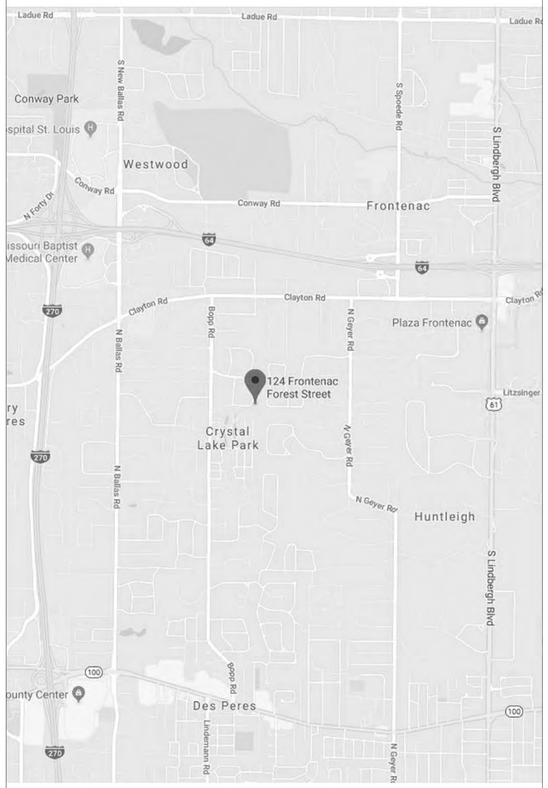
JARRETT RESIDENCE

124 FRONTENAC FOREST
FRONTENAC, MO 63131

SITE MAP



3D VIEW

CODE BLOCK

GOVERNING BUILDING CODES, AS AMENDED:
2015 INTERNATIONAL RESIDENTIAL CODE
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE
2015 INTERNATIONAL FIRE CODE
2015 INTERNATIONAL PROPERTY MAINTENANCE CODE
2015 INTERNATIONAL FUEL GAS CODE
2015 INTERNATIONAL MECHANICAL CODE
2014 NATIONAL ELECTRICAL CODE
2015 UNIFORM PLUMBING CODE

SQUARE FOOTAGE:
2,140 GSF EXISTING BASEMENT
2,140 GSF EXISTING FIRST FLOOR
1,470 GSF ADDITION FIRST FLOOR
5,750 GSF TOTAL

ZONING:
R-1 - 1-ACRE RESIDENTIAL

SCOPE OF WORK

THE PROJECT CONSISTS OF THE INTERIOR RENOVATION OF THE EXISTING HOME AS WELL AS THE CONSTRUCTION OF ADDITIONAL LIVING SPACE AT THE FIRST FLOOR. ADDITIONAL WORK INCLUDES EXTERIOR REPAIRS AND IMPROVEMENTS AND EXTERIOR LANDSCAPING.

SHEET INDEX

SHEET NO.	SHEET NAME	REV	DATE
1 - GENERAL			
G001	COVER SHEET		
G002	GENERAL NOTES		
G003	SYMBOLS AND ABBREVIATIONS		
G004	TYPICAL IRC DETAILS		
G005	TYPICAL IRC TABLES		
2 - DEMOLITION			
D201	DEMOLITION SITE PLAN		
D202	DEMOLITION PLANS		
D203	DEMOLITION PLANS		
D204	DEMOLITION PLANS		
3 - CIVIL			
C1	TITLE SHEET		
C2	CONSTRUCTION NOTES		
C3	EXISTING CONDITIONS		
C4	FLAT (GEOMETRIC) PLAN		
C5	SITE AND GRADING PLAN		
C6	DRAINAGE AREA MAP		
C7.1	DETAILS		
C7.2	DETAILS		
4 - ARCHITECTURAL			
A101	SITE PLAN		
A201	FLOOR PLANS		
A202	FLOOR PLANS		
A203	FLOOR PLANS		
A204	FLOOR PLANS		
A205	FLOOR PLANS		
A301	EXTERIOR ELEVATIONS		
A302	EXTERIOR ELEVATIONS		
A303	EXTERIOR ELEVATIONS		
A401	BUILDING SECTIONS		
A402	BUILDING SECTIONS		
A411	DETAILS		
A412	DETAILS		
A413	DETAILS		
A501	INTERIOR ELEVATIONS		
A701	ELECTRICAL / LIGHTING PLANS		
A702	ELECTRICAL / LIGHTING PLANS		

PERMIT SET

02/21/2020

PROJECT DIRECTORY

OWNERS:
JEFF AND JULIE
JARRETT

124 FRONTENAC
FOREST, FRONTENAC,
63131
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CONSULTANTS:

SEAL: 02/21/2020

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: ALA
CHECKED BY: MJS

SHEET NAME:
COVER SHEET

1" ACTUAL

SHEET NUMBER:
G001

ACTUAL SHEET SIZE: 24" X 36"

2/20/2020 3:25:24 PM

GENERAL NOTES

GENERAL REQUIREMENTS

1. THE GENERAL CONTRACTOR IS TO REVIEW ALL PLANS, ELEVATIONS, NOTES, DETAILS, BUILDING CODES AND RESTRICTIONS, AND JOB SITE CONDITIONS. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO STARTING ANY CONSTRUCTION AND SHALL NOTIFY THE ARCHITECT OF ANY ERRORS OR INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK.
3. CHANGES TO THIS WORK ARE ONLY AUTHORIZED IF IN WRITING FROM THE ARCHITECT.
4. THIS JOB IS CONSIDERED "DESIGN/ BUILD" FOR MECHANICAL, ELECTRICAL, PLUMBING, WORKS. DESIGN / BUILD CONTRACTORS TO PREPARE AND SUBMIT SEPARATE MEP PERMIT DRAWING PER LOCAL CODE BEFORE COMMENCING WORK.
5. THE DIMENSIONS ON THESE DRAWINGS SUPERCEDE SCALE. CONTRACTOR IS NOT TO SCALE THE DRAWINGS.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.
7. ALL ARCHITECTURAL DRAWINGS ARE IN CONFIDENCE AND DISSEMINATION MAY NOT BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHTS AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED
8. IF THE CONTRACTOR DOES NOT UNDERSTAND THE PLANS, HE SHOULD OBTAIN THE ARCHITECT'S WRITTEN EXPLANATION PRIOR TO BIDDING. THE CONTRACTOR SHALL BE HELD RIGIDLY TO INTERPRETATIONS OF THE ARCHITECT.

FRAMING NOTES:

11. ALL LUMBER FRAMING MUST BE NAILED INTO PLACE ACCORDING TO TABLE (R) 602.3 OF THE 2015 IRC BUILDING CODE. PLYWOOD SIDING, ROOF SHEATHING AND SUB-FLOORING SHALL ALSO BE NAILED IN ACCORDANCE WITH THIS SCHEDULE.
12. ALL WINDOW AND DOOR HEADERS TO BE MINIMUM TWO-2X10'S UNLESS NOTED OTHERWISE. ALL HEADERS TO BE GLUED AND NAILED.
13. ALL INTERIOR PARTITIONS TO BE 3-1/2" UNFINISHED, UNLESS NOTED OTHERWISE. ALL EXTERIOR WALLS TO BE 6" WOOD STUDS. ALL STUDS IN BEARING WALLS AND ALL STUDS USED AS POSTS TO BE SOUTHERN PINE WITH MAXIMUM 19% MOISTURE CONTENT.
14. DOUBLE TOP PLATES AT ALL BEARING WALLS.
15. ALL FRAMING TO BE IN CONFORMANCE WITH THE NATIONAL FOREST PRODUCTS "MANUAL FOR HOUSE FRAMING".
16. JOISTS AND RAFTERS TO BE SOUTHERN PINE KD 15 #2 UNLESS NOTED OTHERWISE. ALL LUMBER SHALL BE MINIMUM FB=1300/1500 (SINGLE MEMBER) AND GRADE MARKED.
17. ALL JOISTS TO BE PLACED WITH THE CROWN UP.
18. SUB FLOORS TO BE GLUED AND NAILED TO THE JOISTS.
19. ALL PARTITIONS (SINGLE, DOUBLE AND STAGGERED STUD) TO BE FIRESTOPPED AT TOP AND BOTTOM. FIRE STOP WALLS AT DROPPED SOFFITS AND DROPPED CEILINGS. PROVIDE FIRE BLOCKING BETWEEN STAIR CARRIAGES/STRINGERS AT TOP AND BOTTOM OF EACH STAIR RUN. PROVIDE FIRE BLOCKING AT TOP AND BOTTOM OF WALL FURRING.
20. ALL BEARING POSTS SHALL BE BLOCKED SOLID TO TOP OF STRUCTURE BELOW.
21. ALL EXPOSED MATERIALS FOR PORCHES, SOFFITS, OVERHANGS, ETC. TO BE APPROVED EXTERIOR GRADE MATERIALS.
22. ALL LUMBER IN CONTACT WITH DISSIMILAR MATERIALS SUCH AS CONCRETE AND MASONRY, TO BE PRESSURE TREATED.
23. ALL FIRE-RATED ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS OF THE APPROVED TEST AGENCY.
24. PROVIDE BRIDGING BETWEEN FLOOR JOISTS AT 8'-0" O.C. (MAX.). PROVIDE MINIMUM 2 ROWS BETWEEN JOISTS AT ALL SPANS OF 16'-0" OR GREATER.
25. PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS.
26. PROVIDE BRIDGING/BLOCKING BETWEEN TRUSSES AT TOP OF PARALLEL PARTITIONS.
27. ALL TRUSSES TO BE DESIGNED BY OTHERS. STRESS DIAGRAMS MUST BE PROVIDED BY SUPPLIER AND MUST HAVE AN ENGINEER'S SEAL. ATTIC TRUSSES WITH A 42" HIGH CLEAR SPACE SHALL BE DESIGNED FOR A 20# LIVE LOAD. PROVIDE 40 SQUARE INCH SIGN ON TRUSS AT EACH SIDE OF ATTIC HATCH OPENING READING "WARNING--TRUSSES NOT DESIGNED FOR ATTIC STORAGE."
28. STAIRS SHALL BE DESIGNED FOR A 100 PSI LIVE LOAD OR 300 LB CONCENTRATED ON 4 SQUARE INCHES AT MIDSPAN OF TREAD. WOOD STAIR CARRIAGE/STRINGERS SHALL BE DOUGLAS FIR #1 WITH A MINIMUM ALLOWABLE STRESS OF (FB) OF 1000 PSI. FY = 85 PSI. E = 1,600,000PSI UNLESS OTHERWISE NOTED. 2X TREADS TO BE TEMPERARY. FINISHED TREADS TO BE FINISHED HARDWOOD 5/4 OAK UNLESS NOTED OTHERWISE.
29. PROVIDE 4' PLYWOOD OR METAL STRAP BRACING AT CORNERS TYPICAL.
30. FIELD CUTTING OF WOOD BEAMS OR TRUSSES SHALL NOT BE PERMITTED UNLESS APPROVED BY ARCHITECT. NOTCHING, BORING HOLES AND CUTTING OF WOOD BEAMS, JOISTS, RAFTERS OR STUDS SHALL NOT EXCEED THE LIMITATIONS NOTED IN SECTIONS 602.6 THROUGH 602.7 OF IRC. REINFORCEMENT OF STUDS SHALL BE DONE IN ACCORDANCE WITH SECTION 602.3.
31. ALL DROPPED CEILING BELOW WOOD JOISTS OR ATTATCHED DIRECTLY TO WOOD FLOOR TRUSSES SHALL BE DRAFT STOPPED AT 500 SF INTERVALS AND PARALLEL TO FRAMING MEMBERS. ALL ENGINEERED LUMBER TO BE MANUFACTURED BY WEYERHAUSER OR EQUIVALENT.

MOISTURE PROTECTION NOTES:

1. EXTERIOR JOINTS AROUND WINDOWS AND DOOR FRAMES, BETWEEN WALL AND FOUNDATION, BETWEEN WALL AND ROOF, BETWEEN WALL PANELS, AT PENETRATION FOR UTILITY SERVICES THROUGH WALLS, FLOORS, ROOFS AND ALL OTHER OPENINGS IN THE EXTERIOR ENVELOPE SHALL BE SEALED IN AN APPROVED MANNER.
2. CORROSION RESISTANT FLASHING REQUIRED AT THE TOP AND SIDES OF ALL EXTERIOR DOORS AND WINDOWS AND AT THE INTERSECTION OF ALL MASONRY CONSTRUCTION AND FRAME CONSTRUCTION.
3. PROVIDE COMPOSITION FLASHING WITH INTERLACED SHINGLES AT ALL ROOF TO ROOF INTERSECTIONS.
4. ALL GUTTERS AND DOWN SPOUTS TO BE SIZED PER SMACNA REQUIREMENTS AND LOCATED BY OTHERS. SIZE ALL PER SMACNA REQUIREMENTS. PROVIDE CONCRETE SPLASH BLOCK AT THE BOTTOM OF ALL DOWN SPOUTS DISCHARGED AT GRADE. DISCHARGE TO STORM SEWER OR APPROVED WATERCOURSE.
5. PROVIDE BITUMINOUS DAMP PROOFING, 3 POUNDS PER SQUARE YARD OF ACRYLIC MODIFIED CEMENT IN ACCORDANCE WITH IRC 2003 ON ALL CONCRETE FOUNDATION WALLS BELOW GRADE.
6. BACKFILL SHALL BE FREE OF DEBRIS AND LARGE ROCKS, INSTALLED IN LIFTS AND EACH LIFT COMPACTED TO FILL ALL VOIDS.
7. INSTALL ALL WATERPROOFINGS AND UNDERSLAB VAPOR BARRIERS PER MANUFACTURER'S REQUIREMENTS.

8. INSULATION
8.1. PROTECT AND STORE INSULATION MATERIALS TO PROTECT FROM PHYSICAL DAMAGE AND FROM DETERIORATION BY MOISTURE, SOILING, SUNLIGHT AND OTHER SOURCES. STORE INSIDE AND IN A DRY LOCATION. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING AND PROTECTING DURING INSTALLATION.
8.2. CLEAN SUBSTRATES OF SUBSTANCES HARMFUL TO INSULATION OR VAPOR RETARDERS, INCLUDING REMOVING PROJECTIONS CAPABLE OF PUNCTURING VAPOR RETARDERS OR INTERFERING WITH INSULATION ATTACHMENT.
8.3. EXTEND INSULATION IN THICKNESS INDICATED TO ENVELOP ENTIRE AREA TO BE INSULATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION.
8.4. COORDINATE WATER PIPING LOCATED WITHIN INSULATED EXTERIOR WALLS TO ENSURE THAT IT IS PLACED ON WARM SIDE OF INSULATION AND INSULATION ENCAPSULATES PIPING.
8.5. SEAL JOINTS BETWEEN FOAM-PLASTIC INSULATION UNITS BY APPLYING ADHESIVE, MASTIC OR SEALANT TO EDGES OF EACH UNIT TO FORM A TIGHT SEAL AS UNITS ARE SHOVED INTO PLACE. FILL VOIDS IN COMPLETED INSTALLATION WITH ADHESIVE, MASTIC OR SEALANT AS RECOMMENDED BY INSULATION MANUFACTURER.
8.6. PROTECT INSTALLED INSULATION FROM DAMAGE DUE TO WEATHER EXPOSURES, PHYSICAL ABUSE AND OTHER CAUSES. PROVIDE TEMPORARY COVERINGS OR ENCLOSURES WHERE INSULATION IS SUBJECT TO ABUSE AND CANNOT BE CONCEALED AND PROTECTED BY PERMANENT CONSTRUCTION IMMEDIATELY AFTER INSTALLATION.
9. AIR AND MOISTURE BARRIER:
9.1. AIR BARRIER SHALL BE CAPABLE OF PERFORMING AS A CONTINUOUS VAPOR-PERMEABLE AIR BARRIER AND AS A LIQUID-WATER DRAINAGE PLANE FLASHED TO DISCHARGE TO THE EXTERIOR INCIDENTAL CONDENSATION OF WATER PENETRATION. AIR BARRIER ASSEMBLIES SHALL BE CAPABLE OF ACCOMMODATING SUBSTRATE MOVEMENT AND OF SEALING SUBSTRATE EXPANSION AND CONTROL JOINTS, CONSTRUCTION MATERIAL CHANGES AND TRANSITIONS AT PERIMETER CONDITIONS WITHOUT DETERIORATION AND AIR LEAKAGE EXCEEDING SPECIFIED LIMITS.
9.2. DELIVER, STORE AND HANDLE ALL PRODUCTS PER MANUFACTURER'S WRITTEN REQUIREMENTS.
9.3. INSTALL AIR BARRIER WITHIN RANGE OF AMBIENT AND SUBSTRATE TEMPERATURES RECOMMENDED BY MANUFACTURER. PROTECT SUBSTRATES FROM ENVIRONMENTAL CONDITIONS THAT AFFECT PERFORMANCE OF AIR BARRIER. DO NOT APPLY AIR BARRIER TO A DAMP OR WET SUBSTRATE DURING SNOW, RAIN, FOG OR MIST.
9.4. PROVIDE ALL ACCESSORY MATERIALS AS REQUIRED TO INSTALL A COMPLETE AIR BARRIER SYSTEM.
9.5. EXAMINE SUBSTRATES, AREAS AND CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
9.6. PREPARE SUBSTRATE AS REQUIRED PER MANUFACTURER'S REQUIREMENTS.
9.7. INSTALL ALL NECESSARY TRANSITIONS AND AUXILIARY MATERIALS ACCORDING TO MANUFACTURER'S WRITTEN REQUIREMENTS TO FORM A SEAL WITH ADJACENT CONSTRUCTION AND MAINTAIN A CONTINUOUS AIR BARRIER.
9.8. CONNECT EXTERIOR AIR BARRIER MEMBRANE CONTINUOUSLY TO ROOFING MEMBRANE BARRIER, CONCRETE BELOW-GRADE-STRUCTURES, FLOOR TO FLOOR CONSTRUCTION, EXTERIOR GLAZING AND WINDOW SYSTEMS, GLAZED STOREFRONT SYSTEMS, EXTERIOR DOOR FRAMING AND OTHER CONSTRUCTION USED IN EXTERIOR WALL OPENINGS USING ACCESSORY MATERIALS.
9.9. INSTALL AIR BARRIER FOR CONTINUOUS AIR BARRIER SYSTEM ACCORDING TO MANUFACTURER'S WRITTEN REQUIREMENTS.
9.10. CORRECT DEFICIENCIES IN OR REMOVE AIR BARRIER THAT DOES NOT COMPLY WITH REQUIREMENTS. REPAIR SUBSTRATES AND REINSTALL AIR BARRIER COMPONENTS.
9.11. PROTECT AIR BARRIER SYSTEM FROM DAMAGE DURING INSTALLATION AND THROUGH THE REMAINDER OF THE CONSTRUCTION PERIOD, ACCORDING TO MANUFACTURER'S WRITTEN REQUIREMENTS.
10. JOINT SEALANTS
10.1. PROVIDE ELASTOMERIC JOINT SEALANTS THAT ESTABLISH AND MAINTAIN WATERTIGHT AND AIRTIGHT CONTINUOUS JOINT SEALS WITHOUT STAINING OR DETERIORATING ADJACENT MATERIALS OR JOINT SUBSTRATES OR WITHOUT EXPERIENCING ADHESIVE OR COHESIVE FAILURES, CRACKING OR BUBBLING. INSTALL ALL JOINT SEALANTS PER MANUFACTURER'S WRITTEN REQUIREMENTS.
10.2. ACOUSTICAL SEALANT REFERRED TO WITHIN THE DRAWINGS TO BE 'USG ACOUSTICAL SEALANT' OR APPROVED EQUAL.
10.3. THE CONTRACTOR IS RESPONSIBLE FOR FIRESTOPPING AT ALL WALLS, FLOORS, CEILINGS AND RAISED AREAS AT FIRE-RESISTANCE-RATED CONSTRUCTIONS AS WELL AS MAY BE REQUIRED BY LOCAL CODES. FOR FIRESTOPPING AT AREAS EXPOSED TO VIEW, TRAFFIC, MOISTURE AND PHYSICAL DAMAGE, PROVIDE PRODUCTS THAT AFTER CURING DO NOT DETERIORATE WHEN EXPOSED TO THESE CONDITIONS BOTH DURING AND AFTER CONSTRUCTION.
10.4. THE CONTRACTOR IS RESPONSIBLE THAT PENETRATIONS IN ACOUSTIC WALLS, CEILINGS AND FLOORS ARE MINIMAL; CAULK AND SEAL ALL AIR GAPS.
10.5. SEAL ALL PENETRATIONS THROUGH FLOORS, CEILINGS AND PARTITIONS. COORDINATE RATED ASSEMBLIES WITH DRAWINGS.
11. FIBER CEMENT SIDING AND PANELS
11.1. BASIS OF DESIGN PRODUCT TO BE 'JAMES HARDIE' CEMENT FIBER.
11.2. SIDING, WALL PANELS AND SOFFIT PANELS MADE FROM FIBER CEMENT BOARD THAT DOES NOT CONTAIN ASBESTOS FIBERS; COMPLIES WITH ASTM C1186, TYPE A, GRADE II; IS CLASSIFIED AS NONCOMBUSTIBLE WHEN TESTED AND HAS A FLAME SPREAD INDEX OF 25 OR LESS WHEN TESTED.
11.3. OBTAIN EACH TYPE OF SIDING, WALL PANELS AND SOFFIT MATERIAL, INCLUDING ALL ACCESSORIES, THROUGH ONE SOURCE FROM A SINGLE MANUFACTURER.
11.4. DELIVER, STORE AND HANDLE ALL PRODUCTS PER MANUFACTURER'S WRITTEN REQUIREMENTS.
11.5. WEATHER LIMITATIONS: PROCEED WITH SIDING INSTALLATION ONLY IF SUBSTRATE IS COMPLETELY DRY AND IF EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT SIDING TO BE INSTALLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
11.6. SEQUENCING: COORDINATE INSTALLATION WITH FLASHINGS AND OTHER ADJOINING CONSTRUCTION TO ENSURE PROPER SEQUENCING.
11.7. PROVIDE STARTER STRIPS, EDGE TRIM, CORNER TRIM AND OTHER ITEMS RECOMMENDED BY MANUFACTURER OR INDICATED IN THE DRAWINGS FOR THE BUILDING CONFIGURATION.
11.8. PROVIDE METAL FLASHING AT DOOR AND WINDOW HEADS AND WHERE INDICATED. FLASHING TO BE FINISHED TO MATCH ADJACENT SIDING.
11.9. FASTENERS AS PER MANUFACTURER'S REQUIREMENTS.
11.10. EXAMINE SUBSTRATES FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF SIDING. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
11.11. CLEAN SUBSTRATES OF PROJECTIONS AND SUBSTANCES DETRIMENTAL TO APPLICATION.
11.12. INSTALL ALL MATERIALS PER MANUFACTURER'S WRITTEN REQUIREMENTS.
11.13. AT SOFFIT PANELS, BONDO / FINISH ALL JOINTS AND ANCHORS FOR SMOOTH MONOLITHIC APPEARANCE PRIOR TO PAINT FINISH.
11.14. REMOVE DAMAGED, IMPROPERLY INSTALLED OR OTHERWISE DEFECTIVE SIDING, PANELS AND SOFFIT MATERIALS AND REPLACE WITH NEW MATERIALS COMPLYING WITH SPECIFIED REQUIREMENTS.
11.15. CLEAN FINISHED SURFACES ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND MAINTAIN IN A CLEAN CONDITION DURING CONSTRUCTION.

WINDOW AND DOOR NOTES:

1. MINIMUM ONE (1) WINDOW PER BEDROOM TO MEET OR EXCEED THE FOLLOWING MINIMUM REQUIREMENTS:
1.1. MAXIMUM SILL HEIGHT - 44 IN.
1.2. MINIMUM CLEAR OPENING HEIGHT - 24"
1.3. MINIMUM CLEAR OPENING WIDTH - 20"
1.4. MINIMUM CLEAR OPENING AREA - 5.7 S.F.
EXCEPT: GRADE FLOOR WINDOWS: MINIMUM CLEAR OPENING OF 5.0 S.F.
2. USE TEMPERED OR LAMINATED SAFETY GLASS OR APPROVED SHATTER - RESISTANT PLASTIC IN ALL SLIDING GLASS DOORS, FRENCH DOORS, SIDELIGHTS, AND SHOWER DOORS.
3. AIR INFILTRATION FOR WINDOWS SHALL NOT EXCEED 0.5 CFM PER FOOT OF SASH TRACK. FOR DOORS - DO NOT EXCEED 0.5 CFM PER SQUARE FOOT DOOR AREA.
4. MINIMUM "U" - VALUE FOR WINDOWS AND DOORS TO BE .40.
5. PROVIDE THUMB TURN LOCK FOR EXIT DOORS.

DRYWALL AND FINISH MATERIAL NOTES:

1. DRYWALL INSTALLATION MUST BE IN ACCORDANCE WITH THE GYPSUM ASSOC. RECOMMENDED PRACTICES. THICKNESS, NAILING, TAPING, CORRECT STUD SPACING AND FIRE RATED TYPES MUST BE INSTALLED ACCORDING TO TEST ASSEMBLIES.

2. PROVIDE WATER RESISTANT GYPSUM BACKER BOARDS (ASTM 6630) AS A SUBSTRATUM IN BATHTUB AND SHOWER COMPARTMENTS. SHOWER AND BATHTUB ENCLOSURES SHALL HAVE WALLS CONSTRUCTED OF SMOOTH, NON-CORROSIVE, NON-ABSORBENT AND WATERPROOF MATERIALS TO A HEIGHT OF NOT LESS THAN 6' ABOVE THE ROOM FLOOR LEVEL. SHOWER FLOOR SURFACES SHALL BE SMOOTH, NON CORROSIVE AND WATERPROOF MATERIALS.
3. MAXIMUM FLAME SPREAD OF ANY INTERIOR FINISH MATERIAL SHALL BE LIMITED TO 200 OR LESS.
4. PROVIDE STAIR HANDRAILS WITH "GRASP ABLE" PERIMETER IN CONFORMANCE TO IRC REQUIREMENTS. HANDRAIL MAY PROJECT A MAXIMUM OF 4-1/2" INTO WIDTH OF STAIR. GUARD RAIL SHALL BE PROVIDED WHERE DIFFERENCE IN FLOOR LEVELS IS GREATER THAN 15-1/2" (EXCEPT 2'-6" AT FRONT PORCH).

HVAC NOTES:

1. VENT 50 CFM BATH FANS AND 100 CFM KITCHEN RANGE HOOD TO EXTERIOR, MIN.
2. PROVIDE SEPARATE VENT TO EXTERIOR FOR DRYER.
3. FURNACE FLUE IS TO BE SIZED BY THE MECHANICAL CONTRACTOR. PROVIDE MINIMUM 2' CLEARANCE TYPICAL.
4. THE GAS PIPE MUST ENTER THE HOUSE ABOVE THE GRADE, TO BE ENCASED IN A NON PROTECTIVE SLEEVE.
5. SEE HVAC PLANS, SUPPLIED BY OTHERS FOR SIZE OF GAS/ELECTRIC HOT WATER HEATER, GAS/ELECTRIC FURNACE, DUCTWORK, GAS PIPE SIZES AND FLUE SIZES.
6. ALL HVAC EQUIPMENT AND DUCTWORK SHALL COMPLY WITH THE 2009 IMC.
7. ALL SUPPLY REGISTERS SHALL BE 10" X 4" MINIMUM UNLESS OTHERWISE NOTED.
8. GAS VENTS TO EXTEND MINIMUM 3'-0" ABOVE THE ROOF AND AT LEAST 2'-0" HIGHER THAN ANY PART OF THE BUILDING WITH IN 10'-0". EXCEPTION: UL LISTED VENTS MAY BE INSTALLED IN ACCORDANCE WITH THEIR LISTING.
9. NATURAL VENTS MUST EQUAL 1/150 OF HORIZONTAL AREA OF ATTIC SPACE. (MINIMUM 2 REMOTE VENTS REQUIRED.) POWER VENTS MUST EQUAL 0.02 CFM MINIMUM PER SQUARE FOOT OF AREA AND MUST COME ON AUTOMATICALLY WHEN HUMIDITY REACHES 60% OR MORE. WHERE RIDGE OR GABLE VENTS ARE USED, HALF THE REQUIRED VENTILATION VEN AREA IS TO BE PROVIDED BY EAVE OR CORNICE VENTS. EXCEPTION: THE REQUIRED VENT AREA MAY BE REDUCED TO 1/300 IF THE GABLE OR RIDGE VENTS ARE LOCATED IN THE UPPER 1/3 OF THE ATTIC OR ENCLOSED RAFTER SPACE.
10. THERMOSTATS SHALL BE CAPABLE OF BEING SET FROM 55 DEGREES F TO 75 DEGREES F FOR COOLING ONLY. IF THE THERMOSTAT IS USED FOR HEATING AND COOLING, IT SHALL BE CAPABLE OF BEING SET FROM 55 DEGREES F TO 85 DEGREES F AND SHALL BE CAPABLE OF OPERATING THE SYSTEM'S HEATING AND COOLING SEQUENCE. IT SHALL BE ADJUSTABLE TO PROVIDE A TEMPERATURE RANGE OF 10 DEGREES F BETWEEN FULL HEATING AND FULL COOLING EXCEPT IN INDEPENDENT SYSTEMS. AT LEAST ONE (1) THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HVAC SYSTEM. FOR REQUIRED VENTILATION AIR FOR RESIDENTIAL USES, SEE IMC 2003
11. PROVIDE GAS SHUT-OFF VALVE FOR EACH APPLIANCE. PROVIDE A SEDIMENT TRAP FOR EACH GROUP OF GAS APPLIANCES.
12. PROVIDE AC CONDENSER PAD OR BRACKETS.
13. MECHANICAL DUCTS LOCATED IN UNCONDITIONED SPACES SHALL BE INSULATED TO R-8 MIN.

ELECTRICAL & COMMUNICATION NOTES:

1. ALL EXTERIOR ELECTRICAL OUTLETS AND ALL ELECTRIC IN THE GARAGE, AND KITCHEN AND BATHROOMS, TO BE GFI. ALL EXTERIOR OUTLETS TO BE WATERPROOF.
2. ALL ELECTRICAL OUTLETS IN BEDROOMS ARE TO ARC FAULT CIRCUIT INTERUPT.
3. CONTRACTOR TO INSTALL IRC APPROVED SMOKE DETECTORS (AC POWERED W/ BATT. BACKUP AND UL LISTED) IN EACH BEDROOM AND ON EACH LEVEL OF HOUSE AS SHOWN ON PLANS. MUST BE INTERCONNECTED, NFPA 72-93.
4. SIZE OF ELECTRICAL SERVICE IS 200 AMP.
5. LIGHT FIXTURES SHALL NOT BE INSTALLED WITHIN 3' HORIZONTALLY MEASURED FROM FROM THE OUTSIDE EDGE OF THE TUB, AND 8' VERTICALLY MEASURED FROM THE TOP OF THE TUB RIM.
6. INTERIOR STAIRWAYS TO BE PROVIDED WITH A MINIMUM OF 10 FC MEASURED AT EVERY TREAD NOSING. ALL EXTERIOR STAIRWAYS SERVING THE DWELLING TO HAVE A MINIMUM OF 1 FC MEASURED ON THE TREAD RUNS. INTERIOR STAIRWAYS TO HAVE ILLUMINATED LIGHTING CONTROLS AT EACH FLOOR LEVEL. SWITCHES MUST BE OPERABLE FROM THE TOP AND BOTTOM OF THE STAIRWAY WITHOUT TRAVERSING ANY STEP OF THE STAIRWAY.
7. EXTERIOR STAIRWAYS SHALL HAVE LIGHTING CONTROLLED INSIDE THE DWELLING, AUTOMATICALLY ACTIVATED WITH A MANUAL OVERRIDE, OR CONTINUOUSLY OPERATED.
8. RECEPTACLES ARE REQUIRED IN ALL HABITABLE ROOMS EXCEPT BATHROOMS SO THAT NO SPACE ALONG A WALL IS MORE THAN 6' FROM A RECEPTACLE. ALL SPACES 2' OR WIDER, INCLUDING FIXED GLASS PANELS OR RAILING SHALL BE INCLUDED IN THE 6' MEASUREMENT.
9. RECEPTACLES FOR RANGES AND CLOTHES DRYERS SHALL BE 3-POLE WITH GROUND TYPE.
10. PROVIDE INTERSYSTEM BONDING TERMINAL FOR GROUNDING COMMUNICATION SYSTEMS (CABLE TV AND SATELLITE DISHES).
11. INSTALL LIGHTING IN CLOSETS PER E3903.11
12. COORDINATE ALL ELECTRICAL WORK REQUIRED FOR ALL APPLIANCES AND EQUIPMENT SHOWN ON THE PLANS.
13. COORDINATE ALL ELECTRICAL WORK REQUIRED PER SCOPE OF WORK OF OTHER TRADES THROUGHOUT THE PROJECT.

PLUMBING NOTES:

1. ALL HOSE BIBS TO BE FREEZE PROOF.
2. NO-LEAD SOLDER IS REQUIRED ON ALL COPPER WATER SUPPLY PIPES.
3. ALL WASHERS LOCATED IN AND ABOVE HABITABLE AREA SHALL HAVE SHEET METAL PAN WITH CONNECTION TO FLOOR DRAIN.
4. PROVIDE A MINIMUM 1" WATER SERVICE. WATER SERVICE AND SEWER LINE TO BE SEPARATED HORIZONTALLY BY 10 FEET.
5. COORDINATE ALL PLUMBING WORK REQUIRED FOR ALL APPLIANCES AND FIXTURES SHOWN ON THE PLANS.
6. COORDINATE ALL PLUMBING WORK REQUIRED PER SCOPE OF WORK OF OTHER TRADES THROUGHOUT THE PROJECT.

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: XXX
CHECKED BY: XXX

SHEET NAME:

GENERAL NOTES

1" ACTUAL

SHEET NUMBER:

G002

ACTUAL SHEET SIZE: 24" X 36"

2/20/2020 3:25:25 PM

ABBREVIATIONS

&	AND
@	AT
C	CENTERLINE
#	POUND OR NUMBER
P	PLATE
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ABV	ABOVE
ACT	ACOUSTICAL TILE
AD	AREA DRAIN
ADH	ADHESIVE
ADJ	ADJACENT/ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BD	BOARD
BLDG	BUILDING
BLK(G)	BLOCK (ING)
BO	BY OWNER
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
BRK	BRICK
BUR	BUILT-UP ROOF
CAB	CABINET
CF	CEMENT FIBER
CG	CORNER GUARD
CIPC	CAST-IN-PLACE CONCRETE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLOS	CLOSET
CLR	CLEARANCE/CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS OR CONTINUE
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CT	CERAMIC TILE
DBL	DOUBLE
DEMO	DEMOLISH (ED)
DEPT	DEPARTMENT
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
DTL(S)	DETAIL(S)
DW	DISHWASHER
DWG	DRAWING
E	EAST
EA	EACH
EF	EXHAUST FAN
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION ABOVE DATUM
ELEC	ELECTRIC (AL)
ELEV	BUILDING ELEVATION/ELEVATOR
EMER	EMERGENCY
ENGR	ENGINEER
EP	ELECTRICAL PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPOSED/EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FFE	FINISHED FLOOR ELEVATION
FIN	FINISH (ED)
FIXT	FIXTURE
FJ	FINGER JOINT
FLUOR	FLUORESCENT
FNDN	FOUNDATION
FO	FACE OF
FR	FIRE RESISTIVE (RETARDANT)
FTG	FOOTING
FRT	FIRE RESISTIVE (RETARDANT)
FT	FOOT
FURN	FURNITURE
FURR	FURRED (ING)
FV	FIELD VERIFY
GA.	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GMU	GLASS MASONRY UNIT
GSF	GOSS SQUARE FEET
GWB	GYPSUM WALL BOARD
H	HIGH
HB	HOSE BIBB
HC	HANDICAPPED/HOLLOW CORE
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HT	HEIGHT
HVAC	HEATING/VENTILATION/AIR CONDITION
HWH	HOT WATER HEATER
ID	INTERIOR DIAMETER
IN	INCHES
INCL	INCLUDE (D), (ING)
INFO	INFORMATION
INSUL	INSULATE (D), (ION)
INT	INTERMEDIATE/INTERIOR
JAN	JANITOR
JBOX	JUNCTION BOX
JST	JOIST
JT	JOINT
KD	KNOCK DOWN
KIT	KITCHEN
KPL	KICKPLATE
L	LENGTH
LAM	LAMINATE (D)
LAV	LAVATORY
LB	POUND
LF	LINEAR FEET
LH	LEFT HAND
LP	LOW POINT
LOC	LOCATION
LR	LIVING ROOM
LSL	LAMINATED STRAND LUMBER
LT	LIGHT
LVP	LUXURY VINYL PLANK
LVT	LUXURY VINYL TILE
MANUF(S)	MANUFACTURE (S)
MAT	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBER
MEZZ	MEZZANINE
MFR	MANUFACTURE (D) (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MOISTURE RESISTANT
MTD	MOUNTED
MTL	METAL
MULL	MULLION
MW	MICROWAVE
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NSF	NET SQUARE FEET
NTS	NOT TO SCALE
O TO O	OUT TO OUT
OA	OVERALL
OC	ON CENTER (S)
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED,CONCT. INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
ODIA	OUTSIDE DIAMETER
OD	OVERFLOW DRAIN
OH	OVERHEAD
OPG	OPENING
OPP	OPPOSITE
PL	PLATE
PAVE	PAVED/PAVEMENT
PERP	PERPENDICULAR
PLAM	PLASTIC LAMINATE
PLUMB	PLUMBING
PLWD	PLYWOOD
PNL	PANEL
POL	POLISH (ED)
PR	PAIR
PREFAB	PREFAB
PREFIN	PREFINISHED
PROJ	PROJECT
PSF	POUNDS/SQUARE FOOT
PSI	POUNDS/SQUARE INCH
PT	PRESSURE TREATED
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
QUAD	QUADRUPLE
QUINT	QUINTUPLE
R	RISER
RA	RETURN AIR
RAD	RADIUS
RC	RESILIENT CHANNEL
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RE:	REFER TO
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCE(D), (ING)
REQ	REQUIRED
REV	REVISION(S), REVISED
RH	RIGHT HAND
RM	ROOM
RO	ROUGH OPENING
S	SOUTH
SA	SUPPLY AIR
SBI	SOUND BATT INSULATION
SC	SOLID CORE
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SHTG	SHEATHING
SHWR	SHOWER
SIM	SIMILAR
SK	SINK
SPEC	SPECIFICATION (S)
SPKLR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SYM	SYMMETRY (ICAL)
T	TREAD
T&G	TONGUE AND GROOVE
TEL	TELEPHONE
THK	THICK
TBD	TO BE DETERMINED
THRU	THROUGH
TO	TOP OF
TOC	TOP OF CONCRETE
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TS	(STRUCTURAL) TUBE STEEL
TV	(TELEVISION)
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITIES
VB	VAPOR RETARDER (BARRIER)
VCB	VINYL COVE BASE
VCT	VINYL COMPOSITION TILE
VENT	VENTILATION
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VTR	VENT THRU ROOF
W	WIDE FLANGE
W/	WITH
W/D	WASHER/DRYER
WH	WATER HEATER
WP	WATER PROOFING
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WR	WATER RESISTANT
WRB	WEATHER RESISTANT BARRIER
WT	WEIGHT
WWF	WELDED WIRE FABRICK
YD	YARD

PATTERNS

PLAN / SECTION INDICATIONS

NO WORK ZONE

ELEVATION INDICATIONS

STONE

BRICK/CONCRETE BLOCK

FINISHED WOOD

GLASS

PLASTER/STUCCO/EIFS

SECTION INDICATIONS

SAND OR GROUT

EARTH OR NATURAL GROUND

POROUS FILL (GRAVEL)

STONE

CONCRETE

BRICK

CONCRETE MASONRY UNIT

METAL

PLYWOOD

WOOD (FINISH)

WOOD (CONTINUOUS)

WOOD (BLOCKING)
INTERRUPTED MEMBER

INSULATION (LOOSE OR BATT)

INSULATION (RIGID)

GLASS (LARGE SCALE)

GYPSUM BOARD

ACOUSTICAL TILE

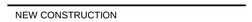
CARPET

EIFS

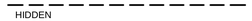
2X6 WALL

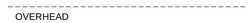
GENERAL LINE TYPES

TYPICAL LINES



SPECIAL LINES





SYMBOLS

EXISTING CONDITION

EXISTING PARTITION TO REMAIN

EXISTING DOOR TO REMAIN

DEMOLITION

EXISTING PARTITION TO BE DEMOLISHED

EXISTING DOOR TO BE DEMOLISHED

ITEM TO BE DEMOLISHED

NEW CONSTRUCITON

NEW CONSTRUCTION

NEW DOOR AND DOOR NUMBER

FLOOR PLANS

COLUMN GRID - NEW
COLUMN GRID - EXISTING

ROOM NAME
ROOM NUMBER
AREA

DOOR NUMBER

ALIGN WITH ESTABLISHED SURFACES
REVISION REFERENCES

VIEW NUMBER ON SHEET
SHEET NUMBER

VIEW NUMBER ON SHEET
SHEET NUMBER

ELEVATIONS

WINDOW TAG
SILL HEIGHT

ROOF SLOPE (ELEVATION)

LEVEL NAME
LEVEL HEIGHT

DETAIL NUMBER
DETAIL NAME
DETAIL SCALE
SHEET NUMBER

SITE ORIENTATION (NORTH)
ROOF SLOPE (PLAN)

DEMOLITION KEYED NOTE TAG
NEW WORK KEYED NOTE TAG
CEILING MATERIAL
CEILING HEIGHT OFF THE FLOOR
BUILDING SECTION

WALL SECTION

DETAIL

DETAIL NUMBER
DESCRIPTION OF SIMILAR OR OPPOSITE
SHEET WHERE SHOWN
AREA TO BE DETAILED

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
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CONSULTANTS:

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STATE OF MISSOURI
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MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: XXX
CHECKED BY: XXX

SHEET NAME:
SYMBOLS AND ABBREVIATIONS

1" ACTUAL

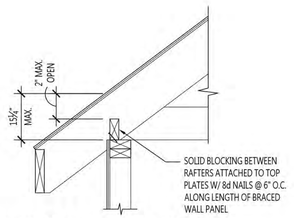
SHEET NUMBER:
G003

ACTUAL SHEET SIZE: 24" X 36"

