RAGAN PARK RESTROOM IMPROVEMENTS

CONSULTANTS

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CONTRACT NUMBER

16-C-00027

ISSUE DATE

OCTOBER , 2016

ARCHITECT

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ABBREVIATIONS

AFF	above finished floor
ADJT	adjustable
A/C	air conditioning
ALT	alternate
AB	anchor bolt
BM	beam
BIT	bituminous
BLKG	blocking
BUR	built up roofing
CIPC	cast-in-place concrete
CLG	ceiling
CT	ceramic tile
CLR	clearance
COL	column
CONC	concrete
CMT	ceramic mosaic tile
CMU	concrete masonry unit
CONT	continuous or continue
CJ	control joint
DP	dampproofing
DL	dead load
DET	detail
DIA	diameter
DIM	dimension
DR	door
DS	downspout
DWG	drawing
DF	drinking fountain
ELEC	electrical
EWC	electrical water cooler
EL	elevation
EQ	equal
EXIST	existing
EJ	expansion joint
EXT	exterior
FFE	finished floor elevation
FF	finished floor line
FLG	flashing
FLR	flooring
FD	floor drain
FTG	footing
FOB	furnished by others
GA	gage, gauge
GALV	galvanized
GC	general contractor
GL	glass, glazing
GB	grab bar
GYPDWL	gypsum dry wall
HH	handhole
HDW	hardware
HT	height
HC	hollow core
HB	hose bibb
INSUL	insulate (d), (ion)
JT	joint
JST	joist
LAV	lavatory
LTL	lintel
MH	manhole
MO	masonry opening
MECH	mechanical
MET	metal
MOD	modular
NOM	nominal
NIC	not in contract
NTS	not to scale
PLAS	plaster
PT	pressure
PVC	polyvinyl chloride
PTC	post-tension concrete
PCF	pounds per cubic feet
PFL	pounds per linesl foot
PSF	pounds per square foot
PSI	pounds per square inch
PCC	precast concrete
PL	property line
RAD	radius
RVT	reinforced vinyl title
REF	reference
RA	return air
RD	roof drain
RFG	roofing
RO	rough opening
SS	service sink
SIM	similar
SC	solid core
SPEC	specification(s)
SQ	square
SS	stainless steel
STL	steel
STR	structural
TBR	to be removed
TEL	telephone
THK	thickness)
TG	tongue & grooves
UNO	unless noted otherwise
VB	vapor barrier
VERT	vertical
VAT	vinyl asbestos title
VB	vinyl base
WC	water closet
WH	water heater
WP	water proofing
WD	wood

ALTERNATES

NONE

SYMBOLS

RESTROOM ACCESSORY

DRAWING NOTE

DOOR NUMBER

ROOM TITLE

DETAIL

DESCRIPTIVE TITLE

ELEVATION

MULTI-ELEVATION

VIEW

SECTION CUT

WINDOW TYPE

ROOM NUMBER

PROJECT NOTES

1 ALL CONSTRUCTION SHALL COMPLY WITH APPLICABLE CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO ALL STATE LAWS, LOCAL ORDINANCES, UTILITY COMPANY STANDARDS, FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, THE STANDARD MECHANICAL CODE, THE STANDARD PLUMBING CODE, THE OCCUPATIONAL SAFETY AND HEALTH ACT, NFPA AND THE CURRENTLY ADOPTED FLORIDA BUILDING CODE.

2 CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE PROJECT SITE AS REQUIRED TO MAINTAIN A SAFE AND ORDERLY WORK ENVIRONMENT.

3 CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO AND DURING CONSTRUCTION.

4 DEMOLITION WORK SHALL NOT BE LIMITED TO THESE DOCUMENTS TO COMPLETE THE PROJECT AS ILLUSTRATED, REMOVE ITEMS NECESSARY TO ALLOW FOR NEW CONSTRUCTION.

5 EXISTING SURFACES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION. THE CONTRACTOR SHALL CLEAN SURFACES AFTER CONSTRUCTION. REPAIR, PAINT AND OR REPLACE AREAS DAMAGED AS A RESULT OF PERFORMANCE OF THE WORK.

6 ALL WORK SHALL BE COORDINATED WITH THE CITY OF TAMPA'S REPRESENTATIVE.

7 THE CONTRACTOR SHALL SECURE ALL AREAS OF CONSTRUCTION AT THE END OF EACH WORKING DAY.

8 ITEMS OR AREAS DAMAGED BY THE CONTRACTOR OR SUBCONTRACTORS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

9 NO ON-SITE WORK SHALL START UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN LOCATED AND PROPERLY IDENTIFIED.

CODE REFERENCES

ALL PROPOSED CONSTRUCTION SHALL COMPLY WITH CURRENTLY ADOPTED CODES, STANDARDS AND ACTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO:

- FLORIDA FIRE PREVENTION CODE, 2014 (5th EDITION)
- FLORIDA BUILDING CODE, 2014 (5th EDITION)
- FLORIDA STATUTE §633, WHICH INCLUDES:
- STATE FIRE MARSHALL'S RULES AND REGULATIONS
- NATIONAL ELECTRICAL CODE, LATEST EDITION
- NFPA® 13, INSTALLATION OF SPRINKLER SYSTEMS, LATEST EDITION
- NFPA® 20, INSTALLATION OF SECONDARY PUMPS, LATEST EDITION
- NFPA® 24, PRIVATE FIRE SERVICE MAINS, LATEST EDITION
- NFPA® 90A, INSTALLATION OF AIR-CONDITIONING AND VENTILATION SYSTEMS, LATEST EDITION

CLASSIFICATION:
- OCCUPANCY: GROUP B, BUSINESS

CONSTRUCTION TYPE:
- TYPE IIB, UNPROTECTED & UNSPRINKLERED

EXIT REQUIREMENTS:
- MINIMUM CORRIDOR WIDTH - 44"
- MAXIMUM TRAVEL DISTANCE - 200 FT.
- COMMON PATH OF TRAVEL - 75 FT.
- DEAD END CORRIDOR - 20 FT.

FIRE RATING/CONSTRUCTION OF:
- INTERIOR BEARING WALLS - NC
- ROOF & ROOF/CEILING - NC
- FLOOR - NC

INTERIOR FINISHES:
- ALL SPACES: CLASS "C" MATERIALS MINIMUM
- FLAME SPREAD: 76 - 200
- SMOKE DEVELOPED: 0 - 450

TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, THESE DOCUMENTS COMPLY WITH CURRENTLY ADOPTED CODES.

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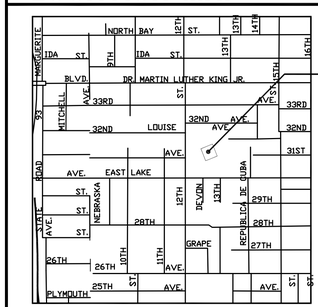
LOCATION MAP



SITE LOCATION

RAGAN PARK RESTROOM
1200 E. LAKE AVENUE
TAMPA, FLORIDA 33605

NORTH

LEGAL DESCRIPTION

SEC 7-T29S-R19E
ATLAS SHEET NO. G-13

SQUARE FOOTAGE

±144 SQ. FT.

SHEET NUMBER
G-1
1 OF 20

PRE-BID SUBMITTAL

THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING TO FAMILIARIZE HIMSELF WITH THE CONDITIONS FOR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN FROM THE CITY A WRITTEN LIST OF ALL PERMITS AND COPIES THEREOF, AND CAREFULLY REVIEW ALL PLANS, SPECIFICATIONS, AND PERMITS PREVIOUSLY SECURED ON BEHALF OF THE CITY. IN CASE OF ANY DISCREPANCY EITHER IN PERMIT DOCUMENTS, PLANS, DRAWINGS, OR SPECIFICATIONS, THE CONTRACTOR MUST PROMPTLY SUBMIT A "WRITTEN CLARIFICATION REQUEST" TO THE OWNER, WHO WILL PROMPTLY FORWARD SAME TO THE ENGINEER WHO WILL MAKE A DETERMINATION IN WRITING. THE CONTRACTOR MUST VERIFY EXISTING FACILITY INFORMATION, AND ALL DESIGN/PERMIT DATA REQUIRED FOR WORK THAT IS TO CONNECT WITH EXISTING FACILITIES. ANY DISCREPANCIES BETWEEN THE CONTRACT REQUIREMENTS AND THE EXISTING CONDITIONS MUST BE REFERRED TO THE CITY, IN WRITING, FOR AN ENGINEERING DETERMINATION. ANY FURTHER ADJUSTMENT DUE TO FAILURE BY THE CONTRACTOR TO IDENTIFY THE RELATED DISCREPANCY, WILL BE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY LICENSES AND ADDITIONAL PERMITS AND FOR COMPLYING WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, CODES, AND REGULATIONS IN CONNECTION WITH THE PERFORMANCE OF THE WORK.

CONSTRUCTION SAFETY AND LIABILITY

THE CONTRACTOR MUST TAKE PROPER SAFETY AND HEALTH PRECAUTIONS TO PROTECT THE WORK, THE WORKERS, THE PUBLIC, AND THE PROPERTY OF OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS DELIVERED AND WORK PERFORMED UNTIL COMPLETION AND ALL ACCEPTANCES HAVE BEEN OBTAINED. THE CONTRACTOR SHALL MAINTAIN TRAFFIC DURING CONSTRUCTION IN ACCORDANCE WITH "THE STATE OF FLORIDA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. " THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO PERSONS OR PROPERTY THAT OCCURS AS A RESULT OF HIS NEGLIGENCE. THE CONTRACTOR MUST SAVE HARMLESS AND INDEMNIFY THE OWNER AND VICKSTROM ENGINEERING SERVICES, INC., ITS OFFICERS, REPRESENTATIVES, AND EMPLOYEES FROM ALL CLAIMS, LOSS, DAMAGE, ACTIONS, CAUSES OF ACTION, AND/OR EXPENSES RESULTING FROM, BROUGHT FOR, OR ON ACCOUNT OF ANY PERSONAL INJURY OR PROPERTY DAMAGE RECEIVED OR SUSTAINED BY ANY PERSONS OR PROPERTY GROWING OUT OF, OCCURRING, OR ATTRIBUTABLE TO ANY WORK PERFORMED UNDER OR RELATED TO THIS CONTRACT, RESULTING IN WHOLE OR IN PART FROM THE NEGLIGENT ACTS OR OMISSIONS OF THE CONTRACTOR, ANY SUBCONTRACTOR, OR ANY EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE CONTRACTOR OR ANY SUBCONTRACTOR.

PRE-CONSTRUCTION

THE CONTRACTOR SHALL SECURE PRIOR TO CONSTRUCTION A PROFESSIONAL LAND SURVEYOR TO PERFORM AN "AS-BUILT" SURVEY OF ALL COMPLETED IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE A SHOP DRAWING SUBMISSION SCHEDULE FOR ALL PROJECT MATERIALS AND COMPONENTS. THE CONTRACTOR SHALL NOT INITIATE CONSTRUCTION OF ANY PORTION OF THE IMPROVEMENTS UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED FOR THAT PORTION BY THE ENGINEER. THE FOLLOWING DOCUMENTS SHALL BE PROVIDED:

1. LIFT STATION INSPECTION (START-UP) REPORT(S) AND EQUIPMENT SHOP DRAWINGS.

THE CITY AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE SUPPORT AND PROTECTION OF SEWERS, DRAINS, WATER LINES, GAS LINES, CONDUITS OF ANY KIND, UTILITIES OR OTHER STRUCTURES OWNED BY THE CITY, COUNTY, STATE OR BY PRIVATE OR PUBLIC UTILITIES LEGALLY OCCUPYING ANY STREET, ALLEY, PUBLIC PLACE, RIGHT-OF-WAY, OR EASEMENT.

ENVIRONMENTAL PROTECTION DURING CONSTRUCTION

PROTECTION OF LAND RESOURCES - EXCEPT IN AREAS IDENTIFIED ON THE PLANS TO BE CLEARED, THE CONTRACTOR MUST NOT DEFACE, INJURE, OR DESTROY TREES OR SHRUBS OR REMOVE OR CUT THEM WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER. IN THE ABSENCE OF A CLEARING PLAN, AREAS SHOWN FOR IMPROVEMENTS SHALL BE CLEARED UNLESS NOTED OTHERWISE.

PROTECTION OF WATER RESOURCES - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INVESTIGATE AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, REGIONAL, COUNTY, AND MUNICIPAL LAWS CONCERNING POLLUTION OF WATER RESOURCES. ALL WORK MUST BE PERFORMED IN SUCH A MANNER THAT OBJECTIONABLE CONDITIONS WILL NOT BE CREATED IN PUBLIC WATERS RUNNING THROUGH, OR ADJACENT TO THE PROJECT AREA.

EROSION AND SEDIMENT CONTROL - ALL PRACTICABLE AND NECESSARY EFFORT SHOULD BE TAKEN DURING CONSTRUCTION TO CONTROL AND PREVENT EROSION AND THE TRANSPORT OF SEDIMENT TO SURFACE DRAINS, SURFACE WATER, OR ONTO OTHER PROPERTY BY ANY OR ALL OF THE FOLLOWING METHODS:

1. RE-VEGETATION AND STABILIZATION OF DISTURBED GROUND SURFACES SHOULD BE ACCOMPLISHED AS SOON AS POSSIBLE.
2. FULL COMPACTION OF ANY FILL MATERIAL PLACED AROUND NEWLY INSTALLED STRUCTURES.
3. PROHIBIT THE USE OF ANY CONSTRUCTION EQUIPMENT THAT LEAKS EXCESSIVE AMOUNTS OF FUEL, OIL, OR HYDRAULIC FLUID.

ALL DISTURBED AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, EXCEPT RETENTION AREAS, AND SHALL BE STABILIZED BY SODDING, EXCEPT WHERE SEEDING AND MULCHING ARE CALLED FOR ON THE PLANS. THE LATEST VERSION OF THE F.D.O.T. ROAD & BRIDGE SPECIFICATIONS SHALL BE USED, UNLESS MORE RESTRICTIVE LOCAL SPECIFICATIONS EXIST.

PROTECTION OF FISH AND WILDLIFE

THE CONTRACTOR MUST AT ALL TIMES PERFORM ALL WORK IN A WAY AND TAKE SUCH STEPS AS REQUIRED TO PREVENT ANY INTERFERENCE WITH OR DISTURBANCE TO FISH AND WILDLIFE. THE CONTRACTOR SHALL NOT ALTER WATER FLOWS OR OTHERWISE DISTURB NATIVE HABITATS AND JURISDICTIONAL WETLANDS LOCATED WITHIN AND/OR ADJACENT TO THE PROJECT AREA.

RECORDING AND PRESERVING HISTORICAL AND ARCHEOLOGICAL FINDS

ALL ITEMS HAVING ANY APPARENT HISTORICAL OR ARCHEOLOGICAL INTEREST THAT ARE DISCOVERED IN THE COURSE OF ANY CONSTRUCTION ACTIVITIES MUST BE CAREFULLY PRESERVED. THE CONTRACTOR MUST LEAVE THE ARCHEOLOGICAL FIND UNDISTURBED AND MUST IMMEDIATELY REPORT THE FIND TO THE OWNER SO THAT THE PROPER AUTHORITY MAY BE NOTIFIED.

1. EARTHWORK

GENERAL

1-01 SUBMITTALS

A. EROSION AND CONTROL MEASURES
B. COMPACTION TESTS
C. SOILS CLASSIFICATION TESTS
D. PRESERVATION PLANS

1-02 SITE EXAMINATION

BEFORE SUBMITTING BIDS, CONTRACTORS SHALL INFORM THEMSELVES AS TO LOCATION AND NATURE OF THE WORK, CHARACTER OF EQUIPMENT AND FACILITIES NEEDED FOR PERFORMANCE OF THE WORK, GENERAL AND LOCAL CONDITIONS PREVAILING AT THE SITE, AND OTHER MATTERS WHICH MAY, IN ANY WAY, AFFECT THE WORK UNDER CONTRACT.
EXAMINE SOURCES OF INFORMATION CONCERNING GROUND WATER LEVEL, WHETHER SURFACE OR SUBSURFACE. EACH BIDDER TO DRAW HIS OWN CONCLUSION CONCERNING GROUND WATER LEVELS AND HOW WATER AFFECTS HIS WORK.

1-02A SITE EXAMINATION - WELLS

ANY WELLS, WHETHER KNOWN AT THE TIME OF CONSTRUCTION OR FOUND DURING CONSTRUCTION, SHALL BE PLUGGED AND ABANDONED BY A LICENSED WELL CONTRACTOR IN CONFORMANCE WITH 40D-3.531, F.A.C, OR CURRENT STATE REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH THE SITE AND DETERMINING, THROUGH VISUAL INSPECTION, IF ANY WELLS EXIST WITHIN THE CONSTRUCTION AREA.

1-03 SUBSURFACE INVESTIGATIONS

SUBSURFACE DATA, INCLUDING GROUND WATER ELEVATIONS OR CONDITIONS, IF SHOWN ON THE DRAWINGS OR ATTACHED TO THESE SPECIFICATIONS, ARE PRESENTED ONLY AS INFORMATION THAT IS AVAILABLE WHICH INDICATED CERTAIN CONDITIONS FOUND AND LIMITED TO THE EXACT LOCATIONS, SHALL NOT BE INTERPRETED AS AN INDICATION OF CONDITIONS THAT MAY ACTUALLY BE DEVELOPED THROUGH THE PERIOD OF CONSTRUCTION. BIDDERS SHALL EXAMINE THE SITE OF THE WORK AND MAKE THEIR OWN DETERMINATION OF THE CHARACTER OF MATERIALS AND THE CONDITIONS TO BE ENCOUNTERED ON THE WORK, AND THEIR PROPOSAL SHALL BE BASED UPON THEIR OWN INVESTIGATIONS. THE CITY AND ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR VARIATIONS FOUND TO EXIST BETWEEN THE ATTACHED DATA ABOVE REFERRED TO AND ACTUAL FIELD CONDITIONS THAT DEVELOP THROUGH THE PERIOD OF CONSTRUCTION. WHERE EXISTING GRADES, UTILITY LINES AND SUBSTRUCTURES ARE SHOWN ON THE DRAWINGS, THE CITY AND ENGINEER ASSUME NO RESPONSIBILITY FOR CORRECTNESS OF EXISTING CONDITIONS INDICATED. THE CONTRACTOR SHALL ASCERTAIN EXACT LOCATIONS OF UTILITIES AND SUBSTRUCTURES THAT MAY BE AFFECTED BY THIS PROJECT, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE OR INJURY THAT MAY RESULT FROM WORKING ON OR NEAR THOSE UTILITIES, SUBSTRUCTURES WHICH ARE NOT TO BE REMOVED OR DEMOLISHED. THE CONTRACTOR SHALL MAKE HIS OWN DEDUCTIONS OF THE SUBSURFACE CONDITIONS WHICH MAY AFFECT METHODS OR COST OF CONSTRUCTION AND HE AGREES THAT HE WILL MAKE NO CLAIM FOR DAMAGES OR OTHER COMPENSATION, EXCEPT SUCH AS ARE PROVIDED FOR IN THE AGREEMENT, SHOULD HE FIND CONDITIONS DURING THE PROGRESS OF THE WORK DIFFERENT FROM THOSE AS CALCULATED OR ANTICIPATED BY HIM.

1-04 BENCH MARKS AND MONUMENTS

MAINTAIN CAREFULLY EXISTING BENCH MARKS, MONUMENTS, AND OTHER REFERENCE POINTS. IF DISTURBED OR DESTROYED, REPLACE AS DIRECTED.

1-05 JOB CONDITIONS

CONDITION OF PREMISES: ACCEPT SITE AS FOUND AND EXCAVATE, FILL, COMPACT, AND BACKFILL SITE AS HEREINAFTER SPECIFIED.

PROTECTION:

EXISTING STRUCTURES AND PROPERTY - TAKE PRECAUTIONS TO GUARD AGAINST MOVEMENT OR SETTLEMENT OF ADJACENT STRUCTURES AND FACILITIES; PROVIDE AND REPLACE BRACING OR SHORING AS NECESSARY OR PROPER IN CONNECTION THEREWITH; BE RESPONSIBLE FOR SAFETY AND SUPPORT OF SUCH STRUCTURES; BE LIABLE FOR ANY MOVEMENT OR SETTLEMENT, ANY DAMAGE OR INJURY CAUSED THEREBY OR RESULTING THEREFROM. IF AT ANY TIME SAFETY OR ANY ADJACENT STRUCTURES APPEARS TO BE ENDANGERED, CEASE OPERATION, TAKE PRECAUTIONS TO SUPPORT SUCH STRUCTURES AND NOTIFY THE CITY. RESUME OPERATIONS ONLY AFTER PERMISSION HAS BEEN GRANTED BY THE CITY.

SIDEWALKS AND STREETS - TAKE PRECAUTIONS TO GUARD AGAINST MOVEMENT, SETTLEMENT OR COLLAPSE OF ANY SIDEWALKS, CURBS OR STREET PASSAGES ON ADJOINING SITE; BE LIABLE FOR ANY SUCH MOVEMENT, SETTLEMENT OR COLLAPSE; REPAIR PROMPTLY SUCH DAMAGE WHEN SO ORDERED. INSTALL SUCH SHORING, INCLUDING SHEET PILING, AS MAY BE REQUIRED DURING EXCAVATION, TO PROTECT BANKS, ADJACENT PAVING, STRUCTURES AND UTILITIES.

RESPONSIBILITY - BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING STRUCTURES OR TO EQUIPMENT AND FURNISHINGS HOUSED THEREIN WHICH ARE DUE DIRECTLY OR INDIRECTLY TO CONSTRUCTION OPERATIONS. EXCEPT WHERE REMOVAL IS NECESSITATED BY SITE GRADING OR LOCATION OF NEW BUILDING, USE EVERY POSSIBLE PRECAUTION TO PREVENT INJURIES TO LANDSCAPING, DRIVES, CURBS, AND WALKS ON OR ADJACENT TO SITE OF THE WORK AND REPLACE, AT NO EXPENSE TO OWNER, ANY OF SUCH THAT ARE DESTROYED.

2. EXECUTION

2-01 GENERAL

ACCOMPLISH IN A MANNER THAT PROVIDES FOR THE SAFETY OF THE PUBLIC AND WORKMEN AND PROVIDE FOR THE PROTECTION OF ALL PROPERTY.

CONSTRUCTION - DO NOT CLOSE, OBSTRUCT OR STORE MATERIAL OR EQUIPMENT IN STREETS, SIDEWALKS, ALLEYS OR PASSAGEWAYS WITHOUT A PERMIT IN ACCORDANCE WITH LOCAL LOCAL ORDINANCES, REGULATIONS, AND CODES.

INTERFERENCE - CONDUCT OPERATIONS WITH MINIMUM INTERFERENCE WITH ROADS, STREETS, DRIVEWAYS, ALLEYS, SIDEWALKS AND OTHER FACILITIES.

PNEUMATIC TOOLS - WORK WITH PNEUMATIC OR VIBRATORY TOOLS WILL BE PERMITTED ONLY IN A MANNER WHICH CAUSES NO RELATED DAMAGES.

REMOVAL - UNLESS OTHERWISE NOTED OR SPECIFIED TO BE RELOCATED OR STORED, ALL MATERIALS REMOVED BECOME THE PROPERTY OF THE CONTRACTOR AND ARE TO BE REMOVED COMPLETELY AWAY FROM THE SITE BY HIM. DO NOT STORE OR PERMIT DEBRIS TO ACCUMULATE ON THE SITE.

TEMPORARY STRUCTURES - REMOVE ALL TEMPORARY STRUCTURES WHEN THEY ARE NO LONGER REQUIRED.

REPAIR - CLEAN UP, REPAIR OR REPLACE AT NO COST TO CITY ALL PROPERTY DAMAGED BY REASON OF REQUIRED WORK. ALL PATCH WORK SHALL MATCH EXISTING AND BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER BY CRAFTSMEN SKILLED IN THE TRADE INVOLVED.
IN NEWLY GRADED AREAS TAKE EVERY PRECAUTION AND TEMPORARY MEASURE NECESSARY TO PREVENT DAMAGE FROM EROSION OF FRESHLY GRADED AREAS. WHERE ANY SETTLEMENT OR WASHING MAY OCCUR PRIOR TO ACCEPTANCE OF THE WORK, REPAIR AND RE-ESTABLISH GRADES TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE CITY. THIS APPLIES TO DAMAGE TO THE NEWLY GRADED AREAS WITHIN THE CONSTRUCTION LIMITS AND DAMAGE TO ADJACENT PROPERTIES BY ERODED MATERIAL.

2-02 LOCATIONS AND ELEVATIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURVEYS, MEASUREMENTS AND LAYOUTS REQUIRED FOR PROPER EXECUTION OF THE WORK. LAY OUT LINES AND GRADES FROM EXISTING SURVEY CONTROL SYSTEM AND AS SHOWN ON DRAWINGS.

2-03 CLEARING AND GRUBBING

WITHIN LIMITS OF AREAS DESIGNATED FOR GRADING AND SITE CONSTRUCTION WORK, REMOVE TREES, BRUSH, STUMPS, WOOD DEBRIS AND OTHER DELETERIOUS MATERIALS NOT REQUIRED TO REMAIN AS PART OF THE FINISHED WORK.
REMOVE ALL GRASS, PLANTS, VEGETATION AND ORGANIC MATERIAL FROM SAME AREA.

2-04 STRIPPING

STRIP ALL TOPSOIL, ORGANIC MATERIAL, SURFACE LITTER, RUBBLE, AND OVERBURDEN FOR ENTIRE DEPTH OF ROOT SYSTEM OF GRASS OR OTHER VEGETATION OVER THE LIMITS OF CONSTRUCTION. STOCKPILE TOPSOIL ON SITE WHERE DIRECTED.

2-05 EXECUTION

BEGIN EXCAVATION AFTER STRIPPING, CLEARING AND GRUBBING WHERE APPLICABLE, HAS BEEN COMPLETED. EXCAVATE TO GRADES REQUIRED TO ACCOMMODATE THE PROPOSED CONSTRUCTION; DE-WATER AS NEEDED. REMOVE UNSATISFACTORY MATERIALS ENCOUNTERED FROM THE BUILDING AREAS, AND OTHER NON-LANDSCAPED AREAS, AND OTHER NON-LANDSCAPED AREAS. EXCAVATE IN SUCH A MANNER THAT QUICK AND EFFICIENT DRAINAGE OF STORMWATER WILL BE AFFECTED. CLASSIFY EXCAVATED MATERIALS AND STOCKPILE SEPARATELY SUITABLE SOILS FOR USE AS BACKFILL MATERIALS. IF SUFFICIENT QUANTITIES OF EXCAVATED MATERIALS MEETING REQUIREMENTS FOR BACKFILL ARE NOT AVAILABLE ON-SITE, PROVIDE MATERIALS MEETING THESE REQUIREMENTS. STOCKPILE EXCAVATED MATERIAL SUITABLE FOR USE AS FILL AND BACKFILL.

2-06 FILLING, BACKFILLING, AND COMPACTING

THE WORK CONSISTS OF COMPACTION OF EXISTING EARTH (EXCLUDES ROCK), SURFACES AFTER EXCAVATION, FILLING AND COMPACTION OF SAID AREA TO LEVELS REQUIRED WITH SUITABLE BACKFILL MATERIAL.

MATERIALS - SATISFACTORY FILL MATERIALS, AASHTO CLASSIFICATION A-3 OR BETTER, SHALL BE USED IN FILLS AND BACKFILLS.

FILLING AND BACKFILLING - PLACE SATISFACTORY FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING SIX (6") INCHES IN LOOSE DEPTH. COMPACT AS SPECIFIED HEREIN. NO MATERIAL SHALL BE PLACED ON SURFACES THAT ARE MUDDY.

COMPACTION - COMPACTION SHALL BE WITH EQUIPMENT SUITED TO SOIL BEING COMPACTED. MOISTEN OR AERATE MATERIAL, AS NECESSARY, TO PROVIDE MOISTURE CONTENT THAT WILL READILY FACILITATE OBTAINING SPECIFIED COMPACTION WITH EQUIPMENT USED. COMPACT EACH LAYER TO NOT LESS THAN PERCENTAGE OF MAXIMUM DENSITY SPECIFIED BELOW, DETERMINED IN ACCORDANCE WITH AASHTO T-180. INSURE THAT THE COMPACTION OF PREVIOUSLY PREPARED FILL AREAS HAS BEEN MAINTAINED PRIOR TO PLACING NEW LAYERS.

RECONDITIONING OF SUBGRADE - WHERE APPROVED COMPACTED SUBGRADES ARE DISTURBED BY THE CONTRACTOR'S SUBSEQUENT OPERATIONS OR ADVERSE WEATHER, SUBGRADE SHALL BE SCARIFIED AND COMPACTED AS SPECIFIED HEREINBEFORE TO REQUIRED DENSITY PRIOR TO FURTHER CONSTRUCTION THEREON. RE-COMPACTION OVER UNDERGROUND UTILITIES SHALL BE BY POWER-DRIVEN HAND TAMPERS.

COMPACTION REQUIREMENTS:

A. FILL UNDER LAWNS AND PLANTED AREAS: 95%
B. BELOW SLABS ON GRADE AND CONCRETE WALKS: 98%
C. UNDER PAVING AND PARKING AREAS: 98%

2-07 TESTING

THE CITY WILL PROVIDE THE SERVICES OF A TESTING LABORATORY TO PERFORM SPECIFIED TESTS, INSPECTIONS, INSTRUMENTATION AND INSPECTION OF THE WORK. TESTS OF MATERIALS SHALL BE AS FOLLOWS:

A. SOIL CLASSIFICATION - ONE TEST FROM EACH TYPE OF MATERIAL ENCOUNTERED AND/OR PROPOSED TO BE USED.
B. LABORATORY TESTS FOR MOISTURE-CONTENT AND DENSITY ACCORDING TO AASHTO T-180 - ONE TEST FOR EACH MATERIAL ENCOUNTERED AND/OR PROPOSED TO BE USED.
C. FIELD TESTS FOR MOISTURE CONTENT AND DENSITY - ONE TEST PER LAYER OF FILL PER 5,000 SQUARE FEET OF AREA.

ONE COPY OF ALL TEST REPORTS, SIGNED AND SEALED BY TESTING LABORATORY ARE TO BE PROVIDED TO THE ENGINEER.

SUPPLEMENTAL SPECIFICATIONS

GENERAL

THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND ADHERE TO THE SPECIFICATIONS AND STANDARDS OF THE UTILITY COMPANIES WHICH ARE SERVING THE PROJECT SITE. THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND COMPLY WITH ALL SITE DEVELOPMENT STANDARDS AND CODES OF THE REGULATORY AGENCIES ASSOCIATED WITH THIS PROJECT. THE LATEST VERSION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE CONSTRUCTION STANDARD SPECIFICATIONS THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS SHALL BE INCLUDED, BY REFERENCE, WITHIN THE PROJECT SPECIFICATIONS. UNLESS OTHERWISE NOTED, EITHER ON THE PLANS OR WITHIN THE SPECIFICATIONS, THE APPLICABLE SECTIONS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS SHALL APPLY INCLUDING REFERENCES THEREIN. THE GENERAL DESCRIPTION OF THE NATURE OF THE WORK SHALL BE SUFFICIENT CORRELATION TO THE FLORIDA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, EXACT ITEM DESCRIPTION IS NOT REQUIRED. IN THE EVENT THERE ARE CONFLICTS BETWEEN SPECIFICATIONS OR REQUIREMENTS, THE MOST RESTRICTIVE (CONSERVATIVE) SPECIFICATION OR REQUIREMENT SHALL BE USED.

POTABLE WATER DISTRIBUTION/WASTEWATER COLLECTION INSTALLATION

UNLESS OTHERWISE NOTED ON THE PLANS, THE STANDARDS AND SPECIFICATIONS OF THE ASSOCIATED UTILITY COMPANY SERVING THE PROJECT SITE SHALL BE ADHERED TO FOR ALL MATERIALS, INSTALLATION, TESTING, AND CERTIFICATION ACTIVITIES FOR ALL PUMP STATIONS, MAIN LINES, SERVICES, AND APPURTENANCES. IF STANDARDS AND SPECIFICATIONS ARE NOT AVAILABLE, THE CONTRACTOR SHALL CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS ADOPTED BY LOCAL UTILITIES, LOCAL GOVERNMENTAL REGULATIONS, OR THE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES, WHICHEVER IS SPECIFICALLY THE MOST RESTRICTIVE.

STORMWATER PIPE INSTALLATION AND MISCELLANEOUS EXCAVATIONS

UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL PERFORM THE EXCAVATION, BEDDING, JOINTS, AND BACKFILLING OPERATIONS IN ACCORDANCE WITH THE POTABLE WATER/WASTEWATER INSTALLATION SPECIFICATIONS, LOCAL GOVERNMENTAL REGULATIONS OR STANDARDS, F.D.O.T. STANDARDS AND SPECIFICATIONS, OR MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES, WHICHEVER IS SPECIFICALLY THE MOST RESTRICTIVE.

UNSUITABLE MATERIALS

IF UNSUITABLE MATERIAL IS ENCOUNTERED WITHIN THE ROADWAY AREA AND/OR UTILITY AREAS IT SHALL BE REMOVED TO A DEPTH OF THREE (3.0') FEET BELOW THE SUB-BASE OR TRENCH BOTTOM AND SHALL BE BACKFILLED WITH A-3 MATERIAL OR BETTER WITH PLACEMENT AND COMPACTION METHODS IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, OR AS OTHERWISE NOTED ON THE PLANS. UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE SITE, UNLESS THE ENGINEER APPROVES USE WITHIN LANDSCAPED AREAS.

3. DE-WATERING

3-01 GENERAL

DE-WATERING CONSISTS OF PERFORMING ALL WORK NECESSARY TO REMOVE SURFACE WATER AND/OR CONTROL THE GROUND WATER LEVELS AND HYDROSTATIC PRESSURES IN ORDER TO PERMIT ALL EXCAVATION AND CONSTRUCTION UNDER THIS CONTRACT TO BE PERFORMED IN THE DRY. WORK OF THIS SECTION INCLUDES INSTALLATION, OPERATIONS, MAINTENANCE, SUPERVISION, SUPPLY, DISMANTLING, AND REMOVAL FROM THE SITE OF THE DE-WATERING EQUIPMENT. THE CONTRACTOR MUST FAMILIARIZE HIMSELF WITH THE POTENTIAL FOR EXCESSIVE RAINFALL, THE GROUND CONDITIONS, AND THE GROUND WATER CONDITIONS. GROUND WATER ELEVATION CAN FLUCTUATE. IT IS ANTICIPATED THAT ANY EXCAVATIONS MAY ENCOUNTER THE GROUND WATER TABLE.

DRAINAGE OF THE SITE - AT ALL TIMES THE CONTRACTOR SHALL MAINTAIN AND OPERATE ADEQUATE SURFACE AND SUBSURFACE DRAINAGE METHODS IN ORDER TO KEEP THE CONSTRUCTION SITE DRY AND IN SUCH CONDITION THAT PLACEMENT AND COMPACTION OF FILL MAY PROCEED UNHINDERED BY SATURATION OF THE AREA. DURING CONSTRUCTION, THE SURFACE OF THE BACKFILL AREA SHALL BE LEFT IN SUCH CONDITION THAT PRECIPITATION AND/ OR SURFACE WATER WILL RUN OFF WITHOUT PONDING.

3-02 METHOD

THE CONTROL OF ALL SURFACE AND SUBSURFACE WATER IS PART OF THE DE-WATERING REQUIREMENTS. MAINTAIN ADEQUATE CONTROL SO THAT THE STABILITY OF EXCAVATED AND CONSTRUCTION SLOPES IS NOT ADVERSELY AFFECTED BY WATER, THAT EROSION IS CONTROLLED, AND THE FLOODING OF EXCAVATIONS OR DAMAGE TO STRUCTURES DOES NOT OCCUR. DRAIN SURFACE WATER AWAY FROM THE EXCAVATION. DISPOSE OF ALL WATER REMOVED FROM THE EXCAVATION IN A MANNER THAT WILL NOT ENDANGER PUBLIC HEALTH, PROPERTY, OR PORTIONS OF THE WORK UNDER CONSTRUCTION OR COMPLETED. DISPOSE OF WATER IN A MANNER THAT WILL CAUSE NO INCONVENIENCE WHATSOEVER TO THE OWNER OR TO OTHERS ENGAGED IN WORK AT THE SITE. DISPOSE OF WATER RESULTING FROM DE-WATERING OPERATIONS IN ACCORDANCE WITH CITY, COUNTY, STATE AND FEDERAL REGULATIONS. CONDUCT OPERATIONS SO THAT STORMWATER RUNOFF SEDIMENT IS NOT DISCHARGED TO THE ADJACENT WATER BODIES, SEWERS, STREETS AND ADJACENT PROPERTIES. DE-WATERING SYSTEM SHALL BE SO DESIGNED AS TO PREVENT REMOVAL OF SOIL FINES FROM THE SITE DURING THE DE-WATERING OPERATION.

4. PORTLAND CEMENT CONCRETE PAVING

4-01 QUALITY ASSURANCE

COMPLY WITH ACI STANDARDS "RECOMMENDED PRACTICES FOR CONSTRUCTION OF CONCRETE PAVEMENTS AND CONCRETE BASES" (ACI316, LATEST EDITION).

4-02 REFERENCE STANDARDS

THE FOLLOWING REFERENCE STANDARDS OF THE ISSUES LISTED BELOW, BUT REFERRED TO THEREAFTER BY BASIC DESIGNATION ONLY, FORM A PART OF THIS SPECIFICATION TO THE EXTENT INDICATED BY THE REFERENCES THERETO. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH HEREINAFTER SPECIFIED STANDARDS.

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
B. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) STANDARD
C. FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) STANDARDS & SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 350 "CEMENT CONCRETE PAVEMENT".
D. T-180 MOISTURE-DENSITY RELATIONS OF SOILS

4-03 SUBMITTALS

THE CONTRACTOR SHALL SUBMIT TEST REPORTS PREPARED BY AN INDEPENDENT TESTING LABORATORY AND CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE STATE OF FLORIDA. THESE REPORTS SHALL INDICATE ALL TESTS PERFORMED AND SHALL INCLUDE A CERTIFICATION STATEMENT OF COMPLIANCE WITH THE PROJECT SPECIFICATION. TESTS SHALL BE PERFORMED AS SPECIFIED UNDER THIS SECTION. SUBMIT FOR REVIEW THE FOLLOWING:

A. CONCRETE DESIGN MIX AND PROVING FLEXURAL STRENGTH (MODULUS OF RUPTURE) TESTS
B. EXPANSION JOINT FILLER DATA
C. JOINT SEALER DATA
D. "PROPOSED PAVING CONSTRUCTION PLAN" WHICH SHALL SHOW THE CONCRETE PAVING JOINT TYPES AND LOCATIONS AND SHALL INCLUDE A STATEMENT OF PROPOSED SEQUENCE AND SCHEDULE OF PAVING OPERATIONS
E. RESULTS OF CONCRETE TESTS TO BE PAID BY CITY
F. RESULTS OF FIELD TESTS OF LBR AND COMPACTION OF STABILIZED SUBGRADE TO BE PAID BY CITY

4-04 MATERIALS

STABILIZED SUBGRADE - PROVIDE 12 INCH STABILIZED SUBGRADE (LBR 40 MIN) COMPACTED TO A MINIMUM DENSITY OF 98% AS DETERMINED BY AASHTO T-180.

CONCRETE - CONCRETE FOR CONCRETE PAVEMENT SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, A SLUMP RANGE BETWEEN 2 TO 4 INCHES AND A 28-DAY MODULUS OF RUPTURE OF 650 PSI AS DETERMINED BY THE REQUIREMENTS OF PARAGRAPH TESTING SPECIFIED HEREINAFTER.

JOINT SEALER - JOINT SEALING SHALL CONFORM TO FEDERAL SPECIFICATIONS SS-S1401 OR SS-S-200d (COLD APPLIED).

PRE-MOLDED EXPANSION JOINT FILLER - PRE-MOLDED EXPANSION JOINT FILLER SHALL CONFORM TO ASTM D1751-73.

4-05 EXECUTION

COMPLY WITH ACI STANDARD 316-74 AND SECTION 350, FDOT STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE SPECIFIED HEREIN.

FINAL GRADING - ALL CONCRETE PAVEMENT SHALL HAVE A MAXIMUM DEVIATION OF 1/8 INCH(+/-) FROM THE SPECIFIED SURFACE PLANE AND PLAN GRADES. THE SURFACE FINISH SHALL BE APPROVED BY THE OWNER OR HIS REPRESENTATIVE. IN GENERAL, THE TEXTURE IS OF A MEDIUM BROOM FINISH AFTER FLOATING.

