DORSCHNER ASSOCIATES

Architecture
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849 E. Washington Ave., Ste. 112
Madison, Wisconsin 53703
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NEW RESTROOM BUILDING
HENRY VILAS ZOO
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DORSCHNER|ASSOCIATES # 16015-00

RFB NO. 316048

MADISON, WISCONSIN

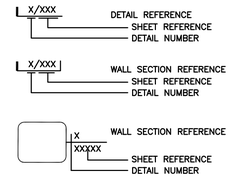
INDEX OF DRAWINGS

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
A.F.F.	ABOVE FINISHED FLOOR
AL	ALUMINUM
AP	ACCESS PANEL
CF	POLISHED CONCRETE RETROPLATE
CG	CORNER GUARD
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CPT	CARPET
CT	CERAMIC TILE
CUH	CABINET UNIT HEATER
EJ	EXPANSION JOINT
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
FO	FOUNDATION DRAIN SYSTEM FLUSHOUT
FRT	FIRE TREATED
FX–#	FIRE EXTINGUISHER AND TYPE
GWB	GYPSUM WALL BOARD
HM	HOLLOW METAL
MB	MARKER BOARD
TB	TACK BOARD
BB	BULLETIN BOARD
M.O.	MASONRY OPENING
N.I.C.	NOT IN CONTRACT
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
O.F.O.I.	OWNER FURNISHED OWNER INSTALLED
OPP	OPPOSITE
P.LAM.	PLASTIC LAMINATE
REV	REVERSE
RP	RESILIENT PANEL
R.O.	ROUGH OPENING
S.S.	STAINLESS STEEL
TZO	TERRAZZO
U.N.O.	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
WD	WOOD
WP	WATER PROOFING
WPT	WORK POINT

MAJOR USE & OCCUPANCY CLASSIFICATION: B
CONSTRUCTION CLASSIFICATION: VB
BUILDING FOOTPRINT: 2950 SF

ARCHITECTURAL SYMBOLS AND LEGEND



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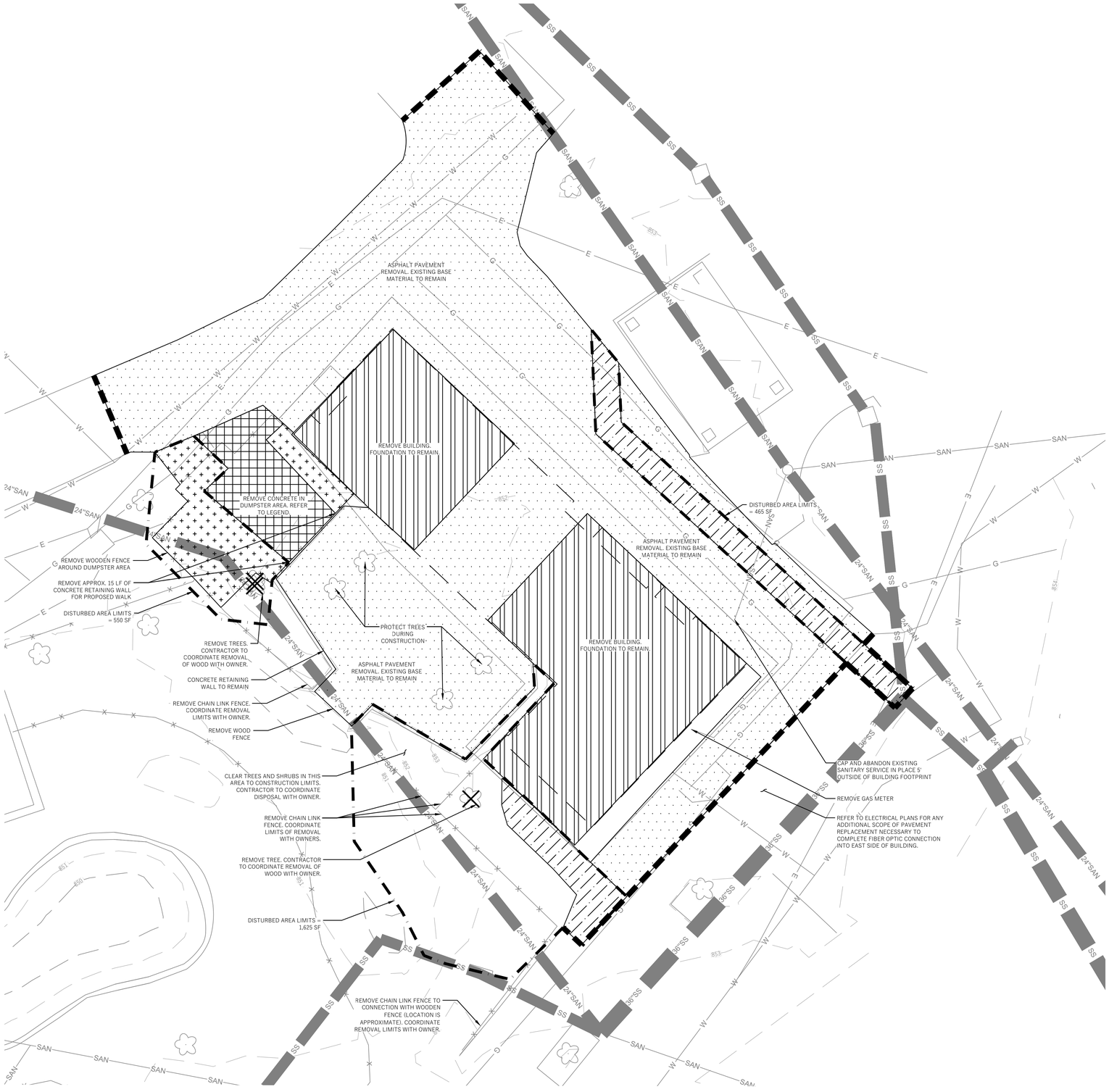

LEGEND (PROPOSED)

- DISTURBED AREA LIMIT LINE
- NEW BUILDING (FOR REFERENCE)
- SAWCUT LIMITS
- ASPHALT SURFACE REMOVAL AREA
- ASPHALT SURFACE AND BASE REMOVAL
- CONCRETE SURFACE REMOVAL
- CONCRETE SURFACE AND BASE REMOVAL
- EXISTING BUILDING REMOVAL
- TREE REMOVAL

NORTH

0' 5' 10' 15'
1" = 10' on 24"x36"
NTS on 11"x17"

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS PROVIDED TO MONTGOMERY ASSOCIATES. MONTGOMERY ASSOCIATES SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
4. MONTGOMERY ASSOCIATES SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

DEMOLITION NOTES

1. THIS PLAN INDICATES ITEMS ON THE SITE, NOT INCLUDING INTERNAL BUILDING DEMOLITION, INTENDED FOR DEMOLITION BASED ON THE CURRENT SITE DESIGN THAT HAVE BEEN IDENTIFIED BY A REASONABLE OBSERVATION OF THE EXISTING CONDITIONS THROUGH FIELD SURVEY RECONNAISSANCE, "DIGGER'S HOTLINE" LOCATION, AND GENERAL "STANDARD OF CARE". THERE MAY BE ADDITIONAL ITEMS THAT CAN NOT BE IDENTIFIED BY A REASONABLE ABOVE GROUND OBSERVATION, WHERE NOT INCLUDED WITHIN THE FIELD SURVEY BY OTHERS, OF WHICH THE ENGINEER WOULD HAVE NO KNOWLEDGE OR MAY BE A PART OF ANOTHER DESIGN DISCIPLINE. IT IS THE CONTRACTOR'S / BIDDER'S RESPONSIBILITY TO REVIEW THE PLANS, INSPECT THE SITE AND PROVIDE HIS OWN DUE DILIGENCE TO INCLUDE IN HIS BID WHAT ADDITIONAL ITEMS, IN HIS OPINION, MAY BE NECESSARY FOR DEMOLITION. ANY ADDITIONAL ITEMS IDENTIFIED BY THE CONTRACTOR / BIDDER SHALL BE IDENTIFIED IN THE BID AND REPORTED TO THE OWNER AND ENGINEER OF RECORD. WYSER ENGINEERING TAKES NO RESPONSIBILITY FOR ITEMS ON THE PROPERTY THAT COULD NOT BE LOCATED BY A REASONABLE OBSERVATION OF THE PROPERTY OR OF WHICH THEY WOULD HAVE NO KNOWLEDGE.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
   - 2.1. EXAMINING ALL SITE CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE OWNER AND ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - 2.2. VERIFYING UTILITY ELEVATIONS AND NOTIFYING OWNER AND ENGINEER OR ANY DISCREPANCIES. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCIES ARE RESOLVED.
   - 2.3. NOTIFYING ALL UTILITIES PRIOR TO THE REMOVAL OF ANY UNDERGROUND UTILITIES.
   - 2.4. NOTIFYING THE OWNER, DESIGN ENGINEER AND LOCAL CONTROLLING MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION INSPECTION.
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY DURING THE CONSTRUCTION OF THESE IMPROVEMENTS.
4. CONTRACTOR SHALL KEEP ALL STREETS AND ADJOINING SHARED ACCESS ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION RELATED DIRT, DUST AND DEBRIS.
5. ALL TREES WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS SPECIFICALLY CALLED OUT FOR PROTECTION. ALL TREES TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. STUMPS SHALL BE GROUND TO PROPOSED SUBGRADE.
6. PERFORM TREE PRUNING IN ALL LOCATIONS WHERE PROPOSED PAVEMENT AND / OR UTILITY INSTALLATION ENCROACH WITHIN THE EXISTING DRIP LINE OF THE TREES TO REMAIN. ALL TRENCHING WITHIN THE EXISTING DRIP LINE OF THE TREES TO REMAIN SHALL BE DONE RADIALLY AWAY FROM THE TRUNK IF ROOTS IN EXCESS OF 1" DIAMETER ARE EXPOSED. ROOTS MUST BE CUT BY REPUTABLE TREE PRUNING SERVICE PRIOR TO ANY TRANSVERSE TRENCHING.
7. CONTRACTOR SHALL COORDINATE PRIVATE UTILITY REMOVAL / ABANDONMENT AND NECESSARY RELOCATIONS WITH RESPECTIVE UTILITY COMPANY. COORDINATION REQUIRED PRIOR TO CONSTRUCTION.
8. ABANDONED / REMOVED ITEMS SHALL BE DISPOSED OF OFF SITE UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL INSTALL A PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT AS REQUIRED.
10. CONTRACTOR TO REMOVE EXISTING UTILITY PIPE AND BACKFILL WITH SELECT FILL OR PROVIDE PIPE BACK-FILLING WITHIN BUILDING FOOTPRINT USING "LOW DENSITY CONCRETE / FLOWABLE FILL".
11. GRANULAR BACKFILL MATERIALS ARE REQUIRED FOR FILL UNDER PROPOSED PAVED AREAS.
12. RESTORATION OF THE EXISTING RIGHT-OF-WAYS AS NEEDED ARE CONSIDERED INCIDENTAL AND SHOULD BE PART OF THE COST OF THE UNDERGROUND IMPROVEMENTS, DEMOLITION AND REMOVAL. THIS INCLUDES, BUT IS NOT LIMITED TO, CURB & GUTTER, SIDEWALK, TOPSOIL, SEEDING AND MULCHING.
13. ANY SANITARY SEWER, SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
14. ALL SITE SIGNAGE SHALL BE SALVAGED FOR REUSE AND SHALL BE THE PROPERTY OF THE OWNER IF REUSE IS NOT NECESSARY ON THIS PROJECT.

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PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING DEMO PLAN

DATE 11/29/2016

C100

LEGEND (PROPOSED)

- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT

NORTH

0' 5' 10' 15'
1" = 10' on 24"x36"
NTS on 11"x17"

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SITE INFORMATION BLOCK:

SITE ADDRESS: 702 S RANDALL AVENUE
CONSTRUCTION SITE ACREAGE: 0.29 AC
USE OF PROPERTY: ZOO/PUBLIC RECREATION

EXISTING IMPERVIOUS SURFACE AREA: 11,260 SQ.FT.
ROOFTOP: 2,577 SQ.FT.
PAVED: 8,683 SQ.FT.

IMPERVIOUS SURFACE AREA AFTER IMPROVEMENTS: 10,580 SQ. FT.
ROOFTOP: 2,913 SQ.FT.
PAVED: 7,667 SQ.FT.

DISTURBANCE LIMITS: 2,640 SQ. FT.
IMPERVIOUS SURFACE AREA WITHIN DISTURBANCE LIMITS: 1,125 SQ.FT.
PERCENT IMPERVIOUS WITHIN DISTURBANCE LIMITS: 42.6%

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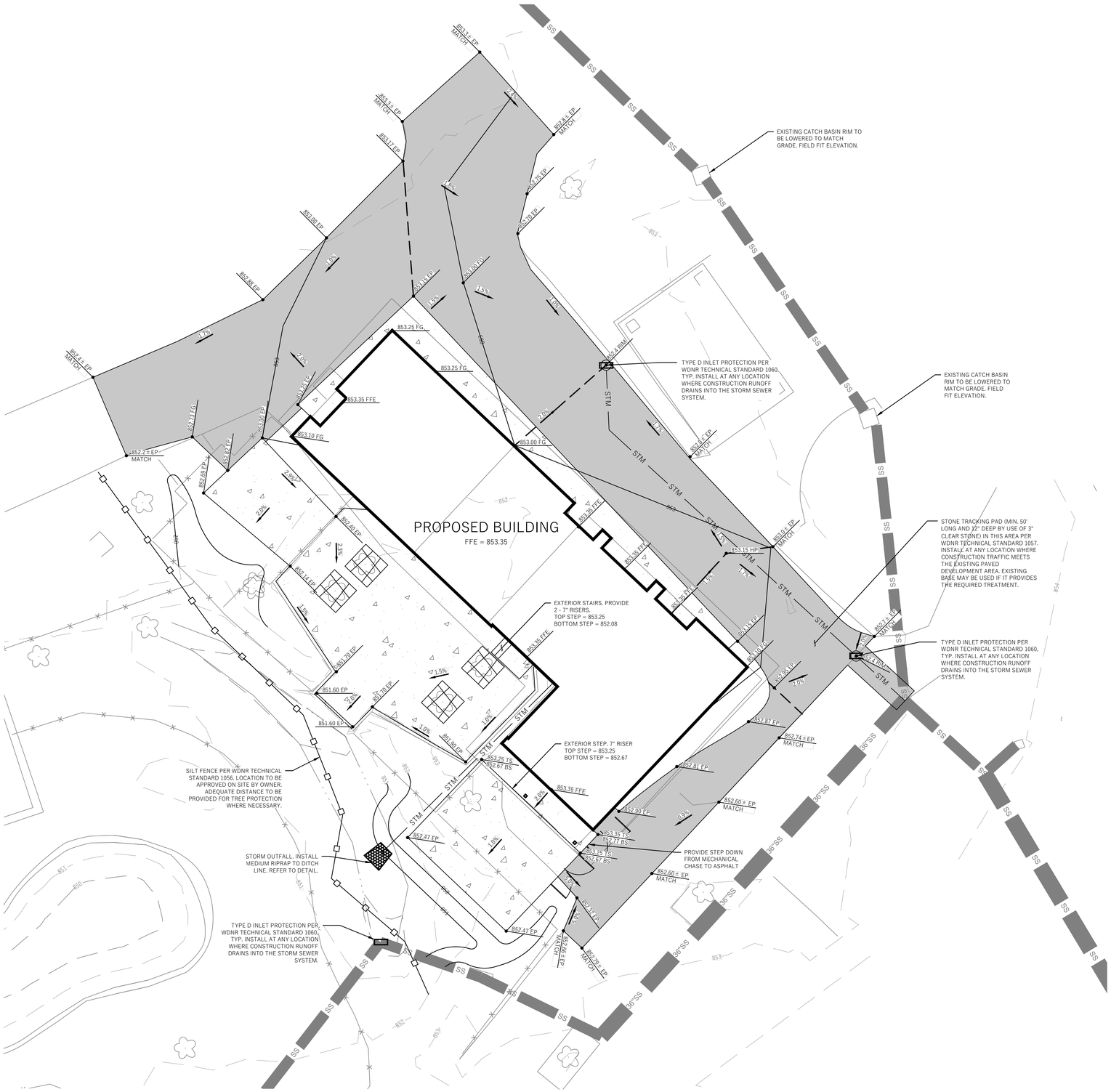
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING SITE PLAN

DATE 11/29/2016

C101



LEGEND (PROPOSED)

- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- STM — PROPOSED STORM SEWER
- INLET PROTECTION
- 853.35 FFE — SPOT GRADE
- DRAINAGE GRADE BREAK
- 1.0% — DRAINAGE ARROW

NORTH

0' 5' 10' 15'
1" = 10' on 24"x36"
NTS on 11"x17"

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CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS (dnr.wi.gov).
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
3. ENGINEER / CITY OF MADISON HAS THE RIGHT TO REQUIRE CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.CONTRACTOR MUST NOTIFY THE VILLAGE OF MOUNT HOREB BUILDING INSPECTOR TWO (2) WORKING DAYS IN ADVANCE OF ANY SOIL DISTURBANCE ACTIVITIES.
4. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ONCE PER WEEK AND FOLLOWING EACH RAINFALL EVENT. INSPECTION REPORTING SHALL BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES IN WORKING ORDER. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. DEWATERING PRACTICES SHALL COMPLY WITH TECHNICAL STANDARD 1061.
7. DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
9. SEED MIX AND RATE SHALL BE, AT A MINIMUM, IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1059.
10. CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
11. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL EROSION CONTROL PERMIT AND FOLLOWING ALL APPLICABLE REQUIREMENTS.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014)
8. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
9. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
   a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET,
   b. WISDOT PAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
10. ALL SLOPES EXCEEDING 4:1 SHALL BE STABILIZED WITHIN 2-WEEK OF DISTURBANCE WITH TEMPORARY SEEDING AND CLASS I, TYPE B (URBAN) EROSION MATTING AND ALL DRAINAGE SWALES SHALL BE STABILIZED WITH CLASS II, TYPE B MATTING.

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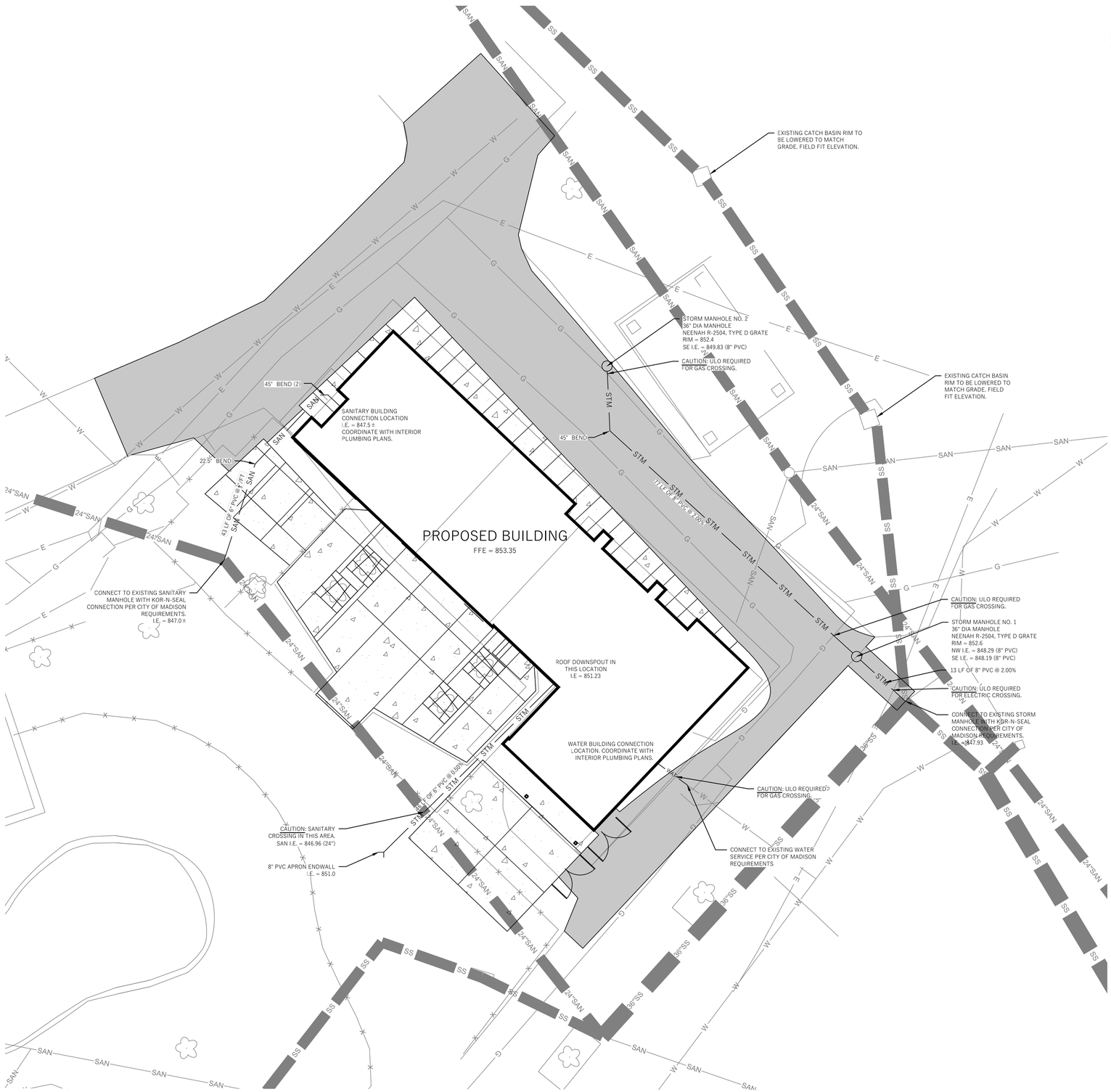
PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING GRADING AND EROSION CONTROL PLAN
DATE 11/29/2016

C200



LEGEND (PROPOSED)

- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- WAT — PROPOSED WATER MAIN
- SAN — PROPOSED SANITARY SEWER
- STM — PROPOSED STORM SEWER

GENERAL NOTES

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UTILITY NOTES

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.
2. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF SANITARY, WATER AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS.
4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERING PLANS DESIGNED TO MEET ORDINANCES AND REQUIREMENTS OF THE MUNICIPALITY AND WISDOT, WISDSPS, AND WDNR.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
   - EXAMINING ALL SITES CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
   - VERIFYING UTILITY ELEVATIONS AND NOTIFYING ENGINEER OF ANY DISCREPANCY. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
   - NOTIFYING ALL UTILITIES PRIOR TO THE INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
   - NOTIFYING THE DESIGN ENGINEER AND MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION OBSERVATION.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
10. ANY SANITARY SEWER , SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE. NO BLASTING IS ALLOWED WITHIN 30 FEET OF EXISTING UTILITIES.
11. ALL PRIVATE INTERCEPTOR WATER MAIN AND WATER SERVICES SHALL BE INSTALLED WITH A 6' MINIMUM BURY. PROVIDE INSULATION ABOVE PIPES WITH LESS THAN 5' OF GROUND COVER.
12. GRANULAR BACKFILL MATERIALS ARE REQUIRED IN ALL UTILITY TRENCHES UNDER SIDEWALKS AND PROPOSED PAVED AREAS (UNLESS OTHERWISE SPECIFIED BY A GEOTECHNICAL ENGINEER). ALL UTILITY TRENCH BACKFILL SHALL BE COMPACTED PER SPECIFICATIONS. ALL PAVEMENT PATCHING SHALL COMPLY WITH THE CITY OF MADISON STANDARD SPECIFICATIONS. ADDITIONAL PAVEMENT MILLING AND OVERLAY MAY BE REQUIRED BY PERMIT.
13. CONTRACTOR SHALL NOTIFY THE MUNICIPAL PUBLIC WORKS DEPARTMENT A MINIMUM OF 48 HOURS BEFORE CONNECTING TO PUBLIC UTILITIES.
14. ALL NON-METALLIC BUILDING SEWER AND WATER SERVICES MUST BE ACCOMPANIED BY MEANS OF LOCATING UNDERGROUND PIPE. TRACER WIRE VALVE BOXES SHALL BE INSTALLED ON ALL LATERALS AND AS INDICATED ON THESE PLANS.
15. ALL, EXTERIOR CLEANOUTS SHALL BE PROVIDED WITH A FROST SLEEVE IN ACCORDANCE WITH SPS 382.34(5)(a)b AND SPS 384.30(2)(c).
16. ALL PRIVATE SANITARY BUILDING SEWER PIPE AND TUBING SHALL CONFORM TO SPS 384.30-3.
17. ALL PRIVATE STORM BUILDING PIPE AND TUBING SHALL CONFORM TO SPS 384.30-6.
18. ALL PRIVATE PIPE AND TUBING FOR WATER SERVICE SHALL CONFORM TO SPS 384.30-7.
19. ALL PRIVATE PIPE SHALL BE INSTALLED PER SPS 384.40-8 INCLUDING AT LEAST 8' OF HORIZONTAL DISTANCE BETWEEN WATER PIPING AND SANITARY SEWER FROM CENTER OF PIPE TO CENTER OF PIPE AND 6" OF SEPARATION BETWEEN STORM SEWER AND WATER PIPING.
20. THE CONTRACTOR SHALL ALLOW 10 WORKING DAYS FOR THE CONSTRUCTION OF GAS MAINS WHEN SCHEDULING THE WORK AND SHALL NOT RESTRICT ACCESS TO THE GAS MAIN CONTRACTOR OR OTHER UTILITY COMPANIES.
21. NO BLASTING SHALL OCCUR WITHIN 30 FEET OF ANY EXISTING UTILITIES
22. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTIONS WITH THE BUILDING PRIOR TO CONSTRUCTION.
23. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO BE IN CONFORMANCE WITH THE CITY EROSION CONTROL AND STORMWATER ORDINANCE AT ALL TIMES.

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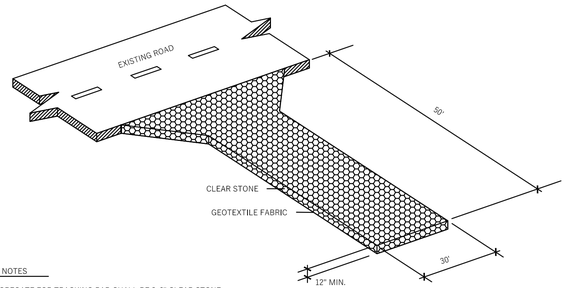
DRAWING UTILITY PLAN

DATE 11/29/2016

C300



MATERIAL NOTES

1. THE AGGREGATE FOR TRACKING PAD SHALL BE 3-6" CLEAR STONE.

2. THE TRACKING PAD SHALL BE UNDERLAIN WITH A WDOT TYPE R GEOTEXTILE FABRIC.

INSTALLATION NOTES

1. INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1057.

2. THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. STONE TRACKING PAD SHALL BE USED AT ALL POINTS OF CONSTRUCTION EGRESS.

3. DIMENSIONS OF THE TRACKING PAD SHALL BE MINIMUM AS NOTED ON THE FIGURE ABOVE.

4. SURFACE WATER SHALL BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM USING CULVERTS OR OTHER PRACTICES.

5. TRACKING PAD SHALL BE REMOVED OR INCORPORATED INTO GRAVEL DRIVEWAY ONLY AFTER CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED.

INSPECTION & MAINTENANCE NOTES

1. STONE TRACKING PADS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24 HOUR PERIOD.

2. ADDITIONAL AGGREGATE SHALL BE PLACED IF THE TRACKING PAD BECOMES BURIED OR IF SEDIMENT IS NOT BEING REMOVED EFFECTIVELY FROM THE VEHICLE TIRES.

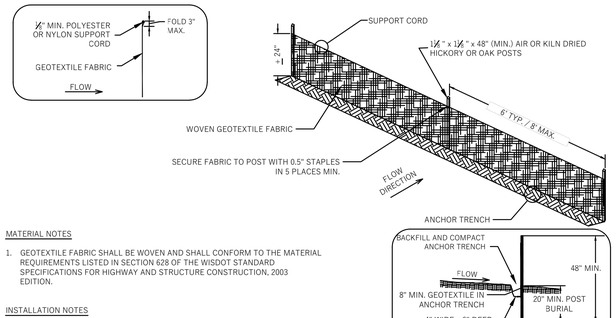
3. A MINIMUM 30-FEET WIDE BY 50-FEET LONG BY 12-INCH THICK PAD SHALL BE MAINTAINED AT ALL TIMES.

4. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.

5. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING AT THE END OF EACH WORKING DAY.

6. MAINTENANCE SHALL BE COMPLETED AS SOON AS POSSIBLE WITH CONSIDERATION FOR SITE CONDITIONS.

CONSTRUCTION ENTRANCE (TRACKING PAD)



MATERIAL NOTES

1. GEOTEXTILE FABRIC SHALL BE WOVEN AND SHALL CONFORM TO THE MATERIAL REQUIREMENTS LISTED IN SECTION 628 OF THE WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 2003 EDITION.