2015 I.R.C. WALL BRACING NOTES

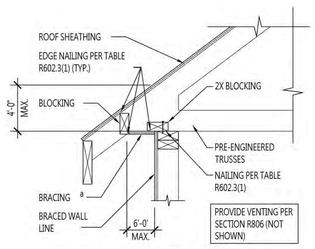
1. LATERAL BRACING IS DESIGNED IN ACCORDANCE W/ THE 2009 IRC. PRESCRIPTIVE METHODS PER SECTION R602.10 U.N.O.. NON-PRESCRIPTIVE METHODS ARE DESIGNED IN ACCORDANCE WITH THE 2009 I.B.C. AND ASCE 7-05.
2. LATERAL DESIGN CRITERIA:
   - 2.A. EXTERIOR BRACING METHOD: CONTINUOUS SHEATHING
   - 2.B. WIND EXPOSURE CATEGORY: B
   - 2.C. BASIC WIND SPEED: 90 mph
   - 2.D. SEISMIC DESIGN CATEGORY: C
   - 2E. SOILS CLASSIFICATION: D (NO SOILS REPORT PROVIDED)
3. CONTRACTOR TO CONSTRUCT THE LATERAL BRACING SYSTEMS AS SHOWN ON STRUCTURAL DRAWINGS. BRACED WALL PANELS, AS LOCATED ON THE DRAWINGS, ARE TO BE CONSTRUCTED PER THE DETAILS AND TABLES PROVIDED FOR EACH BRACING METHOD.
4. WALL ANCHORS AND HOLD DOWN ANCHORS SPECIFIED BY APPROPRIATE DETAILS SHALL BE INSTALLED ACCORDING TO DETAILS BEFORE POURING THE FOUNDATION WALLS U.N.O.
5. WOOD SPECIES: #1 SOUTHERN PINE: 2x6, 2x8, 2x10, 2x12 FRAMING MEMBERS
   #2 SPRUCE-PINE-FIR: 2x4, 2x6 STUDS
   #1 DOUGLAS FIR-SOUTH: 6x6 OR 8x8 POSTS
6. STEEL DESIGNATIONS: A36: TOP PLATE, BOTTOM PLATE, STRUCTURAL ANGLES
   A500 Gr. B: HSS STRUCTURAL TUBES
   A992: W-SHAPES
7. FASTEN ALL STRUCTURAL MEMBERS AND BRACING PER TABLE R602.3(1) REF. SHEET S-102
8. BWP'S INTERIOR FINISH MATERIALS SHALL BE A MIN. ½" GYPSUM WALL BOARD AND FASTENED ACCORDING TO TABLE R702.3.5. REF. SHEET A-003
9. CONTINUOUS SHEATHING BRACE WALL PANEL DESIGNATION AND METHOD OF CONSTRUCTION:
   - 9.A. A MINIMUM 24" PANEL CORNER RETURN SHALL BE PROVIDED @ BOTH ENDS OF BWL IN LIEU OF CORNER RETURN, PROVIDE A MIN. 800lb HOLD DOWN DEVICE, SIMPSON LSTHD8 (INSTALL PER MANUFACTURERS SPECIFICATIONS).
   - 9.B. CORNER FRAMING FOR CONTINUOUS SHEATHING METHOD IS TO BE INSTALLED PER FIGURE R602.10.4.4(1) REF. DETAIL 4/A-002
10. BWP CONNECTIONS TO FLOOR FRAMING AND FOUNDATION TO BE INSTALLED PER FIGURES R602.10.6(1) AND R602.10.6(2) REF. DETAILS 5/A-002 & 6/A-002
11. BWP CONNECTIONS TO ROOF FRAMING TO BE INSTALLED PER FIGURES R602.10.6.2(1), R602.10.6.2(2) AND R602.10.6.2(3). REF. DETAILS 1/A-002, 2/A-002 & 3/A-002

SUMMARY OF LATERAL BRACING METHODS		
METHOD	FASTENING REQUIREMENTS	STRUCTURAL DRAWING REF NUMBER
CS-PF	PER 2009 I.R.C FIGURE R602.10.4.1.1	7/A-002
CS-WSP	6d COMMON NAILS @ 6" O.C. @ PANEL EDGES AND 12" O.C. @ INTERMEDIATE SUPPORTS REF TABLE R602.3(1) & TABLE R602.3(3)	A-003
GB	NAILS OR SCREWS @ 4" O.C. @ PANEL EDGES W/ ALL EDGES BLOCKED. REF TABLE R702.3.5	A-003



1 A-002 **BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS**

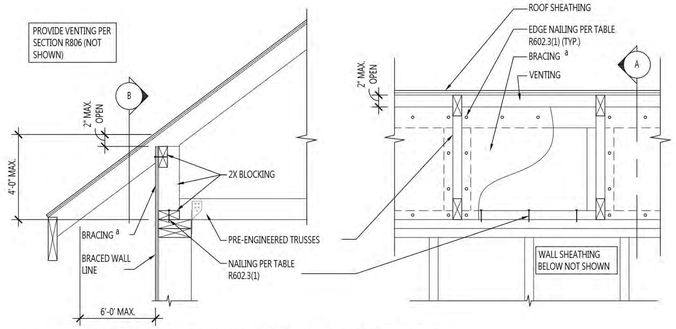
SCALE: 1" = 1'-0" FIGURE R602.10.6.2(1)



a. METHODS OF BRACING SHALL BE AS DESCRIBED IN SECTION R602.10.2 METHOD DWB, WSP, SFB, GB, PBS, PCP OR HPS

2 A-002 **BRACED WALL PANEL CONNECTION OPTION TO PERPENDICULAR RAFTERS OR ROOF TRUSSES**

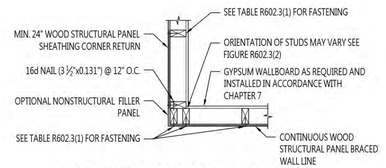
SCALE: 1" = 1'-0" FIGURE R602.10.6.2(2)



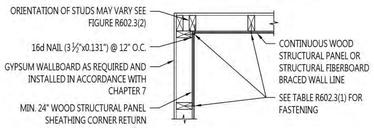
a. METHODS OF BRACING SHALL BE AS DESCRIBED IN SECTION R602.10.2 METHOD DWB, WSP, SFB, GB, PBS, PCP OR HPS

3 A-002 **BRACED WALL PANEL CONNECTION OPTION TO PERPENDICULAR RAFTERS OR ROOF TRUSSES**

SCALE: 1" = 1'-0" FIGURE R602.10.6.2(3)



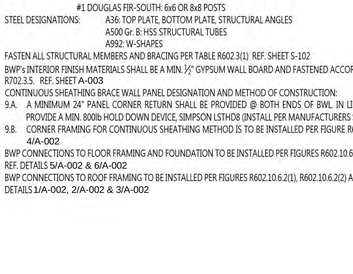
OUTSIDE CORNER DETAIL



INSIDE CORNER DETAIL

4 A-002 **TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING**

SCALE: 3/4" = 1'-0" FIGURE R602.10.4.4(1)

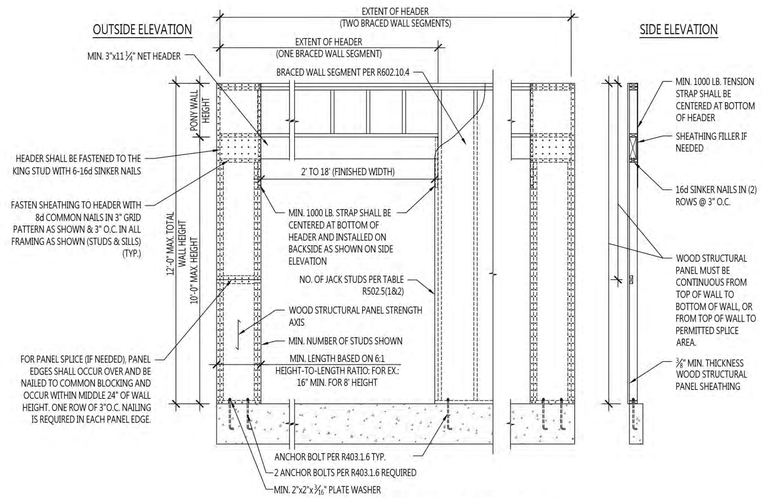


5 A-002 **BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING**

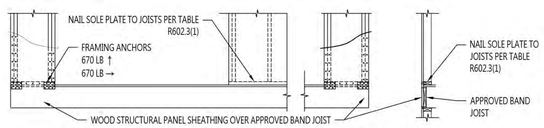
SCALE: 3/4" = 1'-0" FIGURE R602.10.6(1)

6 A-002 **BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING**

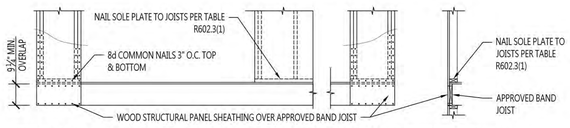
SCALE: 3/4" = 1'-0" FIGURE R602.10.6(2)



OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR OR SECOND FLOOR - FRAMING ANCHOR OPTION

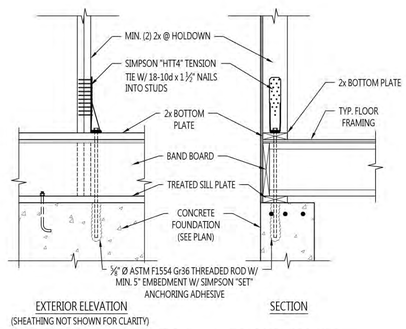


OVER RAISED WOOD FLOOR OR SECOND FLOOR - WOOD STRUCTURAL PANEL OVERLAP OPTION

7 A-002 METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION

SCALE: ⅜"=1'-0" FIGURE R602.10.4.1.1

IMPORTANT CODE REQUIREMENT:
ONLY FOR USE ON HOMES WITH FULLY SHEATHED PLYWOOD OR OSB EXTERIOR WALLS, PER IRC R602.10.4.



8 A-002 TYPICAL 800# HOLDOWN DETAIL @ FIRST FLOOR FRAMING - POST INSTALLED OPTION

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

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
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314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI — BRENT A. CRITTENDEN — NUMBER A-2006003774 — ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: XXX
CHECKED BY: XXX

SHEET NAME:

TYPICAL IRC DETAILS

1" ACTUAL

SHEET NUMBER:

G004

ACTUAL SHEET SIZE: 24" X 36"

2015 I.R.C. TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER [a,c]	SPACING OF FASTENERS
	ROOF		
1	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	3-8d	-
2	CEILING JOISTS TO PLATE, TOE NAIL	3-8d	-
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTERS, LAPS OVER PARTITIONS, FACE NAIL	3-10d	-
4	COLLAR TIE RAFTER, FACE NAIL OR 1 ½" X 20 GAGE RIDGE STRAP	3-10d	-
5	RAFTER TO PLATE, TOE NAIL	2-16d	-
6	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS: TOE NAIL or FACE NAIL	4-16d or 3-16d	-
	WALL		
7	BUILT-UP CORNER STUDS	10d	24" o.c.
8	BUILT-UP HEADER, TWO PIECES WITH ½" SPACER	16d	16" o.c. ALONG EACH EDGE
9	CONTINUED HEADER, TWO PIECES	16d	16" o.c. ALONG EACH EDGE
10	CONTINUOUS HEADER TO STUD, TOE NAIL	4-8d	-
11	DOUBLE STUDS, FACE NAIL	10d	24" o.c.
12	DOUBLE TOP PLATES, FACE NAIL	10d	24" o.c.
13	DOUBLE TOP PLATES, MINIMUM 24-INCH OFFSET OF END JOINTS, FACE NAIL IN LAPPED AREA	8-16d	-
14	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d	16" o.c.
15	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	3-16d	16" o.c.
16	STUD TO SOLE PLATE, TOE NAIL	3-8d OR 2-16d	-
17	TOP OR SOLE PLATE TO STUD, END NAIL	2-16d	-
18	TOP PLATES, LAP AT CORNERS AND INTERSECTIONS, FACE NAIL	2-10d	-
19	1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d	-
20	1" X 6" SHEATHING TO EACH BEARING, FACE NAIL	2-8d	-
21	1" X 8" SHEATHING TO EACH BEARING, FACE NAIL	2-8d	-
22	WIDER THAN 1" X 8" SHEATHING TO EACH BEARING, FACE NAIL	3-8d	-
	FLOOR		
23	JOISTS TO SILL OR GIRDER, TOE NAIL	3-8d	-
24	1" X 6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d	-
25	2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16d	-
26	RIM JOISTS TO TOP PLATE, TOE NAIL	8d	6" o.c.
27	2" PLANKS	2-16d	AT EACH BEARING
28	BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	10d	NAIL EACH LAYER AS FOLLOWS: 32" o.c. AT TOP AND BOTTOM AND STAGGERED. TWO NAILS AT ENDS AND AT EACH SPLICE.
29	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3-16d	AT EACH JOIST OR RAFTER

2015 I.R.C. TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS (continued)

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER [c,e]	SPACING OF FASTENERS: EDGES (INCHES) [i]	SPACING OF FASTENERS: INTERMEDIATE SUPPORTS [c,e] (INCHES)
	WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING, AND PARTICLEBOARD WALL SHEATHING TO FRAMING			
30	⅜" - ½"	6d COMMON NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12 [g]
31	5/8" - ¾"	6d COMMON NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12 [g]
32	7/8" - 1"	8d COMMON NAIL	6	12 [g]
33	1⅛" - 1¼"	10d COMMON NAIL OR 8d DEFORMED NAIL	6	12
	OTHER WALL SHEATHING [b]			
34	½" STRUCTURAL CELLOLOSIC FIBERBOARD SHEATHING	1½" GALVANIZED ROOFING NAIL; 7/16" CROWN OR 1" CROWN STAPLE 16ga., 1½" LONG	3	6
35	25/32" STRUCTURAL CELLOLOSIC FIBERBOARD SHEATHING	1¾" GALVANIZED ROOFING NAIL; 7/16" CROWN OR 1" CROWN STAPLE 16ga., 1½" LONG	3	6
36	½" GYPSUM SHEATHING [d]	1½" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1¼" SCREWS, TYPE W OR S	7	7
37	⅝" GYPSUM SHEATHING [d]	1⅝" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1⅝" LONG; 1⅝" SCREWS, TYPE W OR S	7	7
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
38	¾" AND LESS	6d DEFORMED NAIL OR 8d COMMON NAIL	6	12
39	⅞" - 1"	8d COMMON NAIL OR 8d DEFORMED NAIL	6	12
40	1⅛" - 1¼"	10d COMMON NAIL OR 8d DEFORMED NAIL	6	12

a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80ksi for shank diameter of 0.192 inch (20d common nail), 90ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100ksi for shank diameters of 0.142 inch or less.

c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.

d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be installed vertically.

e. Spacing of fasteners not included in this table shall be based on Table R602.3(2)

g. For regions having basic wind speed of 100mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.

h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.

i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and at all roof pane perimeters. Blocking of roof or floor sheathing panel edges perpendicular to the framing members shall not be required except at intersection of adjacent roof panels. Floor and roof perimeter shall be supported by framing members or solid blocking.

2015 I.R.C. TABLE R602.3(3) REQUIREMENTS FOR WOOD STRUCTURAL PANEL WALL SHEATHING USED TO RESIST WIND PRESSURES [a,b,c]

MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (INCHES)	MAXIMUM WALL STUD SPACING (INCHES)	PANEL NAIL SPACING		MAXIMUM WIND SPEED (mph)		
							WIND EXPOSURE CATEGORY		
SIZE	PENETRATION (INCHES)				EDGES (INCHES O.C.)	FIELD (INCHES O.C.)	B	C	D
6d COMMON	1.5	24/0	3/8	16	6	12	110	90	85
8d COMMON	1.75	24/16	7/16	16	6	12	130	110	105
				24	6	12	110	90	85

a. Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs space more that 16 inches on center shall be applied with panel strength axis perpendicular to supports.

b. Table is based on wind pressures acting toward and away from building surfaces per Section R301.2. Lateral bracing requirements shall be in accordance with R602.10.

c. Wood Structural Panels with span rating of Wall-16 or Wall-24 shall be permitted as an alternative to panels with a 24/0 span rating. Plywood siding rated 16oc or 24oc shall be permitted as an alternative to panels with a 24/16 span rating. Wall-16 and Plywood siding 16oc shall be used with studs spaced a maximum of 16 inches on center.

2015 I.R.C. TABLE R702.3.5 MINIMUM THICKNESS AND APPLICATION OF GYPSUM BOARD

THICKNESS OR GYPSUM BOARD (inches)	APPLICATION	ORIENTATION OF GYPSUM BOARD TO FRAMING	MAXIMUM SPACING OF FRAMING MEMBERS (inches o.c.)	MAXIMUM SPACING OF FASTENERS (inches): NAILS [a]	MAXIMUM SPACING OF FASTENERS (inches): SCREWS [b]	SIZE OF NAILS FOR APPLICATION TO WOOD FRAMING
	APPLICATION WITHOUT ADHESIVE					
⅛	CEILING [d]	PERPENDICULAR	16	7	12	13 gage, 1¼" long, 19/64" head. 0.098" diameter, 1¼"long, annular-ringed. 4d cooler nail, 0.080" diameter, 1⅜" long, 7/32" head.
	WALL	EITHER DIRECTION	16	8	16	
½	CEILING	EITHER DIRECTION	16	7	12	13 gage, 1⅜" long, 19/64" head. 0.098" diameter, 1⅜"long, annular-ringed. 5d cooler nail, 0.086" diameter, 1⅝" long, 19/64" head. or gypsum board nail, 0.086" diameter, 1⅝" long, 7/32" head.
	CEILING [d]	PERPENDICULAR	24	7	12	
	WALL	EITHER DIRECTION	24	8	12	
	WALL	EITHER DIRECTION	16	8	16	
⅝	CEILING	EITHER DIRECTION	16	7	12	13 gage, 1⅝" long, 19/64" head. 0.098" diameter, 1⅜"long, annular-ringed. 6d cooler nail, 0.092" diameter, 1⅞" long, 7/32" head. or gypsum board nail, 0.0915" diameter, 1⅞" long, 7/32" head.
	CEILING [e]	PERPENDICULAR	24	7	12	
	WALL	EITHER DIRECTION	24	8	12	
	WALL	EITHER DIRECTION	16	8	16	
	APPLICATION WITH ADHESIVE					
⅜	CEILING [d]	PERPENDICULAR	16	16	16	Same as above for ⅜" gypsum board
	WALL	EITHER DIRECTION	16	16	24	
½ or ⅝	CEILING	EITHER DIRECTION	16	16	16	Same as above for ½" and ⅝" gypsum board, respectively
	CEILING [d]	PERPENDICULAR	24	12	16	
	WALL	EITHER DIRECTION	24	16	24	
Two ⅜ layers	CEILING	PERPENDICULAR	16	16	16	Base ply nailed as above for ½" gypsum board. Face ply installed with adhesive
	WALL	EITHER DIRECTION	24	24	24	

a. For application without adhesive, a pair of nails spaced not less than 2 inches apart or more than 2½ inches apart may be used with the pair of nails spaced 12 inches on center.

d. Three-eighths-inch-thick single-ply gypsum board shall not be used on a ceiling where a water-based textured finish is to be applied, or where it will be required to support insulation above a ceiling. On ceiling applications to receive a water-based textured material, either hand or spray applied, the gypsum board shall be applied perpendicular to framing. When applying a water-based texture material, the minimum gypsum board thickness shall be increased from ⅜ inch to ½ inch for 16 inches on center framing, and from ½ inch to ⅝ inch for 24-inch on center framing or ½-inch sag-resistant gypsum ceiling board shall be used.

e. Type X gypsum board for garage ceilings beneath habitable rooms shall be installed perpendicular to the ceiling framing and shall be fastened at maximum 6 inches o.c. by minimum 1⅞ inches 6d coated nails or equivalent drywall screws.

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: XXX
CHECKED BY: XXX

SHEET NAME:

TYPICAL IRC TABLES

1" ACTUAL

SHEET NUMBER:

G005

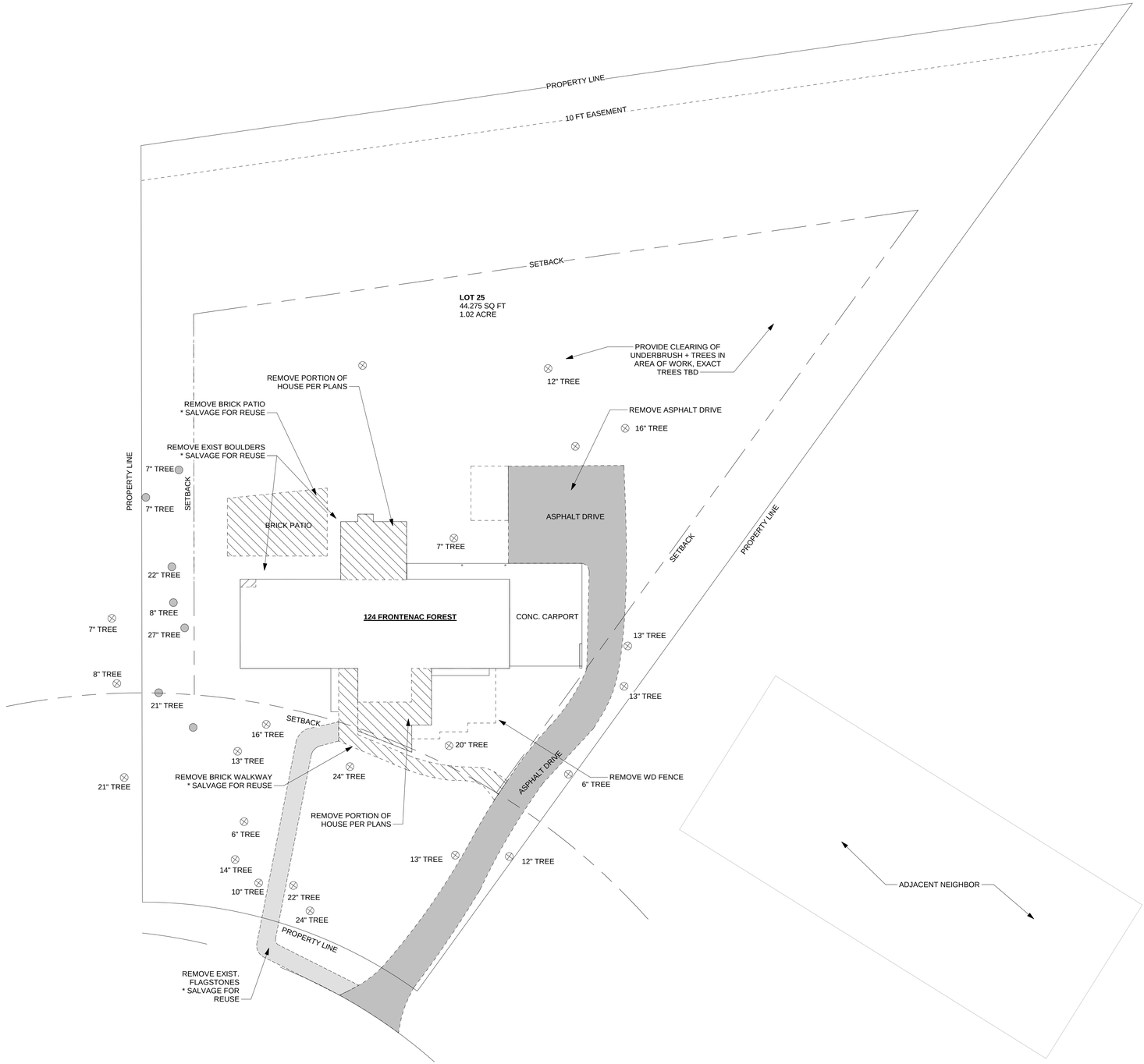
ACTUAL SHEET SIZE: 24" X 36"

DEMOLITION PLAN GENERAL NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN DRAWINGS AND EXISTING CONDITIONS.
2. REMOVE ALL FINISH FLOORING THROUGHOUT
3. REMOVE ALL INT. WALLS SHOWS DASHED.
4. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES THROUGHOUT.
5. REMOVE EXISTING GWB/PLASTER CEILINGS AND WALLS THROUGHOUT.
6. REMOVE FINISH FLOORING DOWN TO SUBFLOOR THROUGHOUT.
7. REMOVE PLUMBING FIXTURES THROUGHOUT.
8. REMOVE ALL WINDOWS AND DOORS.
9. REMOVE ALL EXTERIOR SIDING.

TREE TO BE REMOVED

TREE TO REMAIN



1 DEMOLITION SITE PLAN
D201 1/16" = 1'-0"

124 FRONTENAC FOREST FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
DEMOLITION SITE PLAN

1" ACTUAL

SHEET NUMBER:
D201

ACTUAL SHEET SIZE: 24" X 36"

DEMOLITION PLAN GENERAL NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN DRAWINGS AND EXISTING CONDITIONS.
2. REMOVE ALL FINISH FLOORING THROUGHOUT
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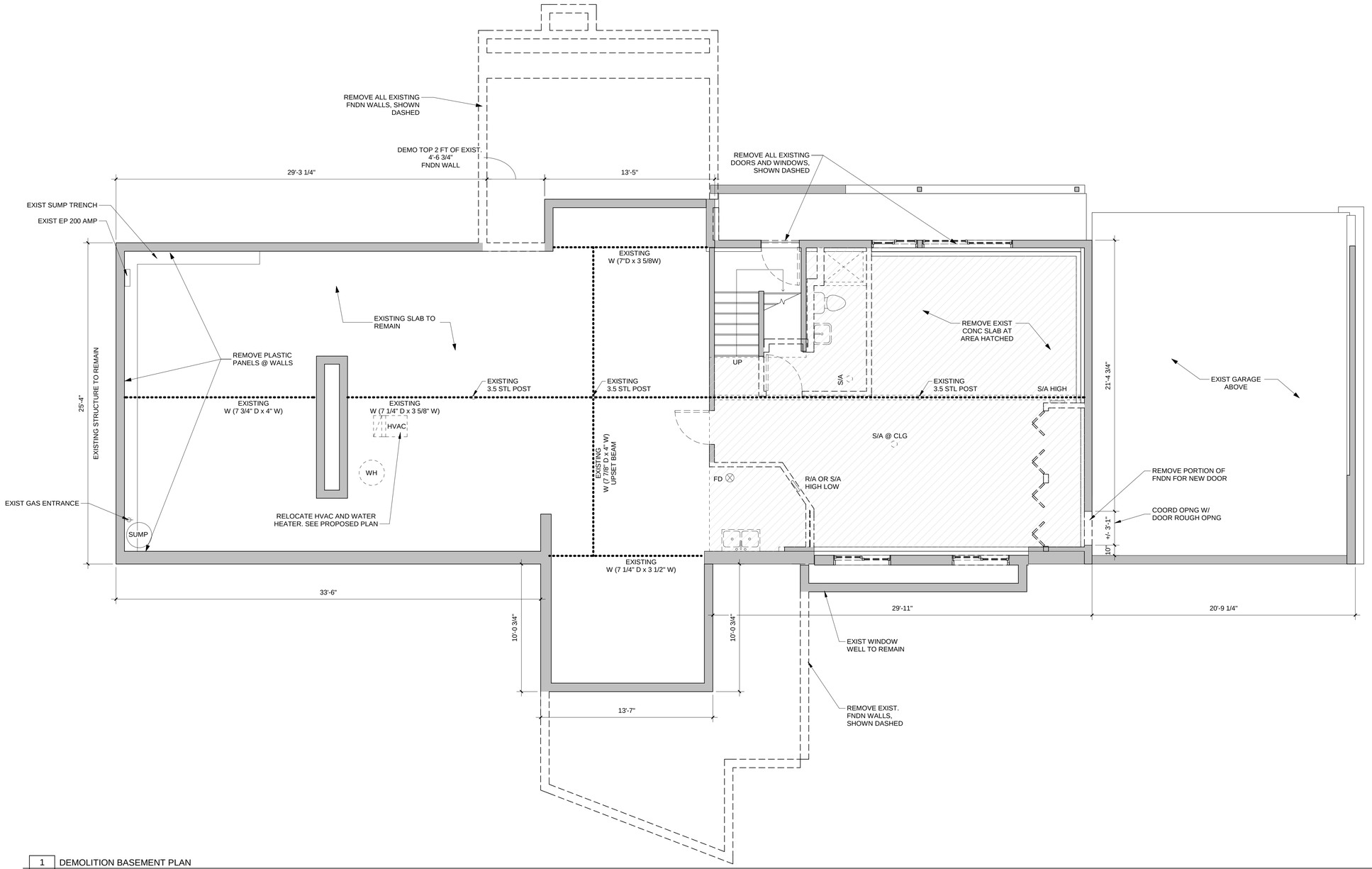
8. REMOVE ALL WINDOWS AND DOORS.
9. REMOVE ALL EXTERIOR SIDING.

TREE TO BE REMOVED

TREE TO REMAIN



1 DEMOLITION BASEMENT PLAN
D202 1/4" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
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314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: Checker

SHEET NAME:

DEMOLITION PLANS

1" ACTUAL

SHEET NUMBER:

D202

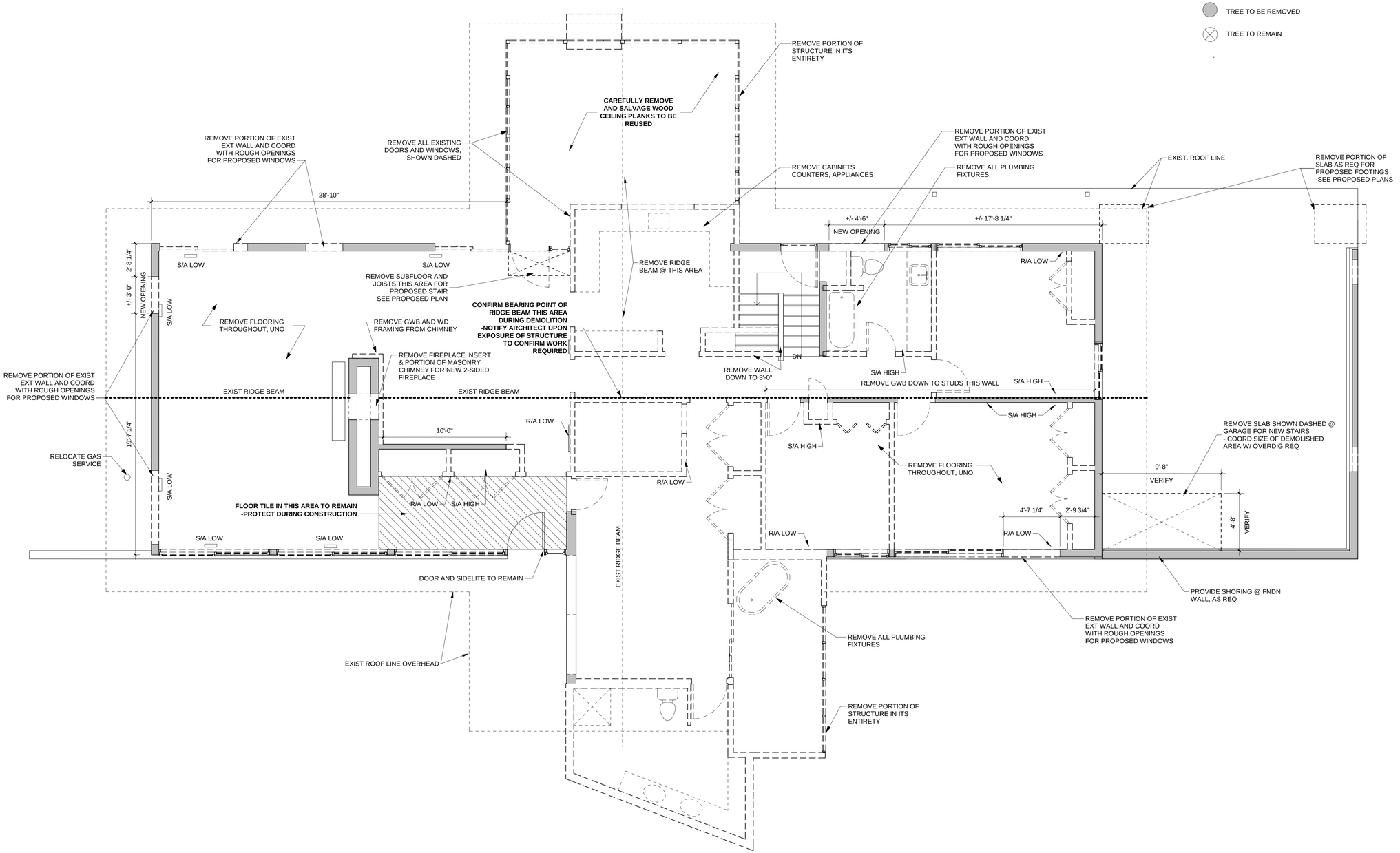
ACTUAL SHEET SIZE: 24" X 36"

DEMOLITION PLAN GENERAL NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK. NOTIFY ARCHITECT OF DISCREPANCIES BETWEEN DRAWINGS AND EXISTING CONDITIONS.
2. REMOVE ALL FINISH FLOORING THROUGHOUT
3. REMOVE ALL INT. WALLS SHOWS DASHED.
4. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES THROUGHOUT.
5. REMOVE EXISTING GWB/PLASTER CEILINGS AND WALLS THROUGHOUT.
6. REMOVE FINISH FLOORING DOWN TO SUBFLOOR THROUGHOUT.
7. REMOVE PLUMBING FIXTURES THROUGHOUT.
8. REMOVE ALL WINDOWS AND DOORS.
9. REMOVE ALL EXTERIOR SIDING.

TREE TO BE REMOVED

TREE TO REMAIN



1 DEMOLITION FIRST FLOOR PLAN
D203 1/4" = 1'-0"

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124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI · BRENT A. CRITTENDEN · NUMBER A-2006003774 · ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: MJS

SHEET NAME:

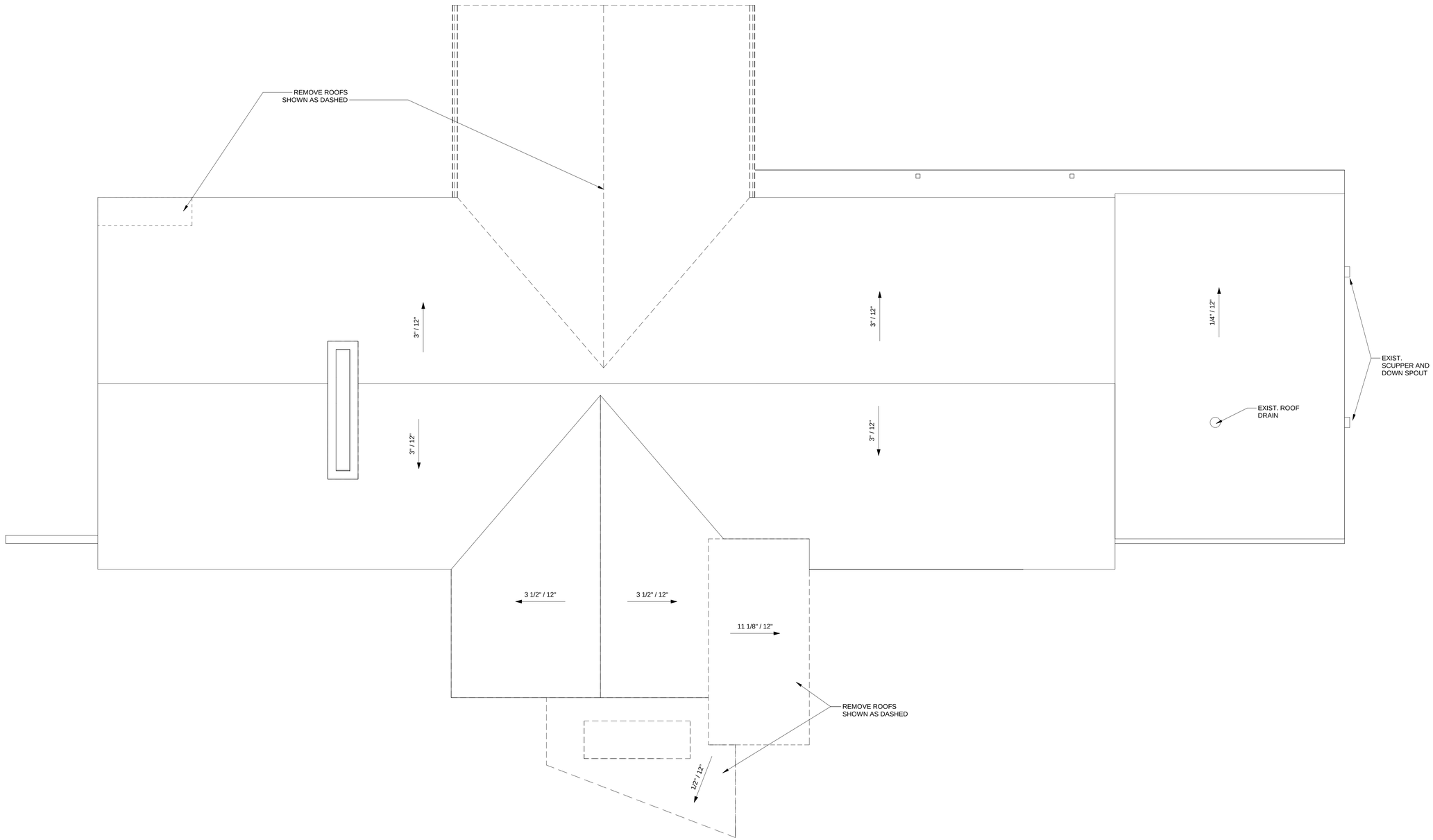
DEMOLITION PLANS

1" ACTUAL

SHEET NUMBER:

D203

ACTUAL SHEET SIZE: 24" X 36"



1 D204 DEMOLITION ROOF PLAN
1/4" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: Checker

SHEET NAME:

DEMOLITION PLANS

1" ACTUAL

SHEET NUMBER:

D204

ACTUAL SHEET SIZE: 24" X 36"

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A B C D E F G T

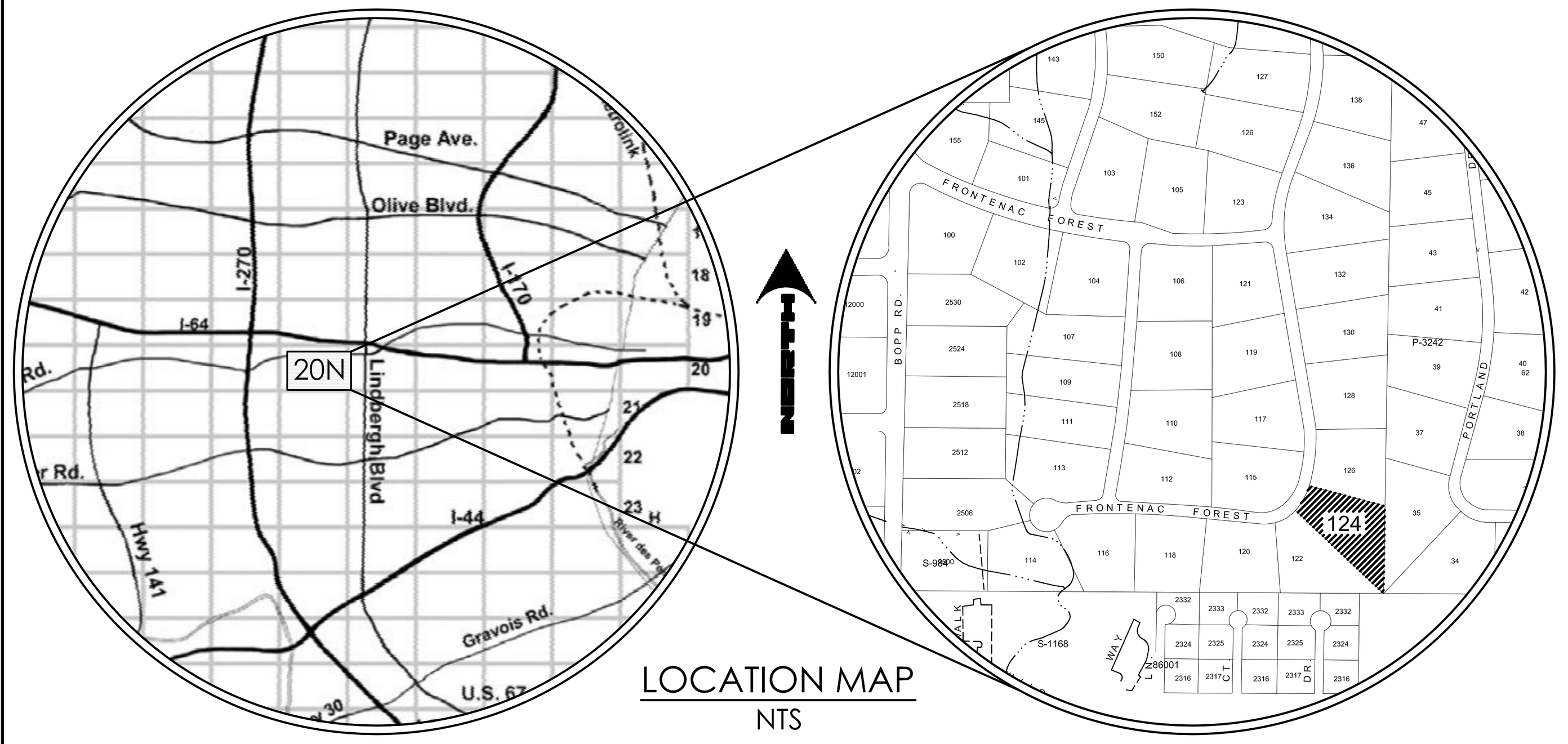
SITE IMPROVEMENT PLANS

FOR

PROPOSED BUILDING ADDITIONS

LOCATED AT

124 FRONTENAC FOREST ST.



LOCATION MAP
NTS

PERTINENT DATA

TOTAL AREA OF TRACT	: 44,275 SF, 1.01 AC
LOCATOR NUMBER	: 20N210327
SITE ADDRESS	: 124 FRONTENACE FOREST ST
ZIP CODE	: 63131
WUNNENBERG	: V21-34
FIRE DISTRICT	: FRONTENAC
SCHOOL DISTRICT	: LADUE
MUNICIPALITY	: FRONTENAC
SEWER DISTRICT	: MSD
RECORD OWNERS OF TRACT	: JARRETT THOMAS K & CAROL A T/E
WATERSHED	: DEER CREEK
FIRM PANEL	: 29189C0306K, DATED 2/4/2015
ZONING	: R-1

INDEX OF SHEETS

PRELIMINARY

STATE OF MISSOURI
DANIEL C. WIND, JR.
NUMBER E-19364
REGISTERED PROFESSIONAL ENGINEER

Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

PRELIMINARY PLAN DISCLAIMER

THIS PLAN HAS BEEN DEVELOPED USING RECORD OR AVAILABLE SURVEY, TOPOGRAPHIC, DRAINAGE, SEWER AND UTILITY INFORMATION. THE DESIGN OF SITE IMPROVEMENTS INCLUDING FINISH GRADES, SEWERS, DRAINAGE, UTILITIES, AND PAVING IS STRICTLY PRELIMINARY, SUBJECT TO REVISION DURING FINAL ENGINEERING DESIGN AND AGENCY PROCESSING. THIS PLAN IS NOT FOR CONSTRUCTION.