JOINTS - CONTRACTION JOINTS INDICATED ON DRAWINGS, OR AS REQUIRED, SHALL BE PLACED PERPENDICULAR TO THE FINISH GRADE OF THE CONCRETE. JOINTS SHALL BE CUT TO A DEPTH OF 1/4 OF THE SLAB THICKNESS BY CUTTING WITH AN EDGING TOOL HAVING A 1/4 INCH RADIUS OR BY SAWING WITH A BLADE PRODUCING A CUT NOT LESS THAN 1/8 INCH IN WIDTH. SAW JOINTS WITHIN 4 TO 6 HOURS OF CONCRETE PLACEMENT.
EXPANSION JOINTS SHALL BE PLACED WHERE INDICATED ON DRAWINGS, OR AS REQUIRED, USING 1/2 INCH THICK PREFORMED EXPANSION JOINT MATERIAL. ANCHOR WITH APPROVED DEVICES TO PREVENT DISPLACEMENT DURING PLACEMENT AND FINISHING. EDGES SHALL BE ROUNDED WITH AN EDGING TOOL. JOINTS SHALL BE FULL DEPTH OF CONCRETE EXCEPT THAT TOP EDGES SHALL BE 1/2 INCH BELOW THE FINISH CONCRETE SURFACE. EXPANSION JOINTS SHALL BE SEALED TO THE SURFACE BY FILLING WITH JOINT SEALING COMPOUND. JOINTS SHALL BE CLEANED AND DRY BEFORE SEALING COMPOUND IS PUT IN PLACE. CONSTRUCTION JOINTS ARE TO BE USED AT CONTRACTION JOINT LOCATIONS TO STOP CONCRETE POURS.

CURING - CONCRETE SHALL BE CURED BY PROTECTING IT AGAINST LOSS OF MOISTURE AND MECHANICAL INJURY FOR AT LEAST THREE DAYS AFTER PLACEMENT. A PIGMENTED LIQUID CURING MEMBRANE SHALL BE APPLIED IMMEDIATELY AFTER FINISHING OPERATION AT THE RATE OF ONE GALLON TO NOT MORE THAN 200 SQUARE FEET.

CLEANING AND SEALING JOINTS - JOINTS SHALL BE FILLED WITH JOINT-SEALING MATERIAL NO LESS THAN 8 HOURS AND WITHIN 2 WEEKS AFTER JOINTS ARE CUT. JUST PRIOR TO SEALING, EACH JOINT SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATERIAL INCLUDING ANY MEMBRANE CURING COMPOUND.

TESTING - LABORATORY AND FIELD TESTING SHALL BE AT THE CITY'S EXPENSE.
IN ADDITION, ALL RETESTING SHALL BE DONE AT CITY'S EXPENSE. DESIGN MIXES AND TESTING REQUIREMENTS FOR THE CONCRETE PAVEMENT SHALL BE AS FOLLOWS:

A. FLEXURAL STRENGTH TESTS OF CONCRETE AS BASIS FOR DESIGN.
B. SLUMP, MODULUS OF RUPTURE AND 7-DAY AND 28-DAY COMPRESSIVE STRENGTH TESTS SHALL BE PERFORMED ON SAMPLES TAKEN AT THE SITE AT A FREQUENCY OF TWO PER ACRE.
C. WHERE THE FLEXURAL STRENGTH OF THE CONCRETE IS SPECIFIED, MAKE ONE STRENGTH TEST AND ONE FLEXURAL TEST FOLLOWING (ASTM C192 AND ASTM C78) FOR EACH 100 CUBIC YARDS OR FRACTION THEREOF PLACED PER DAY. NUMBER OF CYLINDERS SHALL BE THREE FOR STRENGTH TEST AND THREE FOR FLEXURAL TEST. TEST ONE AT THREE DAYS, ONE AT SEVEN DAYS AND ONE AT 28 DAYS.

CONSTRUCTION TOLERANCES

UNLESS OTHERWISE SPECIFIED BY THE LOCAL UTILITY COMPANIES, THE FOLLOWING ARE THE ALLOWABLE TOLERANCES FOR THESE ACTIVITIES:

A. MANHOLES AND PIPE INVERTS:
   MINIMUM ELEVATION = DESIGN GRADE - 0.05 FOOT
   MAXIMUM ELEVATION = DESIGN GRADE + 0.05 FOOT
   MINIMUM LINE GRADIENT = 90% OF DESIGN GRADIENT
B. ALIGNMENT/LOCATION OF APPURTENANCES:
   AS ALLOWED BY THE APPLICABLE UTILITY AND/OR LOCAL GOVERNMENTAL ENTITY.
   CONTRACTOR SHALL CONFIRM AND DOCUMENT THIS PRIOR TO CONSTRUCTION.

TESTING

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING, COORDINATING, DOCUMENTING, AND PROVIDING THE FOLLOWING MINIMUM TESTING:

WATER DISTRIBUTION - UNLESS OTHERWISE SPECIFIED BY THE UTILITY COMPANY, THE LINES SHALL BE PRESSURE TESTED TO THE RATING OF THE PIPE. THE LINES SHALL BE TESTED IN SEGMENTS BETWEEN MAINLINE VALVES. BACTERIOLOGICAL TEST SAMPLES SHALL BE TAKEN AT ALL BRANCH LINE TERMINATION POINTS OR CONNECTION POINTS, AND ALONG THE MAIN LINES AT DISTANCES NOT TO EXCEED 2,640 FEET. ALL HYDRANTS AND VALVES SHALL BE OPERATED TO TEST PERFORMANCE. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 36 HOURS NOTICE TO THE ENGINEER OF RECORD PRIOR TO TESTING.

WASTEWATER COLLECTION - UNLESS OTHERWISE SPECIFIED BY THE UTILITY COMPANY, THE FORCE MAIN SHALL BE PRESSURE TESTED TO THE RATING OF THE PIPE. VALVES SHALL BE OPERATED TO TEST PERFORMANCE. DEPENDING UPON WATER TABLE CONDITIONS DETERMINED BY THE ENGINEER, THE GRAVITY LINES SHALL BE TESTED FOR EITHER INFILTRATION OR EXFILTRATION AND INFLOW. THERE SHALL BE NO INFILTRATION / EXFILTRATION OR INFLOW ALLOWED. THE CONTRACTOR SHALL SEAL ANY PIPE, FITTING OR MANHOLE AS REQUIRED. THE CONTRACTOR SHALL PROVIDE A VIDEO TAPE OF ALL MAIN GRAVITY LINES ALONG WITH A LOG OF LATERAL LOCATIONS. ALL ELECTRICAL AND MECHANICAL DEVICES AT LIFT STATIONS SHALL BE TESTED TO VERIFY PROPER OPERATIONAL STATUS. THE CONTRACTOR SHALL PROVIDE MAINTENANCE MANUALS TO THE OWNER. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 36 HOURS NOTICE TO THE ENGINEER OF RECORD PRIOR TO TESTING.

PORTLAND CEMENT CONCRETE - CONCRETE SHALL BE TESTED FOR THE FOLLOWING PARAMETERS:
SLUMP, MODULUS OF RUPTURE, AND 7 AND 28 DAY COMPRESSIVE STRENGTH. TESTS SHALL BE PERFORMED ON SAMPLES TAKEN AT THE SITE AT A FREQUENCY OF TWO PER ACRE. A PROFESSIONAL ENGINEER'S CERTIFICATION OF COMPLIANCE SHALL BE PROVIDED BY THE TESTING LAB.

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Original drawing is 24" x 36". Scale entities accordingly if reduced. All reproduction & intellectual property rights reserved ©2016.

GENERAL NOTES & SPECIFICATIONS

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PLANNING AND DESIGN DIVISION

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FILE NUMBER

PROJECT NUMBER
100779

ISSUE DATE
OCTOBER 2016

DRAWN BY

REVISIONS

SEAL
EDWARD D. RICE A.I.A.

SHEET NUMBER
C1

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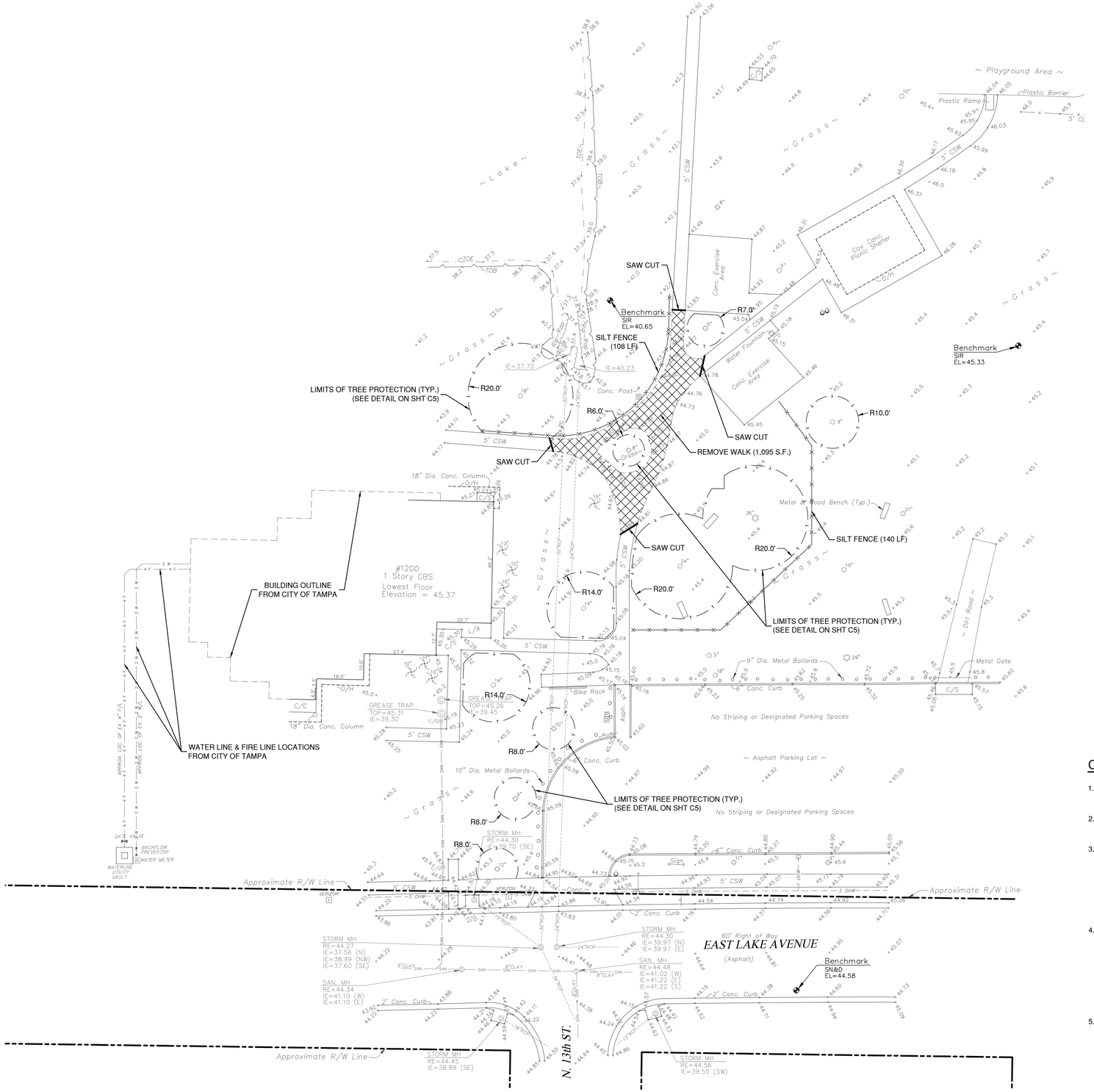

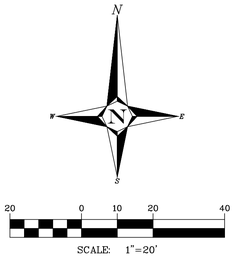

EX. SURVEY NOTES

1. Type of Survey: Topographic Survey SJ-17.050(10)(k), Florida Administrative Code.
2. The elevations shown hereon are based upon the North American Vertical Datum, 1988 (NAVD)
3. The subject property address is 1200 E. Lake Avenue, Tampa, FL 33605.
4. Subject property lies within Section 07, Township 29 South, Range 19 East, City of Tampa, Hillsborough County, Florida.
5. Subject property is listed at the Hillsborough County Property Appraiser's Office as Folio # 172890-0000.
6. Subject property is shown on Flood Insurance Rate Map 12057C0352H. Effective Date: August 28, 2008. Subject property lies entirely within Flood Zone X.
7. All trees (4"+ dbh) and visible improvements lying within or immediately adjacent to the subject property's mapping window have been mapped and shown hereon. There are no visible encroachments either way across the property lines unless shown or denoted hereon. Underground improvements have not been excavated and mapped. Any underground improvement that is shown or denoted hereon is based upon maps, plans, atlas sheets or flags/marks set by others.
8. This survey map and report are not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper. Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without the written consent of the signing party or parties.

EX. SURVEY TREE LEGEND

20"	= OAK (SIZE AS NOTED)
18"	= PINE (SIZE AS NOTED)
16"	= MAPLE (SIZE AS NOTED)
12"	= JACARANDA (SIZE AS NOTED)
22"	= MYRTLE (SIZE AS NOTED)
24"	= MAGNOLIA (SIZE AS NOTED)
30"	= PALM (SIZE AS NOTED)
14"	= UNKNOWN (SIZE AS NOTED)
24"	= CYPRESS (SIZE AS NOTED)
18"	= CITRUS (SIZE AS NOTED)
15"	= CAMPHOR (SIZE AS NOTED)

EX. SURVEY SYMBOL LEGEND

Cable Television		Guy Wire Anchor	
Backflow Preventer		Hydrant	
Curb Inlet		Irrigation Control Valve	
Concrete Light Pole		Metal Light Pole	
Cleanout		Power Control Box	
Concrete Power Pole		Sanitary Manhole	
Concrete Monument		Storm Manhole	
Mitred End Section		Sign	
Pedestrian Cross Walk Signal		Telephone Control Box	
Gate Valve		Gas Valve	
Grate Inlet		Greasetrap	
Telephone Manhole		Wood Light Pole	
Telephone Sign		Water Meter	
Gas Meter		Wood Power Pole	
Traffic Signal Box		Mailbox	

EX. SURVEY LEGEND

+/-	= Plus or Minus (more or less)	LB	= Corporate Certificate Number
AC.	= Acres	LS	= Professional Land Surveyor
B/C	= Back of Curb	(M)	= Measured Data
BFP	= Backflow Preventor	MES	= Mitred End Section
BLDG.	= Building	MH	= Manhole
BWF	= Barb Wire Fence	MLP	= Metal Light Pole
(C)	= Calculated Data	MOL	= More or Less
CBS	= Concrete Block Structure	N/C	= No Cap
CCR	= Certified Corner Record	N.T.S.	= Not To Scale
C/C	= Covered Concrete	O/A	= Overall
CLF	= Chain Link Fence	OHW	= Overhead Wires
CLP	= Concrete Light Pole	OR	= Official Record Book
CONC	= Concrete	PB	= Plat Book
C/S	= Concrete Slab	PCED	= Pinellas County Engineering Department Disk
CWF	= Chicken Wire Fence	PCP	= Permanent Control Point
(D)	= Data per Description	PG(s)	= Page (s)
Fd.	= Found	P/L	= Property Line
D/W	= Driveway	POB	= Point of Beginning
E/P	= Edge of Pavement	POC	= Point of Commencement
EX.	= Existing	PRM	= Permanent Reference Monument
F/C	= Fence Corner	RE	= Rim Elevation
FCM	= Found Concrete Monument 4"x4" (ZBI LB6472) Unless Noted	R/W	= Right-of-Way
		San.	= Sanitary
F/T	= Fence Tie	SEC.	= Section
FIR	= Found Iron Rod & Cap 5/8" (LB6472) Unless Noted	CSW	= Concrete Sidewalk
		SIR	= Set Iron Rod 5/8" & Cap (LB6472)
FND	= Found	SN&D	= Set Nail & Disc (LB6472)
FN&D	= Found Nail & Disc (ZBI LB6472) Unless Noted	NF	= Not Found
FOP	= Found Open Pipe	S/W	= Sidewalk
DIP	= Ductile Iron Pipe	TOB	= Top of Bank
FPP	= Found Pinched Pipe	TYP.	= Typical
F/T	= Fence Tie	U/G	= Underground
GE	= Grate Elevation	VCP	= Vitreous Clay Pipe
GI	= Grate Inlet	TBM	= Temporary Benchmark
TECO	= Tampa Electric Company	WL	= Water Line
GV	= Gate Valve	WLP	= Wood Light Pole
NS	= Not Set	WM	= Water Main
FL	= Fire Line	WPP	= Wood Power Pole
DCVA	= Double Check Valve Assembly	(XXXX)	= Corner Marking
ID	= Identification	Asph.	= Asphalt
IE	= Invert Elevation	W/F	= Wood Fence
M/T	= Metal Fence	C/R	= Concrete Ramp
EOP	= End of Pipe	EL	= Elevation
F/H	= Fire Hydrant	STY	= Story
ESMT	= Easement	PVC	= Polyvinyl Chloride Pipe
TSB	= Traffic Signal Box	A/C	= Air Conditioner
V/C	= Vertical Curb	L/A	= Landscape Area
TOS	= Toe of Slope	ECMP	= Elliptical Corrugated Metal Pipe
TM	= Transformer	MP	= Metal Pipe
CBW	= Concrete Block Wall	L/T	= Landscape Timber
O/H	= Building Overhang	W/D	= Wood Deck
MHR	= Metal Handrail	CMP	= Corrugated Metal Pipe
CI	= Curb Inlet	C/O	= Cleanout
B/P	= Brick Pavers	RR	= Railroad
		RLS	= Registered Land Surveyor
		Unk.	= Unknown

NOTE:

BASE INFORMATION FOR THIS PLAN IS PROVIDED BY ZARRA BOYD, INC. SURVEY DATED 2/19/16.

CONSTRUCTION NOTES:

1. SUBJECT PROPERTY LIES IN FLOOD ZONE X.; FLOOD INSURANCE RATE MAP 12057C0352H, EFFECTIVE DATE: AUGUST 28, 2008.
2. THE ELEVATIONS SHOWN HEREON ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD).
3. ALL EXISTING SODDED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE GRADED SMOOTH & RE-SODDED WITH "ARGENTINE BAHIA" (FRESH CUT IN 1'x2' PIECES, HEALTHY, FREE OF INSECTS/WEEDS, NATURALLY FLOURISHING). AFTER SODDING, ENTIRE AREAS SHALL BE ROLLED & WATERED BY HAND EACH DAY FOR 2 WEEKS, THEN TOP-DRESSED WITH COMMERCIAL FERTILIZER PER MANUFACTURER DIRECTIONS.
4. ROOT PRUNING SHALL BE BY CERTIFIED/QUALIFIED ARBORIST USING "DOSKO ROOT PRUNER" OR EQUAL; ROOTS SHALL BE CUT EVEN & SMOOTH (WITH SOIL & ROOTBALL INTACT) TO MAX. 9" DEPTH; FOLLOWING CONSTRUCTION, ARBORIST SHALL DRENCH PERIMETER OF ROOTBALL WITH APPROVED SYSTEMIC FUNGICIDE & ROOT INDUCING HORMONE (IBA OR EQUAL); ROOT PRUNE SHALL BE MIN. 15' AWAY FROM 24" OR LARGER TREE; COORDINATE WITH CITY/PARKS & RECREATION DEPARTMENT.
5. PRIOR TO TREE TRIMMING, COORDINATE WITH CITY/PARKS & RECREATION DEPARTMENT; TRIM/PRUNE LIMBS TO PROVIDE FDOT/STANDRAD CLEARANCE IN ACCORDANCE WITH ANSI A-300 PRUNING STANDARDS.

DEMOLITION LEGEND

- DENOTES PROPOSED SILT FENCE
- DENOTES PROPOSED TREE PROTECTION

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EXISTING CONDITIONS/ DEMOLITION PLAN

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2 OF 8

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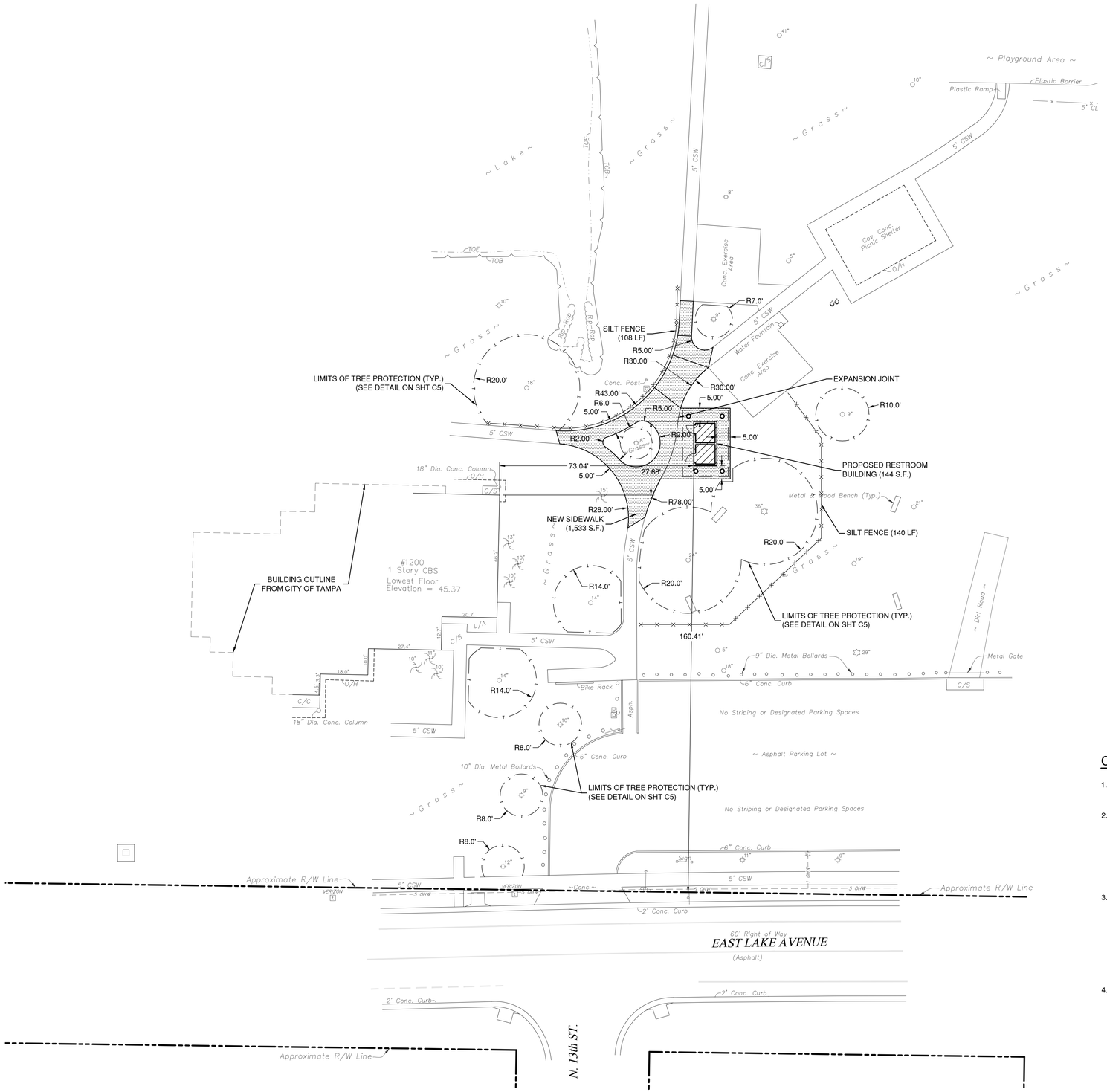

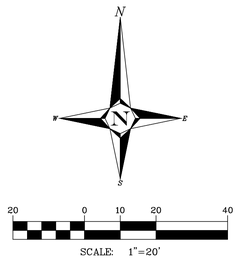

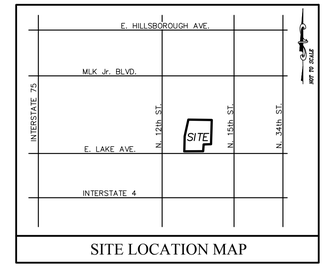

SITE LOCATION MAP

EX. SURVEY NOTES

1. Type of Survey: Topographic Survey SJ-17.050(10)(k), Florida Administrative Code.
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15"	= CAMPHOR (SIZE AS NOTED)

EX. SURVEY SYMBOL LEGEND

Cable Television		Guy Wire Anchor	
Backflow Preventer		Hydrant	
Curb Inlet		Irrigation Control Valve	
Concrete Light Pole		Metal Light Pole	
Cleanout		Power Control Box	
Concrete Power Pole		Sanitary Manhole	
Concrete Monument		Storm Manhole	
Mitred End Section		Sign	
Pedestrian Cross Walk Signal		Telephone Control Box	
Gate Valve		Gas Valve	
Grate Inlet		Greasetrap	
Telephone Manhole		Wood Light Pole	
Telephone Sign		Water Meter	
Gas Meter		Wood Power Pole	
Traffic Signal Box		Mailbox	

EX. SURVEY LEGEND

+/-	= Plus or Minus (more or less)	LB	= Corporate Certificate Number
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B/C	= Back of Curb	(M)	= Measured Data
BFP	= Backflow Preventor	MES	= Mitred End Section
BLDG.	= Building	MH	= Manhole
BWF	= Barb Wire Fence	MLP	= Metal Light Pole
(C)	= Calculated Data	MOL	= More or Less
CBS	= Concrete Block Structure	N/C	= No Cap
CCR	= Certified Corner Record	N.T.S.	= Not To Scale
C/C	= Covered Concrete	O/A	= Overall
C/F	= Chain Link Fence	OHW	= Overhead Wires
CLP	= Concrete Light Pole	OR	= Official Record Book
CONC	= Concrete	PB	= Plat Book
C/S	= Concrete Slab	PGED	= Pinellas County Engineering Department Disk
CWF	= Chicken Wire Fence	PCP	= Permanent Control Point
(D)	= Data per Description	PG(s)	= Page (s)
Fd.	= Found	P/L	= Property Line
D/W	= Driveway	POB	= Point of Beginning
E/P	= Edge of Pavement	POC	= Point of Commencement
EX.	= Existing	PRM	= Permanent Reference Monument
F/C	= Fence Corner	RE	= Rim Elevation
FCM	= Found Concrete Monument 4"x4" (ZBI LB6472) Unless Noted	R/W	= Right-of-Way
		San.	= Sanitary
F/T	= Fence Tie	SEC.	= Section
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		SIR	= Set Iron Rod 5/8" & Cap (LB6472)
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FN&D	= Found Nail & Disc (ZBI LB6472) (Unless Noted)	NF	= Not Found
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DCVA	= Double Check Valve Assembly	Asph.	= Asphalt
ID	= Identification	W/F	= Wood Fence
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M/F	= Metal Fence	EL	= Elevation
EOP	= End of Pipe	STY	= Story
F/H	= Fire Hydrant	PVC	= Polyvinyl Chloride Pipe
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B/P	= Brick Pavers	RLS	= Registered Land Surveyor
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NOTE:

BASE INFORMATION FOR THIS PLAN IS PROVIDED BY ZARRA BOYD, INC. SURVEY DATED 2/19/16.

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SITE LEGEND

- DENOTES PROPOSED CONCRETE WALKS/PATHS
- DENOTES PROPOSED TREE PROTECTION
- DENOTES PROPOSED SILT FENCE

Daniel M. Vickstrom, P.E.
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State of Florida
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505 20th Avenue NE
St. Petersburg, FL 33704
Telephone No. (727) 894-0404
CA No. 30184

SITE PLAN

CITY OF TAMPA
CONTRACT ADMINISTRATION DEPARTMENT
PLANNING AND DESIGN DIVISION
306 E. JACKSON STREET 4 NORTH
TAMPA, FLORIDA 33602
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FILE NUMBER

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REVISIONS

SEAL
EDWARD D. RICE A.I.A.

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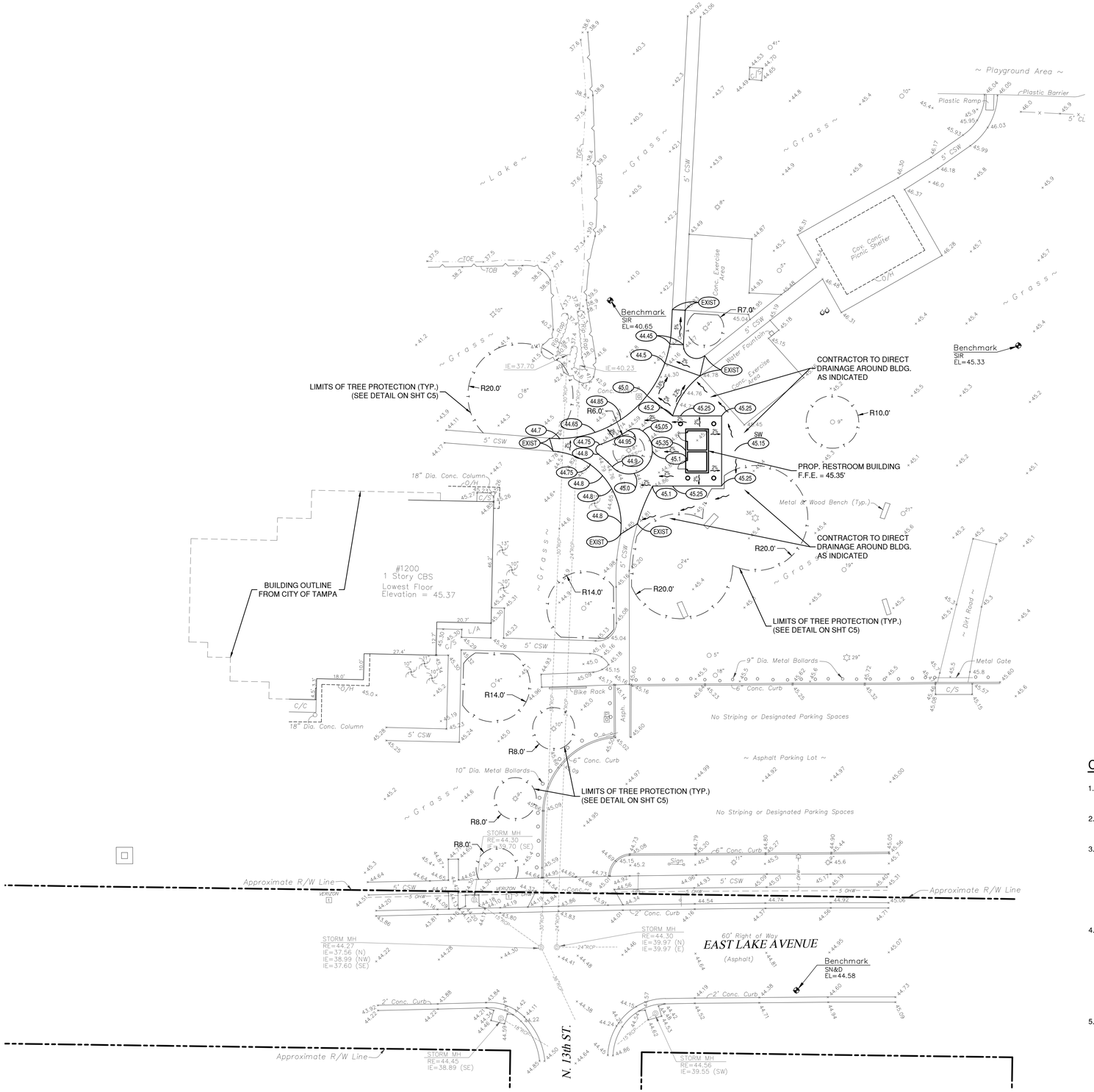

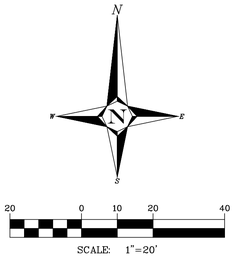

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GRADING LEGEND

× 45.00	EXISTING GROUND ELEVATION SHOT
— T —	PROPOSED TREE PROTECTION
	PROPOSED FLOW DIRECTION ARROW
(ELEV)	PROPOSED ELEVATION
EX	EXISTING ELEVATION
HP	HIGH POINT ELEVATION

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GRADING & DRAINAGE PLAN

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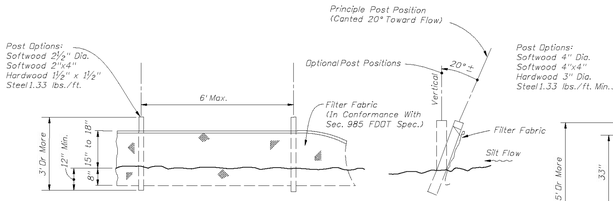
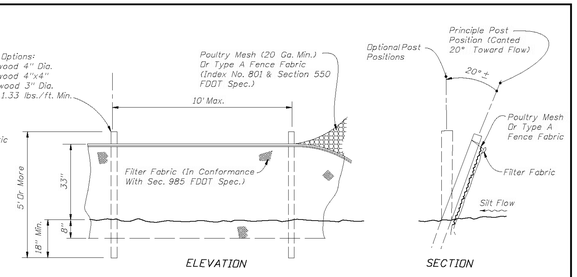
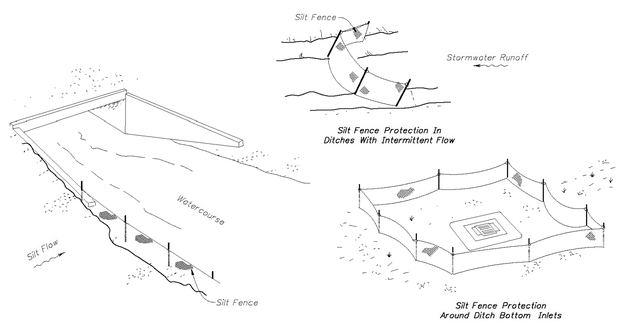


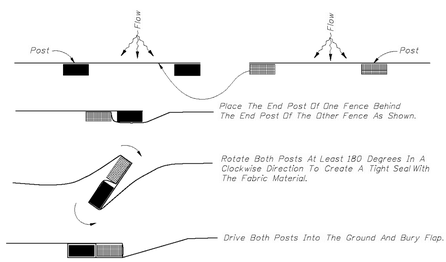
TYPE III SILT FENCE



TYPE IV SILT FENCE



SILT FENCE APPLICATIONS



PLAN VIEW

JOINING TWO SILT FENCES

NOTES FOR SILT FENCES

1. Type III Silt Fence to be used at most locations. Where used in ditches, the spacing for Type III Silt fence shall be in accordance with Chart 1, Sheet 1.
2. Type IV Silt Fence to be used where large sediment loads are anticipated. Suggested use is where fill slope is 1:2 or steeper and length of slope exceeds 25 feet. Avoid use where the detained water may back into travellanes or off the right of way.
3. Do not construct silt fences across permanent flowing watercourses. Silt fences are to be at upland locations and turbidity barriers used at permanent bodies of water.
4. Where used as slope protection, Silt Fence is to be constructed on 0% longitudinal grade to avoid channelizing runoff along the length of the fence.
5. Silt Fence to be paid for under the contract unit price for Staked Silt Fence, (LF).

2010 FDOT Design Standards	Last Revision 07/01/05	Sheet No. 3 of 3
TEMPORARY EROSION AND SEDIMENT CONTROL		Index No. 102

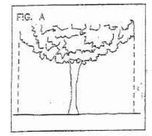
PROTECTIVE BARRIER REQUIREMENTS

AND

SPECIFICATIONS FOR EXISTING TREES TO REMAIN

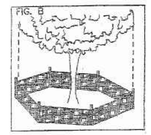
PROTECTIVE BARRIERS are used during land alteration and construction activities to protect trees and natural areas to be retained on a site.

PROTECTIVE BARRIERS must be erected around TREES to be retained within an area where land alteration and construction activities will occur as well as along NATURAL AREAS where such areas are adjacent to permitted land alteration or construction activities. A PROTECTIVE BARRIER must remain in place until the land alteration and construction activities are completed or until commencement of grade finishing and sodding. No ground disturbance must occur within the barricaded area. The following represents the County's minimum protective barrier specifications.



1. TREES – To restrict access into the area within the CANOPY DRIPLINE of a tree, a physical structure not less than 3 feet in height, comprised of wood or other suitable material, is placed around the tree at the CANOPY DRIPLINE, except where land alteration or construction activities are approved within the CANOPY DRIPLINE.

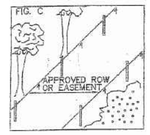
   The CANOPY DRIPLINE of a tree is the imaginary, vertical line that extends downward from the outermost tips of the tree's branches to the ground. Fig. A.



   BARRIER SPECIFICATIONS FOR TREES:

   Four corner upright stakes of no less than 2"x 2" lumber connected by horizontal members of no less than 1"x 4" lumber, or upright stakes spaced at 5' intervals of no less than 2"x 2" lumber connected by silt screen fabric or material of comparable durability. Fig. B

2. NATURAL AREAS – To restrict access into areas where land alteration and construction activities are not authorized a physical structure not less than 3 feet in height is placed along the perimeter of such areas.

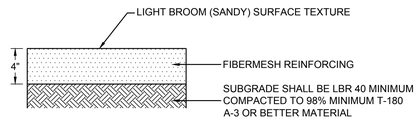


   BARRIER SPECIFICATIONS FOR NATURAL AREAS:

   Upright stakes of no less than 2"x 2" lumber spaced no more than 25' apart and connected by twine flagged with plastic surveying tape at regular intervals of 5-10'. Fig. C. Other methods of demarcation will be considered depending upon the characteristics of the site.

   WHY A BARRIER

   1. To protect all above ground portions of trees and other significant vegetation from mechanical damage.
   2. To protect root systems from compaction.
   3. To provide awareness of protected areas to equipment operators.