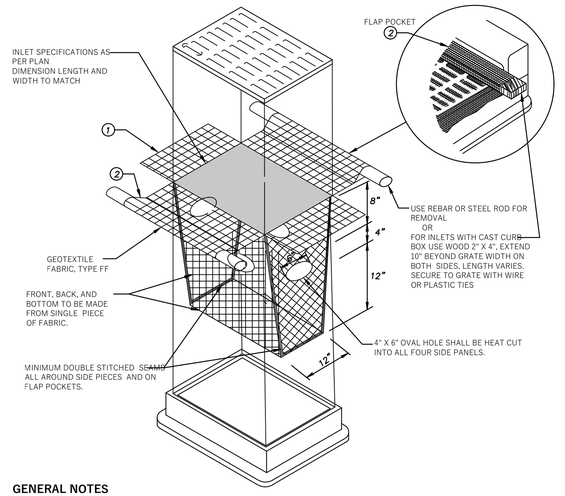
INSTALLATION NOTES

1. INSTALLATION SHALL CONFORM WITH THE REQUIREMENTS OF WDNR CONSERVATION PRACTICE STANDARD 1056.
2. CONSTRUCT THE SILT FENCE IN AN ARC WITH THE ENDS POINTING UPSLOPE TO AVOID EROSION AROUND THE ENDS OF THE FENCE.
3. FAILURE TO PROPERLY ANCHOR SILT FENCE COULD RESULT IN WATER AND SEDIMENT RELEASE BENEATH THE SILT FENCE. PROPERLY SECURE THE SILT FENCE INTO THE ANCHOR TRENCH.
4. CONSTRUCT THE FENCE FROM A CONTINUOUS ROLL OF GEOTEXTILE TO AVOID JOINTS. WHERE JOINTS ARE NECESSARY, OVERLAP TO THE NEXT POST OR WRAP ADJOINING FABRICS TOGETHER AROUND THE JOINT POST AND TIGHTLY FASTEN.
5. SILT FENCE SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW.

INSPECTION & MAINTENANCE NOTES

1. AT A MINIMUM, PERFORM INSPECTIONS WEEKLY AND WITHIN 24 HOURS OF PRECIPITATION EVENTS PRODUCING 0.5 INCHES OR MORE OF RAINFALL.
2. INSPECT FENCES FOR DAMAGE TO STAKES AND FABRIC, UNDERCUTTING, EXCESSIVE SEDIMENT ACCUMULATION (GREATER THAN ½ OF THE FENCE HEIGHT), AND INDICATIONS OF SCOUR AROUND THE EDGES.
3. REPAIR OR REPLACE SILT FENCE WITHIN 24 HOURS OF IDENTIFYING AND DEFICIENCIES.

SILT FENCE



GENERAL NOTES

THE WDNR TECHNICAL STANDARD 1060 FOR INLET PROTECTION SHALL BE FOLLOWED AT ALL TIMES. IF ANY VARIATION BETWEEN THIS DETAIL AND THE WDNR TECHNICAL STANDARD ARE FOUND, THE WDNR TECHNICAL STANDARD SHALL GOVERN.

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

(1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

(2) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

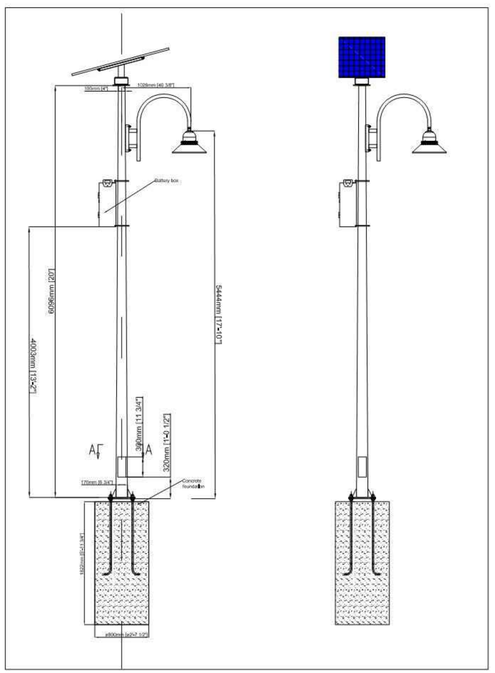
INSTALLATION NOTES

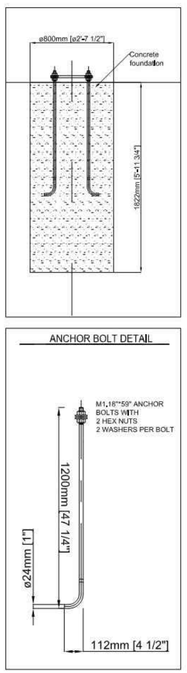
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. USE TYPE C INLET PROTECTION WITHIN SHALLOW INLETS.

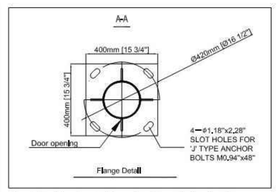
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

TYPE D INLET PROTECTION







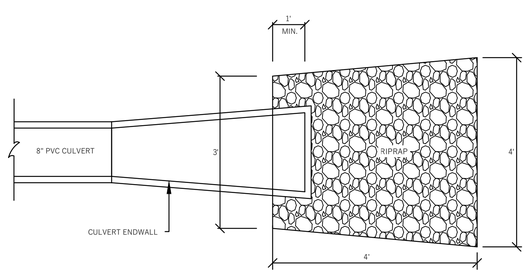
- Foundation dimensions shall be confirmed by a local engineering company. Greenshine New energy will not be held liable for any defect of the concrete foundation due to improper sizing.
- Drawings are based using hot-dipped galvanized steel, powder coating with a thickness of $\frac{80}{}$.
- *EPA of the system exclude the EPA of the pole, includes the solar panels, brackets, arm and LED fixture and battery box.
- **Wind resistance of the poles are indicative and further customization can be provided.

Tilt angle of the solar panels	15	30	45	60
EPA (ft^2)*	7.66	10.29	12.54	14.27
Wind resistance** (mph)	145	145	145	145

ANCHOR BOLT DETAIL

Proposal	Greenshine		
System	Lumina series - 20' pole -1 panel		
By		Date	6/24/2014

www.streetlights-solar.com



NOTES

1. RIPRAP SHALL BE WISDOT MEDIUM RIP RAP.
2. RIPRAP SHALL BE INSTALLED PER THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT, 2003).

OUTLET PROTECTION

DORSCHNER

Architecture
Planning

Dorschner Associates, Inc.
849 E. Washington Ave., Ste 112
Madison, Wisconsin 53703

ISSUED

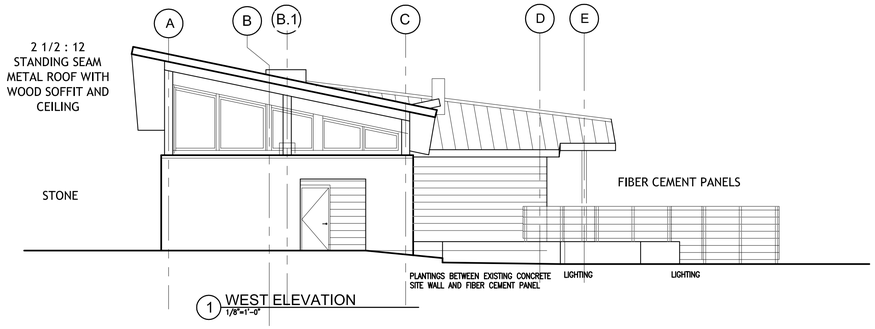
BID DOCUMENTS

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

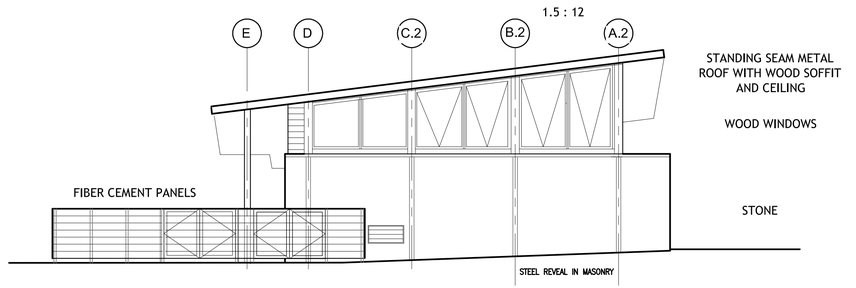
DRAWING **DETAILS**

DATE **11/29/2016**

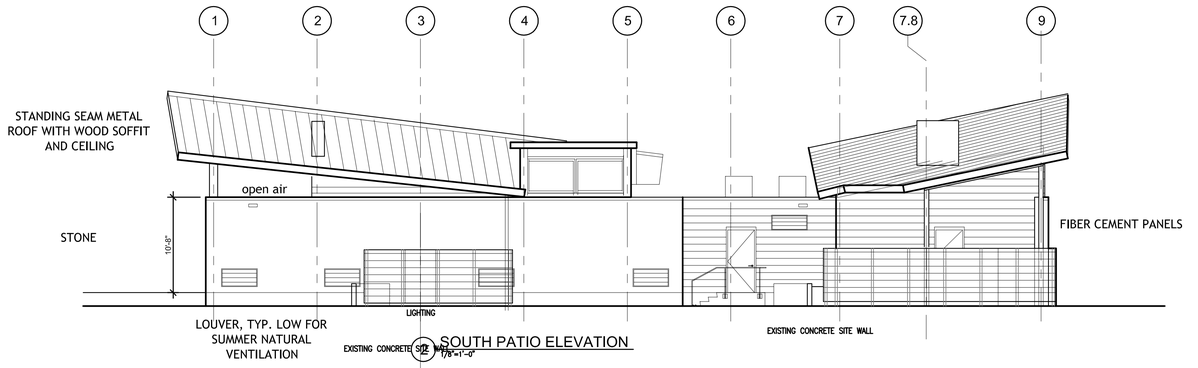
C400



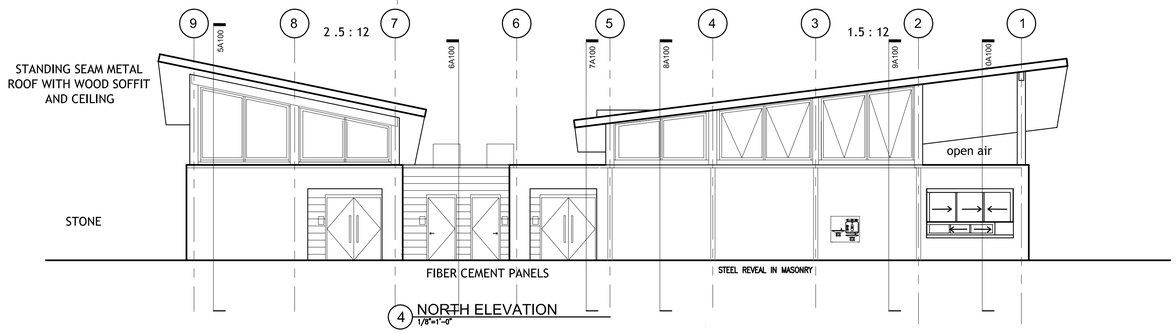
1 WEST ELEVATION
1/8"=1'-0"



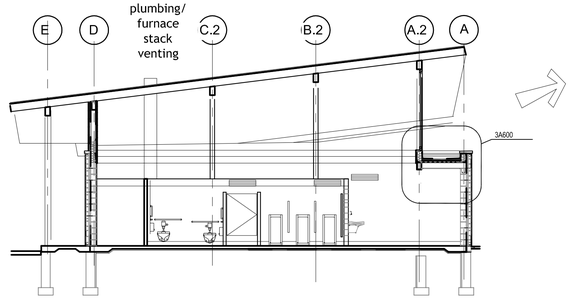
3 EAST ELEVATION
1/8"=1'-0"



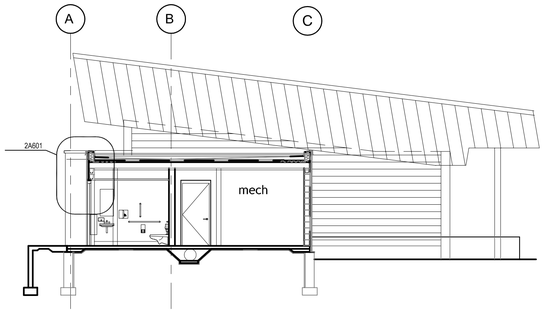
2 SOUTH PATIO ELEVATION
1/8"=1'-0"



4 NORTH ELEVATION
1/8"=1'-0"



5 BUILDING SECTION
1/8"=1'-0"



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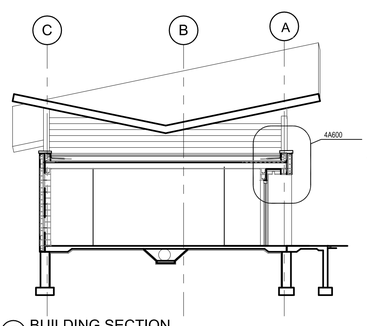
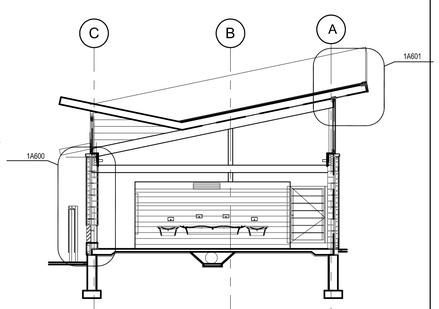
1/8"=1'-0"



7 BUILDING SECTION
1/8"=1'-0"



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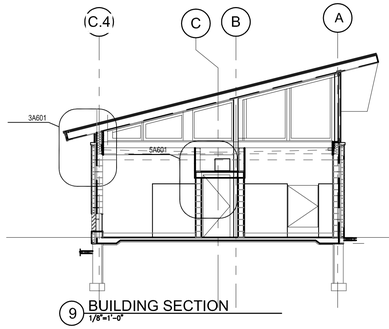
1/8"=1'-0"



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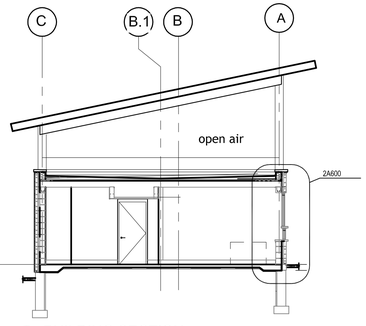
1/8"=1'-0"



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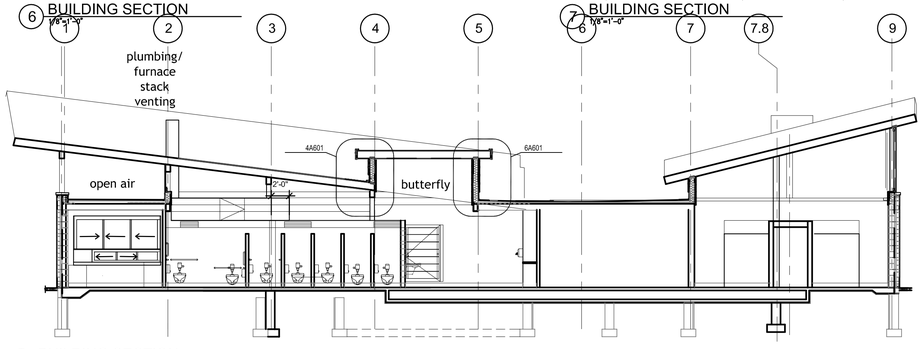
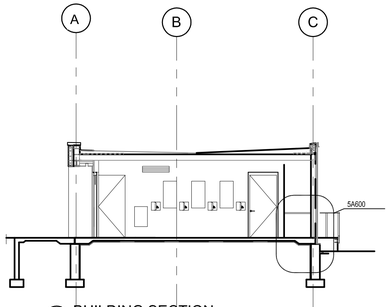
1/8"=1'-0"



11 BUILDING SECTION
1/8"=1'-0"



12 BUILDING SECTION
1/8"=1'-0"

DORSCHNER ASSOCIATES

Architecture
Planning

Dorschner|Associates, Inc.
849 E. Washington Ave., Ste 112
Madison, Wisconsin 53703

ISSUED

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
EXTERIOR ELEVATIONS,
BUILDING SECTIONS

DATE
11.29.16

A100

PLAN GENERAL AND DEMOLITION NOTES

1. FIELD VERIFY ALL CONDITIONS, NOTIFY ARCHITECT OF ANY DISCREPANCY.

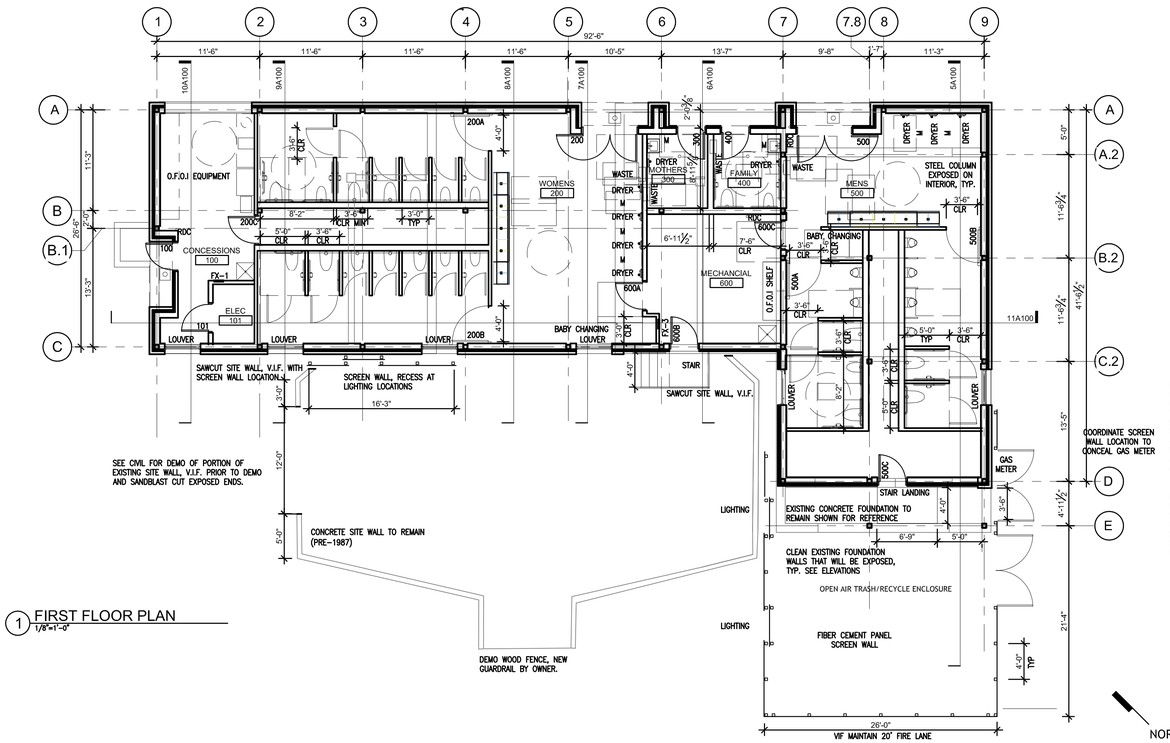
2. DEMO ONE STORY MASONRY AND WOOD FRAME BUILDING ABOVE GRADE IN ITS ENTIRETY INCLUDING SLAB ON GRADE. REFER TO DRAWINGS FOR COORDINATION OF SERVICES AND DEMO ONLY PORTIONS OF EXISTING FOOTING AND FOUNDATION AS REQUIRED FOR NEW WORK. NEW RESTROOM BUILDING WILL BE CONSTRUCTED WITHIN THE OVERALL EXISTING BUILDING FOOTPRINT, SEE DRAWINGS FOR FLOOR PLAN AND ADJACENT SITE IMPROVEMENTS. REFER TO SECTION 02 41 13, DEMOLITION AND C100 FOR DEMO OF EXISTING DUMPSTER ENCLOSURE. CONSTRUCTION DOCUMENTS FOR THE EXISTING BUILDING BUILT CONSTRUCTED IN 1987 ARE AVAILABLE UPON REQUEST.

3. COORDINATE ITEMS TO BE REMOVED AND RETURNED TO OWNER.

4. COORDINATE LOCATION OF CONSTRUCTION FENCE WITH OWNER. LOCATE FENCE TO PROVIDE TREE PROTECTION.

5. SEE STRUCTURAL FOR CMU AND FRAMING DIMENSIONS, 4" CMU TYPICAL PRIVACY WALL BETWEEN STALLS.

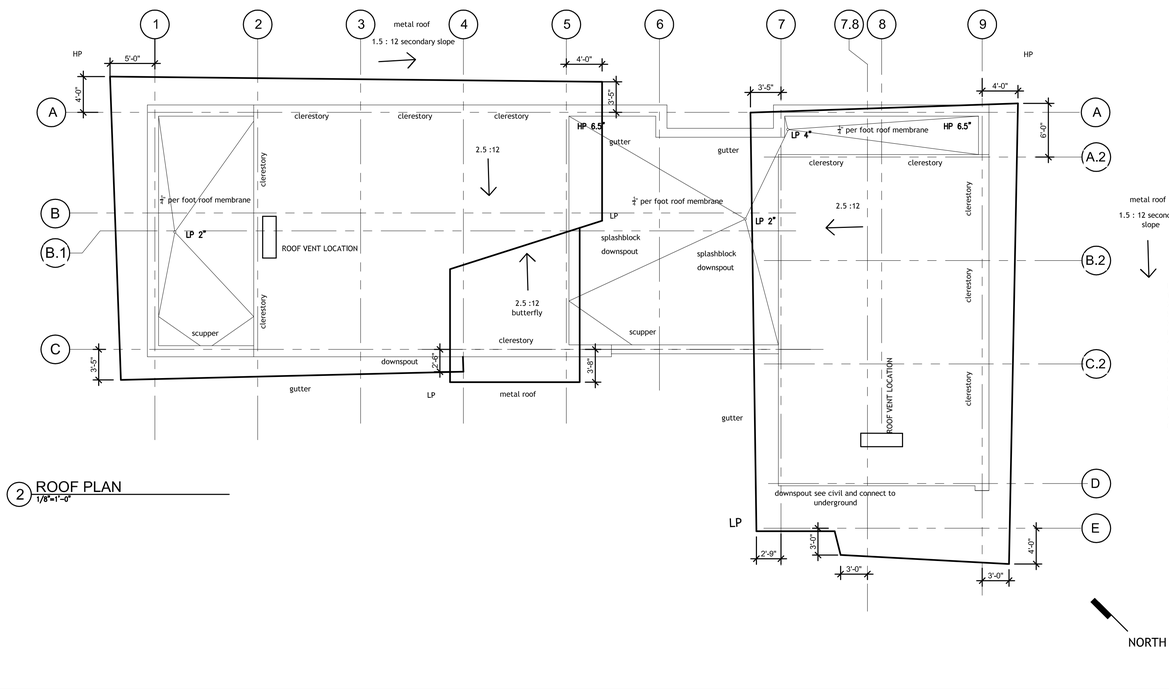
6. PROVIDE MECHANICAL EQUIPMENT LAYOUT FOR COORDINATION PRIOR TO UNDERFLOOR INSTALLATION. CONFIRM WIDTH OF CHASE IN WOMENS FOR DUCTWORK ACCESS TO CONCESSIONS AND MECHANCIAL ROOM LAYOUT TO CONFIRM DOOR LOCATION INTO MENS.



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

FINISH SCHEDULE:
CONCESSIONS 100: FT-1, BT-1
ELEC 101: SEALED CONCRETE, BT-1
WOMENS 200: FT-1, BT-1, WT-1 FULL HEIGHT FACE OF WALL AT SINKS, PROVIDE WT-1 RETURNS THE THICKNESS OF THE WALL, PAINT CMU OPPOSITE SIDE OF WALL
MOTHERS 300: FT-1, BT-1
FAMILY 400: FT-1, BT-1
MENS 500: FT-1, BT-1, WT-1 SINK WALL FULL HEIGHT
MECHANICAL 600 AND PLUMBING CHASES: SEALED CONCRETE

PAINT ALL GWB, COLOR 1. INSTALL GWB CEILING AT ALL METAL DECK LOCATIONS, EXCLUDING MECHANICAL ROOM. REFER TO SECTIONS FOR AREAS OF LOWERED CEILINGS TO ACCOMMODATE DUCTWORK.
PAINT ALL STEEL AND HOLLOW METAL, COLOR 3
PAINT ALL CMU, COLOR 2, EXCLUDING INSIDE OF CHASES
STAIN ALL WOOD, SEE SPECIFICATION



2 ROOF PLAN
1/8"=1'-0"

ROOF PLAN NOTES:
1. COORDINATE ROOF DRAIN AND ROOF DRAIN CONDUCTOR LOCATIONS
2. MEMBRANE ROOF SHOWN ON PLAN AT ELEVATION BELOW METAL ROOF, SEE ELEVATIONS AND SECTIONS
3. COORDINATE DOWNSPOUT LOCATIONS AND OVERFLOW SCUPPER LOCATIONS
4. COORDINATE ALL ROOF VENT PENETRATIONS WITHIN THE METAL ROOFS AND LOCATE WITHIN AN OPEN AIR SCREEN WALL FRAMED WITH GALVANIZED LIGHT GAUGE FRAMING AND CEMENT FIBER PANELS, VERIFY DIMENSIONS IN SUBMITTALS. COORDINATE WITH STRUCTURAL INSULATED PANELS.
5. COORDINATE METAL ROOF DETAILS AND SHIMS TO PROVIDE A WALKABLE ROOF WHERE REQUIRED FOR MAINTENANCE OR VENT LOCATIONS
6, REFER TO MECHANICAL ROOF PLAN AND COORDINATE ALL ROOF MOUNTED MECHANICAL EQUIPMENT
7. REFER TO ELECTRICAL PLAN FOR EXTERIOR RECEPTACLES LOCATED AT CLERESTORY SILL

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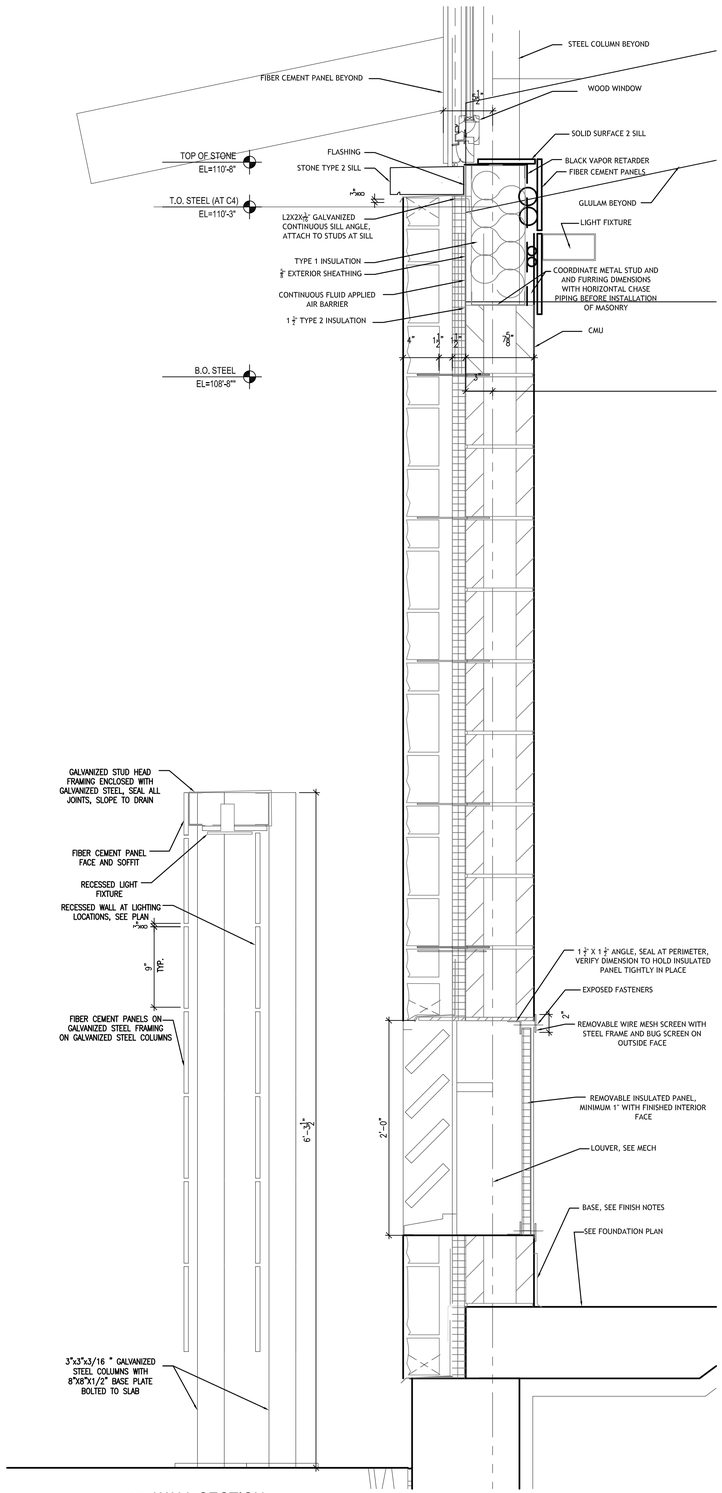
MADISON, WISCONSIN