LEGAL DESCRIPTION

A TRACT OF LAND BEING LOT 25 OF FRONTENAC FOREST, A SUBDIVISION IN ST. LOUIS COUNTY, MISSOURI, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 65 ON PAGES 48 & 49 OF ST. LOUIS COUNTY RECORDS IN ST. LOUIS COUNTY, MISSOURI

SOURCE OF BOUNDARY AND TOPOGRAPHIC INFORMATION

BOUNDARY, IMPROVEMENT, AND TOPOGRAPHICAL INFORMATION PROVIDED BY TOPOS SURVEYING CORP, PHILLIP J WURM, MO PLS-2278, DATED 12-13-2019.

ADDITIONAL TOPOGRAPHICAL INFORMATION FROM SITE RECONNAISSANCE AND AVAILABLE RECORDS.

BENCHMARK

SITE BENCHMARK: TOP OF SANITARY MANHOLE 20N4-150S AT SOUTHEAST CORNER OF SITE. TOP ELEVATION= 608.70.

GENERAL NOTES

1. DRIVEWAY ENTRANCE & ANY OTHER IMPROVEMENTS OR CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF FRONTAGE STREET(S), INCLUDING UTILITY CONNECTIONS, TO CONFORM TO THE DETAILS AND PERMIT REQUIREMENTS OF THE A.H.J. AND UTILITY PROVIDERS. APPLICANT FOR BUILDING PERMIT MAY NEED TO SECURE A SEPARATE PERMIT FOR A TEMPORARY ENTRANCE /CONSTRUCTION ACCESS TO THE WORK SITE.
2. INSTALL SILTATION CONTROL, OTHERS BMP'S & REVEGETATE DISTURBED AREAS PER REQUIREMENTS OF THE A.H.J. THE APPLICANT MAY NEED TO SECURE A SEPARATE LAND DISTURBANCE (L.D.) PERMIT IN ACCORDANCE WITH THE REQUIREMENTS OF THE AH.J. CONTRACTOR SHALL IMPLEMENT PROCEDURES TO KEEP FRONTAGE STREETS CLEAN & FREE OF MUD, DEBRIS OR STORED MATERIALS.
3. SEE ARCHITECTURAL PLAN (A/E) FOR FINAL BUILDING DIMENSIONS INCLUDING ROOF OVERHANGS. PRIOR TO STAKING OR ANY EXCAVATION ON THE SITE, THE CONTRACTOR TO VERIFY DIMENSIONAL CONFORMITY OF THE STRUCTURE AND ANY PATIOS OR DECKS VERSUS THAT AS DEPICTED ON THE SITE PLAN. DIFFERENCES MAY REQUIRE THE ADJUSTMENT(S) TO FINISH ELEVATIONS OR LOCATION OF THE STRUCTURE ON THE PROPERTY INCLUDING SETBACKS TO PROPERTY LINES, ETC.
4. THE APPLICANT IS RESPONSIBLE TO SUBMIT FOR ANY SEPARATE PERMITS FROM THE LOCAL FIRE PROTECTION DISTRICT.
5. ADJUST ELEVATIONS AND FINISH GRADES AS REQUIRED TO ATTAIN MINIMUM CLEARANCES & SLOPES OF: 8" BELOW TOP OF FOUNDATION (T.F.) WITHOUT A TREATED SILL PLATE; 6" BELOW T.F. WITH TREATED SILL PLATE; 4" BELOW BASEMENT FLOOR OPENING ONTO TURF GRADE; 6" DROP WITHIN THE FIRST TEN (10) FEET AWAY FROM THE FOUNDATION UNLESS RESTRICTED BY A PROPERTY LINE, OR TO A SWALE. IMPERVIOUS SURFACES (E.G. A PATIO) WITHIN TEN (10) FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF TWO PERCENT (2%) AWAY FROM THE BUILDING BUT NOT EXCEED ANY LIMITING GRADIENTS PER ADA REGULATIONS APPLICABLE TO THE BUILDING.
6. FINISH GRADE ALL AREAS FOR POSITIVE DRAINAGE. (TYP).
7. BUILDER TO COORDINATE WITH UTILITY PROVIDERS THE LOCATIONS OF SERVICE CONNECTIONS,ENTRIES AND METER SETS. MAINTAIN CODE-COMPLIANT SEPARATION BETWEEN UTILITIES INCLUDING SEWER LINES. CONNECT TO EXISTING SANITARY LATERAL PER LOCAL CODES. SEE SEWER AS BUILTS AS MAY BE ON FILE WITH LOCAL A.H.J. OR SEWER AUTHORITY FOR RECORD ELEVATION(S) OF EXISTING TAILSTAKES.
8. OVER DEEPEN FOUNDATION TO ATTAIN MIN. REQ'D FROST DEPTH AS MAY BE REQUIRED.
9. APPLICANT SHALL APPLY FOR AND SECURE ANY SEPARATE PERMITS FOR RETAINING WALLS IN ACCORDANCE WITH THE REQUIREMENTS OF THE A.H.J. WHETHER OR NOT ANY SUCH WALLS ARE DEPICTED ON THE SITE PLAN.
10. CONTRACTOR TO ADHERE TO LOCAL CODES AS MAY REQUIRE PROVISIONS FOR INGRESS-EGRESS FROM LOWER LEVEL(S) WHETHER OR NOT DEPICTED ON THE SITE PLOT PLAN. WINDOW AREAWAY DRAINS SHALL BE PROVIDED PER LOCAL CODE REQUIREMENTS. BASEMENT AREAWAY DRAINS AND FOUNDATION DRAIN TILES ARE NOT TO BE CONNECTED TO A SANITARY SEWER.
11. FOR ANY BUILDINGS LOCATED WITHIN THE 100-YEAR FLOOD ELEVATION, A LETTER OF MAP REVISION (LOMR) IS REQUIRED PER THE REQUIREMENTS OF THE A.H.J.

KEY MAP
SCALE:NTS

LEGEND

EXISTING (FIELD / APPROX)	DESCRIPTION	PROPOSED
528	CONTOURS	528
x 528	SPOT(S)	+ 528
	SLOPE DESIGNATOR	
G GV	GAS W/ VALVE	G GV
T	UNDERGROUND TELEPHONE	T
CATV	CABLE TV	CATV
	TRANSFORMER	
P	PEDESTAL	P
OHE	OVERHEAD LINES	OHE
PP	UTILITY POLE	PP
E	UNDERGROUND ELECTRIC	E
	LIGHT STANDARD	
W	WATER	W
WV	WATER VALVE	WV
WM	WATER METER/VAULT	WM
	FIRE HYDRANT	
ST	STORM SEWER	ST
	PERFORATED UNDERDRAIN	
SS	SANITARY SEWER	SS
	CURB INLET	
	AREA INLET & OPEN SIDE (ALL IF NO ARROWS)	
	GRATED INLET	
	CLEAN OUT/POP-UP EMITTER	
	MANHOLE	
	FLARED END SECTION WITH HEADWALL	
	DRAINAGE SWALE / DIRECTION OF FLOW	
	15 YR. 20 MIN HGL	
	100 YR. 20 MIN HGL	
MH XXXX–XXXS EX	SANITARY STRUCTURE	A
AI/C1 XXXX–XXXD EX	STORM STRUCTURE	#
	DRAINAGE AREA LIMITS	
#	DRAINAGE AREA DESIGNATOR	#
	CONCRETE	
	ASPHALT PAVEMENT	
	RIP RAP	
	BENCHMARK	
	SIGN (SINGLE POST)	
X	FENCE	
	LAND DISTURBANCE	
	SAWCUT	
	SILT FENCE	X
	RETAINING WALL	
DS	DOWNSPOUT WITH SPLASH BLOCK	DS

ABBREVIATIONS

AC	ACRE
AHJ	AUTHORITY HAVING JURISDICTION
ASP	ASPHALT
AWSE	APPROX WINDOW SILL ELEVATION
BF	BASEMENT FLOOR
BL	BUILDING LINE
CALC.	CALCULATED
℄	CENTER LINE
CO	CLEANOUT
CONC.	CONCRETE
DB	DEED BOOK
DS	DOWNSPOUT
ESMT.	EASEMENT
ELEV.	ELEVATION
EOP	EDGE OF PAVEMENT
EX	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FT	FEET
FF	FINISHED FLOOR ELEVATION
FL	FLOWLINE
GrLS	GRADE AT LOW SILL
HP	HIGH POINT
HORIZ.	HORIZONTAL
HWEL	HIGH WATER ELEVATION
HBW	HIGH BOTTOM WALL
LBW	LOW BOTTOM WALL
LP	LOW POINT
LS	LOW SILL
MH	MANHOLE
ME	MATCH EXISTING
MAX.	MAXIMUM
MIN.	MINIMUM
N/F	NOW OR FORMERLY
PB	PLAT BOOK
PG	PAGE
PIV	POST INDICATOR VALVE
#" PVC	POLYVINYL CHLORIDE
ℙ	PROPERTY LINE
#" RCP	RCP
R/W	RIGHT OF WAY
SAN.	SANITARY
SBM	SITE BENCHMARK
SF	SQUARE FEET
STA.	STATION
STM.	STORM
(TBA)	TO BE ABANDONED
(TBA&R)	TO BE ABANDONED & RELOCATED
(TBD)	TO BE DETERMINED
(TBR)	TO BE REMOVED
(TBR&R)	TO BE REMOVED & REPLACED
TF	TOP OF FOUNDATION
TW	TOP OF WALL
UNK	UNKNOWN
(UIP)	USE IN PLACE
#" VCP	VITRIFIED CLAY PIPE
VERT.	VERTICAL

124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
TITLE SHEET

Prepared For:
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No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

EXISTING CONDITIONS

THIS DRAWING REFLECTS THE RESULTS OF TOPOGRAPHIC AND BOUNDARY SURVEYS (AS MAY BE BASED UPON FIELD WORK, AVAILABLE RECORDS, OR A COMBINATION THEREOF), AND RESEARCH OF AVAILABLE UTILITY RECORDS, AS MAY OR MAY NOT HAVE BEEN SUPPLEMENTED BY SITE RECONNAISSANCE, TO THE BEST OF OUR KNOWLEDGE AND BELIEFS, CURRENT AS OF JANUARY 2020 PUBLICATION OF THIS DRAWING DOES NOT CONSTITUTE OR IMPLY A WARRANTY OR GUARANTEE OF SITE CONDITIONS. IT IS NOT INTENDED AND SHOULD NOT BE USED TO SUBSTITUTE OR REPLACE THE INVESTIGATIVE EFFORT(S) OF ANY DESIGN PROFESSIONAL, CONTRACTORS (PRIME OR SUB), OWNER, LENDER, END USERS, PURCHASERS OR ANYONE ELSE NOW HAVING OR AS WILL (MAY) HAVE AN INTEREST IN THE PROPERTY, SAME TO PERFORM THEIR OWN INDEPENDENT RESEARCH PRIOR TO OR DURING CONSTRUCTION, TO ASCERTAIN CONDITIONS AS EXIST AT THE SITE. REFER TO PROJECT GEOTECHNICAL REPORT FOR INFORMATION AS TO SUBSURFACE CONDITIONS. SEE NOTICES TO CONTRACTOR THIS SHEET. CONTACT 1-800-DIG-RITE FOR LOCATES OF MEMBER UTILITIES. PRIVATE SERVICE LINES MAY/WILL ADDITIONAL INVESTIGATION, BEYOND ANY PRIOR EFFORTS OF THIS OFFICE AS TO EXISTENCE AND/OR LOCATIONS.

UTILITIES/SERVICE PROVIDERS

CABLE TV
CHARTER SPECTRUM
941 CHARTER COMMONS
TOWN AND COUNTRY, MO 63017
PHONE: 636.220.2174

TELEPHONE
AT&T TELEPHONE COMPANY
13075 MANCHESTER ROAD
DES PERES, MO 63131
ATTN: MR. DOUG LAMPERT
PHONE: 314) 957-3748; (314) 963-3824

ELECTRIC
AMEREN MISSOURI
1901 CHOUTEAU
ST. LOUIS, MO 63166
CONSTRUCTIONHOTLINE@AMEREN.COM
T:(314) 641-2406

WATER
MISSOURI AMERICAN
727 CRAIG ROAD
CREVE COEUR, MO 63141
PHONE: 866.430.0820

SEWER
MSD
2350 MARKET STREET
ST. LOUIS, MO 63103
PHONE: 314.768.6260

FIRE
FRONTENAC FIRE DEPARTMENT
10555 CLAYTON RD
ST. LOUIS, MO 63131
PHONE:314 .994.1801

GAS
SPIRE INC
720 OLIVE STREET
ST. LOUIS, MO 63101
PHONE: 314.621.6960

NOTICE TO CONTRACTOR

THE LOCATION OF ANY UNDERGROUND FACILITIES, STRUCTURES, UTILITIES, SEWERS AND DRAINAGE FACILITIES, PUBLIC OR PRIVATE, AS MAY BE SHOWN ON THESE DRAWINGS HAVE BEEN APPROXIMATED FROM: FACILITY MAPS PROVIDED TO OUR OFFICE BY UTILITY PROVIDERS, RECEIVED AS OF THE DATE OF THIS DRAWING: EXTRAPOLATION FROM SURFACE FEATURES AS MAY HAVE BEEN NOTED DURING FIELD RECONNAISSANCE OR FIELD SURVEYS, AND/OR LOCATES AS MAY HAVE BEEN MARKED ON THE SURFACE BY MO ONE CALL / DIG-RITE. THEIR LOCATION(S) MUST BE CONSIDERED STRICTLY APPROXIMATE, ARE INTENDED FOR GENERAL INFORMATION ONLY, AND SHOULD NOT BE RELIED UPON BY ANYONE HAVING ACCESS TO THIS DRAWING. IT IS THE RESPONSIBILITY OF ANY CONTRACTORS / SUBCONTRACTORS OR ANYONE PERFORMING EXCAVATIONS OR CONSTRUCTING IMPROVEMENTS ON THIS SITE TO VERIFY NOT JUST THE X-Y-Z LOCATION(S) OF UTILITIES AS MAY BE SHOWN, BUT ALSO THE EXISTENCE OF ANY FACILITIES AS MAY NOT BE SHOWN, INCLUDING SERVICE LINES, AND THE RELATIONSHIP / COMPATIBILITY BETWEEN ANY PROPOSED WORK AND SUCH EXISTING FACILITIES, STRUCTURES, UTILITIES, SEWERS AND DRAINAGE FACILITIES, TO VERIFY ADEQUATE CLEARANCE/COVER/STRUCTURAL CAPABILITIES OR INTEGRITY VERSUS ANY PROPOSED GRADING, SEWERS AND/OR DRAINAGE FACILITIES, FOOTINGS, IMPROVEMENTS, ETC. PRIOR TO CONSTRUCTION. REPRESENTATIVES OF UTILITY COMPANIES, SEWER AND/OR WATER AUTHORITIES, INCLUDING LOCAL MUNICIPAL AGENCIES AS MAY HAVE JURISDICTION OVER SAME, SHALL BE ON SITE DURING SUCH TIMES THAT ANY WORK IS TAKING PLACE OVER, UNDER OR IN THE VICINITY OF ANY FACILITIES AS MAY BE SHOWN ON THE DRAWINGS OR OTHERWISE FOUND TO EXIST, AND THE CONTRACTOR(S) SHALL GIVE ADVANCE NOTICE TO SUCH REPRESENTATIVES AS NEEDED TO COORDINATE THEIR EFFORTS IN THIS REGARD. ADDITIONALLY, CONTRACTORS/ SUBCONTRACTORS SHALL INVESTIGATE, ASCERTAIN AND CONFORM TO ANY AND ALL PERMIT REQUIREMENTS OF THE (ANY) VARIOUS AFFECTED UTILITY PROVIDERS AND/OR REGULATORY AGENCIES WITH REGARDS TO MAKING CONNECTIONS TO, OR CROSSINGS OF, THEIR FACILITIES; WORKING WITHIN THEIR RIGHTS-OF-WAY OR EASEMENTS; INSPECTIONS AND ASSOCIATED DOLLAR CHARGES; AND/OR SPECIAL BACKFILL OR RESTORATION REQUIREMENTS. SUCH INVESTIGATIONS TO INCLUDE BUT NOT BE LIMITED TO THE MAKING OF NECESSARY APPLICATIONS AND PAYMENT OF ANY AND ALL REQUIRED FEES.}

BEFORE YOU
DIG - DRILL - BLAST
1-800-344-7483
(TOLL FREE)
MISSOURI ONE CALL SYSTEM, INC.

AREA OF LAND DISTURBANCE

AREA OF LAND DISTURBANCE=0.28 AC

GREEN SPACE CALCULATIONS

AREA OF GREEN SPACE (FRONT YARD)= 86.1%

RESERVED FOR AGENCY REVIEW

Date:	12-23-2019		
Field Work:	KS	Field Checked:	GS
Drawn By:	PC	C.S.O.:	PC
Checked By:	DW		
Project Number:	19094		
Sheet Number:	C1		
MSD P-		BASEMAP : 20N	
H & T #:			

THE GRID, AS DEFINED BY THE NUMBERS AND LETTERS IN THE BINDING AND UPPER MARGINS OF THIS SHEET, ARE FOR REFERENCE ONLY AND SHOULD NOT BE INTERPRETED AS HAVING ANY SCALE WITH RESPECT TO THE DRAWING'S CONTENTS OR GEOMETRY.

CONSTRUCTION NOTES

A. GENERAL (as may also be Common across multiple work tasks)

1. SEE INDIVIDUAL SHEETS AS FOLLOWS, AND ARCHITECTURAL / MEP / STRUCTURAL / LANDSCAPE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR POSSIBLE ADDITIONAL NOTES AND CONDITIONS REGARDING SITE AND DETAIL-SPECIFIC CONSTRUCTION REQUIREMENTS. THE MORE STRINGENT OF ANY DUPLICATIVE OR CONFLICTING NOTES AND REQUIREMENTS SHALL CONTROL.
2. ALL REFERENCES TO STANDARDS AND SPECIFICATIONS OF AGENCIES, INDUSTRY AND TRADE ASSOCIATIONS, RESEARCH INSTITUTES OR ORGANIZATIONS, ETC. EXPECT ADHERENCE TO THEIR (ANY) LATEST REVISIONS AND UPDATES, REGARDLESS OF THE DATES AS MAY BE INDICATED IN THE NOTES, DRAWINGS OR DETAILS. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL CONTRACTORS AND SUBCONTRACTORS TO RESEARCH, REVIEW AND ADHERE TO THE CURRENT, APPLICABLE LOCAL STANDARDS, CODES AND SPECIFICATIONS FOR MATERIALS AND METHODS OF INSTALLATION.
3. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS, THEREFORE, THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATION AND THE EXISTENCE OF ANY NOT SHOWN, INCLUDING PRIVATE SERVICE LINES. (ALL UTILITIES SHALL BE LOCATED BOTH HORIZONTALLY AND \VERTICALLY TO VERIFY CLEARANCE/COVER OF ANY PROPOSED GRADING, SEWERS, FOOTINGS, ETC. PRIOR TO CONSTRUCTION. UTILITY COMPANY REPRESENTATIVES SHALL BE ONSITE DURING SUCH TIMES THAT EXCAVATIONS ARE TAKING PLACE IN THE VICINITY OF THEIR FACILITIES.)
4. SIDEWALKS AND CURB RAMPS, RAMPS, WALKWAYS AND ACCESSIBLE PARKING SPACES, EXTERIOR PATHS AS PROPOSED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG), INCLUDING SPECIFICATIONS FOR SIGNAGE AND STRIPING, GRADES, DETECTABLE WARNING DEVICES, RAILINGS, AND CONSTRUCTIONS MATERIALS. IN THE EVENT THERE IS A CONFLICT BETWEEN THE INFORMATION AS SHOWN UPON THE DRAWINGS AND THE ADAAG, ADAAG SHALL TAKE PRECEDENCE. PRIOR TO CONSTRUCTING ANY MODIFICATIONS FROM AS SHOWN UPON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE OFFICE OF THE ENGINEER AS TO THE SPECIFIC CONFLICT AND THE PROPOSED ADJUSTMENT.
5. ALL ELEVATIONS ARE BASED ON U.S.G.S OR ST. LOUIS COUNTY DATUM. SEE APPLICABLE CONVERSION ON TITLE SHEET.
6. BOUNDARY, IMPROVEMENT, AND TOPOGRAPHICAL INFORMATION PROVIDED BY TOPOS SURVEYING CORPS, 12/13/2019.
7. ADDITIONAL TOPOGRAPHIC AND IMPROVEMENT INFORMATION FROM AVAILABLE RECORDS AND SITE RECONNAISSANCE.
8. OMITTED
9. THE RESULTS OF ANY DEPTH TO ROCK OR SOIL TESTING AS MAY BE SHOWN HEREON ARE FOR INFORMATION ONLY, WITHOUT ANY EXPRESSED OR IMPLIED AGREEMENT OR GUARANTEE THAT THE DEPTHS, CHARACTER OF, OR VARIATIONS IN MATERIALS ARE CORRECTLY SHOWN, OR THAT CONDITIONS AFFECTING THE WORK WILL NOT DIFFER FROM THAT AS SHOWN ON THESE DRAWINGS.
10. ROCK ELEVATIONS AS MAY BE SHOWN ON SEWER PROFILES ON CROSS SECTIONS HAVE BEEN INTERPOLATED BETWEEN TEST HOLES, BASED ON INFORMATION SUPPLIED BY PROJECT GEOTECH ENGINEER, AND ARE TO BE CONSIDERED APPROXIMATE ONLY.
11. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR(S) SHALL CONTACT THE OFFICE OF THE OWNER/DEVELOPER FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE COORDINATION AND SEQUENCING OF WORK AMONGST THE VARIOUS TRADES.
12. REFERENCE LINES AND GRADES SHALL BE ESTABLISHED BY THE CONTRACTOR(S) PRIOR TO STARTING THEIR WORK AND SHALL BE MAINTAINED DURING THE DURATION OF CONSTRUCTION.
13. THE CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION, ALL "OFF SITE" PROPERTY IN EASEMENTS DISTURBED BY HIS OPERATIONS THAT ARE NOT PROPOSED HEREON. ANY OFFISTE IMPROVEMENTS SHALL BE AS DIRECTED AND AUTHORIZED BY OWNER / OWNER AGREEMENT(S) WITH AJOINNIG PROPERTY AND VERIFICATION OF PROPERTY LINE / BOUNDARY BY OWNER'S BOUNDARY SURVEYOR AND TITLE AS NEEDED.
14. ALL WORK BEYOND THE LIMITS OF OWNER'S PROPERTY MUST BE PERFORMED WITHIN EXISTING OR ACQUIRED EASEMENTS. AGENCY APPROVAL OF THESE PLANS DOES NOT AUTHORIZE OR CONDONE WORK OUTSIDE OF EASEMENTS. OFFSITE PROPERTY \OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK ON THEIR PROPERTY.
15. ANY OFFSITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC.) DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE REPLACED IN KIND, FULLY AT THE CONTRACTOR'S EXPENSE.
16. REMOVAL OF CONCRETE PAVEMENT OR PAVERS SHALL BE TO THE NEAREST JOINT(S) OR EDGE OF PAVEMENT. INCREASE THE LIMITS OF REMOVAL AS NEEDED TO PERFORM THE SPECIFIC WORK THAT MANDATES REMOVAL OF PAVEMENT OR PAVERS. REMOVAL OF ASPHALT PAVEMENT SHALL BE ACCOMPLISHED VIA SAW CUT LOCATED AT LEAST 12 INCHES BEYOND THE LIMITS OF NEW WORK. REMOVAL OF CURBS (OR CURBS AND GUTTER) SHALL BE VIA SAW CUT LOCATED AT LEAST TWO FEET BEYOND THE LIMITS OF THE WORK REQUIRED. IF AN EXISTING JOINT IS LOCATED WITHIN 12 INCHES (BEYOND) A PLANNED SAW CUT AS DESCRIBED ABOVE, THE CURB SHALL BE REMOVED TO THE JOINT AND THE SAW CUT ELIMINATED. CONTRACTOR TO REPLACE ANY ADJACENT PAVEMENT, PAVERS OR CURBS, BEYOND THE LIMITS OF REMOVAL, THAT ARE DAMAGED BY HIS OPERATIONS.
17. ALL SAW CUTS SHALL BE TO A STRAIGHT AND TRUE LINE, PERPENDICULAR TO THE ALIGNMENT OF CURBS, PARALLEL AND PERPENDICULAR TO EXISTING JOINTS OR EDGES OF PAVEMENT, AND SHALL EXTEND THE FULL DEPTH OF THE PAVEMENT. SAW CUTTING OF PAVERS IS NOT PERMITTED.
16. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS AND CROSS REFERENCES OF THE CITY OF FRONTENAC. IN THE ABSENCE OF ANY APPLICABLE LOCAL STANDARDS, THE REQUIREMENTS SET FORTH OR AS REFERENCED HEREON SHALL GOVERN.
17. THE TERMS 'SOILS ENGINEER' AND 'GEOTECHNICAL ENGINEER' ARE TO BE CONSIDERED INTERCHANGEABLE, ONE AND THE SAME.
18. PROPOSED CONTOURS AND FINISH SPOT ELEVATIONS AS SHOWN ON THE DRAWINGS ARE FINAL GRADES AND READ TO TOP OF PAVEMENT AND/OR FINISH DIRT GRADE. THE CONTRACTORS ARE TO MAKE APPROPRIATE ADJUSTMENTS FOR VARIOUS SUBGRADE REQUIREMENTS.
19. "SPOT" FINISH GRADES ("SPOT ELEVATIONS") AND/OR ELEVATIONS OF THE TOP OF SEWER OR UTILITY STRUCTURES AS MAY BE SHOWN ON THE SITE PLAN AND/OR PROFILES ARE TO BE VERIFIED AT THE JOB SITE, BY THE CONTRACTORS, AND PROPER ADJUSTMENTS MADE AT NO ADDITIONAL COST. CONTRACTORS, OWNER AND/OR DEVELOPERS ARE HEREBY MADE AWARE OF THIS RESPONSIBILITY. CONTRACTORS SHOULD INCLUDE IN THEIR QUOTE TO THE OWNER OR DEVELOPER PROVISIONS FOR SUCH VERIFICATION. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTORS TO IDENTIFY ANY NEEDED ADJUSTMENTS AND NOTIFY THE DESIGN ENGINEER OF THE PROPOSED CHANGE, PRIOR TO CONSTRUCTION OF THOSE ITEMS THAT WOULD BE AFFECTED BY THE CHANGE IN ELEVATION. ADJUSTMENTS TO GRADES, PAVING, STRUCTURES OR OTHER ELEMENTS OF THE PROJECT DURING OR FOLLOWING CONSTRUCTION ARE LIKEWISE THE RESPONSIBILITY OF THE CONTRACTORS AS PART OF THIS VERIFICATION PROCEDURE.
20. ALL MANHOLES, INLETS, CLEANOUTS, METER VAULTS, UTILITY ACCESS BOXES, RISERS, VALVE AND SHUT-OFF BOXES, ETC. SHALL BE ADJUSTED TO ADAPT TO FINISH GRADES.
21. THE CONTRACTOR(S) SHALL VERIFY THE X-Y-Z LOCATION OF EXISTING UTILITIES, SEWERS AND DRAINAGE FACILITIES AS LOCATED EITHER ON OR ADJOINING THE SITE, PRIOR TO ANY OTHER ACTIVITIES THEY MAY UNDERTAKE ON THE SITE, AND PROTECT SAME DURING THEIR WORK.
22. THE CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS.
23. OMITTED
24. ALL TRENCHES UNDER AREAS TO BE PAVED, AND UNDER EXISTING PAVING, SHALL BE BACKFILLED TO SUBGRADE WITH DURABLE CRUSHED LIMESTONE. USE CLEAN STONE WHERE RECOMMENDED BY THE SOILS ENGINEER. REFERENCE THE PROJECT GEOTECHNICAL REPORT. THE GRANULAR MATERIAL, INCLUDING GRADATION AND PLACEMENT, TO BE IN ACCORDANCE WITH THE STANDARDS OF MODOT, M.S.D., THE CITY OF FRONTENAC. AND/OR THE SOILS ENGINEER, WHICHEVER REQUIREMENTS MAY BE MORE STRINGENT. WHEREVER THE EDGE OF THE UTILITY AND/OR SEWER TRENCH IS LESS THAN THREE (3) FEET FROM THE PROPOSED OR EXISTING EDGE OF PAVED AREAS, GRANULAR BACKFILL IS REQUIRED.
25. IN ALL REGARDS THE PREVENTION OF TRENCH SETTLEMENT UNDER IMPROVED AREAS IS ESSENTIAL. RESTORATION OF SETTLED AREAS AND ANY DAMAGE RESULTING THEREFROM IS THE RESPONSIBILITY OF THE CONTRACTOR.
26. OMITTED
27. ALL DIMENSIONS AND OFF-SET DISTANCES ARE TO THE BACK OF CURB, EXCEPT WHERE NOTED.
28. VERTICAL CLEARANCE BETWEEN SANITARY SEWERS AND WATER SERVICE LINES OR WATER MAINS SHALL BE MINIMUM OF 2' -0"
29. RETAINING WALLS OF CAST-IN-PLACE CONCRETE, PRE-CAST SEGMENTAL UNITS (SRW) OR OTHER SYSTEMS TO BE DESIGNED BY THE SOILS ENGINEER OR THE WALL CONTRACTOR. WALL CONTRACTOR TO SUPPLY SEALED SHOP DRAWINGS, DETAILS AND STRUCTURAL CALCULATIONS AS MAY BE REQUIRED TO OBTAIN PERMITS FROM LOCAL REVIEW AGENCIES FOR ANY RETAINING WALLS.
30. THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES MAY/WILL/CAN REQUIRE COMPENSATION FOR RELOCATION OR ADJUSTMENT OF THEIR FACILITIES WITHIN THE PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION OR ADJUSTMENT COSTS MAY BE THE DEVELOPER'S RESPONSIBILITY. THE DEVELOPER SHOULD ALSO BE AWARE OF EXTENSIVE DELAYS TO ACCOMPLISH UTILITY RELOCATIONS AND ADJUSTMENTS. SUCH DELAYS MAY ENCUMBER THE CONSTRUCTION SCHEDULE OR OCCUPANCY.
31. ALL CONTRACTORS ARE TO PROVIDE ADEQUATE OFF-STREET PARKING FOR THEIR EMPLOYEES AND SUBCONTRACTORS. PARKING ON H NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES MAY BE TRACKED ONTO THE STREET PAVEMENT AS MAY POTENTIALLY CREATE HAZARDOUS CONDITIONS. CONSTRUCTION ENTRANCE, EMPLOYEE PARKING, WASHDOWN AREA: PROVIDE 8" TYPE "1" (MODOT) FREE-DRAINING AGGREGATE BASE OF A SIZE AS NEEDED TO ACCOMMODATE THE NUMBER AND SIZE OF CONSTRUCTION VEHICLES. A WASH STATION CONSISTING OF A ROCKED AREA CONNECTED TO ANY TEMPORARY DRIVEWAY AND PARKING AREA, INCLUDING A WATER SERVICE LINE OR WATER TRUCK, WILL NORMALLY BE REQUIRED ALONG WITH ADEQUATE PERSONNEL / STAFFING FOR REMOVAL OF MUD FROM VEHICLES LEAVING THE SITE. OTHER METHODS OF MUD CONTROL MAY BE SUBMITTED TO THE CITY FOR CONSIDERATION AND APPROVAL PRIOR TO IMPLEMENTATION. LIMITATIONS AS TO THE USE OF TEMPORARY ENTRANCES SHALL BE AS DETERMINED BY THE CITY.
32. ALL WORK WITHIN THE STREET RIGHT-OF-WAY, INCLUDING HAULING, SHALL OCCUR ONLY BETWEEN THE HOURS OF 9:00 AM AND 2:00 PM, UNLESS APPROVED OTHERWISE BY THE CITY OF FRONTENAC.

B. SITE PREPARATION AND GRADING

1. DEMOLITION CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH UTILITY PROVIDERS AND LOCAL REVIEW AGENCIES, AND ACQUIRE ALL NEEDED PERMITS, FOR REMOVAL, RELOCATIONS, DISCONNECTS AND/OR THE CAPPING OFF OF ALL EXISTING UTILITIES INCLUDING PRIVATE SERVICE LINES AS MAY BE ENCOUNTERED ON THE SITE.
2. DEMOLITION CONTRACTOR TO REMOVE ALL RESIDUAL DEBRIS FOLLOWING HIS ACTIVITIES. DISPOSAL OF ALL DEBRIS TO BE IN ACCORD WITH LOCAL, STATE AND FEDERAL REQUIREMENTS. OCATED
3. AS DIRECTED BY THE OWNER OR LOCAL AGENCIES, ANY MATERIALS AS RESULT FROM DEMOLITION THAT ARE TO BE SALVAGED FOR RE-USE SHALL BE STORED AND PROTECTED FROM DAMAGE BY THE CONTRACTOR.
4. SEWERS AND SEWER STRUCTURES EITHER TO BE DEMOLISHED OR ABANDONED AND REMOVED FROM SERVICE ARE TO BE TREATED AS DIRECTED BY M.S.D. AS MAY INCLUDE COMPLETE REMOVAL, GROUT INFILL, ETC.
5. IT SHALL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO NOTIFY THE PROJECT GEOTECHNICAL ENGINEER OF WORK IN PROGRESS AND TO COMPLY WITH THE SPECIFICATIONS DEVELOPED BY THE GEOTECHNICAL ENGINEER WITH REGARDS TO SURFACE PREPARATION, EXCAVATION, PLACEMENT OF FILL, AND COMPACTION. SHOULD THE OWNER NOT HAVE A SOILS REPORT FOR THIS PROJECT, IT IS THE RESPONSIBILITY OF THE GRADING CONTRACTOR TO ARRANGE FOR ONE TO BE PERFORMED, AT THEIR EXPENSE, AND TO COMPLY WITH THE RECOMMENDATIONS WITHIN THE REPORT.
6. ALL EXCAVATIONS, WHETHER THEY BE UTILITY TRENCHES OR FOOTING EXCAVATIONS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) "CONSTRUCTION STANDARDS FOR EXCAVATIONS.
7. IN THE ABSENCE OF ANY REQUIREMENTS AS SET FORTH BY THE PROJECT GEOTECHNICAL ENGINEER, ALL WEEDS, BRUSH, SHRUBS, TREES STUMPS, ROOTS, TRASH, DEBRIS, RUBBLE, BROKEN ASPHALT, FOUNDATIONS, TANKS, VAULTS, ORGANIC MATERIAL & REFUSE, OR ANY OTHER DELETERIOUS THE FILL MATERIAL, DEEMED BY THE SOILS ENGINEER AS BEING INCAPABLE OF SUPPORTING THE BUILDING, VEHICULAR AND/OR OVERBURDEN LOADS TO BE IMPOSED, [SUCH MATERIAL AS MAY BE LOCATED EITHER ON THE SURFACE OR BURIED WITHIN THE LIMITS OF GRADING AND/OR BUILDING OR PAVED AREAS], SHALL BE CLEARED, GRUBBED OR EXCAVATED AS THE CASE MAY DICTATE, PRIOR TO GRADING, AND SHALL BE REMOVED FROM THE SITE OR DISPOSED OF ON SITE IN A MANNER AS APPROVED BY APPLICABLE RULES AND REGULATIONS OF THE LOCAL REGULATORY AGENCIES AND AS FURTHER DIRECTED BY THE SOILS ENGINEER.

CONSTRUCTION NOTES CONT.

B. SITE PREPARATION AND GRADING (CONT')

8. IN THE ABSENCE OF ANY REQUIREMENTS AS SET FORTH BY THE PROJECT GEOTECHNICAL ENGINEER, SHOULD BURIED TANKS OR CHAMBERS BE ENCOUNTERED, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY CONTENTS. DISPOSAL REQUIREMENTS MAY VARY DEPENDING UPON THE CONTENTS OF THE TANK OR CHAMBER, AND THE CONTRACTOR SHALL COMPLY WITH PERTINENT LOCAL, STATE AND FEDERAL REGULATIONS IN THIS REGARD. UNLESS SPECIFIED ON THE SITE PLAN OR WITHIN THE PROJECT GEOTECHNICAL REPORT FOR THE TANK TO BE COMPLETELY REMOVED, THE BOTTOM OF THE CHAMBER SHALL BE PERFORATED TO ALLOW FOR DRAINAGE. IF THE TOP OF THE TANK IS CONCRETE, IT MAY BE BROKEN UP AND SELECTIVELY DEPOSITED IN THE TANK WITH DUE CONCERN TO ELIMINATE ANY VOIDS. THE SIDEWALLS SHALL BE LOWERED AT LEAST TWO (2) FEET BELOW PROPOSED SUBGRADE. THE REMAINDER OF THE TANK SHALL BE FILLED WITH GRANULAR MATERIAL. SELECT EARTH, COMPACTED IN PLACE, SHALL BE USED TO BRING THE SURFACE TO SUBGRADE. TANKS LOCATED BENEATH BUILDINGS OR AREAS TO BE PAVED SHALL BE COMPLETELY REMOVED, AND THE RESULTANT EXCAVATION BACKFILLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SOILS ENGINEER. ANY TANKS IN CORRIDORS FOR UNDERGROUND INSTALLATIONS, INCLUDING BUT NOT LIMITED TO SEWERS, UTILITY SERVICE LINES, ETC., SHALL BE SIMILARLY TREATED AND/OR REMOVED BY THE CONTRACTOR, IN THE EVENT OF A CONFLICT. 9. SILTATION AND EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE, AND SHALL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS, INCLUDING THE REMOVAL OF ANY ACCUMULATED SILT, UNTIL SUFFICIENT VEGETATION OR IMPROVEMENTS HAVE BEEN ESTABLISHED ON THE SITE TO PREVENT EROSION AND CONTAIN SILT-LADEN RUNOFF. IF LAND DISTURBANCE OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF A PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES SHALL BE UTILIZED TO RETARD EROSION.
10. THE INSTALLATION AND MAINTENANCE OF ALL SILTATION AND EROSION CONTROL DEVICES (INCLUDING BEST MANAGEMENT PRACTICES A.K.A. BMP'S, FURTHER REFERENCE ANY STORMWATER POLLUTION PREVENTION PLAN [SWPPP] AS MAY BE WITHIN THE DRAWING SET) SHALL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR. THE APPURTENANT BMP DEVICES, SYSTEMS AND STRUCTURES SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. IN ALL REGARDS CONFORM TO THE REQUIREMENTS OF ANY SITE-SPECIFIC, GENERAL, MAJOR, MINOR OR ORDINARY LAND DISTURBANCE PERMITS, AS MAY INCLUDE THE USE OF APPROVED INSPECTORS TO SAMPLE AND TEST RUNOFF, THE MAKING OR FILING OF REPORTS, AND ANY ASSOCIATED REMEDIAL ACTIVITIES. PRIOR TO ANY LAND DISTURBANCE THE GRADING CONTRACTOR SHALL RESEARCH AND REVIEW WHAT, IF ANY, LAND DISTURBANCE REGULATIONS AND PERMITS ARE EITHER ALREADY IN PLACE OR MAY YET NEED TO BE OBTAINED FOR THE PROPOSED WORK.
11. ALL TOPSOIL IN BORROW AND FILL AREAS SHALL BE EXCAVATED AND DISPOSED OF ON-SITE IN LOCATIONS OUTSIDE THE CONSTRUCTION AREA, OR REMOVED FROM THE SITE. IF THE DRAWINGS INDICATED PLANTING, LANDSCAPING & BERM AREAS, THE TOPSOIL MAY BE STOCKPILED ON-SITE FOR FUTURE REDISTRIBUTION IN THESE PLANTING AREAS. IN NO INSTANCE SHALL TOPSOIL BE PLACED IN BUILDING PADS AND/OR AREAS TO BE PAVED.
12. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT GRADED AREAS FROM, AND AS NECESSARY RESTORE TO GRADE, ANY RUTS, WASHES OR OTHER CHANGES FROM THE DESIGN ELEVATIONS SHOWN HEREON, UNTIL THE GRADING WORK IS ACCEPTED BY THE OWNER.
13. IN THE ABSENCE OF ANY REQUIREMENTS AS SET FORTH BY THE PROJECT GEOTECHNICAL ENGINEER, ALL FILLS, REFILLED OVEREXCAVATIONS, SCARIFIED SURFACES AND TRENCHES BACKFILLED WITH EARTH SHALL BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED AASHTO COMPACTION TEST, OR ASTM D 1557-78. FILL MATERIAL SHALL BE EVENLY SPREAD IN LIFTS OF THICKNESSES SUCH THAT FOLLOWING THE REQUIRED COMPACTIVE EFFORT; THE COMPACTED LAYER WILL NOT EXCEED SIX (6) INCHES IN DEPTH. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE CONTROLLED WITH THE LIMITS ESTABLISHED BY THE MODIFIED AASHTO COMPACTION TEST OR ASTM D 1557-78. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RETAIN A QUALIFIED SOILS ENGINEER TO OBSERVE ALL PHASES OF THE GRADING OPERATIONS AND TO TEST COMPACTION OF THE FILL DURING PLACEMENT.
14. TOLERANCE OF ALL LINES AND GRADES IN SUBGRADE CROSS SECTIONS TO BE 0.08'.
15. ALL FOOTING EXCAVATIONS SHOULD TERMINATE IN FIRM BEARING SOILS, WHICH IN THE OPINION OF THE SOILS ENGINEER, ARE CAPABLE OF SUPPORTING THE LOADS TO BE IMPOSED. THE BASE OF ALL EXCAVATIONS SHOULD BE PROTECTED FROM EXTREME TEMPERATURES, PRECIPITATION AND CONSTRUCTION DISTURBANCES.
16. SLOPES ON THIS PROJECT SHALL NOT BE GREATER THAN ONE UNIT VERTICAL TO THREE UNITS HORIZONTAL. SLOPES ARE STEEPER THAN 3:1 REQUIRE A STABILITY ANALYSIS BY THE PROJECT GEOTECHNICAL ENGINEER.
17. ALL EXISTING IMPROVEMENTS AND STRUCTURES ON-SITE SHALL BE REMOVED UNLESS OTHERWISE NOTED ON THE SITE PLANS OR AS DIRECTED BY THE OWNER OR DEVELOPER.
18. THE FINISH GRADE OF THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL SLOPE AWAY FROM THE BUILDING AT 1:20 (5 PERCENT) FOR A DISTANCE OF TEN (10) FEET, UNLESS ALTERNATE METHOD(S) ARE PROVIDED TO PREVENT THE ACCUMULATION OF WATER (E.G. STORM DRAINS AND INLETS) AND DIVERT RUNOFF AWAY FROM THE FOUNDATION, IN WHICH CASE THE ELEVATION OF THE TOP OF FOUNDATION OR SLAB SHALL BE A MINIMUM OF TWELVE (12) INCHES ABOVE THE POINT OF DISCHARGE, PLUS TWO (2) PERCENT. ALTERNATE ELEVATIONS ARE PERMITTED SO LONG AS POSITIVE DRAINAGE AWAY FROM THE STRUCTURE IS PROVIDED AT ALL LOCATIONS ON THE SITE, SUBJECT TO APPROVAL BY THE LOCAL BUILDING OFFICIAL.
19. PRIOR TO COMMENCEMENT OF ANY HAULING ONTO OR OFF THE SITE, THE GRADING CONTRACTOR SHALL OBTAIN APPROVAL OF THE HAUL ROUTE(S) AS MAY BE REQUIRED BY THE CITY OF FRONTENAC ADDITIONAL INFORMATION AND/OR PLANS MAY BE REQUIRED BY THE CITY.
20. THE OWNER AND/OR GENERAL CONTRACTOR SHALL FULLY COORDINATE THE ACTIVITIES OF THE VARIOUS SUBCONTRACTORS WITH RESPECT TO ATTAINING FINISH ELEVATIONS AND POSITIVE DRAINAGE PATTERNS ON / ACROSS THE SITE, I.E. BULK GRADING TO RECOGNIZE POSSIBLE FUTURE LANDSCAPING, SUCH WORK AS MAY INCLUDE IMPORT OF TOPSOIL PRIOR TO SODDING, SEEDING, PLANTINGS OR PLACING OF MULCH; PROVISIONS FOR REMOVAL OR REDISTRIBUTION OF SPOILS FROM UTILTIES AND SEWER INSTALLATIONS, ETC. REFERENCE NOTE 18.