NOTE:

1. CONTROL JOINTS EVERY 5 FEET OF SIDEWALK OR WALKWAY, UNLESS OTHERWISE INDICATED.
2. EXPANSION JOINTS EVERY 20 FEET OF SIDEWALK OR WALKWAY, UNLESS OTHERWISE INDICATED.
3. CONCRETE STRENGTH = 3000 PSI

TYPICAL CONCRETE SIDEWALK DETAIL

NOT TO SCALE

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SEAL
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SHEET NUMBER
C5

5 OF 8

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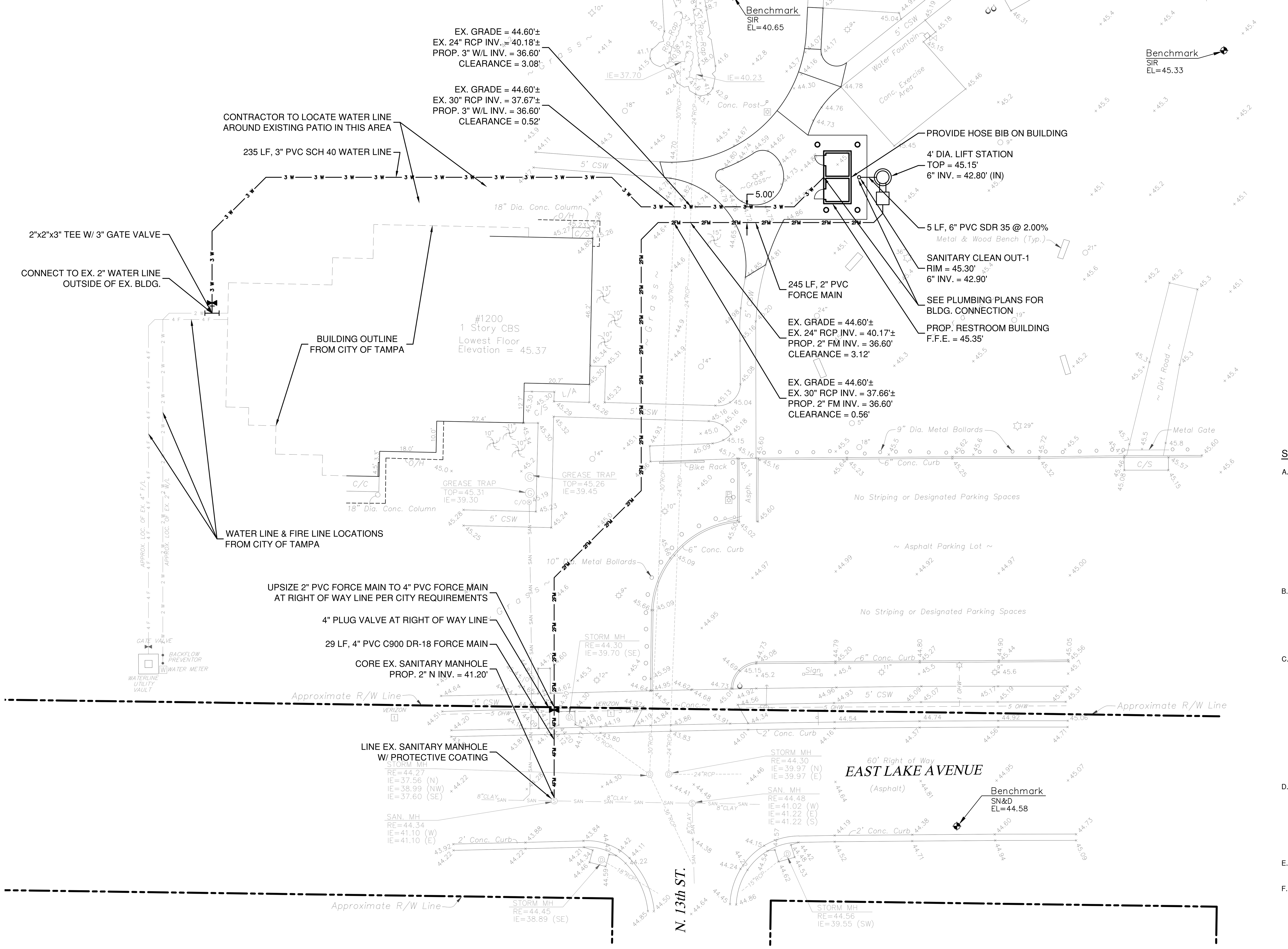
CONSTRUCTION NOTES:

1. SUBJECT PROPERTY LIES IN FLOOD ZONE X.; FLOOD INSURANCE RATE MAP 12057C0352H, EFFECTIVE DATE: AUGUST 28, 2008.
2. THE ELEVATIONS SHOWN HEREON ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD).
3. ALL EXISTING SODDED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE GRADED SMOOTH & RE-SODDED WITH "ARGENTINE BAHIA" (FRESH CUT IN 1'x2' PIECES, HEALTHY, FREE OF INSECTS/WEEDS, NATURALLY FLOURISHING). AFTER SODDING, ENTIRE AREAS SHALL BE ROLLED & WATERED BY HAND EACH DAY FOR 2 WEEKS, THEN TOP-DRESSED WITH COMMERCIAL FERTILIZER PER MANUFACTURER DIRECTIONS.
4. ROOT PRUNING SHALL BE BY CERTIFIED/QUALIFIED ARBORIST USING "DOSKO ROOT PRUNER" OR EQUAL; ROOTS SHALL BE CUT EVEN & SMOOTH (WITH SOIL & ROOTBALL INTACT) TO MAX. 9" DEPTH; FOLLOWING CONSTRUCTION, ARBORIST SHALL DRENCH PERIMETER OF ROOTBALL WITH APPROVED SYSTEMIC FUNGICIDE & ROOT INDUCING HORMONE (IBA OR EQUAL); ROOT PRUNE SHALL BE MIN. 15' AWAY FROM 24" OR LARGER TREE; COORDINATE WITH CITY/PARKS & RECREATION DEPARTMENT.
5. PRIOR TO TREE TRIMMING, COORDINATE WITH CITY/PARKS & RECREATION DEPARTMENT; TRIM/PRUNE LIMBS TO PROVIDE FDOT/STANDRAD CLEARANCE IN ACCORDANCE WITH ANSI A-300 PRUNING STANDARDS.



N S E W

20 0 10 20 40

SCALE: 1"=20'

EX. SURVEY NOTES

1. Type of Survey: Topographic Survey 5J-17.050(10)(k), Florida Administrative Code.
2. The elevations shown hereon are based upon the North American Vertical Datum, 1988 (NAVD)
3. The subject property address is 1200 E. Lake Avenue, Tampa, FL 33605.
4. Subject property lies within Section 07, Township 29 South, Range 19 East, City of Tampa, Hillsborough County, Florida.
5. Subject property is listed at the Hillsborough County Property Appraiser's Office as Folio # 172890-0000.
6. Subject property is shown on Flood Insurance Rate Map 12057C0352H. Effective Date: August 28, 2008. Subject property lies entirely within Flood Zone X.
7. All trees (4"+ dbh) and visible improvements lying within or immediately adjacent to the subject property's mapping window have been mapped and shown hereon. There are no visible encroachments either way across the property lines unless shown or denoted hereon. Underground improvements have not been excavated and mapped. Any underground improvement that is shown or denoted hereon is based upon maps, plans, atlas sheets or flags/marks set by others.
8. This survey map and report are not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper. Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without the written consent of the signing party or parties.

EX. SURVEY TREE LEGEND

- 20" = OAK (SIZE AS NOTED)
- 18" = PINE (SIZE AS NOTED)
- 16" = MAPLE (SIZE AS NOTED)
- 12" = JACARANDA (SIZE AS NOTED)
- 22" = MYRTLE (SIZE AS NOTED)
- 24" = MAGNOLIA (SIZE AS NOTED)
- 30" = PALM (SIZE AS NOTED)
- 14" = UNKNOWN (SIZE AS NOTED)
- 24" = CYPRESS (SIZE AS NOTED)
- 18" = CITRUS (SIZE AS NOTED)
- 15" = CAMPHOR (SIZE AS NOTED)

EX. SURVEY SYMBOL LEGEND

Cable Television	Guy Wire Anchor
Backflow Preventer	Hydrant
Curb Inlet	Irrigation Control Valve
Concrete Light Pole	Metal Light Pole
Cleanout	Power Control Box
Concrete Power Pole	Sanitary Manhole
Concrete Monument	Storm Manhole
Mitred End Section	Sign
Pedestrian Cross Walk Signal	Telephone Control Box
Gate Valve	Gas Valve
Grate Inlet	Greasetrap
Telephone Manhole	Wood Light Pole
Telephone Sign	Water Meter
Gas Meter	Wood Power Pole
Traffic Signal Box	Mailbox

EX. SURVEY LEGEND

+/-	Plus or Minus (more or less)	LB	Corporate Certificate Number
AC	Acres	LS	Professional Land Surveyor
B/C	Back of Curb	(M)	Measured Data
BFP	Backflow Preventor	MES	Mitred End Section
BLDG.	Building	MH	Manhole
BWF	Barb Wire Fence	MLP	Metal Light Pole
(C)	Calculated Data	MOL	More or Less
CBS	Concrete Block Structure	N/C	No Cap
CCR	Certified Corner Record	N.T.S.	Not To Scale
C/C	Covered Concrete	O/A	Overall
CLF	Chain Link Fence	OHW	Overhead Wires
CLP	Concrete Light Pole	OR	Official Record Book
CONC	Concrete	PB	Plat Book
C/S	Concrete Slab	PCED	Pinellas County Engineering Department Disk
CWF	Chicken Wire Fence	PCP	Permanent Control Point
(D)	Data per Description	PG.(s)	Page (s)
Fd.	Found	P/L	Property Line
D/W	Driveway	POB	Point of Beginning
E/P	Edge of Pavement	POC	Point of Commencement
EX	Existing	PRM	Permanent Reference Monument
F/C	Fence Corner	RE	Rim Elevation
FCM	Found Concrete Monument 4"x4" (ZBI LB6472) Unless Noted	R/W	Right-of-Way
F/T	Fence Tie	San.	Sanitary
FIR	Found Iron Rod & Cap 5/8" (LB6472) Unless Noted	SEC.	Section
FND	Found	CSW	Concrete Sidewalk
FN&D	Found Nail & Disc (ZBI LB6472) (Unless Noted)	SIR	Set Iron Rod 5/8" & Cap (LB6472)
FOP	Found Open Pipe	SN&D	Set Nail & Disc (LB6472)
DIP	Ductile Iron Pipe	NF	Not Found
FPP	Found Pinched Pipe	S/W	Sidewalk
F/T	Fence Tie	TOB	Top of Bank
GE	Grate Elevation	TYP.	Typical
GI	Grate Inlet	U/G	Underground
TECO	Tampa Electric Company	VCP	Vitreous Clay Pipe
GV	Gate Valve	TBM	Temporary Benchmark
NS	Not Set	WL	Water Line
FL	Fire Line	WLP	Wood Light Pole
DCVA	Double Check Valve Assembly	WM	Water Main
ID	Identification	WPP	Wood Power Pole
IE	Invert Elevation	(XXXX)	Corner Marking
M/F	Metal Fence	Asph.	Asphalt
EOP	End of Pipe	W/F	Wood Fence
F/H	Flire Hydrant	C/R	Concrete Ramp
ESMT	Easement	EL	Elevation
TSB	Traffic Signal Box	STY	Story
V/C	Vertical Curb	PVC	Polyvinyl Chloride Pipe
TOS	Toe of Slope	A/C	Air Conditioner
TFM	Transformer	L/A	Landscape Area
CBW	Concrete Block Wall	ECMP	Elliptical Corrugated Metal Pipe
O/H	Building Overhang	MP	Metal Pipe
MHR	Metal Handrail	L/T	Landscape Timber
CI	Curb Inlet	W/D	Wood Deck
B/P	Brick Pavers	CMP	Corrugated Metal Pipe
		C/O	Cleanout
		RR	Railroad
		RLS	Registered Land Surveyor
		Unk.	Unknown

NOTE:

BASE INFORMATION FOR THIS PLAN IS PROVIDED BY ZARRA BOYD, INC. SURVEY DATED 2/19/16.

UTILITY LEGEND

- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER LINE
- EXISTING 2" WATER LINE
- EXISTING 4" FIRE LINE
- PROPOSED 3" WATER LINE
- PROPOSED 6" SANITARY SEWER LINE
- PROPOSED SANITARY SEWER CLEAN OUT
- PROPOSED SANITARY SEWER LIFT STATION
- PROPOSED 2" SANITARY SEWER FORCE MAIN
- PROPOSED 4" SANITARY SEWER FORCE MAIN

SANITARY SEWER RIGHT-OF-WAY NOTES:

A. AT LEAST THREE (3) WEEKS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE PLANNING DIVISION'S FIELD INSPECTOR ALEX GONZALEZ, 2545 GUY N. VERGER BOULEVARD, TAMPA, FLORIDA 33602 (PHONE 813-274-1293), AND SUPPLY HIM WITH FURTHER CONSTRUCTION INFORMATION. THIS INFORMATION SHOULD INCLUDE ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION REQUIRED BY THE PLANNING DIVISION. THE PLANNING DIVISION OFFICE MUST ALSO BE CONTACTED BY TELEPHONE FIVE DAYS PRIOR TO THE ACTUAL START OF FIELD OPERATIONS IN ORDER TO ENSURE AVAILABILITY OF INSPECTION PERSONNEL. IT IS IMPERATIVE THAT CONTRACTOR BE FULLY INFORMED OF THE NOTIFICATION AND SUBMITTAL REQUIREMENTS. FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL DELAY THE APPROVAL AND ACCEPTANCE OF THE CONSTRUCTED FACILITIES AND THE RELEASE OF THE CERTIFICATE OF OCCUPANCY FOR THE PROJECT.

B. THE CONTRACTOR SHALL PERFORM AN INFILTRATION/EXFILTRATION TEST ON ALL GRAVITY SEWERS AND A PRESSURE TEST ON ALL FORCE MAINS (AS APPLICABLE) IN ACCORDANCE TO THE CITY OF TAMPA'S WASTEWATER DEPARTMENT REGULATIONS. SAID TESTS ARE TO BE CERTIFIED BY THE ENGINEER OF RECORD AND SUBMITTED TO THE CITY OF TAMPA WASTEWATER DEPARTMENT FOR APPROVAL. THE SCHEDULING, COORDINATION AND NOTIFICATION TO ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.

C. ONE OR MORE OF THE FOLLOWING CERTIFICATES/SHOP DRAWINGS, DEPENDING ON THE TYPE OF CONNECTIONS, WILL BE REQUIRED. THESE ITEMS MUST BE REVIEWED AND APPROVED BY THE PLANNING DIVISION PRIOR TO STARTING CONSTRUCTION AND SHALL BE SUBMITTED IN ACCORDANCE WITH NOTE NO. A.

a) DIP/PVC CERTIFICATE OF MANUFACTURE.
b) MANHOLE SHOP DRAWINGS AND STRENGTH REPORT.
c) FRAME AND COVER SHOP DRAWINGS.
d) FLEXIBLE COUPLING SHOP DRAWINGS.
e) CASING PIPE CERTIFICATE.
f) JACKING PIT DETAIL.
g) CRUSHED STONE SUBMITTAL.
h) VALVE SHOP DRAWINGS.
i) MANHOLE DROP CONNECTION DETAIL.

D. THE CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THE FOLLOWING HAS BEEN COMPLETED:

a) FINAL INSPECTION IN CONJUNCTION WITH DEPARTMENT PERSONNEL COMPLETED.
b) AS-BUILTS HAVE BEEN SUBMITTED AND ACCEPTED.
c) ALL NECESSARY TESTING COMPLETED AND CERTIFIED.
d) PAYMENT OF ALL CAPACITY FEES.
e) ISSUANCE OF F.D.E.P. CERTIFICATION OF COMPLETION APPROVAL (IF APPLICABLE)

E. THE CONTRACTOR SHALL CONSTRUCT THE BENCH IN THE PROPOSED MANHOLE TO ACCOMMODATE THE NEW FLOW DIRECTION.

F. WASTEWATER FLOW IN THE EXISTING SEWER MUST BE MAINTAINED DURING THE INSTALLATION OF THE PIPELINE. IF A BY-PASS IS REQUIRED, THE CONTRACTOR MUST SUBMIT DETAILS OF THE SYSTEM FOR REVIEW AND APPROVAL TO THE DEPARTMENT PRIOR TO STARTING CONSTRUCTION.

UTILITY NOTES:

CONNECTIONS MADE WHICH DIRECTLY JOIN PIPE MATERIALS SHALL BE MADE USING A RIGID STAINLESS STEEL SHIELDED SEWER COUPLING AS MANUFACTURED BY MISSION RUBBER COMPANY. GASKET TO MEET ASTM C-425-91 TABLE 2, 300 SERIES STAINLESS STEEL SHEAR RING WITH A MINIMUM THICKNESS OF 0.012", 316 SERIES STAINLESS STEEL CLAMPS WITH NUT & BOLT TAKE UP, SHEAR RING & CLAMPS TO MEET ALL REQUIREMENTS OF ASTM A-167. TRANSITIONAL SIZES TO UTILIZE A ONE PIECE GASKET. ANY EXISTING CLAY PIPE SHALL BE REMOVED TO UNDISTURBED PIPE BEDDING & REPLACED WITH PVC AS APPROVED BY THE CITY.

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Underground Cable Locating Service

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UTILITY PLAN

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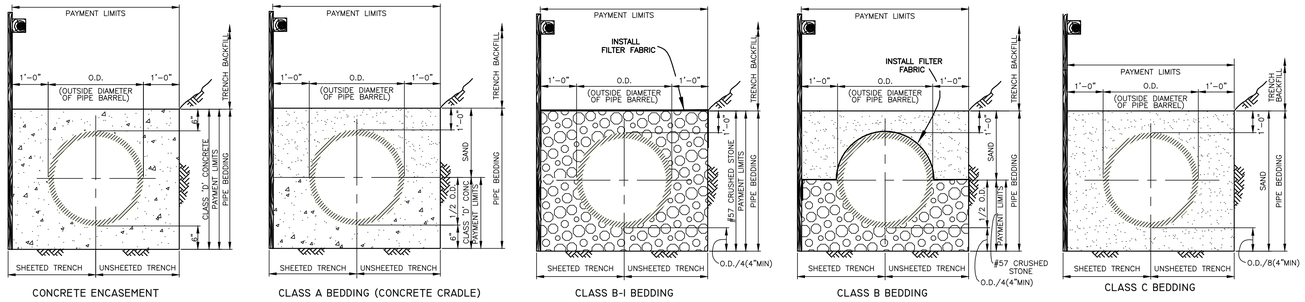


CONCRETE ENCASEMENT | CLASS A BEDDING (CONCRETE CRADLE) | CLASS B-I BEDDING | CLASS B BEDDING | CLASS C BEDDING

PIPE BEDDING DETAILS

NOTES:

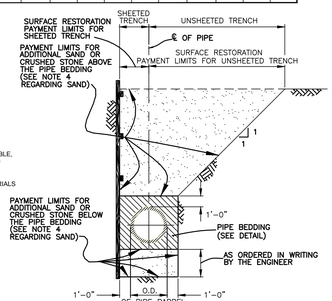
1 ALL TYPES OF PIPE BEDDING SHALL EXTEND TO UNDISTURBED EARTH AT SIDES AND BOTTOM OF THE TRENCH.
2. SAND AND CRUSHED STONE PIPE BEDDING SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.

QUANTITIES FOR PAYMENT FOR ADDITIONAL PIPE BEDDING MATERIALS ORDERED IN WRITING BY THE ENGINEER

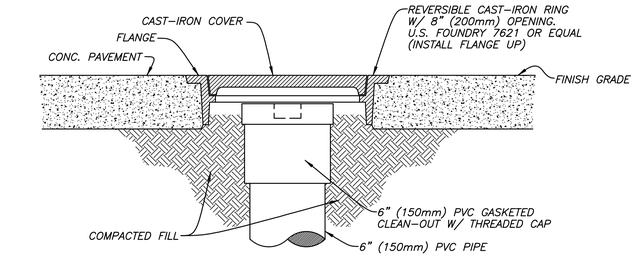
NOMINAL INSIDE PIPE DIAMETER (INCHES)	6	8	10	12	14	15	16	18	20	21	24	27	30	36	42	48	54	60	66	72
CUBIC YARDS OF CONCRETE PER LINEAR FOOT OF PIPE IN CONCRETE ENCASEMENT	0.141	0.167	0.191	0.216	0.229	0.256	0.252	0.299	0.300	0.340	0.353	0.427	0.472	0.569	0.690	0.797	0.909	1.027	1.150	1.279
CUBIC YARDS OF CONCRETE PER LINEAR FOOT OF PIPE IN CLASS A BEDDING (CONCRETE CRADLE)	0.071	0.094	0.096		0.108	0.115	0.128	0.126	0.150	0.150	0.170	0.192	0.214	0.236	0.264	0.345	0.399	0.455	0.514	0.575	0.640
CUBIC YARD OF CRUSHED STONE PER LINEAR FOOT OF PIPE IN CLASS B-1 BEDDING	0.172	0.201	0.226	0.225	0.269	0.304	0.299	0.362	0.363	0.419	0.479	0.542	0.608	0.785	0.936	1.103	1.281	1.471	1.673	1.887
CUBIC YARDS OF CRUSHED STONE PER LINEAR FOOT OF PIPE IN CLASS B BEDDING	0.055	0.068	0.078	0.088	0.094	0.111	0.108	0.143	0.143	0.173	0.207	0.243	0.280	0.365	0.475	0.578	0.690	0.810	0.939	1.078

NOTES:

1. PAYMENT FOR ADDITIONAL CRUSHED STONE OR CLASS D CONCRETE PIPE BEDDING MATERIALS WILL BE MADE ONLY FOR PIPE BEDDING NOT SHOWN IN THE PLANS AND ORDERED IN WRITING BY THE ENGINEER.
2. PAYMENT FOR SURFACE RESTORATION WILL MADE FOR THE ACTUAL QUANTITIES, AS DETERMINED BY THE ENGINEER, OF SURFACE RESTORED WITHIN THE PAYMENT LIMITS SHOWN.
3. PAYMENT FOR ADDITIONAL SAND OR CRUSHED STONE FOR TRENCH STABILIZATION, ORDERED IN WRITING BY THE ENGINEER, WILL BE MADE FOR THE ACTUAL COMPACTED VOLUME, AS DETERMINED BY THE ENGINEER, OF SAND OR CRUSHED STONE PLACED WITHIN THE PAYMENT LIMITS SHOWN.
4. CONTRACTOR SHALL USE ALL SURPLUS SAND, APPROVED AS SUITABLE, FROM EXCAVATIONS IN THIS CONTRACT PRIOR TO SUPPLYING SAND FROM OTHER SOURCES. PAYMENT FOR ADDITIONAL SAND WILL BE MADE ONLY FOR SAND SUPPLIED FROM SOURCES OTHER THAN EXCAVATIONS IN THIS CONTRACT. SEE SPECIFICATIONS FOR MATERIALS REQUIREMENTS.



PAYMENT LIMITS FOR SURFACE RESTORATION AND ADDITIONAL SAND OR CRUSHED STONE FOR TRENCH STABILIZATION



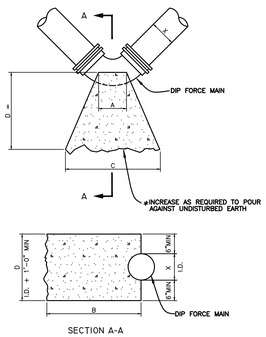
DETAIL

CLEAN-OUT W/ COVER FOR CONCRETE PAVED AREAS

NOT TO SCALE

NOTES:

1. *CONTRACTOR SHALL ADJUST THE CLEAN-OUT AND CAST IRON RING AND COVER OR HDPE BOX AND COVER SO THAT THE COVER IS SEATED SECURELY AND THE TOP OF THE COVER IS FLUSH WITH THE FINISH GRADE. THE PVC CAP OF THE CLEAN OUT SHALL BE NO MORE THAN 4 INCHES DEEPER THAN THE FINISH GRADE.*
2. *PVC CAP MAY BE PROVIDED WITH RECESSED NUT.*
3. *CAST IRON COVER SHALL BE PROVIDED WITH AN EMBOSSED LETTER "S" FOR IDENTIFICATION HDPE COVER SHALL BE MARKED "SEWER" FOR IDENTIFICATION.*
4. *CAST IRON RING AND COVER, OR HDPE BOX AND COVER, AS WELL AS THE FOUR (4 SF) SQUARE FEET OF MATERIAL (CONCRETE OR ASPHALT AROUND THE CLEAN OUT), ARE PART OF THE CLEAN-OUT INSTALLATION AND COST SHALL BE INCLUDED WITHIN THE UNIT PRICE FOR CLEAN-OUT WITH NO ADDITIONAL PAYMENT.*
5. *ALL CLEAN-OUTS ON THIS PROJECT SHALL BE ONE OF THE FOUR TYPES SHOWN ON THIS SHEET. FIELD CONDITIONS WILL DETERMINE WHICH TYPE.*

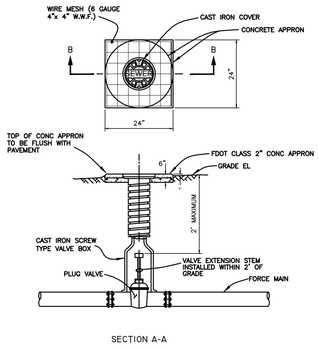


SECTION A-A

THRUST BLOCK DETAIL

NOT TO SCALE

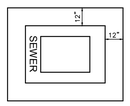
SCHEDULE				
BLOCKING DIMENSIONS				
X	A	B	C	D
90° BEND				
4"	4"	1'-4"	1'-4"	1'-4"
6"	6"	1'-6"	1'-6"	1'-6"
8"	8"	2'-0"	2'-0"	2'-0"
10"	10"	2'-0"	3'-0"	2'-0"
12"	10"	2'-6"	3'-6"	2'-5"
45° BEND				
4"	3"	1'-4"	1'-0"	1'-4"
6"	4"	1'-6"	1'-3"	1'-6"
8"	5"	1'-9"	1'-3"	1'-9"
10"	6"	1'-9"	1'-6"	2'-0"
12"	6"	2'-0"	2'-3"	2'-3"
22 1/2° BEND				
4"	3"	1'-4"	1'-0"	1'-4"
6"	4"	1'-6"	1'-0"	1'-6"
8"	4"	1'-6"	1'-0"	1'-8"
10"	6"	1'-6"	1'-0"	2'-0"
12"	6"	2'-0"	1'-6"	2'-0"
11 1/4° BEND				
4"	3"	1'-4"	1'-0"	1'-4"
6"	3"	1'-6"	1'-0"	1'-6"
8"	6"	2'-0"	1'-0"	1'-8"
10"	8"	2'-0"	1'-0"	2'-0"
12"	8"	2'-0"	1'-0"	2'-0"



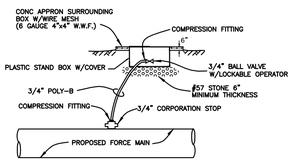
SECTION A-A

VALVE BOX DETAIL

NOT TO SCALE



PLAN VIEW



AIR RELEASE VALVE DETAIL

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LANDSCAPE CONSULTANT

RAGAN PARK RESTROOM IMPROVEMENTS
1200 E. LAKE AVE
TAMPA FLORIDA 33604

FILE NUMBER

PROJECT NUMBER
100779

ISSUE DATE
OCTOBER 2016

DRAWN BY

REVISIONS

SEAL
EDWARD D. RICE A.I.A.

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UTILITY DETAILS

SHEET NUMBER
C7

7 OF 8

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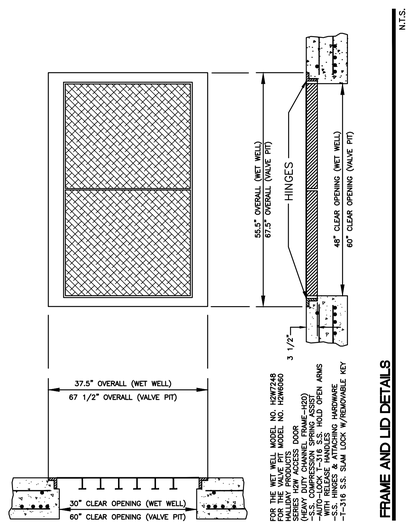
LIFT STATION CONTROL CABINET COMPONENT LEGEND

	COMPONENT	MANUFACTURER	PART NO.
AH	ALARM HORN	WHEELOCK	31T-115-R
	(W.P. BACKBOX)	WHEELOCK	WBB-R
AL	ALARM LIGHT		
	(GLOBE-RED)	RED DOT	UGLR-01
	(SIDE BASE)	RED DOT	VW-01
	(GUARD)	RED DOT	VGD-01
ASB	ALARM SILENCE BUTTON	SQ. D	9001 SKR1U
	(PUSH BUTTON BOOT)	SQ. D	9001 KU7
	(NORMALLY OPEN CONTACT BLOCK)	SQ. D	9001 KA2
CCB	CONTROL CIRCUIT BREAKER	SQ. D	FAL 12015
DRB	DUPLEX RECEPTACLE BREAKER	SQ. D	FAL 12015
ECB	ENERGENCY CIRCUIT BREAKER	SQ. D	*
ETM	ELAPSED TIME METER	ENGLER	711-0017
F#	FUSE	BUSSMAN	MDA-10
	(FUSE HOLDER)	BUSSMAN	HKP-HH
FB	FUSE BLOCK	BUSSMAN	BM60335Q
	(1 AMP FUSE)	LITTLEFUSE	KLK-1
FL	FLASHER	SSAC	FS126
GFDR	GROUND FAULT DUPLEX RECEPTACLE	LEVITON	6599-I
GR	GENERATOR RECEPTACLE	ARKITE	AR1042
HOA	HAND-OFF-AUTO SELECTOR SWITCH	SQ. D	9001
	(NO/NC CONTACT BLOCK)	SQ. D	9001
LA	LIGHTNING ARRESTOR	JOSLYN	J9200-9A
MB	MOTOR CONTACT BREAKER	SQ. D	*
MCB	MAIN CIRCUIT BREAKER	SQ. D	*
MS	MOTOR STARTER	SQ. D	CLASS 8526
OL	OVERLOADS	SQ. D	*
PM	PHASE MONITOR	DIVERSIFIED	#
R	RELAY	POTTER & BRUMFIELD	KRPA-11AG-120
RL#	RUN LIGHTS (PUSH TO TEST)	SQ. D	9001
	(RED LENDS)	SQ. D	9001
SSOL	SOLID STATE OVERLOAD	FURNAS	*
T	TRANSDUCER	MILLTRONICS	ST-25C
TS#	TERMINAL STRIP	SQ. D	9080
TTS	THERMAL TERMINAL STRIP	SQ. D	9080
ULC	ULTRASONIC LEVEL CONTROLLER	MILLTRONICS - MULTI-RANGER PLUS	

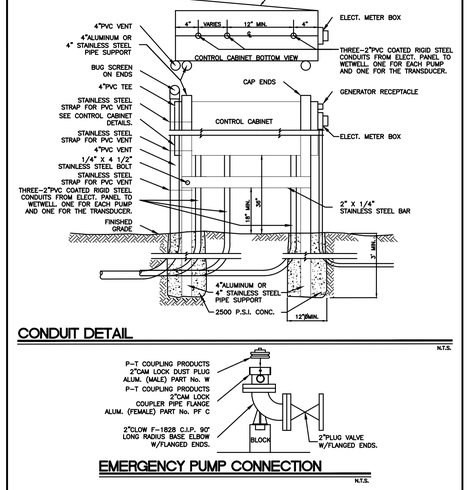
NOTE: (*) SIZED BY HORSEPOWER
(#) VARIES WITH VOLTAGE

CONTROL CABINET CONPONENT LEGEND

N.T.S.



FRAME AND LID DETAILS



CONDUIT DETAIL

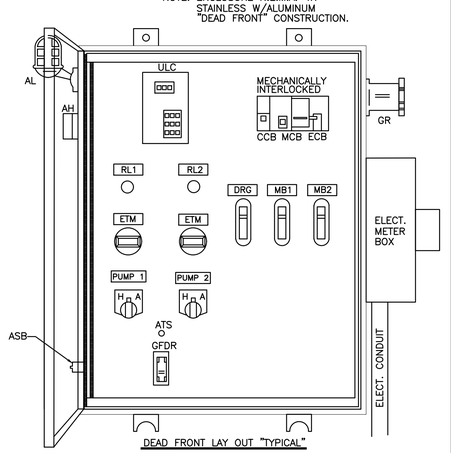
N.T.S.

EMERGENCY PUMP CONNECTION

N.T.S.

DUPLEX CONTROLLER

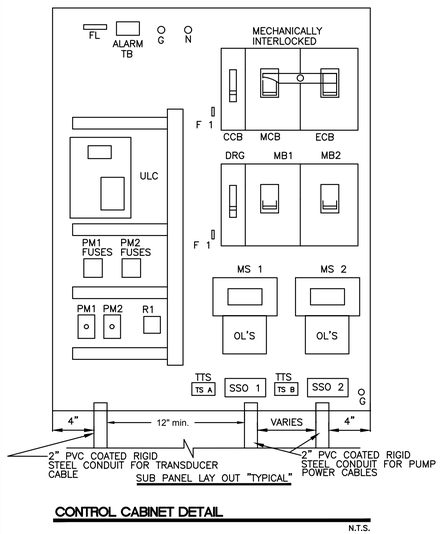
NOTE: ENCLOSURE N.E.M.A. 4X
STAINLESS W/ALUMINUM
"DEAD FRONT" CONSTRUCTION.



DEAD FRONT LAY OUT "TYPICAL"

CONTROL CABINET DETAIL

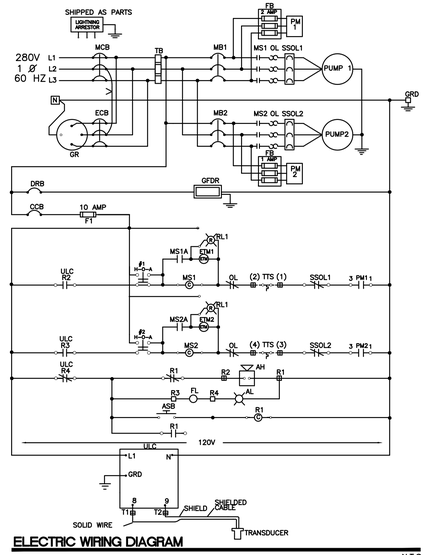
N.T.S.



SUB PANEL LAY OUT "TYPICAL"

CONTROL CABINET DETAIL

N.T.S.



ELECTRIC WIRING DIAGRAM

N.T.S.

FLYGT LIFT

The following method of raising a Flygt C-3000 series pumps has been developed to make lifting easier and still keep the overall costs for lifting equipment low. It consists of a short length of chain attached to the pump handle, attached to the chain, and a grip eye (which is put onto the lifting equipment hook) which then slides down the rope and automatically connects to the chains.

Follow steps in figure 16.

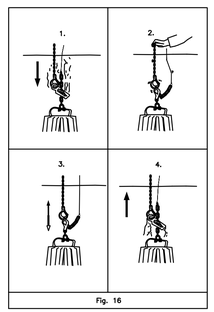


Fig. 16

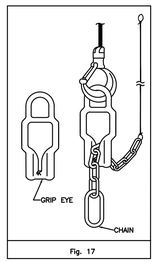


Fig. 17

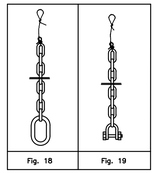


Fig. 18

Fig. 19

FLYGT LIFT
(Chain Sling & Grip Eye for Lifting)

For The Following Pumps	Chain Sling Limit	Weight(Lb.)	Figure	Grip Eye	Figure
3085-3201,3300 & 7050	442 18 00	2,800	18	441 43 00	17
3230,3305-3600,5150-5350,7060 & 7080	442 18 02	9,200	19	458 34 00	17
7100,7120 & 7140	442 18 03	26,000	19	457 60 00	17

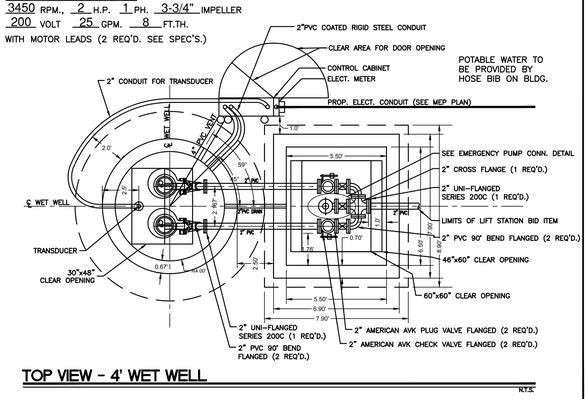
LIFT CHAIN DETAIL

N.T.S.

CONTRACTOR NOTES:

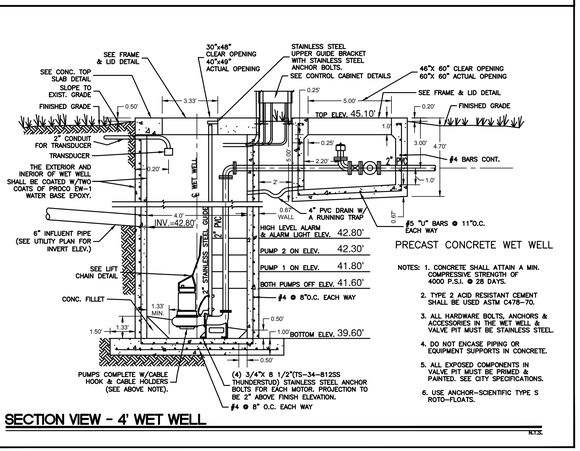
1. CONTRACTOR TO COORDINATE WITH PUMP SUPPLIER TO DETERMINE IF CONTROL PANEL CAN BE ATTACHED TO WALL OF ADJACENT BUILDING.
2. CONTRACTOR TO DETERMINE IF SINGLE METER CAN BE USED FOR BUILDING AND LIFT STATION.

PUMP TO BE MYERS
WGL20-01 GRINDER
3450 RPM., 2 H.P. 1 PH. 3-3/4" IMPELLER
200 VOLT 25 GPM. 8 FT.TH.
WITH MOTOR LEADS (2 REQ'D. SEE SPEC'S.)



TOP VIEW - 4' WET WELL

N.T.S.



SECTION VIEW - 4' WET WELL

N.T.S.

PRECAST CONCRETE WET WELL

NOTES:
1. CONCRETE SHALL ATTAIN A MIN. COMPRESSIVE STRENGTH OF 4000 P.S.I. @ 28 DAYS.
2. TYPE 2 ACID RESISTANT CEMENT SHALL BE USED ASTM C478-70.
3. ALL HARDWARE BOLTS, ANCHORS & ACCESSORIES IN THE WET WELL & VALVE PIT MUST BE STAINLESS STEEL.
4. DO NOT ENCASE PIPING OR EQUIPMENT SUPPORTS IN CONCRETE.
5. ALL EXPOSED COMPONENTS IN VALVE PIT MUST BE PRIMED & PAINTED. SEE CITY SPECIFICATIONS.
6. USE ANCHOR-SCIENTIFIC TYPE S ROTO-FLOATS.

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LIFT STATION DETAILS

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PLANNING AND DESIGN DIVISION
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SEAL
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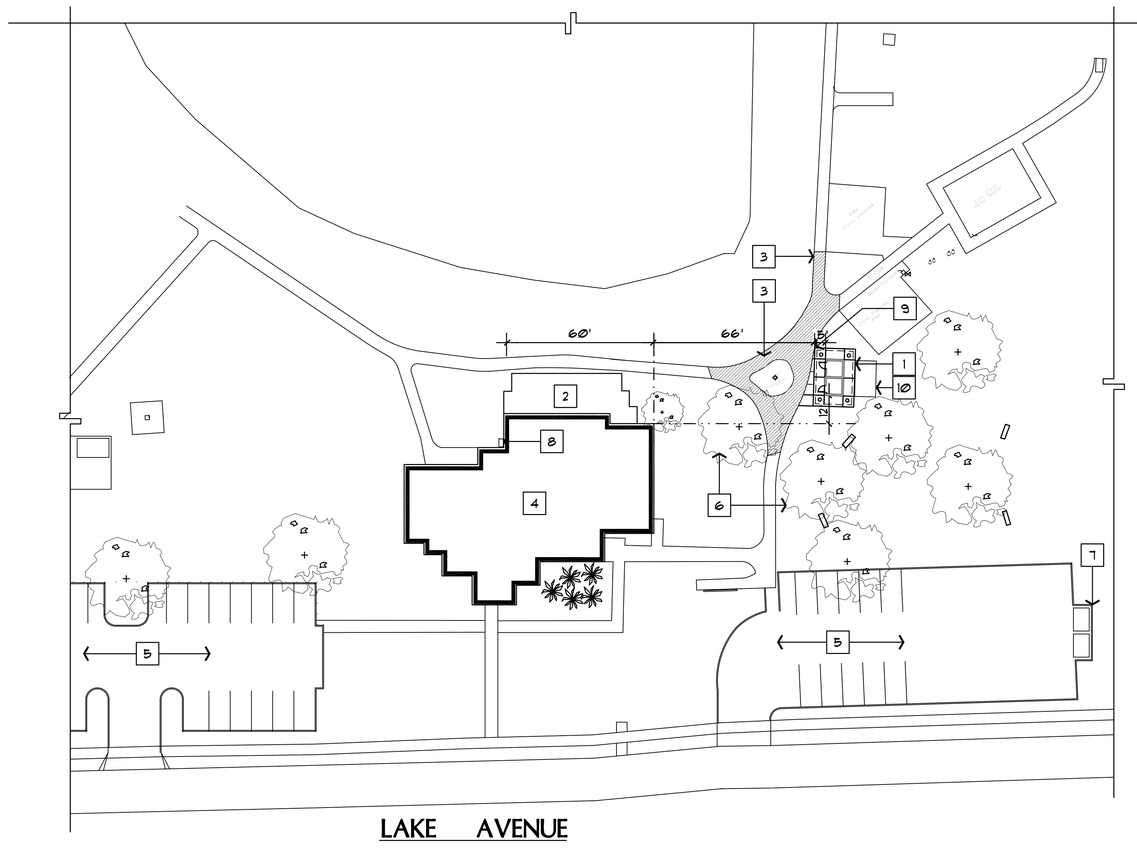

RAGAN PARK PARTIAL SITE PLAN
SCALE: 1" = 30.0'

GENERAL NOTES

1. SEE CIVIL DRAWINGS AND SURVEY FOR EXISTING SITE CONDITIONS AND IMPROVMENTS.
2. SEE ELECTRICAL SITE PLAN (SHT. NO E1.) FOR ELECTRICAL WORK.
3. SEE CIVIL DRAWINGS (SHT. NO. C3.) FOR WORK FOR WORK RELATED TO LANDSCAPING (SODDING, TRIMMING, PRUNING, ETC.).

