## LOT 10 LAKEWOOD BUSINESS PARK **ISSUED FOR:** 2601 NE MCBAINE DRIVE PERMIT - 09/01/2021 LEE'S SUMMIT, MO 64064

# LOT 10 I-470 BUSINESS & TECHNOLOGY CENTER



	GENERAL NOTES		CONSTRUC
1.	CONTRACTOR SHALL VISIT THE SITE, FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND OWNER REVIEW AND UNDERSTAND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS PRIOR TO BEGINNING ANY WORK AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCY. DO NOT SCALE DRAWINGS, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORRECTIONS AND REPAIRS REQUIRED DUE TO THEIR FAILURE TO DO SO. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL SUB-CONTRACTORS RECEIVE ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.	1.	ALL WORK PERFORMED SHALL BE OF THE AUTHORITY HAVING JURIS OF ALL AGENCIES, DEPARTMENTS WHERE DISCREPANCIES OCCUR A OMISSIONS IN THE DRAWINGS AND NOTIFY THE ARCHITECT IMMEDIAT COMPLETING SUCH WORK, OR DEI ARCHITECT TO PROCEED.
2.	SOLELY AS A CONVENIENCE TO THE OWNER AND CONTRACTOR, THE ARCHITECT MAY INCLUDE DOCUMENTS PREPARED BY CERTAIN CONSULTANTS (OR INCORPORATE THE RECOMMENDATIONS OF SAID CONSULTANTS INTO DOCUMENTS PREPARED BY THE ARCHITECT) WITHIN THE SET OF DOCUMENTS ISSUED BY THE ARCHITECT. IT IS EXPRESSLY UNDERSTOOD, THAT BY SUCH ISSUANCE, THE ARCHITECT ASSUMES NO LIABILITY FOR THE SERVICES OF SAID CONSULTANTS.	2. 3.	THE CONTRACTOR SHALL VERIFY IN THE FIELD PRIOR TO COMMENC ARCHITECT ANY CONDITION OR DI CONDITIONS REQUIRING MODIFICA WORK. MINOR DETAILS NOT USUALLY SHO
3.	ALL WORK AND MATERIALS SHALL CONFORM TO THE APPLICABLE CODES LISTED IN THE PROJECT CODE SUMMARY.		PROPER CONSTRUCTION OF ANY I IF THEY WERE INDICATED IN THE D
4.	UNLESS OTHERWISE INDICATED ON THESE DRAWINGS AND SPECIFICATIONS AS BEING N.I.C. OR EXISTING, ALL ITEMS, MATERIALS, ETC. AND INSTALLATIONS OF THE SAME ARE A	4.	REFERENCING OF DRAWINGS IS FO
5.	PART OF THE CONTRACT DEFINED BY THESE DRAWINGS AND SPECIFICATIONS AND THEIR INTENT. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS AND COMPLY WITH SAFETY REGULATIONS AND RESTRICTIONS AS REQUIRED FOR WORKERS AND PEDESTRIAN PROTECTION DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. PROVIDE PROTECTION AS REQUIRED TO PREVENT ANY DAMAGE TO EXISTING CONSTRUCTION WITHIN AND ADJACENT TO JOB SITE. WHERE DAMAGE OCCURS, THE CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED AREA AND/OR	5. 6.	THE CONTRACTOR SHALL BE RESE CONDITIONS AND MATERIALS WITH THE CONTRACTOR SHALL DESIGN BRACING FOR ALL STRUCTURAL O SHALL HAVE SOLE RESPONSIBILIT OR DURING THE EXECUTION OF TH NOTES APPEAR ON VARIOUS SHEE SHEETS ARE TO BE OWNER REVIE
6.	MATERIAL AS REQUIRED TO THE OWNER'S APPROVAL AT NO ADDITIONAL COST. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND MAY NOT BE LIMITED TO NORMAL WORKING HOURS. PROVIDE SECURITY FENCE AND GATES AS NECESSARY AROUND THE AREA WITHIN THE SCOPE OF WORK. IF THERE ARE TRENCHES OR EXCAVATION 5'-0" OR MORE IN DEPTH INTO WHICH A	7.	BE APPLIED TO RELATED SYSTEMS DRAWINGS. DETAILS NOT SHOWN ARE SIMILAR WHERE SPECIFIC DIMENSIONS, DE DETERMINED, CONSULT THE ARCH
	PERSON IS REQUIRED TO DESCEND, CONTRACTOR SHALL OBTAIN NECESSARY PERMIT FROM THE APPROPRIATE LOCAL GOVERNING AGENCY.	8.	WORK. THE CONTRACTOR SHALL LAY OUT
7.	PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, UTILITIES, OTHER SERVICES AND RELATED TASKS NECESSARY FOR PROPER EXECUTION OF THE CONSTRUCTION REQUIRED BY CONTRACT DOCUMENTS.	9.	DIMENSIONS REQUIRED FOR OTHE
8.	ANY REVISION OR ADDITIONAL WORK REQUIRED BY FIELD CONDITIONS OR LOCAL GOVERNING AUTHORITIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING.	10.	REQUIRED TO PERFORM ALL OF TI AND ALL OTHER WORK THAT MAY GUTTER AND DOWNSPOUT SIZING
9.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS, LICENSES, INSPECTIONS AND TESTING INDICATED ON THE PLANS AND BY SPECIFICATIONS OR REQUIRED BY THE SOILS REPORT AND/OR REQUIRED BY ANY GOVERNMENT AGENCY.	IN	ISTRUCTION T
10.	CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL UTILITY LINES AND STUBS TO THE BUILDING(S) AS MAY BE INDICATED ON THE PLANS.	1.	THE INTENT OF THE SET OF CONT NECESSARY FOR THE PROPER EX BY THE CONTRACTOR AS BINDING
11.	NO ADDITIONAL ROOF OPENING OR ROOF MOUNTED EQUIPMENT IS ALLOWED BEYOND THAT WHICH IS SHOWN ON THESE PLANS WITHOUT WRITTEN CONSENT OF THE ARCHITECT AND STRUCTURAL ENGINEER.		BE REQUIRED ONLY TO THE EXTEN DOCUMENTS AND SPECIFICATIONS BEING NECESSARY TO PRODUCE
12.	NO STRUCTURAL MEMBER SHALL BE CUT FOR PIPES, HVAC DUCTS, ETC., UNLESS SPECIFICALLY DETAILED AND/OR APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.	2.	ORGANIZATION OF THE SPECIFICA ARTICLES, ARRANGEMENT OF DRA CONTRACTOR, IN DIVIDING THE WO ESTABLISHING THE EXTENT OF WO
13.	ALL SHOP WELDING TO BE DONE IN A CERTIFIED LICENSED SHOP. ALL FIELD WELDING SHALL BE DONE ONLY BY CERTIFIED WELDERS UNDER CONTINUOUS INSPECTION WITH CERTIFICATE ISSUED AS REQUIRED BY BUILDING OFFICIAL.	3.	UNLESS OTHERWISE STATED IN TH HAVE WELL-KNOWN TECHNICAL O USED IN THE CONTRACT DOCUME
14.	WHERE LARGER STUDS OR FURRING IS REQUIRED TO COVER DUCTS, PIPING, CONDUIT, ETC., THE LARGER SIZE STUD OR FURRING SHALL EXTEND THE FULL LENGTH OF THE SURFACE WHERE THE FURRING OCCURS.	4.	RECOGNIZED MEANINGS. GENERAL CONTRACTOR AND ELEC
15.	NO HAZARDOUS MATERIALS WILL BE STORED AND/OR USED WITHIN THE BUILDING WHICH EXCEED THE QUANTITIES ALLOWED BY CODE.		COORDINATE ALL ELECTRICAL DEV SPECIFICATIONS. DEVICE BODIES COORDINATED WITH SPECIALTY FI COVER PLATES TO THE ARCHITEC
16.	INSTALLATION OF ANY BUILDING INSULATION WHICH CONTAINS OR UTILIZES AN OZONE DEPLETING COMPOUND IS PROHIBITED.	5.	GENERAL CONTRACTOR TO FULLY SUBCONTRACTORS. ALL FIXTURE
17.	NO BUILDING OR PORTION OF A BUILDING SHALL BE OCCUPIED OR USED FOR STORAGE PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.		UNITS ARE PLACED WITHIN WALLS MATERIAL FINISH COLOR.
18.	THE BUILDING AND FACILITIES MUST BE ACCESSIBLE TO AND FUNCTIONAL FOR THE PHYSICALLY DISABLED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL OTHER STATE/FEDERAL GOVERNING AGENCIES.		