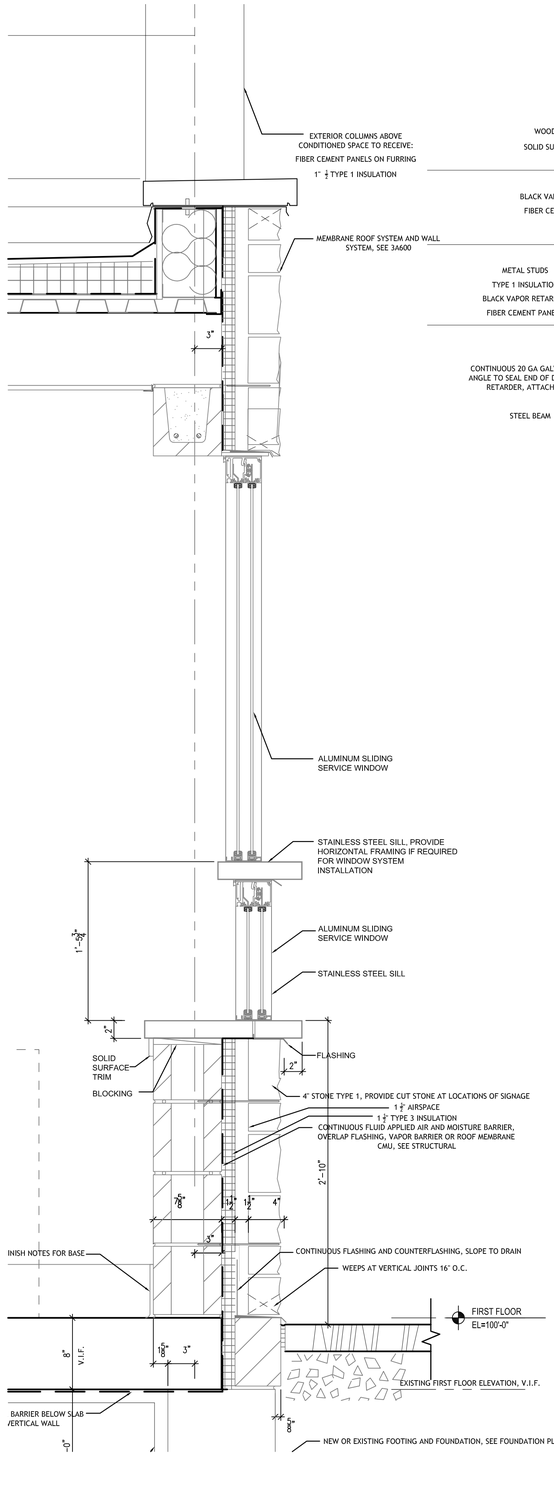
DRAWING
FIRST FLOOR PLAN
AND ROOF PLAN

DATE
11.29.16

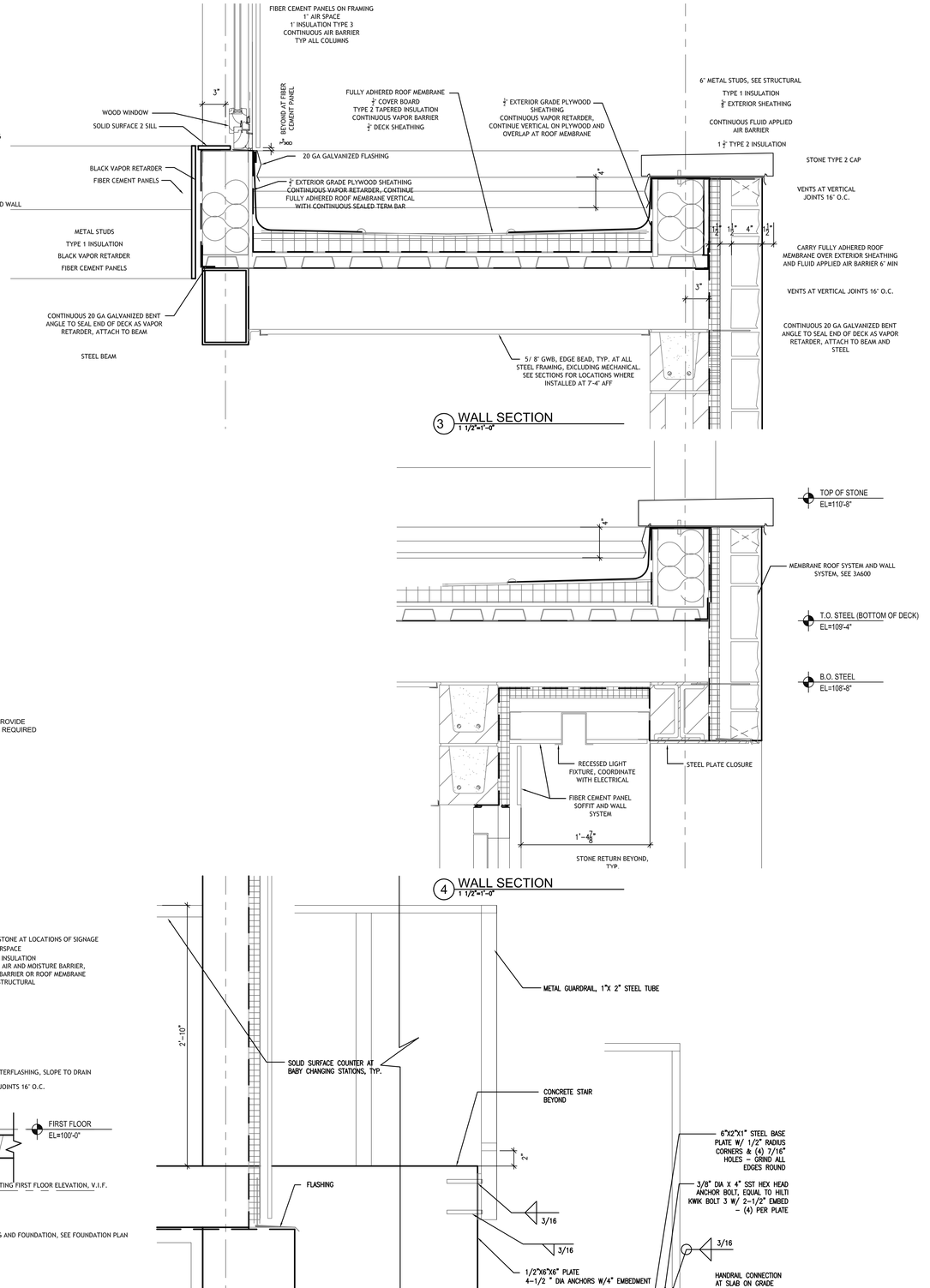
A200



2 WALL SECTION
1 1/2"=1'-0"



2 WALL SECTION
1 1/2"=1'-0"



3 WALL SECTION
1 1/2"=1'-0"

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

5 WALL SECTION
1 1/2"=1'-0"

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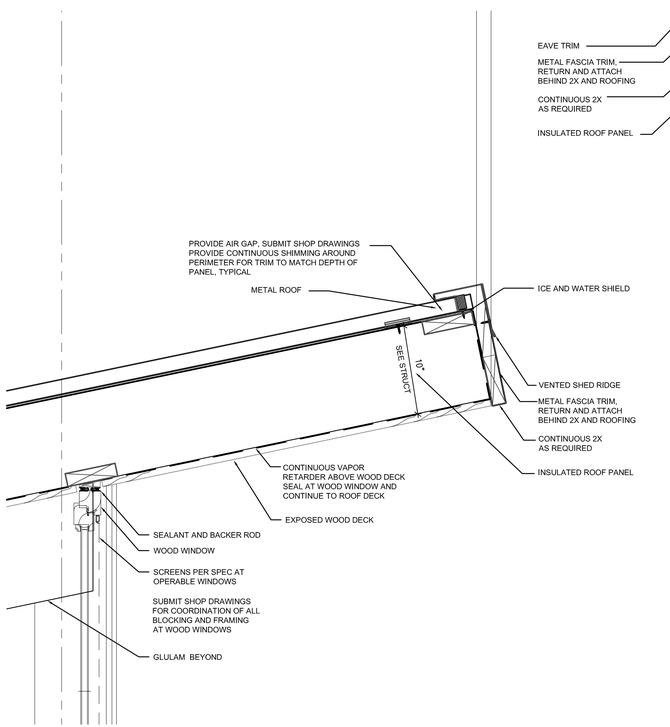
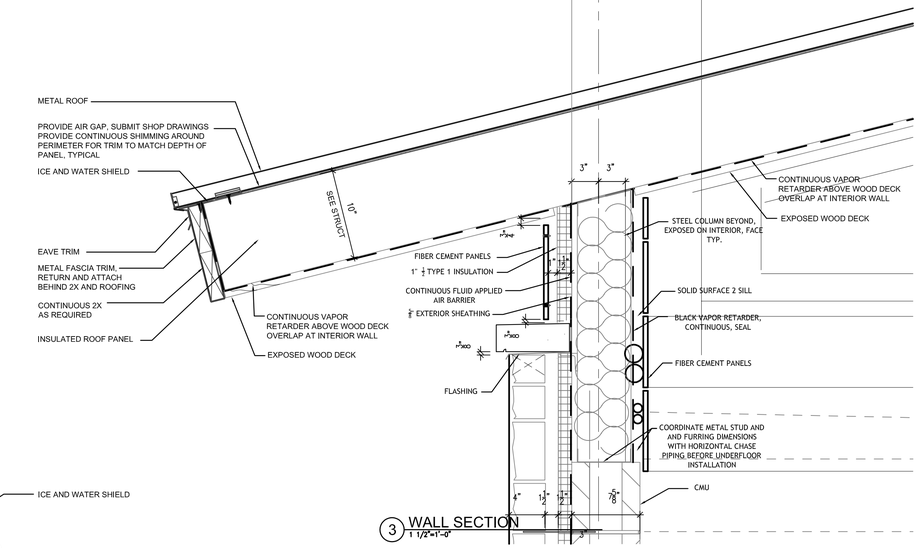
DRAWING
WALL SECTIONS

DATE
11.29.16

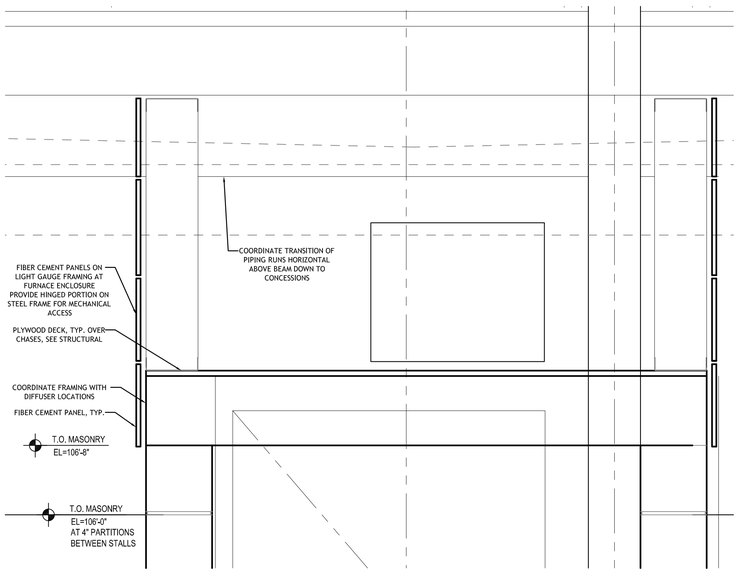
A600



1 WALL SECTION
1 1/2"=1'-0"

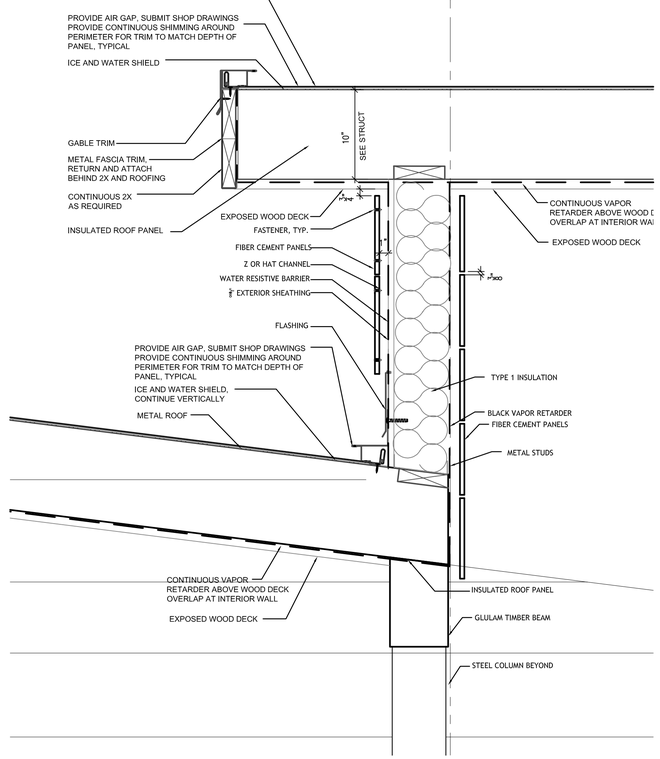


3 WALL SECTION
1 1/2"=1'-0"

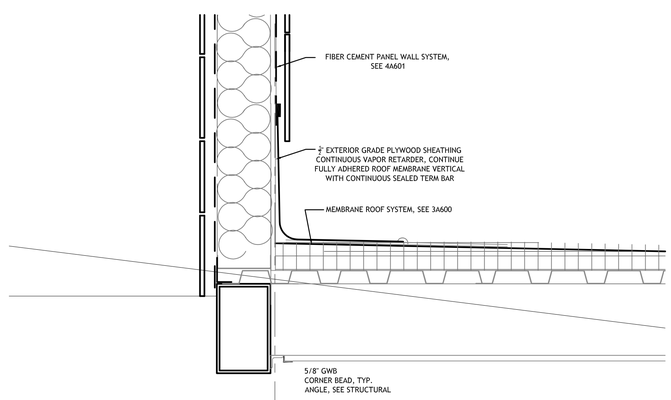


5 WALL SECTION
1 1/2"=1'-0"

2 WALL SECTION
1 1/2"=1'-0"



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



6 WALL SECTION
1 1/2"=1'-0"

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Architecture
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849 E. Washington Ave., Ste 112
Madison, Wisconsin 53703

ISSUED

PROJECT
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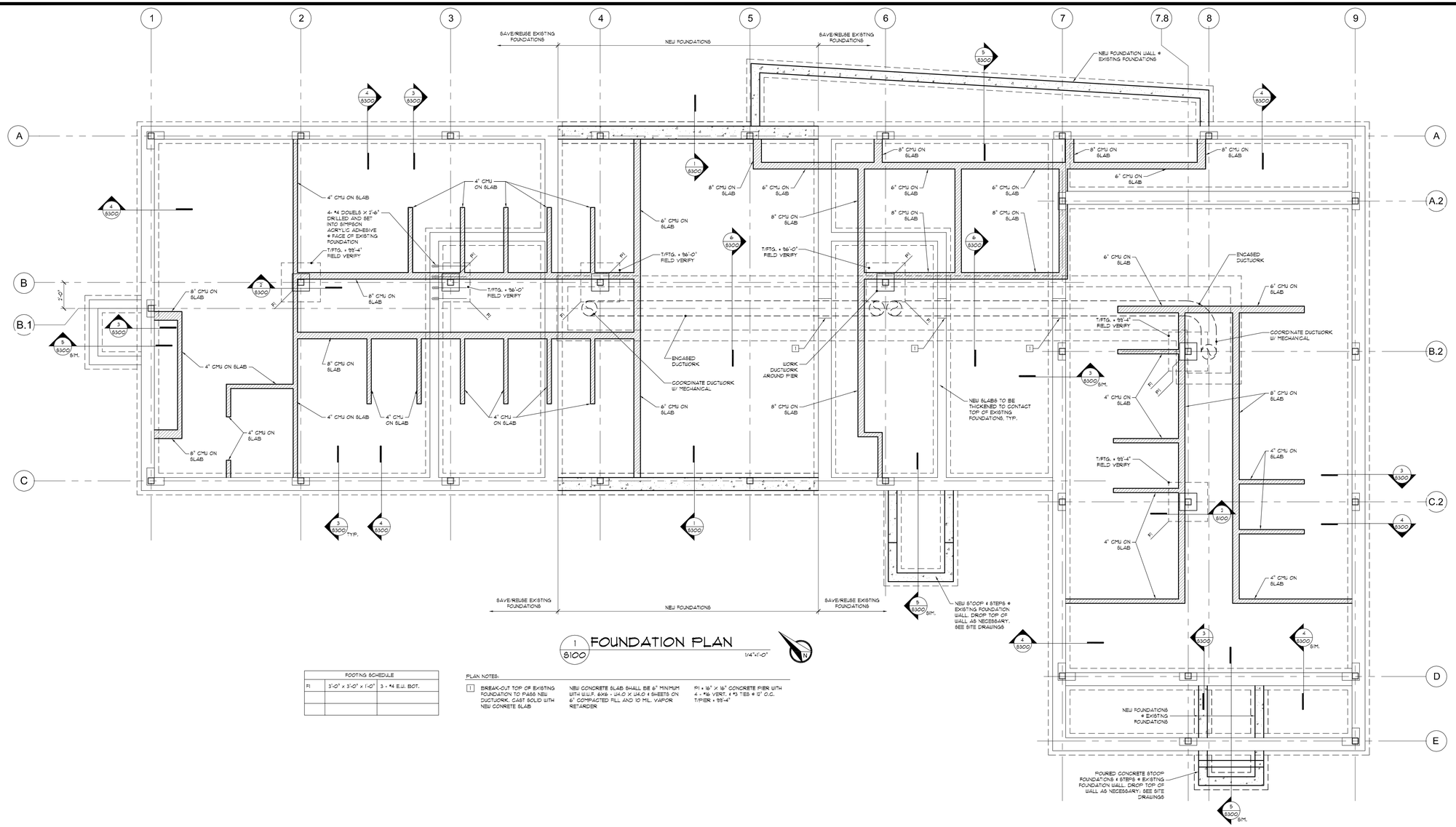
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
WALL SECTIONS

DATE
11.29.16

A601



1 S100 FOUNDATION PLAN

1/4"=1'-0"

FOOTING SCHEDULE		
F1	3'-0" x 3'-0" x 1'-0"	3 - #4 E.W. BOT.

PLAN NOTES:

1. BREAK-OUT TOP OF EXISTING FOUNDATION TO PASS NEW DUCTWORK. CAST SOLID WITH NEW CONRETE SLAB

NEW CONCRETE SLAB SHALL BE 6" MINIMUM WITH W.W.F. 6X6 - W4.0 X W4.0 @ SHEETS ON 6" COMPACTED FILL AND 10 MIL. VAPOR RETARDER

P1 = 16" X 16" CONCRETE PIER WITH 4 - #6 VERT. @ #3 TIES @ 12" O.C. T/PIER = 99'-4"

Design Loads

Snow	
Ground Snow	30 psf
Importance (I)	1.0
Exposure (Ce)	1.0
Thermal Coefficient (Ct)	1.0
Wind Speed	90 mph
Importance Factor	1.0
Exposure Category	C
Seismic	
Site Class (to be verified by contractor)	D
Seismic Design Category	A
Floor Live Loads	
Restroom, Mechanical, Retail, Lobby	100 psf
Storage	125 psf
Material Strengths	
Concrete (F'c @ 28 days)	
Footings	3,000 psi
Foundation Walls	3,500 psi
Slabs (interior)	4,000 psi
Slabs (exterior)	4,500 psi
Grout Fill at Masonry Walls	3,000 psi
Reinforcing Steel (Fy)	
Rebar	60,000 psi
Welded Wire Fabric	65,000 psi
Structural Steel	
All Steel Shapes	50,000 psi
Hollow Structural Steel Shapes	46,000 psi
Threaded Anchor Rods	ASTM F1554
Welding Electrodes	E70XX
Lightgage Steel Framing (Fy)	
Roof Deck	33,000 psi
Studs and Joists	40,000 psi
Tracks, Studs, or Joists < 18 gage	33,000 psi
Masonry (Minimum Compressive Strength)	
Concrete Masonry Units (F'm)	1,500 psi
Mortar Type "S"	1,800 psi
Masonry Grout Fill	3,000 psi

Soil Bearing Pressure 2,500 psf
(To be verified in field by the contractor)

General Notes

Design and construction shall be in accordance with provisions of the latest edition of the International Building Code with Wisconsin Amendments.

See Specifications for additional information.

Consult architectural, mechanical, plumbing, and electrical drawings for verification of location and dimensions of curbs, depressions, door closers, and other project requirements not shown on structural drawings.

All contractors shall verify and coordinate all dimensions and details as shown on the drawings. When discrepancies or questions arise, the architect shall be notified.

Verify size and location of all roof, floor, and wall openings with mechanical and electrical contractors. Openings less than 12 inches in dimension are generally not shown.

Foundations and Earthwork

Center column footings on column centerlines unless otherwise noted.

Wall footings are centered on foundation wall unless otherwise noted.

Wall footings are 12 inches thick and 8 inches wider than the wall above (footings project 4 inches beyond wall face) unless otherwise noted.

Elevations noted on plans are to the top of footing.

Bottom of footings shall be 4' minimum below exterior finish grade.

Column and wall footings shall bear on original, undisturbed soil or compacted fill as defined in soil report, but not higher than the minimum depth shown on drawings.

The client may conduct further soils investigation to provide additional confidence that foundations are suitable for reuse. Any areas found to be unsuitable shall be brought to the attention of the A/E.

All structural steel below slab on grade shall have a minimum of three inches concrete protection all around.

All footing top reinforcement shall be adequately supported by steel supports from grade below.

Slab on grade shall be underlain by a vapor barrier and six inches minimum of coarse granular (compacted) fill material.

Maintain gravel thickness, slab depth, reinforcement, and reinforcement position at dropped or thickened slab on grade.

Reinforce all slabs on grade with welded wire fabric as defined on the plans, positioned or supported to be in the top third of the slab unless noted otherwise.

Backfill around the exterior foundation walls with (a free draining granular material to the elevation of the rough grade).

Contractor to keep excavations dry and protected from frost at all times during the foundation construction.

Notify architect if nature of soil at depths shown is not suitable for foundations.

Concrete (Cast-in-Place, Non-Prestressed)

Concrete Reinforcing shall have the following minimum protective cover.

Concrete poured to earth or ground	3"
Concrete exposed to earth or weather	
#5 bar and smaller	1 1/2"
Concrete with interior exposure	
#11 bar and smaller	3/4"
Concrete piers	
Primary reinforcement, ties, and spirals	1 1/2"

No conduits, pipes, ducts, or fixtures shall be placed in concrete columns, piers or beams (unless specific review and approval is made by the engineer).

Bars shall be spliced per details where provided. Otherwise bars shall be class "B" lap spliced in longest convenient lengths with adjacent laps staggered 3'-0" minimum. Bars shall be contact spliced or spaced a minimum distance apart of the lesser of 1/5th the lap length or six inches.

Embedment lengths, compression splice lengths and lap lengths for tension splices class "A" and "B" shall conform to those of CRSI "Reinforcement Anchorage and Splices" current edition.

No tack welding will be permitted on grade 40 or 60 reinforcing steel.

Interior concrete slabs shall be reinforced with 6x6 – W4.0xW4.0 WWF unless noted otherwise.

Limits of dropped and depressed slabs shall be located from architectural plans.

Contractor shall notify the architect at least 24 hours prior to placing concrete.

All construction joints shown shall be incorporated into structure unless their elimination is approved by the engineer, additional construction joints required to facilitate construction shall be located and detailed on shop drawings and are subject to engineer's approval.

Control and construction joints for slab on grade must be reviewed by the architect prior to the placing of concrete.

Provide 2-#5 bars around all openings and 2-#5 diagonally at all opening corners unless otherwise specified. Extend 2'-6" past opening, typical.

Anchor bolts shall be set and concrete-bearing surface for columns shall be finished to the following tolerance:

1. Elevation of concrete surface plus or minus 3/8".
2. Elevation top of anchor bolts plus 1" or minus 3/8",
3. Out of position of anchor bolts plus or minus 1/8".

Refer to architectural drawings for location and dimensions of concrete reveals, notches, reglets, drips, pads, curbs, chamfer blockouts at doorways, and all other project requirements not shown on the structural drawings.

Refer to specifications regarding dovetail anchors in concrete for masonry anchorage.

Masonry

Load bearing masonry units shall be of structural normal weight concrete conforming to ASTM C90.

Provide horizontal ladder-type wire reinforcing with adjustable wall tie eye sections at 16" on center maximum.

Special inspection is required for all masonry (inspection shall verify that materials used are as specified and the construction is in accordance with the plans and accepted masonry practice).

Where concrete filled bond beams intersect at corners at different elevations, run each bond beam around corner for two block lengths minimum before terminating.

Where concrete filled bond beams intersect parallel at different elevations, lap bond beam four block lengths minimum before terminating.

Provide corner and intersection bars in all bond beams.

Control joints shall be provided in masonry walls at 20'-0" maximum. See architectural drawings for location of control joints.

Lintel units shall be provided to span across openings in concrete masonry. Grout solid two courses high. Provide 2-#5 continuous 1" above bottom on lintel units. Provide steel lintels per schedule on contract documents.

All reinforced masonry work shall conform to current edition of Building Code Requirements for Masonry Structures (ACI 530.1).

Provide 1-#5 vertical reinforcing at all wall corners, ends, and intersections (place in second cell from end where steel lintel bears on wall end).

Splices in horizontal and vertical reinforcing shall be lapped 48 bar diameters or a minimum of 24", whichever is greater.

Provide a bond beam with 2-#5 continuous beneath all slab or beam bearings in masonry walls not grouted solid (all cells filled).

Refer to specification regarding dovetail anchors in concrete for masonry anchorage.

All head and bed joints shall be full.

Slump of grout shall be in the range of 7 to 10 inches and shall be reconsolidated by mechanical vibration to eliminate voids created by bleed off of the water in the grout 1/2 hour following placement.

Structural Steel

Use connections as detailed on plans or the standard guide details provided with the contract documents. Whenever connections are not covered, the fabricator shall request the engineer to supply a connection detail.

Provide connections required for attachment of wood to steel members. Also, provide holes for lags.

Column cap plates are 1/2" thick unless noted. Slope to match beam slope.

Remove all slack from diagonal bracing before welding.

Where joists are supported on only one side of a beam, the joists shall extend a minimum of one inch beyond beam centerline.

Prior to grouting, columns shall be erected and aligned as to plumbness and elevation by means of steel shims or leveling nuts under the base plates. Setting plates shall only be used as templates to locate anchor bolts during concrete placement.

See architectural drawings for additional miscellaneous steel.

Lightgage Structural Steel Framing

Systems and members shall be designed by a structural engineer with at least 10 years of documented experience in the design of lightgage framing. The engineer shall be registered in the State of Wisconsin.

Calculations shall be submitted to the Engineer of Record for review and approval. Calculations shall be sealed by the lightgage component design engineer. The license shall be current for the State of Wisconsin.

Shop drawings shall be submitted to the Engineer of Record for review and approval. Shop drawings shall be sealed by the lightgage component design engineer. The drawings shall include sections and elevations necessary to adequately show intent and completeness. Drawings shall show as a minimum framing sizes, end connections, slip connections, structural stud splices, headers, box beams, side clips, stiffeners, bracing and bridging, and post applied zinc rich protection at trimmed edges.

The minimum thickness permissible for the construction of structural lightgage framing members shall be 18 gage. Minimum stud depths shall be 6". Members noted are based on section properties and capacities as shown in the Clark/Dietrich manufactures catalogs. Other manufacturers will be considered if shown to be equal within 5 percent. Properties shall be computed in accordance with the latest AISI specifications.

The maximum load deformed framing of lightgage wall systems shall not exceed:
L/360 for typical wall framing systems
L/480 for brick/masonry veneer wall systems

Components may be attached together by welding or screwing. Minimum size of fasteners at screwed attachments shall be #10 self tapping. Minimum weld size of welds shall be 1/8"x1/2" long.

Minimum of two screw fasteners or welds are required at connections of components to other connection pieces or components.

Proper ventilation shall be provided during welding. Surfaces shall be properly prepared by grinding zinc coating away from welding surfaces. Welded surfaces shall be properly recoated with Zinc Rich Coating (ZRC).

Bearing studs shall be fully seated to bear on top and bottom track.

Spliced studs of wall sections shall align.

Bridging is required at 4 feet maximum on center for all studs.

Contractors shall provide erection bracing to ensure stability of the structural system prior to completion of construction.

Remove all slack from diagonal strap bracing before welding. Do not install diagonal strap bracing on load bearing walls until roofing is completed (roof dead load applied).

The minimum size load bearing and non-load bearing headers above openings shall consist of minimum two C6.16 gage on edge with track top and bottom of header.

Continuous studs shall be added to provide strength to wall systems at openings. Calculations shall take into account both strength and deflection limits at openings in the design of the continuous studs.