KEY NOTES

1. PROPOSED RESTROOM BUILDING. F.F. EL. = 45.35'
2. EXISTING RAISED CONC. PATIO
3. RETAIN EXIST. CONC. WALK CONFIGURATION ADJUST GRADE & REPLACE CONC. WALK (SEE CIVIL)
4. EXISTING COMMUNITY CENTER F.F. EL. = 45.37'
5. EXISTING PARKING LOT
6. EXISTING TREES - SEE CIVIL DRAWINGS FOR PROTECTION REQUIREMENTS.
7. EXISTING DUMPSTER ENCLOSURE DO NOT BLOCK / MAINTAIN ACCESS
8. EXISTING MIR (IRRINET) IRRIGATION CONTROLLER FOR REMOTE CONTROL OF PROPOSED RESTROOM BLDG, LTS, OUTLETS, LOCKS ON DOORS (SEE ELECTRICAL)
9. CORNER OF CONCRETE APRON SHALL BUTT EXISTING CONCRETE WALK BEING REPLACED
10. PROPOSED LIFT STATION - COORDINATE W/ CIVIL

PARTIAL SITE PLAN

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FILE NUMBER

CONTRACT NUMBER
16-C-00027

ISSUE DATE
NOVEMBER , 2016

DRAWN BY
JERRY P. SANDERS

REVISIONS

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STATE OF FLORIDA
EDWARD D. RICE
REGISTERED ARCHITECT
AR0016224

SHEET NUMBER
A1.1

GENERAL NOTES

DESIGN CRITERIA

1.0 REFERENCED STANDARDS
- 1.1 DESIGN
  - 1.1.1 THE FLORIDA BUILDING CODE, 2014 EDITION.
  - 1.1.2 ACI 318–LATEST EDITION BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
  - 1.1.3 ACI 520–LATEST EDITION BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
  - 1.1.4 ASTM SPECIFICATIONS FOR MASONRY STRUCTURES.
  - 1.1.5 NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION DESIGN CODES AND GUIDELINES.
  - 1.1.6 PLYWOOD DESIGN SPECIFICATIONS.
  - 1.1.7 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) (LRFD OR ASD METHOD).
  - 1.1.8 PRODUCTS SUBMITTED ARE PRODUCT APPROVED AND CAN BE SUBSTITUTED WITH PRODUCT APPROVED EQUALS.

2.0 DESIGN LOADS
- 2.1 DEAD LOADS:
  - 2.1.1 FLOOR DEAD LOAD = 40 PSF
  - 2.1.2 ROOF DEAD LOAD = 20 PSF
- 2.2 LIVE LOADS:
  - 2.2.1 FLOOR LIVE LOAD: = 40 PSF
  - 2.2.2 ROOF LIVE LOAD: = 20 PSF
- 2.3 WIND LOADS: PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, CHAPTER 16, LATEST EDITION
  - 2.3.1 DESIGN WIND SPEED = 151 M.P.H. (3 SECOND
  - 2.3.2 IMPORTANCE FACTOR = 1.0, CATEGORY III
  - 2.3.3 EXPOSURE CATEGORY = B
  - 2.3.4 INTERNAL PRESSURE COEFFICIENT = 0.18
  - 2.3.5 BUILDING TYPE = ENCLOSED
  - 2.3.6 COMPONENT AND CLADDING DESIGN WIND PRESSURES:
    - ROOF AREAS 50 S.F. OR GREATER = (+) 25.90 PSF (U.O.N.)
    - (–) 106.28 PSF (U.O.N.)
    - ROOF OVERHANGS = (–) 59.7 PSF (U.O.N.)
    - WALL AREAS 20 S.F. OR GREATER = (–) 48.23 PSF (U.O.N.)
    - FOR ADDITIONAL COMPONENTS AND CLADDING WIND PRESSURES SEE THE DESIGN WIND PRESSURE CHART OF THESE GENERAL NOTES.
- 2.4 THERMAL FORCES
  - 2.4.1 SEASONAL VARIATION FOR DESIGN AND CONSTRUCTION:
    - 2.4.1.1MEDIAN TEMPERATURE: 70° F
    - 2.4.1.2TEMEPRATURE RISE: 25° F
    - 2.4.1.3TEMPERATURE FALL: 35° F
  - 2.4.2 MEDIAN RELATIVE HUMIDITY: 75%
- 2.5 RAILING LOADS
  - 2.5.1 ALL RAILING AND GUARD RAIL SYSTEMS ARE TO BE DESIGNED TO WITHSTAND A CONCENTRATED LOAD OF 200 POUNDS AT ANY POINT AND IN ANY DIRECTION.
- 2.6 CREEP AND SHRINKAGE
  - 2.6.1 ALL LOSSES IN ACCORDANCE WITH ACI 318–LATEST EDITION.
- 2.7 SEISMIC LOADS:
  - 2.7.1 SEISMIC PERFORMANCE CATEGORY 'A'.
- 2.8 DEFLECTIONS:
  - 2.8.1 FLOOR TRUSSES SHALL LIMIT DEFLECTION TO 1/360 TIMES THE SPAN FOR LIVE LOADS AND 1/240 TIMES THE SPAN FOR TOTAL LOAD.

3.0 LOAD FACTOR DESIGN
- 3.1 THE LOAD FACTOR DESIGN METHODS WAS USED TO DESIGN;
  - 3.1.1 CAST–IN–PLACE CONCRETE SLABS AND FOOTINGS.
  - 3.1.2 STRUCTURAL STEEL (IN ACCORDANCE WITH AISC–LRFD).
- 3.2 THE FOLLOWING LOAD COMBINATIONS WERE DESIGNED FOR:
  - 3.2.1 1.4 X TOTAL DL
  - 3.2.2 1.2 X TOTAL DL + 1.6 X TOTAL LL
  - 3.2.3 1.2 X TOTAL DL + 1.6 X WL + 1.0 X FLOOR LL + 0.5 X ROOF LL
  - 3.2.4 0.9 X TOTAL DL + 1.6 X WL

4.0 SERVICE LOAD DESIGN
- 4.1 THE SERVICE LOAD DESIGN WAS USED TO DESIGN:
  - 4.1.1 MASONRY WALLS AND LINTELS.
  - 4.1.2 INTERIOR AND EXTERIOR WOOD FRAMING AND SHEATHING.
  - 4.1.3 STAIR AND FLOOR FRAMING.
  - 4.4.4 STRUCTURAL STEEL (IN ACCORDANCE WITH AISC–ASD).
  - 4.4.5 ROOF FRAMING, SHEATHING, AND UPLIFT.
- 4.2 THE FOLLOWING LOAD COMBINATIONS WERE DESIGNED FOR:
  - 4.2.1 TOTAL DL
  - 4.2.2 TOTAL DL + FLOOR LL + ROOF LL
  - 4.2.3 TOTAL DL + FLOOR LL + WL
  - 4.2.4 TOTAL DL + WL
- 4.3 IN THE CASE OF WIND LOADS. AN ALLOWABLE OVER STRESS OF 125% CAN BE CONSIDERED.
- 4.4 ALL ROOF AND FLOOR TRUSSES SHALL BE DESIGNED TO RESIST THE WORST LOAD COMBINATION RESULTING IN THE MAXIMUM STRESSES PLACED ON THAT COMPONENT. PARTIAL, FULL, AND ALTERNATING SPAN LOADING ARE TO BE CONSIDERED.

5.0 GEOTECHNICAL PARAMETERS
- 5.1 ASSUMED SOIL DENSITY = 120 PCF
- 5.2 ASSUMED SOIL BEARING CAPACITY = 1500 PSF
- 5.3 ALL SUBSURFACE AND GEOTECHNICAL INFORMATION TO BE PROVIDED BY CLIENT AND/OR VERIFIED BY CONTRACTOR
- 5.4 DESIGN ASSUMPTIONS:
  - 5.4.1 FOUNDATIONS ARE DESIGNED BASED ON A PRESUMPTIVE BEARING CAPACITY OF 1500 PSF ON UNDISTURBED SOIL OR ROCK. A REGISTERED GEOTECHNICAL ENGINEER SHALL VERIFY ACTUAL CONDITIONS PRIOR TO PLACEMENT OF THE FOOTING. IF THE FOUNDATION IS ON PREPARED FILL, THE REGISTERED GEOTECHNICAL ENGINEER SHALL VERIFY SUITABILITY OF FILL FOR USE AND ITS FOUNDATION BEARING CAPACITY.
  - 5.4.2 ALL FOUNDATIONS ARE CENTERED UNDER SUPPORTED CILUMNS AND WALLS UNLESS SHOWN OTHERWISE ON THE DESIGN PLANS.

GENERAL CONDITIONS

6.0 CONTRACTOR RESPONSIBILITIES
- 6.1 CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING FIELD CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, AND/OR FABRICATION. WHERE DISCREPENCIES ARISE, THE ENGINEER OF RECORD IS TO BE CONTACTED IN WRITING FOR CLARIFICATION.
- 6.2 THE CONTRACTOR IS RESPONSIBILE FOR ALL MEANS AND METHODS ASSOCIATED WITH WORK TO BE COMPLETED.
- 6.3 THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF COMPONENTS, FIXTURES, OPENINGS, AND LANDSCAPING ON THE SITE WHICH ARE NOT INCLUDED WITHIN THE SCOPE OF THIS PROJECT. IF DAMAGE OCCURS TO ITEMS NOT INCLUDED WITHIN THE SCOPE OF THIS PROJECT, THE CONTRACTOR I S RESPONSIBLE FOR REPAIR OR REPLACEMENT TO CONDITION PRIOR TO DAMAGE.
- 6.4 THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND REVIEWING A COPY OF THE GEOTECHNICAL REPORT FOR THE PROJECT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 6.5 THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING SHOP DRAWINGS IN ACCORDANCE WITH THE SHOP DRAWINGS SECTION OF THESE GENERAL NOTES.
- 6.6 ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929). SURVEY INFORMATION TO BE PROVIDED BY OWNER/CONTRACTOR.

7.0 SHOP DRAWINGS
- 7.1 THERE SHALL NOT BE ANY DEVIATIONS FROM THESE DESIGN PLANS BY OTHERS DURING THE PREPARATION OF SHOP DRAWINGS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. ALL ITEMS IDENTIFIED OR INTENDED TO BE DESIGNED BY OTHERS REQUIRE SHOP DRAWINGS THAT ARE TO BE SIGNED AND SEALED BY A QUALIFIED STATE OF FLORIDA LISCENCED ENGINEER AND SHALL INCLUDE: DRAWINGS AND CALCULATIONS, REACTIONS AND BRACING REQUIREMENTS, LIFTING LOCATIONS, AND CONNECTIONS TO SUPPORTING MEMBERS.
- 7.2 ALL SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND AS DISCUSSED BELOW.
- 7.3 IT IS THE DELEGATED ENGINEER'S RESPONSIBILITY TO REVIEW THE SIGNED AND SEALED PLANS AND/OR SPECIFICATIONS OF THE ENGINEER OF RECORD IN ORDER TO DETERMINE THE APPROPRIATE SCOPE OF THE ENGINEERING REQUIRED OF THE DELEGATED ENGINEER.
- 7.4 THE DELEGATED ENGINEERING DOCUMENTS SHALL COMPLY AND/OR BE COORDINATED WITH THE SIGNED AND SEALED PLANS OF THE ENGINEER OF RECORD. THE DELEGATED ENGINEERING DOCUMENTS SHALL INCLUDE THE PROJECT IDENTIFICATION AND THE CRITERIA USED AS A BASIS FOR THEIR PREPARATION. IF A DELEGATED ENGINEER DETERMINES THAT THERE ARE DETAILS, FEATURES OR PROJECT LIMITS WHICH CONFLICT WITH THE SIGNED AND SEALED PLANS OF THE ENGINEER OF RECORD, THE DELEGATED ENGINEER SHALL CONTACT THE ENGINEER OF RECORD IMMEDIATELY.
- 7.5 THE DELEGATED ENGINEER SHALL FORWARD THE DELEGATED ENGINEERING DOCUMENT TO THE ENGINEER OF RECORD FOR REVIEW EITHER PRIOR TO OR AT THE TIME OF ORIGINAL ISSUANCE. ALL FINAL DELEGATED ENGINEERING DOCUMENTS REQUIRE THE IMPRESSED SEAL AND SIGNATURE OF THE DELEGATED ENGINEER AND MUST INCLUDE:
  - 7.5.1 DRAWINGS INTRODUCING ENGINEERING INPUT SUCH AS DEFINING THE CONFIGURATION OR STRUCTURAL CAPACITY OF STRUCTURAL COMPONENTS AND/OR THEIR ASSEMBLY INTO STRUCTURAL SYSTEMS.
  - 7.5.2 CALCULATIONS.
  - 7.5.3 COMPUTER PRINTOUTS WHICH ARE AN ACCEPTABLE SUBSTITUTE FOR MANUAL CALCULATIONS PROVIDED THEY ARE ACCOMPANIED BY SUFFICIENT DESIGN ASSUMPTIONS AND IDENTIFIED INPUT AND OUTPUT INFORMATION TO PERMIT THEIR PROPER EVALUATION. SUCH INFORMATION SHALL BEAR THE IMPRESSED SEAL AND SIGNATURE OF THE DELEGATED ENGINEER AS AN INDICATION THAT THE ENGINEER HAS ACCEPTED RESPONSIBILITY FOR THE RESULTS.

8.0 TERMITE PROTECTION
- 8.1 CERTIFICATE OF PROTECTIVE TREATMENT FOR PREVENTION OF TERMITES
  - 8.1.1 A WEATHER RESISTANT JOBSITE POSTING BOARD SHALL BE PROVIDED TO RECIEVE DUPLICATE TREATMENT CERIFICATES AS EACH REQUIRED PROTECTIVE TREATMEMT IS COMPLETED, PROVIDING A COPY FOR THE PERSON THE PERMIT IS ISSUED TO AND ANOTHER COPY FOR THE BUILDING PERMIT FILES. THE TREATMENT CERTIFICATE SHALL PROVIDE THE PRODUCT USED, IDENTITY OF THE APPLICATOR, TIME AND DATE OF TREATMENT, SITE LOCATION, AREA TREATED, CHEMICAL USED, PERCENT CONCENTRATION AND NUMBER OF GALLONS USED, TO ESTABLISH A CERIFIABLE RECORD OF PROTECTIVE TREATMENT. IF THE SOIL CHEMICAL BARRIER METHOD FOR TERMITE PREVENTION IS USED, FINAL EXTERIOR TREATMENT SHALL BE COMPLETED PRIOR TO FINAL BUILDING APPROVAL.
  - 8.1.2 ALL BUILDINGS ARE REQUIRED TO HAVE PRE–CONSTRUCTION TREATMENT. A CERTIFICATE OF COMPLIANCE MUST BE ISSUED TO THE BUILDING DEPARTMENT BY A LICENSED PEST CONTROL COMPANY BEFORE A CERTIFICATE OF OCCUPANCY WILL BE ISSUED. THE CERTIFICATE SHALL STATE: 'THE BUILDING HAS RECEIVED A COMPLETE TREATMENT FOR THE PREVENTION OF SUBTERRANEAN TERMITES. THE TREATMENT IS IN ACCORDANCE WITH THE RULES AND LAWS OF THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.'
- 8.2 NOTICE OF TERMITE PROTECTION
  - 8.2.1 A PERMANENT SIGN WHICH IDENTIFIES THE TERMITE TREATMENT PROVIDER AND NEED FOR REINSPECTION AND TREATMENT CONTRACT RENEWAL SHALL BE PROVIDED. THE SIGN SHALL BE POSTED NEAR THE WATER HEATER OR ELECTRICAL PANEL.
  - 8.2.2 IN ORDER TO PROVIDE FOR INSPECTION FOR TERMITE INFESTATION, CLEARANCE BETWEEN EXTERIOR WALL COVERINGS AND FINAL EARTH GRADE ON THE EXTERIOR OF THE BUILDING SHALL NOT BE LESS THAN SIX (6) INCHES.
- 8.3 PROTECTION FROM TERMITES
  - 8.3.1 INITIAL TREATMENT SHALL BE DONE AFTER ALL EXCAVATION AND BACKFILL IS COMPLETE. SOIL DISTURBED AFTER INITIAL TREATMENT SHALL BE RETREATED INCLUDING SPACED BOXED OR FORMED.
  - 8.3.2 SOIL TREATMENT MUST BE APPLIED UNDER ALL EXTERIOR CONCRETE OR GRADE WITHIN 1'–0" OF THE STRUCTURE SIDEWALLS.
  - 8.3.3 TERMITE PROTECTION SHALL BE PROVIDED BY FLOOR FRAMING OF NATURALLY DURABLE WOOD, PRESERVATIVE–TREATED WOOD, SOIL TREATMENT OR THER APPROVED METHODS.
  - 8.3.4 TERMITE PROTECTION SHALL BE PROVIDED BY REGISTERED TERMITICIDES OR OTHER APPROVED METHODS OF TERMITE PROTECTION LABELED FOR USE AS A PREVENTATIVE TREATMENT TO NEW CONSTRUCTION.
  - 8.3.5 AN EXTERIOR VERTICAL CHEMICAL BARRIER MUST BE INSTALLED AFTER CONSTRUCTION IS COMPLETE INCLUDING LANDSCAPING AND IRRIFATION. ANY SOIL DISTURBED AFTER THE VERTICAL BARRIER IS APPLIED, SHALL BE RETREATED.
- 8.4 PREPERATION OF BUILDING SITE
  - 8.4.1 IN ORDER TO REDUCE CHANCES OF TERMITE INFESTION, NO WOOD, VEGETATION, STUMPS, DEAD ROOTS, CARDBOARD, TRASH, OR OTHER CELLUOSE–CONTAINING MATERIAL SHALL BE BURIED ON THE BUILDING LOT WITHIN FIFTEEN (15) FEET OF ANY BUILDING OR THE PORTION OF ANY BUILDING PROPOSED TO BE BUILT.
  - 8.4.2 CONCRETE OVERPOUR AND MORTAR ALONG THE FOUNDATION PERIMETER MUST REMOVED BEFORE EXTERIOR SOIL TREATMENT.

9.0 BUILDING DRAINAGE
- 9.1 CONDENSATE LINE AND ROOF DOWNSPOUTS SHALL DISCHARFE AT LEAST ONE (1) FOOT AWAY FROM THE STRUCTURE SIDEWALL, WHETHER BY UNDERGROUND PIPING, TAIL EXTENSIONS, OR SPLASH BLOCKS.
- 9.2 GUTTERS WITH DOWNSPOUTS ARE REQUIRED ON ALL BUILDINGS WITH EAVES OF LESS THAN SIX (6) INCHES HORIZONTAL PROJECTION EXCEPT FOR GABLE END RAKES OR ON A ROOF ABOVE ANOTHER ROOF.
- 9.3 IRRIGATION/SPRINKLER SYSTEMS AND RISERS FOR SPRAY HEADS SHALL NOT BE INSTALLED WITHIN ONE (1) FOOT OF THE BUILDING SIDEWALL.

MATERIALS

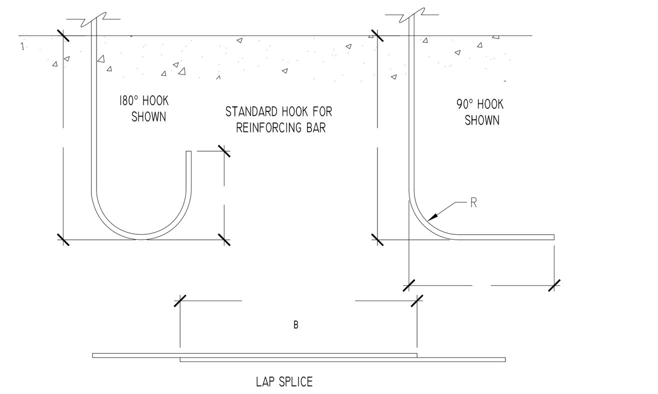
10.0 CONCRETE
- 10.1 CONCRETE STRENGTH SHALL BE IN ACCORDANCE WITH:

	f'c	E
C.I.P. CONCRETE	3000 PSI	3122 KSI
C.I.P. GROUT	2000 PSI	2550 KSI
PRE–CAST CONCRETE LINTELS	3000 PSI	3122 KSI
PRE–STRESSED CONCRETE LINTELS	5000 PSI	4031 KSI

WHEREf'c = MINIMUM 28 DAY COMPRESSIVE STRENGTH
E = MODULUS OF ELASTICITY

- 10.2 CONCRETE SHALL CONSIST OF 1" MAXIMUM AGGREGATE CONCRETE MIX WITH SLUMP BETWEEN 6" AND 7" AT THE TIME OF PLACEMENT. SEE ACI AND ASTM SPECIFICATIONS FOR ADDITIONAL CRITERIA.
- 10.3 GROUT SHALL CONSIST OF PEA ROCK (3/8" MAXIMUM AGGREGATE) CONCRETE MIX WITH SLUMP BETWEEN 8" AND 10" AT THE TIME OF PLACEMENT. SEE ACI AND ASTM SPECIFICATIONS FOR ADDITIONAL CRITERIA.
- 10.4 CONSTRUCTION JOINTS ARE TO BE PROVIDED ON ACCORDANCE WITH THE DESIGN CODES AND GUIDELINES AT THE ENGINEER'S DIRECTION.
- 10.5 METHOD OF CONCRETE FORMING, PLACEMENT AND CURING SHALL BE CONDUCTED IN ACCORDANCE WITH THE ACI AND ASTM SPECIFICATIONS AS STATED.

11.0 STEEL REINFORCEMENT
- 11.1 STEEL REINFORCEMENT SHALL BE ASTM A615 GRADE 60 WITH Fy = 60 KSI. (U.O.N.)
- 11.2 REINFORCEMENT LAP SPLICES SHALL BE CLASS B LAP SPLICES WITH A MINIMUM OF 48 BAR DIAMETERS IN LENGTH. (U.O.N.)
- 11.3 ALL DIMENSIONS PERTAINING TO THE LOCATION OF THE REINFORCEMENT ARE TO THE CENTER LINE OF EACH BAR EXCEPT WHERE THE COVER DIMENSIONS IS SHOWN TO THE FACE OF THE CONCRETE.
- 11.4 REINFORCEMENT MECHANICAL COUPLERS ARE TO DEVELOP 125% OF THE REQUIRED YIELD STRENGTH OF THE BAR AND ARE TO BE APPROVED BY THE ENGINEER OF RECORD.
- 11.5 DESIGN COVER REQUIREMENTS:
  - 11.5.1 C.I.P. CONCRETE FORMED AGAINST EARTH: 3"
  - 11.5.2 C.I.P. CONCRETE EXPOSED TO EXTERIOR: 2"
  - 11.5.3 PRE–CAST GROUT FILLED LINTELS: 1–1/2"
  - 11.5.4 C.I.P. CONCRETE NOT EXPOSED: 1–1/2"
  - 11.5.5 GROUT FILLED MASONRY: 1–1/2"
  - 11.5.6 PRE–STRESSED CONCRETE LINTELS: 1–1/2"
- 11.6 WELDED WIRE MESH
  - 11.6.1 WELDED WIRE MESH SHALL CONFORM TO ASTM A185. (U.O.N.)
  - 11.6.2 WELDED WIRE MESH SHALL BE SUPPLIED IN SHEETS, AND NOT ROLLS.
- 11.7 STEEL REINFORCEMENT IS NOT TO BE WELDED.
- 11.8 PRE–STRESSING STRANDS IN PRE–STRESSED CONCRETE MASONRY LINTELS SHALL BE 7/32" MINIMUM AND CONFORM TO ASTM A416, GRADE 270, LOW RELAXATION.
- 11.9 PLASTIC CHAIRS OR OTHER NON–METALLIC SUPPORT SHALL BE USED TO ELEVATE STEEL REINFORCEMENT ABOVE THE BOTTOM SURFACE OF THE CONCRETE FORM.
- 11.10 STEEL REINFORCEMENT LAP AND BEND DIMENSIONS:



RECOMMENDED END HOOKS AND LAP LENGTHS

BAR SIZE		180° HOOK A	90° HOOK A			HOOK R	LAP L_B	EMBEDMENT LENGTH E
#3	5"	6"	1-1/4"	18"	6"			
#4	6"	8"	1-1/2"	24"	7"			
#5	7"	10"	2"	30"	7"			
#6	8"	12"	2-1/4"	36"	8"			
#7	10"	14"	2-3/4"	48"	9"			
#8	11"	16"	3"	55"	10"			
#9	15"	19"	4-3/4"	62"	12"			
#10	17"	22"	5-1/2"	69"	14"			

12.0 STRUCTURAL STEEL
- 12.1 COMPONENT STRENGTHS:
  - 12.1.1 STRUCTURAL STEEL SHAPES, ANGLES AND CHANNELS SHALL CONFORM TO ASTM A36, Fy = 36 KSI.
  - 12.1.2 STRUCTUAL STEEL W–SECTIONS SHALL CONFORM TO ASTM A992, Fy = 50 KSI.
  - 12.1.3 ROUND METAL PIPE SHALL CONFORM TO ASTM A53, GRADE B, Fy = 35 KSI.
  - 12.1.4 SQUARE METAL TUNING SHALL CONFORM TO ASTM A500, GRADE B, Fy = 46 KSI.
  - 12.1.5 PLATE MATERIAL SHALL CONFORM TO ASTM A36, Fy = 36 KSI.
- 12.2 STEEL CONNECTIONS:
  - 12.2.1 HIGH STRENGTH BOLTS SHALL CONFORM TO ASTIM A325.
  - 12.2.2 MACHINE BOLTS GALVANIZED SHALL CONFORM TO ASTM A307.
  - 12.2.3 THREADED RODS SHALL CONFORM TO ASTM A36, MINIMUM.
  - 12.2.4 WELDING SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER.
  - 12.2.5 ALL WELDS SHALL HAVE A MINIMUM STRENGTH OF 70 KSI.
- 12.3 FINSIHES
  - 12.3.1 ALL STRUCTURAL STEEL SHALL RECEIVE A DOUBLE COAT OF SHOP PRIMER AT MINIMUM.
  - 12.3.2 ALL STRUCTUAL STEEL TO BEAR ON CONCRETE SHALL BE GALVANIZED OR SHALL HAVE A PERMANENT SEPARATION BETWEEN THE STEEL COMPONENT AND THE CONCRETE.
  - 12.3.3 ALL EXTERIOR EXPOSED STRUCTUAL STEEL COMPONENTS SHALL RECEIVE A MINIMUM G60 GALVANIZED COATING. STRUCTURAL STEEL INSTALLED IN MARINE OR OTHERWISE HARSH ENVIRONMENTS SHALL RECIEVE A MINIMUM G90 GALVANIZED COATING.

13.0 CONCRETE MASONRY
- 13.1 THE AGGREGATE MINIMUM NET AREA COMPRESSIVE STRENGTH OF THE BLOCK AND MORTAR SHALL BE f'm = 1900 PSI.
- 13.2 CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE II, NON–MOISTURE CONTROLLED.
- 13.3 MORTAR
  - 13.3.1 MORTAR SHALL CONFORM TO ASTM C270, TYPE S, WITH A MINIMUM STRENGTH f'c = 2000 PSI.
  - 13.3.2 ADMIXTURES ARE NOT TO BE ADDED TO THE MORTAR WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD.
- 13.4 GROUT
  - 13.4.1 MASONRY GROUT SHALL CONFORM TO ASTM C476, f'g = 3000 PSI
  - 13.4.2 MASONRY GROUT SHALL HAVE MAXIMUM 3/8" AGGREGATE AND 8" TO 11" SLUMP.
- 13.5 METHOD OF CONCRETE MASNONRY PLACEMENT AND CONSTRUCTION SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIFICATIONS AS STATED.
- 13.6 JOINT REINFORCEMENT
  - 13.6.1 JOINT REINFORCEMENT SHALL CONSIST OF "LADUR–TYPE" BY DURO–WALL OR EQUAL WITH ASTM A641M CLASS 1 GALVANIZED COATING.
  - 13.6.2 JOINT REINFORCEMENT SHALL BE PLACED AT 16" O.C. VERTICALLY, FULLY EMBEDDED IN MORTAR JOINT. LAP 8" MINIMUM AT MASONRY WALL CORNERS AND INTERSECTIONS. PROVIDE FABRICATED ELLS, TEES OR BENDS OF DISCONTINUOUS WIRES TO PROVIDE 3" HOOK AT OUTSIDE OF CORNERS.
  - 13.6.3 JOINT REINFORCEMENT SHALL BE EMBEDDED A MINIMUM OF 6" INTO TIE COLUMNS AT CORNERS AND END OF WALLS, CONTINUE REINFORCING THROUGH TIE COLUMNS AWAY FROM WALL ENDS.
- 13.7 PRE–CAST CONCRETE LINTELS SHALL HAVE A MINIMUM f'c = 3000 PSI.
- 13.8 PRE–STRESSED CONCRETE LINTELS SHALL HAVE A MINIMUM f'c = 6000 PSI.

14.0 STRUCTURAL LUMBER
- 14.1 ALL WOOD SHALL BE SOUTHERN YELLOW PINE NO. 2. (U.O.N.)
- 14.2 MINIMUM DESIGN VALUES FOR STRUCTURAL WOOD COMPONETS:

	BENDING (f'b)	SHEAR (f'v)	TENSION (f't)
14.2.1 INTERIOR FRAMING 2X(4):	1300 PSI	175 PSI	775 PSI
14.2.2 EXTERIOR FRAMING 2X(6 AND 8):	1050 PSI	175 PSI	625 PSI
14.2.3 FLOOR FRAMING 2X(8 AND 10):	925 PSI	175 PSI	550 PSI

  - 14.2.4 ALL STRUCTURAL LUMBER COMPONENTS SHALL HAVE A MINIMUM MODULUS OF ELASTICITY (E) OF 1400 PSI.
  - 14.2.5 VALUES ARE MINIMUMS AND ARE BASED ON SOUTHERN PINE NO.2.
- 14.3 ALL PLYWOOD USED FOR EXTERIOR APPLICATIONS SHALL CONFORM TO VOLUNTARY PRODUCT STANDARD PS 1–83 AND SHALL BE APA RATED SHEATHING EXP 3.
- 14.4 ALL PLYWOOD USED FOR INTERIOR APPLICATIONS SUCH AS SUB FLOORING AND SHEAR WALLS SHALL CONFORM TO VOLUNTARY PRODUCT STANDARDS PS 1–83 AND SHALL BE PS RATED SHEATHING EXP 1 OR 2.
- 14.5 IF OSB BOARD IS TO BE USED IN PLACE OF PLYWOOD, IT IS TO HAVE SIMILAR SECTION PROPERTIES.
- 14.6 PRESSURE TREATMENT OF STRUCTURAL LUMBER:
  - 14.6.1 ONLY STRUCTURAL LUMBER TO BE USED FOR AN EXTERIOR APPLICATION AND IN CONTACT WITH CONCRETE, MASONRY, OR EARTH IS TO RECEIVE A STANDARD GRADE PRESSURE TREATING.
  - 14.6.2 PRESSURE TREATED STRUCTURAL LUMBER IS NOT TO BE USED FOR INTERIOR FRAMING.
  - 14.6.3 FASTENERS AND TIE–DOWNS FOR PRESSURE TREATED WOOD COMPONENTS SHALL BE SELECTED IN ACCORDANCE WITH THE CORROSION/FASTENER COMPATIBILITY CHART WITHIN THESE GENERAL NOTES.
- 14.7 WHEN PRE–ENGINEERED TRUSSES AND JOISTS ARE CALLED FOR ON THE PLANS THE DELEGATED TRUSS ENGINEER IS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER OF RECORD IN ACCORDANCE WITH THE SHOP DRAWINGS SECTION OF THESE GENERAL NOTES.

15.0 FASTENERS AND TIE DOWNS
- 15.1 SHEET METAL ACCESSORIES SHALL CONFORM TO: ASTM A446 OR ASTM A526 Fy = 33 KSI WITH G90 GALVANIZED COATING IN ACCORDANCE WITH ASTM A525.
- 15.2 NAILS SHALL CONSIST OF COMMON WIRE NAILS WITH MINIMUM DIAMETER AND LENGTH AS FOLLOWS:
  - 13.2.1 8D NAILS: 0.131 IN DIAMETER X 2–1/2 IN. LONG
  - 13.2.2 10D NAILS: 0.148 IN DIAMETER X 3 IN. LONG
  - 13.2.3 16D NAILS: 0.162 IN DIAMETER X 3–1/2 IN LONG
- 15.3 ALL FASTENERS AND TIE DOWNS EMBEDDED IN CONCRETE OR USED IN AN EXTERIOR APPLICATIONS ARE TO RECEIVE AN ANTI–CORROSIVE COATING PRIOR TO INSTALLATION.
- 15.4 ALL FASTENERS AND TIE DOWNS ARE TO PROVIDE THE UPLIFT CAPACITY CALLED FOR IN THE PLANS AS A MINIMUM.
- 15.5 ALL FASTENER TIE DOWNS, BEAM HANGERS, JOIST HANGERS, AND FLOOR TRUSS STRAPPING ARE TO BE INSTALLED IN ACCORDANCE WITH THE PLANS AND MANUFACTURER'S SPECIFICATIONS.
- 15.6 CONCRETE EMBEDDED 'J' BOLTS USED FOR UPLIFT ARE TO BE WET SET PRIOR TO INITIAL SET OF THE CONCRETE, SPACING AND ALIGNMENT ARE TO BE IN ACCORDANCE WITH THE DESIGN PLANS.
- 15.7 CONCRETE EMBEDDED TIE DOWNS USED FOR TRUSS AND WALL UPLIFT ARE TO BE PLACED AROUND EMBEDDED REINFORCING PRIOR TO PLACING GROUT.
- 15.8 FASTENERS OF EQUAL OR GREATER STRENGTH MAY BE SUBSTITUTED FOR THOSE SPECIFIED.
- 15.9 FASTENERS AND TIE DOWNS FOR PRESSURE TREATED WOOD COMPONENTS SHALL BE SELECTED IN ACCORDANCE WITH THE CORROSION/FASTENER COMPATIBILTY CHART WITHIN THESE GENERAL NOTES.

16.0 ROOF COMPONENTS
- 16.1 FASTENERS SHALL BE GALVANIZED ROOFING NAILS WITH A MINIMUM 12 GAUGE SHANK AND MINIMUM 3/8" DIA. HEAD.
- 16.2 FASTENERS SHALL BE LONG ENOUGH TO PENETRATE THE SHINGLES AND PROTRUDE AT LEAST 3/4" INTO OR THROUGH THE ROOF SHEATHING, USE 1" NAILS MINIMUM.
- 16.3 SHINGLES SHALL BE RATED FOR THE WIND SPEED SPECIFIED IN SECTION 2 OF THE GENERAL NOTES AND A MINIMUM OF 120 M.P.H.
- 16.4 SHINGLES SHALL COMPLY WITH M–DC PA 107–LATEST.
- 16.5 SHINGLES SHALL BE OWENS CORNING OAKRIDGE PRO SERIES SHINGLE OR APPROVED EQUVALENT.
- 16.6 SHINGLES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

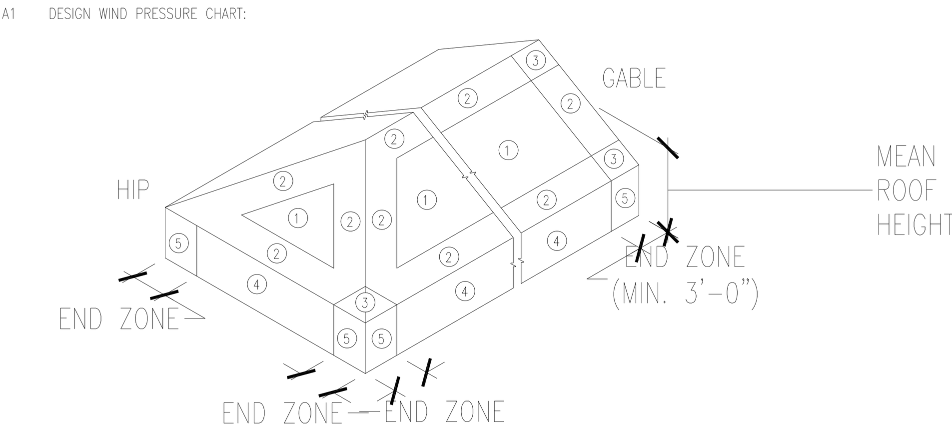
17.0 EXTERIOR WINDOW AND DOOR ASSEMBLIES
- 17.1 EXTERIOR WINDOW AND DOOR ASSEMBLIES SHALL BE SELECTED/DESIGNED FOR THE WALL DESIGN WIND PRESSURE STATED WITHIN THE WIND LOADS PORTION OF THESE GENERAL NOTES.
- 17.2 EXTERIOR WINDOWS AND GLASS DOORS SHALL BE TESTED BY AN APPROVED INDEPENDENT TESTING LABORATORY, AND BEAR AN AAMA OR WDMA OR OTHER APPROVED LABEL IDENTIFYING THE MANUFACTURER PERFORMANCE CHARACTERISTICS AND APPROVED PRODUCT EVALUATUION ENTITY TO INDICATE COMPLIANCE WITH THE REQUIREMENTS OF THE FOLLOWING SPECIFICATION: ANSI/AAMA/NWWDA 101/I.S. 2–97.
- 17.3 A SUPPLEMENTAL TEMPORARY LABEL CONFORMING TO AAMA 203, PROCEDURAL GUIDE FOR WINDOW INSPECTION AND NOTIFICATION SYSTEM, SHALL BE ACCEPTABLE FOR ESTABLISHED CALCULATED ALLOWABLE DESIGN PRESSURES HIGHER THAN INDICATED ON THE LABEL REQUIRED BY 1707.4.2.1 FOR WINDOW SIZES SMALLER THAN THAT REQUIRED BY THE ANSI/AAMA/NWWDA 101/IS2 TEST REQUIREMENTS. THIS SUPPLEMENTAL LABEL SHALL REMAIN ON THE WINDOW UNTIL FINAL APPROVAL BY THE BUILDING OFFICIAL.

8. SIMPSON STRONG-TIE CONNECTORS

SIMPSON MODEL NO.	DESCRIPTION	SUPPORTING MEMBER	SUPPORTED MEMBER	FLORIDA PRODUCT APPROVAL NO.
HETAL12	EMBEDDED TRUSS ANCHOR	-	(10) 10d x 1-1/2	11473.5
HETAL16	EMBEDDED TRUSS ANCHOR	-	(10) 10d x 1-1/2	11473.5
MGT	GIRDER TRUSS HOLD DOWN	(1) 5/8" TO CMU	(22) 10d TO GIRDER	11470.7
LU24	FACE MOUNT MOUNT	(4) 10d	(2) 10d x 1-1/2	10655.103
H2.5A	HURRICANE TIE	(5) 8d	(5) 8d	10456.12
HGT-2	GIRDER TRUSS HOLD DOWN	(2) 5/8"	(16) 10d	10456.18
H14	HURRICANE STRAP	(12) 8dx1-1/2"	(15) 8d	11478.2
LGUM210-2-SDS	GIRDER TRUSS HOLD DOWN	(8) 3/8"x4"	(8) 1/4"x2-1/2"	11473.12

ADDITIONAL INFORMATION

A1 DESIGN WIND PRESSURE CHART:



A2 CORROSION FASTENER COMPATABILITY CHART:

	CONNECTOR PRODUCT FINISH			
	G-90 OR (1.0 OZ/FT²)	Z MAX OR TZ	POST HOP DIP GALVANIZED (HSG)	STAINLESS STEEL
UNTREATED WOOD	X	X	X	X
CHROMATED COPPER ARSENATE (CCA-C)	X	X	X	X
DOT SODIUM BORATE (SBX)	X	X	X	X
ALKALINE COPPER QUAT ACQ-C & ACQ-D (CARBONATE)		X	X	X
COPPER AZOLE (CBA-A & CA-B)		X	X	X
OTHER BORATE (NON-DOT)		X	X	X
AMMONIACAL COPPER ZINC ARSENATE (ACZA)				X
OTHER PRESSURE-TREATED WOODS				X

NOTES:
1. STAINLESS STEEL CONNECTORS AND FASTENERS MUST BE USED IF PRESSURE TREATED WOOD IS NOT INDICATED BY NAME.
2. CONNECTORS AND THEIR FASTENERS MUST BE OF LIKE MATERIALS.
3. THE ABOVE CHART SHALL BE CONSULTED IF METAL CONNECTORS, ANCHORS, AND/OR FASTENERS ARE EXPOSED TO CORROSIVE ENVIRONMENTS. CORROSIVE ENVIRONMENTS INCLUDE OCEAN SALT AIR, FIRE-RETARDANTS, FUMES, FERTILIZERS, PRESSURE-TREATED WOOD, AND DISSIMILAR METALS.
4. SEE SIMPSON STRONG-TIE CATALOG 'WOOD CONSTRUCTION CONNECTORS' OR USP 'FULL LINE CATALOG' LATEST EDITION FOR ADDITIONAL SPECIFICATIONS.