## **RUCTION NOTES**

SHALL BE IN ACCORDANCE WITH THE BUILDING CODE NG JURISDICTION AND THE RULES AND REGULATIONS RTMENTS AND COMMISSIONS HAVING JURISDICTION. OCCUR AND/OR WHERE THERE ARE CONFLICTS OR INGS AND APPLICATIONS, THE CONTRACTOR SHALL MMEDIATELY AND REFRAIN FROM STARTING AND K, OR DEPENDENT WORK, UNTIL TOLD BY THE

VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS COMMENCING WORK, AND SHALL REPORT TO THE ION OR DISCREPANCY BETWEEN DRAWINGS AND FIELD MODIFICATIONS BEFORE PROCEEDING WITH THE

UALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR N OF ANY PART OF THE WORK SHALL BE INCLUDED AS D IN THE DRAWINGS.

/INGS IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT

BE RESPONSIBLE FOR THE PROTECTION OF ALL RIALS WITHIN THE PROPOSED CONSTRUCTION AREAS. DESIGN AND INSTALL ADEQUATE SHORING AND CTURAL OR REMOVAL TASKS. THE CONTRACTOR ONSIBILITY FOR ANY DAMAGE OR INJURIES CAUSED BY TION OF THE WORK.

IOUS SHEETS FOR VARIOUS SYSTEMS AND MATERIALS. NER REVIEWED AND NOTES ON ANY ONE SHEET ARE TO SYSTEMS AND MATERIALS DEPICTED ON OTHER

RE SIMILAR IN CHARACTER TO THOSE THAT ARE. SIONS, DETAILS, OR DESIGN INTENT CANNOT BE THE ARCHITECT BEFORE PROCEEDING WITH THE

L LAY OUT HIS OWN WORK, AND SHALL PROVIDE ALL FOR OTHER TRADES.