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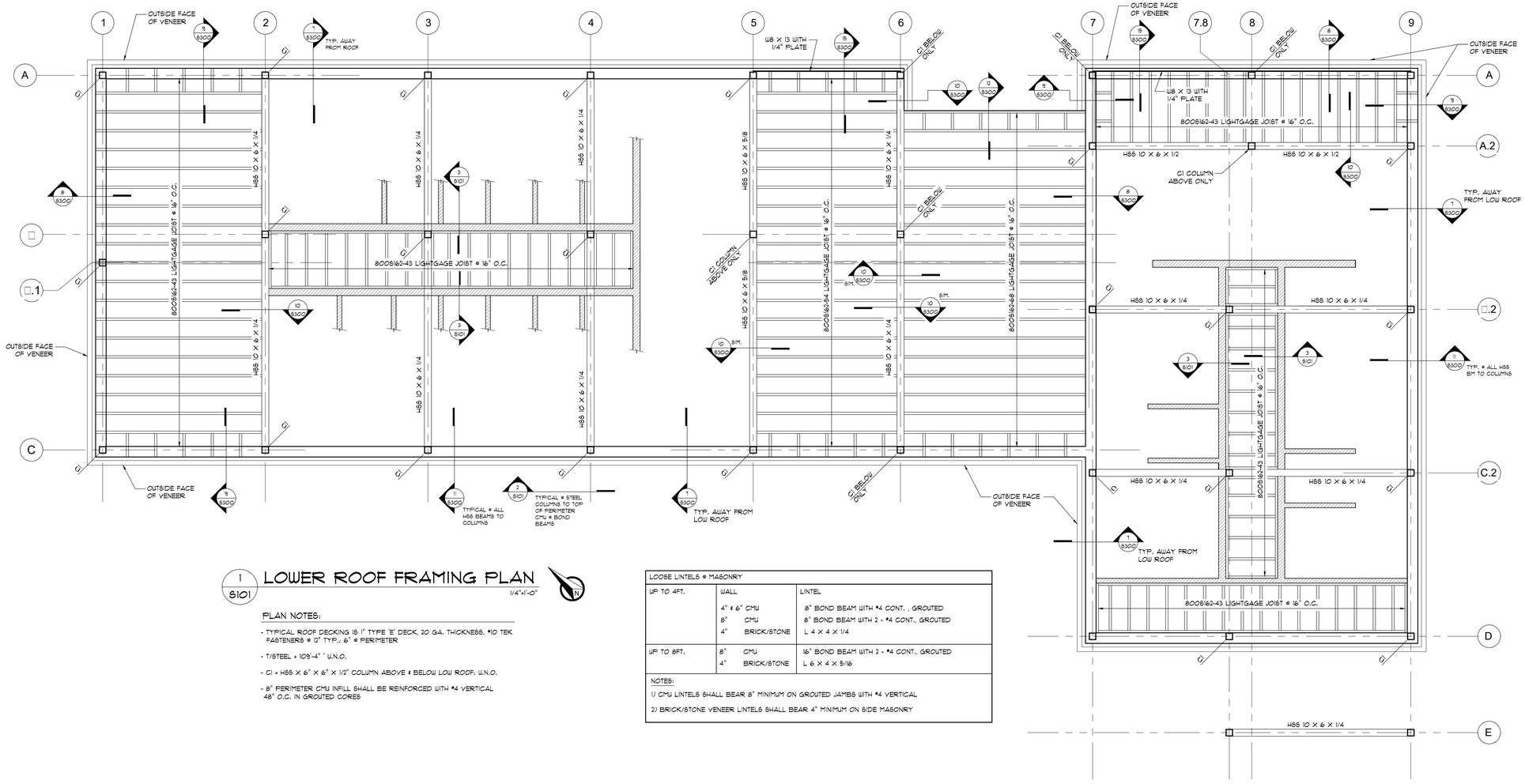
ISSUED

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
FOUNDATION PLAN AND GENERALSTRUCTURAL NOTES

DATE
11/28/2016

S100



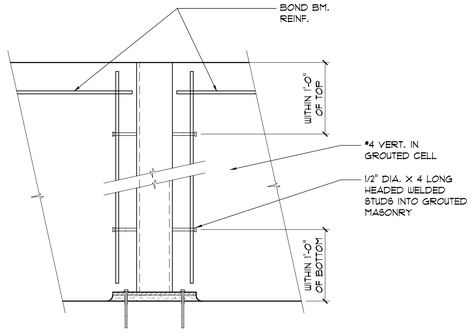
1 S101 LOWER ROOF FRAMING PLAN

1/4"=1'-0"

PLAN NOTES:

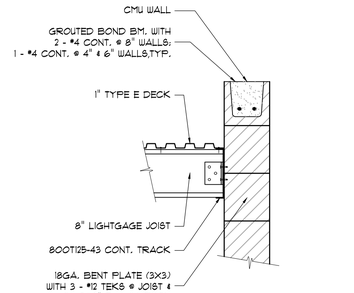
- TYPICAL ROOF DECKING IS 1" TYPE 'E' DECK, 20 GA. THICKNESS. #10 TEK FASTENERS @ 12" TYP., 6" @ PERIMETER
- T/STEEL = 109'-4 " U.N.O.
- CI = HSS X 6" X 6" X 1/2" COLUMN ABOVE & BELOW LOW ROOF, U.N.O.
- 8" PERIMETER CMU INFILL SHALL BE REINFORCED WITH #4 VERTICAL 48" O.C. IN GROUTED CORES

LOOSE LINTELS @ MASONRY		
UP TO 4FT.	WALL	LINTEL
	4" & 6" CMU	8" BOND BEAM WITH #4 CONT. , GROUTED
	8" CMU	8" BOND BEAM WITH 2 - #4 CONT., GROUTED
	4" BRICK/STONE	L 4 X 4 X 1/4
UP TO 8FT.	8" CMU	16" BOND BEAM WITH 2 - #4 CONT., GROUTED
	4" BRICK/STONE	L 6 X 4 X 9/16
NOTES: 1) CMU LINTELS SHALL BEAR 8" MINIMUM ON GROUTED JAMBS WITH #4 VERTICAL 2) BRICK/STONE VENEER LINTELS SHALL BEAR 4" MINIMUM ON SIDE MASONRY		



2 S101 COLUMN CONN. TO MASONRY INFILL

1"=1'-0"



3 S101 SECTION

1"=1'-0"

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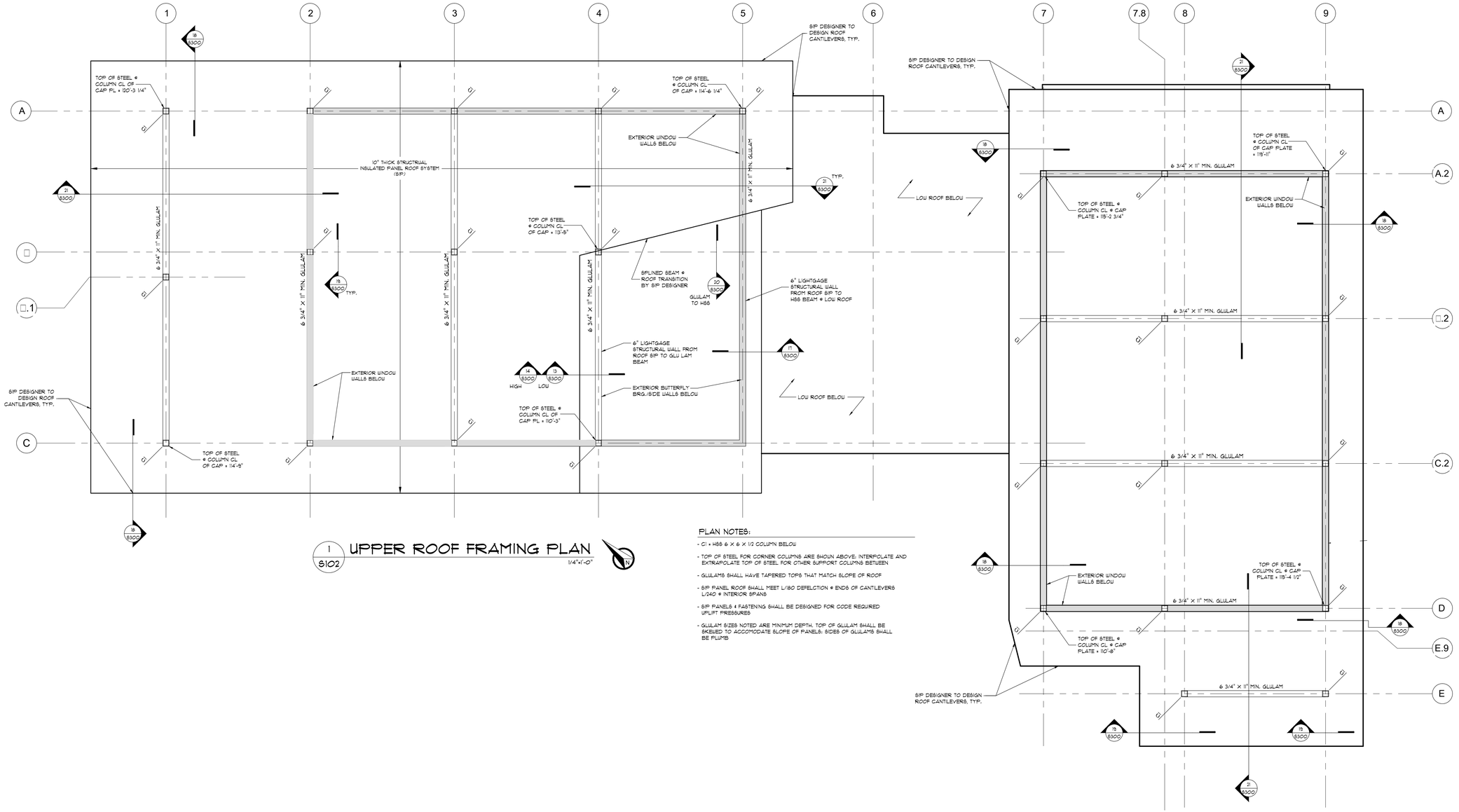
ISSUED

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
LOWER ROOF
FRAMING PLAN
AND DETAILS

DATE
11/29/2016

S101



1 S102 UPPER ROOF FRAMING PLAN

1/4"=1'-0"

PLAN NOTES:

- CI = HSS 6 X 6 X 1/2 COLUMN BELOW
- TOP OF STEEL FOR CORNER COLUMNS ARE SHOWN ABOVE. INTERPOLATE AND EXTRAPOLATE TOP OF STEEL FOR OTHER SUPPORT COLUMNS BETWEEN
- GLULAMS SHALL HAVE TAPERED TOPS THAT MATCH SLOPE OF ROOF
- SIP PANEL ROOF SHALL MEET L/180 DEFELCTION @ ENDS OF CANTILEVERS L/240 @ INTERIOR SPANS
- SIP PANELS & FASTENING SHALL BE DESIGNED FOR CODE REQUIRED UPLIFT PRESSURES
- GLULAM SIZES NOTED ARE MINIMUM DEPTH. TOP OF GLULAM SHALL BE SKEWED TO ACCOMODATE SLOPE OF PANELS. SIDES OF GLULAMS SHALL BE PLUMB

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HENRY VILAS ZOO
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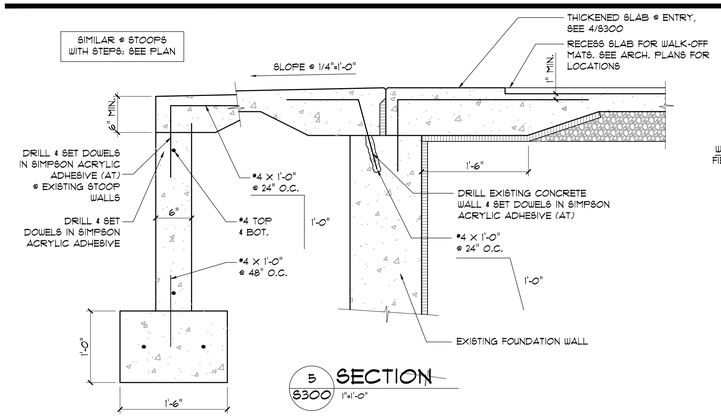
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
UPPER ROOF
FRAMING PLAN

DATE
11/29/2016

S102



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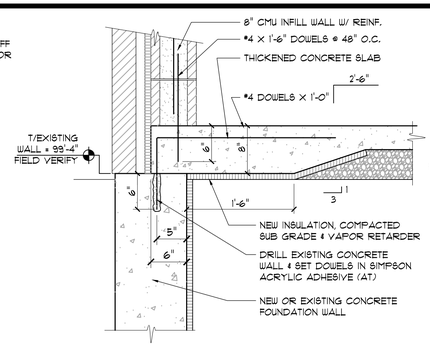

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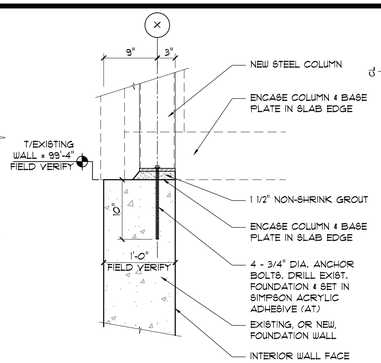

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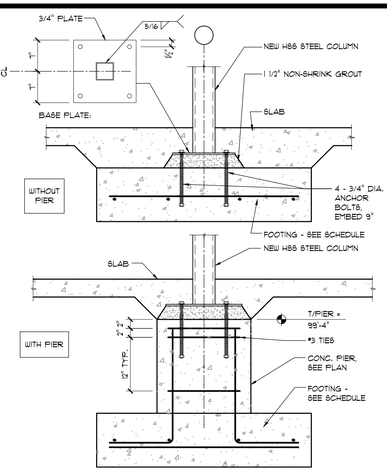

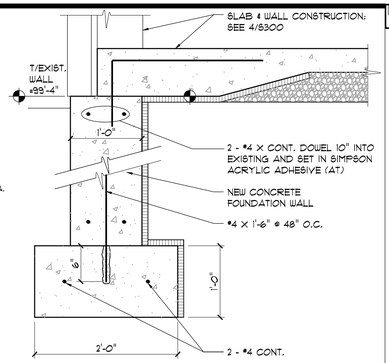

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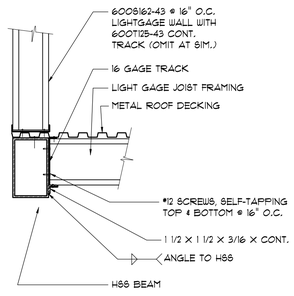

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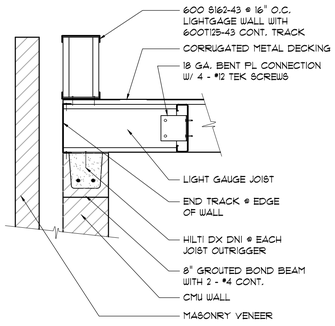

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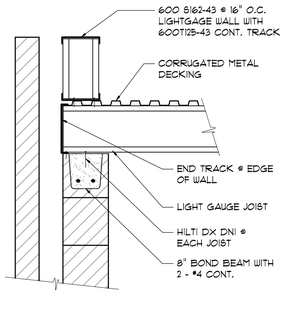

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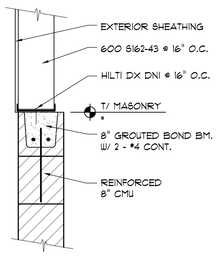

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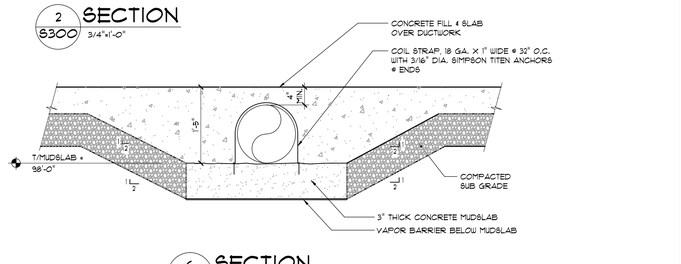

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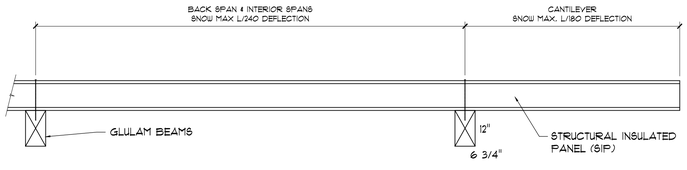

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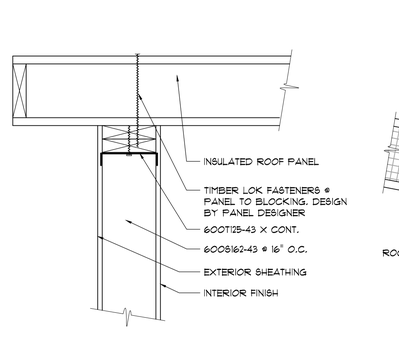

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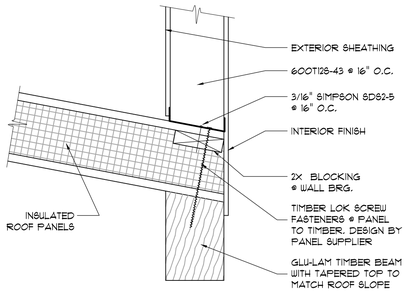
14 SECTION S300 1 1/2"=1'-0"



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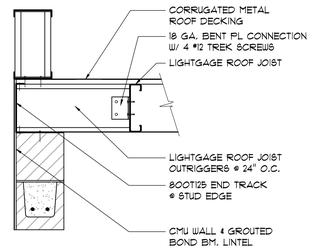

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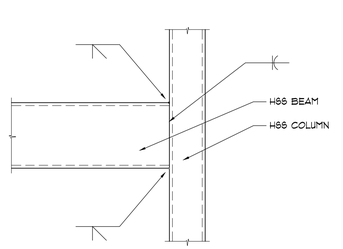

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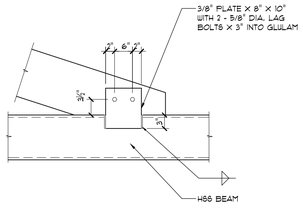

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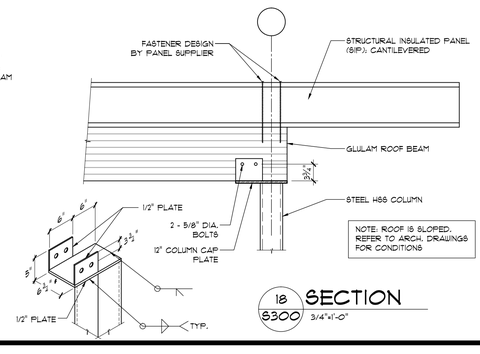

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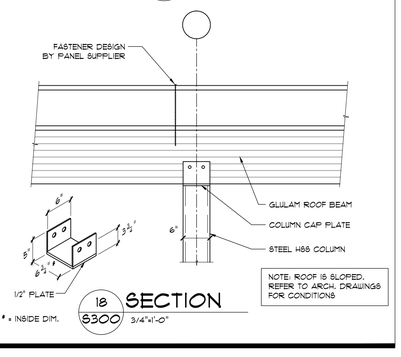

18 SECTION S300 3/4"=1'-0"

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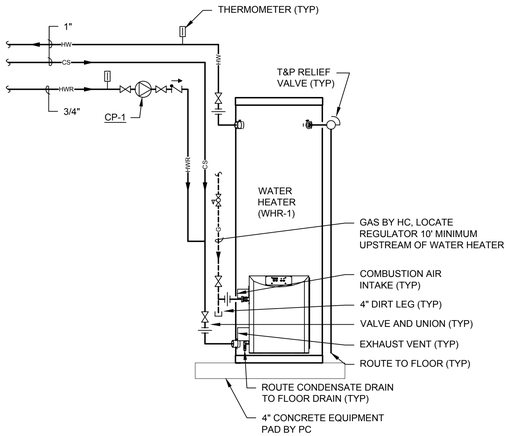
ISSUED

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
STRUCTURAL DETAILS

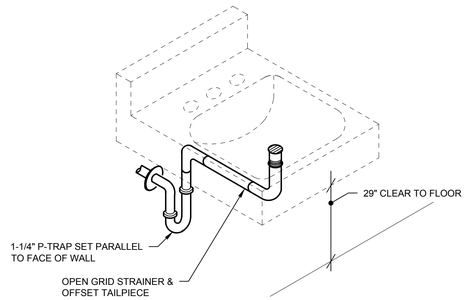
DATE
11/29/2016

S300



4 P000 DOMESTIC WATER HEATING DETAIL

SCALE: NONE



NOTE:
PROVIDE SAME WASTE PIPE TRAP CONFIGURATION FOR LAY-IN COUNTERTOP LAVATORIES WITH OPEN SPACE BELOW COUNTER.

1 P000 WALL HUNG LAVATORY - BARRIER FREE

SCALE: NONE

WATER CALCULATION WORKSHEET

WATER CALCULATION WORKSHEET FOR: HENRY VILAS ZOO / 1246 VILAS PARK DRIVE MADISON, WI
NAME/ADDRESS OF PROJECT

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

1.	DEMAND OF BUILDING IN GALLONS PER MINUTE. WSFU's = 192.75	=	(GPM)	90
2.	DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE.		(feet)	0
3.	SIZE OF THE WATER METER. (WHEN APPLICABLE)		(inches)	N/A
4.	DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE.		(feet)	50
5.	LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK.		(psig)	55

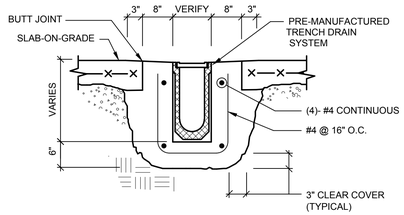
CALCULATE WATER SERVICE PRESSURE LOSS

6.	LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK. (VALUE OF # 5 ABOVE)	55.00
7.	WATER SERVICE DIAMETER IS 2-1/2" MATERIAL IS COPPER PRESSURE LOSS PER 100 FT = 2.3 PSI X 0.55 (DECIMAL EQUIVALENT OF SERVICE LENGTH, I.E.; 65FT = .65)	1.27
	(SUBTRACT LINE 7. FROM LINE 6.) SUBTOTAL	53.74
8.	DETERMINE PRESSURE GAIN OR LOSS DUE TO ELEVATION, (MULTIPLY THE VALUE OF # 2 ABOVE BY .434) VALUE OF "8"	0.00
9.	AVAILABLE PRESSURE AFTER THE BLDG. CONTROL VALVE. (SUBTRACT OR ADD LINE 8. ENTER IN "B".) SUBTOTAL	53.74

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

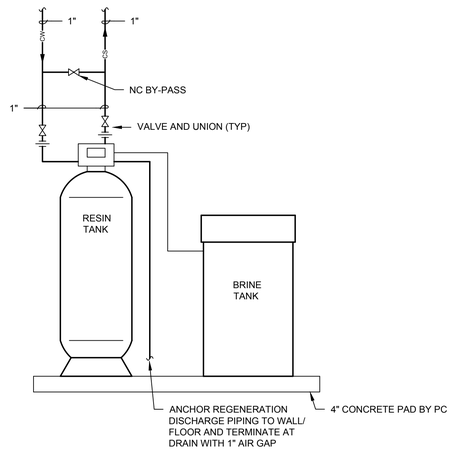
B.	AVAILABLE PRESSURE AFTER THE BLDG. CONTROL VALVE. (FROM "9" ABOVE) VALUE OF "B"	53.74
C.	PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED OR INSTALLED) VALUE OF "C"	0
	(SUBTRACT LINE C. FROM LINE B.) SUBTOTAL	53.74
D.	PRESSURE AT CONTROLLING FIXTURE. VALUE OF "D"	20.00
	(CONTROLLING FIXTURE IS WATER CLOSET) (SUBTRACT THE VALUE OF D.) SUBTOTAL	33.74
E.	DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 0 X .434 PSI/FT. VALUE OF "E"	0.00
	(SUBTRACT THE VALUE OF E.) SUBTOTAL	33.74
F.	PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE (PRESSURE LOSS DUE TO N/A) VALUE OF "F"	0
	(SUBTRACT THE VALUE OF F.) SUBTOTAL	33.74
G.	DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 165 X 1.5 VALUE OF "G"	247.50
	(DIVIDE BY THE VALUE OF G.) SUBTOTAL	0.1363
	(WATER DISTRIBUTION PIPING MATERIAL IS TYPE 'L' COPPER) MULTIPLY BY	100
A.	PRESSURE AVAILABLE FOR UNIFORM LOSS VALUE OF "A"	13.63

FORMULA: $A = \frac{B-(C+D+E+F)}{G} \times 100$



2 P000 TRENCH DRAIN DETAIL

SCALE: NONE (PREMANUFACTURED SYSTEM)



3 P000 WATER SOFTENER DETAIL

SCALE: NONE

PLUMBING LEGEND

CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
CS	COLD SOFT WATER
	SANITARY DRAIN, WASTE OR SEWER (SAN)
	VENT (V)
ST	STORM DRAIN CONDUCTOR OR SEWER
W	DOMESTIC WATER SERVICE
GW	GREASE WASTE
	TEE (BRANCH TO SIDE)
	TEE (BRANCH DOWN)
	RISER UP
	RISER DOWN
	CLEANOUT (CO)
OR	WALL CLEANOUT (WCO) / FLOOR CLEANOUT (FCO) / YARD CLEANOUT (YCO)
	DOWNSPOUT NOZZLE (DSN)
	UNION
	FLANGE
	FLOW
	CHECK VALVE
	HOSE BIBB (HD) OR WALL HYDRANT (WH)
EXISTING / NEW	POINT OF CONNECTION (POC)
	CAP
	BALANCING VALVE
	SHUTOFF VALVE
	PIPE STRAINER
	FIXTURE STOP
	VALVE IN RISER
	THERMOMETER
P	PRESSURE GAUGE
	WATER HAMMER ARRESTOR
	RELIEF VALVE
	RPBP - REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	FLOOR DRAIN (FD)
	HUB DRAIN (HD)
	ROOF DRAIN (RD) OR OVERFLOW DRAIN (ORD)
XX	FIXTURE UNITS - DRAINAGE OR SUPPLY (DFU OF WSFU)
#	NEW WORK KEYED NOTE
#	REVISION KEYED NOTE
X / PX	TAG FOR CONTINUATION MATCH POINTS

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFF	BELOW FINISHED FLOOR
CB	CATCH BASIN
CO	CLEANOUT
CS	COLD SOFT WATER
CW	COLD WATER
DF	DRINKING FOUNTAIN
DSN	DOWNSPOUT NOZZLE
E	EXISTING
EC	ELECTRICAL CONTRACTOR
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
G	NATURAL GAS
GC	GENERAL CONTRACTOR
GI	GREASE TRAP/INTERCEPTOR
GW	GREASY WASTE
HB	HOSE BIBB
HC	HVAC CONTRACTOR
HD	HUB DRAIN
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
IE	INVERT ELEVATION
L	LAVATORY
MB	MOP BASIN
MH	MANHOLE
PC	PLUMBING CONTRACTOR
RPBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
S	SINK
SAN	SANITARY
ST	STORM
TD	TRENCH DRAIN
TMV	THERMOSTATIC MIXING VALVE
UR	URINAL
V	VENT
VTR	VENT THRU ROOF
W	DOMESTIC WATER SERVICE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WHR	WATER HEATER
WS	WATER SOFTENER
YCO	YARD CLEANOUT

PLUMBING SHEET INDEX

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PROJECT
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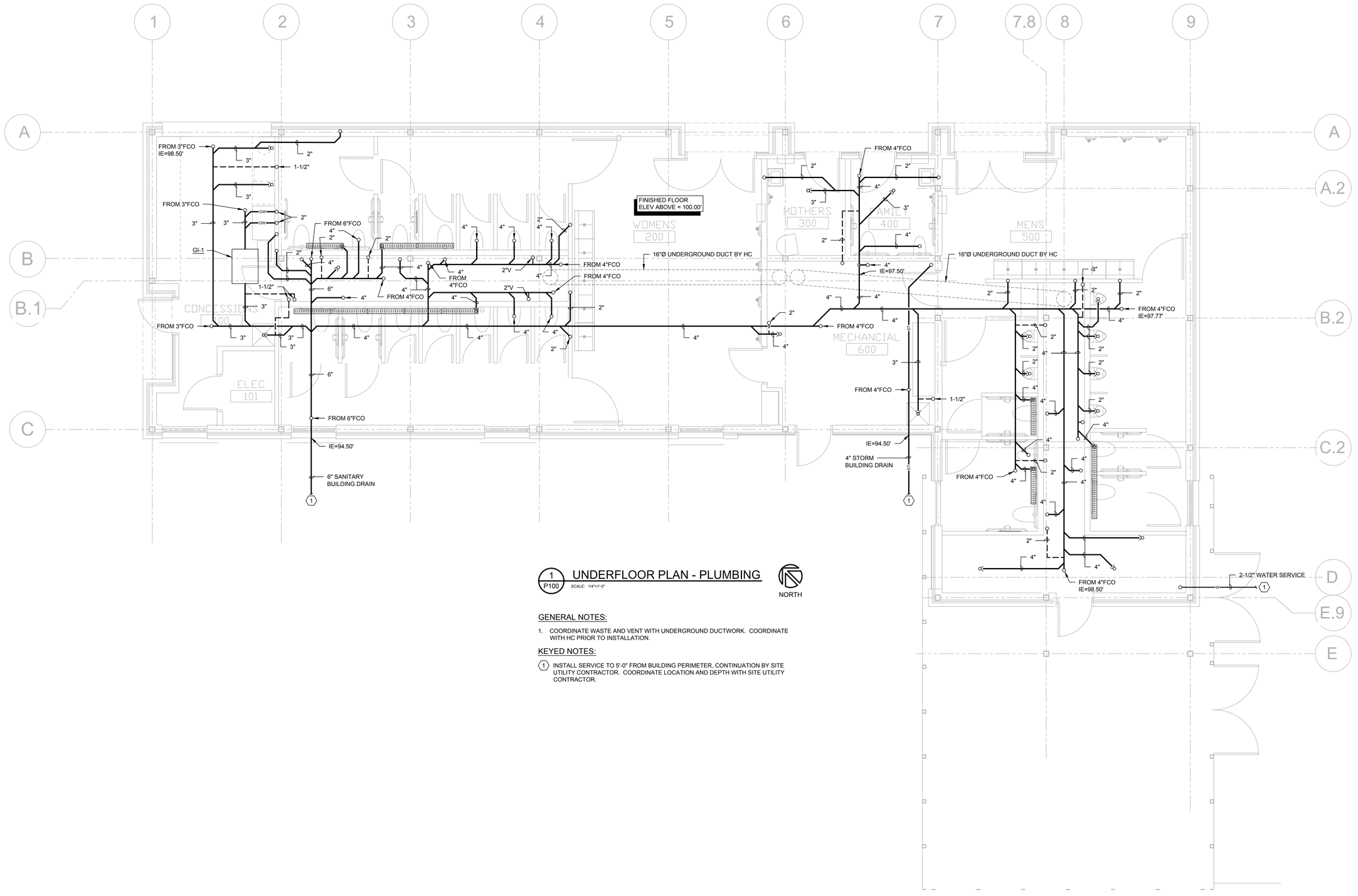
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
SYMBOLS, ABBREVIATIONS, AND DETAILS – PLUMBING

DATE
11.29.16

P000



1 / P100 UNDERFLOOR PLAN - PLUMBING

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

NORTH

GENERAL NOTES:

1. COORDINATE WASTE AND VENT WITH UNDERGROUND DUCTWORK. COORDINATE WITH HC PRIOR TO INSTALLATION.

KEYED NOTES:

(1) INSTALL SERVICE TO 5'-0" FROM BUILDING PERIMETER, CONTINUATION BY SITE UTILITY CONTRACTOR. COORDINATE LOCATION AND DEPTH WITH SITE UTILITY CONTRACTOR.