PRESSURE

EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT GCp ZONE 1 FIELD	ZONE 2 EDGE	ZONE 3 CORNER	INTERNAL PRESSURE COEFFICIENT GCpi	P (psf) ZONE 1 FIELD	ZONE 2 EDGE	ZONE 3 CORNER
< 10	0.5	0.5	0.5	0.18	30.36	30.36	30.36
20	0.45	0.45	0.45	0.18	28.13	28.13	28.13
50	0.4	0.4	0.4	0.18	25.90	25.90	25.90
100 <	0.3	0.3	0.3	0.18	21.43	21.43	21.43

SUCTION

EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT GCp ZONE 1 FIELD	ZONE 2 EDGE	ZONE 3 CORNER	INTERNAL PRESSURE COEFFICIENT GCpi	P (psf) ZONE 1 FIELD	ZONE 2 EDGE	ZONE 3 CORNER
< 10	-0.9	-1.7	-2.6	-0.18	-48.23	-83.95	-124.14
20	-0.85	-1.55	-2.4	-0.18	-45.99	-77.25	-115.21
50	-0.82	-1.35	-2.2	-0.18	-44.65	-68.32	-106.28
100 <	-0.8	-1.2	-2.0	-0.18	-43.76	-61.62	-97.34

OVERHANG

EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT GCp ZONE 1 FIELD	ZONE 2 EDGE	ZONE 3 CORNER	INTERNAL PRESSURE COEFFICIENT GCpi	P (psf) ZONE 1 FIELD	ZONE 2 EDGE	ZONE 3 CORNER
< 10	-	-2.2	-3.7	ASCE 07-10	-	-106.28	-173.26
20	-	-2.2	-3.4	ASCE 07-10	-	-106.28	-159.86
50	-	-2.2	-2.8	ASCE 07-10	-	-106.28	-133.07
100 <	-	-2.2	-2.5	ASCE 07-10	-	-106.28	-119.67

ROOF CORNER ZONE WIDTH = 3'-0" | ROOF CORNER ZONE LENGTH = 3'-0" | ROOF EDGE ZONE WIDTH = 3'-0"

7. WALL COMPONENTS AND CLADDING

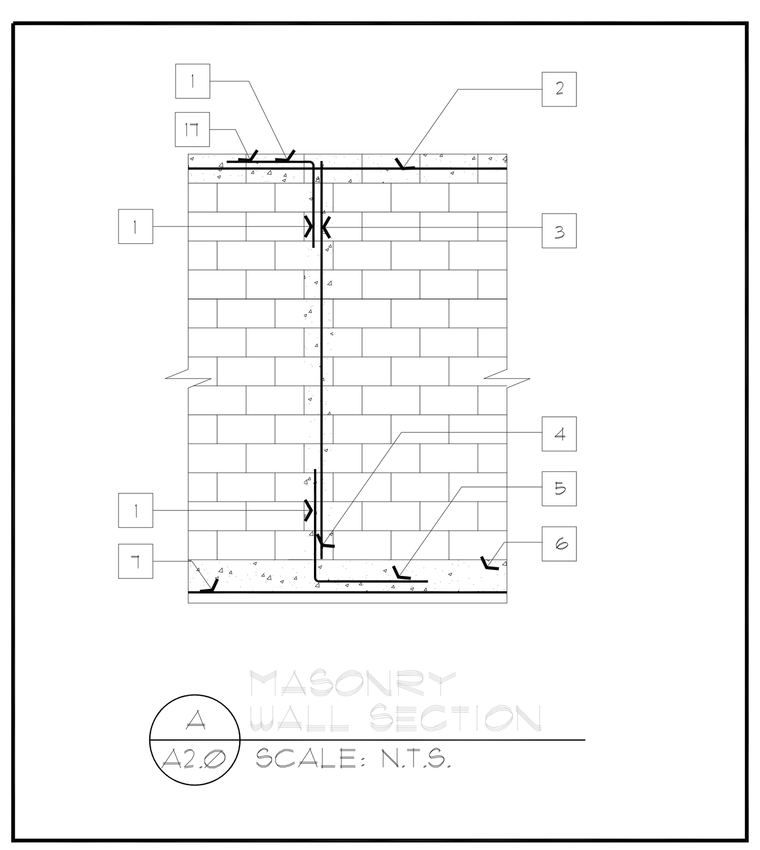
PRESSURE

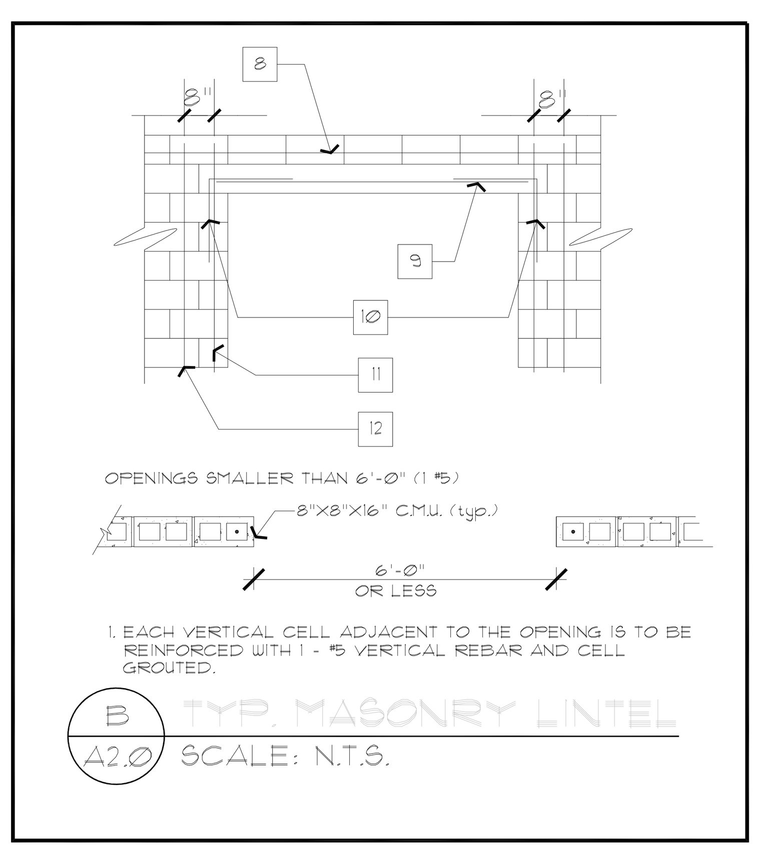
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT GCp ZONE 4 FIELD	ZONE 5 EDGE	INTERNAL PRESSURE COEFFICIENT GCpi	P (psf) ZONE 4 FIELD	ZONE 5 EDGE
< 10	1.0	1.0	0.18	52.69	52.69
20	0.9	0.9	0.18	48.23	48.23
50	0.85	0.85	0.18	45.99	45.99
100	0.8	0.8	0.18	43.76	43.76

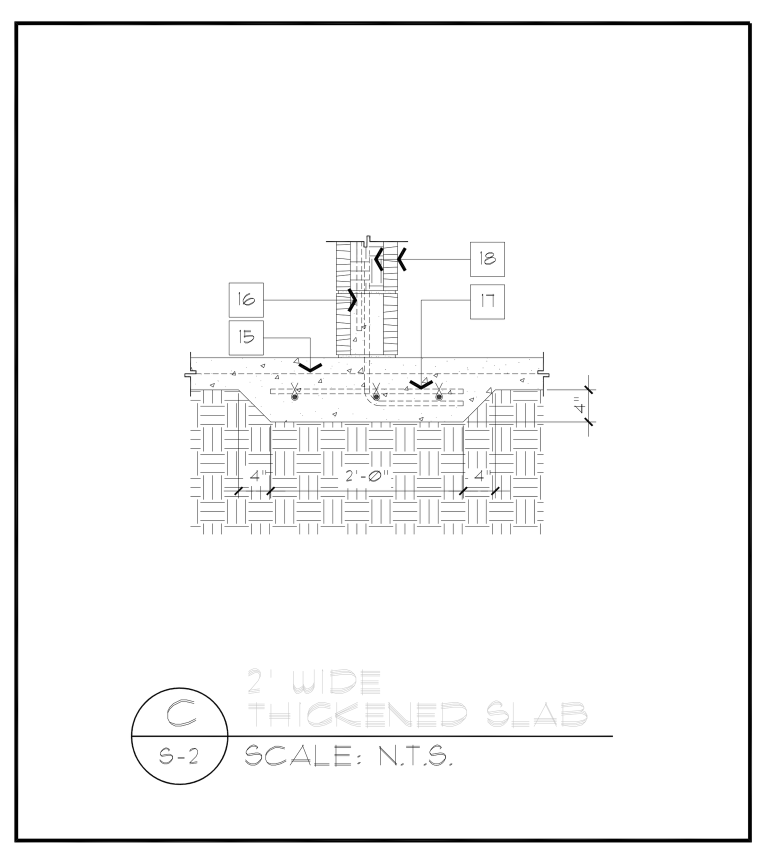
SUCTION

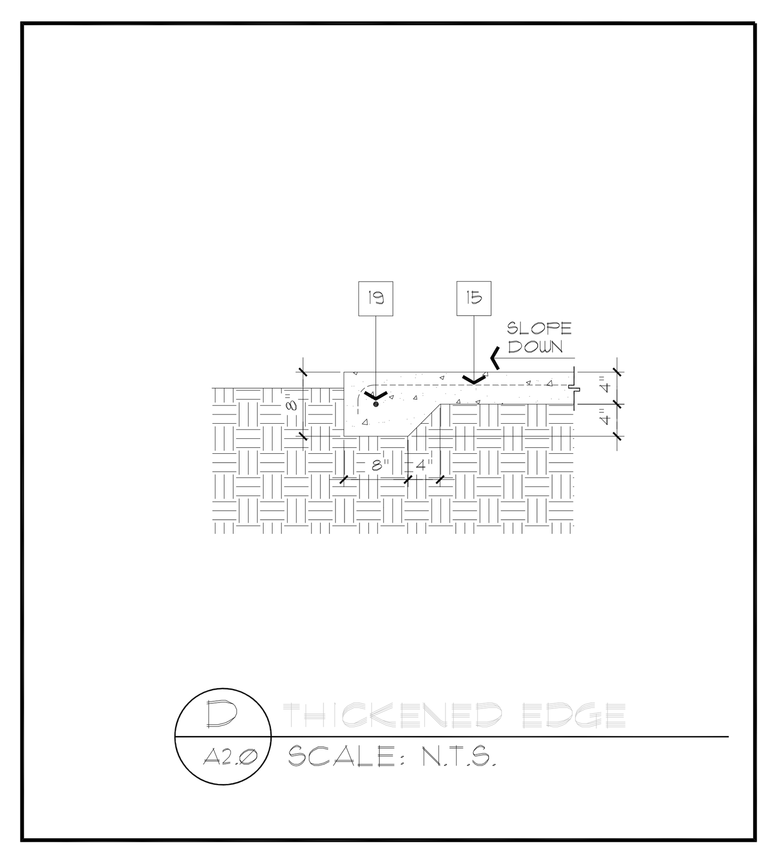
EFFECTIVE WIND AREA (SQ. FT.)	EXTERNAL PRESSURE COEFFICIENT GCp ZONE 4 FIELD	ZONE 5 EDGE	INTERNAL PRESSURE COEFFICIENT GCpi	P (psf) ZONE 4 FIELD	ZONE 5 EDGE
< 10	-1.1	-1.4	-0.18	-57.16	-70.55
20	-1.05	-1.3	-0.18	-54.92	-66.09
50	-0.95	-1.2	-0.18	-50.46	-61.62
100	-0.9	-1.05	-0.18	-48.23	-54.92

WALL EDGE ZONE WIDTH = 3'-0"









GENERAL NOTES

KEY NOTES

1. MINIMUM 30" LAP (TYP)
2. SINGLE COURSE BOND BEAM WITH (1) #5 REBAR CONTINUOUS.
3. VERTICAL REINFORCEMENT IN GROUT FILLED CELL. (SEE PLAN ON SHEET A2.1 FOR LOCATION).
4. CLEAN OUT REQUIRED
5. FOOTING (SEE PLAN ON SHEET S-2).
6. STANDARD HOOK
7. MINIMUM (3) #5 REBAR CONTINUOUS.
8. (1) #5 CONTINUOUS IN GROUTED BOND BEAM.
9. (1) #5 IN GROUTED P/C LINTEL OR APPROVED EQUAL.
10. (1) #5 BENT REBAR 30" LONG EACH LEG (SEE C/S-2, NOTE 2).
11. (1) #5 VERT. REBAR IN GROUT CELL DOOR OPENING.
12. DENOTES LOCATION OF VERT. #5 REINFORCEMENT IN GROUT FILLED CELL. MAX SPACING 4' O.C. (SEE SECTION A/S-2).
13. VERT. REBAR TO BE EMBEDDED IN THE FOUNDATION AS SHOWN IN WALL SECTION (TYP).
14. (1) #5 CONTINUOUS WITNIN LINTEL WITH #5 BENT (30" LONG EACH LEG) REBAR TURNED DOWN INTO GROUT - FILLED CELL AT EACH END OF LINTEL.
15. 4" CONC. SLAB W/6X6X10/10 WWM, VAPOR BARRIER ON COMPACTED/TERMITE TREATED SOIL.
16 CMU WALL WITH #5 HOOK & #5 VERT. #5 GROUT FILLED CELL.
17 (3) #5 REBARS CONTINUOUS AND #4 REBAR AT 2' O.C.
18 #5 HOOKS AT MAX. 4' O.C.
19 (1) #5 CONTINUOUS.

GENERAL NOTES

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DRAWN BY
JERRY P. SANDERS

REVISIONS

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NTS

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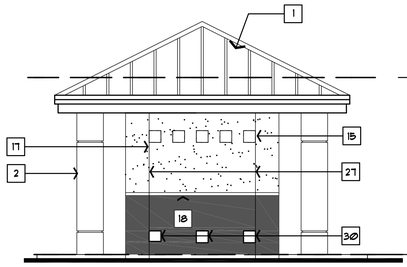
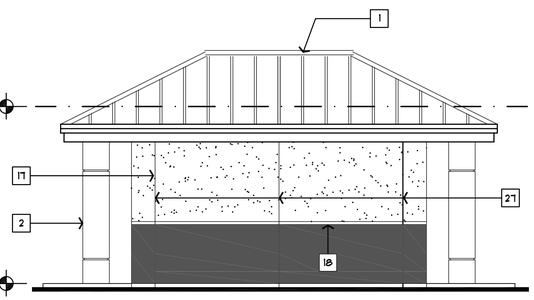
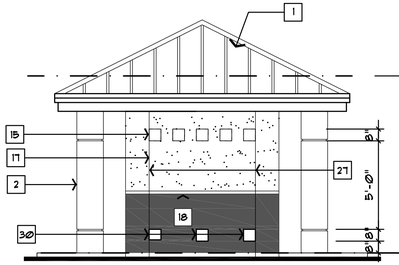


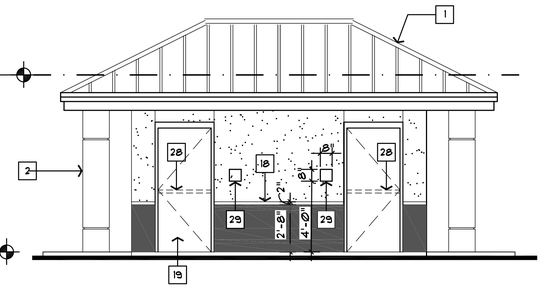
NORTH ELEVATION
SCALE 1/4" = 1'-0"



EAST ELEVATION
SCALE 1/4" = 1'-0"



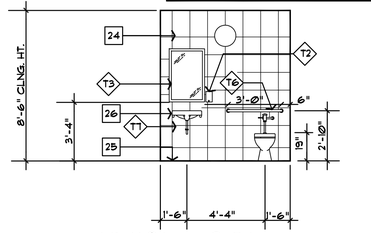
SOUTH ELEVATION
SCALE 1/4" = 1'-0"



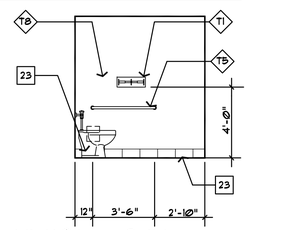
WEST ELEVATION
SCALE 1/4" = 1'-0"

TOILET ACCESSORIES

- T1 DOUBLE ROLL SURFACE MOUNTED TOILET TISSUE DISPENSER MODEL: TO WAUSAU PAPER HC 80400.
- T2 SURFACE MOUNTED SOAP DISPENSER EQUAL TO " FOAM EEZE " BULK FOAM MODEL: 9326
- T3 2' x 3' FIXED MIRROR EQUAL TO BRADLEY #148-2436.
- T4 RECESSED HAND DRYER EQUAL. TO WORLD DRYER, MODEL: DXRA-5, STAINLESS STEEL
- T5 GRAB BARS - EQUAL TO BRADLEY 812-001 SERIES WITH 42" BAR AT SIDE OF WATER CLOSET.
- T6 GRAB BAR EQUAL TO BRADLEY 812-001 SERIES 36" IN LENGTH.
- T7 UNDER LAV ENCLOSURE OF PIPING, TRANSFORMER, WIRING, ETC, TO IPS CORP. / TRUEBRO LAV SHIELD, MODEL: 2018.
- T8 SEMI-RECESSED (2½") NAPKIN DISPOSAL EQUAL TO BRADLEY 4122-1015. WALL MNTD. LT. FIXT. (SEE ELECT)



UNISEX 201
UNISEX 202 SIM. OPP.
SCALE: 1/4" =1'-0"



UNISEX 201
UNISEX 202 SIM. OPP.
SCALE: 1/4" =1'-0"

FINISH LEGEND

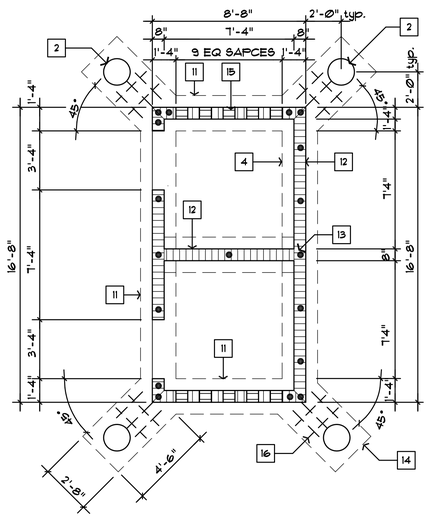
W1	PAINTED	F1	TILE FLOOR	C1	PAINTED CEMENT PLASTER CEILING	B1	TILE BASE
W2	TILE						

FINISH SCHEDULE

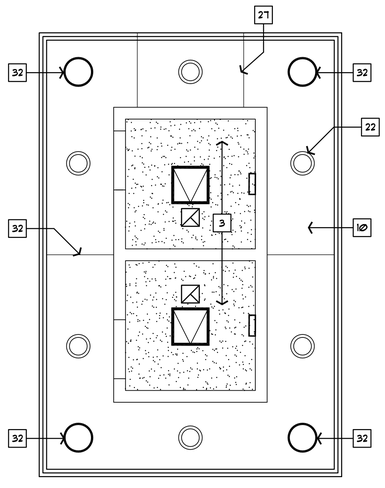
NO.	ROOM NAME	FLOOR	BASE	WALLS N	WALLS E	WALLS S	WALLS W	CLG.	CLG. HT.	REMARKS
201	UNISEX	F1	B1	W1	W2	W1	W1	C1	8'-6"	
202	UNISEX	F1	B1	W1	W2	W1	W1	C1	8'-6"	

DOOR SCHEDULE

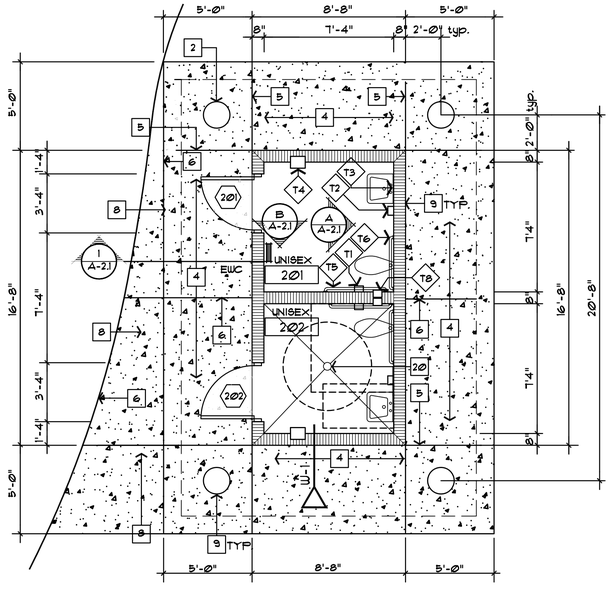
NO.	EL.	DOOR W	DOOR H	DOOR T	DOOR MATERIAL	FRAME TYP.	FRAME MAT'L	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	FIRE RATED	REMARKS
201	C	3'-0"	7'-0"	1-3/4"	HM.	-	HM.	-	-	4	-	ELECTRIFIED LOCK 4" HEAD / FRAME.
202	C	3'-0"	7'-0"	1-3/4"	HM.	-	HM.	-	-	4	-	ELECTRIFIED LOCK 4" HEAD / FRAME.



FOUNDATION PLAN
SCALE 1/4" = 1'-0"



REFLECTED CEILING PLAN
SCALE 1/4" = 1'-0"



FLOOR PLAN
SCALE 1/4" = 1'-0"

GENERAL NOTES

1. TOILET ACCESSORIES ARE SIMILAR FOR EACH TOILET RM.

KEY NOTES

1. STANDING SEAM METAL ROOF
2. 16" DIAMETER CONCRETE COLUMN WITH 3/4" CEMENT PLASTER FINISH PAINTED WITH 1" CEMENT PLASTER REVEALS SIMILAR TO FRY REGLET CHANNEL SCREED FCS-75-100
3. SUSPENDED CEMENT PLASTER CEILING SYSTEM
4. 4" THICK 3000PSI CONCRETE SLAB WITH FIBER MESH REINFORCEMENT.
5. PROVIDE CONTROL JOINTS AS INDICATED
6. 1/2" EXPANSION JOINT.
7. NOT USED
8. PROVIDE 6" THICK CONCRETE INFILL BETWEEN BUILDING PROPER AND EXIST. CONC. WALK
9. PROVIDE 1/2" EXPANSION JOINT AT COLUMN BASE AND AT BUILDING EDGE.
10. CEMENT PLASTER SOFFIT PAINTED.
11. 24" W x 12"d CONCRETE FOOTING SEE WALL SECTION FOR STEEL REQUIREMENT
12. 8" CMU
13. 1 #5 FILLED CELL 4'-8" O.C. AND AS INDICATED.
14. EXTEND CONTINUOUS FOOTING FOR COLUMN SUPPORT SEE WALL SECTION FOR STEEL REQUIREMENT.
15. 8X8 GLASS BLOCK SIMILAR TO PITTSBURGH CORNING GLASS, BLOCK DECORA PREMIERE SERIES OR EQUAL.
16. PROVIDE 3 # 5 W/#3 @32" O.C. CONNECTING STRIP FOOTING REINFORCEMENT COLUMN FOOTING REINFORCEMENT.
17. CEMENT PLASTER FINISH (HEAVY TEXTURED SIMILAR TO TUNNEL DASH), PAINTED
18. 2" CEMENT PLASTER CHANNEL SCREED EQUAL TO FRY REGLET CORP. FCS-75-200
19. METAL DOOR AND FRAME PAINTED.
20. FLOOR DRAIN(TYP)-SLOPE FLOOR TO DRAIN (COORD W/ PLUMBING)
21. RETAIN CONFIGURATION OF EXISTING EXIST. CONC. WALK ADJUST GRADES & REPLACE WALK (SEE CIVIL)
22. SOFFIT MNTD. LT FIXT (TYP) SEE ELECT.
23. CERAMIC TILE BASE
24. CERAMIC WALL TILE
25. CERAMIC FLOOR TILE
26. HAND SINK W/UNDER LAV ENCL.
27. CEMENT PLASTER CONTROL JOINT
28. PROVIDE INTERNAL CHASE/ CORE (3/8" DIA MIN.) W/ IN HM DOOR FOR CONCEALED WIRING BTWN. ELECTRIFIED HINGE & LOCKSET (COORD W/ ELECT.)
29. 8x8 ADA SIGN (TYP) - INSTALL WITH TAMPER PROOF FSTNRS.
30. CUSTOM SIZE WALL VENTS (1 5/8" SQ) W/ INSECT SCREEN & INTERIOR REGISTER EQAUL TO SUNVENT INDUSTRIES, MODEL: EX SERIES (Ø.135 SF/FA) , CLEAR ANOD. FINISH.
31. VENTED PERIMETER SOFFIT MOLDING/ REVEAL (TYP) - EQUAL TO FRY REGLET CORP. WPM-75-V-300.
32. COLUMN COLLAR REVEAL (TYP) - 3/4" REVEAL - EQUAL TO FRY REGLET

CEILING LEGEND

- WALL MTD. FLUORESCENT LIGHT
- RECESSED LIGHT FIXTURE
- CEMENT PLASTER SUSPENDED CEILING
- 24 x 24 CEILING ACCESS COORD. LOCATION W/ MEP
- EXHAUST FAN (SEE MECH)

PLANS / ELEVATIONS / NOTES

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DRAWN BY
JERRY P. SANDERS

REVISIONS
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2.
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SEAL
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EDWARD D. RICE
AR0016224
REGISTERED ARCHITECT

SCALE: 1/4" = 1'-0"

SHEET NUMBER
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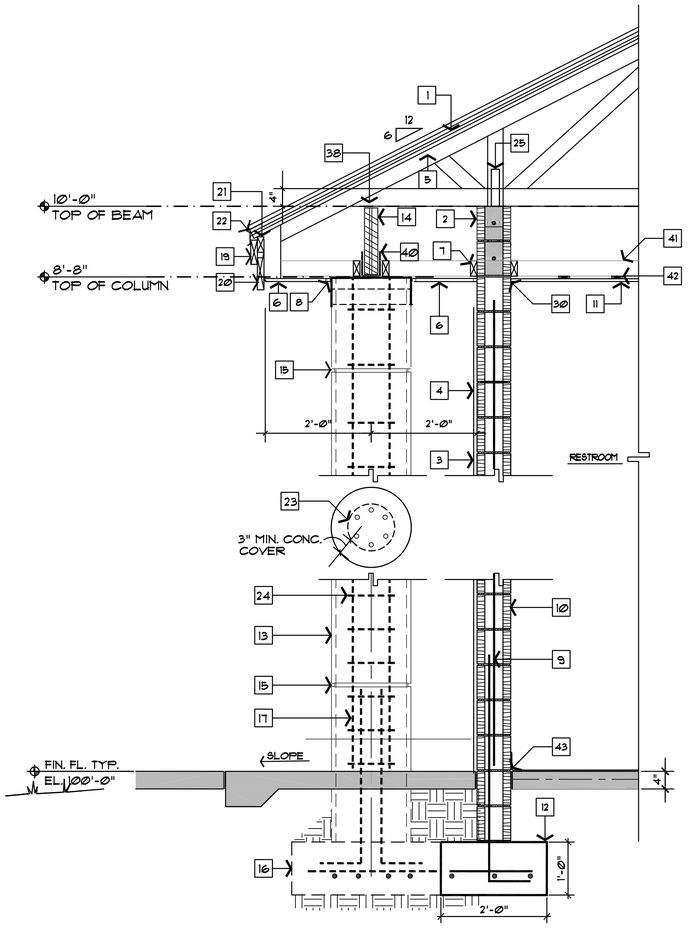
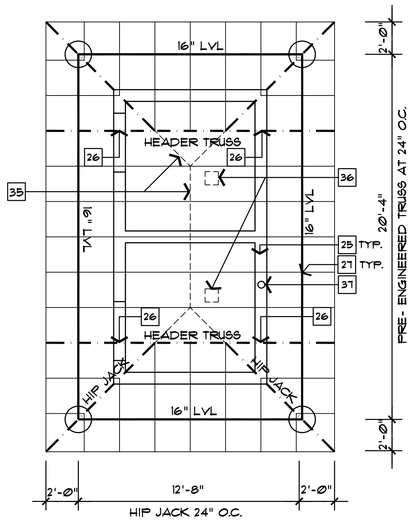


SECTION

SCALE: 3/4" =1'-0"

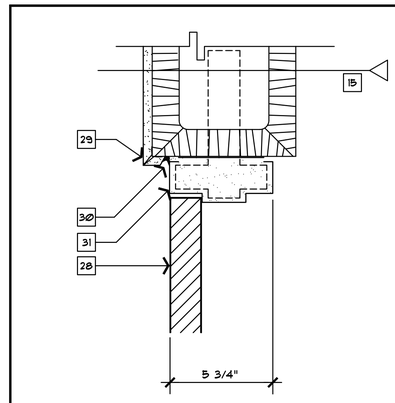
1 / A2.2



ROOF FRAMING

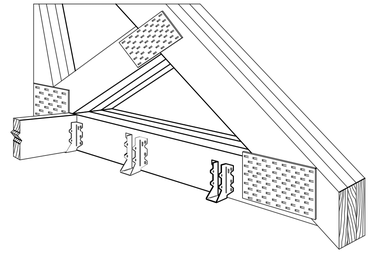
SCALE: 1/4" =1'-0"

3 / A2.2



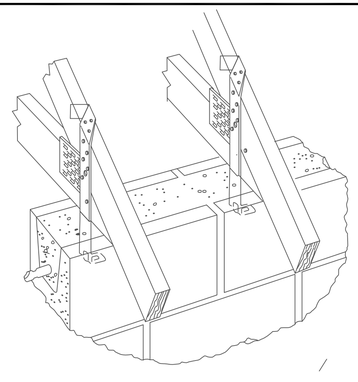
JAMB DETAIL (HEAD SIMILAR)

1 / A2.2 SCALE: 3" = 1'-0"



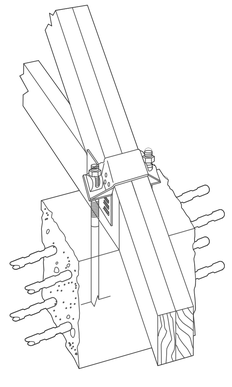
HU24 GIRDER HANGER

5 / A2.2 NOT TO SCALE FLI0655



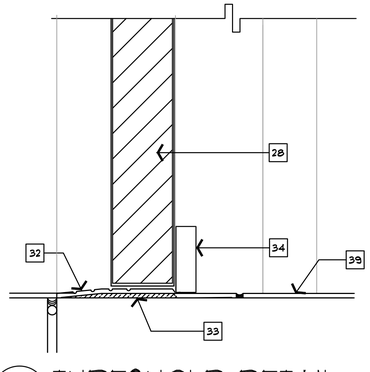
HETA20 TRUSS ANCHORS

4 / A2.2 NOT TO SCALE FLI1473



HGT-2 GIRDER TIEDOWN

3 / A2.2 NOT TO SCALE FLI0456/FLI0866



THRESHOLD DETAIL

2 / A2.2 NOT TO SCALE FLI0456/FLI0866

GENERAL NOTES

FRAMING NOTES:

1. ALL DIMS. ARE TO THE NOMINAL F.O. CMU, UNLESS OTHERWISE NOTED.

KEY NOTES

1. 1½" HIGH STANDING SEAM ROOF SYSTEM ON 30# FELY / SUP SHEET, ON SBLF ADHESIVE ROOFING UNDERLAYMENT, ON 5/8"TH PLYWOOD, ON WOOD TRUSSES.
2. TIE BEAM CONSTING OF 1 KNOCK OUT BLOCK CONT. W/ 1 #5 CONTINUOUS AND 1 U BLOCK CONT. W/ 1 #5 CONTINUOUS ALL IN GROUT FILLED CELLS.
3. 8" CMU WALL W/ #5 IN GROUT FILLED CELLS @8 O.C. SEE PLAN FOR LOCATION.
4. ¾" CEMENT PLASTER FINISH
5. 6" CLOSED CELL FOAM INSULATION
6. ¾" CEMENT PLASTER FINISH SOFFIT ON RIBLATH, ON 2x4 P.T. FRAMING 24" O.C.
7. 2x4 P.T. BLOCKING MECHANICALLY FASTEN TO WALL CONTINUOUS.
8. 1¾" X ¾" COLUMN COLLAR REVEAL SIMILAR TO FRY REGLET.
9. #5 DOWELS WITH 10" HOOK INTO FOOTING PROVIDE OVERLAP AT 30" AFF.
10. CMU FINISH WITH. CONCAVE JOINTS, EPOXY PAINTED.
11. ¾" CEMENT PLASTER ON SUSPENDED SYSTEM.
12. CONCRETE FOOTING WITH 3 #5 CONTINOUS AND #3 @32" O.C.
13. 16" DIA CONCRETE COLUMN W/ ¾" CEMENT PLASTER, SAND FINISH PAINTED
14. 3½" x 16" (2PLY) LVL BEAM CONTINOUS
15. 1" x ⅜" D CEMENT PLASTER REVEAL SIMILAR TO FRY REGLET
16. COLUMN CONCRETE FOOTING WITH . 4 #5 EACH WALL
17. # 4 DOWEL WITH 10" HOOK OVERLAPPED W/ #5 VERTICAL STEEL AT 25" AFF.
19. P.T. 2x6 CONTINUOUS.
20. P.T. 2x8 CONTINUOUS.
21. P.T. 2x4 CONTINUOUS.
22. PROVIDE ALUMINUM BREAK METAL FASCIA COVERING ALUMINUM SHALL BE THE SAME THICKNESS AS THE METAL ROOFING AN IS CONTINUOUS COLOR TO. BE SELECTED FROM FULL RANGE OF COLORS.
23. PLAN VIEW OF COLUMN WITH REINFORCEMENT. FOR REFERENCE
24. @ #5 VERTICAL EQ. SPACE W/ #3 TIES AT 12" O.C.
25. PROVIDE HETA-20 AT EACH COMMON TRUSS.
26. PROVIDE HGT-2 AT ALL HEADER LOCATIONS
27. PROVIDE SIMPSON H8A AT ALL TRUSS LVL CONDITIONS.
28. DOOR SEE SCHEDULE.
29. J MOLDING EQUAL TO "FRY REGLET" JPM -75-300.
30. SEALANT.
31. HOLLOW METAL FRAME PROVIDE G90 GALV. AT ALL EXTERIOR FRAMES. FILLED WITH GROUT AND PAINTED
32. ALUMINUM SADDLE.
33. CONTINUOUS BED OF SEALANT.
34. AUTO DOOR BOTTOM / WEATHER SEAL
35. 2x4 WOOD STRUTS AT RIDGE.
36. APPROX. LOCATION ON EXHAUST FAN/ROOF CAP (COORD. W / HVAC)
37. APPROX. LOCATION OF PLMBG. VENT (COORD. W / PLMBG.)
38. SIMPSON TBE 4 (2PER TRUSS) TRUSS / BEAM CONNECTOR (TYP)
39. CERAMIC TILE
40. EMBEDDED COLUMN CAP EQUAL TO SIMPSON ECCLQM 3.63 G-KT
41. 2x4 P.T. CLNG JOIST AT 24" O.C.
42. IX WOOD FURRING AT 12" O.C.
43. CERAMIC FLOOR TILE 7 COVE BASE

WALL SECTION & DETAILS

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SEAL

STATE OF FLORIDA
LOWELL D. RICE
REGISTERED ARCHITECT
AR0016224

SHEET NUMBER
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PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE (NOTE #1)	CONNECTIONS (NOTE #2) SAN	V	CW	HW	DESCRIPTION (NOTE #3)
P–1	WATER CLOSET (1.6 GPF) (FLOOR MOUNTED) (ADA COMPLIANT)	4"	2"	1"	–	AMERICAN STANDARD RIGHT WIDTH ELONGATED RIGHT HEIGHT FLUSH VALVE TOILET MODEL 3641.016, WHITE VITREOUS CHINA, FLOOR MOUNTED, ELONGATED BOWL WITH EXTRA HEAVY DUTY OPEN FRONT SEAT LESS COVER WITH STAINLESS STEEL CHECK HINGES AND SLOAN ROYAL FLUSHOMETER MODEL 111, TAMPER PROOF FASTENERS.
P–2	LAVATORY (0.5 GPM FLOW) (WALL HUNG) (ADA COMPLIANT) (NOTE #4)	2"	2"	1/2"	1/2"	SLOAN MODEL SS–3003, WHITE VITREOUS CHINA, WITH SLOAN FAUCET MODEL ETF–610, VANDAL RESISTANT, MIXING VALVE, GRID STRAINER, 1–1/4" C.P., 17 GA. P–TRAP WITH CLEANOUT, LOOSE TEE KEY STOPS AND SUPPLY RISERS. PROVIDE FLOOR MOUNTED CARRIER, CONCEALED ARM SYSTEM (ZURN MODEL Z–1231).
TWH–1	TANKLESS ELECTRIC WATER HEATER (NOTE #5)	–	–	1/2"	1/2"	EEMAX ELECTRIC TANKLESS WATER HEATER MODEL EX4208T ML, 208V, 4.1KW.
FD–1	FLOOR DRAIN (NOTES #6, 7 AND 8)	–	–	–	–	ZURN FLOOR DRAIN "TYPE H" ROUND STRAINER WITH CLAMP DEVICE MODEL Z415H–VP, VANDAL PROOF AND JOSAM BALL–FLOAT ADAPTER 67100A SERIES.
WH	WALL HYDRANT	–	–	3/4"	–	WOODFORD ANTI–SIPHON WALL HYDRANT MODEL B24, VACUUM BREAKER, LOCKABLE WALL BOX AND METAL WHEEL HANDLE.

NOTES: (#)

1 – INSTALL ALL FIXTURES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL PLANS WHERE APPLICABLE.
2 – THESE FIXTURE CONNECTION SIZES ARE TYPICAL UNLESS NOTED OTHERWISE ON THE CONTRACT DOCUMENTS AND FIXTURE MANUFACTURER SHOP DRAWINGS. THEY MAY NOT ALWAYS APPEAR ON THE DRAWINGS.
3 – INDICATED FIXTURE OR APPROVED EQUIVALENT.
4 – PROVIDE 0.5 GPM SPOUT OUTLET (CHICAGO FAUCET MODEL E2605 OR APPROVED EQUIVALENT) ON ALL PUBLIC LAVATORIES WITH A MAXIMUM FLOW RATE OVER 0.5 GPM AND LAVATORY TEMPERING VALVE (ACORN MODEL ST70–12 OR APPROVED EQUIVALENT) ON ALL LAVATORY FAUCETS WHERE THE MIXING VALVE IS NOT INTEGRAL TO THE MANUFACTURERS FAUCET MODEL.
5 – COORDINATE ELECTRICAL CHARACTERISTICS WITH ELECTRICAL PLANS AND INSTALLER PRIOR TO PURCHASE.
6 – ALL FLOOR DRAINS / FLOOR SINKS SHALL BE INSTALLED WITH TRAP PRIMERS. COORDINATE EXACT LOCATIONS AND QUANTITY OF FLOOR DRAINS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH–IN.
7 – PROVIDE TRAP PRIMER CONNECTION TO FLOOR DRAINS IN TOILET ROOMS EQUAL TO J.R. SMITH MODEL 2698, SEE DETAIL #001J, SECTION 15100 ON DRAWING MP9.1.
8 – REFER TO CONSTRUCTION DOCUMENTS FOR PIPING SIZE.

PLUMBING FIXTURE UNIT CALCULATIONS

FIXTURE	COLD WSFU (NOTE #1)	HOT WSFU (NOTE #2)	FIXTURE TOTAL WSFU (NOTE #3)	DFU (NOTE #4)	# OF FIXTURES	SUBTOTAL WSFU	SUBTOTAL DFU	NOTES (#)
LAVATORY	0.5	0.5	0.7	1	2	1.4	2	5, 7
WATER CLOSET	6	–	6	3	2	12	6	5, 6, 8
					TOTAL	13.4	8	

NOTES:

1 – COLD WATER LOAD VALUE IN WATER SUPPLY FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE – PLUMBING, TABLE 103.3(2), 2010.
2 – HOT WATER LOAD VALUE IN WATER SUPPLY FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE – PLUMBING, TABLE 103.3(2), 2010.
3 – TOTAL WATER LOAD VALUE IN WATER SUPPLY FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE – PLUMBING, TABLE 103.3(2), 2010.
4 – DRAINAGE FIXTURE UNITS (WSFU) PER FIXTURE. BASED ON FLORIDA BUILDING CODE – PLUMBING, TABLE 709.1, 2010.
5 – PRIVATE OCCUPANCY.
6 – FLUSH VALVE SUPPLY CONTROL.
7 – FAUCET SUPPLY CONTROL.
8 – 1.6 GPF.