L DO ALL CUTTING, PATCHING AND REPAIRING AS 1 ALL OF THE WORK INDICATED ON THE DRAWINGS, THAT MAY BE REQUIRED TO COMPLETE THE JOB.

UT SIZING PER OWNER'S CONTRACTOR.

### IN TO CONTRACTOR

OF CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS ROPER EXECUTION AND COMPLETION OF THE WORK S BINDING PERFORMANCE. THE CONTRACTOR SHALL THE EXTENT CONSISTENT WITH THE CONTRACT FICATIONS REASONABLY INFERABLE FROM THEM AS RODUCE THE INDICATED RESULTS.

SPECIFICATIONS INTO DIVISIONS, SECTIONS AND INT OF DRAWINGS SHALL NOT CONTROL THE NG THE WORK AMONG SUBCONTRACTORS OR IN ENT OF WORK TO BE PERFORMED BY ANY TRADE.

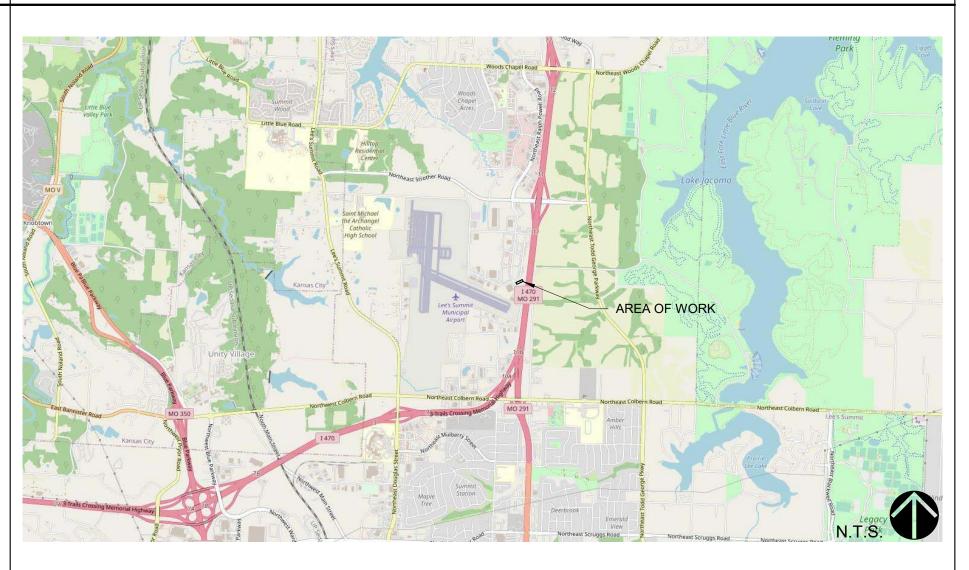
ATED IN THE CONTRACT DOCUMENTS, WORDS WHICH CHNICAL OR CONSTRUCTION INDUSTRY MEANINGS ARE T DOCUMENTS IN ACCORDANCE WITH SUCH

AND ELECTRICAL SUBCONTRACTOR TO FULLY RICAL DEVICE BODIES AND COVER PLATES PER THE E BODIES AND COVER PLATES ARE COLOR ECIALTY FINISHES. PROVIDE DEVICE BODY AND ARCHITECT FOR OWNER REVIEW AND APPROVAL.

TO FULLY COORDINATE WITH MECHANICAL/PLUMBING FIXTURE/DEVICE COLORS WHERE FIXTURE/DEVICE HIN WALLS AND CEILING ASSEMBLIES VS ADJACENT

		SSUE FOR PERMIT - 09/01/2
#	SHEET NAME	ISSI
GENER	Al	
G-100	COVER SHEET	Х
<u></u>		
CIVIL C-001	COVER SHEET	X
C-101	DEMOLITION PLAN	X
C-121	EROSION CONTROL PLAN PHASE 1	X
C-122	EROSION CONTROL PLAN PHASE 2	X
C-123	EROSION CONTROL PLAN PHASE 3	Х
C-131	EROSION CONTROL DETAILS	Х
C-132	EROSION CONTROL DETAILS	Х
C-201	DIMENSION PLAN	Х
C-301	GRADING PLAN	X
C-401	UTILITY PLAN	X
C-411	STORM PROFILES	X
C-421		X
C-501	DETAILS	Х
LANDS	CAPE	
L-100	LANDSCAPE PLAN	
ARCHIT	ECTURAL	
A-001	LIFE SAFETY AND CODE SHEET	Х
A-002	ROOF DRAINAGE PLAN	Х
A-100	OVERALL MAIN LEVEL FLOOR PLAN	Х
A-110	MAIN LEVEL FLOOR PLAN - AREA A	Х
A-111	MAIN LEVEL FLOOR PLAN - AREA B	X
A-130	ENLARGED PLANS	X
A-200		X
A-301 A-400	EXTERIOR ELEVATIONS WALL SECTIONS & DETAILS	X X
A-400	WALL SECTIONS & DETAILS	^
STRUC	TURAL	
S001	STRUCTURAL GENERAL NOTES	Х
S100	FOUNDATION PLAN	Х
S101	FOUNDATION PLAN	Х
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MP001	MECHANICAL AND PLUMBING SPECIFICATIONS AND SYMBOLS	X
MP002	MECHANICAL AND PLUMBING SCHEDULES AND DETAILS	X
MECHA	ΝΙζΔΙ	
M-101	MECHANICAL PLAN WEST	X
M-101	MECHANICAL PLAN EAST	X
PLUMB	NG	
P-101	PLUMBING PLAN WEST	Х
P-102	PLUMBING PLAN EAST	Х
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ELECT		
E-001	ELECTRICAL SPECIFICATIONS AND SYMBOLS	X
E-101	ELECTRICAL PLAN - WEST	X
E-102	ELECTRICAL PLAN - EAST	X
E-201 E-202	ELECTRICAL EQUIPMENT POWER PLAN - WEST	X X
1-202		