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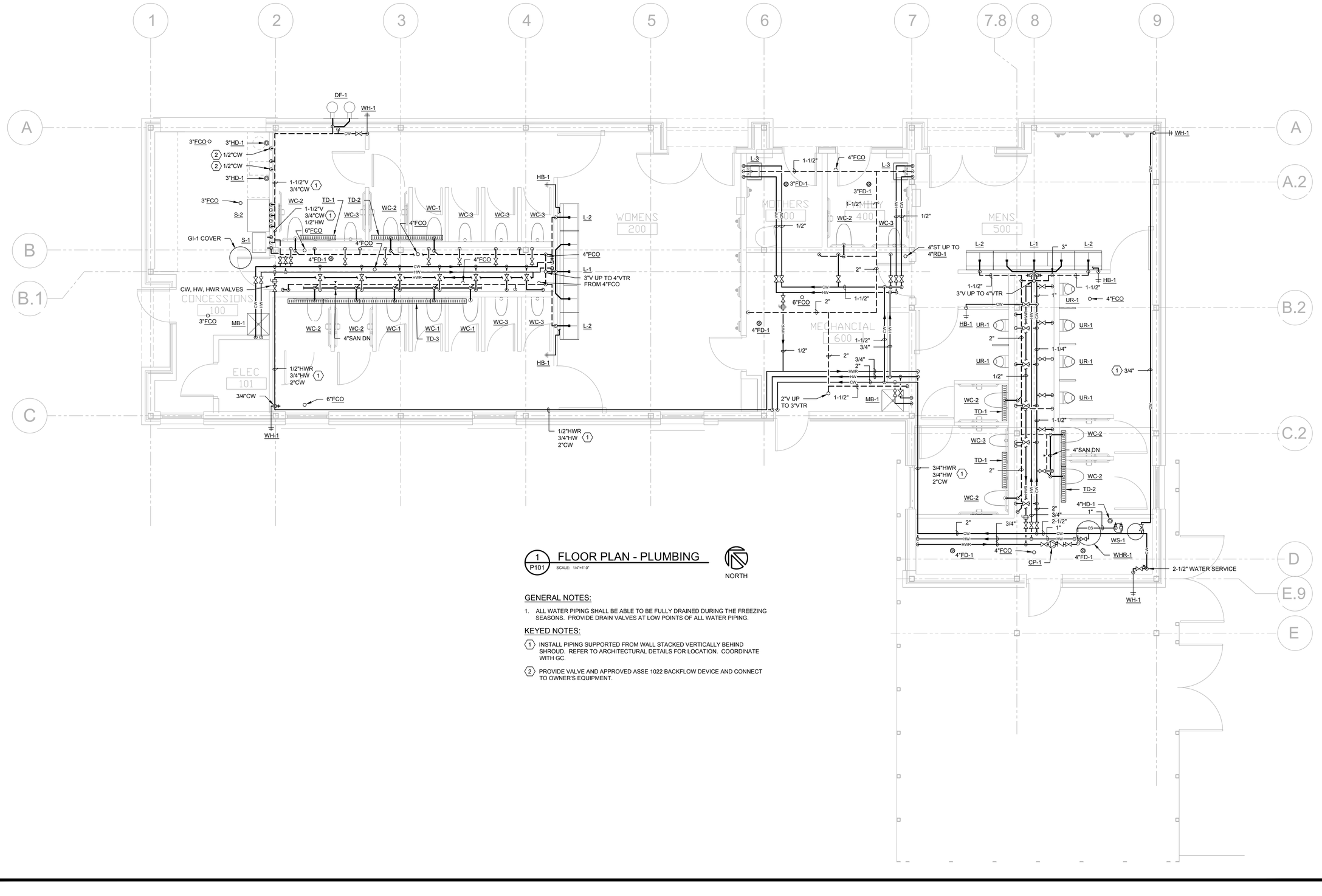
DRAWING
UNDERFLOOR PLAN – PLUMBING

DATE
11.29.16

P100



1 P101 FLOOR PLAN - PLUMBING

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

NORTH

GENERAL NOTES:

1. ALL WATER PIPING SHALL BE ABLE TO BE FULLY DRAINED DURING THE FREEZING SEASONS. PROVIDE DRAIN VALVES AT LOW POINTS OF ALL WATER PIPING.

KEYED NOTES:

1. INSTALL PIPING SUPPORTED FROM WALL STACKED VERTICALLY BEHIND SHROUD. REFER TO ARCHITECTURAL DETAILS FOR LOCATION. COORDINATE WITH GC.
2. PROVIDE VALVE AND APPROVED ASSE 1022 BACKFLOW DEVICE AND CONNECT TO OWNER'S EQUIPMENT.

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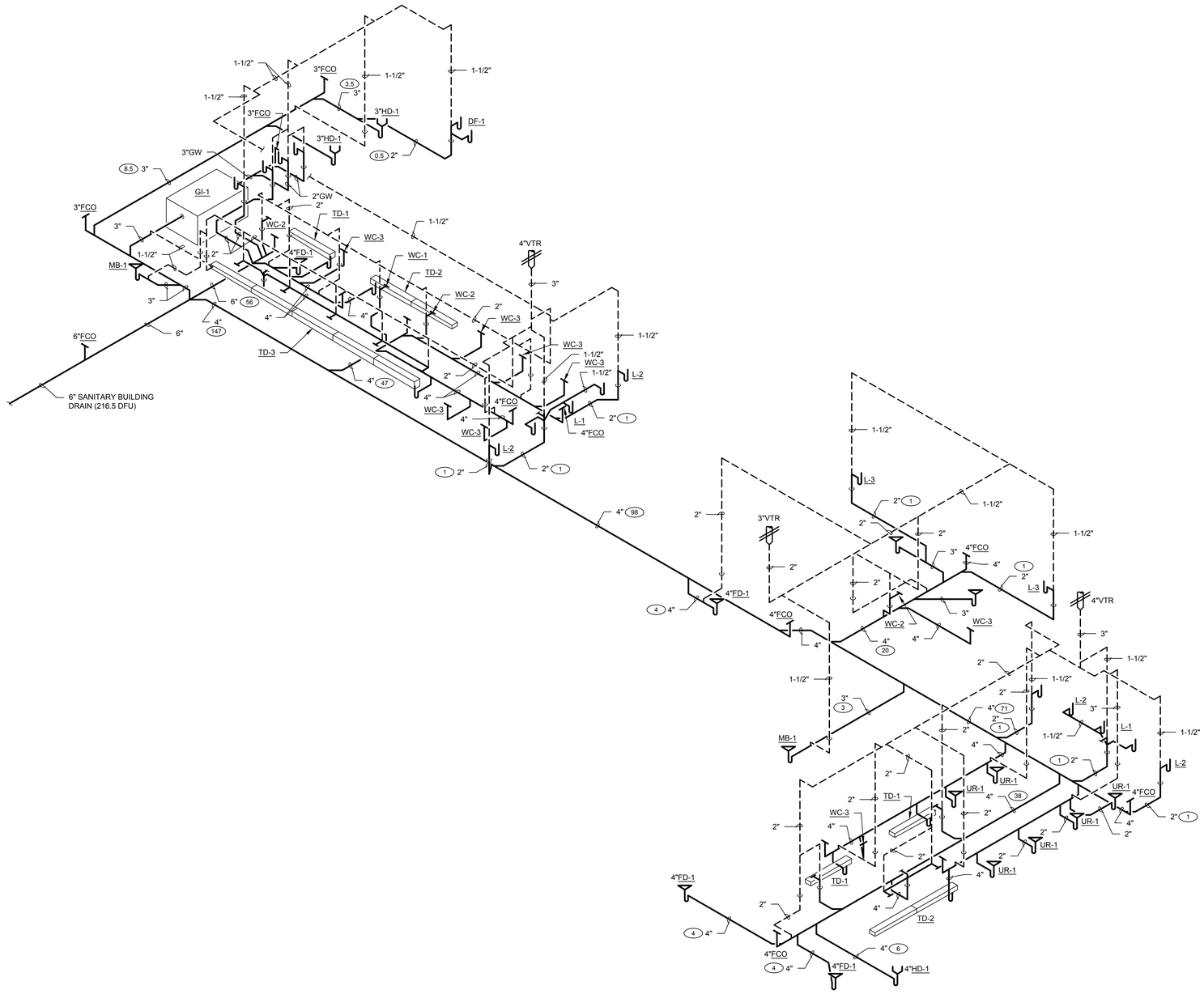
DRAWING
FLOOR PLAN – PLUMBING

DATE
11.29.16

P101



1 P300 SANITARY WASTE AND VENT RISER DIAGRAM - PLUMBING

SCALE: NONE

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WASTE AND VENT RISER DIAGRAM – PLUMBING

DATE
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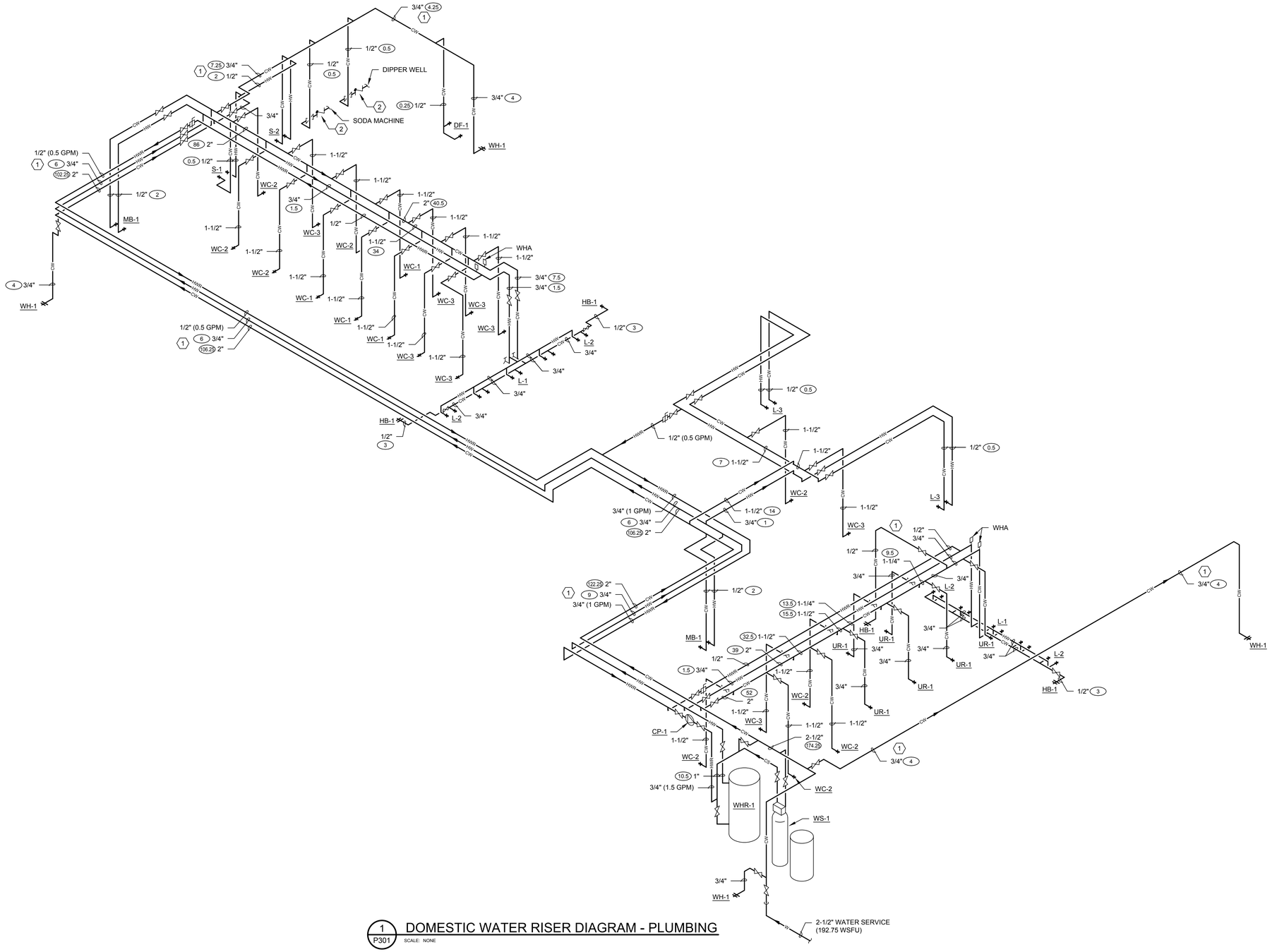
P300



1 P301 DOMESTIC WATER RISER DIAGRAM - PLUMBING

SCALE: NONE

GENERAL NOTES:

1. ALL WATER PIPING SHALL BE ABLE TO BE FULLY DRAINED DURING THE FREEZING SEASONS. PROVIDE DRAIN VALVES AT LOW POINTS OF ALL WATER PIPING.

KEYED NOTES:

1. INSTALL PIPING SUPPORTED FROM WALL STACKED VERTICALLY BEHIND SHROUD. REFER TO ARCHITECTURAL DETAILS FOR LOCATION. COORDINATE WITH GC.
2. PROVIDE VALVE AND APPROVED ASSE 1022 BACKFLOW DEVICE AND CONNECT TO OWNER'S EQUIPMENT.

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DRAWING
DOMESTIC WATER RISER
DIAGRAM – PLUMBING

DATE
11.29.16

P301

PLUMBING DRAIN & CLEANOUT SCHEDULE

ID	FIXTURE	WASTE			DETAIL/ SHEET	DESCRIPTION/REMARKS
		DFU	TRAP	VENT		
FD-1	FLOOR DRAIN	3 4	3" 4"	1-1/2" 2"	---	FIXTURE: ZURN ZN415-B, CAST IRON BODY, 6" DIAMETER NICKEL BRONZE "TYPE B" STRAINER, COMBINATION INVERTIBLE MEMBRANE CLAMP, AND ADJUSTABLE COLLAR.
HD-1	HUB DRAIN - AT GRADE	4 6	3" 4"	1-1/2" 2"	---	EXTEND HUB 2" AFF (MIN), INSTALL PIPE INCREASER ONE PIPE SIZE LARGER.
TD-1	TRENCH DRAIN	4	4"	2"	2/P000	FIXTURE: ACO KLASSIK DRAIN K100 TRENCH DRAIN SYSTEM, 4" INTERNAL WIDTH, ONE (1) ONE METER LENGTH SECTION K1-10, 4" ROUND BOTTOM OUTLET, LOWEST BOTTOM INVERT 5.91, INTEGRAL GALVANIZED FRAME, NO CROSS BARS, CONTINUOUS SLOPE SYSTEM AT 0.5%, INCLUDE END CAPS AT BEGINNING AND END OF TRENCH RUN, TYPE 494Q BLACK POLYPROPYLENE LOCKING GRATE, PROVIDE INSTALLATION DEVICES FOR CHANNELS AND SPARE GRATE REMOVAL TOOLS. REFER TO FLOOR PLANS FOR HIGH POINTS AND LENGTHS OF TRENCH RUN.
TD-2	TRENCH DRAIN	4	4"	2"	2/P000	FIXTURE: ACO KLASSIK DRAIN K100 TRENCH DRAIN SYSTEM, 4" INTERNAL WIDTH, TWO (2) ONE METER LENGTH SECTION K1-9 THRU K1-10, 4" ROUND BOTTOM OUTLET, LOWEST BOTTOM INVERT 5.91, INTEGRAL GALVANIZED FRAME, NO CROSS BARS, CONTINUOUS SLOPE SYSTEM AT 0.5%, INCLUDE END CAPS AT BEGINNING AND END OF TRENCH RUN, TYPE 494Q BLACK POLYPROPYLENE LOCKING GRATE, PROVIDE INSTALLATION DEVICES FOR CHANNELS AND SPARE GRATE REMOVAL TOOLS. REFER TO FLOOR PLANS FOR HIGH POINTS AND LENGTHS OF TRENCH RUN.
TD-3	TRENCH DRAIN	4	4"	2"	2/P000	FIXTURE: ACO KLASSIK DRAIN K100 TRENCH DRAIN SYSTEM, 4" INTERNAL WIDTH, FIVE (5) ONE METER LENGTH SECTION K1-6 THRU K1-10, 4" ROUND BOTTOM OUTLET, LOWEST BOTTOM INVERT 5.91, INTEGRAL GALVANIZED FRAME, NO CROSS BARS, CONTINUOUS SLOPE SYSTEM AT 0.5%, INCLUDE END CAPS AT BEGINNING AND END OF TRENCH RUN, TYPE 494Q BLACK POLYPROPYLENE LOCKING GRATE, PROVIDE INSTALLATION DEVICES FOR CHANNELS AND SPARE GRATE REMOVAL TOOLS. REFER TO FLOOR PLANS FOR HIGH POINTS AND LENGTHS OF TRENCH RUN.
RD-1	ROOF DRAIN	---	---	---	---	FIXTURE: ZURN ZC100-C-EA-R ROOF DRAIN, CAST IRON BODY, 15" DIA, COMBINATION MEMBRANE FLASHING CLAMP/GRAVEL GUARD, UNDERDECK CLAMP, ADJUSTABLE EXTENSION, ROOF SUMP RECEIVER, AND CAST IRON STRAINER.
FCO	FLOOR CLEANOUT	---	---	---	---	UNFINISHED AREAS: ZURN ZN1474-N, CAST IRON BODY, HEAVY DUTY CLEANOUT HOUSING, WITH NICKEL BRONZE TOP & INTERNAL CLEANOUT.
WCO	WALL CLEANOUT	---	---	---	---	FIXTURE: ZURN ZS1468, POLISHED STAINLESS STEEL, ROUND ACCESS COVER, SECURING SCREW & BRONZE RAISED HEX HEAD PLUG. VERIFY LENGTH OF SCREW REQUIRED WITH WALL CONSTRUCTION.

GAS WATER HEATER SCHEDULE

ID	MANUFACTURER MODEL #	GAS CFH	GAS PRESS IN WC	RECOVERY		TANK CAP GAL	DETAIL/ SHEET	DESCRIPTION/REMARKS
				GPH	RISE °F			
WHR-1	HTP PHOENIX PH100-80	35-100	12	152	80	80	4/P000	TANK TYPE NATURAL GAS FIRED WATER HEATER, 96% EFFICIENT, SEALED COMBUSTION, 3" VENT/INTAKE, STAINLESS STEEL TANK, MODULATING BURNER WITH 5:1 TURNDOWN, LCD DISPLAY. INCLUDE CONCENTRIC VENTING KIT KGAVT0601CVT AND VENT THRU ROOF.

PUMP SCHEDULE

ID	MANUFACTURER MODEL #	ELECTRICAL				RPM	VFD	DISCHARGE		DETAIL/ SHEET	DESCRIPTION/REMARKS
		HP	AMPS	VOLTS	PHASE			GPM	HD FT		
CP-1	B&G NBF-12U	FRACT	0.48	120	1	2800	NO	1.5	2.4	4/P000	BRONZE IN-LINE PUMP, HORIZONTAL LUBRICATED TYPE, CARBON BEARINGS, NORYL IMPELLER, CERAMIC SHAFT, STAINLESS STEEL ACCESSORIES. INCLUDE TIMER KIT TC-1.

GREASE INTERCEPTOR SCHEDULE

ID	MANUFACTURER MODEL #	LIQUID CAP (GAL)	GREASE CAP (LBS)	RATED GPM	SIZE (LxWxH)	DETAIL/ SHEET	DESCRIPTION/REMARKS
GI-1	SCHIER PRODUCTS GB-50	52	249	50	37"x28"x28.5"	---	MOLDED SEAMLESS HDPE CONSTRUCTION, EXTENSION TO FINISHED FLOOR, BOLTED DOWN COMPOSITE LID RATED FOR FOOT TRAFFIC, 3" INLET/OUTLET, DIFFUSERS ON INLET AND OUTLET, INSTALL PER MANUFACTURER'S INSTRUCTIONS. CALCULATIONS: FLOW RATE: EACH BASIN SIZE = 21"x12"x14" = 3528 CU IN / 1728 = 2.04 CU FT x 7.4805 = 15.27 GALLONS x 0.75 (3/4 CAPACITY) = 11.45 GPM LIQUID CAPACITY: 11.45 x 2 BASINS = 22.90 GALLONS GREASE CAPACITY: 22.90 x 2 = 45.82 LBS

PLUMBING FIXTURE SCHEDULE

REFER TO SPECIFICATION SECTION 22 40 00 FOR ACCEPTABLE EQUAL MANUFACTURERS

ID	FIXTURE	WASTE			WATER				DETAIL/ SHEET	DESCRIPTION/REMARKS
		DFU	TRAP	VENT (MIN)	COLD		HOT			
					CWFU	SIZE	HWFU	SIZE		
DF-1	DRINKING FOUNTAIN	0.5	1-1/4"	1-1/2"	0.25	1/2"	---	---	---	FIXTURE: ELKAY EZWS-EDFPBM117K WALL HUNG, RECESSED, HI-LO ELECTRIC WATER COOLER WITH BOTTLE FILLER, STAINLESS STEEL BASINS, SELF-CLOSING PUSH BUTTON VALVE CONTROLS, 115V/60Hz HARD-WIRED CONNECTION, ADA COMPLIANT. TRAP: CHROME PLATED CAST BRASS P-TRAP. FIXTURE SUPPORT: SEE MANUFACTURER'S WRITTEN INSTRUCTIONS FOR SUPPORT BACKING. STOPS & SUPPLIES: McGUIRE H2167LK, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
HB-1	HOSE BIBB	---	---	---	3	1/2"	---	---	---	FIXTURE: WOODFORD MODEL B24 ANTI-SIPHON HOSE BIBB, RECESSED LOCKABLE BOX, INTEGRAL VACUUM BREAKER, 3/4" HOSE CONNECTION.
L-1	LAVATORY (ADA HEIGHT)	1	1-1/4"	1-1/2"	0.5	1/2"	0.5	1/2"	---	FIXTURE: BRADLEY VERGE LVSD3-SHANK-NSD-TMA-STAIN-IW-CHROME LAVATORY SYSTEM, THREE (3) STATIONS, SINGLE HOLE DRILLING FOR THREE (3) FAUCET HOLES, NO SOAP DISPENSER, THERMOSTATIC MIXING VALVE PER FAUCET, COLOR TO BE DETERMINED BY A/E DURING SHOP DRAWING REVIEW, STAINLESS STEEL ACCESS PANEL, THREE (3) CHROME PLATED P-TRAPS, ADA COMPLIANT. FAUCET: MOEN COMMERCIAL 8894 METERED FAUCET (THREE FAUCETS), 0.5 GPM AERATOR, SINGLE MOUNTING HOLE, CHROME FINISH, BRASS CONSTRUCTION, CHROME PLATED, ADA COMPLIANT. TRAP & DRAIN: INCLUDED WITH FIXTURE. STOPS & SUPPLIES: McGUIRE H2167LK, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
L-2	LAVATORY (JUVENILE HEIGHT)	1	1-1/4"	1-1/2"	0.5	1/2"	0.5	1/2"	---	FIXTURE: BRADLEY VERGE LVSD1-SHANK-NSD-TMA-STAIN-IW-CHROME LAVATORY SYSTEM, ONE (1) STATION, SINGLE HOLE DRILLING FOR ONE (1) FAUCET HOLE, NO SOAP DISPENSER, THERMOSTATIC MIXING VALVE PER FAUCET, COLOR TO BE DETERMINED BY A/E DURING SHOP DRAWING REVIEW, STAINLESS STEEL ACCESS PANEL, ONE (1) CHROME PLATED P-TRAP, ADA COMPLIANT. FAUCET: MOEN COMMERCIAL 8894 METERED FAUCET, 0.5 GPM AERATOR, SINGLE MOUNTING HOLE, CHROME FINISH, BRASS CONSTRUCTION, CHROME PLATED, ADA COMPLIANT. TRAP & DRAIN: INCLUDED WITH FIXTURE. STOPS & SUPPLIES: McGUIRE H2167LK, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
L-3	LAVATORY (ADA HEIGHT)	1	1-1/4"	1-1/2"	0.5	1/2"	0.5	1/2"	1/P000	FIXTURE: KOHLER KINGSTON K-2007 WALL HUNG LAVATORY SINK, WHITE VITREOUS CHINA, DRILLED FOR CONCEALED ARM CARRIER, ONE (1) FAUCET HOLE, WITH OVERFLOW, ADA COMPLIANT. FAUCET: MOEN COMMERCIAL 8894 METERED FAUCET, 0.5 GPM AERATOR, SINGLE MOUNTING HOLE, CHROME FINISH, BRASS CONSTRUCTION, CHROME PLATED, ADA COMPLIANT. TRAP & DRAIN: PRE-WRAPPED OFFSET DRAIN & P-TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: McGUIRE H2167LK, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
MB-1	MOP BASIN	3	3"	1-1/2"	2	1/2"	2	1/2"	---	FIXTURE: MUSTEE 63M 24"x24"x10" HIGH BASIN, ONE PIECE MOLDED DURASTONE, INTEGRAL MOLDED-IN DRAIN, 3" DRAIN CONNECTION. FAUCET: CHICAGO FAUCETS SERVICE SINK FAUCET 305-RCF WITH ROUGH CHROME FINISH, 3/4" MALE HOSE THREADED OUTLET, PAIL HOOK, ADJUSTABLE SUPPLY ARMS WITH INTEGRAL SERVICE STOPS AND LEVER HANDLES. PROVIDE WATTS MODEL 8AC NON-REMOVABLE CHROME VACUUM BREAKER. TRAP & DRAIN: CAST IRON OR PVC P-TRAP. ACCESSORIES: HOSE & HOSE HOLDER 65.700, & MOP HANGER 65.600.
S-1	SINK (HAND SINK)	1	1-1/4"	1-1/2"	0.5	1/2"	0.5	1/2"	1/P000	FIXTURE: KOHLER KINGSTON K-2005 WALL HUNG LAVATORY SINK, WHITE VITREOUS CHINA, DRILLED FOR CONCEALED ARM CARRIER, THREE (3) FAUCET HOLES ON 2" CENTERS, WITH OVERFLOW, ADA COMPLIANT. FAUCET: CHICAGO FAUCETS 895-317GN2AE3XKCP, MANUAL FAUCET, BRASS CONSTRUCTION, 2.2 GPM AERATOR, POLISHED CHROME FINISH, 5-1/4" RIGID GOOSENECK SPOUT, TWO 4" WRISTBLADE HANDLES, TWO HOLE MOUNTING ON 4" CENTERS, DECK MOUNTED, ADA COMPLIANT. TRAP & DRAIN: PRE-WRAPPED OFFSET DRAIN & P-TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: McGUIRE H2167LK, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
S-2	SINK (3-COMPARTMENT)	2	1-1/2"	1-1/2"	2	1/2"	2	1/2"	---	FIXTURE: ADVANCED TABCO 400 SERIES 4-3-36, 16 GAUGE TYPE 430 STAINLESS STEEL SINK, FLOOR STANDING, THREE COMPARTMENTS 21"x12"x14" DEEP, TWO FAUCET HOLES ON 8" CENTERS ON BACK SPLASH. FAUCET: CHICAGO FAUCETS 510-GC613AL15ABCP, MANUAL FAUCET WITH PRE-RINSE FAUCET, BRASS CONSTRUCTION, POLISHED CHROME FINISH, TWO HOLE MOUNTING ON 8" CENTERS, 14" SWING SPOUT, 23" RISER WITH SPRING GUIDE, 44" FLEXIBLE STAINLESS STEEL HOSE WITH INSULATED HANDLE ON PRE-RINSE FAUCET. TRAP & DRAIN: CHROME PLATED CAST BRASS P-TRAP, WITH GRID STRAINER DRAIN. STOPS & SUPPLIES: McGUIRE H2167LK, LOOSE KEY QUARTER TURN ANGLE STOPS WITH CHROME PLATED ESCUTCHEONS & CHROME PLATED COPPER RISER SUPPLIES.
UR-1	URINAL (ADA COMPLIANT)	2	2	1-1/2"	2	3/4"	---	---	---	FIXTURE: KOHLER BRANHAM K-4920-T FLOOR MOUNTED URINAL, WHITE VITREOUS CHINA, WASHOUT, 3/4" TOP SPUD, 0.5 GPF, ADA COMPLIANT. FLUSH VALVE: SLOAN ROYAL 186-0.5 URINAL FLUSH VALVE, MANUAL OPERATION, DIAPHRAGM TYPE, CHROME FINISH, 3/4" TOP SPUD, 3/4" SCREWDRIVER ANGLE STOP, ADA COMPLIANT.
WC-1	WATER CLOSET (STANDARD HEIGHT)	6	4"	2"	6.5	1-1/2"	---	---	---	FIXTURE: KOHLER KINGSTON K-4325, WALL HUNG, FLUSH VALVE TOILET, WHITE VITREOUS CHINA, ELONGATED BOWL, 1.6 GPF MAX, 2.25" TRAPWAY, 1-1/2" TOP SPUD, 15" RIM HEIGHT. FLUSH VALVE: SLOAN ROYAL 111-1.6 WATER CLOSET FLUSH VALVE, MANUAL OPERATION, DIAPHRAGM TYPE, CHROME FINISH, 1-1/2" TOP SPUD, 1" SCREWDRIVER ANGLE STOP, ADA COMPLIANT. SEAT: BEMIS 1655-SSC TOILET SEAT, INJECTION MOLDED WHITE PLASTIC, OPEN FRONT, ELONGATED BOWL, STAINLESS STEEL HINGES. SUPPORT: COMMERCIAL GRADE, WALL HUNG WATER CLOSET SUPPORT, STEEL STANCHIONS, IRON WELDED FEET, STEEL SLEEVES, FASTEN TO FLOOR.
WC-2	WATER CLOSET (ADA HEIGHT)	6	4"	2"	6.5	1-1/2"	---	---	---	FIXTURE: SAME AS WC-1, ADA HEIGHT. FLUSH VALVE: SAME AS WC-1, ADA HEIGHT. SEAT: BEMIS 1655-SSC TOILET SEAT, INJECTION MOLDED WHITE PLASTIC, OPEN FRONT, ELONGATED BOWL, STAINLESS STEEL HINGES. SUPPORT: COMMERCIAL GRADE, WALL HUNG WATER CLOSET SUPPORT, STEEL STANCHIONS, IRON WELDED FEET, STEEL SLEEVES, FASTEN TO FLOOR.
WC-3	WATER CLOSET (CHILD HEIGHT)	6	4"	2"	6.5	1-1/2"	---	---	---	FIXTURE: KOHLER PRIMARY K-4321, FLOOR MOUNTED, FLUSH VALVE TOILET, WHITE VITREOUS CHINA, 1-1/2" TOP SPUD, 2.125" PASSAGEWAY, 1.6 GPF, 10" ROUGH-IN, CHILD HEIGHT. FLUSH VALVE: SLOAN ROYAL 111-1.6 WATER CLOSET FLUSH VALVE, MANUAL OPERATION, DIAPHRAGM TYPE, CHROME FINISH, 1-1/2" TOP SPUD, 1" SCREWDRIVER ANGLE STOP, CHILD HEIGHT. SEAT: KOHLER K-4686, OPEN FRONT TOILET SEAT, INJECTION MOLDED, SCALLOPED HANDHOLD LOCATIONS FOR CHILDREN.
WH-1	WALL HYDRANT	---	---	---	4	3/4"	---	---	---	FIXTURE: WOODFORD MODEL 67, EXTERNAL FREEZELESS WALL HYDRANT, AUTOMATIC DRAINING, INTEGRAL VACUUM BREAKER, 3/4" HOSE CONNECTION, LOOSE TEE KEY.