PLUMBING LEGEND

SYMBOL	DESCRIPTION	ABBREV.
	COLD WATER PIPING	CW
	HOT WATER PIPING	HW
	SANITARY SEWER PIPING	SAN
	VENT PIPING	V
	FLOOR DRAIN	FD
	FLOW DIRECTION INDICATOR	–
	GATE VALVE	GV
	GATE VALVE IN CAST IRON BOX	–
	GATE VALVE ON VERTICAL RISER	–
	HOSE BIBB OR WALL HYDRANT	HB / WH
	PIPING DROP OR ELBOW DOWN	–
	PIPING RISER	–
	SANITARY 2–WAY CLEAN–OUT OR END OF LINE CLEANOUT	CO
	SANITARY WALL CLEAN–OUT	WCO
	WATER PIPING CONNECTION POINT	–
IE–#	INVERT ELEVATION BELOW FINISHED FLOOR. INVERT ELEVATION IS FOR GENERAL INFORMATION ONLY. COORDINATE FINAL INVERT ELEVATION WITH SITE UTILITIES CONTRACTOR.	IE
	SANITARY RISER DIAGRAM FLOOR DRAIN	FD
	SANITARY RISER DIAGRAM FLOOR SINK	FS
	SANITARY RISER DIAGRAM SINK OR LAV	–
	SANITARY RISER DIAGRAM TOILET	–
	SANITARY RISER DIAGRAM 2–WAY CLEAN–OUT	–
	SANITARY RISER DIAGRAM WALL CLEAN–OUT	–
	SANITARY RISER DIAGRAM VENT THROUGH ROOF	VTR

NOTE: THESE ARE STANDARD SYMBOLS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS. HOWEVER, WHEN THE SYMBOL DOES APPEAR THE ITEM SHALL BE PROVIDED.

PIPING MATERIALS

PLUMBING INSTALLER SHALL REFER TO SPECIFICATIONS FOR PIPING MATERIALS TO BE USED IN PROJECT.

SITE UTILITIES FIELD COORDINATION

– PLANS INDICATE THE CONNECTION OF THE BUILDING (SANITARY, STORM AND WATER) LINES TO SITE UTILITIES PROVIDED UNDER ANOTHER SECTION OF THE CONTRACT DOCUMENTS.
– PLUMBING INSTALLER TO VERIFY POINT OF CONNECTION TO SITE UTILITIES BEFORE COMMENCING INSTALLATION OF HIS LINES. IF, DUE TO FIELD CONDITIONS, ELEVATIONS OR POINT OF CONNECTION CANNOT BE MET, PLUMBING INSTALLER TO NOTIFY (CONTRACTOR FOR GENERAL CONSTRUCTION) (CONSTRUCTION MANAGER) AND ARCHITECT / ENGINEER BEFORE PROCEEDING WITH WORK. FAILURE TO PROVIDE SUCH NOTIFICATION ON A TIMELY MANNER WILL RESULT IN THE REJECTION OF ANY CLAIMS FROM THE INSTALLER AND THE CONTRACTOR.
– IF SITE UTILITIES ARE NOT IN PLACE WHEN PLUMBING INSTALLER COMPLETES HIS UNDERGROUND WORK, PLUMBING INSTALLER TO CLEARLY IDENTIFY END AND ELEVATION OF HIS LINES AND NOTIFY THE CONTRACTOR FOR GENERAL CONSTRUCTION OR CONSTRUCTION MANAGER. IN THAT CASE SITE UTILITIES INSTALLER SHALL COORDINATE FINAL CONNECTION.

MECHANICAL / PLUMBING SCOPE OF WORK

– PROVIDE NEW PLUMBING FIXTURES AND ALL ASSOCIATED PIPING AND OTHER APPURTANENCES AS SHOWN ON PLANS, IN SPECIFICATIONS AND IN SCHEDULES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.
– PROVIDE NEW CEILING MOUNTED EXHAUST FAN AND ASSOCIATED DUCTWORK, ROOF CAPS, ETC. AS SHOWN ON PLANS, IN SPECIFICATIONS AND IN SCHEDULES.
– PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY WITH SITE UTILITIES CONTRACTOR FOR INSTALLATION OF PIPING AND CONNECTION TO UTILITIES. REFER TO SITE UTILITIES FIELD COORDINATION NOTES ON THIS DRAWING FOR ADDITIONAL INFORMATION.
– PROVIDE STORM PROOF DOOR LOUVER AS SHOWN ON PLANS. COORDINATE WITH ARCHITECT AND DOOR MANUFACTURER FOR INSTALLATION OF LOUVER.

MECHANICAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
20x20	NEW DUCTWORK AND/OR EQUIPMENT.
	DUCTWORK AND / OR PIPING CROSSING. CONTRACTOR TO DETERMINE ELEVATIONS IN FIELD.
	DUCTWORK TRANSITION – (SEE SMACNA FIG. 2–7).
	90° ELBOW WITH TURNING VANES. (TURNING VANES MAY NOT ALWAYS APPEAR ON THE DRAWINGS)
	BRANCH TAKE–OFF (45°) WITH BRANCH VOLUME DAMPER.
	ENDCAP.
	90° TEE.
	FIRE DAMPER.
	AIR VOLUME CONTROL DAMPER – MANUAL.
M	AIR VOLUME CONTROL DAMPER – MOTORIZED.
	WALL MOUNTED SUPPLY AIR DEVICE WITHIN THE BUILDING OR EXHAUST LOUVER AT BUILDING OUTSIDE WALL.
	WALL MOUNTED RETURN OR EXHAUST AIR DEVICE WITHIN THE BUILDING OR OUTSIDE AIR INTAKE AT BUILDING OUTSIDE WALL.
	EXHAUST AIR DEVICE.
	CEILING EXHAUST FAN. SEE FAN SCHEDULE.
XXX–#	EQUIPMENT IDENTIFICATION MARK. SEE ABBREVIATIONS ON EQUIPMENT SCHEDULES.
T	WALL MOUNTED THERMOSTAT.
	AIR FLOW DIRECTION – (SUPPLY).
	AIR FLOW DIRECTION – (RETURN/EXHAUST).
	3/4" UNDERCUT DOOR – ABOVE FINISHED FLOOR OR CARPET.
	NEW MECHANICAL PIPING.
A B C	A: SECTION NUMBER. B: DRAWING WHERE SECTION IS SHOWN. C: LINE INDICATING END OF SECTION VIEW.

NOTE: THESE ARE STANDARD SYMBOLS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS, HOWEVER, WHEN THE SYMBOL DOES APPEAR THE ITEM SHALL BE PROVIDED. REFERENCES TO SMACNA IS HVAC DUCT CONSTRUCTION STANDARDS 2006.

MECHANICAL ABBREVIATIONS LEGEND

ABBREV.	DESCRIPTION
+ OR POS.	POSITIVE PRESSURE
– OR NEG.	NEGATIVE PRESSURE
0	NEUTRAL PRESSURE
CFM	CUBIC FEET PER MINUTE
E–(# , E OR α) R–(# , E OR α) S–(# , E OR α)	E : EXHAUST AIR DEVICE. R : RETURN AIR DEVICE. S : SUPPLY AIR DEVICE. (#) : TYPE – SEE AIR DEVICE SCHEDULE. (E) : USED IN PLACE OF #, INDICATING EXISTING. (α) : USED FOR TEST AND BALANCE REPORT IDENTIFICATION IN AREAS WITH MORE THAN ONE AIR DEVICE.
MAX.	MAXIMUM
MIN.	MINIMUM
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
OC	ON CENTER – APPLIES TO DISTANCE BETWEEN INDICATED COMPONENTS.
PSI	POUND PER SQUARE INCH
T	TRANSFER
TB	TEST AND BALANCE
UG	UNDERGROUND

NOTE: THESE ARE STANDARD ABBREVIATIONS AND MAY NOT ALWAYS APPEAR ON THE DRAWINGS, HOWEVER, WHEN THE ABBREVIATION DOES APPEAR THE ITEM SHALL BE PROVIDED.

MECHANICAL / PLUMBING DRAWING LIST

MP0.1 - MECHANICAL AND PLUMBING LEGENDS, GENERAL NOTES, DRAWING LIST, SCOPE OF WORK
MP0.2 - MECHANICAL AND PLUMBING SPECIFICATIONS
MP4.1 - MECHANICAL AND PLUMBING FLOOR PLANS
MP9.1 - MECHANICAL AND PLUMBING DETAILS

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ISSUE DATE
OCTOBER 2016

DRAWN BY
M. HOPKINS

REVISIONS
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10–18–16

MECHANICAL AND PLUMBING GENERAL

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MP0.1
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PLUMBING GENERAL CONSTRUCTION NOTES AND SPECIFICATIONS:

PART 1 - GENERAL REQUIREMENTS

QUALITY ASSURANCE:

1 – PLANS INDICATE THE GENERAL LAYOUT AND LOCATION OF THE PLUMBING SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THESE PLANS SHALL NOT BE SCALED.

2 – NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.

3 – THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR AND THIS INSTALLER FROM THE RESPONSIBILITY TO PROVIDE THE WORK, WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. THIS INSTALLER SHALL REVIEW AND COORDINATE THE SCOPE OF HIS WORK WITH OTHER INSTALLERS TO ASSURE HE IS PROVIDING A COMPLETE AND FUNCTIONAL SYSTEM.

4 – CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION, TYPE, NUMBER, MOUNTING HEIGHTS AND INSTALLATION OF ALL PLUMBING FIXTURES (HANDICAPPED ACCESSIBLE AND NON–HANDICAPPED ACCESSIBLE) AS PER LATEST ARCHITECTURAL DRAWINGS ISSUED AT BID TIME INCLUDING ALL ADDENDUM'S AND INCLUDE IN HIS BID AN AMOUNT TO FURNISH AND INSTALL ANY PLUMBING FIXTURES WHICH ARE SHOWN IN ADDITION TO FIXTURES SHOWN ON THE PLUMBING DRAWINGS AND ANY INCIDENTAL APPARATUS, APPLIANCES, MATERIAL, LABOR AND SERVICES NECESSARY TO MAKE WORK COMPLETE IN ALL RESPECTS AND FULLY READY FOR OPERATION.

5 – COORDINATE WORK WITH OTHER TRADES TO AVOID INTERFERENCE AND DELAYS. ASSIST IN WORKING OUT SPACE REQUIREMENTS TO MAKE A SATISFACTORY INSTALLATION. NOTIFY THE ARCHITECT OF ANY MAJOR CONFLICTS THAT CAN NOT BE RESOLVED THOUGH NORMAL FIELD COORDINATION WITH OTHER TRADES.

6 – IF WORK IS INSTALLED BEFORE COORDINATING WITH OTHER TRADES SO AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES THEN THE INSTALLER SHALL MAKE THE NECESSARY CHANGES IN THE WORK TO CORRECT THE CONDITION WITHOUT EXTRA CHARGE.

7 – SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

8 – OPERATE AND ADJUST ALL EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS UPON COMPLETION OF THE INSTALLATION. SHOULD ANY PART OF THE SYSTEM FAIL TO MEET THESE REQUIREMENTS, ADJUST, REPAIR OR REPLACE ALL DEFECTIVE OR INOPERATIVE PARTS AND AGAIN CONDUCT THE COMPLETE PERFORMANCE TEST.

9 – TESTS SHALL COMPLY WITH THE FOLLOWING:

A – SANITARY–VENT PIPING – TEST THE SYSTEM WITH A TEN FOOT (10') HYDROSTATIC PRESSURE FOR A MINIMUM OF TWO (2) HOURS.

B – DOMESTIC WATER PIPING – TEST THE SYSTEM WITH A MINIMUM OF ONE HUNDRED (100) PSI HYDROSTATIC PRESSURE FOR TWO (2) HOURS.

CODES AND STANDARDS:

1 – DESIGN AND INSTALLATION STANDARDS:

A – FLORIDA BUILDING CODE 5TH EDITION, 2014

B – HYDRAULICS INSTITUTE STANDARDS.

PART 2 - PRODUCTS AND MATERIALS

1 – PLUMBING FIXTURES AND EQUIPMENT SHALL COMPLY WITH THE FOLLOWING:

A – FOR PLUMBING FIXTURES AND EQUIPMENT REFER TO SCHEDULES ON PLANS.

B – AFTER PLUMBING FIXTURES ARE SET, THE CRACK BETWEEN THE FIXTURE AND THE WALL AND/OR FLOOR SHALL BE CAULKED WITH TUB–TITE AS MANUFACTURED BY AMERICAN FLOURESITE COMPANY OR APPROVED EQUAL.

C – ALL ADA COMPLIANT FIXTURE MOUNTING HEIGHTS SHALL BE IN ACCORDANCE WITH CODE REQUIREMENTS. WATER CLOSET FLUSH VALVE HANDLE TO BE POSITIONED AWAY FROM BLOCK WALL ON OTHER SIDE OF WATER CLOSET TO CONFORM TO ADA STANDARDS.

D – EACH INDIVIDUAL FIXTURE AND PIECE OF EQUIPMENT SHALL HAVE A SHUT OFF VALVE IN EACH WATER SUPPLY WHICH SHALL PERMIT EACH FIXTURE AND PIECE OF EQUIPMENT TO BE SHUT OFF WITHOUT INTERFERING WITH THE WATER SUPPLY OF OTHER FIXTURES OR EQUIPMENT.

E – EXACT LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS. VERIFY SUCH LOCATIONS BEFORE PROCEEDING WITH ROUGH–IN.

F – CONTRACTOR TO VERIFY CLEARANCES NEEDED FOR FIXTURES BEING INSTALLED IN CASEWORK TO ENSURE A PROPER INSTALLATION.

2 – COLD AND HOT WATER PIPING SHALL COMPLY WITH THE FOLLOWING:

A – ALL HOT AND COLD WATER SUPPLY PIPING SHALL BE TYPE "L", HARD DRAWN, SEAMLESS COPPER TUBING WITH WROUGHT COPPER SOLDER FITTINGS. USE 95–5 SOLDER.

B – ALL UNDERGROUND COPPER WATER PIPING SHALL BE COATED WITH TWO (2) COATS OF BITUMASTIC OR WRAPPED IN 3 MIL PLASTIC SLEEVING USED IN THE INDUSTRY TO PROTECT PIPING FROM THE ELEMENTS.

C – ALL DOMESTIC WATER SHUT OFF VALVES SHALL BE FULL PORT BALL VALVE TYPE.

3 – SANITARY PIPING (SOIL, WASTE, VENT) SHALL COMPLY WITH THE FOLLOWING:

A – ALL PIPING SHALL HAVE A GRADE OF ONE–QUARTER INCH (1/4") PER FOOT WHENEVER POSSIBLE AND NOT LESS THAN ONE–EIGHTH INCH (1/8") PER FOOT IN ANY CASE.

B – ALL SANITARY, SOIL, WASTE, VENT AND DRAINAGE LINES SHALL BE SCHEDULE 40, PVC–DWV.

4 – INSULATION SHALL COMPLY WITH THE FOLLOWING:

A – ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED WITH 1/2" THICK SECTIONAL GLASS FIBER.

B – INSULATE ALL PIPING BELOW ADA COMPLIANT LAVATORIES / SINKS WHERE DESIGNATED ON ARCHITECTURAL PLANS INCLUDING P–TRAPS WITH HANDI LAV–GUARD INSULATION KIT NO. 102 MADE BY TRUEBRO CO. OR MCGUIRE PRO–WRAP. VELCRO AND TWIST TIE JOINTS NOT ACCEPTABLE.

5 – TRAP PRIMER CONNECTIONS SHALL COMPLY WITH THE FOLLOWING:

A – PROVIDE TRAP PRIMER CONNECTION TO FLOOR DRAINS IN TOILET ROOMS EQUAL TO J.R. SMITH NO. 2968.

6 – INSTALL ESCUTCHEONS TO COVER OPENINGS AROUND ALL EXPOSED WALL AND CEILING PIPE PENETRATIONS AND PIPES INSIDE CABINETS.

7 – INSTALL CLEANOUTS FOR PIPING AS SHOWN ON PLANS AND AS REQUIRED BY LOCAL CODE.

8 – WHERE VALVES OCCUR ABOVE INACCESSIBLE CEILINGS OR CONCEALED BEHIND WALLS, THIS CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS OF PROPER SIZE TO ALLOW FULL ACCESS WITH BOTH HANDS.

9 – PROVIDE WATER HAMMER ARRESTORS TO CONFORM WITH PDI INSTITUTE STANDARDS.

MECHANICAL GENERAL CONSTRUCTION NOTES AND SPECIFICATIONS:

PART 1 - GENERAL REQUIREMENTS

QUALITY ASSURANCE:

1 – PLANS INDICATE THE GENERAL LAYOUT AND LOCATION OF THE MECHANICAL SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THESE PLANS SHALL NOT BE SCALED.

2 – NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES, AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.

3 – THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE THE WORK, WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. REVIEW AND COORDINATE THE SCOPE OF THE WORK UNDER THIS SECTION WITH THE OTHER SECTIONS OF THE CONTRACT DOCUMENTS TO ASSURE A COMPLETE AND FUNCTIONAL SYSTEM.

4 – NO INSTALLATION WORK SHALL PROCEED UNTIL A COMPLETE COORDINATION HAS BEEN DONE WITH MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL TRADES.

5 – SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

CODES AND STANDARDS:

1 – CONSTRUCTION WORK SHALL COMPLY WITH CURRENT FLORIDA BUILDING CODES.

PART 2 - PRODUCTS AND MATERIALS

1 – DUCTWORK (EXHAUST AIR):

A – ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF "SMACNA" DUCT CONSTRUCTION STANDARDS AND COMPLY WITH THE LATEST "NFPA" 90A REQUIREMENTS.

B – EXHAUST AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL. SEAL ALL DUCT JOINTS, TRAVERSE AND LONGITUDINAL, WITH HARDCAST.

C – DUCT CONSTRUCTION CLASSIFICATION (SMACNA) SHALL REFLECT AHU EXTERNAL STATIC PRESSURE LISTED IN THE CONTRACT DOCUMENTS.

2 – PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL AIR MOVING APPARATUS AND DUCTWORK. RECOMMENDED MINIMUM WIDTH IS 4".

3 – WHERE INDICATED ON DRAWINGS AND/OR EQUIPMENT SCHEDULES EXTERNAL STATIC PRESSURE IS DEFINED AS NOT INCLUDING LOSSES DUE TO UNIT MOUNTED FILTER(S), RETURN AIR PLENUM OR MIXING BOXES. THOSE LOSSES SHALL BE PART OF THE EQUIPMENT INTERNAL LOSSES SAME AS THOSE CAUSED BY COILS, CABINETS, ETC.

4 – ROOFING WORK SHALL BE PERFORMED BY A LICENSED ROOFING CONTRACTOR. ON BONDED ROOFS, ALL ROOFING WORK REQUIRED FOR THE INSTALLATION OF THE NEW MECHANICAL EQUIPMENT SHALL BE CERTIFIED BY THE COMPANY HOLDING THE ROOF BOND.

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10–18–16

MECHANICAL AND PLUMBING SPECIFICATIONS

SHEET NUMBER
MP0.2

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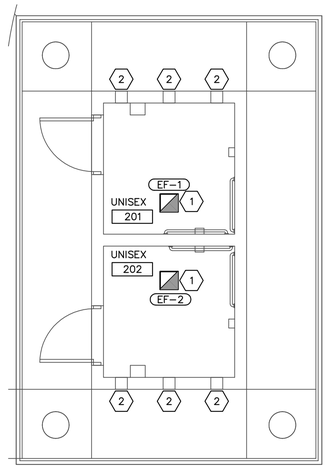

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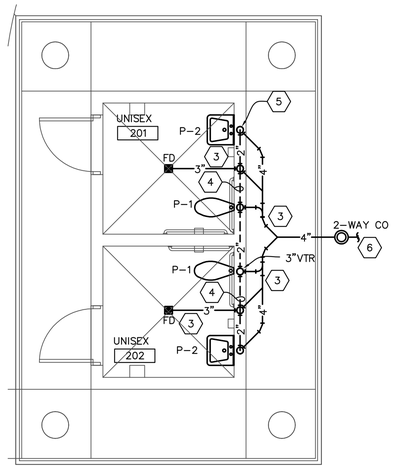
MECHANICAL FLOOR PLAN

0 2' 4' 8'

SCALE: 1/4" = 1'-0"



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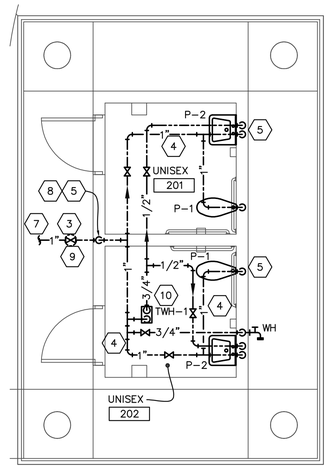
PLUMBING FLOOR PLAN - SANITARY-VENT PIPING

0 2' 4' 8'

SCALE: 1/4" = 1'-0"



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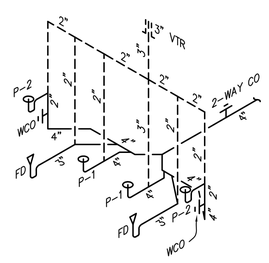
PLUMBING FLOOR PLAN - WATER PIPING

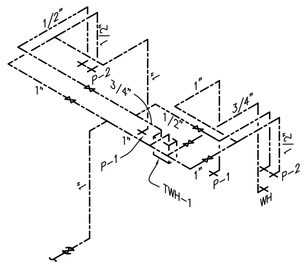
0 2' 4' 8'

SCALE: 1/4" = 1'-0"



PLUMBING RISER DIAGRAM - SANITARY-VENT PIPING

NOT TO SCALE



PLUMBING RISER DIAGRAM - WATER PIPING

NOT TO SCALE

MECHANICAL / PLUMBING NOTES:

1 – NEW CEILING EXHAUST FAN (EF) EQUAL TO GREENHECK MODEL SP–A110, 80 CFM, 1.1 SONES, 950 RPM, 0.58 AMPS, 48.7 WATTS, 120V/1PH. TAMPER PROOF FASTENERS. RUN 6"ø SHEET METAL EXHAUST DUCT UP THROUGH ROOF AND PROVIDE ROOF CAP EQUAL TO GREENHECK MODEL RJ–6x9.
2 – 8"x8" WALL VENT, MINIMUM 0.135 SQ. FT. FREE AREA (3 TOTAL, 0.4 SQ. FT. FREE AREA) LOCATED LOW IN WALL. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
3 – PIPING BELOW SLAB OR GRADE.
4 – PIPING ABOVE CEILING.
5 – COORDINATE PIPING IN WALL WITH LOCATION OF CONCRETE FILLED CELLS. RELOCATE OR OFFSET PIPING AS REQUIRED. TYPICAL.
6 – NEW 4" SANITARY LINE. FOR EXTENSION ON SITE REFER TO CIVIL PLANS. FINAL CONNECTION BY PLUMBING INSTALLER.
7 – NEW 1" CW LINE. FOR EXTENSION ON SITE REFER TO CIVIL PLANS. FINAL CONNECTION BY PLUMBING INSTALLER.
8 – NEW 1" CW LINE UP IN WALL TO ABOVE CEILING.
9 – MAIN SHUT–OFF GATE VALVE IN CAST IRON BOX. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
10 – NEW TANKLESS WATER HEATER (TWH) MOUNTED ABOVE CEILING. REFER TO EQUIPMENT ACCESS NOTE ON THIS DRAWING AND DETAIL ON DRAWING MP9.1 FOR ADDITIONAL INFORMATION.

GENERAL EQUIPMENT ACCESS NOTE:

1 – ALL SHUT–OFF VALVES, EQUIPMENT, ETC. REQUIRING ACCESS FOR SERVICE, MAINTENANCE AND FUTURE REPLACEMENT SHALL BE LOCATED SO AS TO PROVIDE ACCESSIBILITY FROM CEILING ACCESS PANELS. REFER TO ARCHITECTURAL PLANS FOR ACCESS PANEL LOCATIONS. COORDINATE WITH CITY OF TAMPA FOR EXACT LOCATIONS OF THESE DEVICES AND RELOCATE IF REQUESTED.

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MEP CONSULTANT
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GLOBAL SANCHEZ, INC.
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FILE NUMBER
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PROJECT NUMBER
4463.15.02

ISSUE DATE
OCTOBER 2016

DRAWN BY
M. HOPKINS

REVISIONS
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△

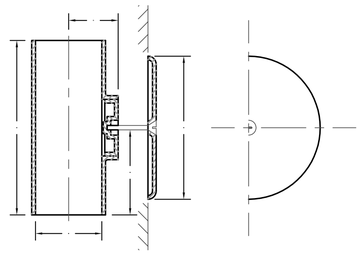
SEAL
MAKSIM A. SEGAL, P.E.
FL. PE 71454

11–10–16

MECHANICAL AND PLUMBING FLOOR PLANS

SHEET NUMBER
MP4.1

____ OF ____



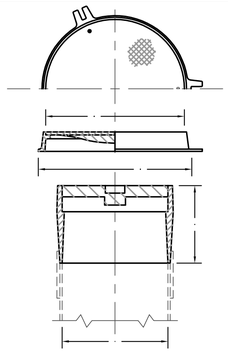
DIMENSIONS IN INCHES								
A PIPE SIZE	NH				HB x SP			
	B	C	D	F	B	C	D	F
2	6–3/8	3–3/16	1–3/4	5	10	4–1/2	2–3/4	5
3	7–3/4	3–7/8	2–1/2	5	12	5–3/4	3	5
4	8–7/8	4–7/16	3	7	12	5–3/4	3–1/2	7
5	–	–	–	–	13	6–1/4	4	7
6	12–1/2	6–1/4	4–5/16	9	14	6–3/4	4–1/2	9
8	–	–	–	–	17	8–1/4	5–1/2	11

ACCEPTABLE MANUFACTURERS: ZURN, JOSAM, J.R. SMITH & WADE

WALL CLEANOUT WITH ROUND WALL ACCESS COVER

NOT TO SCALE

G.S.I. –	08–14
SECTION –	15100
DETAIL # –	005K

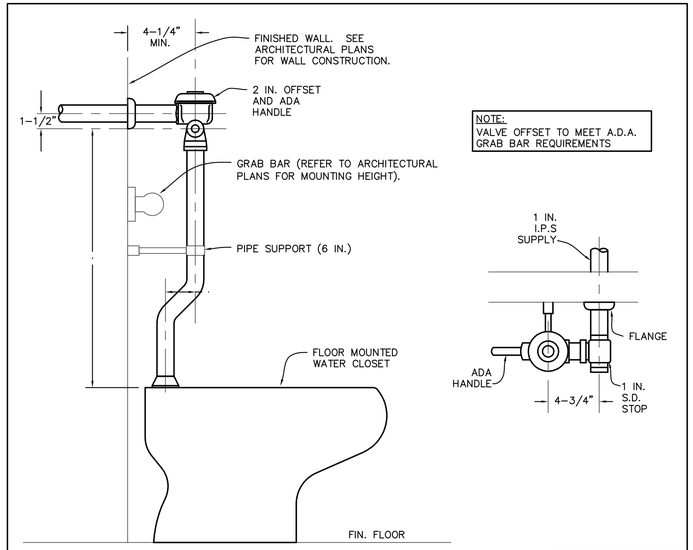


DIMENSIONS IN INCHES			
A – PIPE SIZE	C	D	E
2	6–1/4	7	3–1/2
3			3–5/8
4			3–5/8
5	10–3/8	11	3–3/4
6			3–3/4
8			3–3/4

FLOOR CLEANOUT WITH ROUND ACCESS COVER DETAIL

NOT TO SCALE

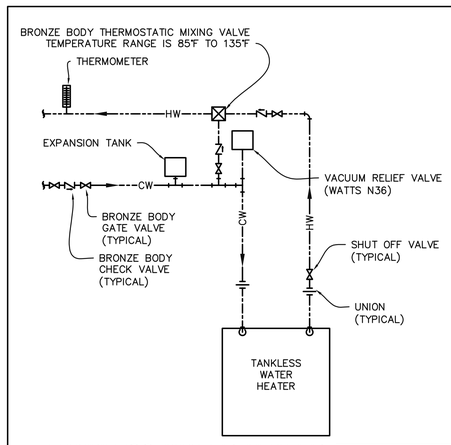
G.S.I. –	08–14
SECTION –	15100
DETAIL # –	005J



ADA COMPLIANT FLOOR MOUNTED WATER CLOSET DETAIL WITH EXPOSED MANUALLY OPERATED FLUSH VALVE

NOT TO SCALE

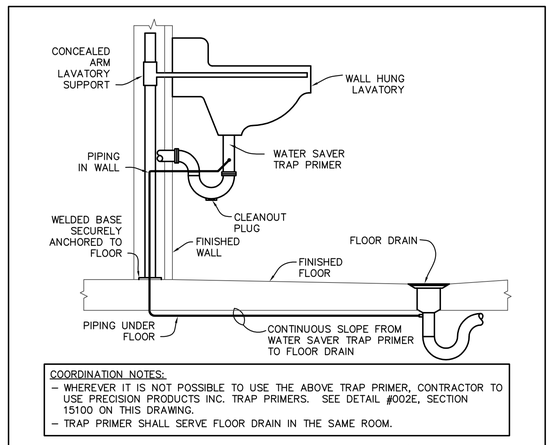
G.S.I. –	08–14
SECTION –	15100
DETAIL # –	001B



TANKLESS WATER HEATER WITH MIXING VALVE

NOT TO SCALE

G.S.I. –	08–14
SECTION –	15105
DETAIL # –	001S



COORDINATION NOTES:
- WHEREVER IT IS NOT POSSIBLE TO USE THE ABOVE TRAP PRIMER, CONTRACTOR TO USE PRECISION PRODUCTS INC. TRAP PRIMERS. SEE DETAIL #002E, SECTION 15100 ON THIS DRAWING.
- TRAP PRIMER SHALL SERVE FLOOR DRAIN IN THE SAME ROOM.

LAVATORY FIXTURE TRAP PRIMER DETAIL

NOT TO SCALE

G.S.I. –	08–14
SECTION –	15100
DETAIL # –	001J

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DRAWN BY
M. HOPKINS

REVISIONS
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2
3

SEAL
MAKSIM A. SEGAL, P.E.
FL. PE 71454

10–18–16

MECHANICAL AND PLUMBING DETAILS

SHEET NUMBER
MP9.1

_____ OF _____

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LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS QTY	LAMPS WATTS/TYPE	VOLTS	MOUNTING	COMMENTS
A	LITHONIA	VGR4-42TRT-120-DWHG	1	42W TRT	120V	SURFACE CEILING	ROUGH-SERVICE LOW-PROFILE LUMINAIRE FOR EXTERIOR LOCATIONS. WHITE TEXTURED FINISH.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING						
	APPROVED EQUAL FROM SESCO LIGHTING						
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING						
B	LITHONIA	VGR4-42TRT-120-DWHG	1	42W TRT	MVOLT	WALL MOUNT @ 7'-0" AFF TO CENTER	WALL MOUNTED ROUGH-SERVICE LOW-PROFILE LUMINAIRE. WHITE TEXTURED FINISH.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING						
	APPROVED EQUAL FROM SESCO LIGHTING						
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING						
EL	LITHONIA	AFN-W-EXT	2	1.8W/LED	120/ 277V	WALL MOUNT	DIE-CAST ALUMINUM HOUSING DUAL-VOLTAGE INPUT 120V OR 277V AC. EMERGENCY UNIT PROVIDED WITH TEST SWITCH, STATUS INDICATOR AND RECHARGEABLE BATTERY. MAINTENANCE-FREE NICKEL-CADMIUM BATTERY PROVIDES 90 MINUTES OF EMERGENCY POWER. WHITE FINISH.
	APPROVED EQUAL FROM TAMPA BAY LIGHTING						
	APPROVED EQUAL FROM SESCO LIGHTING						
	APPROVED EQUAL FROM WESTERN FLORIDA LIGHTING						

NOTES:
1. SUBSTITUTIONS WILL NOT BE PERMITTED WITHOUT APPROVAL FROM THE ENGINEER.
2. VERIFY LIGHTING FIXTURE COLOR/FINISH WITH ARCHITECT PRIOR TO ORDERING.
3. ADJUST MOUNTING HEIGHTS/LOCATIONS TO SUIT FIELD CONDITIONS.
4. (2) LAMPS TO BE WIRED IN PARALLEL FOR EMERGENCY BALLAST.

DISCONNECT SCHEDULE

D/C #	SIZE	POLES	PHASE	NEMA	FUSE	VOLT.	SERVES	COMMENTS
D-1	30A	2	1	1	NON-F	208	TWH-1	MOUNT ON WALL
NOTES								
1.	VERIFY FUSE SIZES FOR ACTUAL EQUIPMENT SUBMITTED.							
2.	FUSES SHALL BE DUAL ELEMENT, TIME DELAY, 100,000 AIC MININUM.							
3.	FINAL CONNECTIONS TO MECHANICAL EQUIPMENT FROM DISCONNECT SHALL BE FLEX. FLEX SHALL BE WATERTIGHT AT EXTERIOR OR WET LOCATIONS.							
4.	ADDITIONAL POLE TO DISCONNECT NEUTRAL SHALL BE PROVIDED WHERE REQUIRED.							
5.	ALL DISCONNECTS SHALL HAVE LOCKED OFF PROVISION.							

ELECTRICAL SYMBOL LEGEND

SWITCHES

- $ — WATTSTOPPER AS-100 MANUAL/AUTOMATIC SWITCH. SWITCH CAN BE MANUALLY OPERATED AND IS ALSO CONTROLLED BY LIGHTING CONTROL CABINET FOR "SWEEP OFF" WITHIN A 24 HOUR PERIOD PER FLORIDA ENERGY CODE REQUIREMENTS. SWITCH HAS PUSHBUTTON OVERRIDE IF OCCUPANTS ARE PRESENT. RECESS MOUNT 48"AFF TO CENTER OF BACKBOX. "3" OR "4" INDICATES SWITCH IS USED FOR 3-WAY OR 4-WAY OPERATION, FOLLOW MANUFACTURER'S WIRING DIAGRAM FOR CONNECTION OF SWITCHES.
- "2P" INDICATES A 2-POLE SWITCH
- "3" INDICATES THREE-WAY SWITCH
- "4" INDICATES FOUR-WAY SWITCH
- "30A" INDICATES THE AMPERAGE OF THE SWITCH FOR NON-STANDARD SWITCHES
- "D" INDICATES DIMMER SWITCH
- "K" INDICATES KEY SWITCH. PROVIDE OWNER WITH (2) KEYS PER SWITCH. MATCH ANY EXISTING KEYED SWITCHES IF RENOVATION. VERIFY KEY TYPE (MANUFACTURER) WITH OWNER
- $M — "M" INDICATES THE SWITCH SHALL BE MOTOR DUTY RATED
- "MMS" INDICATES MANUAL MOTOR STARTER WITH SINGLE POLE, GUARD/LOCK- OFF, RED PILOT LIGHT AND THERMAL OVERLOAD IN NEMA-1 ENCLOSURE
- $OS — "OS" INDICATES OCCUPANCY SENSOR SWITCH (SENSOR SWITCH WSX PDT)
- "P" INDICATES SWITCH WITH PILOT LIGHT.
- "R" INDICATES DEVICE SHALL BE A RED COLOR. DEVICE IS CONNECTED TO A CIRCUIT FED FROM A GENERATOR (IF APPLICABLE).
- $a — LOWER CASE LETTER (i.e. "a") INDICATES THE FIXTURE(S) CONTROLLED BY THE SWITCH.

LIGHTING FIXTURES (REFER TO THE "LIGHTING FIXTURE SCHEDULE")

- A2 / b — 2' x 4' FLUORESCENT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
  NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO LIGHTING FIXTURES WHERE INDICATED:
  UPPER CASE LETTER/NUMBER (i.e. "A2") INDICATES FIXTURE TYPE.
  LOWER CASE LETTER (i.e. "b") INDICATES CONNECTION TO INDICATED SWITCH.
- EM — NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO LIGHTING FIXTURES WHERE INDICATED:
  "EM" INDICATES LIGHT FIXTURE WITH EMERGENCY BATTERY PACK.
- FLUORESCENT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- DOWNLIGHT
- WALL SCONCE
- EXIT SIGN WITH BATTERY PACK MOUNTED 7'-6" AFF, OR AS INDICATED. FACES AND ARROWS AS INDICATED. CONNECT FIXTURE TO LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR CONTROLS.
- EMERGENCY EGRESS LIGHTING UNIT WITH BATTERY PACK MOUNTED 7'-6" AFF OR AS INDICATED. CONNECT FIXTURE TO LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR CONTROLS.
- EXIT SIGN AND EMERGENCY EGRESS LIGHTING COMBO UNIT WITH BATTERY PACK MOUNTED 7'-6" AFF. CONNECT FIXTURE TO LIGHTING CIRCUIT SERVING THE AREA, AHEAD OF ANY SWITCHING OR CONTROLS.
- PASSIVE INFRARED (PIR) OCCUPANCY SENSOR. 360°. 450 SQ. FT. COVERAGE. LEVITON #OSC04-INW. CONNECT TO LOCAL POWER PACK.
- MULTI-TECHNLOGY (PIR & ULTRASONIC) OCCUPANCY SENSOR. 360°. 1000 SQ. FT. COVERAGE. SENSOR SWITCH CM-PDT-1D. CONNECT TO LOCAL POWER PACK.
- EXT. — EXTERIOR PASSIVE INFRARED (PIR) OCCUPANCY SENSOR SBG-10-OEX. CONNECT TO LOCAL POWER PACK. PROVIDE BOX FOR CEILING MOUNTING.
- PP — OCCUPANCY SENSOR POWER PACK. 20A @120/277VAC. PROVIDE QUANTITY AS NEEDED. SENSOR SWITCH PP-20-2P. CONNECT TO LOCAL OCCUPANCY SENSORS.
- PS — LED POWER SUPPLY (TECLED MODEL: VBS-12060D024)

COMMUNICATIONS

- 1-GANG DEEP BOX FOR TELEPHONE OUTLET, RECESS MOUNT 18" TO CENTER OF BACKBOX AFF, ABOVE COUNTER OR AS NOTED. INSTALL 3/4" CONDUIT WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX. INSTALL BLANK COVERPLATE. NUMBER OF PHONE JACKS AS INDICATED OR INSTALL BLANK COVERPLATE. 'W' INDICATES PHONE WILL BE WALL MOUNTED, MOUNT AT 48" AFF TO CENTER OF BACKBOX AND INSTALL WALL PHONE PLATE.
- TV — (2) GANG DEEP BOX FOR DECORA STYLE DUPLEX RECEPTACLE AND TELEVISION OUTLET. COORDINATE MOUNTING HEIGHT AND LOCATION. INSTALL 3/4" CONDUIT FOR LOW VOLTAGE WIRING WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX. INSTALL DECORA COVERPLATE.
- 1-GANG DEEP BOX FOR TELEPHONE / DATA OUTLET, RECESS MOUNT 18" TO CENTER OF BACKBOX AFF, ABOVE COUNTER OR AS NOTED. INSTALL 3/4" CONDUIT WITH BUSHINGS AND PULL STRING STUBBED INTO ACCESSIBLE CEILING SPACE ABOVE BACKBOX. INSTALL BLANK COVERPLATE.
- CABINET. SEE PLANS AND SPECIFICATIONS FOR USAGE AND REQUIREMENTS.