C. SEWERS AND DRAINAGE

1. ALL MATERIALS AND METHODS OF CONSTRUCTION FOR PUBLIC SANITARY SEWERS AND PUBLIC STORM DRAINAGE TO MEET THE LATEST STANDARDS AND SPECIFICATIONS OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT. (2009 EDITION OR LATER)
2. ALL PUBLIC SEWER AND DRAINAGE STRUCTURES TO CONFORM TO THE STANDARD DETAILS SHOWN IN METROPOLITAN ST. LOUIS SEWER DISTRICT "STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES" (2009 EDITION OR LATER).
3. ALL MANHOLE AND INLET COVERS SHALL BE AS APPROVED BY METROPOLITAN ST. LOUIS SEWER DISTRICT.
4. ALL LATERAL (BUILDING SEWER) CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF FRONTENAC PLUMBING CODE.
5. CLEANOUTS SHALL BE LOCATED AT ALL HORIZONTAL CHANGES IN DIRECTION OF FLOW OF LATERALS AND ANY SANITARY LATERAL OF 100' FEET OR LONGER. LOCAL PLUMBING CODES MAY REQUIRE VENTS BE INSTALLED IN THE BUILDING SEWER, CONTRACTOR TO VERIFY AND ADAPT TO THE SITE REQUIREMENTS AS NECESSARY.
6. CLEANOUTS LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC TO BE HEAVY DUTY, WITH A CAST IRON RISER AND A RECESSED LID MARKED `SEWER'. FULLY ENCASE RISER, AND SEWER FITTING AT POINT RISER CONNECTION, WITH CLASS `B' CONCRETE.
7. LIDS FOR CLEANOUTS IN PEDESTRIAN WALKWAYS AND SHALL BE COUNTERSUNK MPT AND SET FLUSH WITH THE FINISH WALKING SURFACE.
8. CAPS FOR CLEANOUTS IN LANDSCAPED AREAS SHALL BE SOLID PVC, MINIMALLY PROJECTED ABOVE GRADE AS NEEDED TO FACILITATE REMOVAL, COLOR AS SELECTED BY OWNER
9. THE TOP ELEVATIONS OF ALL SEWER AND DRAINAGE STRUCTURES AND CLEANOUTS SHALL BE ADJUSTED IN THE FIELD TO MATCH FINAL GRADES.
10. MANHOLES LOCATED IN PAVED AREAS TO HAVE A LOCK TYPE FRAME AND COVER WHERE SO DIRECTED BY M.S.D. OR THE CITY OF FRONTENAC PERMIT REQUIREMENTS AND CONSTRUCTION SPECIFICATIONS.
11. FRAMES AND COVERS, FRAMES AND GRATES, OR OTHER SIMILAR PAIRS OF ITEMS SHALL HAVE TRUE COMMON BEARING SURFACES SUCH THAT THE COVERS OR GRATES WILL SEAT FIRMLY WITHOUT ROCKING OR SHIFTING. THE GRATES OR COVERS SHALL BE PLACED AFTER THE FRAMES OR FITTINGS HAVE BEEN INSTALLED AND AFTER THE CONCRETE OR MORTAR HAS BEEN ALLOWED TO HARDEN FOR AT LEAST 24 HOURS AND WILL NOT BE DAMAGED.
12. CONTRACTOR TO START LAYING PIPE AT DOWNSTREAM STRUCTURE AND WORK UPSTREAM.
13. GRATES FOR PRIVATE INLETS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS:
    A. NON-PAVED PEDESTRIAN WAYS AND PLAY AREAS: FLAT POLYETHYLENE, COLOR AS SELECTED BY OWNER.
    B. PAVED PEDESTRIAN WAYS AND PLAZAS: FLAT BRONZE, PATTERN AS SELECTED BY OWNER OR LANDSCAPE ARCHITECT
    C. AREAS SUBJECT TO VEHICULAR TRAFFIC: FLAT GALVANIZED, OF SUFFICIENT CROSS SECTION AS RECOMMENDED BY THE GRATE MFGR FOR THE ANTICIPATED WHEEL LOADINGS, INCLUDING SUPPORTING FRAME, RISER AND ANY ADAPTER
    D. NON PAVED AREAS NOT SUBJECT TO PEDESTRIAN TRAFFIC, INCLUDING LANDSCAPED AREAS: DOMED OR ATRIUM POLYETHYLENE, COLOR AS SELECTED BY OWNER
14. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURES OR TO THE END OF FLARED END SECTIONS.
15. 90°BENDS ON PRIVATE DRAIN LINES TO BE ACCOMPLISHED USING DUAL MITER FITTINGS OR 2-45° ELBOWS.
16. ATTENTION SEWER CONTRACTOR:
    a. FOR SEWER PIPE (STORM AND SANITARY) WITH A DESIGN GRADE LESS THAN ONE PERCENT (1%), VERIFICATION OF THE PIPE GRADE WILL BE REQUIRED FOR EACH INSTALLED REACH OF SEWER, PRIOR TO ANY SURFACE RESTORATION OR INSTALLATION OF ANY SURFACE IMPROVEMENTS. THE CONTRACTOR'S FIELD SUPERVISOR WILL BE REQUIRED TO PROVIDE DAILY DOCUMENTATION VERIFYING THAT THE AS-BUILT PIPE GRADE MEETS THE DESIGN GRADE THROUGH THE SUBMITTAL OF SIGNED CUT SHEETS TO THE MSD INSPECTOR UPON REQUEST.
    b. FIELD SURVEYED VERIFICATION MUST BE MADE UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR OR REGISTERED ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ANY SEWER REACH HAVE AN AS-BUILT GRADE WHICH IS FLATTER THAN THE DESIGN GRADE BY MORE THAN 0.1%. SEWERS WITH GRADES GREATER THAN THE DESIGN SLOPE MAY BE LEFT IN PLACE, PROVIDED NO OTHER SEWER GRADE IS REDUCED BY THIS VARIATION IN THE AS-BUILT GRADE.
    c. MSD RESERVES THE RIGHT TO REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE ANY SEWER (AT ANY TIME PRIOR TO CONSTRUCTION APPROVAL) FOR WHICH THE AS-BUILT GRADE DOES NOT COMPLY WITH THE GRADE TOLERANCE STATED IN THE ABOVE PARAGRAPH.
    d. THE SEWER CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE FIELD VERIFICATION OF THE SEWER GRADE, OR REMOVAL AND REPLACEMENT OF THE SEWER PIPE OR ASSOCIATED APPURTENANCES.
17. MAINTENANCE OF THE SEWERS DESIGNATED AS "PUBLIC" SHALL BE THE RESPONSIBILITY OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT UPON DEDICATION OF THE SEWERS TO THE DISTRICT.
18. CONTRACTOR'S INSURANCE REQUIREMENTS: PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL PROVIDE TO THE DISTRICT AS NECESSARY A COPY OF AN EXECUTED "CERTIFICATE OF INSURANCE" INDICATING THAT THE PERMITEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).
19. CONNECTIONS TO SEWERS SHALL BE TRAPPED IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF M.S.D. AND THE CITY OF FRONTENAC PLUMBING CODE.
20. PIPE FOR PRIVATE ON-SITE GRAVITY STORM DRAINAGE SYSTEM SHALL BE PVC OR DUAL-WALL CORRUGATED HIGH DENSITY OUT POLYETHYLENE (CHDPE) UNLESS WHERE EITHER IS NOTED ON THE DRAWINGS.
21. PVC PIPE FOR PRIVATE ON-SITE STORM DRAINAGE LINES SHALL BE SCHEDULE 40 MEETING THE REQUIREMENTS OF ASTM D1785 "Standard Specification for PolyVinyl Chloride (PVC) Plastic Pipe". WHERE STORM DRAINAGE PIPES ARE LOCATED BENEATH FOOTINGS OR FOUNDATIONS, OR AS OTHERWISE MAY BE DIRECTED ON THE PLANS, SCHEDULE 80 PVC IS REQUIRED. PIPE AND FITTINGS TO BE PRODUCED BY THE SAME MANUFACTURER. FITTINGS SHALL BE MONOLITHIC IN CONSTRUCTION, OF THE SAME MATERIAL AND STRENGTH REQUIREMENTS AS THE PIPE PROPER. FITTINGS AND JOINTS SHALL BE SOLVENT WELDED AND MEET THE REQUIREMENTS OF ASTM D 2466 "PVC Plastic Fittings, Schedule <AS REQUIRED>" AND ASTM D 2564 "Solvent Cements for PVC Pipe and Fittings." CONTRACTOR TO FIRST DRY FIT THE PIPE ASSEMBLY TO THE REQUIRED ALIGNMENT, PRIOR TO GLUING THE JOINTS. INSTALLATION TO BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS AND/OR APPLICABLE LOCAL PLUMBING CODES.
22. CHDPE PIPE FOR PRIVATE ONSITE STORM DRAINAGE SHALL BE MADE ENTIRELY OF POST-INDUSTRIAL RECYCLED POLYETHYLENE, AND HAVE A SMOOTH INTERIOR WALL THAT PROVIDES A MANNING'S "N" VALUE OF NOT GREATER THAN 0.013. FITTINGS SHALL BE FABRICATED AT THE FACTORY, UNLESS APPROVED BY THE ENGINEER. JOINTS SHALL BE BELL AND SPIGOT, SILT-TIGHT APPLICABLE TESTING REQUIREMENTS INCLUDE: AAHSTO M252, TYPE S, EXCEPT FOR RAW MATERIAL REQUIREMENTS; ASTM D3350, CELL CLASSIFICATION ASTM 324420C; ASTM F477. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321. MINIMUM COVER IN ALL LAWN AREAS SHALL BE 12 INCHES, 24 INCHES IN PAVED AREAS. CHDPE PIPE AND FITTINGS SHALL BE MANUFACTURED BY HANCOR, ADS OR APPROVED EQUAL.

CONSTRUCTION NOTES CONT.

C. SEWER AND DRAINAGE (CONT')

23. BEDDING AND BACKFILL OF PRIVATE STORM DRAINAGE LINES SHALL BE IN ACCORDANCE WITH LOCAL PLUMBING CODES.
24. ALL FILL UNDER STORM OR SANITARY LINES CONSTRUCTED ABOVE THE ORIGINAL GRADE SHALL BE COMPACTED TO 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED A.A.S.H.T.O. COMPACTION TEST. THE SOILS ENGINEER SHALL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO PLACEMENT OF ANY FILL AND THAT ALL FILL, UNDER SANITARY AND STORM LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF THE "MODIFIED PROCTOR". FILL IS TO BE PLACED IN A MAXIMUM OF 9" LIFTS. TESTS SHALL BE TAKEN AT A MAXIMUM OF 50 FOOT INTERVALS ALONG THE ROUTE OF THE PIPE; AT A MAXIMUM OF TWO (2) FEET VERTICALLY; AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE. A COPY OF THESE TEST RESULTS IS TO BE SUBMITTED BY THE SOILS ENGINEER TO M.S.D. PRIOR TO CONSTRUCTION OF THE SEWER LINE.
25. M.S.D. TYPE "C" BEDDING IS REQUIRED FOR PIPES INSTALLED IN AREAS OF ROCK EXCAVATION.
26. **STANDARD CONSTRUCTION:** ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.
27. SOME RECENT CHANGES CONCERN PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 2 - MATERIALS OF CONSTRUCTION:

HIGH DENSITY POLYETHYLENE (HDPE) PIPE IS NOT ALLOWED FOR GRAVITY SEWERS FOR STORM, COMBINED, OR SANITARY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION". POLYPROPYLENE (PP) PIPE IS ALLOWED AS FOLLOWS FOR GRAVITY SEWERS THAT ARE "PUBLIC" OR "PRIVATE UNDER MSD INSPECTION:

- FOR USE IN SANITARY AND COMBINED SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON- PRESSURE SANITARY SEWER APPLICATIONS."
- FOR USE IN STORM SEWERS 12 TO 24 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2881 "STANDARD SPECIFICATION FOR 12 TO 60 IN. POLYPROPYLENE (PP) DUAL WALL PIPE AND FITTINGS FOR NON-PRESSURE STORM SEWER APPLICATIONS;" OR
- FOR USE IN STORM SEWERS 12 TO 60 INCHES IN DIAMETER IT SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2764 "STANDARD SPECIFICATION FOR 6 TO 60 IN. POLYPROPYLENE (PP) CORRUGATED DOUBLE AND TRIPLE WALL PIPE AND FITTINGS FOR NON-PRESSURE SANITARY SEWER APPLICATIONS."

PART 4 - PIPE SEWER CONSTRUCTION:

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING - DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:
-ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING - DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:
-THE MEASUREMENT OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING - AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:
-THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACKFILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDES DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACKFILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACKFILLING AROUND ANY MANHOLE.

SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH B, EXFILTRATION TESTING - DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING ADDITION APPLIES:
-FOR EXFILTRATION TESTING, THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.
-IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27", ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361, IN ADDITION, IF THE DIAMETER IS LARGER THAN 48", THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.

D. OTHER UTILITIES

1. MATERIALS FOR AND INSTALLATION OF WATER SERVICE LINES, TAPS AND METER SETS, INCLUDING FIRE SUPPRESSION SERVICE, SHALL BE IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE(S) AND THE RULES OF MISSOURI AMERICA WATER COMPANY.
2. DOMESTIC WATER SERVICE LINES LESS THAN 4" IN DIAMETER SHALL BE RIGID COPPER, WITH SILVER SOLDERED JOINTS.
3. FIRE SUPPRESSION LINES, PRIVATE DOMESTIC WATER SERVICE LINES (4 INCHES OR GREATER IN DIAMETER) AND/OR MAINS TO SERVICE ON-SITE PRIVATE FIRE HYDRANTS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE CONFORMING TO THE REQUIREMENTS OF AWWA C150 AND C151, WITH A MINIMUM PRESSURE CLASS OF 250. THE WALL THICKNESS SHALL BE INCREASED AS NEEDED TO ADAPT TO THE EXPECTED MAXIMUM LOCAL WORKING PRESSURE PLUS 100 PSI SURGE ALLOWANCE, OR AS MAY BE FURTHER INCREASED PER LOCAL PLUMBING CODES. THE PIPE SHALL HAVE ASPHALTIC COATING ON THE EXTERIOR (WITH POLYETHYLENE WRAP WHERE REQUIRED BY LOCAL PLUMBING CODES) AND A CEMENT MORTAR LINING ON THE INTERIOR (AWWA C104). FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS MEETING THE APPLICABLE STANDARDS OF AWWA C110, C111, OR C153 AND BE FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES. ALL PIPE, FITTINGS AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH AWWA C600. MAINS AND SERVICE LINES PROVIDING DOMESTIC WATER SERVICE SHALL BE DISINFECTED PER AWWA C651 PRIOR TO PLACING IN SERVICE
4. WATER SERVICE LINES MUST BE LAID IN A TRENCH SEPARATE FROM THE SEWER TRENCHES BY AT LEAST TEN *10) FEET HORIZONTALLY, AND WHERE THE SERVICE LINE CROSSES THE SEWER, EIGHTEEN (18") INCHES HIGHER ABOVE OR BELOW THE SEWER.
5. ALL FIRE AND DOMESTIC WATER SERVICE LINES TO HAVE A MINIMUM COVER OF FORTY TWO (42) INCHES AT ALL POINTS.

E. PAVING

1. MATCH EXISTING CURBING AND PAVEMENT IN HORIZONTAL LOCATION AND ELEVATION.
2. EXISTING PAVEMENT AS REMOVED AND REPLACED SHALL BE FINISHED TO THE SAME LEVEL, SURFACE TEXTURE (CRACKS OR OTHER DETERIORATION ARE NOT CONSIDERED TEXTURE) AND COLOR AS THE ADJOINING PAVEMENT THAT REMAINS IN PLACE.
3. ASPHALTIC CONCRETE CURBS SHALL BE MACHINE LAID, UNLESS AS OTHERWISE APPROVED BY THE ENGINEER.
4. MATERIALS AND METHODS OF CONSTRUCTION FOR ALL PAVING, FLATWORK AND CURBING, CONCRETE OR ASPHALT, TO BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF MODOT AND/OR THE CITY OF FRONTENAC, INCLUDING ASPHALT, AGGREGATE, BASE MATERIAL, GEOTEXTILES, CONCRETE AND REINFORCING, JOINTS AND SEALANTS, EXCEPT WHERE OTHERWISE NOTED ON THE DRAWINGS.
5. CONCRETE PAVING TO HAVE A COMPRESSIVE STRENGTH OF 4000 PSI. REFER TO MODOT SECTIONS 501, 502 AND ANY CROSS REFERENCES.
6. BRICK OR COBBLESTONE PAVERS AND STONE CURBS, WHERE REQUIRED, TO MEET THE CITY OF FRONTENAC STANDARDS WITH RESPECT TO BOTH MATERIALS AND INSTALLATION.
7. CONTRACTOR TO WARP PAVING TO ADAPT TO DESIGN INTENT FOR DRAINAGE PATTERNS. REFER TO DRAINAGE AREA MAP AS NEEDED. FULLY SHAPE AND REVIEW SUBGRADE FOR PROPER DRAINAGE PATTERNS PRIOR TO PLACING ANY PAVING IN WARPED AREAS, ESP. PARKING LOTS. FOR CONCRETE PAVING, SET FORMS TO ADAPT TO FINISH ELEVATIONS, INCLUDING VERTICAL BREAK POINTS AS MAY BE REQUIRED INCREMENTAL TO HORIZONTAL SURFACE JOINTING. CONTACT THE OFFICE OF THE ENGINEER FOR ADDITIONAL AND/OR HIGHER-ORDER SPOT ELEVATIONS AND/OR CONSTRUCTION LAYOUT AS NEEDED TO ESTABLISH FORMS. UPON COMPLETION, ALL PAVING TO EXHIBIT POSITIVE DRAINAGE. REMOVE AND REPLACE ANY PAVING THAT DOES NOT DRAIN.
8. THE FINAL POSITION OF ALL DOWELS AND TIE-BARS SHALL BE PERPENDICULAR TO THE PLANE OF THE JOINT AND PARALLEL TO THE SURFACE OF THE PAVEMENT AND PARALLEL TO EACH OTHER.
9. THE WIDTH AND LOCATION OF EACH POURED PORTION OF CONCRETE PAVEMENT MAY CHANGE THE TYPE AND LOCATION OF JOINT REQUIRED.
10. ALL DEFORMED BARS FOR JOINTS AND CURBS SHALL BE IN ACCORDANCE WITH AASHTO M 31, GRADE 40 AND EPOXY COATED. A
11. THE FREE END OF DOWEL BARS, FOR A LENGTH OF AT LEAST 11 INCHES, SHALL BE COATED WITH AN APPROVED LUBRICANT CONFORMING TO MODOT STANDARD SPECIFICATIONS, OR THE CONTRACTOR MAY SUBSTITUTE COMPLETE BASKET UNITS PRE-DIPPED IN AN APPROVED BOND BREAKER SOLUTION.
12. ALL DOWEL BARS SHALL BE EPOXY COATED.
13. PRIOR TO SETTING FORMS FOR CURBS OR OTHERWISE PLACING PAVEMENT THROUGH INTERSECTIONS AND ROUNDINGS, CONTRACTOR SHALL CAUSE THE IMPROVEMENTS TO BE STAKED AND ESTABLISH A CONTINUOUS STRING LINE AT THE PROPOSED TOP OF CURB ELEVATION, TO VERIFY SMOOTH GRADE TRANSITIONS, POSITIVE DRAINAGE AT ALL LOCATIONS, AND COMPATIBILITY WITH ANY ADJOINING ACCESSIBLE RAMPS AND WALKS. PENDING SUCH REVIEW, SHOULD ADJUSTMENTS PROVE NECESSARY, CONTRACTOR SHALL INQUIRE WITH OFFICE OF THE ENGINEER FOR INPUT ON ANY PROPOSED MODIFICATIONS.
14. ISOLATION JOINTS TO BE FLEXIBLE, NON-DEGRADEABLE SPONGE RUBBER OF THE THICKNESS NOTED ON THE PLANS.
15. SEALING OF ISOLATION JOINTS: PROVIDE BOND BREAKER SURFACE OR PLASTIC TAPE BETWEEN SEALANT AND JOINT FILLER BOARD. SEALER TO BE COLOR MATCHED TO PAVEMENT, AND MEET THE MATERIAL SPECS OF MODOT. INSTALL PER MFGR RECOMMENDATIONS, AND TOOL SURFACE.
16. SEAL EXPANSION JOINT FILLER BOARD IN PLAZAS, ENTRYWAYS, RAMPS & STAIRS WITH PERFORMED MATERIAL SIMILAR TO "G-SEAL" AS MFGR BY GREENSTREAK, OR AS APPROVED BY ARCHITECT OR ENGINEER.
17. SEAL EXPANSION JOINT FILLER BOARDS AS EXPOSED TO WEATHER, HORIZONTAL AND VERTICAL PLANES, IN SIDEWALKS CURBS, OR CURBS AND GUTTERS, WITH GUN-GRADE SEALANT COLOR MATCHED TO THE ADJOINING CONCRETE. SEALER TO MEET APPLICABLE MODOT SPECIFICATIONS. TRIM FILLER BOARDS AS NECESSARY PRIOR TO PLACING SEALANT. TOOL EXPOSED SURFACE OF SEALANT FOR A SMOOTH APPEARANCE, AND TO FILL ANY VOIDS.FINI
18. JOINTING OF NEW PAVEMENT TO BE IN ACCORD WITH MODOT AND/OR CITY OF FRONTENAC AND DETAILS. THE CONTRACTOR SHALL DETERMINE THE FINAL JOINT SPACING BASED ON FIELD CONDITIONS. SEE SHEET C7 FOR GENERAL JOINTING PLAN, CONTRACTOR TO ADAPT TO ACTUAL FIELD CONDITIONS.
19. COLOR OF STRIPING FOR NON-ACCESSIBLE PARKING SPACES TO BE EITHER AS SELECTED BY THE OWNER OR AS MAY BE REGULATED BY THE LOCAL PERMIT AUTHORITY, AND SHALL SUPERSEDE THAT AS MAY BE SHOWN ON THE DRAWINGS.
20. PEDESTRIAN WALKS INTERNAL TO THE SITE SHALL HAVE A BROOM FINISH APPLIED ACROSS THE WIDTH OF THE WALK. SIDEWALKS IN THE PUBLIC RIGHT-OF-WAY SHALL HAVE A JOINT PATTERN AND BE SURFACE FINISHED IN ACCORD WITH THE STANDARDS AND SPECIFICATIONS OF THE APPLICABLE LOCAL PERMIT AUTHORITY. PLAZAS AND ENTRY WAYS SHALL BE FINISHED AND PATTERNED (JOINTED) PER THE ARCHITECTURAL OR LANDSCAPE ARCHITECTURAL PLANS, AS MAY INCLUDE EXPOSED AGGREGATE, COLORING, STAMPING OR A SMOOTH TOWELED FINISH. IN THE ABSENCE OF ANY DIRECTIVES BY THE ARCHITECT OR LANDSCAPE ARCHITECT, CONTRACTOR TO CONSULT WITH THE OWNER FOR PREFERRED FINISH AND REFER TO ANY JOINTING PLAN WITHIN THE DRAWINGS.

F. EXCAVATIONS IN PUBLIC RIGHTS OF WAY OR PAVED AREAS

1. OPEN TRENCH CROSSINGS OR EXCAVATIONS REQUIRE PAVEMENT REMOVAL TO AN EXISTING JOINT IN CONCRETE PAVEMENT OR AREAS OF PAVER STONES, OR TO A SAW CUT EDGE IN ASPHALT PAVEMENT. BACK FILL TO BE IN ACCORDANCE WITH THE PERMIT REQUIREMENTS OF THE CITY OF FRONTENAC STREET DEPARTMENT.
2. THE CITY OF FRONTENAC STREET DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING WORK WITHIN ANY STREET OR ALLEY R.O.W., WITH SUFFICIENT ADVANCE NOTICE PER THE CONDITIONS IN THE APPLICABLE PERMITS, OR A MINIMUM OF 48 HOURS.
3. ALL EXCAVATIONS WITHIN THE PUBLIC ROAD RIGHT-OF-WAY SHALL BE COVERED AND PROTECTED AT ALL TIMES OTHER THAN DURING WORKING OPERATIONS. EXCAVATED MATERIALS SHALL NOT BE STORED ON THE ROADWAY SURFACE OVERNIGHT. PAVEMENT SHALL BE KEPT CLEAN AND FREE OF MUD, ROCK AND DEBRIS AT ALL TIMES. FLAGMEN, BARRICADES AND/OR OTHER SAFETY DEVICES TO BE AS DIRECTED BY THE CITY OF FRONTENAC STREET DEPARTMENT, MODOT OR OSHA REQUIREMENTS.
4. FOLLOWING COMPLETION OF CONSTRUCTION, ALL TEMPORARY MATERIALS SHALL BE REMOVED AND THE RIGHT-OF-WAY FULLY RESTORED TO ITS ORIGINAL CONDITION. ALL DISTURBED EARTHEN AREAS WITH THE RIGHT-OF-WAY SHALL BE REGRADED AND RESTORED BY SODDING. EXISTING IMPROVEMENTS DAMAGED WITHIN THE ROAD RIGHT-OF-WAY SHALL BE REPLACED AS DIRECTED BY THE CITY OF FRONTENAC.

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MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

PRELIMINARY PLAN DISCLAIMER

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124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
CONSTRUCTION NOTES

Prepared For:
REFINE
Mr. Matt Shaver, NCARB
REFINE-Interiors and Renovations by UIC
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St. Louis, MO 63110
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Prepared By:
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C.O.A. #E-1607-D

No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

Date:	12-23-2019
Field Work: KS	Field Checked: GS
Drawn By: PC	C.S.O.: PC
Checked By:	DW
Project Number:	19094
Sheet Number:	C2
MSD P-	BASEMAP : 20N
H & T #:	

THE GRID, AS DEFINED BY THE NUMBERS AND LETTERS IN THE BINDING AND UPPER MARGINS OF THIS SHEET, ARE FOR REFERENCE ONLY AND SHOULD NOT BE INTERPRETED AS HAVING ANY SCALE WITH RESPECT TO THE DRAWING'S CONTENTS OR GEOMETRY.

#1

#2

#3

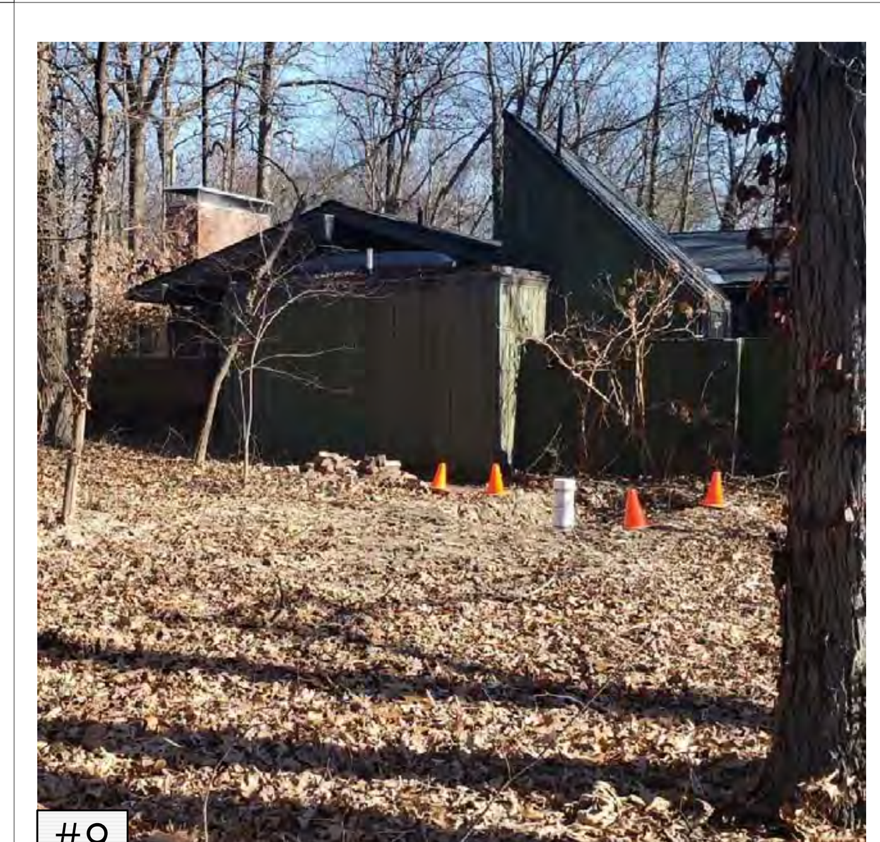
#4

#5

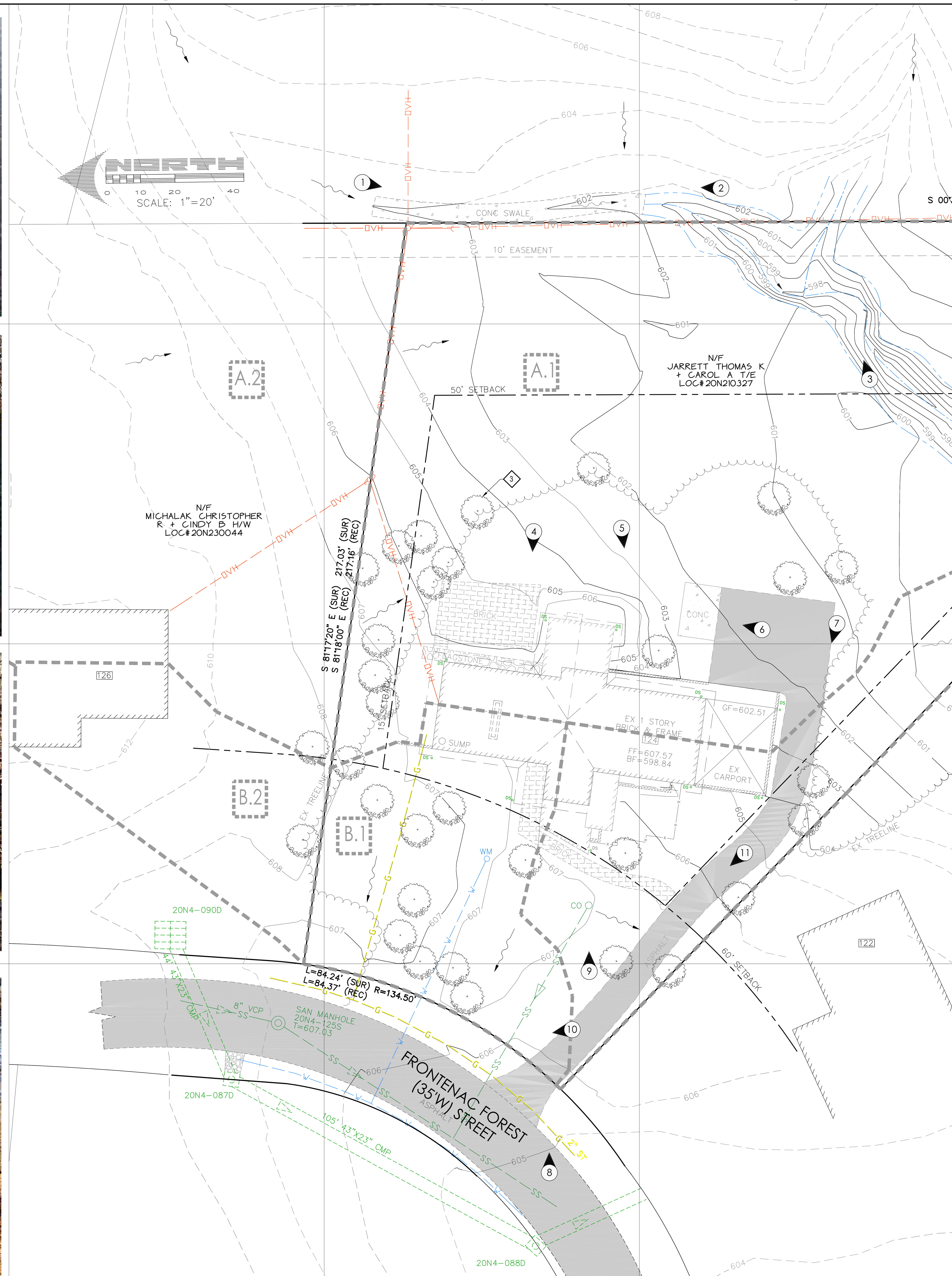
#6

#7

#8



#9



#10

KEYED NOTES

GENERAL: SEE NOTICES TO CONTRACTOR SHEET C1 AND KEYED NOTES OTHER SHEETS AS MAY BE APPLICABLE TO WORK DEPICTED ON THIS DRAWING.

1. OFF SITE CONTOURS HAVE BEEN DRAWN USING INFORMATION FOUND ON MSD BASEMAP AND ST. LOUIS COUNTY GIS SERVICE CENTER PORTAL.
2. TOP OF CREEK BANK.
3. TREES TO BE RETAINED/REMOVED AS DIRECTED BY OWNER.

#11

EXISTING DRAINAGE AREAS

ON SITE									
DES	SURFACE	AREA (SF)	AREA (AC)	PI 15YR/20MIN (CFS/AC)	Q 15YR/20MIN (CFS)	PI 100YR/20MIN (CFS/AC)	Q 100YR/20MIN (CFS)	% IMPERVIOUS (1)	TRIBUTARY TO
A.1	BUILDING	2349	0.05	3.54	0.19	4.78	0.26	9.82%	TO EXISTING CREEK
	PAVEMENT	486	0.01	3.54	0.04	4.78	0.05		
	GRASS	26042	0.60	1.70	1.02	2.30	1.37		
	TOTAL	28877	0.66	AVE 1.88	1.25	AVE 2.54	1.68		
B.1	BUILDING	892	0.02	3.54	0.07	4.78	0.10	18.57%	TO R/W FRONTENAC FOREST ST
	PAVEMENT	166	0.00	3.54	0.01	4.78	0.02		
	GRASS	4639	0.11	1.70	0.18	2.30	0.24		
	TOTAL	5697	0.13	AVE 2.04	0.27	AVE 2.76	0.36		
C	BUILDING	965	0.02	3.54	0.08	4.78	0.11	38.72%	TO 122 FRONTENAC FOREST ST
	PAVEMENT	1664	0.04	3.54	0.14	4.78	0.18		
	GRASS	4160	0.10	1.70	0.16	2.30	0.22		
	TOTAL	6789	0.16	AVE 2.41	0.38	AVE 3.26	0.51		
D	BUILDING	1084	0.02	3.54	0.09	4.78	0.12	62.98%	RAIN GARDEN
	PAVEMENT	750	0.02	3.54	0.06	4.78	0.08		
	GRASS	1078	0.02	1.70	0.04	2.30	0.06		
	TOTAL	2912	0.07	AVE 2.86	0.19	AVE 3.86	0.26		
ON SITE TOTALS	BUILDING	5290	0.12	3.54	0.43	4.78	0.58	18.87%	
	PAVEMENT	3066	0.07	3.54	0.25	4.78	0.34		
	GRASS	35919	0.82	1.70	1.40	2.30	1.89		
	TOTAL	44275	1.02	AVE 2.05	2.08	AVE 2.76	2.81		

OFF SITE									
DES	SURFACE	AREA (SF)	AREA (AC)	PI 15YR/20MIN (CFS/AC)	Q 15YR/20MIN (CFS)	PI 100YR/20MIN (CFS/AC)	Q 100YR/20MIN (CFS)	% IMPERVIOUS (1)	TRIBUTARY TO
A.2	BUILDING/PAVEMENT	333375	7.65	3.54	27.09	4.78	36.57	35.00%	TO EXISTING CREEK
	GRASS	619130	14.21	1.70	24.16	2.30	32.62		
	TOTAL	952505	21.87	AVE 2.34	51.26	AVE 3.16	69.19		
B.2	BUILDING	864	0.02	3.54	0.07	4.78	0.09	20.32%	TO 124 FRONTENAC FOREST ST.
	PAVEMENT	0	0.00	3.54	0.00	4.78	0.00		
	GRASS	3389	0.08	1.70	0.13	2.30	0.18		
	TOTAL	4253	0.10	AVE 2.07	0.20	AVE 2.80	0.27		
OFF SITE TOTALS	BUILDING/PAVEMENT	334239	7.67	3.54	27.16	4.78	36.67	34.93%	
	GRASS	622519	14.29	1.70	24.29	2.30	32.80		
	TOTAL	956758	21.96	AVE 2.34	51.46	AVE 3.16	69.47		

ON AND OFFSITE TOTALS	BUILDING/PAVEMENT	342595	7.86	3.54	27.84	4.78	37.59		
	GRASS	658438	15.12	1.70	25.70	2.30	34.69		
	TOTAL	1001033	22.98	AVE 2.33	53.54	AVE 3.15	72.28		

NOTES: 1. PERCENT IMPERVIOUS ASSUMES GRASS AS PERVIOUS

National Flood Hazard Layer FIRMette

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS: Without Base Flood Elevation (BFE) Zone A, V, A99; With BFE or Depth Zone AE, AO, AH, VE, AR; Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD: 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X; Future Conditions 1% Annual Chance Flood Hazard Zone X; Area with Reduced Flood Risk due to Levee. See Notes. Zone X; Area with Flood Risk due to Levee Zone D

OTHER AREAS: NO SCREEN Area of Minimal Flood Hazard Zone X; Effective LOMRs; Area of Undetermined Flood Hazard Zone D

GENERAL STRUCTURES: Channel, Culvert, or Storm Sewer; Levee, Dike, or Floodwall

OTHER FEATURES: Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation; Coastal Transect; Base Flood Elevation Line (BFE); Limit of Study; Jurisdiction Boundary; Coastal Transect Baseline; Profile Baseline; Hydrographic Feature

MAP PANELS: Digital Data Available; No Digital Data Available; Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/10/2020 at 2:57:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

PRELIMINARY

STATE OF MISSOURI
DANIEL C. WIND, JR.
NUMBER E-19364
REGISTERED PROFESSIONAL ENGINEER

Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

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124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
EXISTING CONDITIONS PLAN

Prepared For:
REFINE

Mr. Matt Shaver, NCARB
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Prepared By:
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C.O.A. #E-1607-D

No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

Date:	12-23-2019
Field Work: KS	Field Checked: GS
Drawn By: PC	C.S.O.: PC
Checked By:	DW
Project Number:	19094
Sheet Number:	C3
MSD P-	BASEMAP : 20N
H & T #:	

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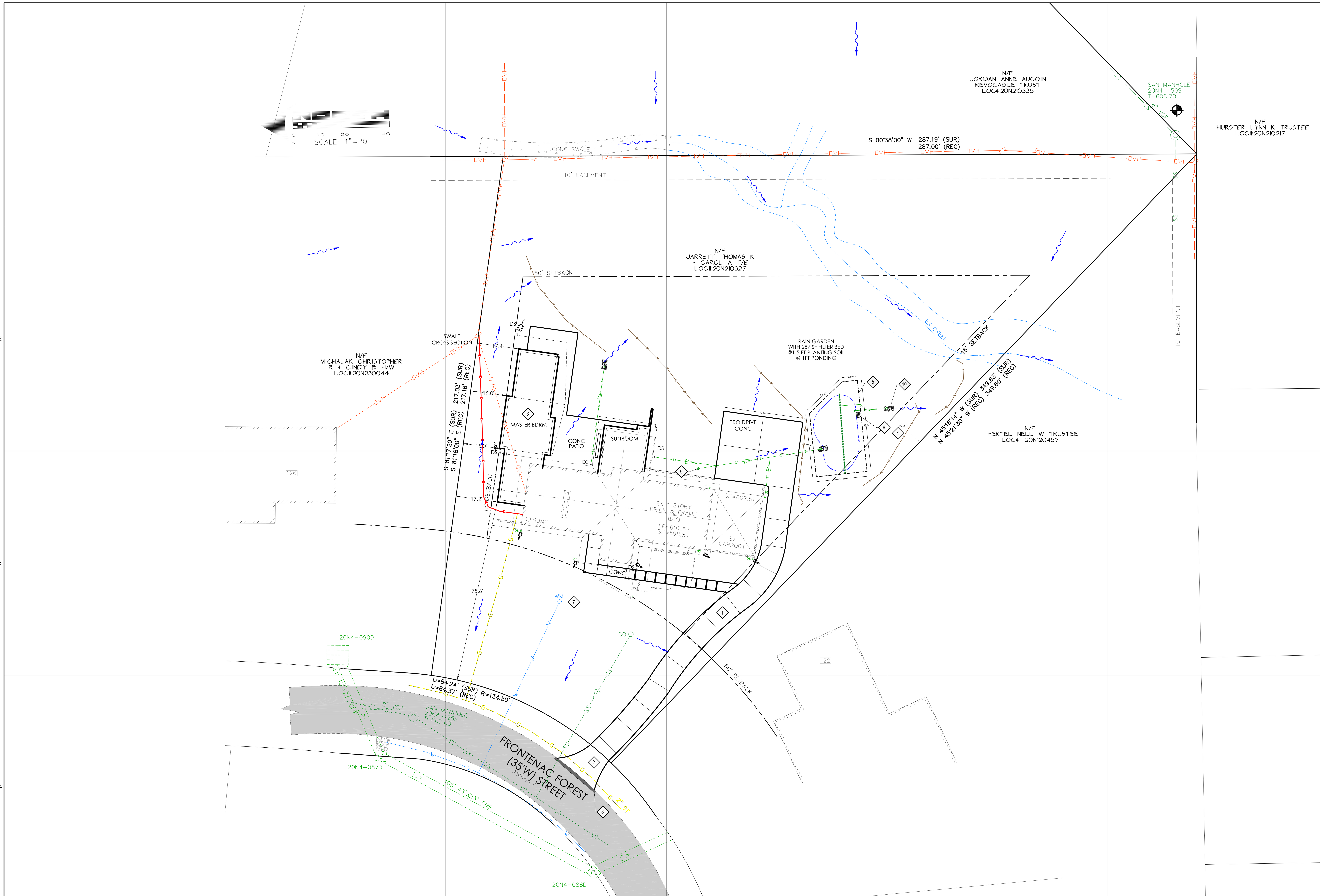

KEYED NOTES

GENERAL: SEE NOTICES TO CONTRACTOR SHEET C1 AND KEYED NOTES OTHER SHEETS AS MAY BE APPLICABLE TO WORK DEPICTED ON THIS DRAWING.

