACCEPTABLE.

**LOAD CALC'S**

PANEL/HA	170.6A
PANEL/AC	180.7A
AIR HANDLER-1	114.0A
AIR HANDLER-3	114.0A
TOTAL	579.3



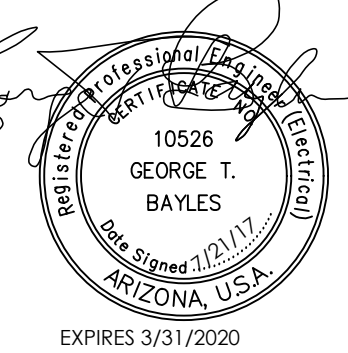
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ELECTRICAL PANELS & RISER

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REVISIONS		
MARK	DATE	DESCRIPTION

REVIEWED BY: HAV3  
DRAWN BY: GTB



DATE: 7/21/17  
JOB No: 1641A  
SHEET:

**E700**



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