WATER SOFTENER SCHEDULE

ID	MANUFACTURER MODEL #	ELECTRICAL			GPM		MAX PRESS DROP	GRAINS CAPACITY/ LBS SALT	RESIN TANK SIZE		SALT STORAGE			DETAIL/ SHEET	DESCRIPTION/REMARKS
		AMPS	VOLTS	PHASE	CONT	PEAK			DIA	HEIGHT	DIA	HEIGHT	LBS		
WS-1	HELLENBRAND H125-48	FRACT	120	1	19	28	15	48,460/22.5	10"	54"	18"	40"	330	3/P000	SIMPLEX SYSTEM, 1.25" METER AND VALVE, FULLY PROGRAMMABLE, LCD DISPLAY, BRINE TANK INCLUDED.

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DRAWING
SCHEDULES – PLUMBING

DATE
11.29.16

P800

ABBREVIATIONS

A	COMPRESSED AIR
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
A/E	ARCHITECT/ENGINEER
AF	AIR FOIL
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMP	AMPERE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ASC	ABOVE SUSPENDED CEILING
ATR	AIR TROFFER - RETURN
ATS	AIR TROFFER - SUPPLY
AUTO	AUTOMATIC
B	BOILER
BB	BASEBOARD
BC	BOOSTER COIL
BCU	BLOWER COIL UNIT
BDD	BACK DRAFT DAMPER
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BR	BRINE RETURN
BRG	BEARING
BS	BRINE SUPPLY
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
C	CONVECTOR
CA	COMBUSTION AIR
CAB	CABINET
CCC	COOLING COIL CONDENSATE
CD	CEILING DIFFUSER
CF	CEILING (DESTRATIFICATION) FAN
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CI	CAST IRON OR CUBIC INCH
CL	CENTERLINE
CLG	CEILING
CMU	CONCRETE MASONARY UNIT
COMB	COMBINATION OR COMBUSTION
CONC	CONCRETE
COND	CONDENSATE
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CRU	COMPUTER ROOM UNIT
CR	CONDENSER WATER RETURN
CS	CONDENSER WATER SUPPLY
CT	COOLING TOWER
CU	COPPER
CUH	CABINET UNIT HEATER
CW	COLD WATER
D	DRAIN
DB	DRY BULB
DC	DRY COOLER
DCO	DOOR CUTOFF BY GC
DDC	DIRECT DIGITAL CONTROL
DEPT	DEPARTMENT
DG	DOOR GRILLE BY GC
DIA	DIAMETER
DN	DOWN
DSA	DUCT SOUND ATTENUATOR
DSF	DESTRATIFICATION FAN
DWD	DUAL WALL DUCTWORK
DWDI	DOUBLE WIDTH DOUBLE INLET
DWG	DRAWING
E	EXISTING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EER	ENERGY EFFICIENCY RATIO
EFBP	EXTERNAL FACE & BYPASS
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ERU	ENERGY RECOVERY UNIT
ERV	ENERGY RECOVERY VENTILATOR
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EWH	ELECTRIC WALL HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXT	EXTERIOR OR EXTERNAL
F	FURNACE
°F	DEGREES FAHRENHEIT
F&B	FACE & BYPASS
F&T	FLOAT & THERMOSTAT TRAP
FA	FREE AREA
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FLOOR DRAIN OR FIRE DAMPER
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FILL	FILL LINE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FM	FLOW METER
FOO	FUEL OIL OVERFLOW
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FT	FOOT OR FEET
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLYR	GLYCOL RETURN
GLYS	GLYCOL SUPPLY
GRH	GAS FIRED RADIANT HEAT
GPM	GALLONS PER MINUTE
GUH	GAS FIRED UNIT HEATER
GV	GAS VENT
H	HUMIDIFIER
HB	HOSE BIBB
HC	HEATING CONTRACTOR
HCR	HOT/CHILLED WATER RETURN
HCS	HOT/CHILLED WATER SUPPLY
HD	HUB DRAIN
HDT	HORIZONTAL DRAW THRU
HG	MERCURY
HGT	HEIGHT
HP	HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPU	HEAT PUMP UNIT
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HR	HOUR
HRU	HEAT RECOVERY UNIT
HSR	HEAT SINK RETURN
HSS	HEAT SINK SUPPLY
HTWR	HIGH TEMPERATURE HOT WATER RETURN
HTWS	HIGH TEMPERATURE HOT WATER SUPPLY
HVAC	HEATING VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HWY	HIGHWAY
HX	HEAT EXCHANGER
HYD	HYDRANT
HZ	HERTZ
IH	INTAKE HOOD
IFBP	INTERNAL FACE & BYPASS
IN	INCH
INV	INVERT
IPLV	INTEGRATED PART LOAD VALUE
JWR	JACKET WATER RETURN
JWS	JACKET WATER SUPPLY
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LR	LINEAR RETURN
LT	LIGHT TROFFER
LWT	LEAVING WATER TEMPERATURE
M	MOTOR OPERATED DAMPER
MAT	MIXED AIR TEMPERATURE
MA	MIXED AIR
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS/HOUR
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFS	MAXIMUM FUSE SIZE
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
MUA	MAKE-UP AIR UNIT
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPLV	NOMINAL PART LOAD VALUE
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTDOOR AIR
OAT	OUTDOOR AIR TEMPERATURE
OC	ON CENTER
OPD	OPPOSED BLADE DAMPER
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PUMP DISCHARGE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRE	POWER ROOF EXHAUST FAN
PRELIM	PRELIMINARY
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSD	PUMP SUCTION DIFFUSER
PSI	POUNDS PER SQUARE INCH
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PVC	POLYVINYL CHLORIDE
R	REFRIGERANT
RA	RETURN AIR
RCP	RADIANT CEILING PANEL
RD	ROOF DRAIN
REQD	REQUIRED
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELIEF HOOD
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RR	RETURN REGISTER
RTU	ROOF TOP UNIT
S	SUPPLY
SA	SUPPLY AIR
SCR	SILICONE CONTROLLED RECTIFIERS
SD	SLOT DIFFUSER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SEG	SECURITY EXHAUST GRILLE
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SM	SHEET METAL
SQ FT	SQUARE FEET
SR	SUPPLY REGISTER
SRG	SECURITY RETURN GRILLE
SRV	SAFETY RELIEF VALVE
SS	STAINLESS STEEL
SSG	SECURITY SUPPLY GRILLE
STG	SECURITY TRANSFER GRILLE
SWD	SINGLE WALL DUCTWORK
SWSI	SINGLE WIDTH SINGLE INLET
T	THERMOSTAT/TEMPERATURE SENSOR
TA	THROWAWAY
TCAC	TEMPERATURE CONTROL AIR COMPRESSOR
TCC	TEMPERATURE CONTROL CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TCV	TEMPERATURE CONTROL VALVE
TEMP	TEMPORARY
TF	TRANSFER FAN
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TG	TRANSFER GRILLE
TO	TEST OPENINGS
TS	TIP SPEED
TYP	TYPICAL
UH	UNIT HEATER
UST	UNDERGROUND STORAGE TANK
UV	UNIT VENTILATOR
UNEX	UNEXCAVATED
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VD	VOLUME DAMPER
VDT	VERTICAL DRAW THRU
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VSC	VARIABLE SPEED CONTROL
W TO W	WALL TO WALL
WB	WET BULB
WC	WATER COLUMN
WF	WALL FIN
WP	WEATHER PROOF
WPD	WATER PRESSURE DROP
YH	YARD HYDRANT

PIPING SYSTEMS

- GENERAL SHUTOFF VALVE SEE SPECIFICATIONS FOR TYPE
- BALL VALVE
- GAUGE VALVE
- BUTTERFLY VALVE
- GATE VALVE
- PLUG VALVE (GAS)
- BLIND FLANGE
- CAP
- CONNECTION, BOTTOM
- CONNECTION, TOP
- ELBOW, TURNED UP
- ELBOW, TURNED DOWN
- REDUCER, CONCENTRIC
- REDUCER, ECCENTRIC - STRAIGHT INVERT
- REDUCER, ECCENTRIC - STRAIGHT CROWN
- FLEXIBLE CONNECTOR
- PITCH OF PIPE
- PIPE FLANGE
- V — ATMOSPHERIC VENT
- G — GAS
- RHG — REFRIGERANT HOT GAS
- RS — REFRIGERANT SUCTION
- RL — REFRIGERANT LIQUID
- D — DRAIN

GENERAL SYMBOLS

- T — THERMOSTAT OR TEMPERATURE SENSOR
- T — THERMOSTAT OR TEMPERATURE SENSOR WITH SECURITY COVER
- MOTOR STARTER
- S — SPEED CONTROLLER
- $ — START/STOP SWITCH
- CO2 — CARBON DIOXIDE SENSOR
- EXISTING TO REMAIN (DUCTWORK, PIPING, & EQUIPMENT)
- EXISTING TO BE REMOVED (DUCTWORK, PIPING, & EQUIPMENT)
- NEW DUCTWORK/PIPING
- NEW EQUIPMENT

DUCTWORK SYSTEMS

- 20/12 — DUCT SIZE, (FIRST FIGURE IS SIDE SHOWN)
- 12" Ø — ROUND DUCT
- UP/DN — CHANGE OF ELEVATION IN DIRECTION OF AIR FLOW
- AD — ACCESS DOOR, VERTICAL OR HORIZONTAL
- ACOUSTICAL DUCT LINER
- FLEXIBLE CONNECTION
- DUCT SOUND ATTENUATOR
- DUCT TRANSITION (DOUBLE LINE)
- DUCT TRANSITION (RECT, TO ROUND)
- DUCT TRANSITION (SINGLE LINE)
- HIDDEN DUCTWORK
- B — BACK DRAFT DAMPER
- M — MOTOR OPERATED DAMPER
- MANUAL VOLUME DAMPER
- NEW / EXISTING — FIRE DAMPER
- STANDARD BRANCH, SUPPLY, RETURN, OR EXHAUST, NO SPLITTER
- ROOF VENTILATOR OR HOOD ON ROOF ABOVE
- ROOF VENTILATOR OR HOOD ON ROOF
- DUCT CAP
- END OF DUCT
- EXISTING / EXISTING / NEW / NEW — POSITIVE PRESSURE DUCT SECTION
- POSITIVE PRESSURE DUCT (DOWN OR AWAY)
- EXISTING / EXISTING / NEW / NEW — NEGATIVE PRESSURE DUCT SECTION
- NEGATIVE PRESSURE DUCT (DOWN OR AWAY)
- FLEXIBLE DUCT DIFFUSER CONNECTION
- OR — SIDEWALL AIR DEVICE
- EXHAUST, RETURN, OR TRANSFER AIR DEVICE
- SUPPLY AIR DEVICE
- LOUVER AND BIRD SCREEN
- DG X.X @FA — DOOR GRILLE
- DCO — 3/4" DOOR CUTOFF (UNDERCUT) BY GC
- ELBOW WITH TURNING VANES
- UNIT HEATER
- AIR FLOW
- SQUARE FEET
- ELEVATION SYMBOL

HVAC SHEET INDEX

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JDR PROJECT NO. 160205

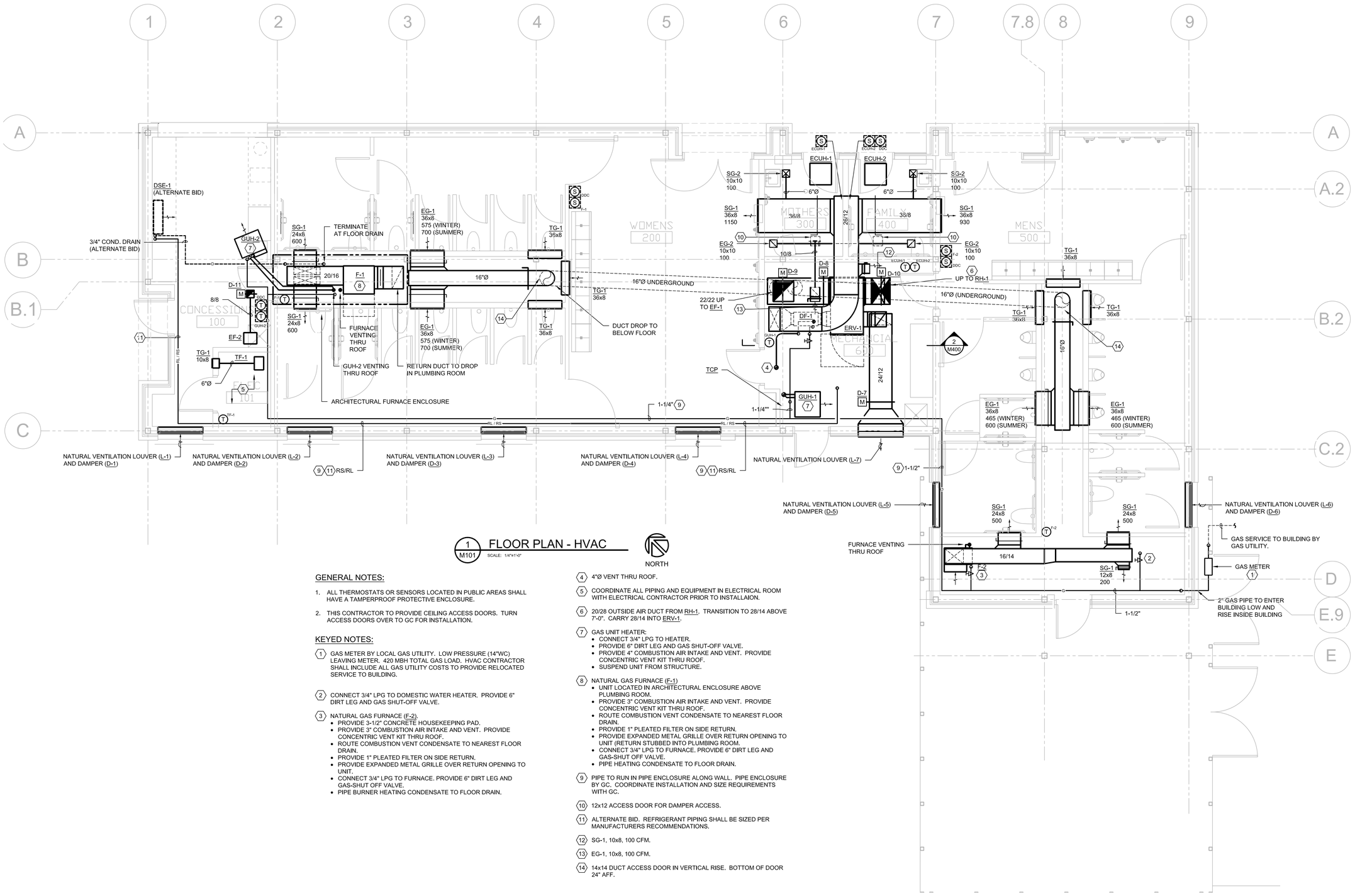
ISSUED

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
ABBREVIATIONS AND SYMBOLS – HVAC

DATE
11.29.16

M000



1 M101 FLOOR PLAN - HVAC

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

NORTH

GENERAL NOTES:

1. ALL THERMOSTATS OR SENSORS LOCATED IN PUBLIC AREAS SHALL HAVE A TAMPERPROOF PROTECTIVE ENCLOSURE.
2. THIS CONTRACTOR TO PROVIDE CEILING ACCESS DOORS. TURN ACCESS DOORS OVER TO GC FOR INSTALLATION.

KEYED NOTES:

(1) GAS METER BY LOCAL GAS UTILITY. LOW PRESSURE (14"WC) LEAVING METER. 420 MBH TOTAL GAS LOAD. HVAC CONTRACTOR SHALL INCLUDE ALL GAS UTILITY COSTS TO PROVIDE RELOCATED SERVICE TO BUILDING.

(2) CONNECT 3/4" LPG TO DOMESTIC WATER HEATER. PROVIDE 6" DIRT LEG AND GAS SHUT-OFF VALVE.

(3) NATURAL GAS FURNACE (F-2).
- PROVIDE 3-1/2" CONCRETE HOUSEKEEPING PAD.
- PROVIDE 3" COMBUSTION AIR INTAKE AND VENT. PROVIDE CONCENTRIC VENT KIT THRU ROOF.
- ROUTE COMBUSTION VENT CONDENSATE TO NEAREST FLOOR DRAIN.
- PROVIDE 1" PLEATED FILTER ON SIDE RETURN.
- PROVIDE EXPANDED METAL GRILLE OVER RETURN OPENING TO UNIT.
- CONNECT 3/4" LPG TO FURNACE. PROVIDE 6" DIRT LEG AND GAS-SHUT OFF VALVE.
- PIPE BURNER HEATING CONDENSATE TO FLOOR DRAIN.

(4) 4"Ø VENT THRU ROOF.

(5) COORDINATE ALL PIPING AND EQUIPMENT IN ELECTRICAL ROOM WITH ELECTRICAL CONTRACTOR PRIOR TO INSTALLAION.

(6) 20/28 OUTSIDE AIR DUCT FROM RH-1. TRANSITION TO 28/14 ABOVE 7'-0". CARRY 28/14 INTO ERV-1.

(7) GAS UNIT HEATER:
- CONNECT 3/4" LPG TO HEATER.
- PROVIDE 6" DIRT LEG AND GAS SHUT-OFF VALVE.
- PROVIDE 4" COMBUSTION AIR INTAKE AND VENT. PROVIDE CONCENTRIC VENT KIT THRU ROOF.
- SUSPEND UNIT FROM STRUCTURE.

(8) NATURAL GAS FURNACE (F-1)
- UNIT LOCATED IN ARCHITECTURAL ENCLOSURE ABOVE PLUMBING ROOM.
- PROVIDE 3" COMBUSTION AIR INTAKE AND VENT. PROVIDE CONCENTRIC VENT KIT THRU ROOF.
- ROUTE COMBUSTION VENT CONDENSATE TO NEAREST FLOOR DRAIN.
- PROVIDE 1" PLEATED FILTER ON SIDE RETURN.
- PROVIDE EXPANDED METAL GRILLE OVER RETURN OPENING TO UNIT (RETURN STUBBED INTO PLUMBING ROOM.
- CONNECT 3/4" LPG TO FURNACE. PROVIDE 6" DIRT LEG AND GAS-SHUT OFF VALVE.
- PIPE HEATING CONDENSATE TO FLOOR DRAIN.

(9) PIPE TO RUN IN PIPE ENCLOSURE ALONG WALL. PIPE ENCLOSURE BY GC. COORDINATE INSTALLATION AND SIZE REQUIREMENTS WITH GC.

(10) 12x12 ACCESS DOOR FOR DAMPER ACCESS.

(11) ALTERNATE BID. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURERS RECOMMENDATIONS.

(12) SG-1, 10x8, 100 CFM.

(13) EG-1, 10x8, 100 CFM.

(14) 14x14 DUCT ACCESS DOOR IN VERTICAL RISE. BOTTOM OF DOOR 24" AFF.

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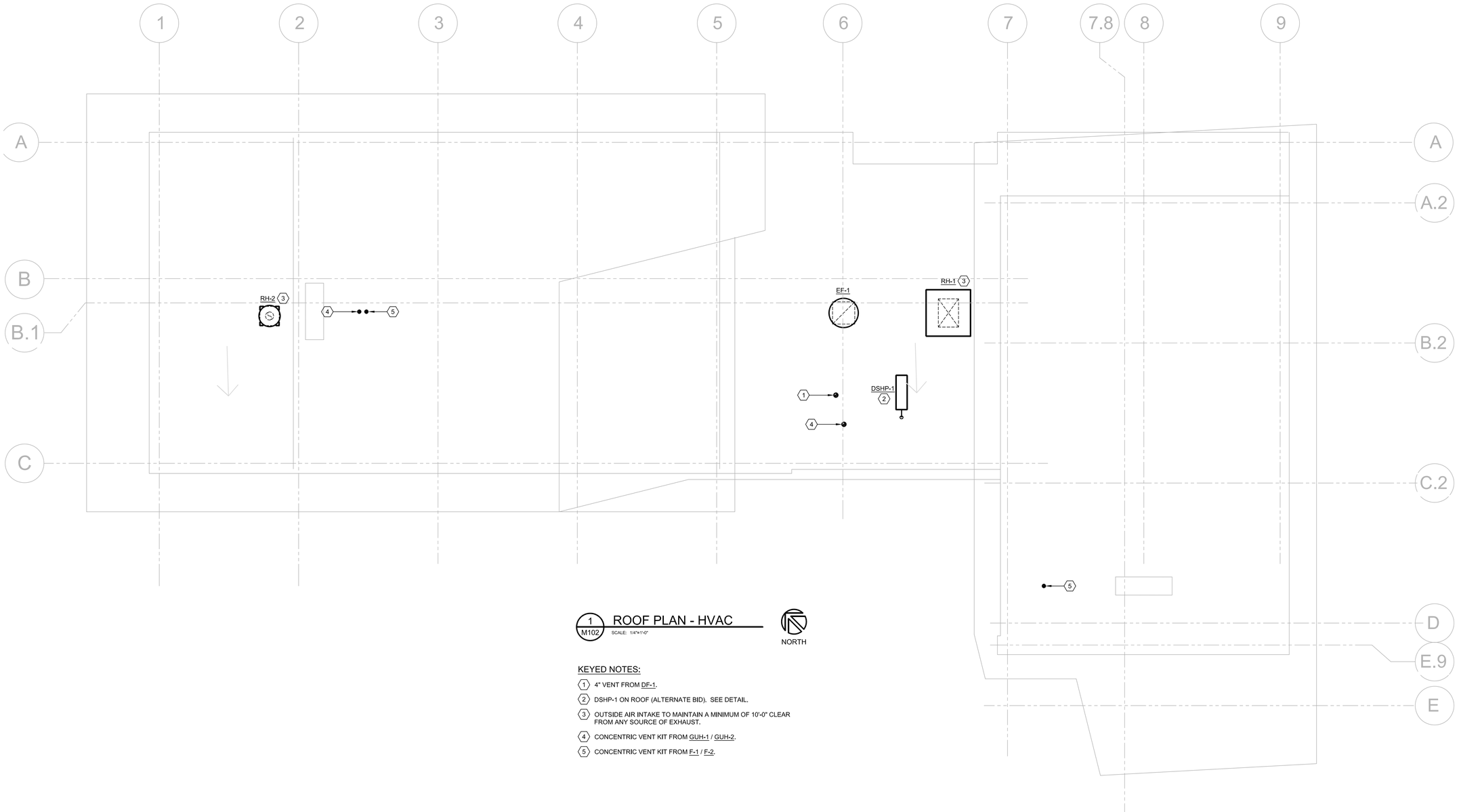

1 M102 ROOF PLAN - HVAC

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

NORTH

KEYED NOTES:

1. 4" VENT FROM DF-1.
2. DSHP-1 ON ROOF (ALTERNATE BID). SEE DETAIL.
3. OUTSIDE AIR INTAKE TO MAINTAIN A MINIMUM OF 10'-0" CLEAR FROM ANY SOURCE OF EXHAUST.
4. CONCENTRIC VENT KIT FROM GUH-1 / GUH-2.
5. CONCENTRIC VENT KIT FROM F-1 / F-2.