E-301 ELECTRICAL SCHEDULES AND DIAGRAMS



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DAVID WARD WARD DEVELOPMENT 1120 EAGLE RIDGE BLVD GRAIN VALLEY, MO 64029 PHONE: 816-229-8115 EMAIL: DAVID@SAFETYMINISTORAGE.COM

### STRUCTURAL ENGINEER



STAND SEI 8234 ROBINSON ST. OVERLAND PARK, KS 66204 NAME: PAUL SPEARS, STRUCT. ENGINEER PHONE: (913) 214-2169 EMAIL:

MECHANICAL / ELECTRICAL / PLUMBING ENGINEER

JSC NGINEER

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JSC ENGINEERS 1901 NW BLUE PKWY, 3RD FLOOR UNITY VILLAGE. MO 64065 NAME: JUSTIN SMOTHERS, MEP ENGINEER PHONE: (816) 272-5289 EMAIL: JSMOTHERS@JSCENGINEERS.COM

## SHEET INDEX

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## VICINITY MAP

## **PROJECT DIRECTORY**



**ARCHITECT / CIVIL ENGINEER** 



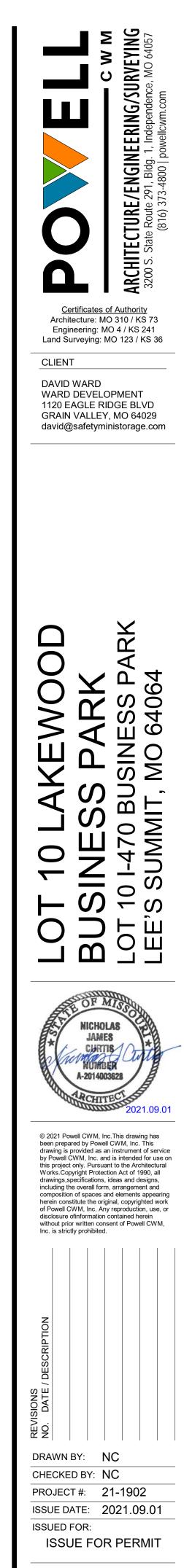
ARCHITECTURE/ENGINEERING/SURVEYING 3200 S. State Route 291, Bldg. 1, Independence, MO 64057 816.373.4800 | powellcwm.com NAME: NICK CURTIS, ARCHITECT PHONE:

EMAIL: NAME:

816.373.4800 NCURTIS@POWELLCWM.COM

PHONE: EMAIL:

TOBY WILLIAMS, CIVIL ENGINEER 816.373.4800 TWILLIAMS@POWELLCWM.COM



COVER SHEET

G-100

## Lot 10 I-470 BUSINESS AND TECHNOLOGY CENTER DEVELOPMENT PLAN **INDEX** LEE'S SUMMIT, JACKSON COUNTY, MISSOURI 4. NO GEOLOGICAL INVESTIGATION WAS PERFORMED ON THIS SITE. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, BONDS, AND INSURANCE REQUIRED BY THE CITY