1. JOINTING AND FLATWORK PER ACI RECOMMENDATIONS.
2. DRIVEWAY FLARES PER CITY OF FRONTENAC STANDARDS.
3. SEE A/E PLANS FOR FINAL DIMENSIONS, DOWNSPOUT AND WINDOW LOCATIONS.
4. POP-UP EMITTER 10 FT FROM PROPERTY LINE (TYP).
5. BMP RESERVE AREA.
6. PAVER STONES AS RESILIENT OVERFLOW MINIMUM 10 FT FROM PROPERTY LINE (TYP).
7. CONTRACTOR TO FIELD LOCATE ANY PRIVATE UNDERGROUND SERVICES PRIOR TO CONSTRUCTION INCLUDING SPRINKLER LINES OR LOW VOLTAGE WIRING, ETC.
8. SAWCUT EXISTING ASPHALT TO A STRAIGHT AND TRUE LINE AND FILL WITH FULL DEPTH ASPHALT.
9. CLEANOUT WITH GRATED TOP TO FLUSH OUT STORM REACH TO POP UP.
10. STONE EROSION CONTROL AT DISCHARGE FROM POP UP EMITTER (TYP).

PRELIMINARY

STATE OF MISSOURI DANIEL C. WIND, JR. NUMBER E-19364 REGISTERED PROFESSIONAL ENGINEER

Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

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124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
FLAT(GEOMETRIC) PLAN

Prepared For:

REFINE

Mr. Matt Shaver, NCARB
REFINE-Interiors and Renovations by UIC
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mshaver@uicstl.com
(314) 771-7300

Prepared By:

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Kirkwood, MO 63122
Telephone: 314.965.WIND
Fax: 314.965.7592
Email: wind@windengr.com
C.O.A. #E-1607-D

No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

Date:	12-23-2019
Field Work: KS	Field Checked: GS
Drawn By: PC	C.S.O.: PC
Checked By:	DW
Project Number:	19094
Sheet Number:	C4
MSD P-	BASEMAP : 20N
H & T #:	

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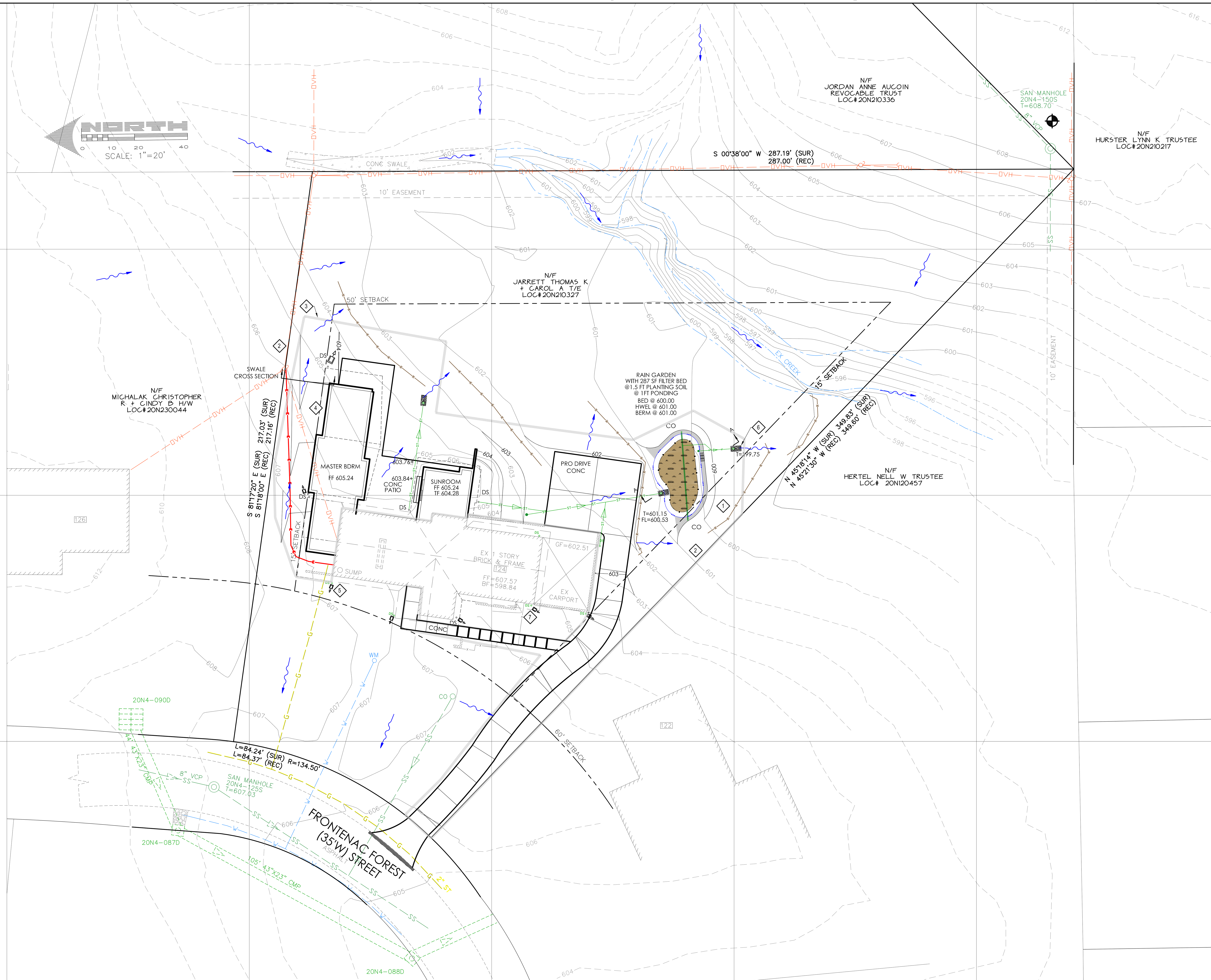

KEYED NOTES

GENERAL: SEE NOTICES TO CONTRACTOR SHEET C1 AND KEYED NOTES OTHER SHEETS AS MAY BE APPLICABLE TO WORK DEPICTED ON THIS DRAWING.

1. CONTRACTOR TO INSTALL AND MAINTAIN SILT CONTROL MEASURES AS REQUIRED TO PREVENT MUD FROM MIGRATING OFFSITE (TYP).
2. MATCH EXISTING AT PROPERTY LINE (TYP).
3. AREA OF LAND DISTURBANCE.
4. RAISE TOP OF FOUNDATION WITH AN UPTURNED FOUNDATION WALL THIS SIDE OF MASTER BEDROOM TO ATTAIN CODE COMPLIANT FOUNDATION EXPOSURE; SEE A/E PLANS.
5. ROUTING OF EXISTING PIPING UNKNOWN.
6. CONTRACTOR TO ADJUST PROPOSED GRADES FOR POSITIVE DRAINAGE FROM POP UP EMITTER (TYP).
7. ADD SPLASHBLOCKS AND DISCHARGE TO GRADE THOSE DOWNSPOUTS NOT BEING PIPED (TYP).

DIFFERENTIAL STORMWATER CALCULATIONS

SITE RUNOFF	AREA		ROOFS		PAVING		TURF (UNIMPROVED)		CALC AVE IMPERVIOUS (1)	AVE PI	Q
			% IMP= 100%		% IMP= 100%		% IMP= 5%			15 YEAR	15 YEAR
			PI (CFS/AC)= 3.54		PI (CFS/AC)= 3.54		PI (CFS/AC)= 1.70			20 MIN	20 MIN
	SF	AC	SF	AC	SF	AC	SF	AC	%	CFS/AC	CFS
EXISTING	44275	1.016	3794	0.087	3253	0.075	37228	0.855	20.1%	1.99	2.026
PROPOSED	44275	1.016	5290	0.121	3066	0.070	35919	0.825	22.9%	2.05	2.081
DIFFERENTIAL	=	PROPOSED-EXISTING				=				=	0.055
EXISTING IMPERVIOUS (2)	=	7047 SF		15.92%							
PROPOSED IMPERVIOUS (2)	=	8356 SF		18.87%							
NET IMPERVIOUS	=	1309 SF									

NOTES:
1. CALCULATES TURF AREAS AT 5% IMPERVIOUS
2. CALCUALTES TURF AREAS AT 0% IMPERVIOUS

BMP VOLUME CALCULATIONS

SITE AREA	44275	SF
SITE AREA	1.02	AC
EXISTING IMPERVIOUS AREA	7047	SF
EXISTING IMPERVIOUS AREA	0.16	AC
PROPOSED IMPERVIOUS AREA	8356	SF
PROPOSED IMPEVIOUS AREA	0.19	AC
SITE AREA PERCENT IMPERVIOUS:	18.9%	
DELTA IMPERVIOUS AREA "DI"	1309	SF
CONTRIBUTING IMPERVIOUS AREA	1834	SF
P (1-YR 24-HR RAINFALL DEPTH	2.5	IN
REQUIRED EXTENDED DETENTION VOLUME (REDv) =[P x DI]/12	273	CF
EXTENDED DETENTION VOLUME PROVIDED (EDvP) = [CONTRIBUTING IMP SF*2.5/12]	382	CF
IMPERVIOUS DRAINAGE AREA TO BMP	1834	SF
VOLUME / BMP DA FOR 2.5" RAIN EVENT	382	CF

FILTER BED CALCULATIONS

AREA FILTER BED		
A_f	FILTER BED AREA (SF)=[(REDv)*df]/[k*(df+hf)*tf]	286.5
EDvP	EXTENDED DETENTION VOLUME (CF)	382
d_f	FILTER SOIL DEPTH (MIN 1.5 FT) (FT)	1.5
K^a	0.5, COEFFICIENT OF PERMEABILITY (FT/DAY)	0.5
h_f^b	AVERAGE HEIGHT OF WATER ABOVE FILTER BED (HALF THE PONDING DEPTH, FT)	0.5
t_f	2; DESIGN FILTER BED DRAIN TIME (DAYS)	2

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PRELIMINARY

STATE OF MISSOURI
DANIEL C. WIND, JR.
NUMBER E-19364
REGISTERED PROFESSIONAL ENGINEER

Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

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124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
SITE AND GRADING PLAN

Prepared For:
REFINE

Mr. Matt Shaver, NCARB
REFINE-Interiors and Renovations by UIC
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Prepared By:
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No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

Date:	12-23-2019
Field Work: KS	Field Checked: GS
Drawn By: PC	C. S. O.: PC
Checked By:	DW
Project Number:	19094
Sheet Number:	C5
MSD P-	BASEMAP : 20N
H & T #:	

FOR DRAINAGE PURPOSES ONLY;
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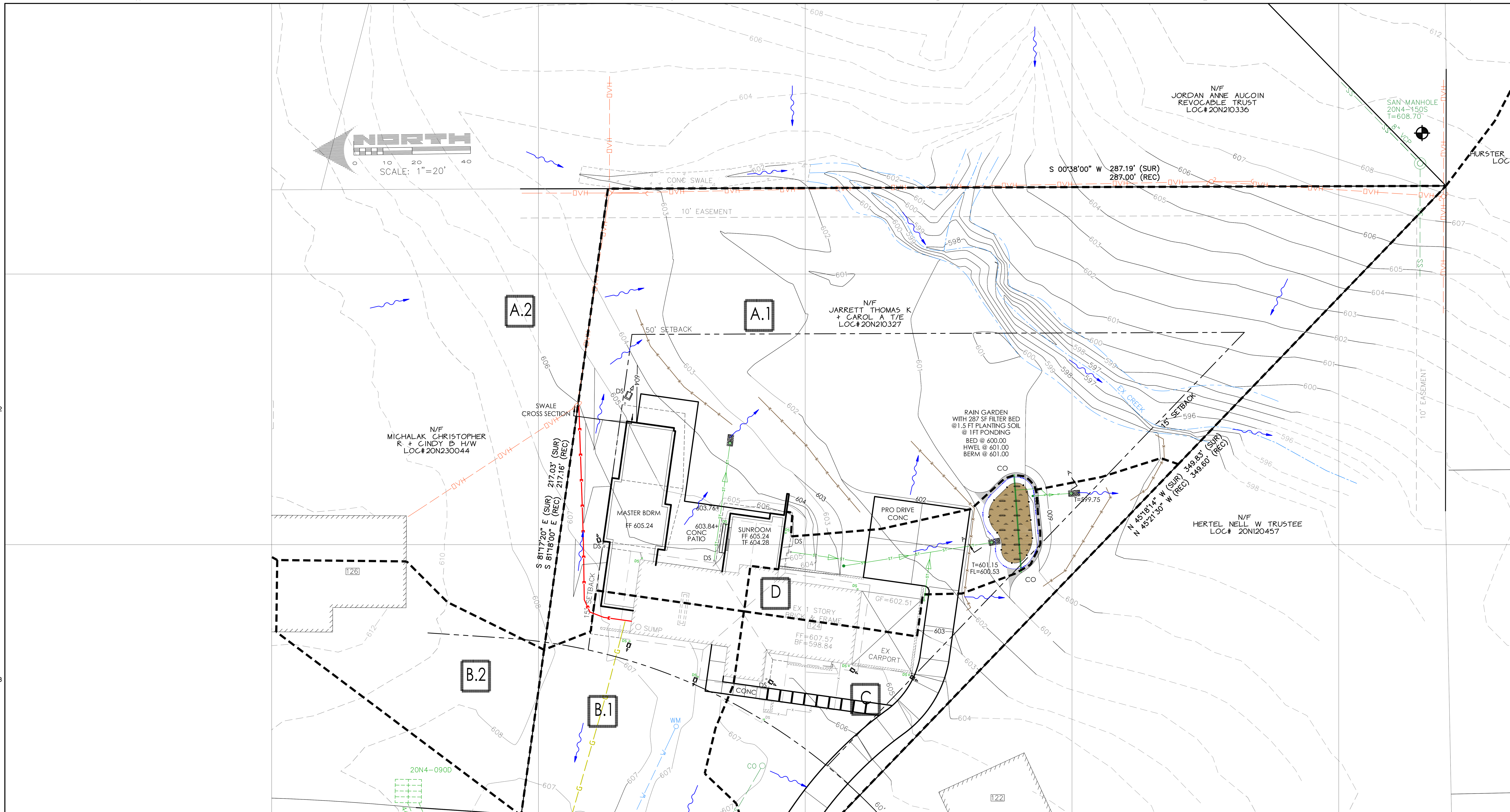

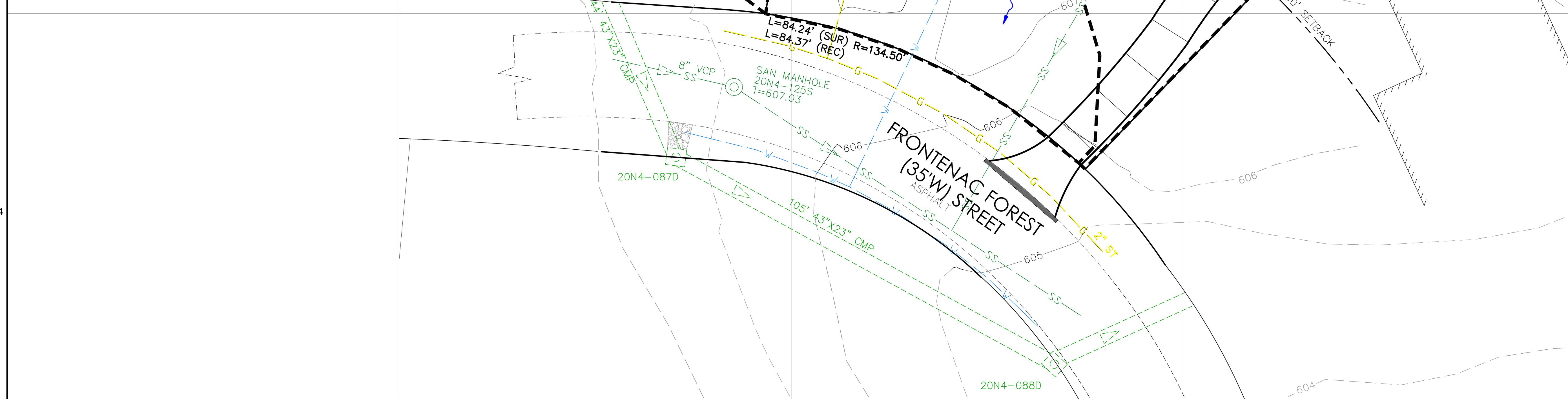

PROPOSED DRAINAGE AREAS

ON SITE									
DES	SURFACE	AREA (SF)	AREA (AC)	PI 15YR/20MIN (CFS/AC)	Q 15YR/20MIN (CFS)	PI 100YR/20MIN (CFS/AC)	Q 100YR/20MIN (CFS)	% IMPERVIOUS (1)	TRIBUTARY TO
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	PAVEMENT	486	0.01	3.54	0.04	4.78	0.05		
	GRASS	26042	0.60	1.70	1.02	2.30	1.37		
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B.1	BUILDING	892	0.02	3.54	0.07	4.78	0.10	18.57%	TO R/W FRONTENAC FOREST ST
	PAVEMENT	166	0.00	3.54	0.01	4.78	0.02		
	GRASS	4639	0.11	1.70	0.18	2.30	0.24		
	TOTAL	5697	0.13	AVE 2.04	0.27	AVE 2.76	0.36		
C	BUILDING	965	0.02	3.54	0.08	4.78	0.11	38.72%	TO 122 FRONTENAC FOREST ST
	PAVEMENT	1664	0.04	3.54	0.14	4.78	0.18		
	GRASS	4160	0.10	1.70	0.16	2.30	0.22		
	TOTAL	6789	0.16	AVE 2.41	0.38	AVE 3.26	0.51		
D	BUILDING	1084	0.02	3.54	0.09	4.78	0.12	62.98%	RAIN GARDEN
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	GRASS	1078	0.02	1.70	0.04	2.30	0.06		
	TOTAL	2912	0.07	AVE 2.86	0.19	AVE 3.86	0.26		
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	PAVEMENT	3066	0.07	3.54	0.25	4.78	0.34		
	GRASS	35919	0.82	1.70	1.40	2.30	1.89		
	TOTAL	44275	1.02	AVE 2.05	2.08	AVE 2.76	2.81		

OFF SITE									
DES	SURFACE	AREA (SF)	AREA (AC)	PI 15YR/20MIN (CFS/AC)	Q 15YR/20MIN (CFS)	PI 100YR/20MIN (CFS/AC)	Q 100YR/20MIN (CFS)	% IMPERVIOUS (1)	TRIBUTARY TO
A.2	BUILDING/PAVEMENT	333375	7.65	3.54	27.09	4.78	36.57	35.00%	TO EXISTING CREEK
	GRASS	619130	14.21	1.70	24.16	2.30	32.62		
	TOTAL	952505	21.87	AVE 2.34	51.26	AVE 3.16	69.19		
B.2	BUILDING	864	0.02	3.54	0.07	4.78	0.09	20.32%	TO 124 FRONTENAC FOREST ST.
	PAVEMENT	0	0.00	3.54	0.00	4.78	0.00		
	GRASS	3389	0.08	1.70	0.13	2.30	0.18		
	TOTAL	4253	0.10	AVE 2.07	0.20	AVE 2.80	0.27		
OFF SITE TOTALS	BUILDING/PAVEMENT	334239	7.67	3.54	27.16	4.78	36.67	34.93%	
	GRASS	622519	14.29	1.70	24.29	2.30	32.80		
	TOTAL	956758	21.96	AVE 2.34	51.46	AVE 3.16	69.47		

ON AND OFFSITE TOTALS	BUILDING/PAVEMENT	342595	7.86	3.54	27.84	4.78	37.59		
	GRASS	658438	15.12	1.70	25.70	2.30	34.69		
	TOTAL	1001033	22.98	AVE 2.33	53.54	AVE 3.15	72.28		

NOTES: 1. PERCENT IMPERVIOUS ASSUMES GRASS AS PERVIOUS

15YR/20 MIN

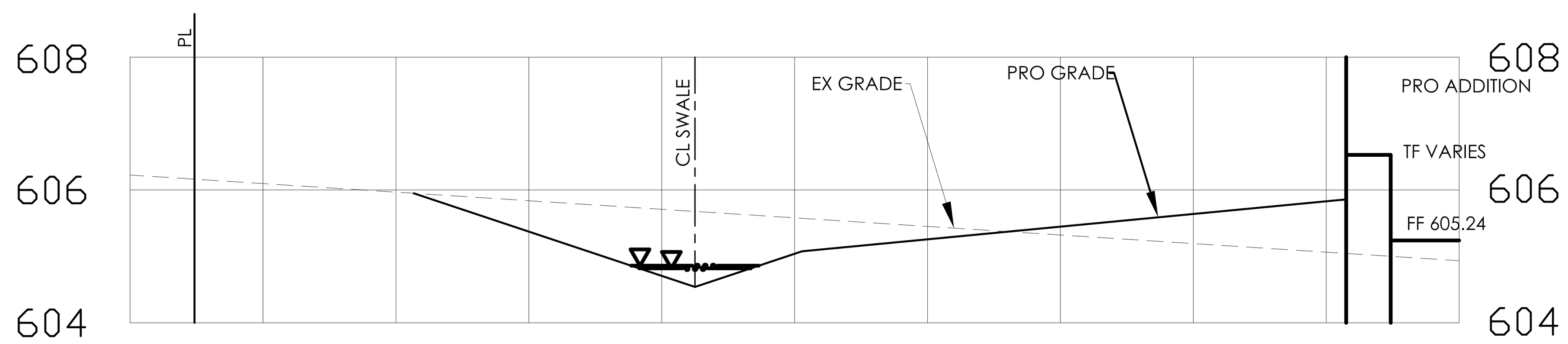
Given Input Data:
- Shape .... Trapezoidal
- Solving for .... Depth of Flow
- Flowrate .... 0.2700 cfs
- Slope .... 0.0390 ft/ft
- Manning's n 0.0678
- Height .... 6.0000 in
- Bottom width .... 0.0000 in
- Left slope .... 0.3300 ft/ft (V/H)
- Right slope .... 0.3300 ft/ft (V/H)

Computed Results:
- Depth .... 3.3700 in
- Velocity .... 1.1297 fps
- Full Flowrate .... 1.2572 cfs
- Flow area 0.2390 ft2
- Flow perimeter .... 21.5078 in
- Hydraulic radius .... 1.6001 in
- Top width .... 20.4244 in
- Area 0.7576 ft2
- Perimeter .... 38.2925 in
- Percent full .... 56.1672 %

100 YR/20MIN

Given Input Data:
- Shape .... Trapezoidal
- Solving for .... Depth of Flow
- Flowrate .... 0.3700 cfs
- Slope .... 0.0390 ft/ft
- Manning's n 0.0678
- Height .... 6.0000 in
- Bottom width .... 0.0000 in
- Left slope .... 0.3300 ft/ft (V/H)
- Right slope .... 0.3300 ft/ft (V/H)

Computed Results:
- Depth .... 3.7927 in
- Velocity .... 1.2223 fps
- Full Flowrate .... 1.2572 cfs
- Flow area 0.3027 ft2
- Flow perimeter .... 24.2053 in
- Hydraulic radius .... 1.8008 in
- Top width .... 22.9860 in
- Area 0.7576 ft2
- Perimeter .... 38.2925 in
- Percent full .... 63.2116 %



SWALE SECTION
SCALE: 1"=2'

THE GRID, AS DEFINED BY THE NUMBERS AND LETTERS IN THE BINDING AND UPPER MARGINS OF THIS SHEET, ARE FOR REFERENCE ONLY AND SHOULD NOT BE INTERPRETED AS HAVING ANY SCALE WITH RESPECT TO THE DRAWING'S CONTENTS OR GEOMETRY.

PRELIMINARY

STATE OF MISSOURI
DANIEL C. WIND, JR.
NUMBER E-19364
REGISTERED PROFESSIONAL ENGINEER

Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

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124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
DRAINAGE AREA MAP

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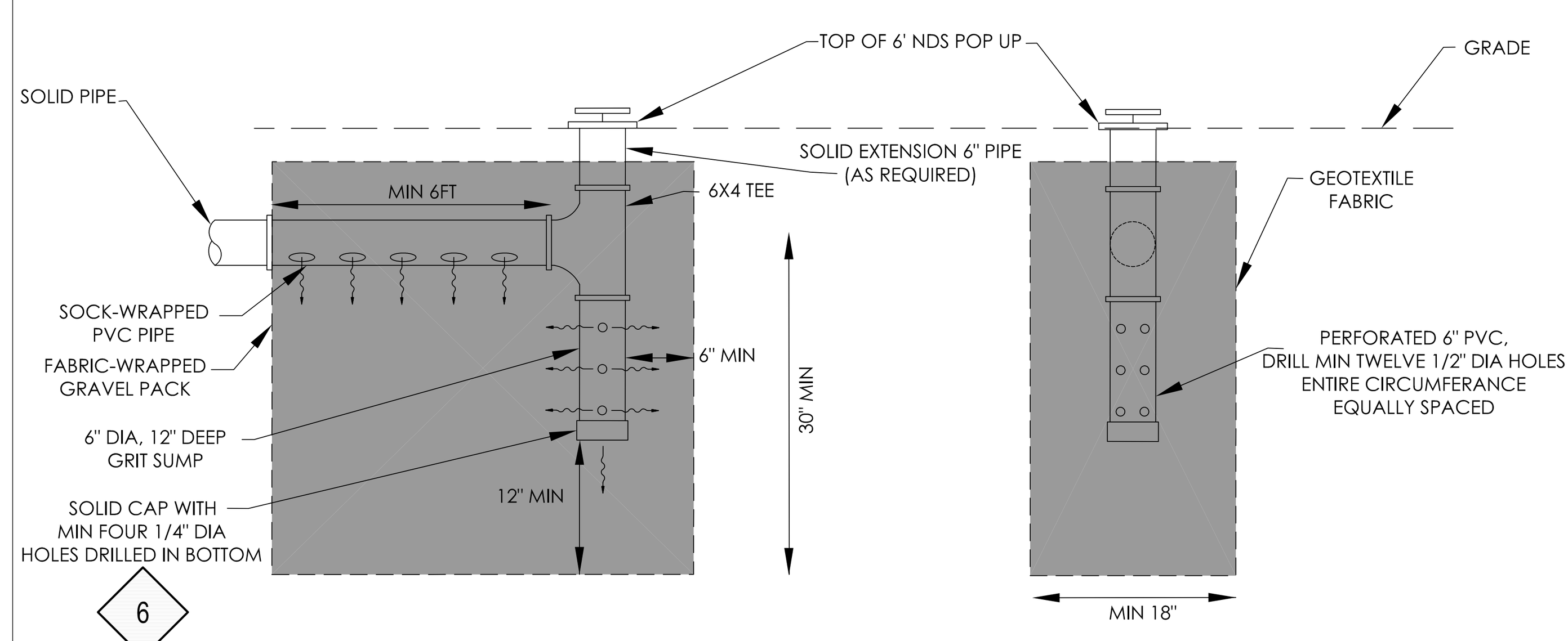
No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

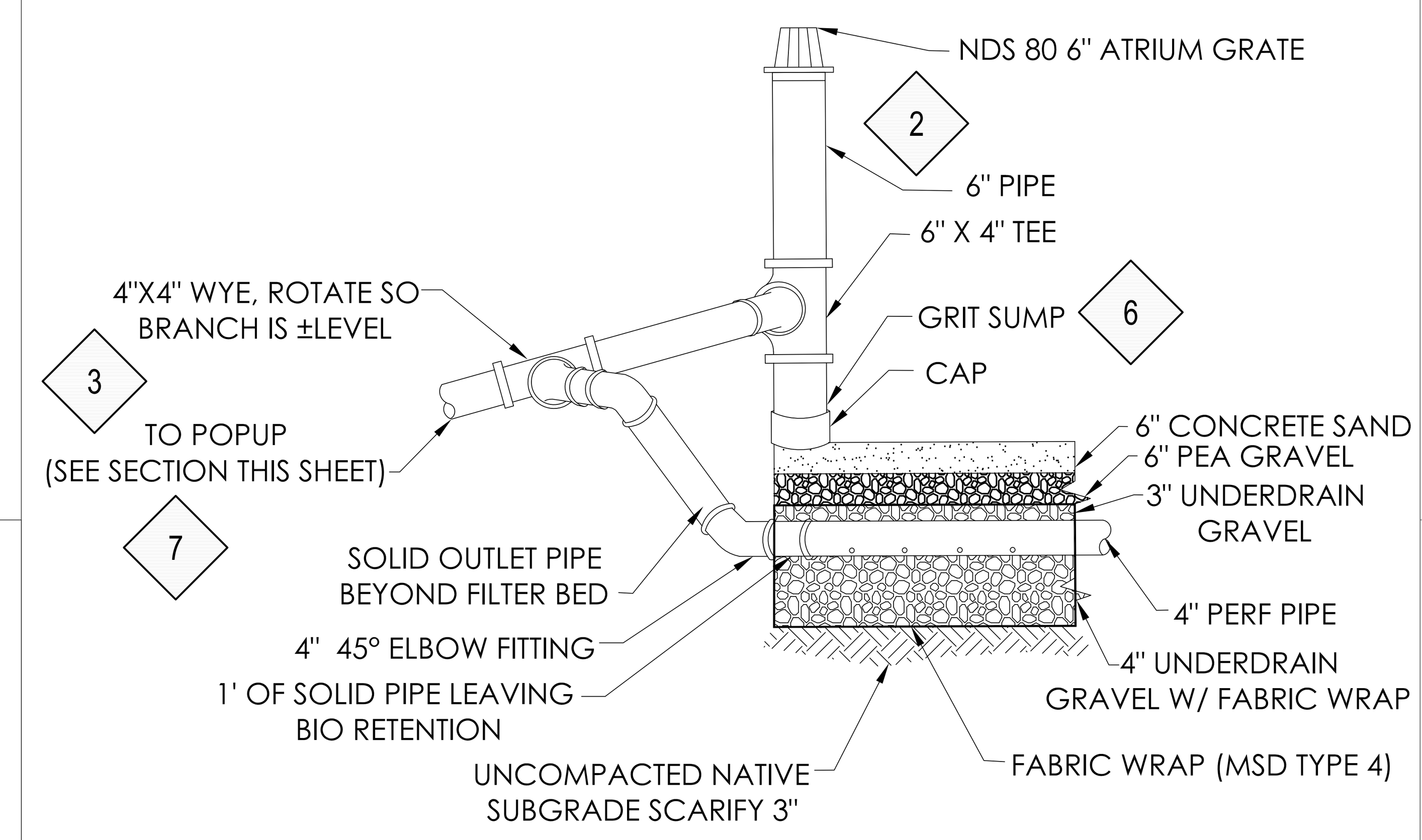
Date: 12-23-2019
Field Work: KS Field Checked: GS
Drawn By: PC C.S.O.: PC
Checked By: DW
Project Number: 19094
Sheet Number: C5
MSD P-
BASEMAP : 20N
H & T #:

GRATED AND RESILIENT OVERFLOW AT RAIN GARDEN				
PRO TOP OF BERM ELEVATION = 601.33				
ASSUMES GRATED OVERFLOW FUNCTIONS AS SUBMERGED ORIFICE				
Bottom rain garden = top mulch / filter bed			= 600.00	
ponding depth			= 12.0	in
ponding depth			= 1.00	ft
WSEL	=	normal (design) water elevation	= 601.00	
set sill of		grate overflow at WSEL	= 601.00	
set max ponding > sill		grate overflow	= 3.0	in
set max ponding > sill		grate overflow	= 0.25	ft
Hwel	=	design highwater elevation *(before emergency / resilient overflow)*		
Hwel	=	depth of ponding > grate, + sill elevation	= 601.25	
Determine free open area `A' reqd for ponding			= 0.25	ft
Orifice equation:				
$Q = C * A * [2 * g * H]^{1/2}$				cfs
Q	is	15 yr flow rate (see plans)	= 0.19	cfs
C	is	coefficient, not greatly affected by submergence		
C		(average value)	= 0.600	
H	is	depth of water above sill / top riser	= 0.25	ft
g	is	acceleration due to gravity	= 32.20	ft/s^2
Orifice equation (rearranged to solve for A):				
$A = Q / [C * [2 * g * H]^{1/2}]$				ft^2
Solving for free open area `A' $_{reqd}$			= 0.08	ft^2
A	=	req'd free open area grate and riser stack	= 11.36	in^2
Select grate with min free open area (in^2) equal to A				
Check free open area of riser stack				
nd	=	nominal diameter of riser stack	= 6	in
od	=	outside diameter of riser stack	= 6.275	in
wt	=	wall thickness riser stack	= 0.100	in
id	=	inside diameter of riser stack	= 6.075	in
A	=	free open area of riser stack	= 28.99	in^2
Free open area of riser stack		exceeds	A reqd	OK
Develop resilient overflow for Q_{100}				
Evaluate parabolic cross section w/ crest as Manning's channel flow				
$Q = \frac{K'}{n} * T^{8/3} * S^{1/2}$		(derivation from Manning's equation)		cfs
Q	is	100 yr flow rate (see plans)	= 0.26	cfs
crest	=	design elevation at which water overflows berm		
crest	=	Hwel (design highwater)	= **601.25**	
D	=	depth of flow above crest	= **1.0**	in
D	=	depth of flow above crest	= **0.083**	ft
T	=	top width parabolic overflow, *see profile*	= **3.0**	ft
D/T	=	$\frac{D}{T} = \frac{0.083}{3.00}$	= **0.02778**	
K'	is	from Table 7-16 Brater and King		
K'	=	(based on value of D/T)	= **0.00195**	
S	=	$\frac{\text{fall (ft)}}{\text{length (ft)}} = \frac{0.008333333}{0.42}$ (5 in wide pavers)	= **0.020**	ft/ft
n	is	Manning's roughness coefficient		
n	as	smooth concrete (pre cast pavers)	= **0.012**	
Q_{cap}	=	$\frac{0.00195}{0.012} * 3.0^{8/3} * 0.02^{1/2}$	= **0.430**	cfs
Capacity of overflow		exceeds	Q_{100}	OK
V	is	Velocity over berm, across pavers		
V	=	$\frac{\text{Q (flow, cfs)}}{\text{A (area, s.f.)}} = \frac{0.26}{0.12}$	= **2.17**	ft/sec
Stablize downslope berm beyond using		PAVER STONES		



POP UP EMITTER AT DISCHARGE

SCALE:NTS



PIPING DETAIL

OVERFLOW AND PERCHED UNDERDRAIN

SCALE:NTS

KEYED NOTES

GENERAL: SEE NOTICES TO CONTRACTOR SHEET C1 AND KEYED NOTES OTHER SHEETS AS MAY BE APPLICABLE TO WORK DEPICTED ON THIS DRAWING.

1. MINIMUM OF 1 CUBIC FOOT OF FABRIC-WRAPPED DRAINAGE STONE BELOW POP UP EMITTER (TYP).
2. 6" RISER STACK WITH GRIT SUMP. DRILL 1" HOLE IN CENTER OF SOLID CAP AT BASE, SIT ON TOP OF STONE UNDERDRAIN; EXTEND/WIDEN STONE AS NEEDED.
3. ROTATE FITTINGS IN HORIZONTAL AND VERTICAL PLANE AS REQUIRED TO ATTAIN X-Y-Z ALIGNMENT AS SHOWN ON PLAN.
4. INSTALL HORIZONTAL FITTINGS AS REQUIRED, SEE PLAN.
5. POP UP EMITTER TO BE MINIMUM 10 FT FROM PROPERTY LINE. ADJUST PROPOSED GRADING TO ENSURE POSITIVE DRAINAGE FROM POP UP EMITTER.
6. OWNER TO REGULARLY INSPECT GRIT SUMP AND REMOVE ACCUMULATED MATERIAL.
7. MINIMUM 10 FT OF PERFORATED PIPE PRIOR TO POP UP EMITTER. PIPE SHALL BE SURROUNDED BY A MINIMUM OF 6 INCHES OF 3/4" CLEAN ROCK ON ALL SIDES. ROCK SHALL BE WRAPPED IN FILTER FABRIC.
8. STONE EROSION CONTROL AT DISCHARGE FROM POP UP EMITTER (TYP).

RAIN GARDEN NOTES

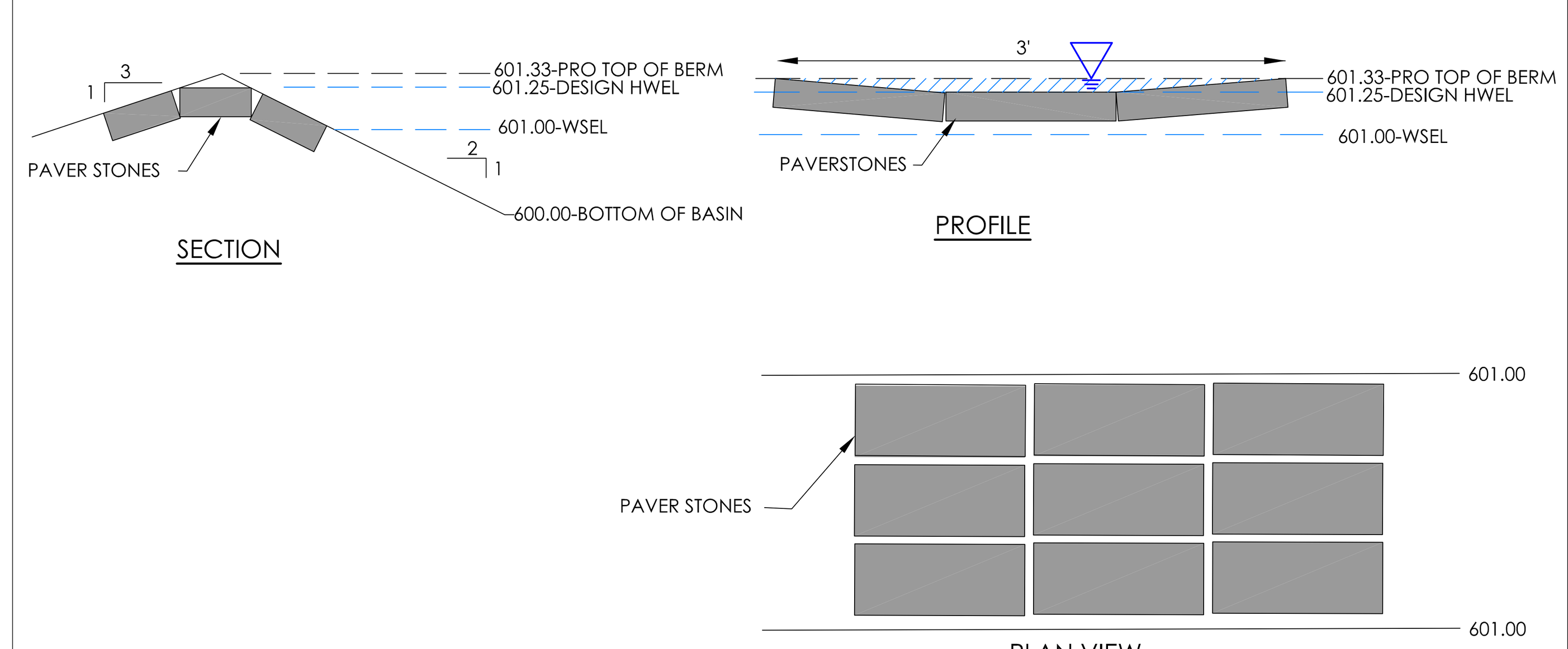
1. VEGETATION COMMONLY PLANTED IN RAIN GARDENS INCLUDES NATIVE TREES, SHRUBS, AND OTHER HERBACEOUS VEGETATION. WHEN DEVELOPING A LANDSCAPING PLAN, CONTRACTOR TO CHOOSE VEGETATION THAT WILL BE ABLE TO STABILIZE SOILS AND TOLERATE THE STORM WATER RUNOFF RATES AND VOLUMES THAT WILL PASS THROUGH THE RAIN GARDEN.
2. VEGETATION USED IN RAIN GARDENS SHOULD ALSO BE ABLE TO TOLERATE BOTH WET AND DRY CONDITIONS. PLANTS TO BE SELECTED FROM LIST OF SPECIES AS APPROVED BY THE CITY OF FRONTENAC.
3. AS WITH ANY GARDEN, IN THE FIRST SEASON, THE VEGETATION MAY REQUIRE IRRIGATION TO BECOME WELL ESTABLISHED.
4. IT MAY BE APPROPRIATE TO PLANT MORE DENSELY THAN A NORMAL GARDEN TO OBTAIN THE BENEFIT OF PLANT SOIL STABILIZATION AND EVAPOTRANSPIRATION AS SOON AS POSSIBLE.
5. LIMESTONE SHALL NOT BE USED IN BIO-RETENTION.
6. BIO-RETENTION BACKFILL SHALL NOT BE COMPACTED OR DRIVEN ON BY RUBBER WHEELED HEAVY EQUIPMENT.
7. CLEANOUTS SHALL HAVE REMOVABLE CAPS.
8.