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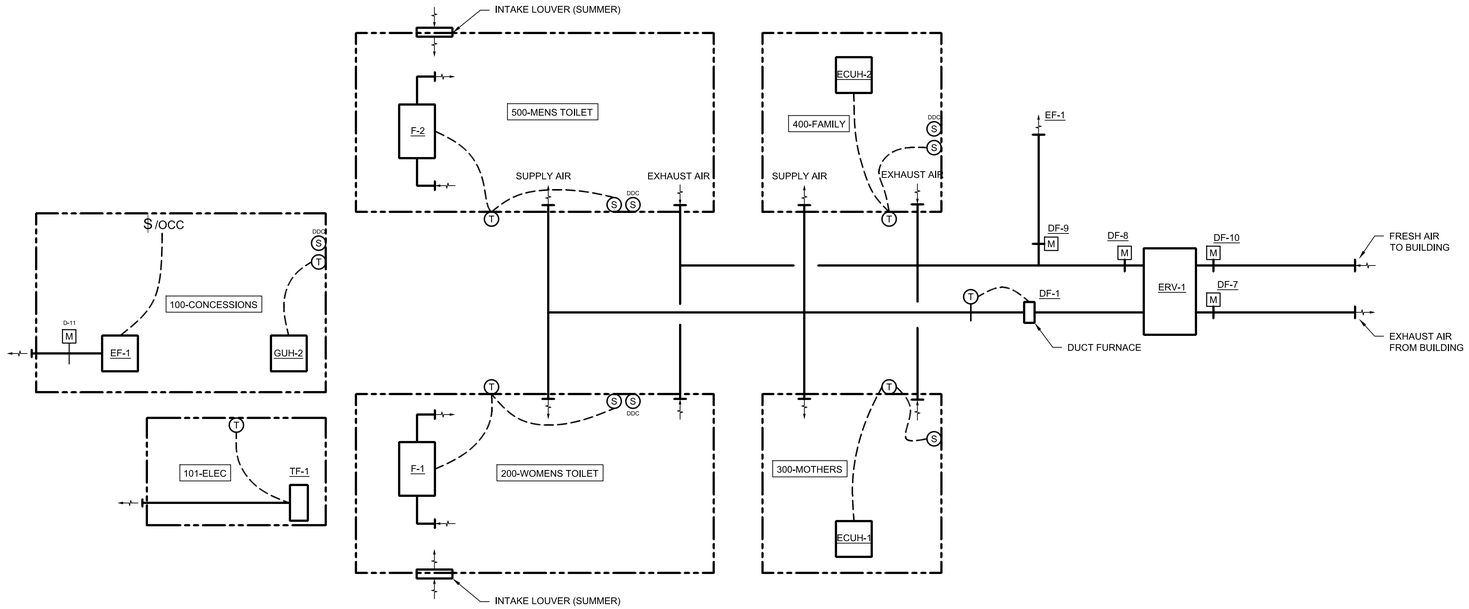
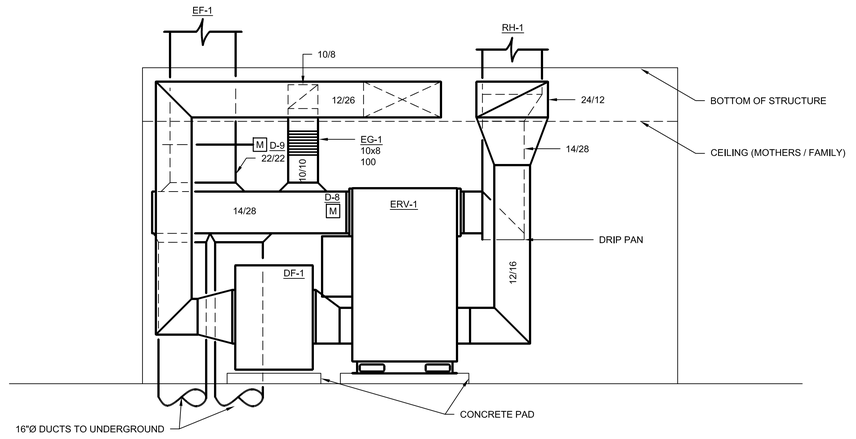


1 M400 SYSTEM SCHEMATIC - HVAC

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



2 M400 SECTION - HVAC

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

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SYSTEM SCHEMATIC – HVAC

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M400

GAS-FIRED UNIT HEATER SCHEDULE

UNIT NO.	GUH-1	GUH-2	
SERVICE	600 - MECH	100 - CONCESS.	
MANUFACTURER	REZNOR	REZNOR	
MODEL NO.	UDAS	UDAS	
TYPE	SEP COMBUS.	SEP COMBUS.	
THROW (FT)	-	-	
AIR FLOW (CFM)	450	450	
EAT (°F)	50	50	
GAS INPUT (MBH)	30.0	30.0	
HEATING OUTPUT (MBH)	24.6	24.6	
CONTROL	SINGLE STAGE	SINGLE STAGE	
GAS PRESSURE (IN WC)	14.0	14.0	
MOTOR HP	0.02	0.02	
VOLTAGE / PHASE	120 / 1	120 / 1	
FLA	1.9	1.9	
MOCP	15.0	15.0	
REMARKS	1	1	

KEYED NOTES:

1 STAINLESS STEEL HEAT EXCHANGER.

GAS-FIRED DUCT FURNACE SCHEDULE

UNIT NO.	DF-1		
SERVICE	600 - MECH		
MANUFACTURER	REZNOR		
MODEL NO.	SC		
TYPE	SEP COMBUS.		
GAS INPUT (MBH)	100.0		
MIN HEATING OUTPUT (MBH)	80.0		
AIRFLOW (CFM)	2,275		
EAT (°F)	30.0		
CONTROL	ELEC. MODUL.		
GAS PRESSURE (IN WC)	14.0		
MOTOR HP	0.02		
VOLTAGE / PHASE	120 / 1		
FLA	1.9		
MOCP	15.0		
REMARKS	1		

KEYED NOTES:

1 STAINLESS STEEL HEAT EXCHANGER, BOTTOM DRIP PAN AND BURNER.

ENERGY RECOVERY VENTILATOR SCHEDULE

UNIT NO.		ERV-1	-	-
SERVICE		TOILETS	-	-
MANUFACTURER		RENEWAIRE	-	-
MODEL NO.		HE3XINH	-	-
INDOOR TEMP (DB) SUMMER		-	-	-
INDOOR RH (%) SUMMER		-	-	-
INDOOR TEMP (DB) WINTER		50.0	-	-
INDOOR RH (%) WINTER		35.0	-	-
OUTSIDE AIR DATA	CFM STD AIR	2,380	-	-
	EXT. SP (IN WG)	1.0	-	-
	TOTAL SP (IN WG)	-	-	-
	EAT/EWB (F) SUMMER	-	-	-
	LAT/LWB (F) SUMMER	-	-	-
	EAT (F) WINTER	-15.0	-	-
	LAT (F) WINTER	30.0	-	-
	FILTER	MERV 8	-	-
	FRPM	-	-	-
	BHP	-	-	-
	HP	3.0	-	-
	VFD	YES	-	-
EXHAUST AIR DATA	CFM STD AIR	2,380	-	-
	EXT. SP (IN WG)	1.0	-	-
	TOTAL SP (IN WG)	-	-	-
	LAT (F) SUMMER	-	-	-
	LAT (F) WINTER	-	-	-
	FILTER	MERV 8	-	-
	FRPM	-	-	-
	BHP	-	-	-
	HP	3.0	-	-
	VFD	YES	-	-
ELECTRICAL DATA	VOLTAGE/PHASE	240 / 1	-	-
	MCA	40.2	-	-
	MOCP	45.0	-	-
UNIT WEIGHT		150	-	-
REMARKS		1		

KEYED NOTES:

1 PROVIDE UNIT WITH FACTORY VARIABLE FREQUENCY DRIVES.

FAN SCHEDULE

SF = SUPPLY FAN EF = EXHAUST FAN
RF = RETURN FAN TF = TRANSFER FAN

UNIT NO.	EF-1	EF-2	TF-1
LOCATION	ROOF	100 - CONCESS	101 - ELEC
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK
MODEL NO.	G-163	SP-A390	SP-A190
SERVICE	BUILDING	100 - CONCESS	ELEC
FAN TYPE	PRV	CEILING	CEILING
ARRANGEMENT	DOWNBLAST	CEILING	CEILING
DESIGN CFM	2,800	210	130
EXT. SP (IN WC)	0.75	0.50	0.375
FAN WHEEL TYPE	-	-	-
FAN DIAMETER	16	-	-
APPROXIMATE FAN RPM	1,249	1,350	1,400
BHP	0.76	-	-
MOTOR HP	1.0	135 WATT	55 WATT
VOLTS/PHASE	120 / 1	120 / 1	120 / 1
DRIVE	DIRECT	DIRECT	DIRECT
TWO SPEED	NO	NO	NO
VFD	NO	NO	NO
DAMPER	YES-MOTORIZED	YES-MOTORIZED	NO
WEIGHT (LBS)	125.0	25.0	20.0
MAX. SONES	16	5.0	2.5
MAX. FAN INLET AIR SOUND DATA SOUND POWER BY OCTAVE BAND (dB) 1			
2			
3			
4			
5			
6			
7			
8			
REMARKS	1	2	2

KEYED NOTES:

1 MOTORIZED DAMPER SHALL BE LOW LEAKAGE INSULATED DAMPER. UNIT CONTROLLED BY DDC SYSTEM.

2 FAN TO BE CONTROLLED BY HEATING / COOLING THERMOSTAT. STAND-ALONE CONTROL.

3 MOTORIZED DAMPER SHALL BE LOCK LEAKAGE INSULATED DAMPER. FAN TO BE INTERLOCKED WITH ROOM LIGHTS.

FURNACE SCHEDULE

UNIT NO.		F-1	F-2	
SERVICE		200 - WOMENS	500 - MENS	
MANUFACTURER		DAIKIN	DAIKIN	
MODEL NO.		DM97MC	DM97MC	
SUPPLY FAN	SUPPLY CFM	1,200	1,200	
	MIN. OA CFM	0	0	
	EXT. SP (IN WC)	0.625	0.625	
	SUPPLY FAN HP			
	SUPPLY FAN TYPE			
HEATING DATA	FUEL	NATURAL GAS	NATURAL GAS	
	EAT / LAT (°F)			
	STAGES	MODULATING	MODULATING	
	MIN INPUT (MBH)	60.0	30.0	
	MIN OUTPUT (MBH)	56.0	28.0	
	MIN. EFFICIENCY (%)	95.0	95.0	
	MIN/MAX GAS INPUT PRESSURE	6.0 / 14.0	6.0 / 14.0	
COOLING COIL	EAT (°F) DB			
	EAT (°F) WB			
	LAT (°F) DB			
	LAT (°F) WB			
	TOTAL CAP. (MBH)			
	SENSIBLE CAP. (MBH)			
	FACE VELOCITY FPM MAX.			
	MAX. AIR PD (IN WG)			
	REFRIGERANT TYPE			
FILTER TYPE		2" PLEATED	2" PLEATED	
FILTER EFFICIENCY		MERV 8	MERV 8	
MIN. CIRCUIT AMPS		11.6	11.6	
MOCP		15.0	15.0	
VOLTS/PHASE		120.0	120.0	
WEIGHT (LBS)				
REMARKS		1	1	

KEYED NOTES:

1 HEATING ONLY WITH STAINLESS STEEL HEAT EXCHANGER. NO COOLING.

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PROJECT
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NEW RESTROOM FACILITY
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MADISON, WISCONSIN

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DAMPER SCHEDULE

UNIT NO.		D-1 THRU D-6	D-7	D-8	D-9	D-10	D-11
SERVICE		L-1 THRU L-6	ERV-1 EA	ERV-1 EA	EF-1	ERV-1 OA	EF-2
MANUFACTURER		RUSKIN	RUSKIN	RUSKIN	RUSKIN	RUSKIN	RUSKIN
MODEL NO.		TED50XT	CDTI-50	CDTI-50	CDTI-50	CDTI-50	CDTI-50
DEPTH (IN)		5	5	5	5	5	5
BLADE TYPE	OPPOSED	X	X	X	X	X	X
	PARALLEL						
FAIL POSITION	FC	-	X	X	X	X	X
	FO	-					
SIZE (IN) WxH		48x24	48x18	28x14	22x22	28x20	8x8
ACTUATION TYPE		MANUAL	MOTORIZED	MOTORIZED	MOTORIZED	MOTORIZED	MOTORIZED
REMARKS		1	1	1	1	1	1

KEYED NOTES:

1. LOW LEAK AND COMPLETELY THERMALLY BROKEN DAMPER WITH INSULATED BLADES. COORDINATE EXACT SIZE OF DAMPER WITH ASSOCIATED LOUVER. DAMPER SHALL BE ACCESSIBLE FOR MANUAL ACTUATION FROM INSIDE THE BUILDING.

ROOF HOOD SCHEDULE

UNIT NO.	RH-1	RH-2
SERVICE	ERV-1 INTAKE	EF-2
LOCATION	ROOF	ROOF
MANUFACTURER	GREENHECK	GREENHECK
MODEL NO.	FGI	GRSR
CFM	2,275	210
NECK SIZE (IN)	28x20	8"Ø
CURB HEIGHT (IN)	24	18
FREE AREA VELOCITY (FPM)	586	545
FREE AREA (FT^2)	3.88	0.37
MOTORIZED AUTO DAMPERS	YES	YES
INTAKE	●	
EXHAUST		●
RELIEF		
REMARKS	1	1

AIR DEVICE SCHEDULE

EG - 1 (3) / 300 — THROW (IF OTHER THAN NORMAL); UNIT NUMBER; CFM

SG = SUPPLY GRILLE
RG = RETURN GRILLE
EG = EXHAUST GRILLE

LD = LINEAR DIFFUSER (SUPPLY)
CD = CEILING DIFFUSER (SUPPLY)
TG = TRANSFER GRILLE

UNIT NO.	EG-1	EG-2	SG-1	SG-2	TG-1
SERVICE	EXHAUST	EXHAUST	SUPPLY	SUPPLY	TRANSFER
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL NO.	301RL-FS	301RL-FS	300RL-FS	300RL-FS	301RL-FS
FACE STYLE	LOUVERED	LOUVERED	LOUVERED	LOUVERED	LOUVERED
PATTERN	SINGLE DEFLECT	SINGLE DEFLECT	DBL DEFLECT	DBL DEFLECT	SINGLE DEFLECT
FINISH	MILL	MILL	MILL	MILL	MILL
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
CFM RANGE	-	-	-	-	-
MOUNTING	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
DAMPER	NO	YES	NO	YES	NO
REMARKS		1		1	

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY MOUNTING SURFACE / FRAME REQUIREMENTS.
2. BRANCH DUCT SIZE TO DIFFUSER SHALL BE THE NECK SIZE OF THE DIFFUSER UNLESS NOTED OTHERWISE.
3. SEE SPECIFICATION FOR GRILLE, REGISTER, AND DIFFUSER FINISHES.
4. MAXIMUM STATIC PRESSURE DROP THROUGH GRILLE, REGISTER, OR DIFFUSER SHALL NOT EXCEED 0.1".
5. MAXIMUM NC LEVELS FOR GRILLES, REGISTERS, OR DIFFUSERS SHALL NOT EXCEED 25.

KEYED NOTES:

1. PROVIDE STAINLESS STEEL DAMPER.

LOUVER SCHEDULE

UNIT NO.	L-1 THRU L-6	L-7	
MANUFACTURER	RUSKIN	RUSKIN	
MODEL NO.	EME220DD	ELF6375DX	
SERVICE	NAT VENT-INTAKE	EXHAUST	
AIRFLOW (CFM)	600	2,380	
SIZE WxH (IN)	48x24	48x18	
FREE AREA (FT^2)	3.22	3.15	
FREE AREA VEL. (FPM)	185	755	
STATIC PRESSURE (IN W.C.)	-	0.06	
REMARKS	1		

KEYED NOTES:

1. WIND DRIVEN RAIN RESISTANT STATIONARY LOUVER. EXTRUDED ALUMINUM CONSTRUCTION.

SPLIT SYSTEM CONDITIONING AND HEAT PUMP UNIT SCHEDULE

EVAPORATOR UNIT (INDOOR UNIT)					
UNIT NO.		DSE-1			
LOCATION		100 - CONCESSION			
MANUFACTURER		CARRIER			
MODEL NO.		GVQ			
TYPE		HEAT PUMP			
CONFIGURATION		HIGH WALL			
SUPPLY CFM (MEDIUM SPEED)		-			
OUTSIDE AIR		0			
FILTER TYPE		-			
FAN MOTOR	VOLTS	120			
	PHASE	1			
	HP	-			
	DRIVE	DIRECT			
	NO. OF SPEEDS	4			
AIR COOLED CONDENSING UNIT / HEAT PUMP (OUTDOOR UNIT)					
UNIT NO.		DSHP-1			
MANUFACTURER		CARRIER			
TYPE		HEAT PUMP			
MODEL NO.		GVQ			
NOMIMAL CAPACITY		3.0			
SEER		22.0			
UNIT ELECTRICAL DATA	VOLTS	240			
	PHASE	1			
	MCA	24			
	MOCP	40			
SERVES		DSE-1			
REMARKS		1			

KEYED NOTES:

1. PROVIDE UNIT WITH ALL REQUIRED REFRIGERANT LINESETS AND ACCESSORIES FOR A COMPLETE OPERATING SYSTEM.

ELECTRIC CABINET UNIT HEATER SCHEDULE

UNIT NO.	ECUH-1	ECUH-1		
SERVICE	300 - MOTHERS	400 - FAMILY		
LOCATION	300 - MOTHERS	400 - FAMILY		
MANUFACTURER	QMARK	QMARK		
MODEL NO.	CDF-542	CDF-542		
CABINET LENGTH (IN)	23	23		
CABINET HEIGHT (IN)	23	23		
CABINET DEPTH (IN)	7	7		
CABINET RECESS (IN)	0	0		
KW INPUT	4.0	4.0		
MBH	13.7	13.7		
CFM	1,400	1,400		
SPEEDS	-	-		
FAN HP	-	-		
VOLTS/PHASE	240/1	240/1		
AMPS	16.7	16.7		
BOTTOM ABOVE FLOOR (IN)				
REMARKS	1	1		

KEYED NOTES:

1. CEILING MOUNTED CABINET UNIT HEATER.

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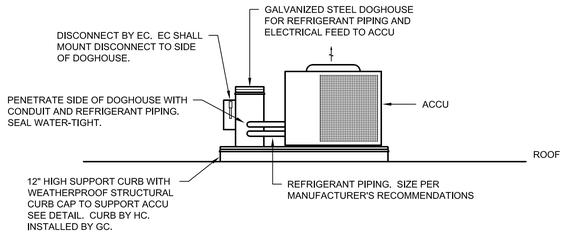
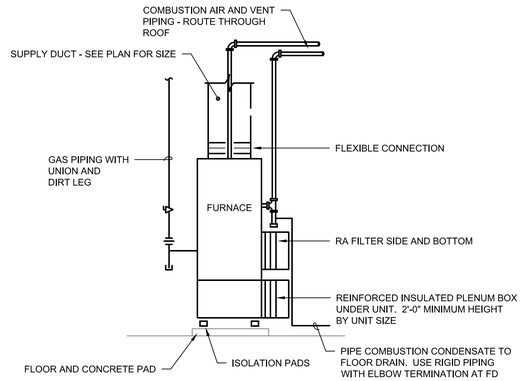


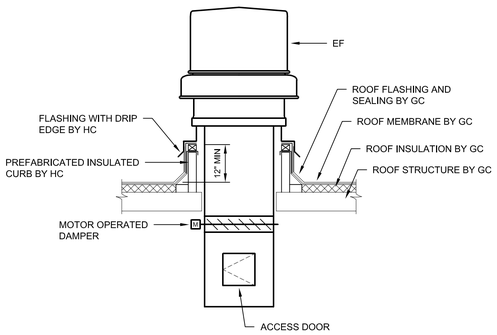
8 M900 CONDENSING UNIT DETAIL (ALTERNATE BID)

SCALE: NONE



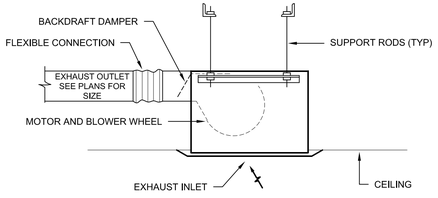
5 M900 SEALED COMBUSTION FURNACE

SCALE: NONE



6 M900 ROOF EXHAUST FAN

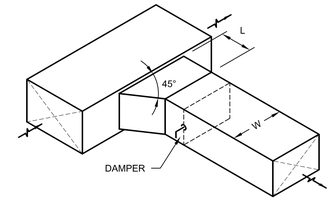
SCALE: NONE



NOTE: VERTICAL DISCHARGE WHERE INDICATED ON DRAWINGS.

7 M900 CEILING MOUNTED EXHAUST FAN

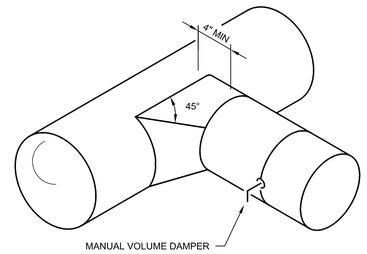
SCALE: NONE



NOTE: L = 1/4W (4" MINIMUM)

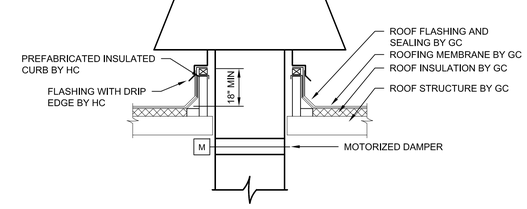
1 M900 BRANCH DUCT TAKEOFF

SCALE: NONE (REVERSE FLOW ARROWS FOR EXHAUST AND RETURN)



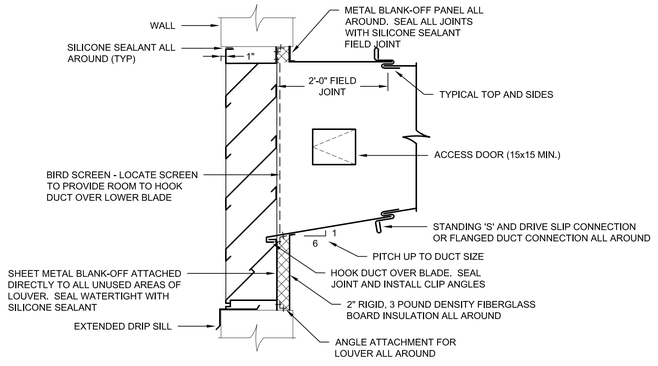
2 M900 BRANCH DUCT TAKEOFF DETAIL

SCALE: NONE



3 M900 INTAKE HOOD

SCALE: NONE



NOTE: ALL DUCT JOINTS, CORNERS AND SEAMS SHALL BE SEALED WITH SILICONE SEALANT OR SOLDERED LEAK TIGHT.

4 M900 LOUVER INSTALLATION DETAIL

SCALE: NONE

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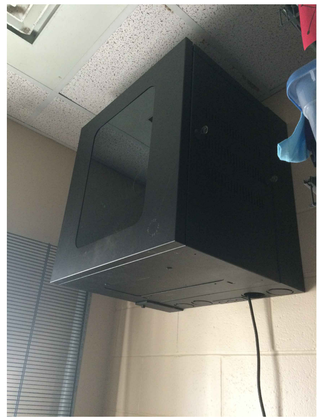
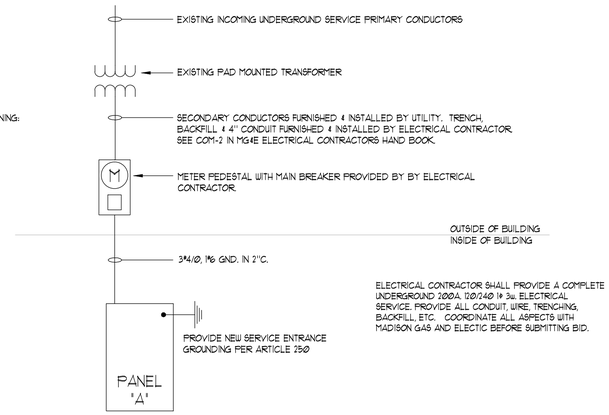


PROVIDE A SIMILAR HINGED 12U WALL RACK CONTAINING:
- 2U FIBER OPTIC PATCH PANEL
- 1U 24 PORT CAT6 PATCH PANEL
- GROUND BAR (% TO SERVICE GND.)
- DUPLEX RECEPTACLE (CKT. A-3)

WALL MOUNTED DATA RACK

SCALE: NONE



POWER RISER - 200A 120/240 VOLT 1-PHASE, 3-WIRE

SCALE: NONE

ELECTRICAL SYMBOLS

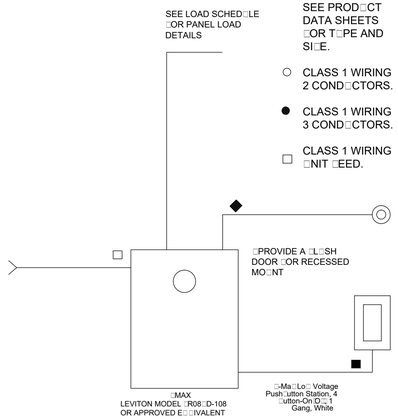
- LED UP/DOWN OR DOWN ONLY WALL BRACKET
- LED RECESSED DOWNLIGHT
- LED GROUND MOUNTED UPLIGHT
- LED WALL MOUNTED FIXTURE
- LED RECESSED UPLIGHT
- SINGLE POLE TOGGLE SWITCH (3) THREE WAY (K) KEY (OS) OCCUPANCY SENSOR MOUNT 48" ABOVE FLOOR TO TOP OF BOX.
- EMERGENCY BATTERY UNIT, WALL MOUNTED
- WALL MOUNTED EXIT SIGN WITH EMERGENCY BATTERY HEADS
- WALL MOUNTED EXIT SIGN
- OS — OCCUPANCY SENSOR
- SWITCH AND DUPLEX RECEPTACLE IN SAME BOX - MOUNT 48" ABOVE FLOOR TO TOP OF BOX.
- DUPLEX RECEPTACLE 15" ABOVE FLOOR TO BOTTOM OF BOX OR HEIGHT AS INDICATED
- DUPLEX RECEPTACLE ON WALL NEAR WINDOW SILL MOUNT AS HIGH AS POSSIBLE WEATHERPROOF, GFI
- DOUBLE DUPLEX RECEPTACLE 15" ABOVE FLOOR TO BOTTOM OF BOX OR HEIGHT AS INDICATED
- DUPLEX RECEPTACLE HORIZONTAL ABOVE COUNTER
- DG — DEAD FRONT GFCI
- SPECIAL OUTLET
- MOTOR
- DISCONNECT SWITCH
- JUNCTION BOX
- C — CONTACTOR
- TC — TIME CLOCK
- VOICE/DATA/POS OUTLET
- HH — HAND HOLE
- ELECTRICAL PANEL
- DETAIL NUMBER
- NOTE OR DETAIL SYMBOL
- SHEET LOCATION

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFG	BELOW FINAL GRADE
BOL	BUILT-IN OVERLOAD
C	CONDUIT
CKT	CIRCUIT
CB	COMBINATION STARTER
D	DEDICATED
DD	DOUBLE DUPLEX
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
ER	EXISTING TO BE REMOVED
ERL	EXISTING RELOCATED (NEW LOCATION)
ETL	EXISTING TO BE RELOCATED (OLD LOCATION)
EX	EXISTING TO REMAIN
FACP	FIRE ALARM CONTROL PANEL
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
HV	HEATING AND VENTILATION CONTRACTOR
IG	ISOLATED GROUND
IR	IN ROOM
IU	IN UNIT
MAN	MANUAL STARTER
MAG	MAGNETIC STARTER
MCA	MINIMUM CIRCUIT AMPACITY
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NU	NEAR UNIT
PB	PUSHBUTTON
PC	PLUMBING CONTRACTOR
PW	PRE-WIRED
RV	REDUCED VOLTAGE STARTER
RAI	REMAIN AS IS
SC	SEPARATE CIRCUIT
SS	SPEED SWITCH
SW	SWITCH
TC	TIMECLOCK
TS	THERMOSTAT
UM	UNIT MANUFACTURER
WP	WEATHERPROOF

SYMBOL KEY

- △ TWO POWER CONDUCTORS AND DATA CABLE. SEE PRODUCT DATA SHEETS FOR TYPE AND SIZE.
- ○ CLASS 1 WIRING 2 CONDUCTORS.
- ● CLASS 1 WIRING 3 CONDUCTORS.
- □ CLASS 1 WIRING UNIT FEED.
- ■ 18 AWG MINIMUM CLASS 2 WIRING. SEE INPUT SCHEDULE FOR TO CONDUCTORS.
- ◆ 18 AWG MINIMUM CLASS 2 WIRING 3 CONDUCTORS PER DEVICE.
- ▲ CAT 5 OR CAT 5E NETWORK CABLE.



LIGHTING CONTROL PANEL (LCP) SYSTEM

SCALE: NONE

LIGHTING CONTROL NOTES

LC1. CONTACTORS ARE SHOWN WITH TYPICAL LOADS AND CIRCUIT ASSIGNMENTS.

LC2. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL WIRING, CONNECTIONS, TERMINATIONS, EQUIPMENT, RELAYS, SWITCHES, CABINETS, AUXILIARY CONTACTS, ETC. FOR A COMPLETE, FULLY OPERATIONAL AND CODE COMPLIANT LIGHTING CONTROL SYSTEM.

LC3. ALL COMPONENTS FOR THIS LIGHTING CONTROL SYSTEM SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

LC4. ALL COMPONENTS SHALL BE UL LISTED AND LABELLED.