### GENERAL NOTES

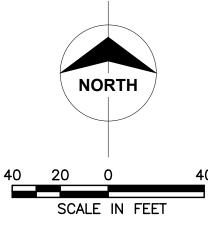
- THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL APPLICABLE STANDARDS AND SPECIFICATIONS OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI, IN CURRENT USAGE AND ALL SUPPLEMENTS THERE TO.
- 2. REFER TO THE CURRENT VERSION OF THE KC METRO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION, STANDARD SPECIFICATIONS & INSTALLATION FOR THE GUIDING REFERENCE AS WELL MDNR
- 3. DO NOT SCALE THESE DRAWINGS.
- THE UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. THEY DO NOT CONSTITUTE ACTUAL FIELD LOCATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL STATE AND LOCAL CODES.
- 8. THE DEVELOPER / OWNER SHALL CONTROL EROSION AND SILTATION DURING ALL PHASES OF CONSTRUCTION, AND SHALL KEEP THE STREETS CLEAN OF MUD AND DEBRIS. 9. ALL EXCESS MATERIAL SHALL BE REMOVED LEGALLY FROM SITE AND DISPOSED OF OFF SITE.
- 10. TRAFFIC CONTROL AND MAINTENANCE OF TRAFFIC DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PUBLIC WORKS DEPARTMENT.
- 11. EROSION CONTROL MEASURES SHALL BE PROVIDED AT ALL LOCATIONS WHERE DRAINAGE IS LEAVING THE PROJECT SITE. THE EROSION CONTROL PLAN SHOWS MINIMUM EROSION CONTROL MEASURES TO BE PROVIDED. ADDITIONAL SITE SPECIFIC MEASURES MAY BE NECESSARY AND SHALL BE PROVIDED BY THE DEVELOPER / OWNER, AT THE CONTRACTOR'S EXPENSE.
- 12. ANY EXISTING OR NEW STORM SEWER INLETS IN USE DURING DEMOLITION, GRADING OR CONSTRUCTION SHALL HAVE INLET PROTECTION.
- 13. THE CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS AND SHALL REPORT ANY DISCREPANCIES BETWEEN ACTUAL AND PLAN SHOWN CONDITIONS TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
- 14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES SHOWN ON THESE PLANS AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING ANY RELATED WORK. 15. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND INSTALLATIONS. INCLUDING SERVICE CONNECTIONS. IN ADVANCE OF
- EXCAVATION OR TRENCHING, AND PROTECT THE SAME AS REQUIRED TO MAINTAIN GOOD OPERATING CONDITION. 16. THE CONTRACTOR SHALL USE HIS OWN INFORMATION AND NOT RELY UPON ANY INFORMATION
- SHOWN ON THE DRAWINGS CONCERNING EXISTING UNDERGROUND INSTALLATIONS 17. ANY DELAY, ADDITIONAL WORK, OR FXTRA COST TO THE CONTRACTOR CAUSED BY OR RESULTING
- FROM DAMAGE TO EXISTING UNDERGROUND INSTALLATIONS SHALL NOT CONSTITUTE A CLAIM FOR EXTRA WORK, ADDITIONAL PAYMENT, OR DAMAGES. ALL DAMAGE TO EXISTING UTILITIES INCLUDING SERVICE CONNECTIONS SHALL RE REPAIRED BY AND AT THE EXPENSE OF THE CONTRACTOR.
- 18. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES AND OBTAIN ALL NECESSARY INSPECTIONS THROUGHOUT THE CONSTRUCTION ACTIVITIES. 19. ALL EXCAVATION SHALL BE UNCLASSIFIED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK
- FXCAVATION 20. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO ALL UTILITIES, STORM DRAINAGE, AND SIGNS AS REQUIRED, ALL WORK SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN THE CONTRACTOR'S CONTRACT WITH THE OWNER. ADDITIONALLY, ALL EXISTING UTILITY TOPS SHALL BE ADJUSTED TO FINISHED GRADE.
- 21. REMOVAL OF EXISTING PAVING AND/OR BORING AT THE CONTRACTOR'S DISCRETION SHALL BE INCLUDED AS A PART OF ALL UTILITY INSTALLATIONS WHERE APPLICABLE AT THE CONTRACTOR'S EXPENSE AS WELL AS REPLACEMENT/REPAIR OF ALL DISTURBED MATERIALS IN ACCORDANCE WITH LOCAL SPECIFICATIONS AND CODES
- 26. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION SCHEDULES AND ACTIVITIES WITH THE APPROPRIATE UTILITY OWNER AND ADJACENT PROPERTY OWNERS TO MINIMIZE DISRUPTION TO ADJACENT PROPERTY OWNERS INCLUDING VEHICULAR ACCESS.
- 27. THE CONTRACTOR SHALL COORDINATE ALL UTILITY WORK, INCLUDING DEMOLITION AND REMOVAL WITH THE APPROPRIATE UTILITY COMPANIES AND SERVICE PROVIDERS PRIOR TO DISCONTINUATION OF SERVICE. UTILITIES NOT NOTED FOR DEMOLITION SHALL REMAIN IN SERVICE AT ALL TIMES. 8. THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICE TO ALL ADJOINING PROPERTIES UNTIL
- THE RELOCATED UTILITIES ARE INSPECTED AND APPROVED. 29. ALL EXISTING UTILITIES SHALL BE REMOVED BACK TO THE CLOSEST STRUCTURE AND CAPPED AT THAT LOCATION UNLESS OTHERWISE INDICATED IN THESE PLANS.
- 30. REMOVE ALL TREES, GRASS, WEEDS, ROOTS, AND OTHER DEBRIS FROM THE AREA TO BE EXCAVATED, FILLED OR GRADED.
- 31. IF EXCAVATED MATERIAL IS UNSUITABLE FOR COMPACTION, AS DETERMINED BY THE GEOTECHNICAL ENGINEER, THE CONTRACTOR SHALL FURNISH SUITABLE BORROW 32. ALL SLOPES, CUT OR FILL, SHALL BE GRADED TO MAXIMUM FINISH SLOPE OF THREE (3) FEET
- HORIZONTAL TO ONE (1) FOOT VERTICAL. NO GRADED SLOPE SHALL EXCEED 3:1 WITHOUT SPECIFIC SLOPE PLANTING OR REINFORCEMENT.
- 33. SITE SHALL BE GRADED TO ENSURE DRAINAGE OF WATER FROM ALL SURFACES. 34. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SURFACE AND GROUNDWATER CONTROL
- MEASURES. 35. GRADES NOT OTHERWISE INDICATED ON THE PLANS SHALL BE UNIFORM LEVELS OR SLOPES BETWEEN
- POINTS WHERE ELEVATIONS ARE GIVEN. ABRUPT CHANGES IN SLOPES SHALL BE WELL ROUNDED. 36. STORM DRAINAGE SYSTEMS WITHIN THE PROJECT AREA ARE TO BE COMPLETELY CLEANED AT THE COMPLETION OF THE PROJECT.
- 37. EXISTING TREES WHERE INDICATED SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY AND ALL GRADING ACTIVITIES TO REMAIN OUTSIDE THE DRIP LINES.
- 38. ALL TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO GRADING. 39. ALL SOILS UNDERCUTTING, OVER EXCAVATION, UNDER DRAIN INSTALLATION, AND ROCK FILLS SHALL
- BE DETERMINED AND DIRECTED BY THE SOILS ENGINEER. 40. FILL AREAS TO BE COMPACTED TO 95% STANDARD PROCTOR MINIMUM UNLESS OTHERWISE
- INDICATED BY GEOTECHNICAL ENGINEER. 41. UNLESS OTHERWISE INDICATED, ALL DISTURBED SOIL AREAS TO RECEIVE 6 INCHES OF TOPSOIL AND TO
- BE SEEDED AND MULCHED. 42. THE CONTRACTOR SHALL PERFORM ALL CUTTING, PATCHING, AND REPAIRING AS REQUIRED TO PERFORM ALL OF THE WORK INDICATED ON THE DRAWINGS, AND ALL OTHER WORK THAT MAY BE