MISCELLANEOUS

- 1 — KEYED NOTE INDICATOR. REFER TO THE "KEYED NOTES" WHERE INDICATED.
- EF(R)(T) — EXHAUST FAN.
  'R' SYMBOL INDICATES TO PROVIDE AND INSTALL 10 MINUTE TIME DELAY OFF RELAY. EXHAUST FAN SHALL OPERATE FOR 10 MINUTES AFTER LIGHTING SWITCH IS TURNED OFF. CONNECT HOT LEAD FROM AHEAD OF SWITCH TO RELAY FOR DELAYED OPERATION AND SWITCH LEG TO RELAY FOR NORMAL OPERATION.
  'T' SYMBOL INDICATES TO PROVIDE AND INSTALL 277V-120V TRANSFORMER. WATTAGE OF TRANSFORMER VA SHALL BE A MINIMUM 20% GREATER THAN EXHAUST FAN POWER REQUIREMENTS, COORDINATE WITH MECHANICAL CONTRACTOR.
- MD — MOTORIZED DAMPER. PROVIDE POWER AND MAKE CONNECTIONS AS INDICATED. COORDINATE WITH MECHANICAL CONTRACTOR.
- SP — CEILING MOUNTED SPEAKER LOCATIONS ON A/V SYSTEM

ABBREVIATIONS

A	AMPERE	NF	NON-FUSED
AFF	HEIGHT ABOVE FINISHED FLOOR	P	POLE
AFG	HEIGHT ABOVE FINISHED GRADE	PH	PHASE
ETR	EXISTING TO REMAIN	REL	RELOCATED
EXT	EXTERIOR	REM	TO BE REMOVED
GFI	GROUND FAULT CIRCUIT INTERRUPTING TYPE WIRING DEVICE OR CIRCUIT BREAKER	REP	REPLACE WITH NEW
		TBR	TO BE RELOCATED
KW	KILOWATT	U.N.O.	UNLESS NOTED OTHERWISE
LTG	LIGHTING	VA	VOLT AMPERE (POWER)
MTR	MOTOR	WP	WEATHERPROOF ENCLOSURE
N.I.C.	NOT IN CONTRACT	XFMR	TRANSFORMER
		+48"	DEVICE MOUNTED AT HEIGHT INDICATED

WIRING DEVICES

NOTE: THE FOLLOWING ABBREVIATIONS APPLY TO WIRING DEVICES WHERE INDICATED:
- 'WP' — INDICATES WEATHERPROOF WHILE-IN-USE ENCLOSURE. ENCLOSURE SHALL HAVE LOCKABLE COVER.HUBBEL MK3200 OR EQUAL.
- 'EWC' — INDICATES DEVICE MOUNTED BEHIND ELECTRIC WATER COOLER ENCLOSURE. COORDINATE DEVICE LOCATION WITH PLUMBING CONTRACTOR AND APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN.
- 'H' — INDICATES HORIZONTALLY MOUNTED WIRING DEVICE.
- 'R' — INDICATES DEVICE SHALL BE A RED COLOR. DEVICE IS CONNECTED TO A CIRCUIT FED FROM THE GENERATOR (IF APPLICABLE).
- "FD" — INDICATES RECEPTACLE MOUNTED IN FLOOR DUCT. INSTALL ACCESSORIES FOR MOUNTING OF RECEPTACLE IN FLOOR DUCT SYSTEM.
- 'IG' — ISOLATED GROUND

- 20 AMP SIMPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX OR AT HEIGHT INDICATED.
- 20 AMP DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
- 20 AMP DUPLEX RECEPTACLE, RECESS MOUNT AT HEIGHT INDICATED OR ABOVE COUNTER, CASEWORK, ETC. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.
- AFCI — 20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT AT HEIGHT INDICATED OR ABOVE COUNTER, CASEWORK, ETC. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND EXISTING CONDITIONS PRIOR TO ROUGH-IN.
- AFCI — 20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX. 1 OF 2 RECEPTACLES IS SWITCHED, REMOVE JUMPER BETWEEN OUTLETS.
- AFCI — 20 AMP DUPLEX RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPTER (AFCI) PROTECTION, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
- 20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
- 20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT ABOVE COUNTER, CASEWORK, ETC OR AT HEIGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND CONDITIONS PRIOR TO ROUGH-IN.
- 20 AMP DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX. 1 OF 2 RECEPTACLES IS SWITCHED, REMOVE JUMPER BETWEEN OUTLETS.
- 20 AMP DUPLEX RECEPTACLE. RECESS FLUSH WITH FLOOR IN SINGLE GANG FLOOR BOX. COVER SHALL BE BRASS WITH HINGED LID FOR EACH OUTLET OF RECEPTACLE.
- 20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE. RECESS FLUSH WITH FLOOR IN DOUBLE GANG FLOOR BOX. COVER SHALL BE BRASS WITH HINGED LID FOR EACH OUTLET OF RECEPTACLES.
- GFI — GFCI TYPE SIMPLEX RECEPTACLE MOUNTED AT HEIGHT OR AS INDICATED. VERIFY RATING AND NEMA CONFIGURATION FOR EQUIPMENT TO BE CONNECTED.
- GFI — 20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
- GFI — 20 AMP GFCI TYPE DUPLEX RECEPTACLE, RECESS MOUNT ABOVE SINK, COUNTER, CASEWORK, ETC. OR AT HIEGHT INDICATED. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS AND CONDITIONS PRIOR TO ROUGH-IN.
- GFI — 20 AMP GFCI TYPE DOUBLE DUPLEX (QUAD) RECEPTACLE WITH COMMON COVER PLATE, RECESS MOUNT 18" AFF TO CENTER OF BACKBOX.
- MULTI-POLE RECEPTACLE FOR APPLIANCE MOUNTED AS INDICATE. COORDINATE AMPERAGE RATING, POLES, NEMA CONFIGURATION, ETC. WITH EQUIPMENT TO BE CONNECTED.
- MULTI-POLE SPECIALTY RECEPTACLE MOUNTED AS INDICATED. COORDINATE AMPERAGE RATING, POLES, NEMA CONFIGURATION, ETC. WITH EQUIPMENT TO BE CONNECTED.
- 20 AMP DUPLEX RECEPTACLE, RECESS MOUNT HORIZONTALLY AT HEIGHT INDICATED.
- 20 AMP DUPLEX RECEPTACLE MOUNTED 18" AFF, ABOVE COUNTER, OR AT HEIGHT INDICATED (INDICATES RECEPTACLE COORDINATED WITH DATA OUTLET FOR COMPUTER USE).
- 20 AMP DOUBLE DUPLEX (QUAD) RECEPTACLE MOUNTED 18" AFF, ABOVE COUNTER, OR AT HEIGHT INDICATED (INDICATES RECEPTACLE COORDINATED WITH DATA OUTLET FOR COMPUTER USE).
- POWER POLE, 2-SECTION (POWER AND COMMUNICATIONS), 2" SQUARE METALLIC, BRUSHED ALUMINUM FINISH. DEVICES MOUNTED AT POLE AS SHOWN. POLE SHALL EXTEND FROM FLOOR TO CEILING, SECURE TO CEILING.
- 20 AMP DUPLEX RECEPTACLE, FLUSH MOUNT AT CEILING. SUPPORT BACKBOX FROM STRUCTURE, NOT GRID.
- 2-SECTION FLOOR BOX WITH DUPLEX RECEPTACLE AND DATA SECTION. FLOOR BOX SHALL BE FLUSH WITH FLOOR WITH CARPET/TILE PLATE AND TRAP DOOR FOR WIRING OUT OF BOX.
- J — JUNCTION BOX.
- DC — DROP CORD. RECEPTACLE AND BOX SUSPENDED FROM JUNCTION BOX AT CEILING WITH S/O CORD. PROVIDE STRAIN RELIEF AT EACH END OF CORD. RECEPTACLE SHALL BE TYPE OF DEVICE SHOWN.
- PLUGMOLD WITH RECEPTACLES 12" ON-CENTER. PLUGMOLD SHALL BE NON-METALLIC, 2-PIECE. MOUNT AS INDICATED. VERIFY COLOR OF FINISH.

POWER DISTRIBUTION (REFER TO THE "ELECTRICAL RISER DIAGRAM")

- PANEL — PANELBOARD, RECESS MOUNT IN FINISHED SPACES, SURFACE MOUNT IN BACK OF HOUSE. REFER TO THE "PANELBOARD SCHEDULE".
- FEEDER OR BRANCH CIRCUIT RACEWAY CONCEALED IN WALL, CEILING.
- FEEDER OR BRANCH CIRCUIT RACEWAY CONCEALED UNDER FLOOR, IN SLAB OR BELOW GRADE.
- DISCONNECT SWITCH. PROVIDE DISCONNECT SWITCH AS INDICATED ON THE SCHEDULES. REFER TO PLANS AND SCHEDULES FOR ADDITIONAL REQUIREMENTS. FUSES SHALL BE DUAL ELEMENT TIME DELAY. VERIFY NAMEPLATE RATINGS OF FRAME SIZE AND FUSING OF THE ACTUAL EQUIPMENT TO BE INSTALLED.
- DRY-TYPE VENTILATED TRANSFORMER, SEE SPECIFICATIONS, PLANS AND RISER FOR REQUIREMENTS. TRANSFORMERS SHALL BE NEMA 1 UNLESS AT THE EXTERIOR OR IN AREAS WHERE WATER MAY BE PRESENT. MOUNT ON 4" HOUSE KEEPING PAD BOLTED TO PAD. MAINTAIN REQUIRED CLEARANCE FROM WALLS OR OBSTRUCTIONS FOR VENTILATION.
- GROUND TO METAL FRAME OF BUILDING, SLAB STEEL, OTHER MADE ELECTRODES, AND METAL UNDERGROUND WATER PIPE. PROVIDE A MINIMUM OF (2) 3/4" DIA, 10 FOOT LONG COPPER CLAD GROUND RODS LOCATED AT LEAST 6 FEET APART. ALL CONCEALED CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. INTERIOR GROUND RODS SHALL STUB ABOVE FLOOR AT LOCATIONS NOT INTERFERING WITH FOOT TRAFFIC. LOCATE EXTERIOR GROUND ROD ASSEMBLY IN LANDSCAPE AREA OR PROVIDE WELL FOR ACCESS TO EACH GROUND ROD IF ASSEMBLY IS LOCATED IN HARD SURFACE AREAS, SUCH AS CONCRETE, ASPHALT, ETC. PROVIDE BOLTED PRESSURE CLAMP WITH AT LEAST TWO BOLTS ON RODS IN TEST WELLS. ALL GROUND ROD LOCATIONS SHALL BE ACCESSIBLE.
- VFD — VARIABLE FREQUENCY DRIVE. REFER TO SPECIFICATIONS, AND FLOOR PLANS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. VFD SUPPLIED BY MECHANICAL CONTRACTOR (U.N.O.) AND INSTALLED BY ELECTRICAL CONTRACTOR. ALL CONNECTIONS TO VFD, DISCONNECT AND EQUIPMENT SERVED SHALL BE BY THE ELECTRICAL CONTRACTOR.
  CIRCUIT SHALL UTILIZE METAL CONDUIT TO MINIMIZE RFI NOISE.
- PANEL HOMERUN/CIRCUIT
- LP-1 — PANEL DESIGNATION/CIRCUIT NUMBER

NOTE:
NOT ALL SYMBOLS SHOWN ON LEGEND ARE USED ON FLOOR PLANS.

SPECIAL INFORMATIONAL NOTE:

IT IS UNDERSTOOD THAT ANY WARRANTY INFORMATION CONCERNING EQUIPMENT INSTALLED MUST BE FORWARDED TO THE OWNER AND THAT ANY AND ALL CONTRACTORS SHALL GUARANTEE THEIR WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF OWNERS ACCEPTANCE.

ENGINEER IS NOT RESPONSIBLE FOR MATERIALS, METHODS, INSTALLATION, AND CONSTRUCTION WHICH DEVIATE FROM CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.

GENERAL NOTES

GENERAL NOTES APPLY TO ALL ELECTRICAL SHEETS

1. DO NOT SCALE FROM THESE DRAWINGS.
2. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC).
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER TRADES TO ASSURE PROPER CLEARANCES FOR EQUIPMENT AND TO KEEP THE JOB PROGRESSING.
4. DRAWINGS ARE BASED ON FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS. REPORT ANY DISCREPANCIES TO THE ARCHITECT/ ENGINEER BEFORE DISTURBING EXISTING INSTALLATION.
5. EXISTING TO REMAIN ELECTRICAL CIRCUITRY DOWNSTREAM AND UPSTREAM OF DEMOLISHED DEVICES SHALL BE MAINTAINED. PROVIDE ALL ELECTRICAL COMPONENTS (BOXES, CONDUIT, WIRING, ETC.) AS REQUIRED.
6. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EQUIPMENT NEEDING ELECTRICAL CONNECTIONS (MOTORS, FANS, PUMPS, ETC.). MAKE ALL CONNECTIONS AND PROVIDE APPROPRIATE WIRE, CONDUIT, AND OVERCURRENT PROTECTION FOR ALL EQUIPMENT. INSTALL ANY ELECTRICAL EQUIPMENT (STARTERS, RELAYS, VFD'S, ETC.) FURNISHED BY MECHANICAL CONTRACTOR (DIV 15). COORDINATE EXACT REQUIREMENTS WITH MECHANICAL AND PLUMBING CONTRACTORS.
7. USE 10 AWG CU. CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS LONGER THAN 75 FEET. USE 10 AWG CU. WHERE WIRE SIZE IS INCREASED IN SIZE FOR VOLTAGE DROP, E.G SHALL BE INCREASED PROPORTIONATELY. PER NEC 250.122 (B).
8. ALL CEILING MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL REFLECTIVE CEILING PLANS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL REFLECTIVE CEILING PLANS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL CEILING TYPES IN ALL AREAS.
9. WHERE DISCONNECTING MEANS IS NOT PROVIDED "WITHIN SIGHT" OF MECHANICAL EQUIPMENT, THE OVERCURRENT DEVICE SERVING SUCH EQUIPMENT SHALL HAVE APPROVED "LOCKED-OFF" PROVISION.
10. CONDUIT RUNS SHOWN ARE DIAGRAMMATIC IN NATURE. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND LOCATING PULL BOXES PER NEC.
11. PROVIDE ALL H.I.D. AND FLUORESCENT LIGHT FIXTURES WITH INTEGRAL FUSING.
12. CONNECT EXIT SIGNS AND EGRESS LIGHTS TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING PER NEC 700.12(F).
13. RECEPTACLES IN MECHANICAL ROOMS, ELECTRICAL ROOMS, STORAGE ROOMS, AND JANITOR CLOSETS SHALL BE G.F.C.I. TYPE MOUNTED AT 48" A.F.F.

CONDUIT AND CONDUCTOR SCHEDULE

C.B.	POLES	WIRE SIZE (TYPE THW)	CONDUIT	PHASE
20A	1	2-#12, 1-#12 E.G.	3/4"	1Ø 2W
	2	2-#12, 1-#12 E.G.		1Ø 2W
	3	3-#12, 1-#12 E.G.		3Ø 3W
	3	3-#12, 1-#12 N., 1-#12 E.G.		3Ø 4W
25A	1	2-#10, 1-#10 E.G.	3/4"	1Ø 2W
	2	2-#10, 1-#10 E.G.		1Ø 2W
	3	3-#10, 1-#10 E.G.		3Ø 3W
	3	3-#10, 1-#10 N., 1-#10 E.G.		3Ø 4W
30A	1	2-#10, 1-#10 E.G.	3/4"	1Ø 2W
	2	2-#10, 1-#10 E.G.		1Ø 2W
	3	3-#10, 1-#10 E.G.		3Ø 3W
	3	3-#10, 1-#10 N., 1-#10 E.G.		3Ø 4W
35A	3	3-#8, 1-#10 E.G.	1"	3Ø 3W
	3	3-#8, 1-#8 N., 1-#10 E.G.		3Ø 4W
40A	2	2-#8, 1-#10 E.G.	1"	1Ø 2W
	3	3-#8, 1-#10 E.G.		3Ø 3W
	3	3-#8, 1-#8 N., 1-#10 E.G.		3Ø 4W
45A	2	2-#8, 1-#10 E.G.	1"	1Ø 2W
	3	3-#8, 1-#10 E.G.		3Ø 3W
	3	3-#8, 1-#8 N., 1-#10 E.G.		3Ø 4W
50A	2	2-#8, 1-#10 E.G.	1"	1Ø 2W
	3	3-#8, 1-#10 E.G.		3Ø 3W
	3	3-#8, 1-#8 N., 1-#10 E.G.		3Ø 4W
60A	2	2-#6, 1-#10 E.G.	1"	1Ø 2W
	3	3-#6, 1-#10 E.G.		3Ø 3W
	3	3-#6, 1-#6 N., 1-#10 E.G.	1 1/4"	3Ø 4W
70A	2	2-#4, 1-#8 E.G.	1"	1Ø 2W
	3	3-#4, 1-#8 E.G.	1 1/4"	3Ø 3W
	3	3-#4, 1-#4 N., 1-#8 E.G.		3Ø 4W
80A	2	2-#4, 1-#8 E.G.	1"	1Ø 2W
	3	3-#4, 1-#8 E.G.	1 1/4"	3Ø 3W
	3	3-#4, 1-#4 N., 1-#8 E.G.		3Ø 4W
90A	2	2-#3, 1-#8 E.G.	1 1/4"	1Ø 2W
	3	3-#3, 1-#8 E.G.		3Ø 3W
	3	3-#3, 1-#3 N., 1-#8 E.G.		3Ø 4W
100A	2	2-#3, 1-#8 E.G.	1 1/4"	1Ø 2W
	3	3-#3, 1-#8 E.G.		3Ø 3W
	3	3-#3, 1-#3 N., 1-#8 E.G.		3Ø 4W

NOTES:
1. ALL CONDUCTORS SHALL BE COPPER
2. ALL CONDUIT SHALL HAVE EQUIPMENT GROUNDING CONDUCTOR INSTALLED.
3. CONDUIT BELOW GRADE OUTSIDE OF BUILDING SHALL BE 1" MINIMUM.
4. SIZING OF CONDUCTORS SHALL BE ALTERED FOR DERATING PER N.E.C. OR VOLTAGE DROP CONSIDERATIONS.
5. SEE RISER DIAGRAM FOR SIZING OF CIRCUITS GREATER THAN 100A.
6. USE #10 AWG, COPPER CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS LONGER THAN 75 FEET. USE #10 AWG, COPPER CONDUCTORS FOR 20 AMPERE, 277 VOLT BRANCH CIRCUITS LONGER THAN 200 FEET. WHERE WIRE SIZE IS INCREASED IN SIZE FOR VOLTAGE DROP, EQUIPMENT GROUND SHALL BE INCREASED PROPORTIONATELY. PER NEC 250.122 (B).
7. WHERE MC CABLE IS ALLOWED BY THE AUTHORITY HAVING JURISDICTION, THE CONDUCTORS FOR MC CABLE SHALL BE THHN. JACKET SHALL BE THE MANUFACTURER'S STANDARD SIZE FOR CONDUCTORS UTILIZED.

ELECTRICAL SHEET INDEX

E0.1	–	ELECTRICAL GENERAL NOTES AND LEGEND
E1.1	–	ELECTRICAL SITE PLAN
E2.1	–	NOT USED
E3.1	–	NOT USED
E4.1	–	ELECTRICAL PLANS
E5.1	–	NOT USED
E6.1	–	NOT USED
E7.1	–	ELECTRICAL PANEL SCHEDULES AND RISER DIAGRAM
E8.1	–	NOT USED
E9.1	–	NOT USED
E10.1	–	ELECTRICAL SPECIFICATIONS

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CIVIL CONSULTANT

LANDSCAPE CONSULTANT

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ISSUE DATE
OCTOBER, 2016

DRAWN BY
JEREMY WILLIAMS

REVISIONS
1.
2.
3.

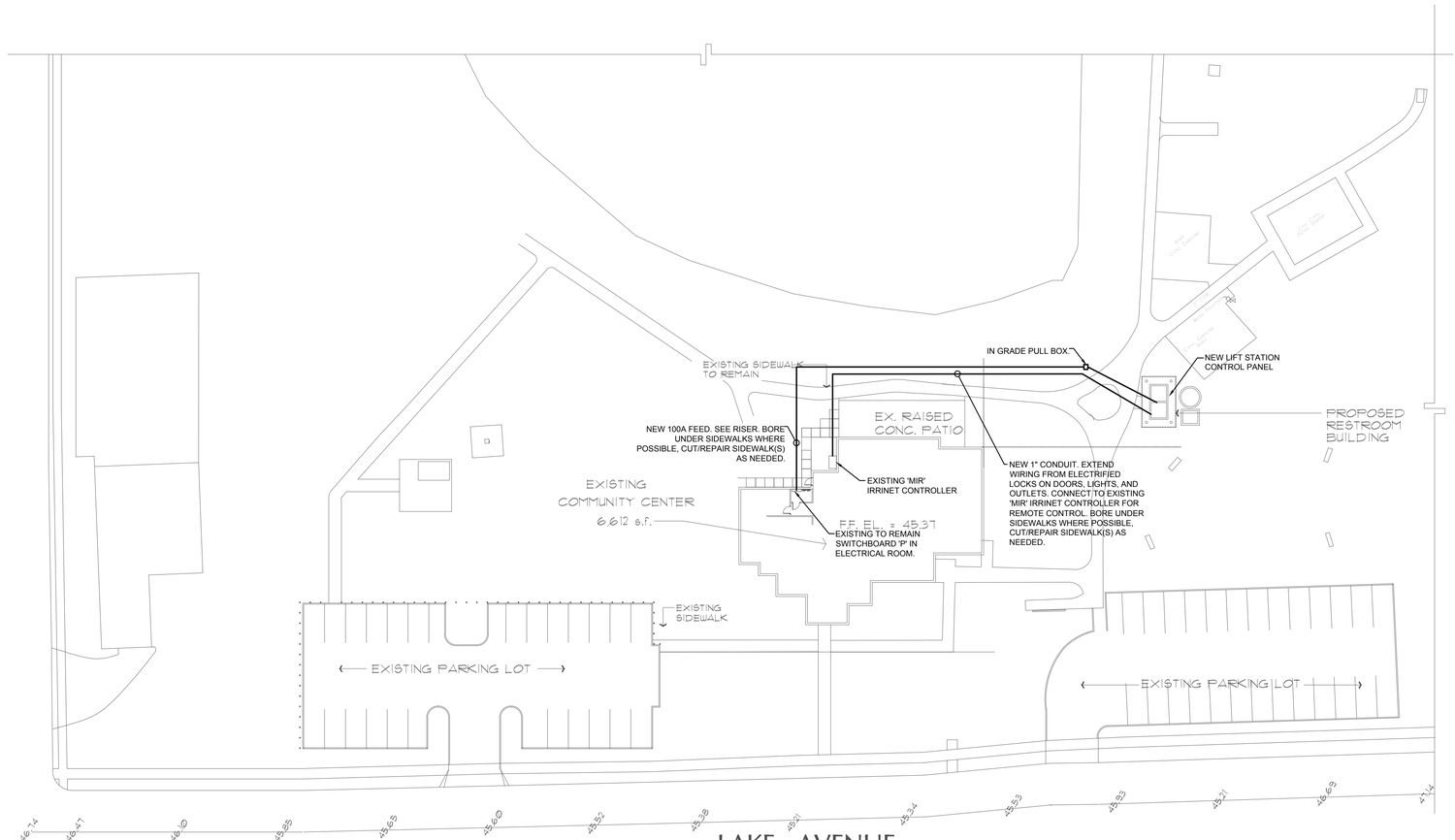
SEAL
PHILIP J. FEIKEMA, P.E.
FL. PE 65083

11–02–16

ELECTRICAL GENERAL NOTES AND LEGEND

SHEET NUMBER
E0.1

_____ OF _____



N

ELECTRICAL SITE PLAN

0 15' 30' 60'

SCALE: 1" = 30'-0"

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ELECTRICAL SITE PLAN

SHEET NUMBER
E1.1

_____ OF _____

EXTERIOR LIGHTING POWER ALLOWANCE - ZONE 3

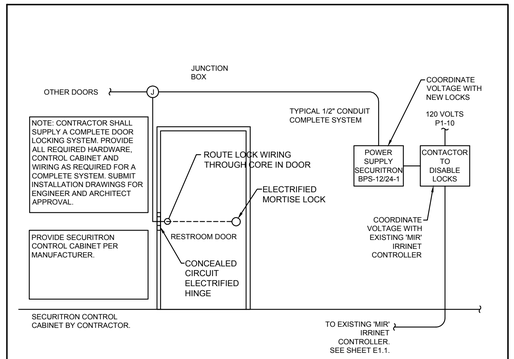
APPLICATIONS	BASIS	S.F./L.F.	ALLOWANCE W/S.F./L.F.	ALLOWANCE WATTS	SPECIFIED WATTS	SPECIFIED +/-
BASE SITE ALLOWANCE				750 W		
TRADABLE SPACES						
WALKWAYS < 10'	L.F.	52	0.8	41.4 W	100 W	
MAIN ENTRIES	L.F.	6	30	180.0 W	30 W	
TOTAL TRADABLE				971.4 W	130.0 W	-841 W
L.P.D. ALLOWANCE BASED ON TABLE 405.6.2(2) (FBC- 5TH EDITION)						

INTERIOR LIGHTING POWER ALLOWANCE

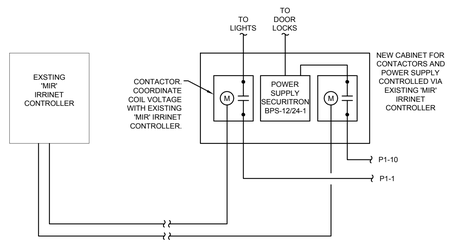
SPACE	NO.	ROOM TYPE	S.F.	ALLOWANCE W/S.F.	ALLOWANCE WATTS	SPECIFIED WATTS	SPECIFIED +/-
RESTROOM	201	RESTROOMS	53	1.0	53	42 W	-11
RESTROOM	202	RESTROOMS	53	1.0	53	42 W	-11
			0	W/S.F.	ALLOWED	SPECIFIED	+/-
	TOTALS		106		106	84	-22
L.P.D. ALLOWANCE BASED ON TABLE 405.5.2 (FBC-ENERGY 5TH EDITION)							

KEYED NOTES

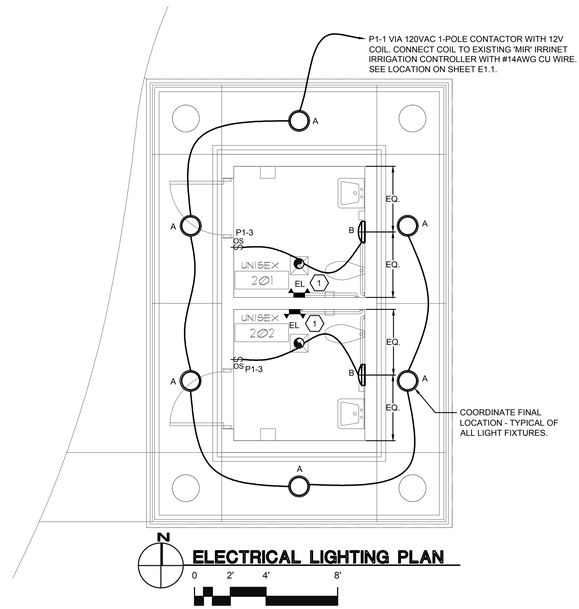
1. CONNECT EXIT SIGNS AND EGRESS LIGHTS TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING PER NEC 700.12(F).
2. PROVIDE CABINET FOR SECURITRON 'BPS-12/24-1' POWER SUPPLY, LIGHTING CONTACTOR, AND DOOR LOCK CONTACTOR, IN ACCESSIBLE SPACE ABOVE CEILING. COORDINATE VOLTAGE WITH EXISTING 'MIR' IRRINET SYSTEM.



TYPICAL ELECTRIFIED LOCK DETAIL — NO SCALE — 1



TYPICAL 'MIR' CONTROLLER — NO SCALE — 2



ELECTRICAL LIGHTING PLAN

SCALE: 1/4" = 1'-0"

ELECTRICAL POWER PLAN

SCALE: 1/4" = 1'-0"

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ELECTRICAL PLANS

SHEET NUMBER
E4.1

_____ OF _____

PANELBOARD: 'P1'
ELECTRICAL SERVICE CALCULATION

LOAD	CONNECTED	DEMAND
LIGHTING	230	288
INSTA-HOT	4,100	4,100
RECEPT	540	540
LIFT STATION (PUMP 1) - LARGEST MOTOR	2,746	3,432
LIFT STATION (PUMP 2)	2,746	2,746
HAND DRYERS (2)	4,600	4,600
ELECTRIFIED LOCKS	24	24
TOTAL	14,985	15,729
76 AMP DEMAND		
100A SERVICE @ 208V, 1-PHASE PROVIDED		

ESTIMATED VOLTAGE DROP
SERVICE FEEDER CONDUCTORS

CONDUCTOR SIZE	#1/0 AWG CU
RESISTANCE (Ω/1000')	0.12
NUMBER OF PARALLEL RUNS	1
CONDUCTOR LENGTH	235'
APPROXIMATE LOAD (MAXIMUM)	80 A
PHASE	1 PH
ESTIMATED VOLTAGE DROP	3.91 V
VOLTAGE	208 V
VOLTAGE DROP	1.88 %
VOLTAGE DROP BELOW 2% PER FBC ENERGY, 5TH ED. C405.7.3.1	

NEW PANELBOARD DESIGNATION: 'P1'

VOLTAGE: 208/120V | 1Ø-3W | MAINS RATING: 100 AMPS | MAIN CB TRIP RATING: 100 AMPS
☐ SURFACE ■ MCB | COPPER BUS | INTERRUPTING RATING: 22000 AIC
■ FLUSH ☐ MLO | ENCLOSURE: NEMA 1

SERVES	CB SIZE	LOAD VA	CKT#		CKT#	LOAD VA	CB SIZE	SERVES
EXTERIOR LIGHTING	20	192	1		2	2746	40	LIFT STATION
LIGHTING	20	84	3		4	2746		
RECEPT	20	180	5		6	2300	20	HAND DRYER
SENSOR FAUCET	20	360	7		8	2300	20	HAND DRYER
INSTA-HOT	25	2050	9		10	24	20	ELECRIFIED LOCKS
		2050	11		12		20	SPARE
SPARE	20		13		14		20	SPARE
SPACE			15		16			SPACE
SPACE			17		18			SPACE
CONNECTED:		15.0	KVA	A	B	EST. DEMAND:	0.0	KVA

ELECTRICAL PANEL SCHEDULES
SCALE: NOT TO SCALE

PANELBOARD DESIGNATION: 'P' ETR

VOLTAGE: 208/120V | 3Ø-4W | MAINS RATING: 1200 AMPS | MAIN CB TRIP RATING: 1200 AMPS
■ SURFACE ☐ MCB | COPPER BUS | INTERRUPTING RATING: - AIC
☐ FLUSH ■ MLO | ENCLOSURE: NEMA 1

	SERVES	CB SIZE	LOAD VA	CKT#		CKT#	LOAD VA	CB SIZE	SERVES
	SPACE	125		1		2		45	OAU-1
				3		4			
				5		6			
	RTU-2	225		7		8		90	RTU-1
				9		10			
				11		12			
	CU-1	60		13		14		40	AH-1
				15		16			
				17		18			
	EXISTING	40		19		20		100	EXISTING
				21		22			
				23		24			
	SPARE	90		25		26		100	EXISTING
				27		28			
				29		30			
	SPACE			31		32		0	PANEL "M"
				33		34			
				35		36			
	SPACE			37		38			
*	NEW PANEL "P1"	100		39		40		250	SPACE
				41		42			
	CONNECTED:		###	KVA	A	B	C	EST. DEMAND:	0.0	KVA

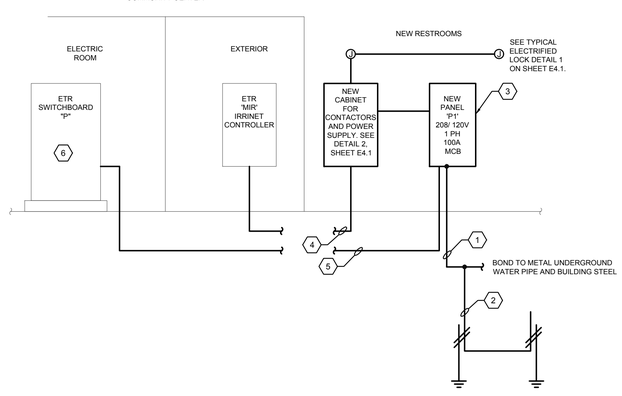
* NEW CIRCUIT BREAKER REQUIRED.

RISER KEYED NOTES

1. NEW #6 CU GROUNDING ELECTRODE CONDUCTOR IN 1" CONDUIT. BOND TO METAL UNDERGROUND WATER PIPE, BUILDING STEEL, AND ALL GROUNDING ELECTRODES PRESENT, PER NEC 250.50.
2. #6 AWG COPPER TO (2) NEW 5/8"x10' COPPER GROUND RODS SPACED 10' APART.
3. NEW PANEL WITH INTEGRATED SURGE PROTECTIVE DEVICE. MINIMUM RATING OF 100kA PER PHASE SURGE CURRENT RATING. FLUSH MOUNT CMU WALL. PROVIDE WITH LOCKABLE COVER.
4. 1" CONDUIT FOR CONNECTION TO EXSITING MIR/IRRINET CONTROLLER.
5. NEW 100 AMP FEED: (1) 1-1/2" CONDUIT WITH (3) #1/0 AWG, CU AND (1) #6AWG CU E.G. (UP-SIZED FOR VOLTAGE DROP).
6. PROVIDE NEW 100A/2-POLE CIRCUIT BREAKER IN EXISTING PANEL "P". MATCH EXISTING TYPE AND RATING.

RISER LEGEND

- EXISTING TO REMAIN
- NEW



PARTIAL ELECTRICAL RISER DIAGRAM
SCALE: NOT TO SCALE

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11–02–16

ELECTRICAL RISER DIGRAM

SHEET NUMBER
E7.1

_____ OF _____

ELECTRICAL SPECIFICATIONS - DIVISION 16

ELECTRICAL

PART 1 - GENERAL

0.01 GENERAL SCOPE

A. THIS PROJECT WILL REQUIRE POWER DISTRIBUTION, LIGHTING, AND LIGHTING CONTROLS SYSTEMS AS SHOWN ON THE PLANS AND INCLUDED IN THE SPECIFICATIONS.

B. THE SCOPE OF WORK SPECIFIED HEREIN CONSISTS OF PROVIDING (DEFINED AS FURNISH AND INSTALL) ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE ELECTRICAL AND RELATED WORK INDICATED ON THE DRAWINGS, AS SPECIFIED HEREIN AND SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. ELECTRICAL WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
- PANELBOARDS
- CIRCUIT BREAKERS
- DISCONNECT SWITCHES
- GROUNDING
- RACEWAY FOR POWER DISTRIBUTION
- CONDUCTORS FOR POWER DISTRIBUTION
- WIRING DEVICES
- LIGHTING FIXTURES
- RACEWAY FOR COMMUNICATIONS WIRING (VOICE, DATA, CABLE TELEVISION)
- CONNECTION OF MOTORS, CONTROL DEVICES AND ELECTRICAL EQUIPMENT FURNISHED BY OTHERS
- TESTING
- FINAL ACCEPTANCE/WARRANTY
- RECORD DRAWINGS

C. ITEMS SPECIFIED HEREIN, SHOWN ON THE DRAWINGS, AND/OR REASONABLY INTERPRETED FROM THE DRAWINGS THAT ARE NECESSARY TO COMPLETE THE ELECTRICAL WORK SHALL BE PROVIDED BY THIS DIVISION, WHETHER ITEM IS SPECIFICALLY SHOWN OR NOT.

1.01 GENERAL DOCUMENTS

A. ELECTRICAL CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH THE PROJECT SITE (e.g. EXISTING CONDITIONS) AND THE ENTIRE CONSTRUCTION DOCUMENTS PACKAGE (e.g. ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, PLUMBING, FIRE PROTECTION, ELECTRICAL DRAWINGS AND SPECIFICATIONS) BEFORE BID SUBMISSION. WORK OF THE ELECTRICAL CONTRACTOR MUST BE COORDINATED WITH THE WORK OF ALL TRADES.

B. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO DESCRIBE THAT COMPLETE ELECTRICAL AND SPECIAL SYSTEMS ARE REQUIRED. HOWEVER, THE WORK SHALL BE COMPLETE EVEN THOUGH ITEMS MAY NOT BE SPECIFICALLY CALLED FOR OR SHOWN. INSTALLATIONS SHALL MEET ALL GOVERNING CODES, SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER AND ALL AGENCIES HAVING JURISDICTION.

C. WORK NOT COVERED IN THIS SECTION. RECESSES, CHASES, AND OTHER PROVISIONS TO BE MADE IN THE STRUCTURE AS REQUIRED TO ACCOMMODATE ELECTRICAL ITEMS, SUCH AS CONDUIT, PANELS, SWITCHES, ETC, SHALL BE PROVIDED BY THE TRADES CONCERNED. THE ELECTRICAL CONTRACTOR SHALL, HOWEVER, NOTIFY ALL SUCH TRADES OF HIS EXACT REQUIREMENTS AHEAD OF TIME . ALL SUCH REMEDIAL WORK SHALL BE DONE ONLY BY MECHANICS OF THE TRADES INVOLVED.

1.02 PERMITS, TAXES, FEES.

A. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL GOVERNMENTAL PERMITS WITH THE CITY OF TAMPA, PAY ALL SALES TAXES AND OTHER ASSOCIATED FEES INCLUDING COSTS FOR UTILITY CONNECTIONS, REQUIRED TO PERFORM THE INTENDED ELECTRICAL WORK. ELECTRICAL CONTRACTOR SHALL FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION. ELECTRICAL CONTRACTOR SHALL OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR ELECTRICAL WORK AND DELIVER SAME TO THE OWNER AND ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.

B. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ALL LABOR, MATERIALS, SERVICES, APPARATUS, OR DRAWINGS NECESSARY TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS, WHETHER OR NOT SHOWN ON DRAWINGS AND/OR SPECIFIED.

C. ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE FOLLOWING:
- NATIONAL ELECTRIC CODE 2011 EDITION
- FLORIDA BUILDING CODE 5TH EDITION (EFF. 07/01/2015)
- APPLICABLE STATE AND LOCAL CODES
- NATIONAL BUREAU OF FIRE UNDERWRITERS
- REGULATIONS OF THE SERVING UTILITY COMPANIES

D. ALL MATERIAL AND EQUIPMENT PROVIDED FOR THE ELECTRICAL WORK SHALL BEAR THE APPROVAL LABEL, OR SHALL BE LISTED, BY UNDERWRITERS' LABORATORIES, INC.

1.03 MEASUREMENTS

A. SHOULD THE ELECTRICAL CONTRACTOR DISCOVER ANY DISCREPANCY BETWEEN ACTUAL MEASUREMENTS AND THOSE INDICATED ON THE DRAWINGS, WHICH PREVENTS FOLLOWING GOOD PRACTICE OR THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, HE SHALL NOTIFY THE ARCHITECT/ELECTRICAL ENGINEER THROUGH THE GENERAL CONTRACTOR, AND SHALL NOT PROCEED WITH HIS WORK UNTIL HE HAS RECEIVED INSTRUCTIONS FROM THE ARCHITECT/ELECTRICAL ENGINEER. ALL REQUESTS FOR INFORMATION (RFI) SHALL INCLUDE A PROPOSED SOLUTION.

B. PRIOR TO ROUGH-IN OF EQUIPMENT THE GENERAL CONTRACTOR, ARCHITECT AND ELECTRICAL ENGINEER RESERVE THE RIGHT TO RELOCATE ANY PANELBOARD, DISCONNECT, STARTER, LIGHTING FIXTURE, WIRING DEVICE, COMMUNICATIONS OUTLET, ETC THREE (3) FEET IN ANY DIRECTION WITHOUT ANY ADDITIONAL CHARGE.

1.04 DRAWINGS

A. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF THE ELECTRICAL AND SPECIAL SYSTEMS WORK INCLUDED IN THE CONTRACT. THE ENTIRE CONSTRUCTION DOCUMENTS PACKAGE (DRAWINGS AND SPECIFICATIONS) SHALL BE EXAMINED FOR EXACT LOCATION OF FIXTURES, DEVICES AND EQUIPMENT. WHERE ITEMS ARE NOT LOCATED BY THE DRAWINGS OR SPECIFICATIONS OF OTHER CONSULTANTS THEN THE ITEMS SHALL BE LOCATED PER THE ENGINEERING DRAWINGS, HOWEVER, THE DRAWINGS ARE NOT TO BE SCALED.

B. ELECTRICAL CONTRACTOR SHALL FOLLOW THE ELECTRICAL DRAWINGS IN LAYING OUT WORK AND SHALL COORDINATE WITH THE DRAWINGS OF OTHER TRADES TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN MAXIMUM HEADROOM AND SPACE AT ALL LOCATIONS. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, THE ARCHITECT/ELECTRICAL ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH INSTALLATION. ALL REQUESTS FOR INFORMATION (RFI) SHALL INCLUDE A PROPOSED SOLUTION.

C. IF DIRECTED BY THE ARCHITECT/ELECTRICAL ENGINEER, THE ELECTRICAL CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LOCATIONS OF ELECTRICAL WORK AS NEEDED TO PREVENT CONFLICTS WITH WORK OF OTHER TRADES AND FOR PROPER INSTALLATION OF THE WORK.

1.05 SUBSTITUTION OF SPECIFIED EQUIPMENT

A. MATERIALS OR PRODUCTS SPECIFIED BY TRADE NAME, MANUFACTURER'S NAME OR CATALOG NUMBER SHALL BE PROVIDED AS SPECIFIED.

B. ANY CONTRACTOR PROPOSING AN 'EQUIVALENT' MATERIAL OR PRODUCT MUST SUBMIT, WITH THE REQUEST, COMPLETE CATALOG INFORMATION TO PERMIT EVALUATION OF THE PRODUCT. IN THE CASE OF LIGHTING FIXTURES, AN INDEPENDENT TESTING LABORATORY TEST REPORT (NOT THE MANUFACTURER'S) STATING FIXTURE EFFICIENCY AND PERFORMANCE, SHALL ACCOMPANY THE REQUEST.

C. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE CORRECTIONS TO ALL SITUATIONS CREATED BY THE SUBSTITUTION OF MATERIALS OR PRODUCTS. THE ACCEPTANCE OF SUBSTITUTED MATERIALS OR PRODUCTS, DOES NOT RELIEVE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE CORRECTIONS, AT THEIR EXPENSE, FOR ALL DISCREPANCIES AND CONFLICTS CREATED BY THE SUBSTITUTION OF MATERIALS OR PRODUCTS.

1.06 SHOP DRAWINGS

A. ELECTRICAL CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL SHOP DRAWINGS OF ALL MATERIALS OR PRODUCTS REQUIRED TO COMPLETE THE PROJECT AND NO MATERIALS OR PRODUCTS SHALL BE DELIVERED TO THE JOB SITE OR INSTALLED UNTIL THE ELECTRICAL CONTRACTOR HAS ELECTRICAL ENGINEER APPROVED SHOP DRAWINGS. SHOP DRAWINGS FOR MATERIALS OR PRODUCTS SHALL BE SUBMITTED AS ONE COMPLETE PACKAGE. ELECTRICAL CONTRACTOR SHALL FURNISH THE NUMBER OF COPIES REQUIRED BY THE GENERAL AND SPECIAL CONDITIONS OF THE CONTRACT, BUT IN NO CASE LESS THAN SIX (6) IDENTICAL COPIES. SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE ELECTRICAL AND GENERAL CONTRACTORS FOR COMPLIANCE WITH THE SPECIFIED MATERIALS AND PRODUCTS PRIOR TO SUBMISSION TO THE ARCHITECT/ELECTRICAL ENGINEER.

B. SAMPLES, DRAWINGS, SPECIFICATIONS, CUT SHEETS, ETC SUBMITTED FOR REVIEW SHALL BE PROPERLY LABELED AND SHALL INDICATE THE SPECIFIC ITEM FOR WHICH THE ELECTRICAL CONTRACTOR IS PROPOSING TO PROVIDE.

C. "NO EXCEPTION" RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE THAT THE MATERIAL OR PRODUCTS COMPLY WITH THE BUILDING CONDITIONS OR MEASUREMENTS. WHERE SHOP DRAWINGS ARE REVIEWED, SAID "NO EXCEPTION" DOES NOT IN ANY WAY RELIEVE THE ELECTRICAL CONTRACTOR FROM THE RESPONSIBILITY OF PROVIDING LABOR, MATERIAL OR PRODUCTS REQUIRED TO PERFORM THE WORK AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

D. SHOP DRAWINGS SUBMITTALS ARE REQUIRED ON ELECTRICAL DISTRIBUTION EQUIPMENT, PANELBOARDS, TRANSFORMERS, CONDUIT, CONDUCTORS (WIRE), CIRCUIT BREAKERS, DISCONNECT SWITCHES, WIRING DEVICES, FLOOR BOXES, LIGHT FIXTURES, TIMECLOCKS, CONTACTORS AND SURGE PROTECTION DEVICES (SPD)

PART 2 - PRODUCTS

2.01 SERVICE ENTRANCE

A. SERVICE ENTRANCE SHALL BE EXISTING TO REMAIN.

2.02 PANELBOARDS

A. PROVIDE POWER DISTRIBUTION EQUIPMENT AS INDICATED ON THE ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES. PANELBOARDS SHALL BE OF DEAD FRONT CONSTRUCTION AND SHALL BE MANUFACTURED BY SQUARE "D", GENERAL ELECTRIC, CUTLER-HAMMER OR SIEMENS.

B. PANELBOARDS SHALL NOT BE LESS THAN 20" WIDE AND SHALL BE FABRICATED FROM CODE GAUGE STEEL WITH A POST FABRICATION APPLIED GRAY ENAMEL FINISH.

C. PANELBOARD AND INTERNAL COMPONENTS SHALL BE CONSTRUCTED AND U.L. LISTED TO WITHSTAND THE SYMMETRICAL SHORT CIRCUIT AMPERES INDICATED ON THE ELECTRICAL RISER DIAGRAM OR PANEL SCHEDULES.

D. WIRE GUTTER SPACE SHALL COMPLY WITH U.L. AND NEC STANDARDS FOR PANELBOARDS.

E. PANELBOARDS SHALL BE SURFACE OR FLUSH MOUNTED AS SHOWN ON PANEL SCHEDULES AND/OR FLOOR PLANS. PANEL SHALL BE EQUIPPED WITH RECESSED HINGES, FLUSH LOCK WITH CATCH AND SPRING LOADED DOOR PULL. ALL LOCKS SHALL BE KEYED A LIKE. TURN OVER ALL KEYS TO OWNER.

F. PROVIDE TYPED CIRCUIT IDENTIFICATION CARD INSIDE EACH PANEL. BASE DESCRIPTION ON LOAD SERVED.

G. PROVIDE LAMINATED, ENGRAVED PLASTIC NAMEPLATE WITH WHITE LETTERS STATING PANELBOARD NAME MOUNTED ON FRONT OF EACH PANEL. MOUNT NAMEPLATE WITH METAL FASTNERS. MINIMUM NAMEPLATE SIZE SHALL BE 3" WIDE BY 1-1/2" HIGH WITH 1/2" HIGH ENGRAVED LETTERS. PROVIDE BLACK NAMEPLATE COLOR FOR NORMAL AND RED NAMEPLATE COLOR FOR EMERGENCY PANELBOARDS OR COLOR AS REQUIRED TO MEET OWNERS STANDARD NAMEPLATE COLORS.

2.03 CIRCUIT BREAKERS:

A. CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC MOLDED CASE OF FRAME SIZE, NUMBER OF POLES AND TRIP RATINGS AS SHOWN ON THE ELECTRICAL RISER DIAGRAM AND/OR PANEL SCHEDULES. MULTI-POLE BREAKERS SHALL HAVE A SINGLE HANDLE TO TRIP ALL POLES AT ONCE. CIRCUIT BREAKERS SHALL BE FROM THE SAME MANUFACTURER AS THE POWER DISTRIBUTION EQUIPMENT. PROVIDE CIRCUIT BREAKERS WITH GROUND FAULT AND ARC FAULT PROTECTION WHERE REQUIRED.

2.04 DISCONNECT SWITCHES

A. DISCONNECT SWITCHES SHALL BE U.L. LISTED AND FROM SAME MANUFACTURER AS POWER DISTRIBUTION EQUIPMENT. SWITCH BLADES SHALL BE FULLY VISIBLE IN THE "OFF" POSITION WITH THE DOOR OPEN. ALL CURRENT CARRYING PARTS SHALL BE PLATED TO RESIST CORROSION.

B. SWITCHES SHALL BE QUICK-MAKE, QUICK-BREAK SUCH THAT, DURING NORMAL OPERATION, THE CONTACTS SHALL NOT BE CAPABLE OF BEING RESTRAINED BY THE OPERATING HANDLE AFTER THE CLOSING OR OPENING ACTION OF THE CONTACTS HAS STARTED. THE HANDLE AND MECHANISM SHALL BE AN INTEGRAL PART OF THE BOX, NOT THE COVER, WITH POSITIVE PADLOCKING PROVISIONS IN THE "OFF" POSITION.

C. PROVIDE HEAVY-DUTY, NEMA-1 ENCLOSURE UNLESS NEMA-3R (RAIN PROOF) IS REQUIRED BY THE SWITCH LOCATION. ENCLOSURES SHALL BE PROVIDED WITH A POST FABRICATION APPLIED GRAY ENAMEL FINISH.

D. FUSIBLE SWITCHES SHALL BE CAPABLE OF FIELD CONVERSION FROM STANDARD CLASS-H FUSE SPACING TO CLASS-J FUSE SPACING WITHOUT AFFECTING THE U.L. LISTING. THE SWITCH MUST ALSO ACCEPT CLASS-R FUSES AND HAVE A FIELD INSTALLABLE U.L. LISTED REJECTION FEATURE TO REJECT ALL FUSES EXCEPT CLASS-R. THE U.L. LISTED SHORT CIRCUIT RATING, WHEN EQUIPPED WITH CLASS-J OR CLASS-R FUSES, SHALL BE 200,000 AMPERES RMS SYMMETRICAL.

2.05 GROUNDING AND BONDING

A. PROVIDE A SINGLE, COMPLETE GROUNDING NETWORK FOR THE ENTIRE ELECTRICAL AND SPECIAL SYSTEMS WHICH COMPLIES WITH NEC REQUIREMENTS.

B. SERVICE NEUTRAL AND EQUIPMENT GROUND SHALL BE CONNECTED AT ONE POINT INSIDE THE MAIN DISTRIBUTION PANEL WITH ONE CONTINUOUS CONDUCTOR FROM THIS LOCATION TO THREE 10 FOOT LONG DRIVEN GROUND RODS LOCATED IN A TRIANGULAR PATTERN, TO BUILDING STEEL AND TO METAL WATER PIPE.

C. PROVIDE BONDING CONNECTION WITH GROUND BUSHING TO CONDUIT FROM DISTRIBUTION PANEL TO THE BREAKERS AND PANELS SERVED.

D. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELDS. PROVIDE TEST WELL OVER EACH GROUND ROD.

2.06 CONDUIT FOR POWER DISTRIBUTION WIRING

A. WIRING FOR POWER DISTRIBUTION SHALL BE INSTALLED IN RIGID METALLIC (GALVANIZED STEEL) CONDUIT (RMC), INTERMEDIATE METAL CONDUIT (IMC), ELECTRICAL METALLIC TUBING (EMT), FLEXIBLE METAL CONDUIT OR SCHEDULE 40/80 PVC CONDUIT. PROVIDE THE CONDUIT TYPE INDICATED IN THIS SPECIFICATION WHERE CONDUIT TYPE IS NOT NOTED ON THE DRAWINGS.

B. RIGID GALVANIZED STEEL (RGS) CONDUIT WITH THREADED FITTINGS SHALL BE PROVIDED ABOVE GROUND AT EXPOSED INTERIOR AND EXTERIOR LOCATIONS WHERE CONDUIT MAY BE SUBJECTED TO PHYSICAL DAMAGE FROM VEHICLES, MAINTENANCE EQUIPMENT, ETC. PROVIDE LARGE RADIUS SWEEP ELBOWS FOR RGS CONDUIT.

C. IMC CONDUIT WITH THREADED FITTINGS SHALL BE PROVIDED IN ABOVE GROUND, EXPOSED INTERIOR AND EXTERIOR LOCATIONS WHERE CONDUIT WILL NOT BE SUBJECTED TO PHYSICAL DAMAGE, BUT WILL BE EXPOSED TO RAIN WATER, HAZARDOUS CONDITIONS, ETC. THREADLESS FITTINGS FOR IMC IS NOT ACCEPTABLE.

D. EMT CONDUIT WITH SET SCREW FITTINGS SHALL BE PROVIDED IN ABOVE GROUND INTERIOR LOCATIONS WHERE CONDUIT WILL NOT BE SUBJECTED TO PHYSICAL DAMAGE AND WILL REMAIN COMPLETELY DRY DURING ALL WEATHER CONDITIONS.

E. EMT CONDUIT SHALL NOT BE USED IN LOCATIONS WHERE CONDUIT COULD BE EXPOSED TO DIRECT/INDIRECT RAIN/WATER/LIQUIDS, WIND DRIVEN RAIN, HOSE DOWN AREAS, OPEN AIR AREAS WITHOUT AIR CONDITIONING (UNLESS CONDUIT WILL REMAIN COMPLETELY DRY DURING ALL WEATHER CONDITIONS) AND AREAS WHERE RAIN/WATER/LIQUIDS MIGHT DRIP OR RUN INTO CONDUIT, BACKBOXES OR DEVICES.

F. SCHEDULE 80 PVC CONDUIT SHALL BE USED FOR UNDERGROUND SERVICE ENTRANCE FEEDERS AND ALL CONDUIT BELOW ROADWAYS U.N.O. ON THE RISER DIAGRAMS AND/OR FLOOR PLANS. PROVIDE LARGE RADIUS RIGID GALVANIZED STEEL ELBOWS FOR SCHEDULE 80 PVC CONDUIT. COAT RGS ELBOWS WITH BLACK MASTIC.

G. SCHEDULE 40 PVC CONDUIT SHALL BE USED FOR ALL UNDERGROUND FEEDERS AND WIRING EXCEPT FOR SERVICE ENTRANCE FEEDERS AND UNDER ROADWAYS. PROVIDE LARGE RADIUS RIGID GALVANIZED STEEL ELBOWS FOR SCHEDULE 40 PVC CONDUIT WHERE OVERALL CONDUIT RUN IS GREATER THAN 100 FEET. COAT RGS ELBOWS WITH BLACK MASTIC.

H. PVC CONDUIT SHALL NOT BE USED MORE THAN SIX INCHES ABOVE FINISHED GRADE IN EITHER INTERIOR OR EXTERIOR LOCATIONS. PVC CONDUIT SHALL TRANSITION TO METAL CONDUIT NO MORE THAN SIX INCHES ABOVE GRADE.

I. ALL PVC CONNECTIONS SHALL BE WATERTIGHT.

J. FLEXIBLE METAL CONDUIT SHALL BE USED TO CONNECT LIGHTING FIXTURES AND EQUIPMENT SUBJECT TO VIBRATION, INCLUDING A/C EQUIPMENT, MOTORS, TRANSFORMERS, ETC. PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AND FITTINGS FOR EXTERIOR APPLICATIONS.

K. CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, OR CEILINGS IN FINISHED AREAS. CONDUIT SHALL NOT BE EXPOSED IN FINISHED AREAS EXCEPT WHEN ABSOLUTELY NECESSARY. CONDUIT SHALL BE STRAIGHT AND PARALLEL TO BUILDING LINES.

L. DURING CONSTRUCTION CONDUIT SHALL BE PROTECTED AGAINST DAMAGE AND ENTRANCE OF WATER, DIRT OR FOREIGN MATERIAL WITH WATERTIGHT CAPS. FIRE RATED ASSEMBLIES SHALL BE PROVIDED WHERE CONDUIT PASSES THROUGH FIRE RATED CONSTRUCTION. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FIRE RATED CONSTRUCTION. REFER TO THE FIRE STOP PENETRATION DETAILS ON THE ELECTRICAL DRAWINGS.

M. INSULATING BUSHINGS WITH DOUBLE LOCK-NUTS SHALL BE USED WHEREVER A NEW CONDUIT 1-1/4" DIA OR LARGER ENTERS A BOX, PANEL, DISCONNECT OR ELECTRICAL EQUIPMENT.

N. CONDUIT SIZES SHOWN ON THE DRAWINGS AND SCHEDULES ARE THE MINIMUM SIZES REQUIRED. LARGER SIZE CONDUIT TO FACILITATE WIRE PULLS, ETC, IS PERMITTED.

2.07 CONDUCTORS

A. PROVIDE 75 DEGREE CELSIUS (167 DEGREE FAHRENHEIT) TYPE THHW, THW, THWN, OR XHHW INSULATED COPPER CONDUCTORS RATED AT 600V FOR POWER DISTRIBUTION WIRING. CONDUIT WIRE FILL SHOWN ON THE DRAWINGS AND FEEDER SCHEDULES ARE BASED ON TYPE THW WIRE UNLESS NOTED OTHERWISE.

B. CONDUCTORS UP TO AND INCLUDING NO. 10 AWG SHALL BE SOLID AND CONDUCTORS NO. 8 AWG AND LARGER SHALL BE STRANDED. MINIMUM CONDUCTOR SIZE SHALL BE NO.12 AWG. CONDUCTORS SHALL BE CONTINUOUS BETWEEN EQUIPMENT AND DEVICES. SPLICES ARE TO BE MADE ONLY IN ACCESSIBLE JUNCTION OR OUTLET BOXES AND SHOULD BE KEPT TO A MINIMUM. SPLICES ON NO.12 AND NO.10 WIRE SHALL BE MADE WITH PRESSURE CONNECTORS CAPABLE OF CARRYING FULL WIRE CAPACITY. SPLICES ON NO.8 WIRE AND LARGER SHALL BE MADE WITH SOLDERLESS LUGS WRAPPED WITH BOTH RUBBER AND PLASTIC ELECTRICAL TAPE. CONNECTIONS TO FIXED EQUIPMENT TERMINALS ARE TO BE MADE WITH SOLDERLESS LUGS.

C. ALL NEW CONDUIT USED FOR POWER DISTRIBUTION SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR. CONDUIT RACEWAY SHALL NOT BE USED IN PLACE OF A GROUNDING CONDUCTOR.

D. MC TYPE CABLE MAY BE UTILIZED FOR FINAL EQUIPMENT CONNECTIONS IF ALLOWED BY THE AUTHORITY HAVING JURISDICTION. MC TYPE CABLE SHALL NOT BE USED FOR HOMERUNS TO PANELS.

2.08 WIRING DEVICES

A. THE EXTENT OF WIRING DEVICE WORK IS INDICATED ON THE DRAWINGS. WIRING DEVICES ARE DEFINED AS SINGLE DISCRETE UNITS OF ELECTRICAL DISTRIBUTION SYSTEMS THAT ARE INTENDED TO CARRY BUT NOT UTILIZE ELECTRIC ENERGY. TYPES OF WIRING DEVICES IN THIS SECTION INCLUDE:
- RECEPTACLES
- GROUND FAULT CIRCUIT INTERRUPTERS
- ARC FAULT CIRCUIT INTERRUPTERS
- LIGHT SWITCHES

B. PROVIDE WHITE COLORED WIRING DEVICES AND MATCHING THERMOPLASTIC COVERPLATES UNLESS NOTED OTHERWISE. FINAL COLOR SELECTION SHALL BE COORDINATED WITH OWNER/ARCHITECT.

C. QUALITY ASSURANCE

1. NEC COMPLIANCE: COMPLY WITH NEC AS APPLICABLE TO INSTALLATION AND WIRING OF ELECTRICAL WIRING DEVICES.
2. UL COMPLIANCE: COMPLY WITH APPLICABLE REQUIREMENTS OF U.L. 20, 486A, 498 AND 943 PERTAINING TO INSTALLATION OF WIRING DEVICES. PROVIDE WIRING DEVICES WHICH ARE U.L. LISTED AND LABELED.
3. IEEE COMPLIANCE: COMPLY WITH APPLICABLE REQUIREMENTS OF IEEE STANDARD 241, "RECOMMENDED PRACTICE FOR ELECTRIC POWER SYSTEMS IN COMMERCIAL BUILDINGS", PERTAINING TO ELECTRICAL WIRING SYSTEMS.
4. NEMA COMPLIANCE: COMPLY WITH APPLICABLE PORTIONS OF NEMA STANDARDS PUBLICATION NUMBER WD-1, "GENERAL PURPOSE WIRING DEVICES", WD-2, "SEMICONDUCTOR DIMMERS FOR INCANDESCENT LAMPS", AND WD-5, "SPECIFIC PURPOSE WIRING DEVICES".

D. RECEPTACLES

1. SIMPLEX: PROVIDE SPECIFICATION GRADE 20-AMPERE, 125 VOLT, HEAVY-DUTY, 2-POLE, 3-WIRE, RECEPTACLE WITH GREEN HEXAGONAL EQUIPMENT GROUND SCREW AND METAL PLASTER EARS DESIGNED FOR SIDE AND BACK WIRING WITH SPRING LOADED, SCREW ACTIVATED PRESSURE PLATE IN NEMA 5-20R CONFIGURATION UNLESS NOTED OTHERWISE. COORDINATE ALL "SPECIAL" RECEPTACLES WITH THE EQUIPMENT SERVED PRIOR TO ROUGH-IN. PROVIDE RECEPTACLE RATING AND CONFIGURATION TO MATCH EQUIPMENT SERVED.
2. DUPLEX: PROVIDE SPECIFICATION GRADE 20-AMPERE, 125 VOLT, HEAVY-DUTY, 2-POLE, 3-WIRE, RECEPTACLE WITH GREEN HEXAGONAL EQUIPMENT GROUND SCREW AND METAL PLASTER EARS DESIGNED FOR SIDE AND BACK WIRING WITH SPRING LOADED, SCREW ACTIVATED PRESSURE PLATE IN NEMA 5-20R CONFIGURATION.

E. GROUND-FAULT CIRCUIT INTERRUPTERS

1. PROVIDE SPECIFICATION GRADE "FEED-THRU" TYPE GROUND-FAULT CIRCUIT INTERRUPTERS, WITH HEAVY-DUTY DUPLEX RECEPTACLES, CAPABLE OF PROTECTING CONNECTED DOWNSTREAM RECEPTACLES ON SINGLE CIRCUIT, AND OF BEING INSTALLED IN A 2-3/4" DEEP OUTLET BOX WITHOUT ADAPTER, GROUNDING TYPE U.L. RATED CLASS A, GROUP 1, RATED 20-AMPERES, 120-VOLTS, 60 HZ, WITH SOLID-STATE GROUND-FAULT SENSING AND SIGNALING, WITH 5 MILLIAMPERES GROUND-FAULT TRIP LEVEL, EQUIP WITH NEMA 5-20R CONFIGURATION.

F. LIGHT SWITCHES

1. SINGLE AND TWO POLE: PROVIDE HARD USE SPECIFICATION GRADE RECESS MOUNTED SINGLE AND TWO-POLE QUIET TOGGLE SWITCHES, 20-AMPERE, 120/277 VOLTS AC. PROVIDE WITH MOUNTING YOKE INSULATED FROM MECHANISM, PLASTER EARS, SWITCH HANDLE, AND SIDE-WIRED SCREW TERMINALS.
2. THREE AND FOUR WAY: PROVIDE HARD USE SPECIFICATION GRADE RECESS MOUNTED 3 AND 4-WAY AC QUIET SWITCHES, 20-AMPERES, 120/277 VOLTS PROVIDE WITH MOUNTING YOKE INSULATED FROM MECHANISM, PLASTER EARS, SWITCH HANDLE, SIDE-WIRED SCREW TERMINALS, WITH BREAK-OFF TAB FEATURES, WHICH ALLOWS WIRING WITH SEPARATE OR COMMON FEED.

2.09 LIGHTING FIXTURES

A. ELECTRICAL CONTRACTOR SHALL PROVIDE, WIRE AND LAMP ALL LIGHTING FIXTURES SHOWN ON SITE PLAN, FLOOR PLANS AND LIGHTING FIXTURE SCHEDULE. AT SUBSTANTIAL COMPLETION, ELECTRICAL CONTRACTOR SHALL CLEAN DUST, DEBRIS, FINGERPRINTS, ETC FROM ALL FIXTURE LENSES, LOUVERS, AND REFLECTORS AND SHALL REPLACE ALL LAMPS, BALLASTS, ETC THAT ARE NOT WORKING.

B. ELECTRICAL CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS (SECTIONS, ELEVATIONS, DETAILS, ETC.) FOR LIGHTING FIXTURES WHICH MAY BE SHOWN AND SHALL NOTIFY THE ARCHITECT/ ENGINEER PRIOR TO BID IF FIXTURES APPEAR ON THE ARCHITECTURAL DRAWINGS THAT DO NOT APPEAR ON THE ELECTRICAL DRAWINGS.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL PATH OF EGRESS LIGHTING AND EXIT SIGNAGE AS SHOWN ON THE PLANS AND AS REQUIRED BY APPLICABLE LIFE SAFETY CODE(S).

2.10 LIGHTING CONTROLS

A. INTERIOR. PROVIDE A COMPLETE, FLORIDA BUILDING CODE COMPLIANT, AUTOMATIC LIGHTING CONTROLS SYSTEM TO SHUT OFF INTERIOR LIGHTING IN BUILDINGS . THE SYSTEM SHALL FUNCTION ON EITHER OF THE FOLLOWING:

1. A SIGNAL FROM EXISTING 'MIR' CONTROLLER (IRRINET) IRRIGATION CONTROLLER.

B. EXTERIOR. PROVIDE CONNECTION TO EXISTING 'MIR' CONTROLLER (IRRINET) IRRIGATION CONTROLLER FOR CONTROL OR EXTERIOR LIGHTS.

2.11 EQUIPMENT FURNISHED BY OTHERS

A. ELECTRICAL CONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE TO EQUIPMENT PROVIDED BY OTHERS INCLUDING, BUT NOT LIMITED TO, CIRCUIT BREAKERS, CONDUIT, WIRE, DISCONNECT SWITCHES, ETC AS REQUIRED BY OTHERS.

2.12 MOTOR CONTROLLERS

A. PROVIDE FULL-VOLTAGE, NON-REVERSING, ACROSS-THE-LINE, MAGNETIC MOTOR CONTROLLER(S). COORDINATE THE FEATURES OF EACH MOTOR CONTROLLER WITH THE RATINGS AND CHARACTERISTICS OF THE SUPPLY CIRCUIT, THE MOTOR, THE REQUIRED CONTROL SEQUENCE, THE DUTY CYCLE OF THE MOTOR, DRIVE, AND LOAD, AND THE PILOT DEVICE, AND CONTROL CIRCUITING AFFECTING CONTROLLER FUNCTIONS. PROVIDE CONTROLLERS THAT ARE HORSEPOWER RATED TO SUIT THE MOTOR CONTROLLED.

B. CONTACTS SHALL OPEN EACH UNGROUNDED CONNECTION TO THE MOTOR.

C. OVERLOAD RELAYS: AMBIENT-COMPENSATED TYPE WITH INVERSE-TIME-CURRENT CHARACTERISTIC. PROVIDE WITH HEATERS OR SENSORS IN EACH PHASE MATCHED TO NAMEPLATE FULL-LOAD CURRENT OF THE SPECIFIC MOTOR TO WHICH CONNECTED WITH APPROPRIATE ADJUSTMENT FOR DUTY CYCLE.

D. ENCLOSURES: FOR INDIVIDUALLY MOUNTED MOTOR CONTROLLERS AND CONTROL DEVICES, COMPLY WITH NEMA STANDARD 250, "ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM)." PROVIDE ENCLOSURES SUITABLE FOR THE ENVIRONMENTAL CONDITIONS AT THE CONTROLLER LOCATION.

E. PROVIDE CONTROL POWER TRANSFORMER INTEGRAL WITH CONTROLLER WHERE NO OTHER SUPPLY OF CONTROL POWER TO CONTROLLER IS INDICATED. PROVIDE CONTROL POWER TRANSFORMER WITH ADEQUATE CAPACITY TO OPERATE CONNECTED PILOT, INDICATING AND CONTROL DEVICES.

F. COMBINATION CONTROLLER: SWITCH TYPE; FUSED, QUICK-MAKE, QUICK-BREAK SWITCH, FACTORY ASSEMBLED WITH CONTROLLER AND ARRANGED TO DISCONNECT IT. PROVIDE REJECTION-TYPE FUSE CLIPS AND FUSES RATED PER MANUFACTURERS RECOMMENDATION. INTERLOCK SWITCH WITH UNIT COVER OR DOOR.

G. AUXILIARY CONTROL DEVICES SHALL BE FACTORY INSTALLED IN CONTROLLER ENCLOSURE.

H. AUTOMATIC SELECTOR SWITCHES: INSTALL IN COVERS OF CONTROLLERS OF MOTORS STARTED AND STOPPED BY AUTOMATIC CONTROLS OR INTERLOCKS WITH OTHER EQUIPMENT. MAKE CONTROL CONNECTIONS SO ONLY THE MANUAL AND AUTOMATIC CONTROL DEVICES THAT HAVE NO SAFETY FUNCTIONS WILL BE BYPASSED WHEN THE SWITCH IS IN THE HAND POSITION. CONNECT MOTOR CONTROL CIRCUIT IN BOTH HAND AND AUTOMATIC POSITIONS FOR SAFETY TYPE CONTROL DEVICES SUCH AS "LOW" AND "HIGH" PRESSURE CUTOUTS, HIGH TEMPERATURE CUTOUTS, AND MOTOR OVERLOAD PROTECTORS. MAKE CONTROL CIRCUIT CONNECTIONS TO A HAND-OFF-AUTOMATIC SWITCH OR TO MORE THAN ONE AUTOMATIC CONTROL DEVICE IN ACCORDANCE WITH MANUFACTURER PROVIDED WIRING DIAGRAM.

2.13 RACEWAY FOR COMMUNICATIONS WIRING

A. REFER TO THE COMMUNICATIONS RISER DIAGRAM AND ELECTRICAL SYMBOL LEGEND FOR ADDITIONAL REQUIREMENTS.

B. PROVIDE CONDUIT, BACKBOX, BLANK COVERPLATE AND PULL STRING FOR EACH OUTLET INDICATED ON CONSTRUCTION DOCUMENTS. PROVIDE BUSHING ON ENDS OF CONDUIT. DEVICES AND WIRING PROVIDED BY OTHERS.

C. PROVIDE EACH CONDUIT WITH PULL STRING STUBBED FROM BACKBOX INTO ACCESSIBLE CEILING SPACE (I.E., LAY-IN CEILING TILE) ABOVE EACH OUTLET.

D. ROUTE CONDUIT THROUGH RATED WALLS AND FLOORS USING U.L. APPROVED FIRE RATED PENETRATION MATERIALS.

PART 3 - EXECUTION

3.01 COOPERATION WITH OTHER TRADES

A. ELECTRICAL CONTRACTOR SHALL GIVE FULL COOPERATION TO OTHER TRADES AND SHALL FURNISH IN WRITING TO THE ARCHITECT/ELECTRICAL ENGINEER ANY INFORMATION NECESSARY TO PERMIT THE WORK OF OTHER TRADES TO BE INSTALLED SATISFACTORILY AND WITH THE LEAST POSSIBLE INTERFERENCE OR DELAY.

B. WHERE ELECTRICAL WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO, OR MAY INTERFERE WITH, WORK OF OTHER TRADES THE CONTRACTORS SHALL ASSIST EACH OTHER IN WORKING OUT A SATISFACTORY SPACE FOR EACH CONTRACTORS WORK. IF DIRECTED BY THE ARCHITECT/ELECTRICAL ENGINEER, THE ELECTRICAL CONTRACTOR SHALL PREPARE COMPOSITE WORKING DRAWINGS AND SECTIONS AT SUITABLE SCALE, NOT LESS THAN 1/4" = 1'-0", CLEARLY SHOWING HOW WORK IS TO BE INSTALLED IN RELATION TO WORK OF OTHER TRADES. IF THE ELECTRICAL CONTRACTOR INSTALLS HIS WORK BEFORE COORDINATING WITH OTHER TRADES, OR CAUSES ANY INTERFERENCE WITH WORK OF OTHER TRADES, THE ELECTRICAL CONTRACTOR SHALL MAKE THE NECESSARY CHANGES IN THE ELECTRICAL WORK TO CORRECT THE CONDITIONS WITHOUT EXTRA CHARGE.

C. ELECTRICAL CONTRACTOR SHALL FURNISH TO OTHER TRADES, AS REQUIRED, ALL NECESSARY TEMPLATES, PATTERNS, AND ASSEMBLY DETAILS FOR THE PROPER INSTALLATION OF WORK AND FOR THE PURPOSE OF COORDINATING ADJACENT WORK.

3.02 SCAFFOLDING, RIGGING, HOISTING

A. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SCAFFOLDING, RIGGING AND HOISTING NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES OF ALL ELECTRICAL EQUIPMENT. REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED.

3.03 EXCAVATING AND BACKFILLING

A. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL TRENCH AND PIT EXCAVATION AND BACKFILLING REQUIRED FOR WORK UNDER THIS SECTION OF THE SPECIFICATIONS, BOTH INSIDE AND OUTSIDE OF THE BUILDING, INCLUDING REPAIRING OF FINISHED SURFACES, ALL REQUIRED SHORING, BRACING, PUMPING, AND ALL PROTECTION FOR SAFETY OF PERSONS AND PROPERTY. LOCAL OR STATE SAFETY CODES SHALL BE FOLLOWED.

B. IN ADDITION, THE ELECTRICAL CONTRACTOR SHALL CHECK THE ELEVATIONS OF THE UTILITIES ENTERING AND LEAVING THE BUILDING. IF SUCH ELEVATIONS REQUIRE EXCAVATIONS LOWER THAN THE FOOTING LEVELS, THE ARCHITECT/ELECTRICAL ENGINEER SHALL BE NOTIFIED OF SUCH CONDITIONS BEFORE EXCAVATIONS COMMENCE. ELECTRICAL CONTRACTOR SHALL MAKE EXCAVATIONS AT THE MINIMUM REQUIRED DEPTHS IN ORDER NOT TO UNDERCUT THE FOOTINGS. CONFORM TO THE REQUIREMENTS OF THE STATE OF FLORIDA "TRENCH SAFETY ACT". FILLING, BACKFILLING AND COMPACTION SHALL BE AS SPECIFIED IN OTHER AREAS OF THE CONTRACT DOCUMENTS AND SPECIFICATIONS.

3.04 MATERIAL AND WORKMANSHIP

A. ALL MATERIALS AND APPARATUS REQUIRED FOR ELECTRICAL WORK, EXCEPT AS SPECIFICALLY NOTED OTHERWISE, SHALL BE NEW, OF FIRST CLASS QUALITY, AND SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED AND FINISHED IN EVERY DETAIL AND SHALL BE SO SELECTED AND ARRANGED AS TO FIT PROPERLY INTO THE BUILDING SPACES. WHERE NO SPECIFIC KIND OR QUALITY OF MATERIAL IS GIVEN, A FIRST CLASS STANDARD ARTICLE, AS APPROVED BY THE ELECTRICAL ENGINEER, SHALL BE PROVIDED.

B. ELECTRICAL CONTRACTOR SHALL PROCURE THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO SHALL BE CONSTANTLY IN CHARGE OF THE INSTALLATION OF THE WORK, TOGETHER WITH ALL SKILLED WORK PERSONNEL, FITTERS, METAL WORKERS, WELDERS, HELPERS, AND LABOR REQUIRED TO UNLOAD, TRANSFER, ERECT, CONNECT, ADJUST, START, OPERATE AND TEST EACH SYSTEM.

C. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. THIS INCLUDES THE PERFORMANCE OF ALL TESTS RECOMMENDED BY THE MANUFACTURER.

3.05 CUTTING AND PATCHING

A. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING NECESSARY TO INSTALL ELECTRICAL WORK. PATCHING SHALL MATCH ADJACENT SURFACES AND SHALL MEET THE APPROVAL OF THE ARCHITECT AND OWNER.

B. NO STRUCTURAL MEMBERS SHALL BE CUT OR MODIFIED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. ANY MODIFICATION SHALL BE DONE IN A MANNER APPROVED BY THE STRUCTURAL ENGINEER.

3.06 SLEEVES AND PLATES

A. ELECTRICAL CONTRACTOR SHALL PROVIDE AND LOCATE ALL SLEEVES REQUIRED FOR ELECTRICAL WORK BEFORE THE FLOORS, WALLS AND CEILINGS ARE CONSTRUCTED, OR SHALL BE RESPONSIBLE FOR THE COST OF CUTTING AND PATCHING WHERE SLEEVES WERE NOT INSTALLED, OR WHERE INCORRECTLY LOCATED. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DRILLING REQUIRED FOR THE INSTALLATION OF HIS HANGERS. SLEEVES SHALL BE PROVIDED FOR ALL CONDUIT PASSING THROUGH CONCRETE FLOOR SLABS ABOVE GRADE AND CONCRETE, MASONRY, TILE AND GYPSUM WALL CONSTRUCTION.

B. CONDUIT THROUGH FLOORS AND WALLS SHALL UTILIZE A U.L. APPROVED FIRE RATED PENETRATION SYSTEM. WHERE SLEEVES ARE PLACED IN EXTERIOR WALLS BELOW GRADE, THE SPACE BETWEEN THE CONDUIT AND THE SLEEVES SHALL BE SEALED WATERTIGHT.

C. WHERE CONDUIT MOTION DUE TO EXPANSION AND CONTRACTION WILL OCCUR, PROVIDE SLEEVES OF SUFFICIENT DIAMETER TO PERMIT FREE MOVEMENT OF THE CONDUIT. CHECK FLOOR AND WALL CONSTRUCTION FINISHES TO DETERMINE PROPER LENGTH OF SLEEVES FOR VARIOUS LOCATIONS. PROVIDE ACTUAL LENGTHS TO SUIT THE FOLLOWING:
1. TERMINATE SLEEVES FLUSH WITH WALLS, PARTITIONS AND CEILING.
2. IN AREAS WHERE CONDUIT IS CONCEALED, AS IN CHASES, TERMINATE SLEEVES 1" ABOVE FLOOR.
3. IN AREAS WHERE CONDUIT IS EXPOSED, EXTEND SLEEVES 2" ABOVE FINISHED FLOOR.
4. SLEEVES SHALL BE CONSTRUCTED OF SCHEDULE 40 STEEL PIPE.

D. FASTEN SLEEVES SECURELY IN FLOORS AND WALLS SO THEY WILL NOT BECOME DISPLACED WHEN CONCRETE IS POURED OR WHEN OTHER CONSTRUCTION IS BUILT AROUND THEM. TAKE PRECAUTIONS TO PREVENT CONCRETE, PLASTER OR OTHER MATERIALS FROM BEING FORCED INTO THE SPACE BETWEEN PIPE AND SLEEVE DURING CONSTRUCTION.

3.07 PENETRATIONS

A. ALL PENETRATIONS THROUGH FIRE RATED FLOORS, WALLS AND CEILINGS SHALL BE PROVIDED WITH A U.L. APPROVED FIRE STOP METHOD IN ACCORDANCE WITH THE FLORIDA FIRE PREVENTION CODE 5TH EDITION (EFFECTIVE 01/01/2015).

3.08 PROJECT CLOSE-OUT

A. TESTING: FINAL TESTS SHALL BE MADE AFTER WORK HAS BEEN COMPLETED. PROVIDE COPY OF FINAL TEST TO GENERAL CONTRACTOR/ ARCHITECT/ ELECTRICAL ENGINEER. WHEN REQUESTED, THE ELECTRICAL CONTRACTOR SHALL CONDUCT REQUIRED OPERATING TEST(S) IN THE PRESENCE OF THE ARCHITECT/ELECTRICAL ENGINEER AND OTHER AUTHORIZED PERSONS.

B. TESTS SHALL DEMONSTRATE THAT THE SYSTEM FUNCTIONS PROPERLY THROUGHOUT, THAT IT IS FREE FROM GROUNDS AND SHORTS, AND THAT ALL REQUIREMENTS HEREIN HAVE BEEN COMPLIED WITH. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND PERSONNEL FOR TESTS AND THE OWNER WILL SUPPLY THE CURRENT. TESTS SHALL BE AS PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION AND ENGINEER AND SHALL INCLUDE MEGGER TESTS IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS.

3.09 FINAL ACCEPTANCE

A. AFTER TESTING, A FINAL INSPECTION SHALL BE MADE BY THE GENERAL CONTRACTOR / ARCHITECT/ ELECTRICAL ENGINEER AND OTHER AUTHORIZED PERSONS WITH THE ELECTRICAL CONTRACTOR. THE INSPECTION SHALL INCLUDE, BUT NOT BE LIMITED TO, CHECK ALL PANELS ARE COMPLETE WITH NAMEPLATES AND CIRCUIT DIRECTORIES, ALL LIGHTING FIXTURES ARE OPERATING, PROPERLY CLEANED AND LAMPED, AND THAT ALL WORK HAS BEEN PERFORMED IN PROFESSIONAL MANNER.

B. FINAL ACCEPTANCE OF THE PROJECT SHALL NOT PREJUDICE THE OWNER'S RIGHT TO REQUIRE REPLACEMENT AND/OR REPAIR OF ANY DEFECTIVE WORK OR MATERIALS.

3.10 WARRANTY

A. ALL PARTS, MATERIALS, EQUIPMENT AND LABOR FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BEAR A ONE (1) YEAR, NO COST TO THE OWNER, WARRANTY FROM THE DATE OF FINAL ACCEPTANCE. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OF THE ABOVE WARRANTY REQUIREMENTS IN A WRITTEN STATEMENT ALONG WITH EQUIPMENT MANUFACTURER'S WARRANTIES.

3.11 RECORD DRAWINGS

A. ELECTRICAL CONTRACTOR SHALL KEEP ACCURATE RECORDS OF ACTUAL CONDITIONS INCLUDING DEVICE LOCATIONS AND CONDUIT RUNS WHERE DIFFERENT FROM THE CONTRACT DOCUMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE OWNER WITH A REPRODUCIBLE SET OF "AS BUILT" PLANS SHOWING THE COMPLETE ELECTRICAL SYSTEMS AS INSTALLED (AS BUILT DRAWINGS). THE SCALE ON THESE AS BUILT DRAWINGS SHALL BE NO SMALLER THAN THE SCALE USED ON THE ORIGINAL PLANS.

END OF DIVISION 16

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DRAWN BY
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11–02–16

ELECTRICAL SPECIFICATIONS

SHEET NUMBER
E10.1

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