UNDERDRAIN REQUIREMENTS

1. MINIMUM OF 3 INCHES OF CLEAN ROCK OVER UNDERDRAIN.
2. 4 INCHES OF CLEAN ROCK BELOW UNDERDRAIN FLOWLINE.
3. MUST BE MADE OF 4 OR 6 INCH PERFORATED PVC PIPE.
4. 4 OR 6 INCH SOLID PVC PIPE SHALL CONNECT TO PERFORATED PIPE ONE FOOT BEFORE UNDERDRAIN LEAVES THE BIO-RETENTION.
5. UNDERDRAINS SHALL HAVE CLEANOUTS WITH REMOVABLE CAPS AT THEIR UPSTREAM END.
6. ALL OPEN ENDS TO BE CAPPED.

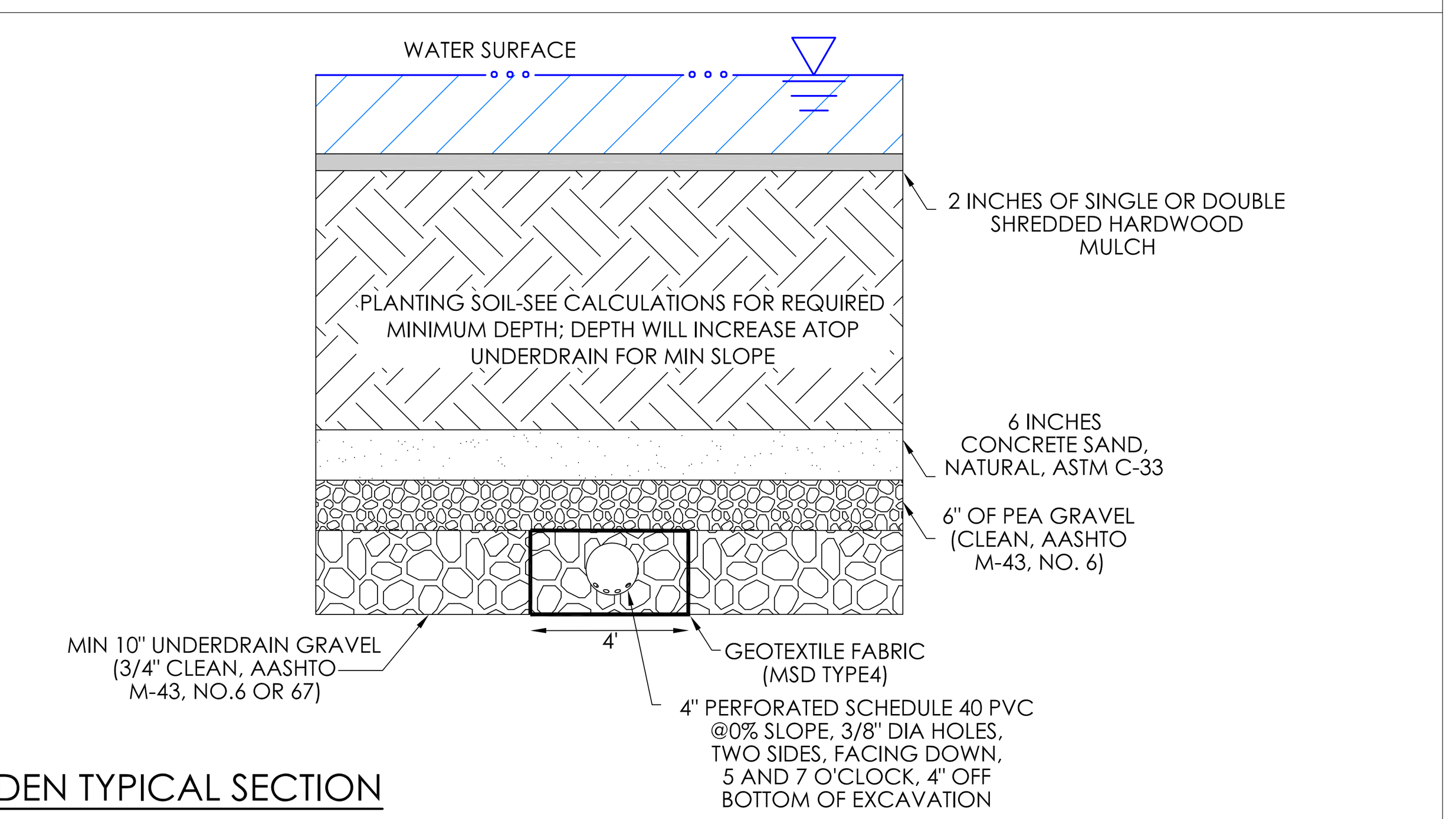
MATERIAL REQUIREMENTS

1. USE OF LIMESTONE OR OTHER CALCEROUS STONE IS NOT ALLOWED.
2. ROCK USED IN BMPS SHALL BE WASHED, CLEAN AND HARD.
3. PIPE TYPES SHALL BE LIMITED TO SDR-35, SCHEDULE 40 PVC, DUAL WALLED N-12 WT IB, AND REINFORCED CONCRETE PIPE.
4. PERFORATED PIPE SHALL HAVE 3/8" DIAMETER PERFORATIONS ON 6" CENTERS AT 5 AND 7 O'CLOCK.
5. FILTER FABRIC SHALL BE A NON-WOVEN GEOTEXTLE ADHERING TO MSD TYPE 4 STANDARDS.



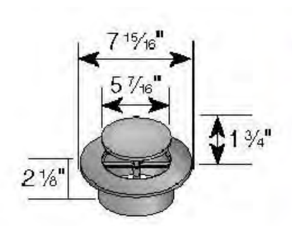
RESILIENT OVERFLOW

SCALE:NTS

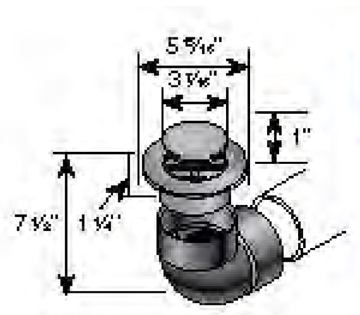


RAIN GARDEN TYPICAL SECTION

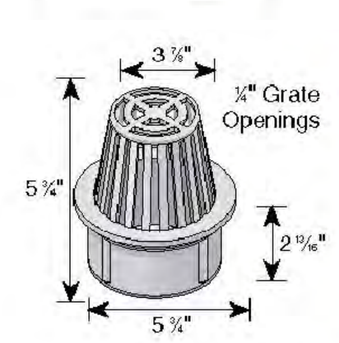
SCALE:NTS



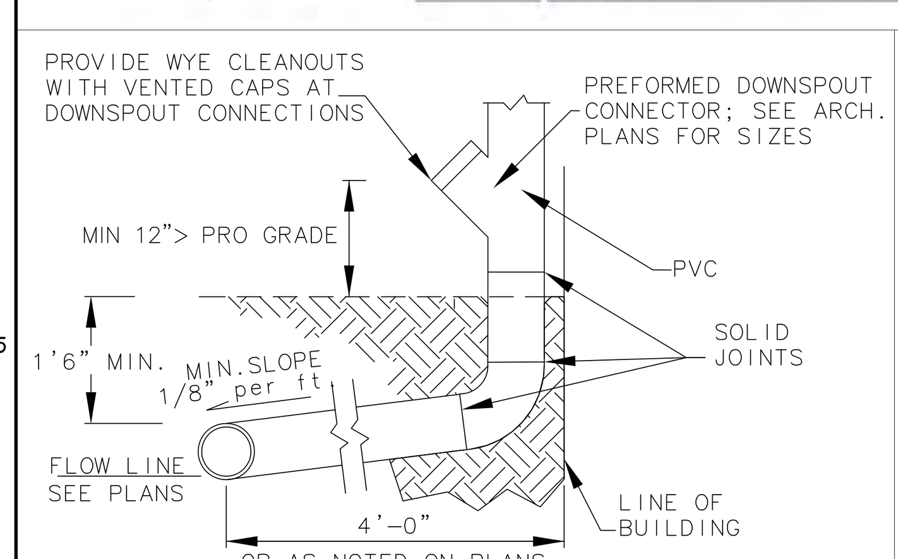
Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Product Class	Specifications
620	6" Pop-up Drainage Emitter	Green	15	0.61	10ND	6" polyolefin spring-loaded Pop-up Drainage Emitter with UV inhibitor. 88 GPM capacity. 0.04 psi or 1" of head to raise top.
	Can be used with Flo-Well to relieve overflow					



Part No.	Description	Color	Pkg. Qty.	Wt. Ea. (lbs.)	Product Class	Specifications
421	Emitter with 4" Elbow	Green	20	0.85	10ND	NDS #420 polyolefin spring-loaded Pop-up Drainage Emitter with UV inhibitor, 4" styrene 90 degree elbow with 1/4" drain hole. 40 GPM. 0.04 psi or 1" of head to raise top.
	Fits 4" Sewer and Drain Pipe. Ideal for discharging excess water from stormwater management system. Spring automatically retracts.					

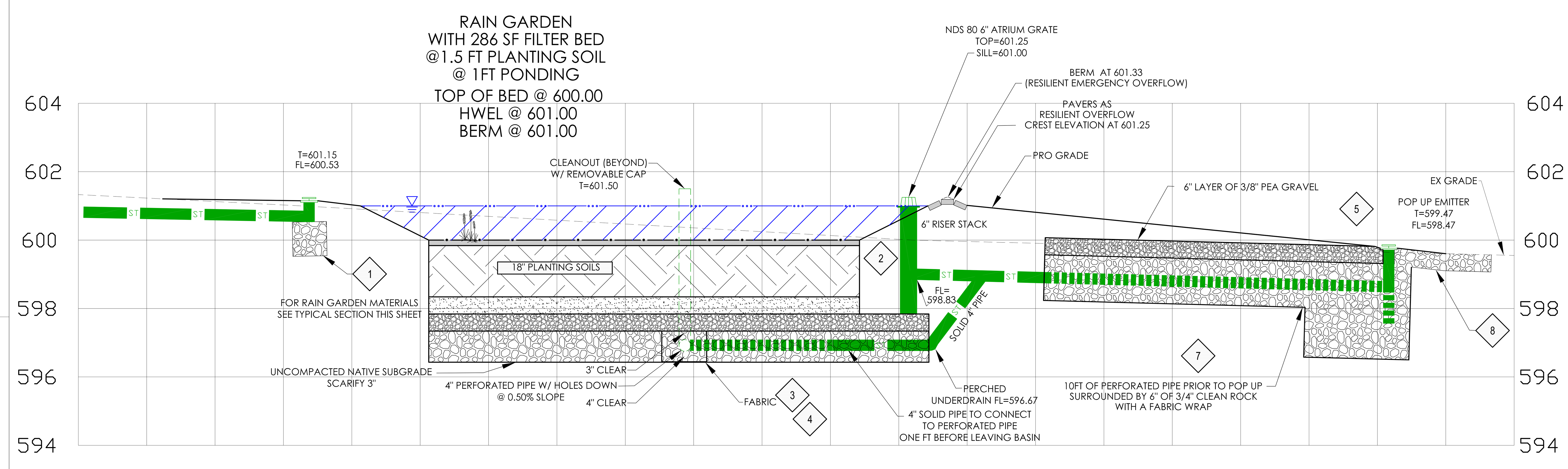


Part No.	Description	Color	Pkg. Qty.	Wt. Ea. lbs.	Product Class	Specifications
80	6" Atrium Grate	Green	10	0.62	10ND	Flat-Top Structural Foam Polyolefin Atrium Grate with UV inhibitor. Open surface area 28.40 square inches. 86.88 GPM.
81	6" Atrium Grate	Gray	10	0.62	10ND	
90	6" Atrium Grate	Black	10	0.62	10ND	
90S	6" Atrium Grate	Sand	10	0.62	10ND	
	Fits Spee-D® Basin, 6" Sewer and Drain Pipe & Fittings, 6" corrugated Pipe.					



DOWNSPOUT CLEANOUT

SCALE:NTS



SECTION A-A

SCALE: 1"=2'

PRELIMINARY

STATE OF MISSOURI DANIEL C. WIND, JR. NUMBER E-19364 PROFESSIONAL ENGINEER REGISTERED

Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

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124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
DETAILS

Prepared For:
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C.O.A. #E-1607-D

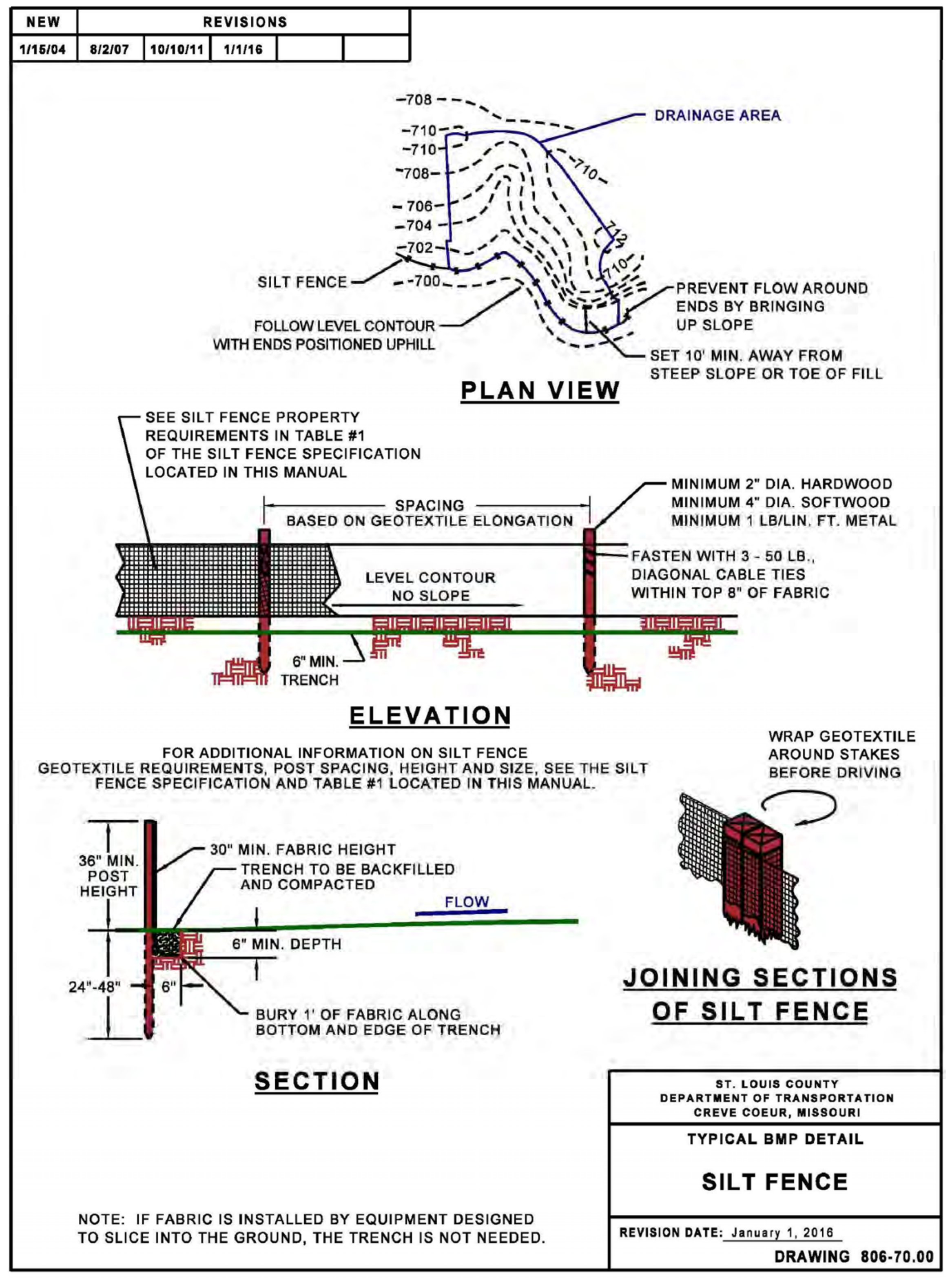
No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

Date:	12-23-2019
Field Work: KS	Field Checked: GS
Drawn By: PC	C. S. O.: PC
Checked By:	DW
Project Number:	19094
Sheet Number:	C7.1
MSD P-	BASEMAP : 20N
H & T #:	

A B C D E F G T

1 2 3 4 5



SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls, appropriate to the BMP, at sites where construction activities will disturb the soil. They can also be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at low and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fence can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED - Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow, not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (NAHB, 1995). The fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is relative to slope steepness as follows:

Type of Flow: Sheet flow only.

Contributing Slope Length: 30-foot maximum for 3:1 slopes.
50 foot maximum for slopes between 3:1 and 10:1.
100 foot maximum for slopes under 10%.

For additional information see Section 806.70 of St. Louis County's Standard Specification for Road and Bridge Construction.

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around material stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Drive post for fence line.
- ✓ Dig trench to required dimensions in front of posts for fabric burial.
- ✓ Attach wire mesh to posts.
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench
- ✓ Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like No. 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L or C shape sections) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be least 5 feet long and driven or placed at a slight upstream angle into the ground to a

minimum depth of 18 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and ½ inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 6 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.

The height of the fence posts should be 38 inches (22-inch embedment) to 42 inches (18-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 4 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment.
Install posts at reduced spacing indicated on detail.

LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1988).

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Setting and design of the silt fence should account for this. Take care to avoid unnecessarily diverting stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each rainfall event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment buildup deeper than ½ the fence height or 12", whichever is less.
- ✓ Replace torn of clogged fabric; repair loose fabric.

- ✓ Repair unstable or broken posts.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection.

SILTING AND DESIGN CONSIDERATIONS - The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in **Table 1** below.

Table 1- Temporary Silt Fence Property Requirements

Physical Property	Test Method	Units	*MARV Geotextile Requirements*		
			Supported Silt Fence [2]	*Unsupported Silt Fence*	
				Woven	Non-Woven
				Elongation ≥ 50% [1]	Elongation ≤ 50% [1]
Post Spacing (Maximum)		feet	4	4	6
Height of Wire / Polymer Fence (Minimum)		inches	30	---	---
Grab Strength (Minimum): Machine Direction / Cross Machine Direction	ASTM D 4632	pounds	90 / 90	125 / 100	125 / 100
Permittivity (Minimum)	ASTM D 4491	sec^{-1}	0.05	0.05	0.05
Apparent Opening Size (AOS) [3]	ASTM D 4751	Sieve Number	30	30	30
Ultraviolet Stability (Minimum) (retained strength)	ASTM D 4355	70% after 500 h of exposure			

Notes:

MARV Minimum Average Roll Value

[1] Elongation measured in accordance with ASTM D 4632

[2] **Silt Fence Support** - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength)

[3] Maximum Average Roll Value

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate.

TYPICAL DETAIL - 806-70.0

GRASSES / SEDGES (Minimum 5 Grasses / Sedges)					
BOTANICAL NAME	COMMON NAME	SIZE	SPACING		QUANTITY
Carex annectans	Yellow Fruited Sedge	1 qt.	1.5	' o.c.	5
Carex grayii	Bur Sedge	1 qt.	1.5	' o.c.	5
Carex muskingumensis	Palm Sedge	1 qt.	1.5	' o.c.	5
Juncus effusus	Soft Rush	1 qt.	1.5	' o.c.	5
Panicum Virgatum	Switchgrass	1 qt.	2.5	' o.c.	12
FORBS (Minimum 8 Forbes)					
Amsonia illustris	Shining Bluestar	1 qt.	2.5	' o.c.	5
Hibiscus lasiocarpos	Rose Mallow	1 qt.	2.5	' o.c.	5
Lobelia cardinalis	Cardinal Flower	1 qt.	1.5	' o.c.	5
Lobelia siphilitica	Blue Lobelia	1 qt.	1.5	' o.c.	5
Rudbeckia fulgida	Orange Coneflower	1 qt.	1.5	' o.c.	5
Aster Novae-angliae	New England Aster	1 qt.	2.0	' o.c.	5
Hibiscus Lasiocarpos	Rose Mallow	1 qt.	2.5	' o.c.	5
Iris Virginica	Southern Blueflag Iris	1 qt.	2.5	' o.c.	5
TOTAL PLANT COUNT					72
TOTAL AREA OF PLANTING PROVIDED (SF)					298
TOTAL AREA OF PLANTING REQUIRED (SF)					298

PLANT MAINTENANCE (TYP)
SCALE: NTS

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5 for plugs
Manual watering with standard sprinkler	Late Feb. – Early June	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

**This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ½ inch of water to meet the 1 inch requirement.*

***Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.*

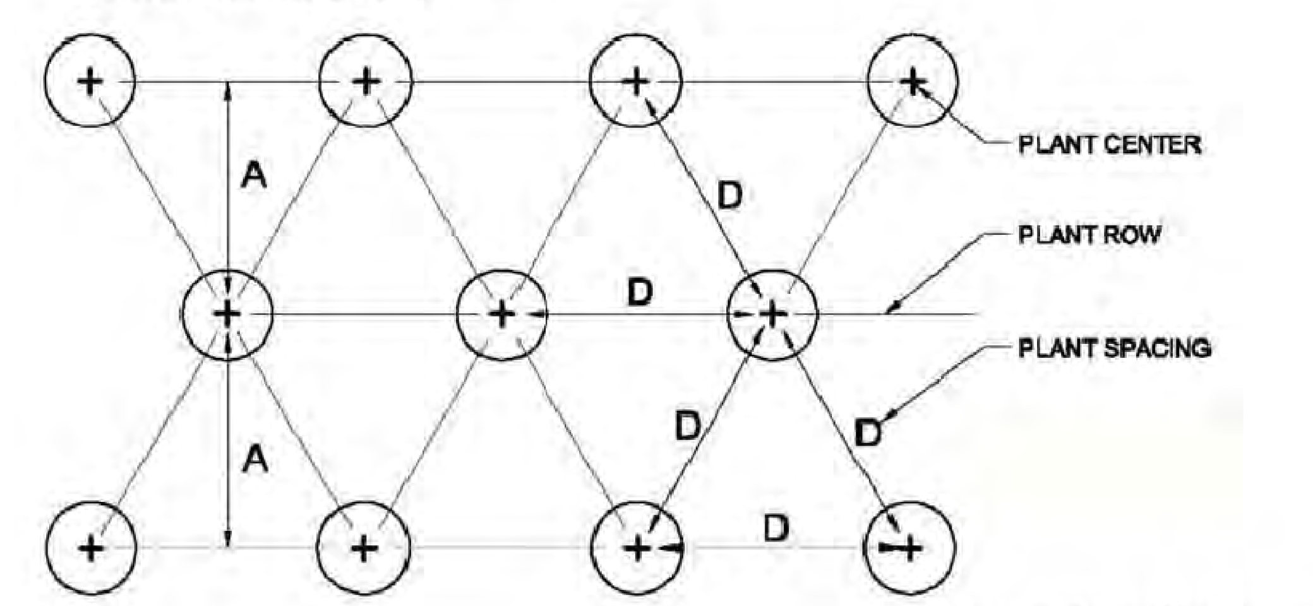
****Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.*

*****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.*

PLANT MAINTENANCE (TYP)
SCALE: NTS

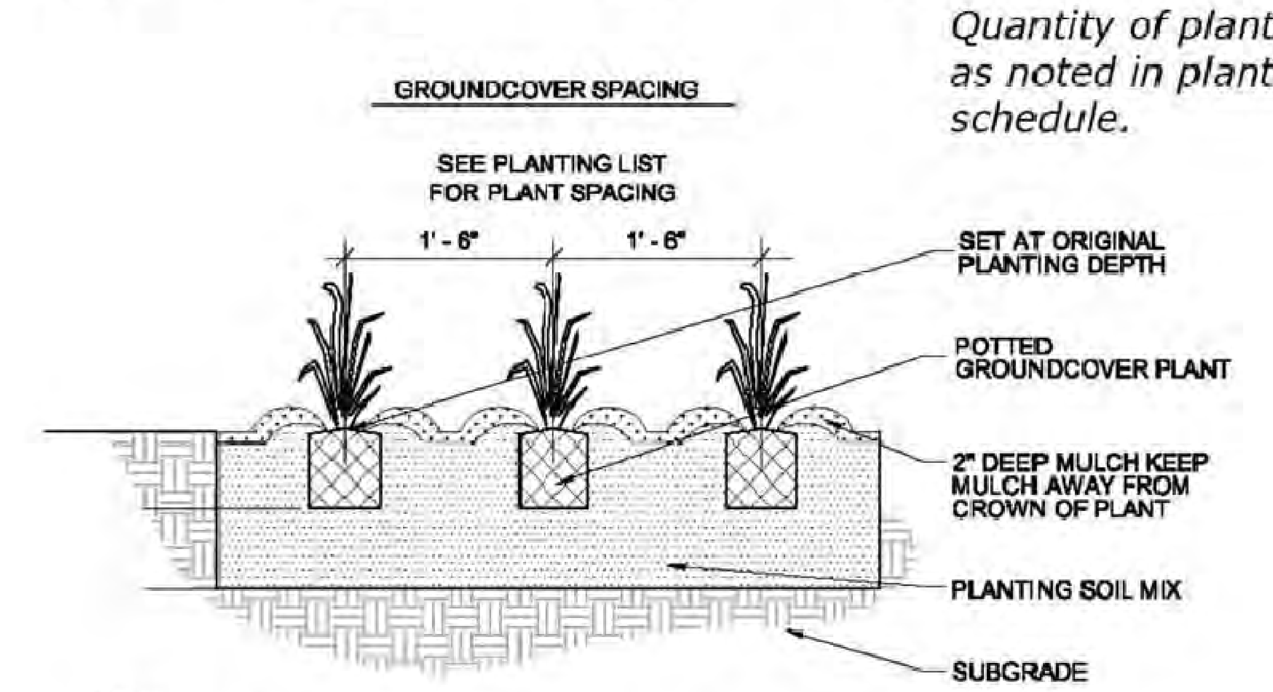
SPACING "D"	ROW "A"	NUMBER OF PLANTS/SQ. FT.
30"	26"	.160
24"	20.8"	.25
18"	15.6"	.450
15"	13.0"	.640
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

NOTE: PLANT QUANTITIES WERE DETERMINED BY MULTIPLYING AREA (SQ. FT.) BY NUMBER OF PLANTS/SQ. FT. FOR REQUIRED SPACING.



GROUNDCOVER SPACING

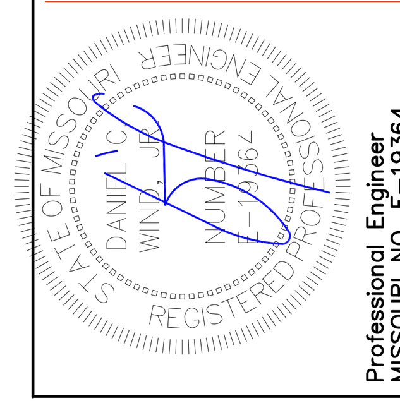
Quantity of plants as noted in planting schedule.



NOTES:
1. REMOVE SPENT FLOWERS PRIOR TO PLANTING.
2. LOOSEN ROOT MASS AT BOTTOM OF ROOTBALL.
3. TOP OF ROOTBALL STRIPPED OF ¼" SURFACE GROWING MEDIA AND COVEREDWITH ¼" LANDSCAPE BED MIX PLUS SURFACE MULCH.

PLANT SPACING SCHEDULE (TYP)
SCALE: NTS

PRELIMINARY



Professional Engineer
MISSOURI NO. E-19364
EXPIRES: 12-31-2021
Daniel C. Wind, P.E.

PRELIMINARY PLAN DISCLAIMER

THIS PLAN HAS BEEN DEVELOPED USING RECORD OR AVAILABLE SURVEY, TOPOGRAPHIC, DRAINAGE, SEWER AND UTILITY INFORMATION. THE DESIGN OF SITE IMPROVEMENTS INCLUDING FINISH GRADES, SEWERS, DRAINAGE, UTILITIES, AND PAVING IS STRICTLY PRELIMINARY, SUBJECT TO REVISION DURING FINAL ENGINEERING DESIGN AND AGENCY PROCESSING. THIS PLAN IS NOT FOR CONSTRUCTION.

124 FRONTENAC FOREST STREET
CITY OF FRONTENAC, ST. LOUIS COUNTY MO 63131
DETAILS

Prepared For:
Mr. Matt Shaver, NCARB
REFINE-Interiors and Renovations by UIC
1607 Tower Grove Ave
St. Louis, MO 63110
mshaver@uicstl.com
(314) 771-7300

Prepared By:
122 N. Kirkwood Road
Kirkwood, MO 63122
Telephone: 314.965.WIND
Fax: 314.965.7592
Email: wind@windengr.com
C.O.A. #E-1607-D

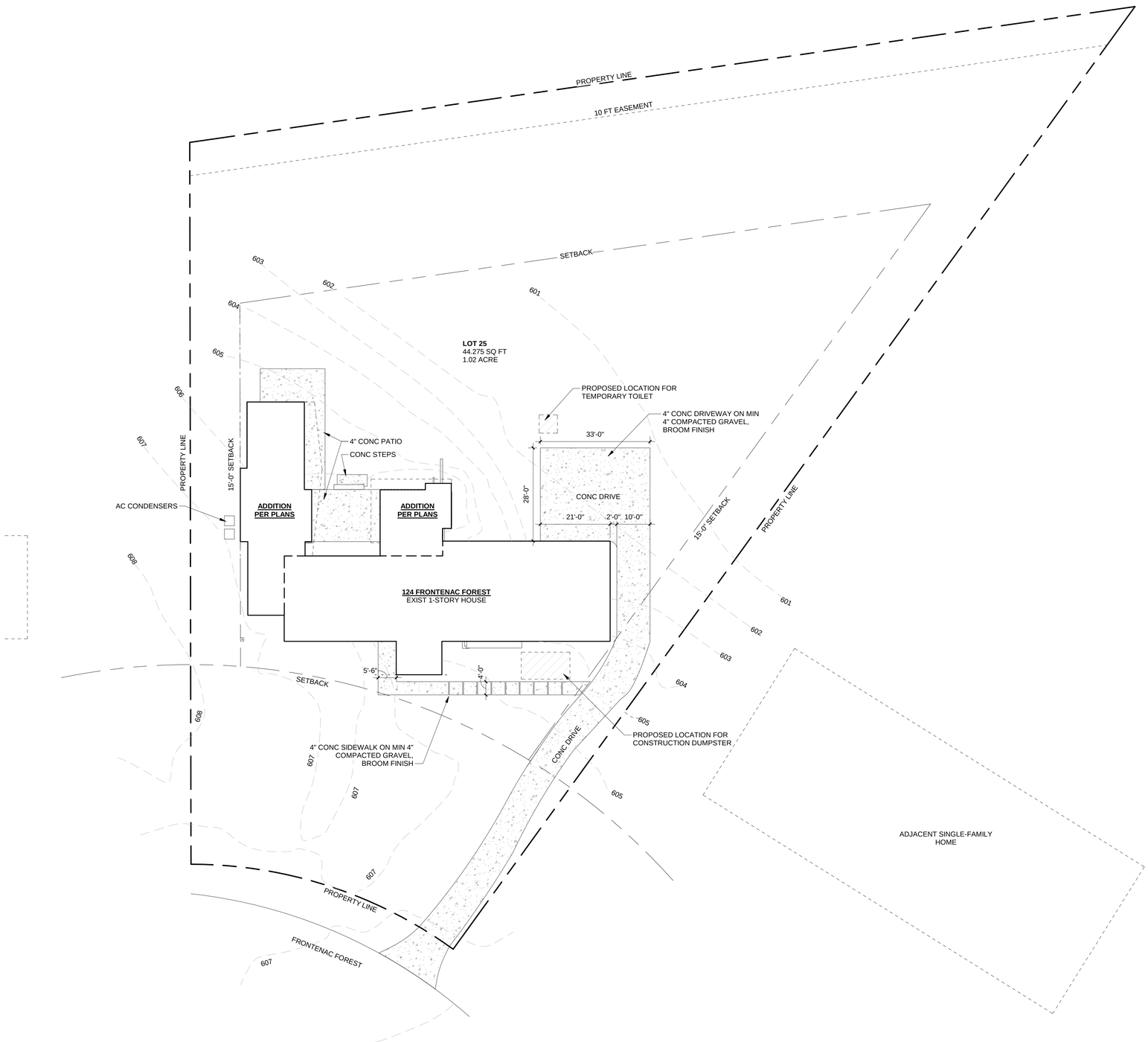
No.	Date:	Description:	P.E. Signature

REVISIONS/STATUS

Date:	12-23-2019
Field Work: KS	Field Checked: GS
Drawn By: PC	C. S. O.: PC
Checked By:	DW
Project Number:	19094
Sheet Number:	C7.2
MSD P-	BASEMAP : 20N
H & T #:	

SITE PLAN GENERAL NOTES:

1. PROTECT EXISTING BUILDING AND SITE ELEMENTS TO REMAIN DURING CONSTRUCTION



E1 SITE PLAN
A101 1/16" = 1'-0"

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124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

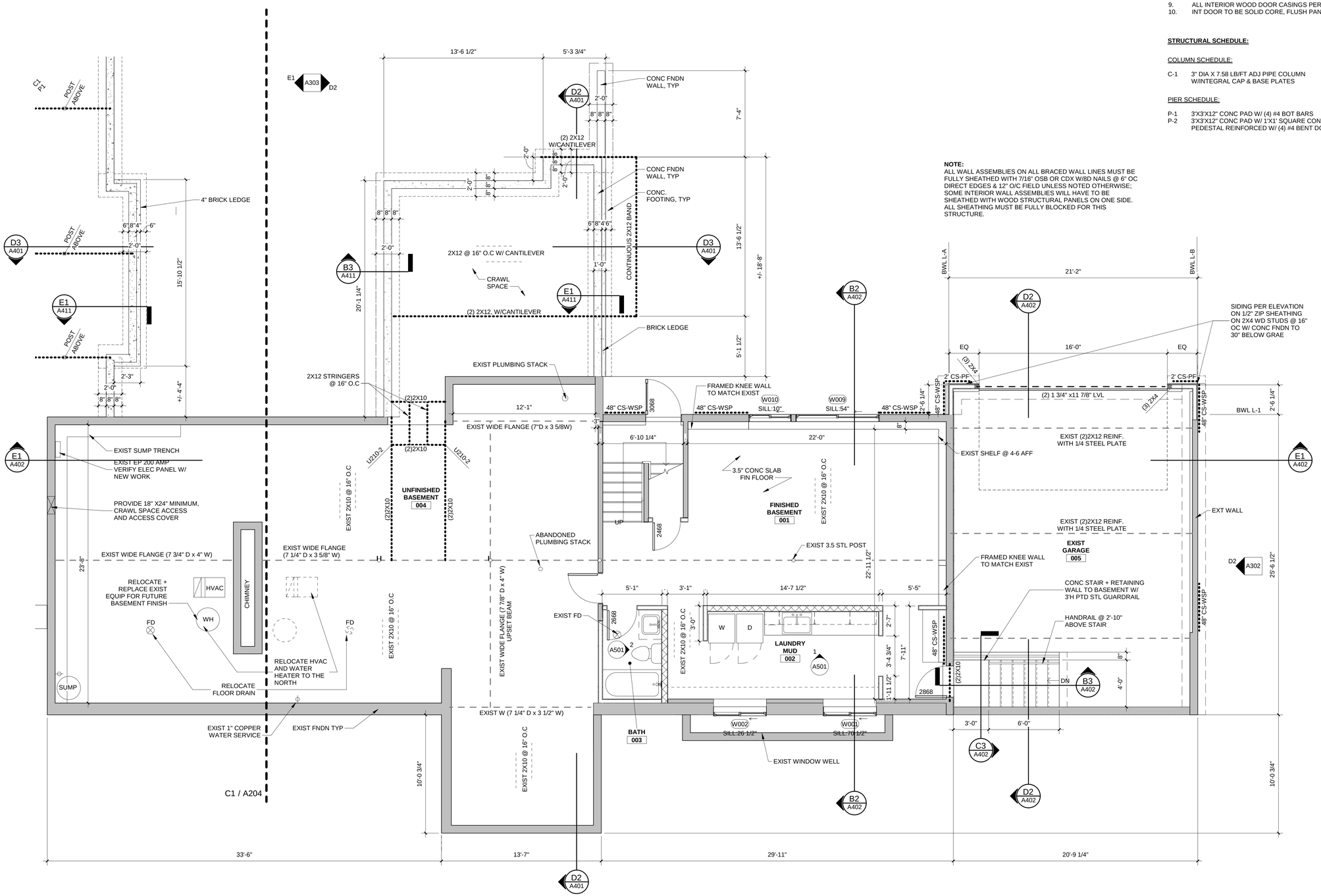
PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
SITE PLAN

1" ACTUAL

SHEET NUMBER:
A101

ACTUAL SHEET SIZE: 24" X 36"



FLOOR PLAN GENERAL NOTES:

1. ALL INTERIOR PARTITIONS TO BE 1/2" GWB ON 2X4 WOOD STUDS @ 16" O.C, UNO.
2. EXT. WALLS TO BE 2X6 WD STUDS @ 16" O.C W/R-20 INSUL.
3. ALL INTERIOR WOOD WALL BASE AND DOOR CASING TO BE PAINTED.
4. ALUM CLAD WD WINDOWS, TYP. WINDOWS IN EXIST OPNGS SHALL MATCH SIZE OF EXIST OPNGS TYP.
5. ATTIC INSUL = R49 MIN.
6. HDWD T+G FLOORS THROUGH-OUT U.N.O
7. ALL INTERIOR DIMENSIONS SHOWN TO FACE OF STUD FRAMING.
8. ALL DIMENSIONS TO EXISTING WALLS SHOWN TO FINISH FACE OF WALL, UNO.
9. ALL INTERIOR WOOD DOOR CASINGS PER START SHEET.
10. INT DOOR TO BE SOLID CORE, FLUSH PANEL, TYP.

STRUCTURAL SCHEDULE:

COLUMN SCHEDULE:

C-1 3" DIA X 7.58 LB/FT ADJ PIPE COLUMN W/INTEGRAL CAP & BASE PLATES

PIER SCHEDULE:

P-1 3'X3'X12" CONC PAD W/ (4) #4 BOT BARS
P-2 3'X3'X12" CONC PAD W/ 1'X1' SQUARE CONC PEDESTAL REINFORCED W/ (4) #4 BENT DOWELS

NOTE:
ALL WALL ASSEMBLIES ON ALL BRACED WALL LINES MUST BE FULLY SHEATHED WITH 7/16" OSB OR CDX W/8D NAILS @ 6" OC DIRECT EDGES & 12" O/C FIELD UNLESS NOTED OTHERWISE; SOME INTERIOR WALL ASSEMBLIES WILL HAVE TO BE SHEATHED WITH WOOD STRUCTURAL PANELS ON ONE SIDE. ALL SHEATHING MUST BE FULLY BLOCKED FOR THIS STRUCTURE.

E1 A201 PROPOSED BASEMENT PLAN - HOUSE
1/4" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
REFINE
1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT
Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
FLOOR PLANS

1" ACTUAL

SHEET NUMBER:
A201

ACTUAL SHEET SIZE: 24" X 36"

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FLOOR PLAN GENERAL NOTES:

1. ALL INTERIOR PARTITIONS TO BE 1/2" GWB ON 2X4 WOOD STUDS @ 16" O.C, UNO.
2. EXT. WALLS TO BE 2X6 WD STUDS @ 16" O.C W/R-20 INSUL.
3. ALL INTERIOR WOOD WALL BASE AND DOOR CASING TO BE PAINTED.
4. ALUM CLAD WD WINDOWS, TYP. WINDOWS IN EXIST OPNGS SHALL MATCH SIZE OF EXIST OPNGS TYP.
5. ATTIC INSUL = R49 MIN.
6. HDWD T+G FLOORS THROUGH-OUT U.N.O
7. ALL INTERIOR DIMENSIONS SHOWN TO FACE OF STUD FRAMING.
8. ALL DIMENSIONS TO EXISTING WALLS SHOWN TO FINISH FACE OF WALL, UNO.
9. ALL INTERIOR WOOD DOOR CASINGS PER START SHEET.
10. INT DOOR TO BE SOLID CORE, FLUSH PANEL, TYP.