### CONSTRUCTION NOTES

REQUIRED TO COMPLETE THE JOB.

- ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH THE BUILDING CODE OF THE AUTHORITY HAVING JURISDICTION AND THE RULES AND REGULATIONS OF ALL AGENCIES, DEPARTMENTS AND COMMISSIONS HAVING JURISDICTION. WHERE DISCREPANCIES OCCUR AND/OR WHERE THERE ARE CONFLICTS OR OMISSIONS IN THE DRAWINGS AND APPLICATIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY AND REFRAIN FROM STARTING AND COMPLETING SUCH WORK, OR DEPENDENT WORK, UNTIL TOLD BY THE ARCHITECT TO PROCEED.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK, AND SHALL REPORT TO THE ARCHITECT ANY CONDITION OR DISCREPANCY BETWEEN DRAWINGS AND FIELD CONDITIONS REQUIRING MODIFICATIONS BEFORE PROCEEDING WITH THE WORK.
- MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER CONSTRUCTION OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE INDICATED IN THE DRAWINGS
- REFERENCING OF DRAWINGS IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT APPLICATION OF ANY DRAWING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREAS. THE CONTRACTOR SHALL DESIGN AND INSTALL ADEQUATE SHORING AND BRACING FOR ALL STRUCTURAL OR REMOVAL TASKS. THE CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR ANY DAMAGE OR INJURIES CAUSED BY OR DURING THE EXECUTION OF THE WORK.
- NOTES APPEAR ON VARIOUS SHEETS FOR VARIOUS SYSTEMS AND MATERIALS. SHEETS ARE TO BE OWNER REVIEWED AND NOTES ON ANY ONE SHEET ARE TO BE APPLIED TO RELATED SYSTEMS AND MATERIALS DEPICTED ON OTHER DRAWINGS
- DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE THAT ARE. WHERE SPECIFIC DIMENSIONS, DETAILS, OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL LAY OUT HIS OWN WORK, AND SHALL PROVIDE ALL DIMENSIONS REQUIRED FOR OTHER TRADES.
- THE CONTRACTOR SHALL DO ALL CUTTING, PATCHING AND REPAIRING AS REQUIRED TO PERFORM ALL OF THE WORK INDICATED ON THE DRAWINGS, AND ALL OTHER WORK THAT MAY BE REQUIRED TO COMPLETE THE JOB.





## LEGAL DESCRIPTION

### LOT 10, WOODBURY ESTATES, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

### **DEVELOPER:**

**David Ward** Ward Development 1120 NW Eagle Ridge Blvd. Grain Valley, MO 816-229-8115

LAND USE TABLE	PROPOSED
TOTAL FLOOR AREA (SF)	21,897
NUMBER OF DWELLING UNITS	0
LAND AREA (AC)	1.79
REQUIRED PARKING SPACES	28
PROVIDED PARKING SPACES	31
IMPERVIOUS COVERAGE (AC)	1.26
FLOOR AREA RATIO (FAR)	0.281

### **NOTES:**

- Site is located within an area of minimal flood hazard (Flood Zone X) in FEMA FIRM Panel number 29095C0430G (effective 1/20/2017).
- No oil or gas wells are present on site per Missouri DNR record.
- **Requirements of the City of Lee's Summit Design and Construction Manual shall govern.**

NE LEINWEBER RD

C-001	Cover Sheet
C-101	Demolition Plan
C-121	Erosion Control Plan Phase 1
C-122	Erosion Control Plan Phase 2
C-123	Erosion Control Plan Phase 3
C-131	Erosion Control Details
C-132	Erosion Control Details
C-201	Dimension Plan
C-301	Grading Plan
C-401	Utility Plan
C-411	Storm Profiles
C-421	Drainage Area Map
C-501	Details
L-100	Landscape Plan