Z-MAX CABINET CIRCUIT SCHEDULE
120VAC, 1 PHASE

PANEL LOCATION: DATA CLOSET
PANEL DESCRIPTION: 8 Relay Cabinet Master CM - 120
CATALOG NUMBER: R08-D-108
PANEL FEED: PANEL ID: Z-MAX
MOUNTING: Surface

RELAY NO.	RELAY TYPE	CONTROL EM	CONTROL MANUAL CHANNEL	LOAD VAC	LOAD W/VA	LOAD CIRCUIT DESCRIPTION	LOAD FIXTURE TYPE
1	S	N	----	120V	116	EXTERIOR LIGHTS	"C" AND "E"
3	S	N	----	120V	900	HOLIDAY LIGHTS	EXTERIOR RECEPTACLES
5	S	N	----	120V	180	PICNIC SHELTER RECEPTACLE	EXTERIOR RECEPTACLE
7	S	N	----	120V	180	PICNIC SHELTER RECEPTACLE	EXTERIOR RECEPTACLE
2	S	N	----	120V	1022	CONCESSIONS WOMEN'S AREA	"C"
4	S	N	----	120V	1203	MEN'S AREA	"C"
6	S	N	----	120V	180	PICNIC SHELTER RECEPTACLE	EXTERIOR RECEPTACLE
8	S	N	----	120V	180	PICNIC SHELTER RECEPTACLE	EXTERIOR RECEPTACLE

NOTE
1. TIME SCHEDULE (TIME "OFF" TIME "ON") SHALL BE PROGRAMMED WITH OWNER'S INPUT

ELECTRICAL SHEET INDEX

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NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

DRAWING
SYMBOLS, ABBREVIATIONS, RISER DIAGRAM & SHEET INDEX

DATE
11.28.16

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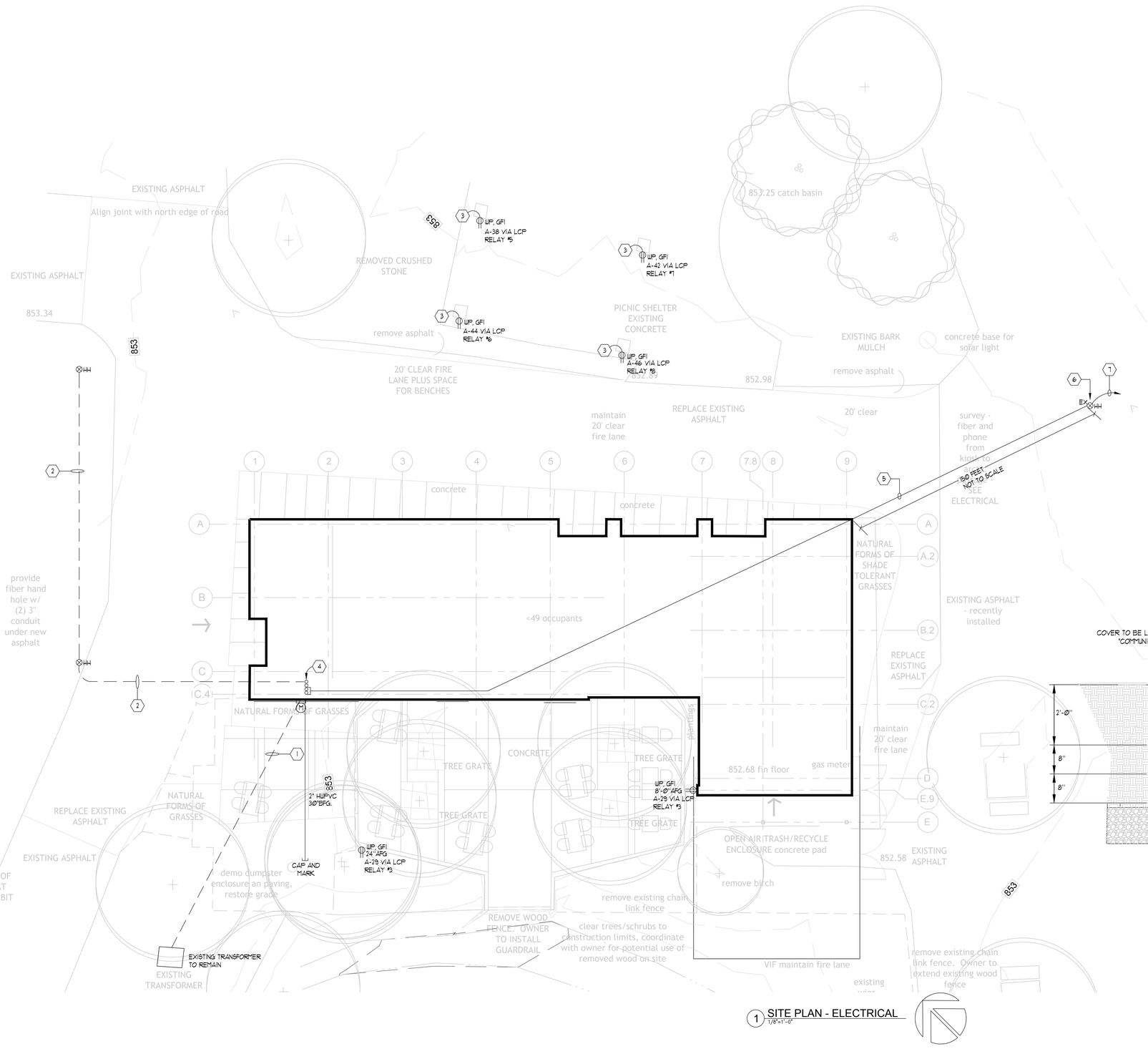
GENERAL NOTES:

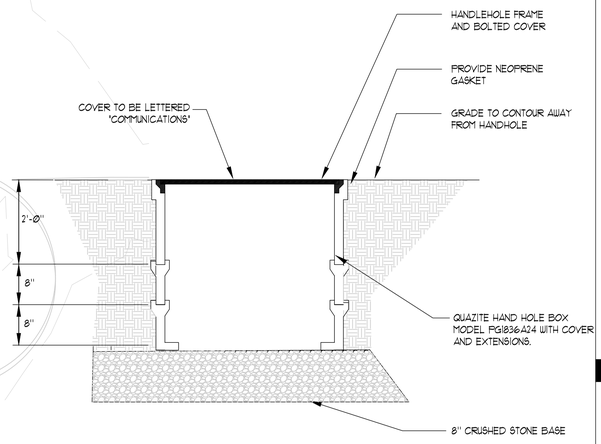
1. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS PRIOR TO SUBMITTING BID.
2. ELECTRICAL CONTRACTOR SHALL REVIEW ALL OTHER TRADES DOCUMNETS AND COORDINATE LOCATION OF MOTOR, LIGHTS & DEVICES.

KEYED NOTES:

1. PROVIDE NEW 200AMP 120/240-VOLT SINGLE PHASE SERVICE TO NEW METER/METER SOCKET.
2. PROVIDE (2) 3" HWPVC CONDUITS WITH PULL WIRE FOR LOW VOLTAGE WIRING REQUIREMENTS+ STUB INTO DATA CLOSET ROOM #01.
3. REWIRE EXISTING RECEPTACLES TO CIRCUITS SHOWN.
4. STUB CONDUITS UP INTO IT CLOSET.
5. PROVIDE (2) 3" HWPVC CONDUITS, ONE EMPTY WITH PULL WIRE, THE OTHER SEGMENTED WITH INNER DUCT AND CONTAINING (1) 25 PAIR COPPER ARMM CABLE AND (1) 24 STRAND MM OM4 FIBER OPTIC CABLE.
6. EXISTING HAND HOLD IN FRONT OF GLACIER GRILL.
7. EXTEND 25 PAIR CABLE AND 24 STRAND OM4 TO GLACIER GRILL MDF USING EXISTING CONDUIT. TERMINATE 25 PAIR ON 110 BLOCK ADJACENT TO EXISTING VOICE FIELD. TERMINATE 24 STRAND OM4 ON PATCH PANEL IN EXISTING TELECOM RACK.



1 SITE PLAN - ELECTRICAL
1/8"=1'-0"



HAND HOLE DETAIL
NOT TO SCALE

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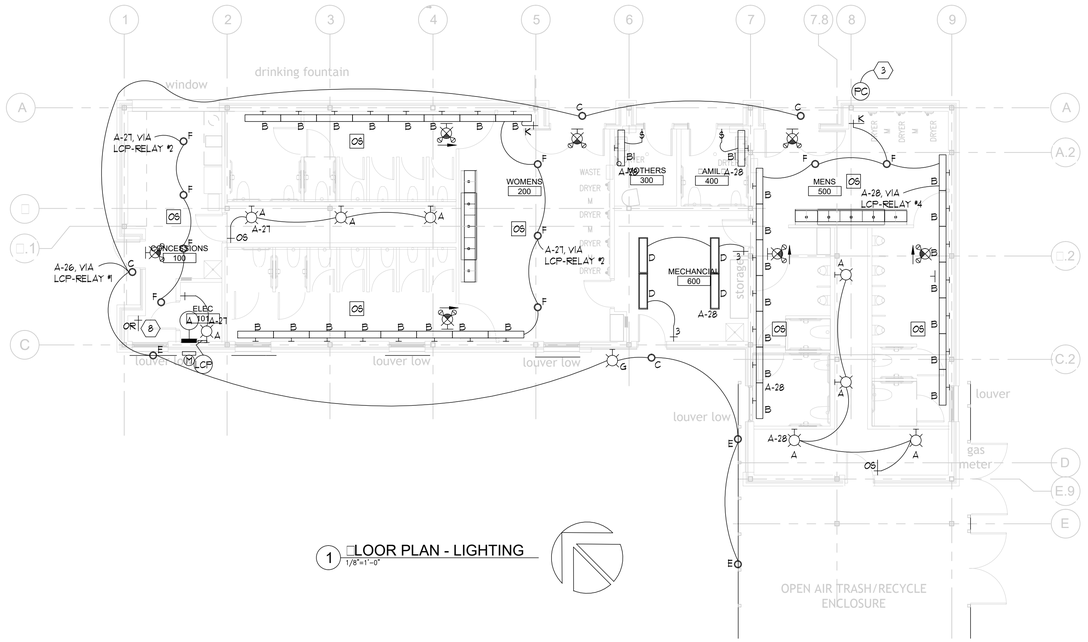
ISSUED

PROJECT
HENRY VILAS ZOO
NEW RESTROOM FACILITY
1246 VILAS PARK DRIVE
MADISON, WISCONSIN

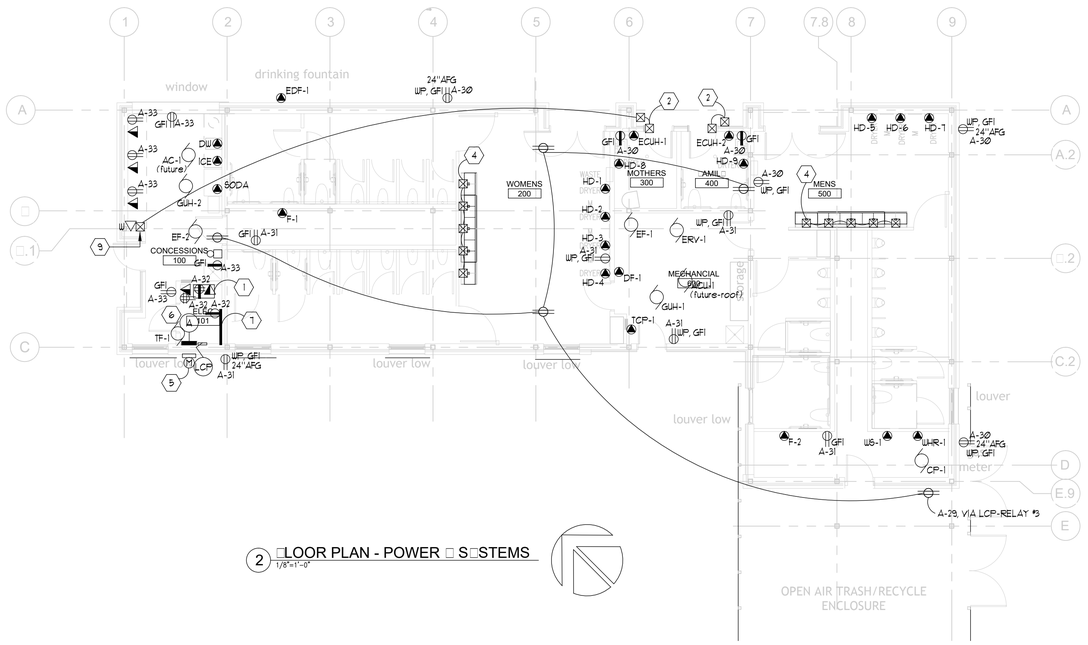
DRAWING
SITE PLAN – ELECTRICAL

DATE
11.28.16

E010



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



2 FLOOR PLAN - POWER & SYSTEMS
1/8"=1'-0"

GENERAL NOTES:

1. ALL EXIT SIGN AND EMERGENCY BATTERY UNITS SHALL BE WIRED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF SWITCH SERVING AREA.
2. WHERE VOICE/DATA/POS OUTLETS ARE SHOWN LOCATED NEXT TO A RECEPTACLE/DOUBLE DUPLEX RECEPTACLE, THAT IS TO BE MOUNTED ABOVE THE COUNTER, THE VOICE/DATA/POS OUTLET SHALL ALSO BE MOUNTED ABOVE COUNTER AT SAME HEIGHT.
3. WHERE REQUIRED TO ELECTRIC STRIKES/MAGNETIC LOCKS (FOR SECURE DOORS), OBTAIN 120-VOLT POWER FROM THE NEAREST RECEPTACLE CIRCUIT. COORDINATE WHERE ANY 120-VOLT CIRCUITS MAY BE NEEDED WITH CONSTRUCTION MANAGER.
4. NUMBER DESIGNATIONS ADJACENT TO SPECIAL OUTLET SYMBOLS DENOTE IDENTIFIER TAG. SEE SPECIAL OUTLET SCHEDULE ON SHEET E-501.
5. ALL EXTERIOR WEATHER-PROOF RECEPTACLES MUST HAVE A "LOCKABLE" COVER-PLATE.

KEYED NOTES:

1. WALL MOUNTED DATA RACK BY OWNER-120-VOLT POWER FOR RACK BY ELECTRICAL CONTRACTOR
2. PROVIDE ROUGH-IN FOR A PUSH-BUTTON, ELECTRIC STRIKE, AND ELECTRIC RELEASE BUTTON IN CONCESSION AREA. STUB ¾"C. WITH-IN DOOR FRAME UP TO ACCESSIBLE CEILING SPACE.
3. PROVIDE SWIVEL MOUNT PHOTOCELL. LOCATE HIGH ON WALL JUST BELOW EAVE AND AIM NORTH.
4. PROVIDE JUNCTION BOXES AND CONDUIT ROUGH-IN FOR FUTURE SINK AUTO-MATIC FAUCET CONTROL.
5. COORDINATE EXACT METERING EQUIPMENT REQUIREMENTS & LOCATION WITH MADISON GAS AND ELECTRIC, CM AND ALL OTHER TRADES. MAINTAIN REQUIRED SEPARATION FROM GAS SERVICE.
6. ELECTRICAL CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING ALL CODE REQUIRED CLEARANCES AND DEDICATED SPACE AROUND AND ABOUT ELECTRICAL EQUIPMENT. COORDINATE WITH ALL OTHER TRADES.
7. PROVIDE ONE (1) SINGLE SHEET OF 4'x4'x3/4" PAINTED WHIT PLYWOOD BACKBOARD. PROVIDE #6 SERVICE GROUND AND TWO (2) 4" SCHEDULE 40 HUPVC MINIMUM OF 36" BFG FROM TELEPHONE BACKBOARD TO PROPERTY LINE WHERE DESIGNATED BY TELEPHONE UTILITY. SEE SHEET E010 FOR ADDITIONAL INFORMATION.
8. PROVIDE A 4-BUTTON OVER-RIDE SWITCH AS MANUFACTURED BY LEVITON TO CONTROL CONCESSION STAND AREA, WOMEN'S RESTROOM AREA, AND MEN'S RESTROOM AREA
9. PROVIDE ROUGH-IN FOR FUTURE RELEASE LEASE PUSH-BUTTON WITH ¾"C. UP TO ACCESSIBLE CEILING SPACE.

TELE/DATA RACEWAY REQUIREMENTS -

PROVIDE 4" SQUARE JUNCTION BOX FLUSH IN WALL 15" AFF, OR AT HEIGHT INDICATED WITH 3/4" CONDUIT FOR UP TO FOUR (4) CAT. 6 CABLES OR 1" CONDUIT FOR UP TO SIX (6) CAT. 6 CABLES UP TO ACCESSIBLE CEILING SPACE. PROVIDE SINGLE GANG PLASTER RING. VOICE/DATA/POS CABLING TO BE PULLED BY OTHERS.
* BENDING RADIUS IS 12D".

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E100

SPECIAL PURPOSE OUTLET SCHEDULE

TAG	DRIVING	LOC.	FEED FROM		BREAKER		BRANCH WIRING			POWER			SEE
			PANEL	CIRCUIT	SIZE	POLE	NO	SIZE	COND.	VOLT	PH	LOAD	NOTE
HD-1	HAND DRYER	#200	A	1	20	1	2	12	1/2"	120	1	1450W	
HD-2	HAND DRYER	#200	A	3	20	1	2	12	1/2"	120	1	1450W	
HD-3	HAND DRYER	#200	A	5	20	1	2	12	1/2"	120	1	1450W	
HD-4	HAND DRYER	#200	A	7	20	1	2	12	1/2"	120	1	1450W	
HD-5	HAND DRYER	#500	A	9	20	1	2	12	1/2"	120	1	1450W	
HD-6	HAND DRYER	#500	A	11	20	1	2	12	1/2"	120	1	1450W	
HD-7	HAND DRYER	#500	A	13	20	1	2	12	1/2"	120	1	1450W	
HD-8	HAND DRYER	#300	A	39	20	1	2	12	1/2"	120	1	1450W	
HD-9	HAND DRYER	#400	A	41	20	1	2	12	1/2"	120	1	1450W	
EDF-1	ELECTRIC DRINKING FOUNTAIN	BLDG	A	15	15	1	2	12	1/2"	120	1	200W	
ECUH-1	ELECTRIC CABINET UNIT HEATER - 1	#300	A	2, 4	25	2	2	10	3/4"	240	1	4000W	
ECUH-2	ELECTRIC CABINET UNIT HEATER - 2	#400	A	6, 8	25	2	2	10	3/4"	240	1	4000W	
DF-1	DUCT FURNACE - 1	#600	A	10	15	1	2	12	1/2"	120	1	VERIFY	1
F-1	FURNACE - 1	WOMEN'S MECH	A	12	15	1	2	12	1/2"	120	1	VERIFY	
F-2	FURNACE - 2	MEN'S MECH	A	14	15	1	2	12	1/2"	120	1	VERIFY	
TCP-1	TEMPERTURE CONTROL PANEL - 1	MECH ROOM	A	16	15	1	2	12	1/2"	120	1	VERIFY	
WS-1	WATER SOFTENER - 1	MEN'S MECH	A	18	15	1	2	12	1/2"	120	1	VERIFY	2
WHR-1	DOMESTIC WATER HEATER - 1	MEN'S MECH	A	20	15	1	2	12	1/2"	120	1	VERIFY	2
DW	DIPPING WELL	#100	A	35	20	1	2	12	1/2"	120	1	VERIFY	2
ICE	ICE CREAM MACHINE	#100	A	36	20	1	2	12	1/2"	120	1	VERIFY	2
SODA	SODA MACHINE	#100	A	37	20	1	2	12	1/2"	120	1	VERIFY	2

NOTES:

1. DISCONNECT SWITCH FURNISHED, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR
2. ELECTRICAL CONTRACTOR SHALL PROVIDE A GFI DUPLEX REEPTACLE

LIGHT FIXTURE SCHEDULE

TAG	LAMP DATA		DESCRIPTION	LIGHTING FIXTURE		MOUNT	CEILING	VOLT	SEE
	NO	TYPE		MAKE	CATALOG NO		TYPE		NOTE
A	-	19-WATTS / 3500K	WALL GLOBE & GUARD	HUBBELL LIGHTING	VW-1/VX-1-W8LU15-VCG-15	WALL	-	120	2
B	-	49-WATTS / 3900 LUMENS / 3500K	LINEAR UP/DOWN WALL LUMINAIRE	VISA LIGHTING	CV1704-LNW3900-WHITE	WALL	-	120	1
B1	-	25-WATTS / 2000 LUMENS / 3500K	LINEAR UP/DOWN WALL LUMINAIRE - DIMMING	VISA LIGHTING	CV1704-LNW2000-WHITE	WALL	-	120	2, 4
C	-	19-WATTS / 1500 LUMENS / 4000K	3.5" DIA RECESSED DOWNLIGHT WITH EMERGENCY BACK-UP	FOCAL POINT	FLC3D-RO-1500L-120-LD1-EMR-LC3-RO-1500L-40K-DNS-WFL-CD-NP	RECESSED	-	120	
D	-	28-WATTS / 3095 LUMENS / 3500K	LINEAR CEILING LUMINAIRE	LITHONIA LIGHTING	WL4-30L-MVOLT-EZ1-LP835	CEILING	-	120	
E	-	7-WATTS / 4000K	RECESSED LED MINI FLOOD LIGHT	B-K LIGHTING	S-CD-VS-LED-e66-WFL-MAC	RECESSED	-	120	5
F	-	16-WATTS / 1500 LUMENS / 3500K	4" DIA RECESSED LED DOWNLIGHT	LIGHTOLIER	C4-R-N-120 / C4L-15-9-35-M-Z10-U / C4-R-DL-CC-WHITE	RECESSED	-	120	
G	-	5-WATTS / 4000K	LED LOUVERED STEP LIGHT	B-K LIGHTING	S-SSL-LED-e102-A9-MAC-C	RECESSED	-	120	5
X	-	LED	EXIT LIGHT WITH EMERGENCY BATTERY HEADS	LITHONIA LIGHTING	LHQM-LED-W-G-HO-SD	WALL	-	120	3
EBU	-	LED	EMERGENCY BATTERY HEADS	LITHONIA LIGHTING	ELM2-LED-W-HO-SD	WALL	-	120	3

NOTES:

1. INSTALL JUNCTION BOX AT 9'-0" AFF
2. INSTALL JUNCTION BOX AT 8'-0" AFF
3. UNIT SHALL BE PROVIDED WITH 90-MINUTE BACK-UP BATTERY POWER PER CODE
4. PROVIDE A 0-10-VOLT DIMMER SWITCH AS MEETING MANUFACTURE'S RECOMMANDATION
5. PROVIDE REMOTE TRANSFORMER LOCATED IN #101

PANEL A

200 AMPS MLO 240Y/120V VOLT 1 PHASE 3 WIRE SURFACE MOUNTING

BREAKER		DESCRIPTION	Load	CIRCUIT		PHASE LOADS		CIRCUIT		Load	DESCRIPTION	BREAKER	
AMPS	POLES		Category	WATTS	#	A	B	#	WATTS	Category		AMPS	POLES
20	1	SPECIAL OUTLET #HD-1	R	1450	1	3450		2	2000	H	SPECIAL OUTLET #ECUH-1	25	2
20	1	SPECIAL OUTLET #HD-2	R	1450	3		3450	4	2000	H	SPECIAL OUTLET #ECUH-1	-	-
20	1	SPECIAL OUTLET #HD-3	R	1450	5	3450		6	2000	H	SPECIAL OUTLET #ECUH-2	25	2
20	1	SPECIAL OUTLET #HD-4	R	1450	7		3450	8	2000	H	SPECIAL OUTLET #ECUH-2	-	-
20	1	SPECIAL OUTLET #HD-5	R	1450	9	1950		10	500	H	SPECIAL OUTLET #DF-1	15	1
20	1	SPECIAL OUTLET #HD-6	R	1450	11		2700	12	1250	H	SPECIAL OUTLET #F-1	15	1
20	1	SPECIAL OUTLET #HD-7	R	1450	13	2700		14	1250	H	SPECIAL OUTLET #F-2	15	1
20	1	SPECIAL OUTLET #EDF-1	R	200	15		700	16	500	H	SPECIAL OUTLET #TCP-1	15	1
45	2	MOTOR ERV-1	A	4824	17	5324		18	500	H	SPECIAL OUTLET #WS-1	15	1
-	-	MOTOR ERV-1	A	4824	19		6074	20	1250	H	SPECIAL OUTLET #WHR-1	15	1
30	1	MOTOR EF-1	V	1920	21	4800		22	2880	A	(SPARE) MOTOR ACU-1 / AC-1	40	2
20	1	MOTORS TF-1 / GUH-1 / GUH-2	V	511	23		3391	24	2880	A	(SPARE) MOTOR ACU-1 / AC-1	-	-
20	1	MOTOR CP-1	R	250	25	366		26	116	L	LIGHTS - EXTERIOR	20	1
20	1	LIGHTS - INTERIOR	L	1203	27		2225	28	1022	L	LIGHTS - INTERIOR	20	1
20	1	RECEPTACLES - 5 (HOLIDAY)	L	500	29	1580		30	1080	R	RECEPTACLES - 6	20	1
20	1	RECEPTACLES - 6	R	1080	31		1980	32	900	R	RECEPTACLES - 5	20	1
20	1	RECEPTACLES - 6	R	1080	33	2080		34	1000	R	RECEPTACLES - 2	20	1
20	1	SPECIAL OUTLET #DW	R	1200	35		2450	36	1250	R	SPECIAL OUTLET #IC	20	1
20	1	SPECIAL OUTLET #SODA	R	1250	37	2330		38	1080	R	RECEPTACLE - PICNIC SHELTER	20	1
20	1	SPECIAL OUTLET #HD-8	R	1450	39		1585	40	135	V	MOTOR EF-2	20	1
20	1	SPECIAL OUTLET #HD-9	R	1450	41	1630		42	180	R	RECEPTACLE - PICNIC SHELTER	20	1
20	1	SPARE			43		180	44	180	R	RECEPTACLE - PICNIC SHELTER	20	1
20	1	SPARE			45	180		46	180	R	RECEPTACLE - PICNIC SHELTER	20	1
20	1	SPARE			47		0	48			SPARE	20	1
20	1	SPARE			49	0		50			SPARE	20	1
20	1	SPARE			51		0	52			SPARE	20	1
20	1	SPARE			53	0		54			SPARE	20	1
20	1	SPARE			55		0	56			SPARE	20	1
100	2	EXISTING TENT SERVICE	E		57	0		58			SPARE	20	1
-	-	EXISTING TENT SERVICE	E		59		0	60			SPARE	20	1
						29840	28185				PANEL TOTAL LOADS =	58025	WATTS
												241.771	AMPS

NOTES:
1) SHARED NEUTRALS ARE NOT ACCEPTABLE THROUGHOUT THIS PROJECT. EACH BREAKER MUST HAVE A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT.
2) GFI CIRCUIT BREAKERS MUST BE USED FOR THE CONCESSION AREA
3) CIRCUIT BREAKER #22 / #24 ARE ALTERNATE BID #1

MOTOR WIRING SCHEDULE

TAG	DRIVING	LOC.	POWER			FEED FROM		BREAKER		BRANCH WIRING			STARTER					DISCONNECT					SEE
			HP	VOLT	PH	PANEL	CIRCUIT	SIZE	POLE	NO	SIZE	COND.	FURN.	INST.	WIRED	LOC.	TYPE	FURN.	INST.	WIRED	LOC.	TYPE	NOTE
ERV-1	ENERGY RECOVERY VENTILATOR - 1	#600	40.2MCA	240	1	A	17, 19	45	2	2	6	3/4"				IU		EC	EC	EC	NU		
EF-1	EXHAUST FAN - 1	#600	1	120	1	A	21	30	1	2	10	3/4"				IU		EC	EC	EC	NU		
EF-2	EXHAUST FAN - 2	#100	135W	120	1	A	21	20	1	2	12	1/2"				IU		EC	EC	EC	NU		3
TF-1	TRANSFER FAN - 1	#101	55-WATTS	120	1	A	23	20	1	2	12	1/2"				IU		EC	EC	EC	NU		1
CP-1	DOMESTIC WATER CIRCULATING PUMP	MEN'S MECH ROOM	2MCA	120	1	A	25	20	1	2	12	1/2"				IU		EC	EC	EC	NU		
GUH-1	GAS UNIT HEATER - 1	#600	1.9MCA	120	1	A	23	20	1	2	12	1/2"				IU		EC	EC	EC	NU		
GUH-2	GAS UNIT HEATER - 2	#100	1.9MCA	120	1	A	23	20	1	2	12	1/2"				IU		EC	EC	EC	NU		
ACU-1	CONCESSION COOLING (FUTURE)	ROOF	24MCA	240	1	A	22, 24	40	2	2	6	3/4"				IU		EC	EC	EC	NU		2
AC-1	CONCESSION COOLING (FUTURE)	#100	-	-	-	A	22, 24	-	-	2	6	3/4"				IU		EC	EC	EC	NU		2

ABBREVIATIONS:

2SP = 2 SPEED MAGNETIC STARTER
BOL = BUILT-IN OVERLOAD
CS = COMBINATION STARTER
EC = ELECTRICAL CONTRACTOR
ECP = ELEVATOR CONTROL PANEL
EV = ELEVATOR CONTRACTOR
FD = FUSIBLE DISCONNECT
HV = HVAC CONTRACTOR
IU = IN UNIT
LMRS = LOCKABLE MOTOR RATED SWITCH
MAN = MANUAL STARTER
MAG = MAGNETIC STARTER
MC = MECHANICAL CONTRACTOR
MCC = MOTOR CONTROL CENTER
HOA = HAND-OFF-AUTO
MCA = MINIMUM CIRCUIT AMPS
MFR = MANUFACTURER
NFD = NON-FUSIBLE DISCONNECT
NU = NEAR UNIT
OU = ON UNIT
PC = PLUMBING CONTRACTOR
PL = PILOT LIGHT
RVS = REDUCED VOLTAGE STARTER
TCP = TEMPERATURE CONTROL PANEL
T-STAT = THERMOSTAT
VFD = VARIABLE FREQUENCY DRIVE
WP = WEATHERPROOF
STST = START/STOP

NOTES:

1. HEATING CONTRACTOR SHALL PROVIDE LINE VOLTAGE REVERSE ACTING THERMOSTAT. ELECTRICAL CONTRACTOR TO WIRE THERMOSTAT AND FAN
2. ALTERNATE BID #1
3. FAN CONTROLLED BY ROOM'S LIGHT SWICH/OCCUPANCY SENSOR

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