STRUCTURAL SCHEDULE:

COLUMN SCHEDULE:

C-1 3" DIA X 7.58 LB/FT ADJ PIPE COLUMN W/INTEGRAL CAP & BASE PLATES

PIER SCHEDULE:

P-1 3'X3'X12" CONC PAD W/ (4) #4 BOT BARS
P-2 3'X3'X12" CONC PAD W/ 1'X1' SQUARE CONC PEDESTAL REINFORCED W/ (4) #4 BENT DOWELS

E1 / A204

E1 A202 PROPOSED FIRST FLOOR PLAN - HOUSE
1/4" = 1'-0"

124 FRONTENAC FOREST FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI — BRENT A CRITTENDEN — NUMBER A-2006003774 — ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:

FLOOR PLANS

1" ACTUAL

SHEET NUMBER:

A202

ACTUAL SHEET SIZE: 24" X 36"

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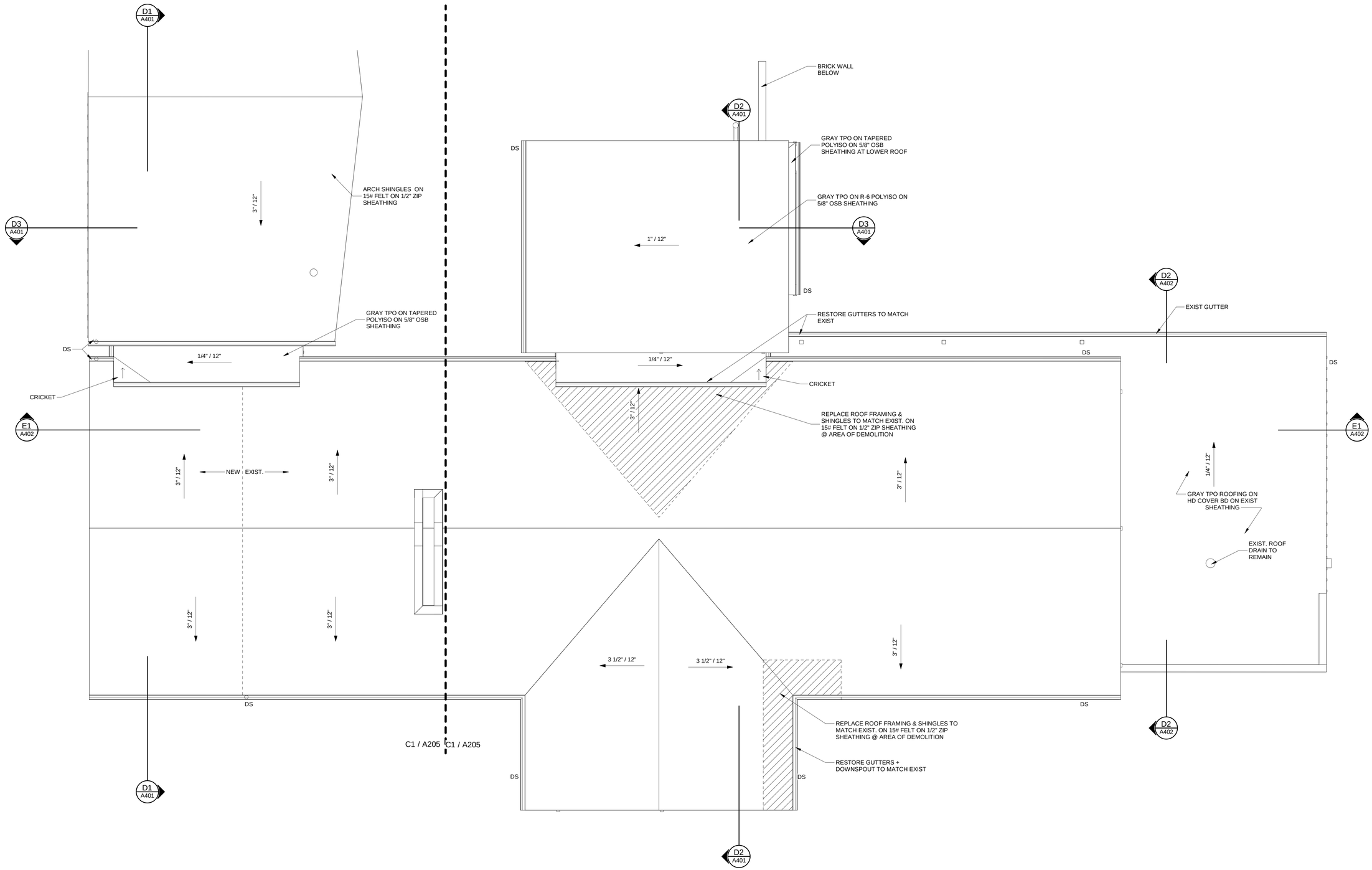
GENERAL ROOF NOTES:

1. REPLACE EXIST PLUMBING VENT, FLASHING WHERE DAMAGE EXISTS.
2. PATCH ROOF @ ABANDONED PLUMBING/ HVAC VENTS, AS REQ.



E1 A203 ROOF PLAN - HOUSE

1/4" = 1'-0"

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124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01

DATE: 02/21/2020

DRAWN BY: REK

CHECKED BY: MJS

SHEET NAME:

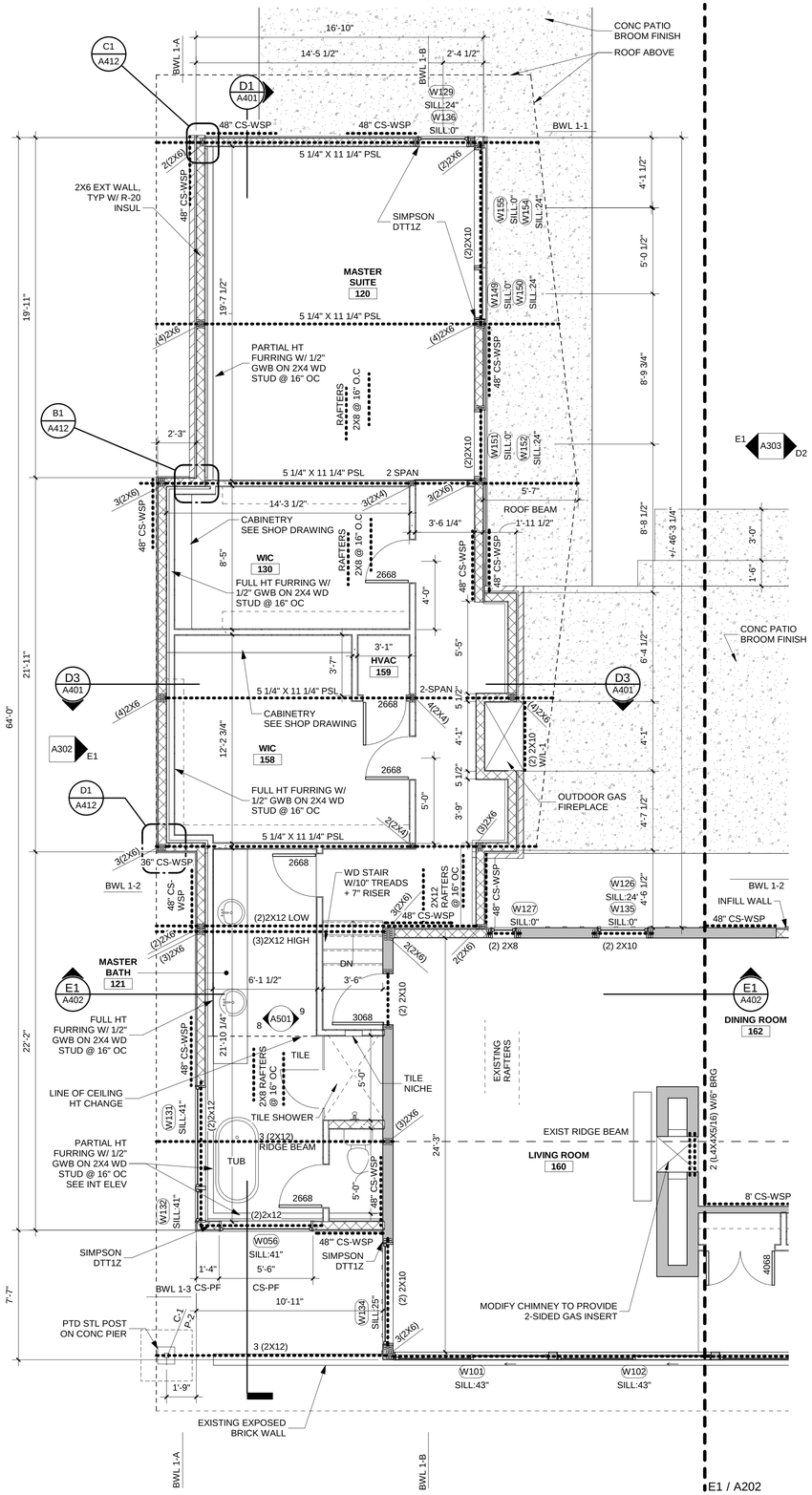
FLOOR PLANS

1" ACTUAL

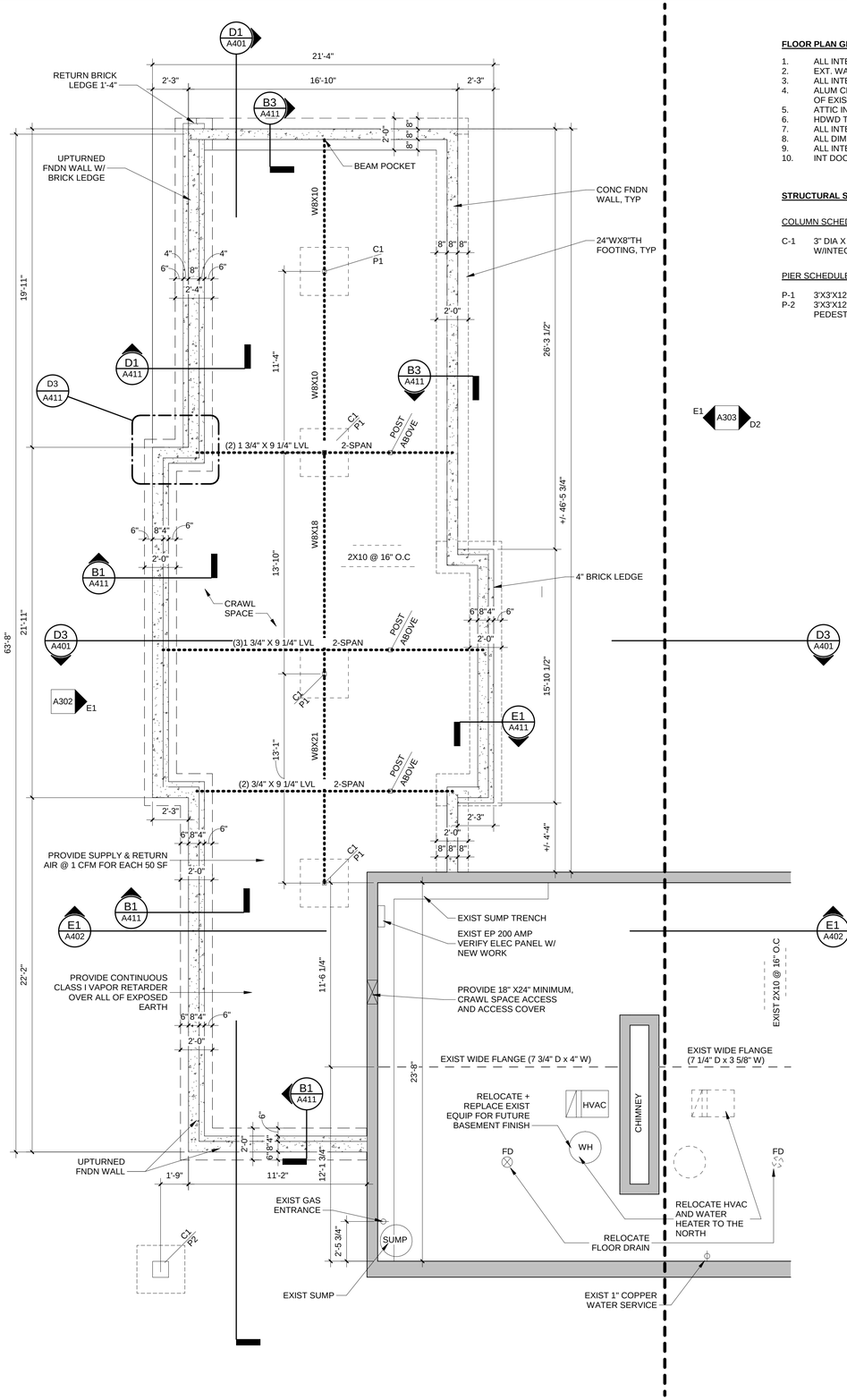
SHEET NUMBER:

A203

ACTUAL SHEET SIZE: 24" X 36"



E1 PROPOSED FIRST FLOOR PLAN - NORTH ADDITION
A204 1/4" = 1'-0"



C1 PROPOSED BASEMENT PLAN - NORTH ADDITION
A204 1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES:

1. ALL INTERIOR PARTITIONS TO BE 1/2" GWB ON 2X4 WOOD STUDS @ 16" O.C, UNO.
2. EXT. WALLS TO BE 2X6 WD STUDS @ 16" O.C W/R-20 INSUL.
3. ALL INTERIOR WOOD WALL BASE AND DOOR CASING TO BE PAINTED.
4. ALUM CLAD WD WINDOWS, TYP. WINDOWS IN EXIST OPNGS SHALL MATCH SIZE OF EXIST OPNGS TYP.
5. ATTIC INSUL = R49 MIN.
6. HDWD T+G FLOORS THROUGH-OUT U.N.O
7. ALL INTERIOR DIMENSIONS SHOWN TO FACE OF STUD FRAMING.
8. ALL DIMENSIONS TO EXISTING WALLS SHOWN TO FINISH FACE OF WALL, UNO.
9. ALL INTERIOR WOOD DOOR CASINGS PER START SHEET.
10. INT DOOR TO BE SOLID CORE, FLUSH PANEL, TYP.

STRUCTURAL SCHEDULE:

COLUMN SCHEDULE:

C-1 3" DIA X 7.58 LB/FT ADJ PIPE COLUMN W/INTEGRAL CAP & BASE PLATES

PIER SCHEDULE:

P-1 3'X3'X12" CONC PAD W/ (4) #4 BOT BARS
P-2 3'X3'X12" CONC PAD W/ 1'X1' SQUARE CONC PEDESTAL REINFORCED W/ (4) #4 BENT DOWELS

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: Checker

SHEET NAME:
FLOOR PLANS

1" ACTUAL

SHEET NUMBER:
A204

ACTUAL SHEET SIZE: 24" X 36"

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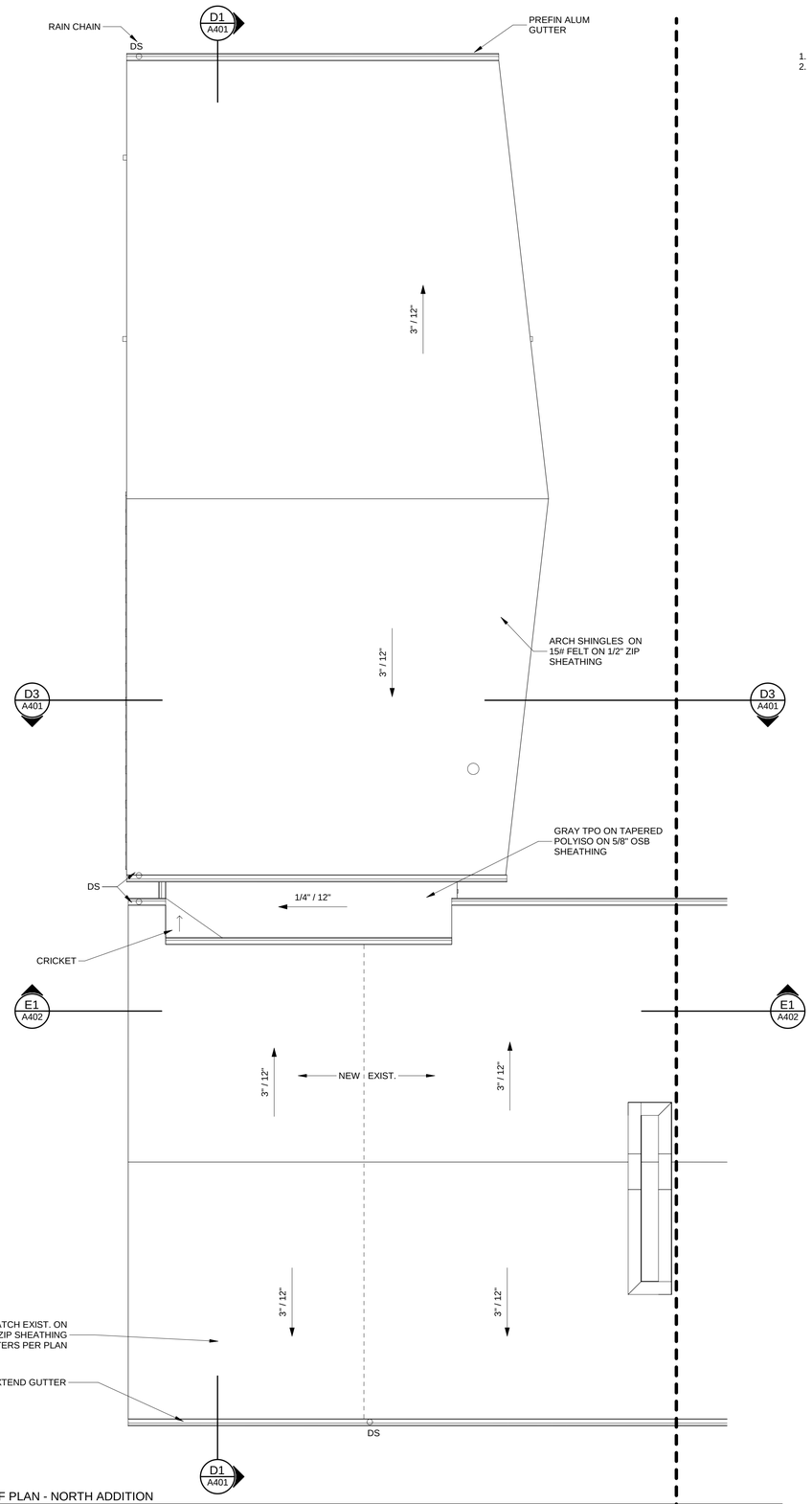


C1 ROOF PLAN - NORTH ADDITION
A205 1/4" = 1'-0"

GENERAL ROOF NOTES:

1. REPLACE EXIST PLUMBING VENT, FLASHING WHERE DAMAGE EXISTS.
2. PATCH ROOF @ ABANDONED PLUMBING/ HVAC VENTS, AS REQ.

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: Checker

SHEET NAME:

FLOOR PLANS

1" ACTUAL

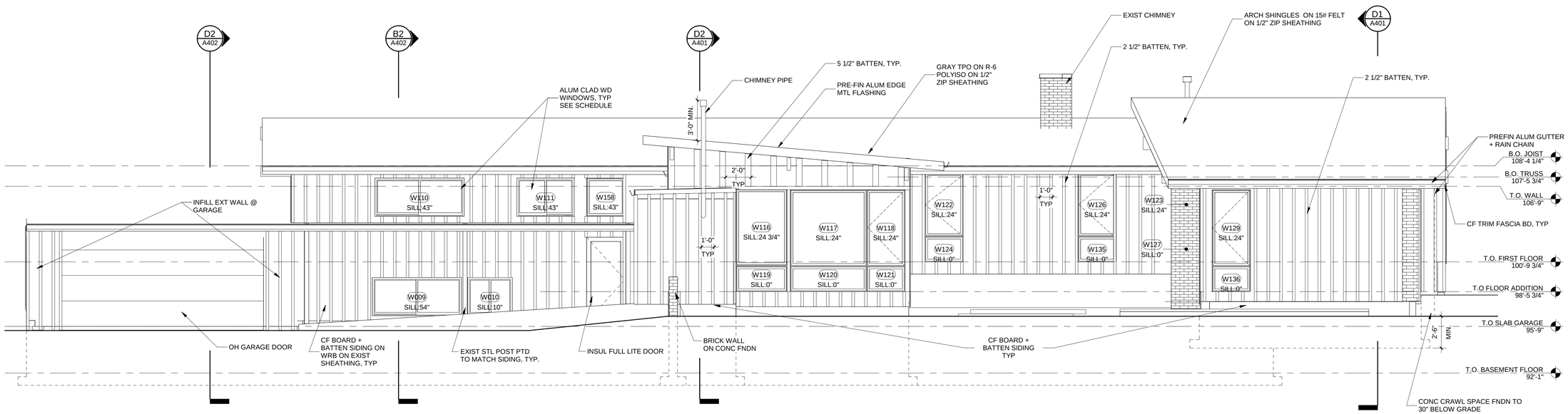
SHEET NUMBER:

A205

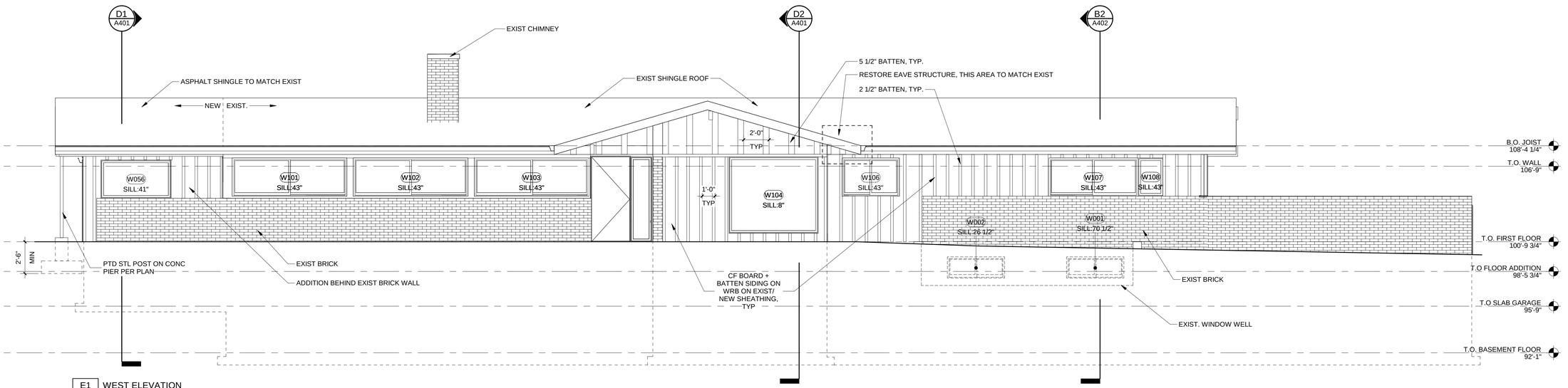
ACTUAL SHEET SIZE: 24" X 36"

ELEVATION GENERAL NOTES:

1. REFER TO WINDOW SCHEDULE FOR ROUGH OPENING SIZES. VERIFY UNIT SIZES.
2. WINDOW SILL HEIGHT IS THE SILL HEIGHT OF THE ROUGH OPENING.
3. FIELD VERIFY EXISTING WINDOW OPENINGS FOR PROPERSIZING.
4. PAINT ALL CEMENT FIBER PRODUCTS AT EXTERIOR. TRIM COLOR TO MATCH ADJACENT FIELD COLOR, UNO.



E2 EAST ELEVATION
A301 1/4" = 1'-0"



E1 WEST ELEVATION
A301 1/4" = 1'-0"

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124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
EXTERIOR ELEVATIONS

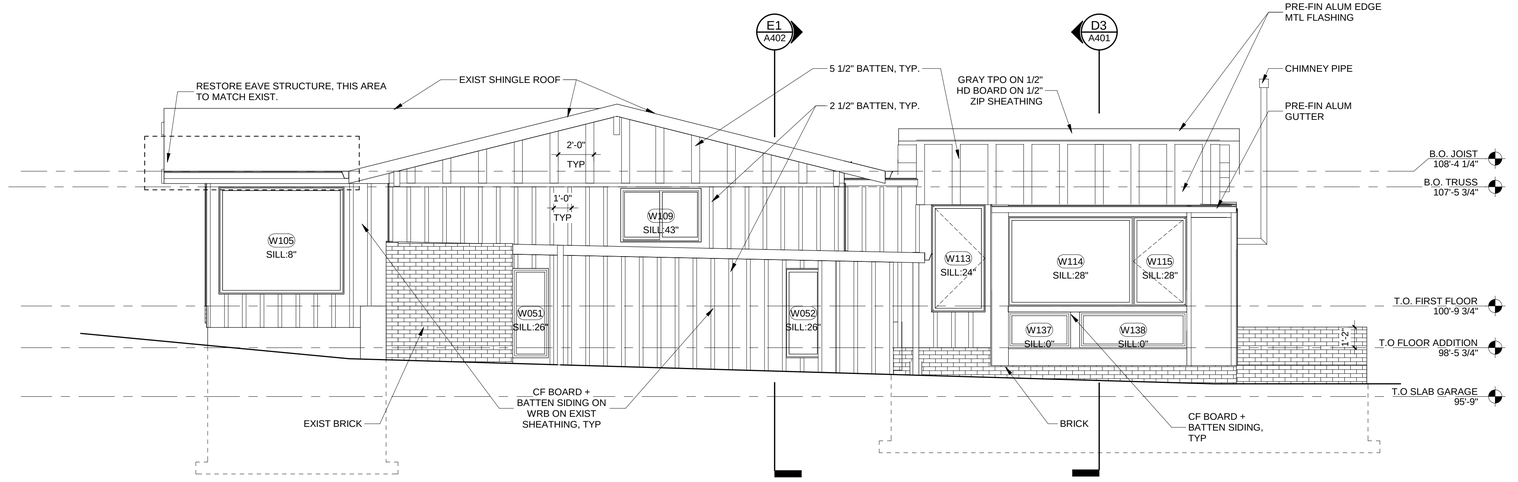
1" ACTUAL

SHEET NUMBER:
A301

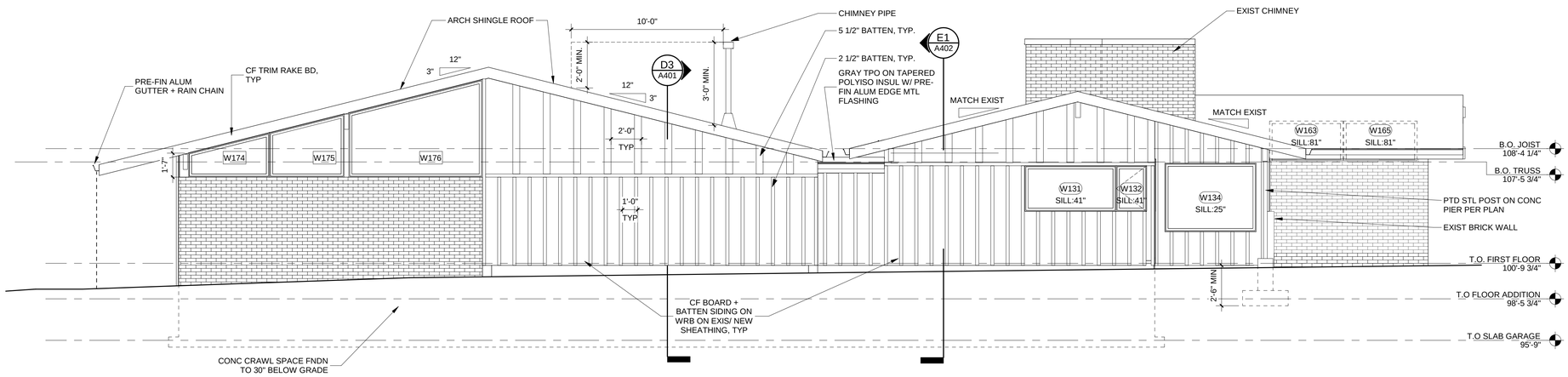
ACTUAL SHEET SIZE: 24" X 36"

ELEVATION GENERAL NOTES:

1. REFER TO WINDOW SCHEDULE FOR ROUGH OPENING SIZES. VERIFY UNIT SIZES.
2. WINDOW SILL HEIGHT IS THE SILL HEIGHT OF THE ROUGH OPENING.
3. FIELD VERIFY EXISTING WINDOW OPENINGS FOR PROPERSIZING.
4. PAINT ALL CEMENT FIBER PRODUCTS AT EXTERIOR. TRIM COLOR TO MATCH ADJACENT FIELD COLOR, UNO.



D2 A302 SOUTH ELEVATION
1/4" = 1'-0"



E1 A302 NORTH ELEVATION
1/4" = 1'-0"

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124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

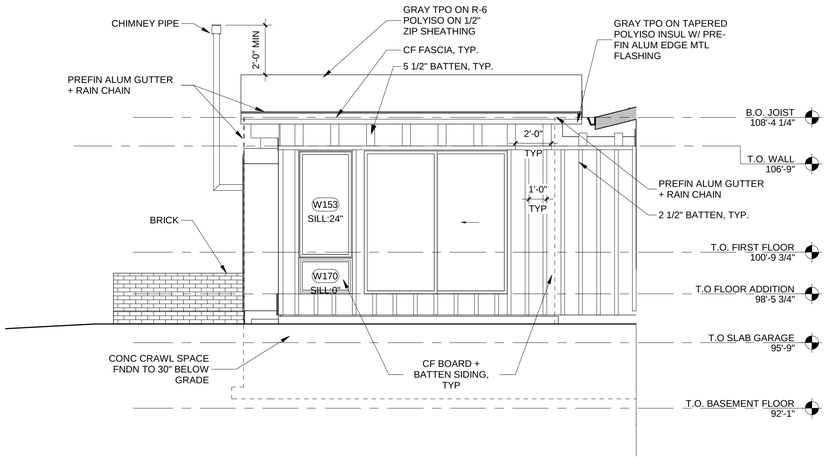
PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
EXTERIOR ELEVATIONS

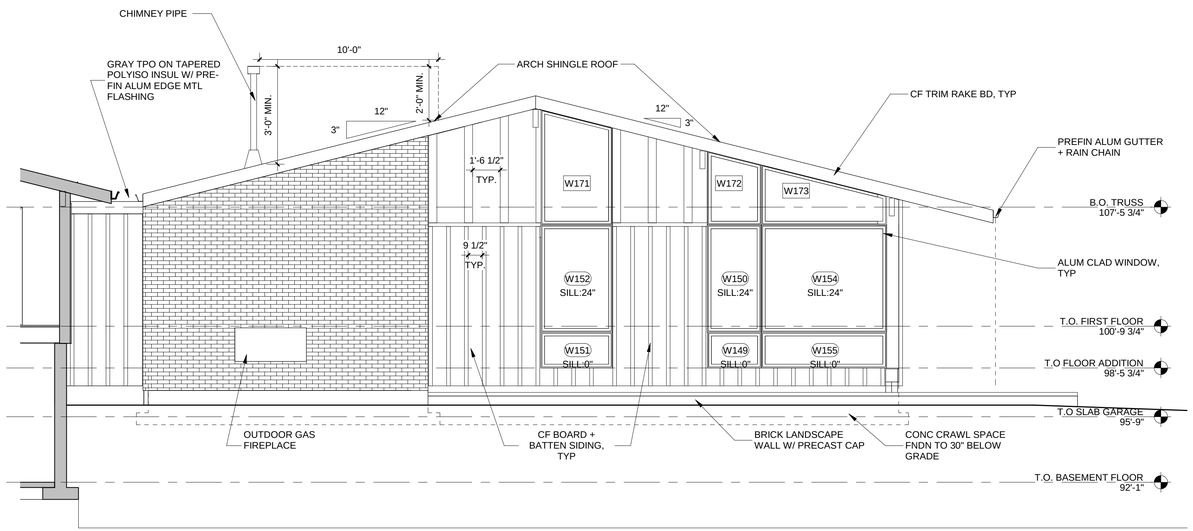
1" ACTUAL

SHEET NUMBER:
A302

ACTUAL SHEET SIZE: 24" X 36"



D2 NORTH ELEVATION @SUNROOM
A303 1/4" = 1'-0"



E1 SOUTH ELEVATION @ BDR. ADDTION
A303 1/4" = 1'-0"

ELEVATION GENERAL NOTES:

1. REFER TO WINDOW SCHEDULE FOR ROUGH OPENING SIZES. VERIFY UNIT SIZES.
2. WINDOW SILL HEIGHT IS THE SILL HEIGHT OF THE ROUGH OPENING.
3. FIELD VERIFY EXISTING WINDOW OPENINGS FOR PROPERSIZING.
4. PAINT ALL CEMENT FIBER PRODUCTS AT EXTERIOR. TRIM COLOR TO MATCH ADJACENT FIELD COLOR, UNO.

WINDOW SCHEDULE

MARK	UNIT SIZE	SILL HEIGHT	WINDOW TYPE	GLAZING TYPE	FRAME MATERIAL	COMMENTS
W001	4618	70 1/2"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W002	4618	26 1/2"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W009	7030	54"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W010	3630	10"			ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W051	2050	26"	PICTURE		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W052	2050	26"	PICTURE		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W056	5630	41"	PICTURE		ALUM CLAD	
W101	9030	43"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W102	9030	43"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W103	9030	43"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W104	7060	8"	PICTURE	TEMPERED	ALUM CLAD	
W105	7060	8"	PICTURE	TEMPERED	ALUM CLAD	
W106	4630	43"	SLIDER		ALUM CLAD	
W107	7030	43"	SLIDER		ALUM CLAD	
W108	2030	43"	CASEMENT		ALUM CLAD	
W109	4630	43"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W110	7030	43"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W111	4630	43"	SLIDER		ALUM CLAD	
W113	3060	24"	CASEMENT		ALUM CLAD	
W114	7050	28"	PICTURE		ALUM CLAD	
W115	3050	28"	CASEMENT		ALUM CLAD	
W116	4060	24 3/4"	PICTURE		ALUM CLAD	
W117	6060	24"	PICTURE		ALUM CLAD	
W118	3060	24"	CASEMENT		ALUM CLAD	
W119	4020	0"	PICTURE		ALUM CLAD	
W120	6020	0"	PICTURE		ALUM CLAD	
W121	3020	0"	PICTURE		ALUM CLAD	
W122	3050	24"	CASEMENT		ALUM CLAD	
W123	1650	24"	PICTURE		ALUM CLAD	
W124	3020	0"	PICTURE		ALUM CLAD	
W126	3050	24"	CASEMENT		ALUM CLAD	
W127	1620	0"	CASEMENT		ALUM CLAD	
W129	3060	24"	CASEMENT		ALUM CLAD	
W131	6030	41"	PICTURE		ALUM CLAD	
W132	2030	41"	CASEMENT		ALUM CLAD	
W134	6046	25"	PICTURE		ALUM CLAD	
W135	3020	0"	PICTURE		ALUM CLAD	
W136	3020	0"	PICTURE		ALUM CLAD	
W137	3620	0"	PICTURE		ALUM CLAD	
W138	6020	0"	PICTURE		ALUM CLAD	
W149	3020	0"	PICTURE		ALUM CLAD	
W150	3060	24"	CASEMENT		ALUM CLAD	
W151	4020	0"	PICTURE		ALUM CLAD	
W152	4060	24"	PICTURE		ALUM CLAD	
W153	3060	24"	CASEMENT		ALUM CLAD	
W154	7060	24"	PICTURE		ALUM CLAD	
W155	7020	0"	PICTURE		ALUM CLAD	
W158	3030	43"	PICTURE		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W163	41025	81"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W165	41025	81"	SLIDER		ALUM CLAD	FIELD VERIFY EXISTING MASONRY OPENING
W170	3020	0"	PICTURE		ALUM CLAD	
W171	CUSTOM		PICTURE		ALUM CLAD	
W172	CUSTOM		PICTURE		ALUM CLAD	
W173	CUSTOM		PICTURE		ALUM CLAD	
W174	CUSTOM		PICTURE		ALUM CLAD	
W175	CUSTOM		PICTURE		ALUM CLAD	
W176	CUSTOM		PICTURE		ALUM CLAD	

- ALL WINDOWS TO BE ALUM CLAD
- MIN. U FACTOR : 0.35

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
REFINE
1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT
Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

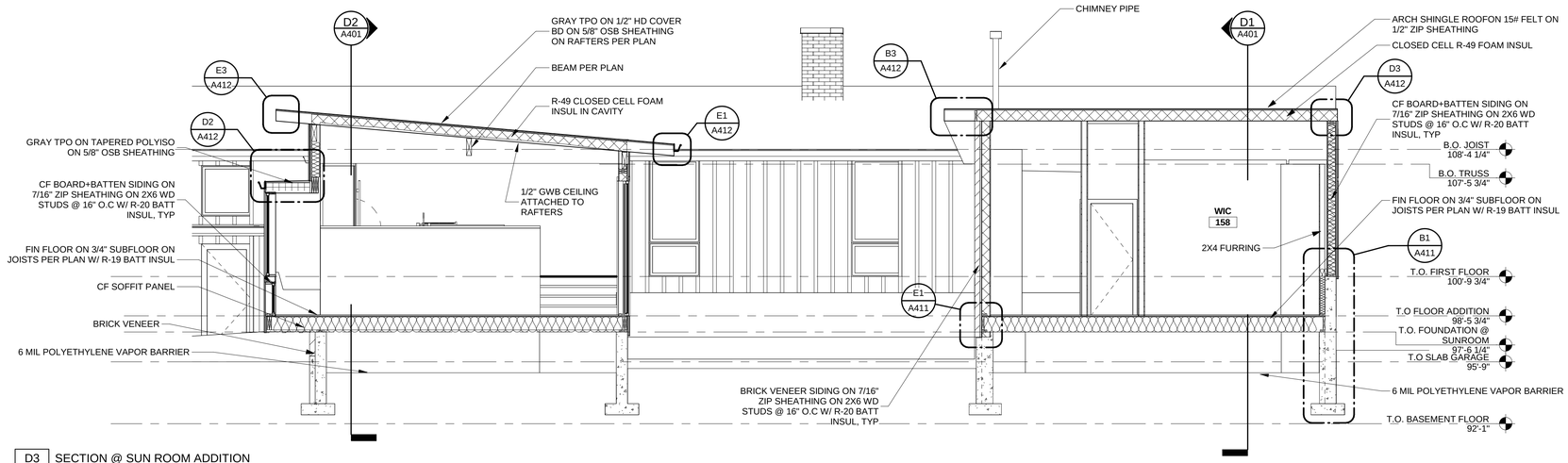
PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
EXTERIOR ELEVATIONS

1" ACTUAL

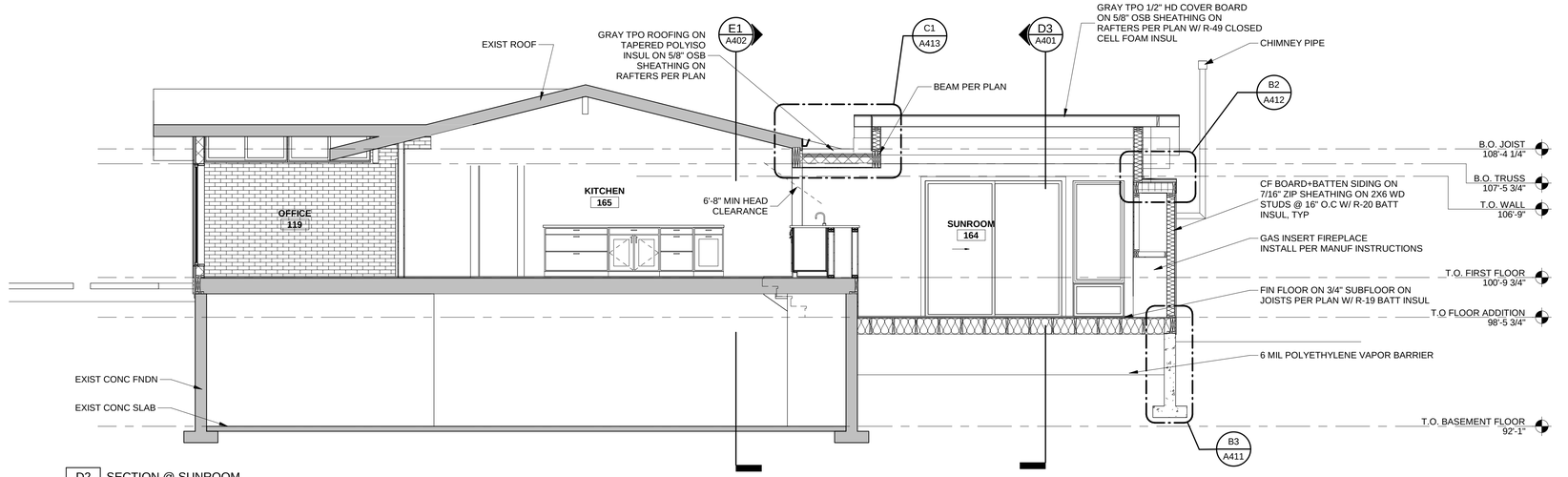
SHEET NUMBER:
A303

ACTUAL SHEET SIZE: 24" X 36"



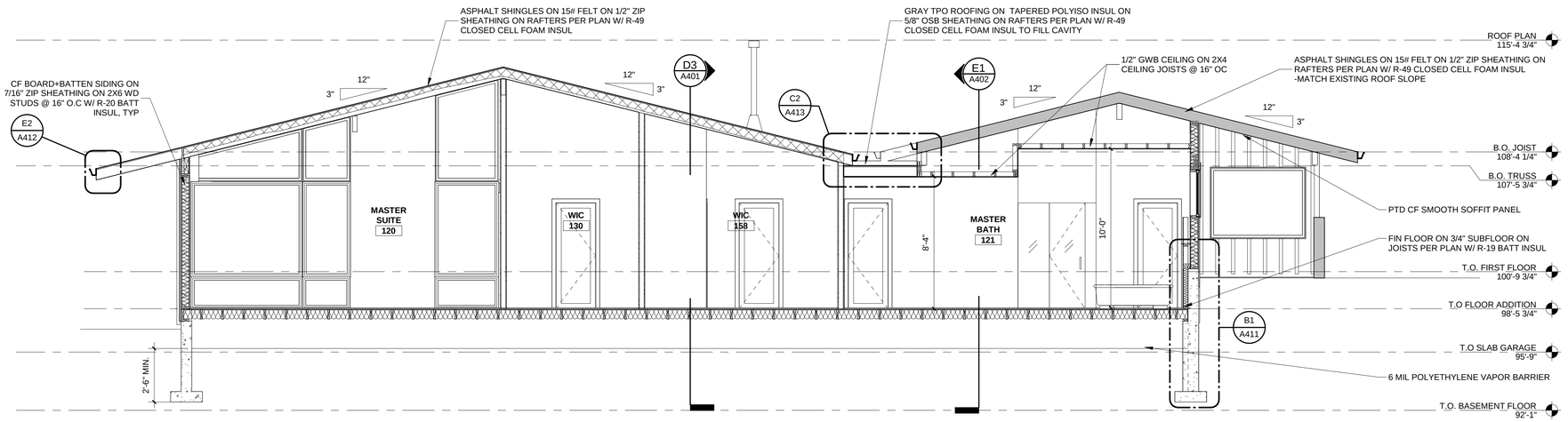
D3 A401 SECTION @ SUN ROOM ADDITION

1/4" = 1'-0"



D2 A401 SECTION @ SUNROOM

1/4" = 1'-0"



D1 A401 SECTION @ MASTER SUITE ADDITION

1/4" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01

DATE: 02/21/2020

DRAWN BY: REK

CHECKED BY: MJS

SHEET NAME:

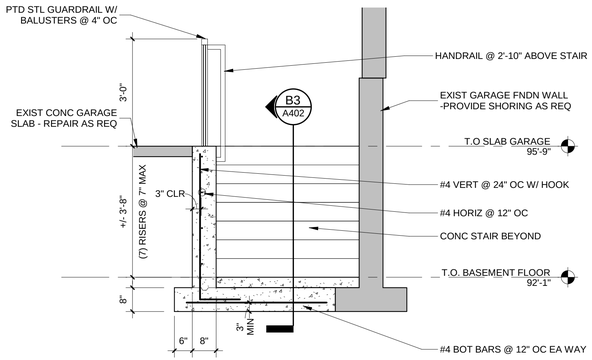
BUILDING SECTIONS

1" ACTUAL

SHEET NUMBER:

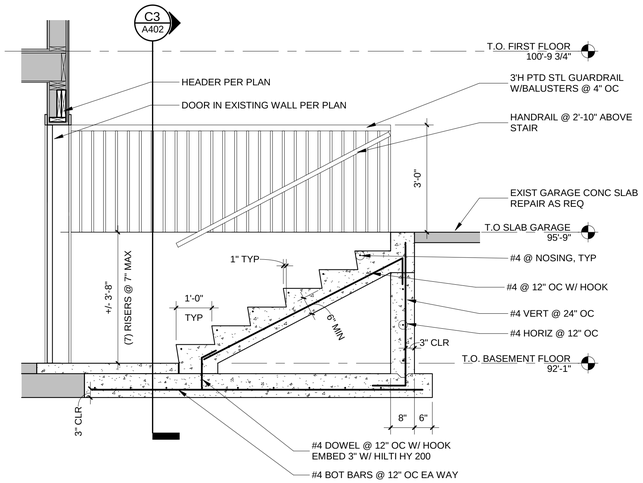
A401

ACTUAL SHEET SIZE: 24" X 36"