## UTILITIES

EVERGY 1200 Main St. PO Box 418679 Kansas City, MO 64141 888.471.5275

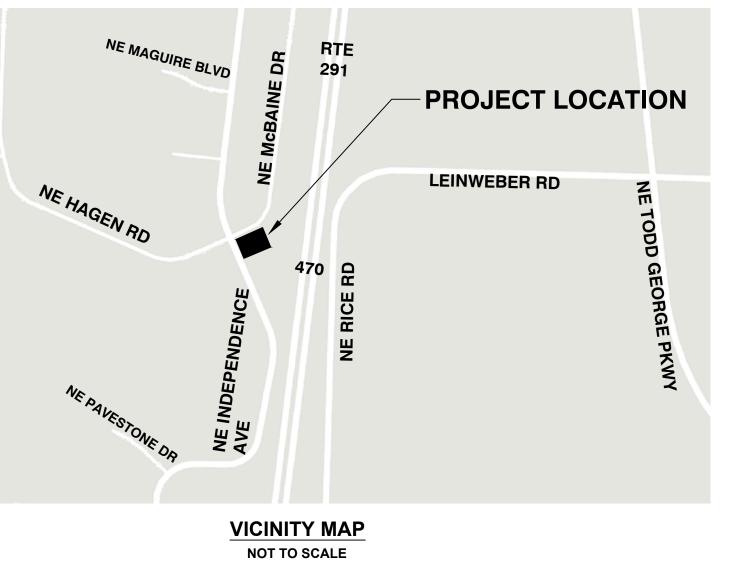
SPIRE 3025 SE Clover Dr. Lee's Summit, MO 64082 800.582.1234

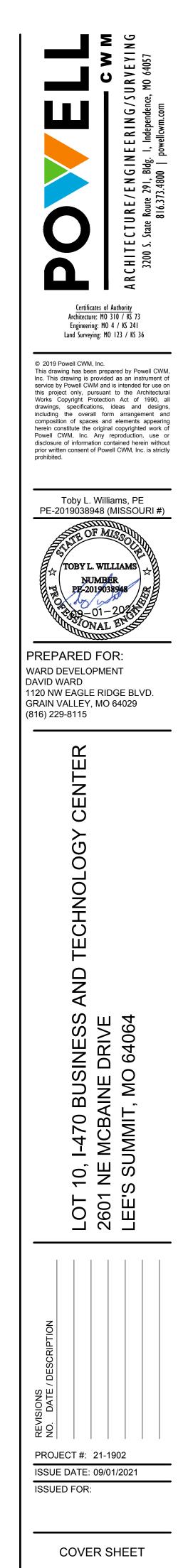
**CITY OF LEE'S SUMMIT** 220 SE Green St. Lee's Summit, MO 64063 816.969.1800