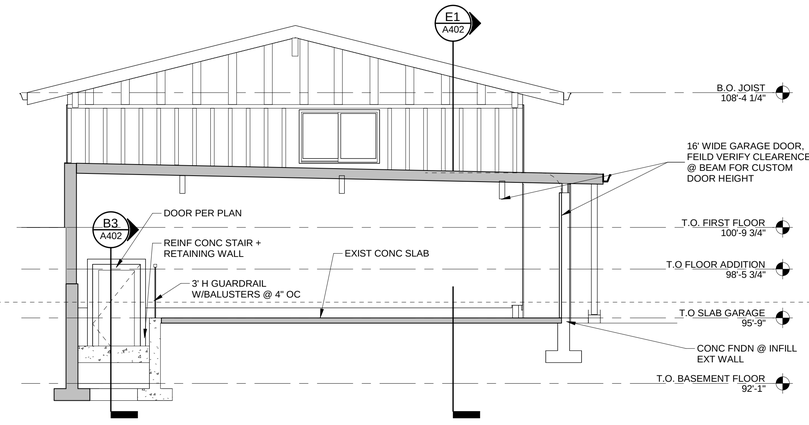
C3 A402 STAIR SECTION 2

1/2" = 1'-0"



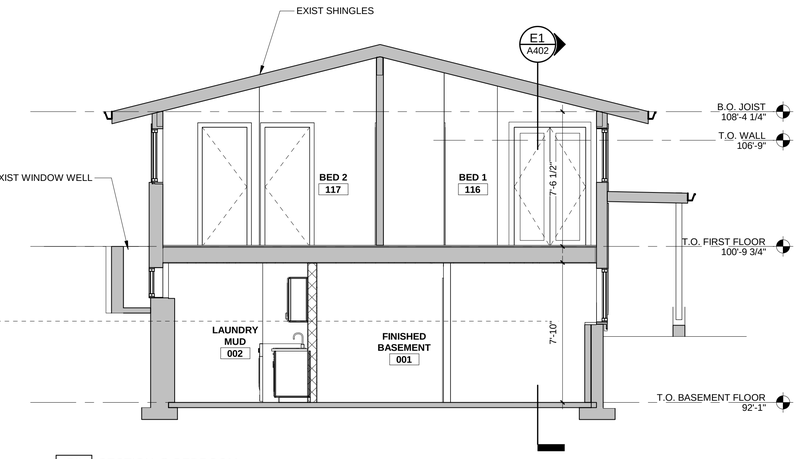
B3 A402 STAIR SECTION 1

1/2" = 1'-0"



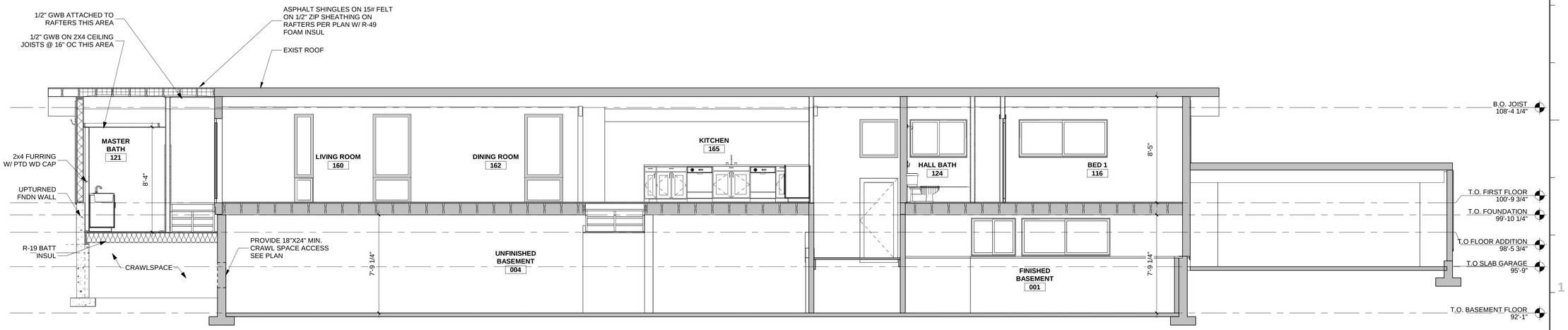
D2 A402 SECTION @ GARAGE

1/4" = 1'-0"



B2 A402 SECTION @ BEDROOM

1/4" = 1'-0"



E1 A402 LONGITUDINAL SECTION

1/4" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

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314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01

DATE: 02/21/2020

DRAWN BY: REK

CHECKED BY: MJS

SHEET NAME:

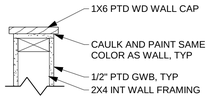
BUILDING SECTIONS

1" ACTUAL

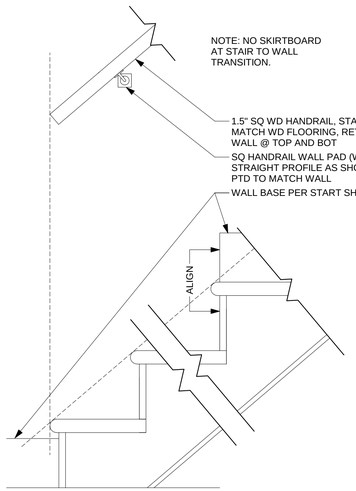
SHEET NUMBER:

A402

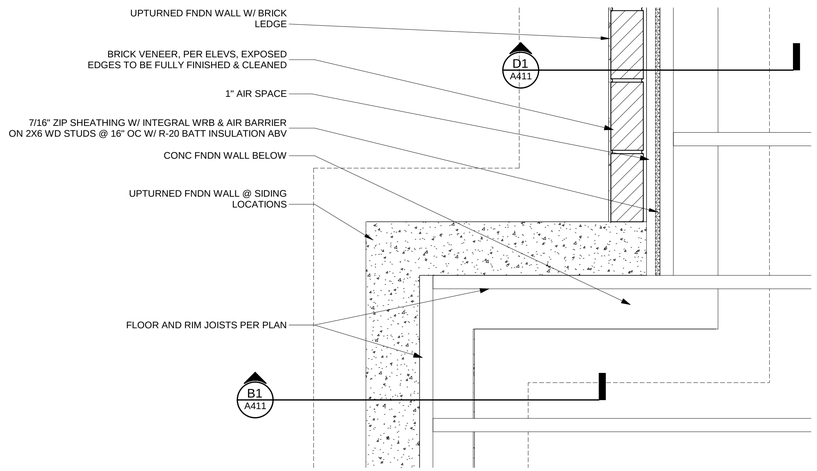
ACTUAL SHEET SIZE: 24" X 36"



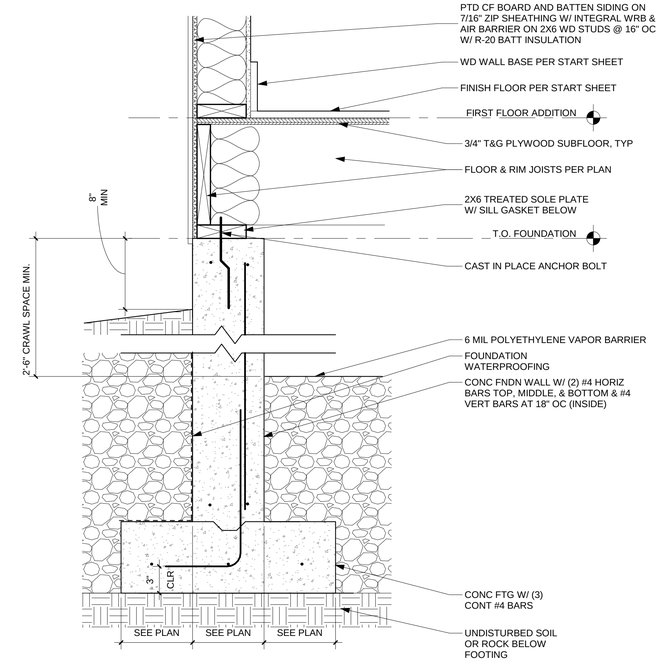
E4 STAIR CAP DETAIL
A411 1 1/2" = 1'-0"



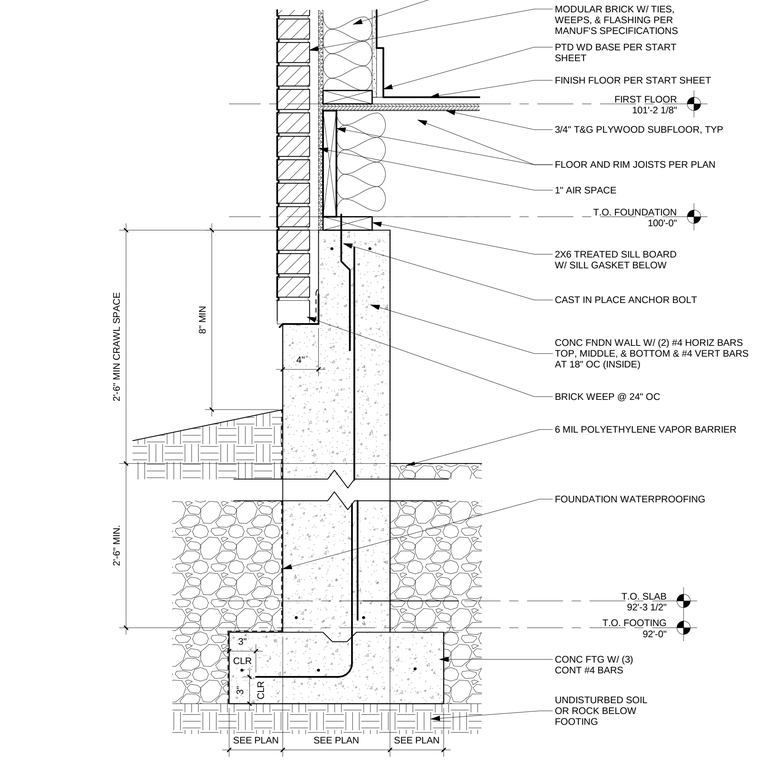
E3 HANDRAIL DETAIL
A411 1 1/2" = 1'-0"



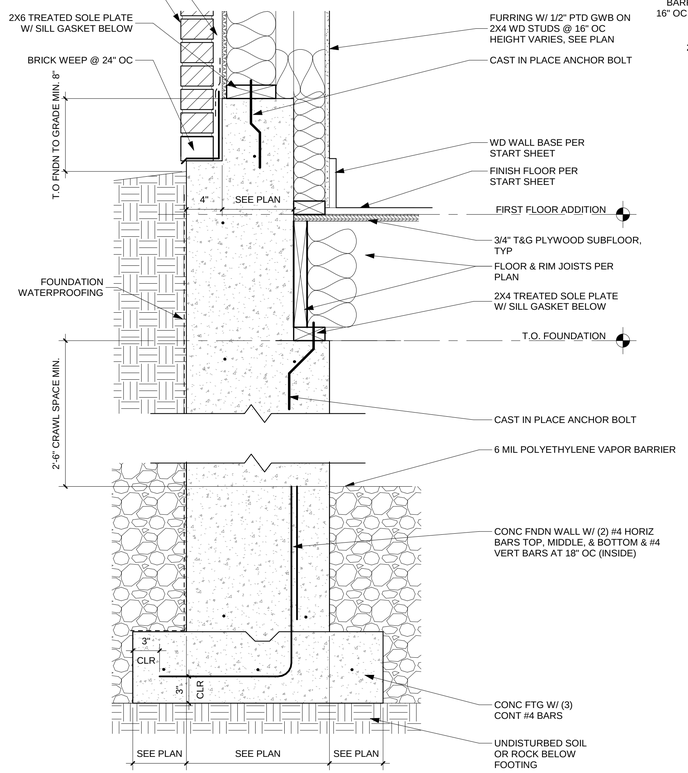
D3 PLAN DETAIL @ FOUNDATION WALL TRANSITION
A411 1 1/2" = 1'-0"



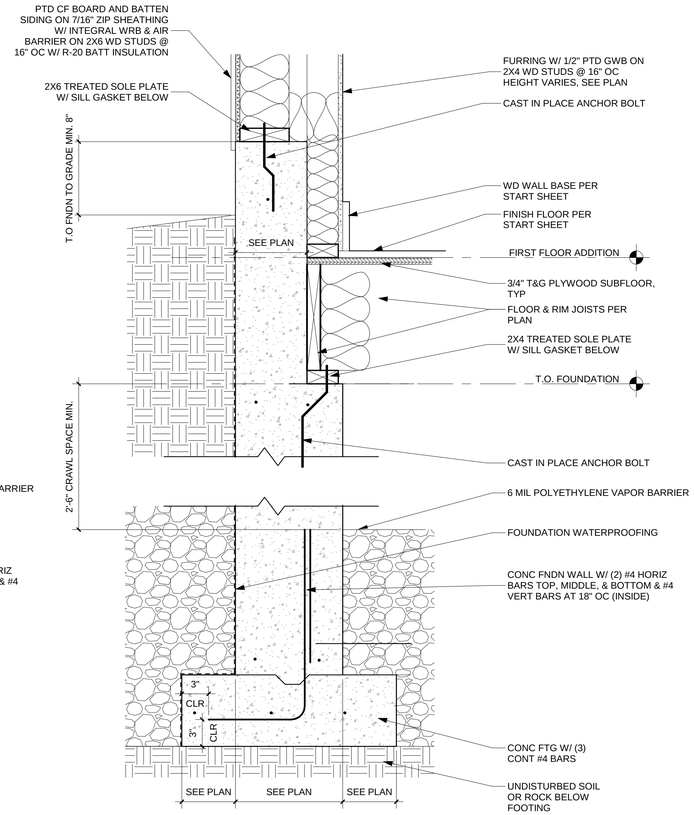
B3 TYP FNDN SECTION W/ BOARD & BATTEN SIDING
A411 1 1/2" = 1'-0"



E1 TYP FNDN SECTION W/ BRICK LEDGE
A411 1 1/2" = 1'-0"



D1 UPTURNED FNDN SECTION W/ BRICK LEDGE
A411 1 1/2" = 1'-0"



B1 UPTURNED FNDN SECTION W/ BOARD & BATTEN SIDING
A411 1 1/2" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
REFINE
1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT
Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

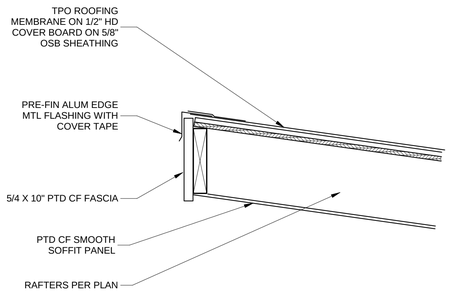
PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: Checker

SHEET NAME:
DETAILS

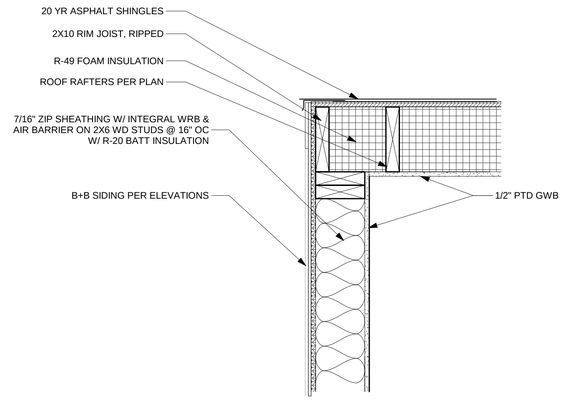
1" ACTUAL

SHEET NUMBER:
A411

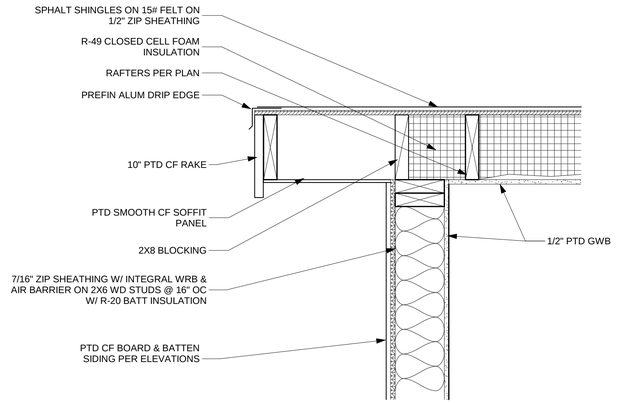
ACTUAL SHEET SIZE: 24" X 36"



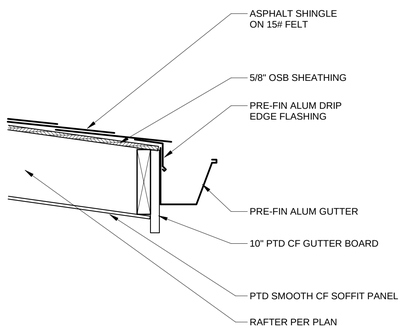
E3 SECTION DETAIL @ SUNROOM ADDITION ROOF
A412 1 1/2" = 1'-0"



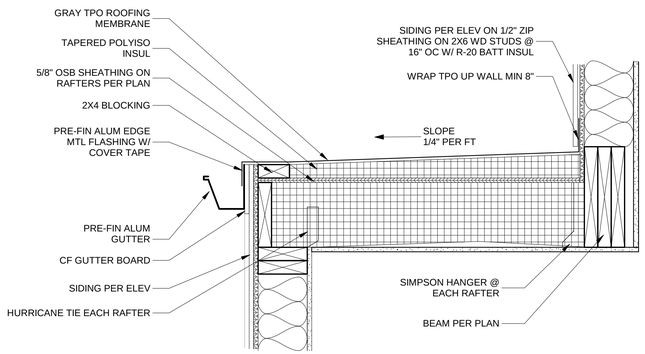
D3 TYP SECTION @ ROOF ADDITION
A412 1 1/2" = 1'-0"



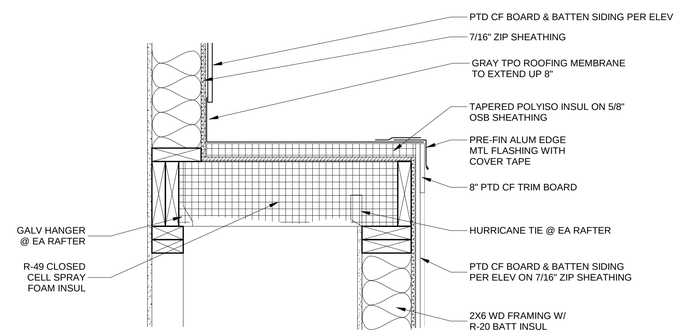
B3 SECTION DETAIL @ BEDROOM ADDITION ROOF OVERHANG
A412 1 1/2" = 1'-0"



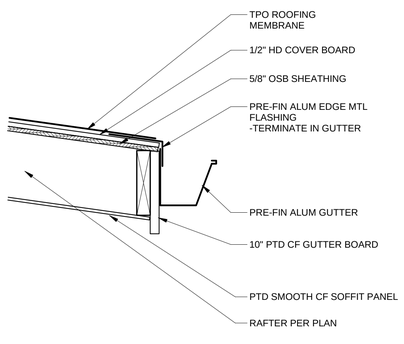
E2 SECTION DETAIL @ SHINGLE ROOF GUTTER
A412 1 1/2" = 1'-0"



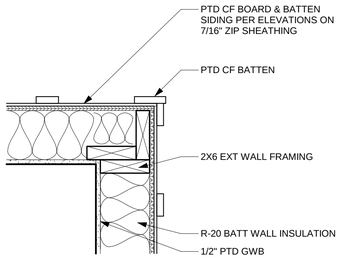
D2 SECTION DETAIL @ SUNROOM NICHE
A412 1 1/2" = 1'-0"



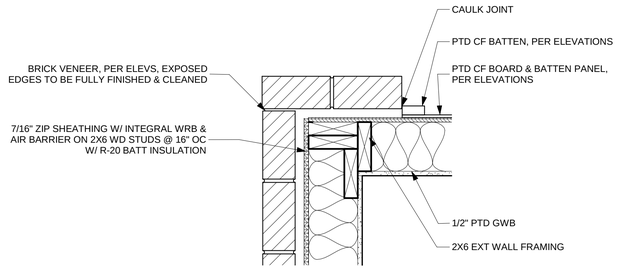
B2 SECTION DETAIL @ FIRE PLACE / ROOF
A412 1 1/2" = 1'-0"



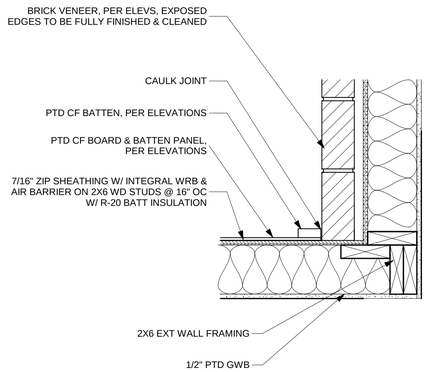
E1 SECTION DETAIL @ TPO ROOF GUTTER
A412 1 1/2" = 1'-0"



D1 PLAN DETAIL @ CF CORNER
A412 1 1/2" = 1'-0"



C1 PLAN DETAIL @ CF TO BRICK OUTSIDE CORNER
A412 1 1/2" = 1'-0"



B1 PLAN DETAIL @ CF TO BRICK INSIDE CORNER
A412 1 1/2" = 1'-0"

124 FRONTENAC FOREST FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: RK
CHECKED BY: MS

SHEET NAME:

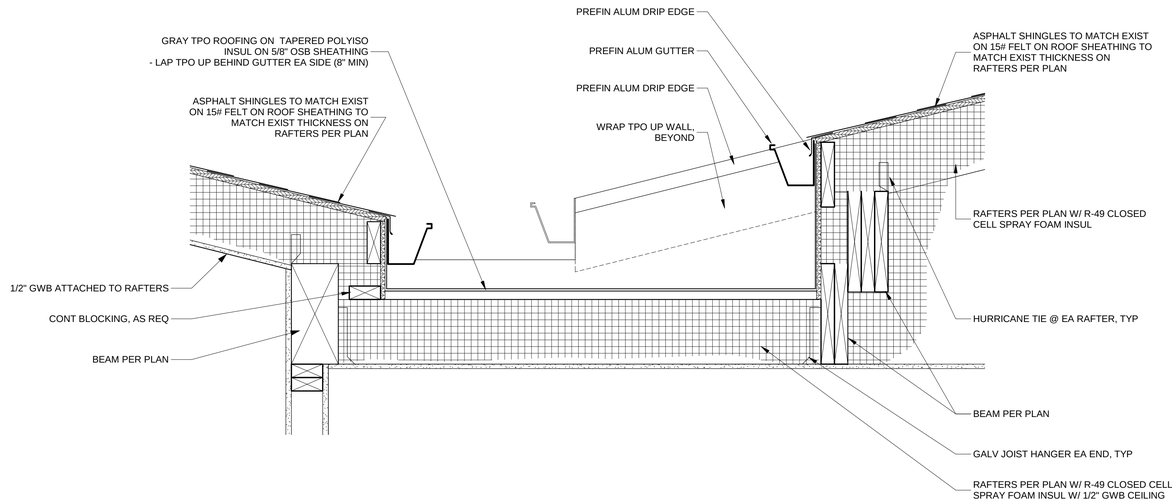
DETAILS

1" ACTUAL

SHEET NUMBER:

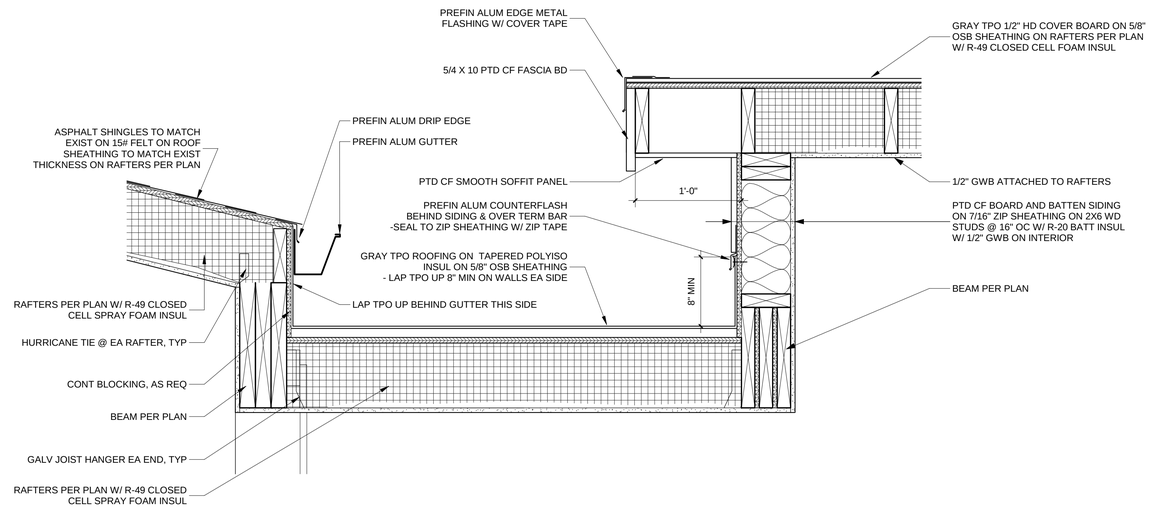
A412

ACTUAL SHEET SIZE: 24" X 36"



C2 SECTION DETAIL @ NORTH ADDITION ROOF TRANSITION

A413 1 1/2" = 1'-0"



C1 SECTION DETAIL @ SUNROOM ROOF TRANSITION

A413 1 1/2" = 1'-0"

C:\Users\mshaver\Documents\20191217_124 Frontenac Forest_Central File_mshaver@uicstl.com.rvt

2/20/2020 3:25:14 PM

124 FRONTENAC FOREST FRONTENAC, MO 63131

CLIENT:

JEFF AND JULIE JARRETT

DESIGN BUILDER:

REFINE

1607 TOWER GROVE AVENUE SAINT LOUIS, MISSOURI 63110
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314.771.7300

CONSULTANTS:

SEAL: 02/21/2020

STATE OF MISSOURI
BRENT A. CRITTENDEN
NUMBER A-2006003774
ARCHITECT

Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01

DATE: 02/21/2020

DRAWN BY: MS

CHECKED BY: BC

SHEET NAME:

DETAILS

1" ACTUAL

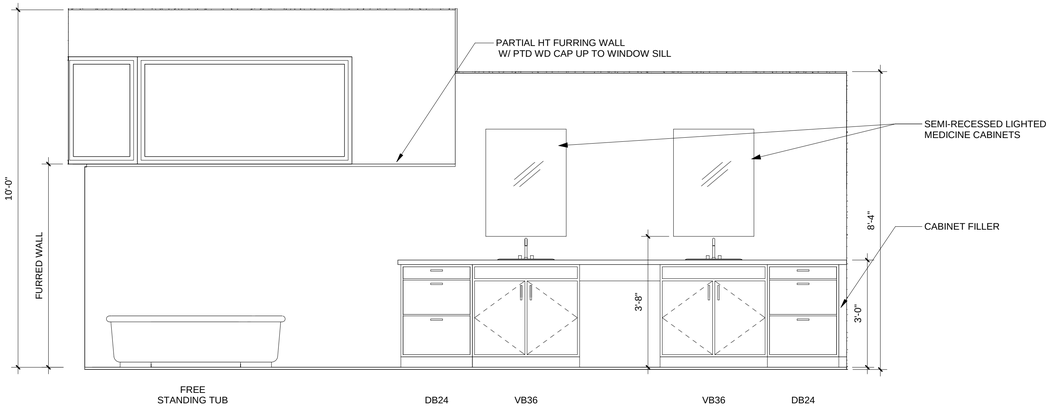
SHEET NUMBER:

A413

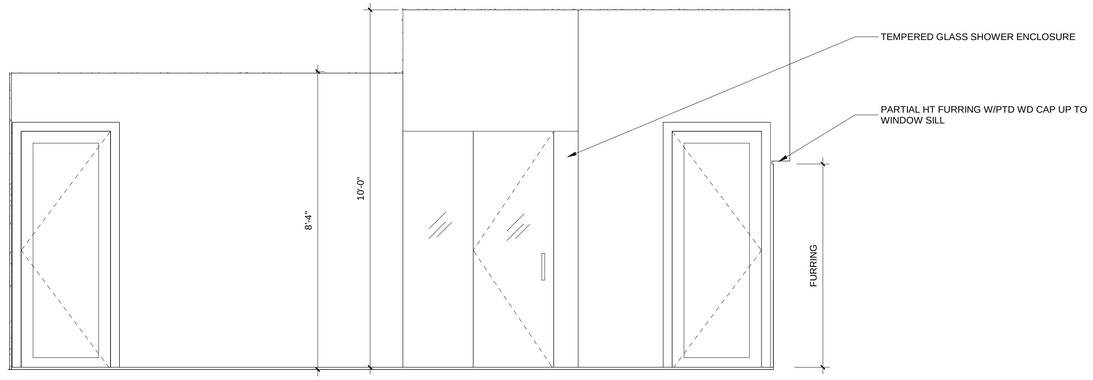
ACTUAL SHEET SIZE: 24" X 36"

INTERIOR ELEVATION GENERAL NOTES

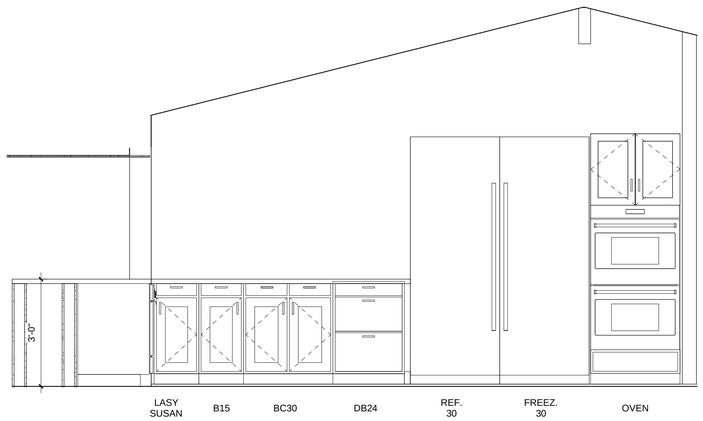
1. CONTRACTOR SHALL CONFIRM ALL CABINET LAYOUTS WITH APPROVED SHOP DRAWINGS. SHOP DRAWINGS TO DICTATE LOCATION OF ALL PLUMBING AND ELECTRICAL COMPONENTS.
2. PAINT ALL BASE BOARD AND DOOR TRIM. SEE START SHEET.



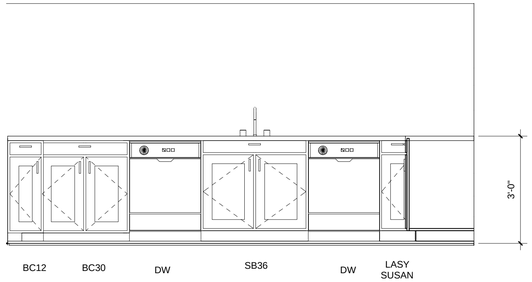
8 ELEVATION 1 @ MASTER BATH
A501 1/2" = 1'-0"



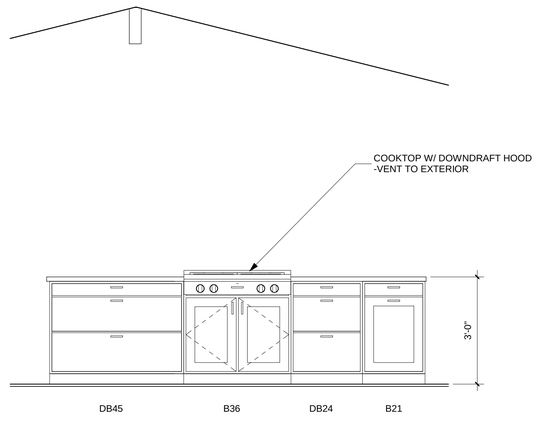
9 ELEVATION 2 @ MASTER BATH
A501 1/2" = 1'-0"



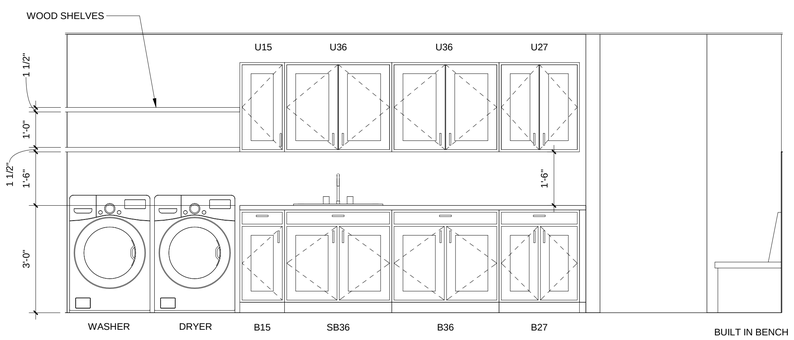
4 SOUTH ELEVATION @ KITCHEN
A501 1/2" = 1'-0"



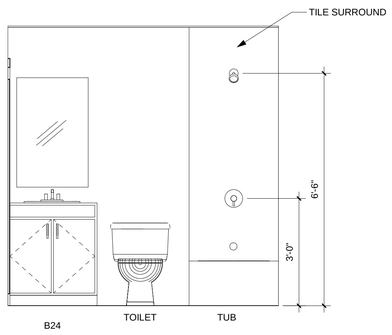
5 EAST ELEVATION @ KITCHEN
A501 1/2" = 1'-0"



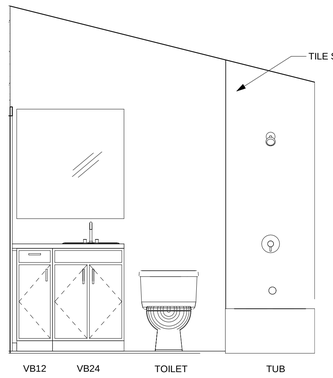
3 SOUTH ELEVATION @ KITCHEN ISLAND
A501 1/2" = 1'-0"



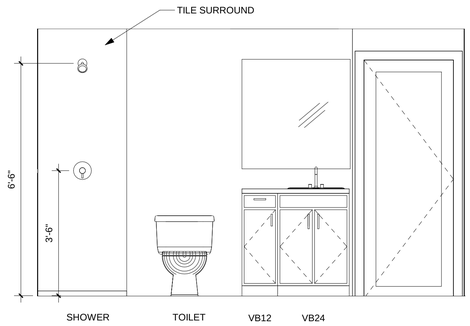
1 EAST ELEVATION @ MUD/ LAUNDRY
A501 1/2" = 1'-0"



2 ELEVATION @ BASEMENT BATH
A501 1/2" = 1'-0"



6 ELEVATION @ HALL BATH
A501 1/2" = 1'-0"



7 ELEVATION @ JACK & JILL BATH
A501 1/2" = 1'-0"

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
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CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI
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ARCHITECT
Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

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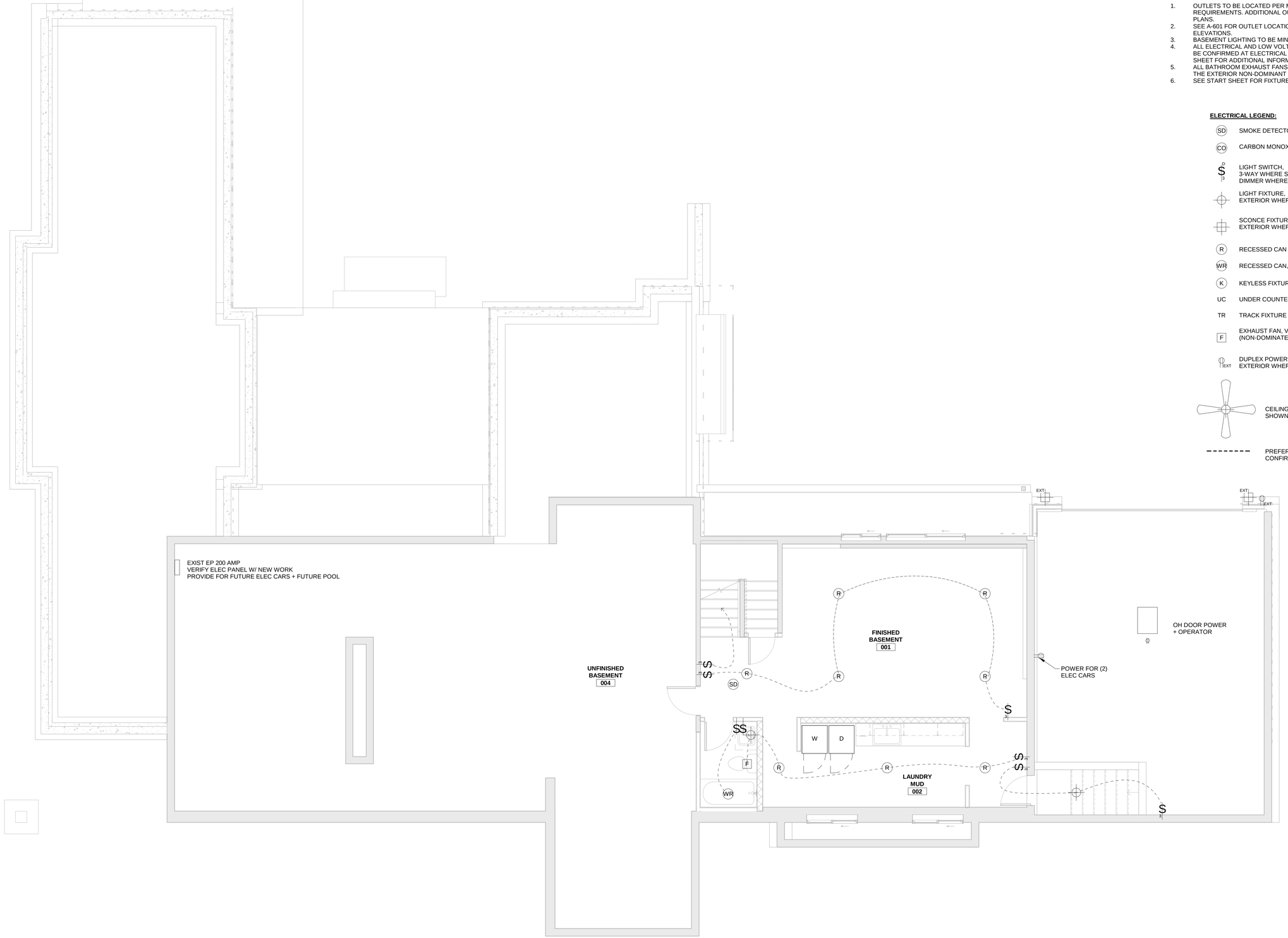
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
INTERIOR ELEVATIONS

1" ACTUAL

SHEET NUMBER:
A501

ACTUAL SHEET SIZE: 24" X 36"



1 A701 PROPOSED BASEMENT ELECTRICAL/LIGHTING PLAN
1/4" = 1'-0"

ELECTRICAL GENERAL NOTES:

1. OUTLETS TO BE LOCATED PER MINIMUM CODE REQUIREMENTS. ADDITIONAL OUTLETS AS SHOWN ON PLANS.
2. SEE A-601 FOR OUTLET LOCATIONS ON INTERIOR ELEVATIONS.
3. BASEMENT LIGHTING TO BE MINIMUM PER CODE.
4. ALL ELECTRICAL AND LOW VOLTAGE LOCATIONS TO BE CONFIRMED AT ELECTRICAL PRE-WALK. SEE START SHEET FOR ADDITIONAL INFORMATION.
5. ALL BATHROOM EXHAUST FANS TO BE VENTED TO THE EXTERIOR NON-DOMINANT FACADE.
6. SEE START SHEET FOR FIXTURE TYPES.

ELECTRICAL LEGEND:

- (SD) SMOKE DETECTOR
- (CO) CARBON MONOXIDE DETECTOR
- S / S3 — LIGHT SWITCH, 3-WAY WHERE SHOWN, DIMMER WHERE SHOWN
- LIGHT FIXTURE, EXTERIOR WHERE NOTED
- SCONCE FIXTURE, EXTERIOR WHERE NOTED
- (R) RECESSED CAN
- (WR) RECESSED CAN, WET RATED
- (K) KEYLESS FIXTURE
- UC — UNDER COUNTER FIXTURE
- TR — TRACK FIXTURE
- [F] — EXHAUST FAN, VENT TO EXTERIOR (NON-DOMINATE FACADE)
- EXT — DUPLEX POWER OUTLET, EXTERIOR WHERE NOTED
- CEILING FAN (FUTURE IF SHOWN DASHED)
- PREFERED DUCT PATH. CONFIRM WITH ARCHITECT

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
JEFF AND JULIE JARRETT

DESIGN BUILDER:
REFINE
1607 TOWER GROVE AVENUE
SAINT LOUIS, MISSOURI 63110
refinebyuic.com
314.771.7300

CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI — BRENT A. CRITTENDEN — NUMBER A-2006003774 — ARCHITECT
Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: REK
CHECKED BY: MJS

SHEET NAME:
ELECTRICAL / LIGHTING PLANS

1" ACTUAL

SHEET NUMBER:
A701

ACTUAL SHEET SIZE: 24" X 36"

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1 PROPOSED FIRST FLOOR ELECTRICAL/LIGHTING PLAN
A702 1/4" = 1'-0"

ELECTRICAL GENERAL NOTES:

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- F — EXHAUST FAN, VENT TO EXTERIOR (NON-DOMINATE FACADE)
- EXT — DUPLEX POWER OUTLET, EXTERIOR WHERE NOTED
- CEILING FAN (FUTURE IF SHOWN DASHED)
- PREFERED DUCT PATH, CONFIRM WITH ARCHITECT

124 FRONTENAC FOREST
FRONTENAC, MO 63131

CLIENT:
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DESIGN BUILDER:
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314.771.7300

CONSULTANTS:

SEAL: 02/21/2020
STATE OF MISSOURI — BRENT A. CRITTENDEN — NUMBER A-2006003774 — ARCHITECT
Brent A. Crittenden
MO# 2006003774

REVISIONS:

NO.	DESCRIPTION	DATE

PROJECT NUMBER: 3.222.01
DATE: 02/21/2020
DRAWN BY: Author
CHECKED BY: MJS

SHEET NAME:
ELECTRICAL / LIGHTING PLANS

1" ACTUAL

SHEET NUMBER:
A702

ACTUAL SHEET SIZE: 24" X 36"

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