AT&T 215 N Spring St Independence, MO 64050 816.325.5610

SPECTRUM 6550 Winchester Ave Kansas City, MO 64133 816.358.5360

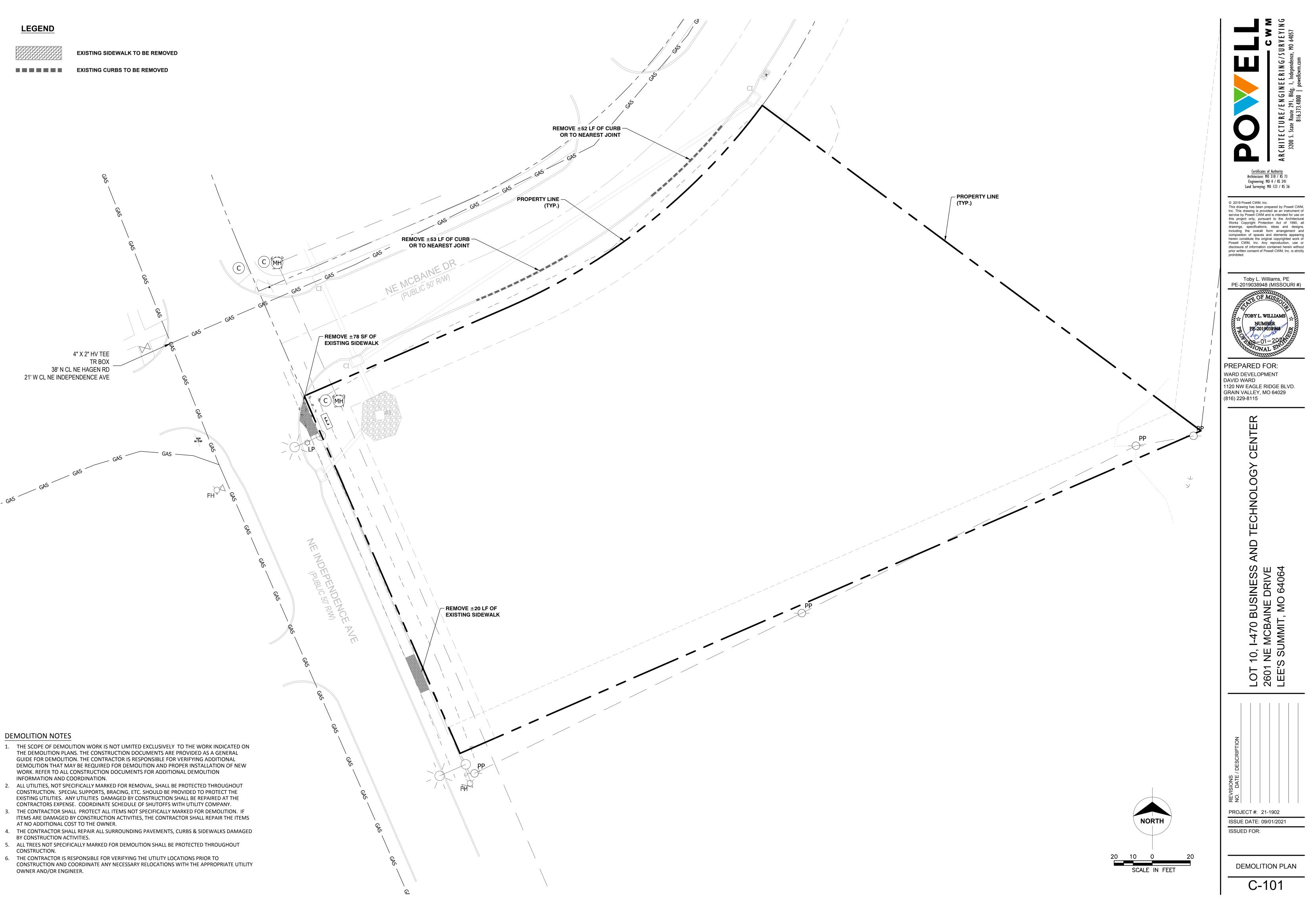
MISSOURI ONE CALL 1.800.344.7483

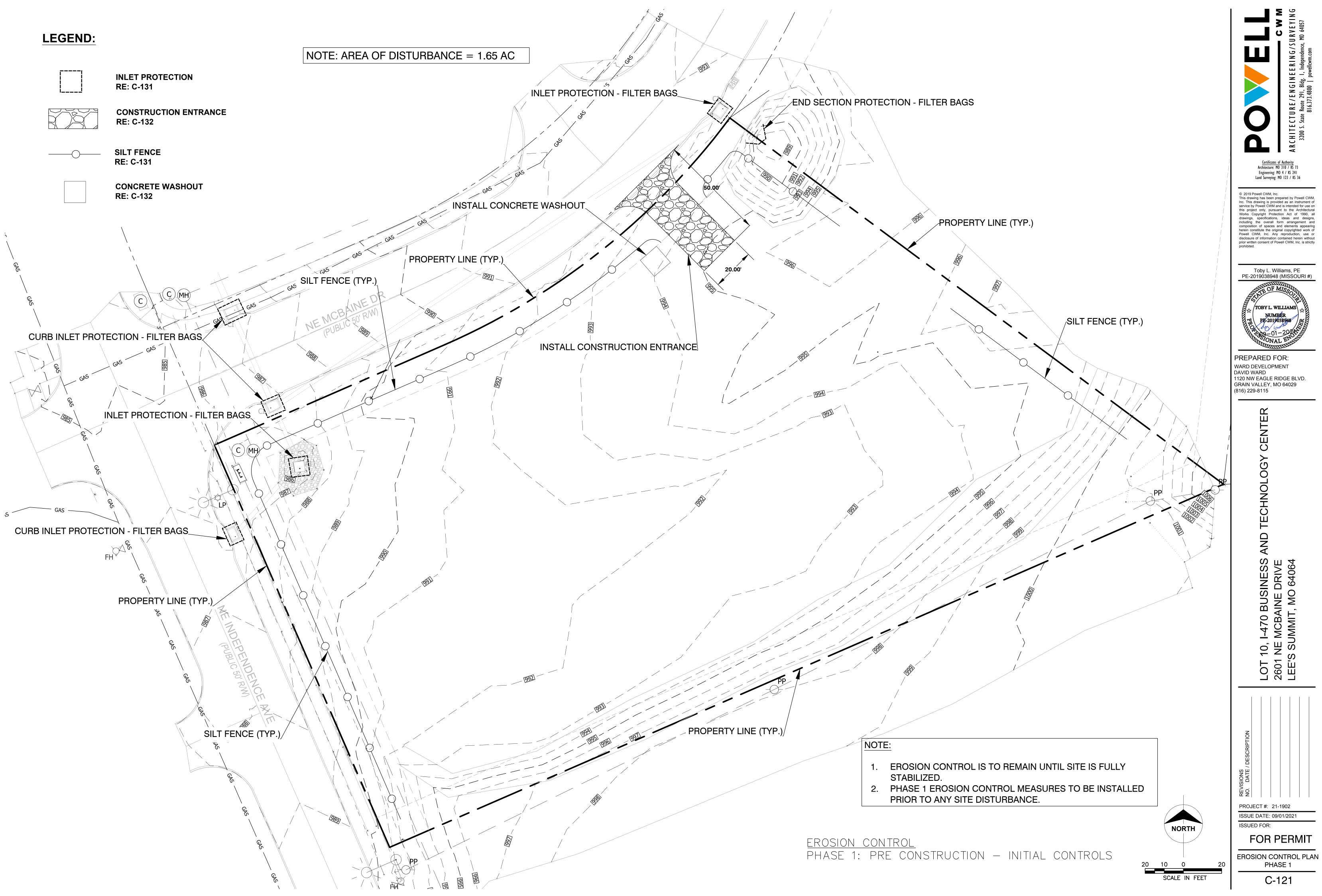


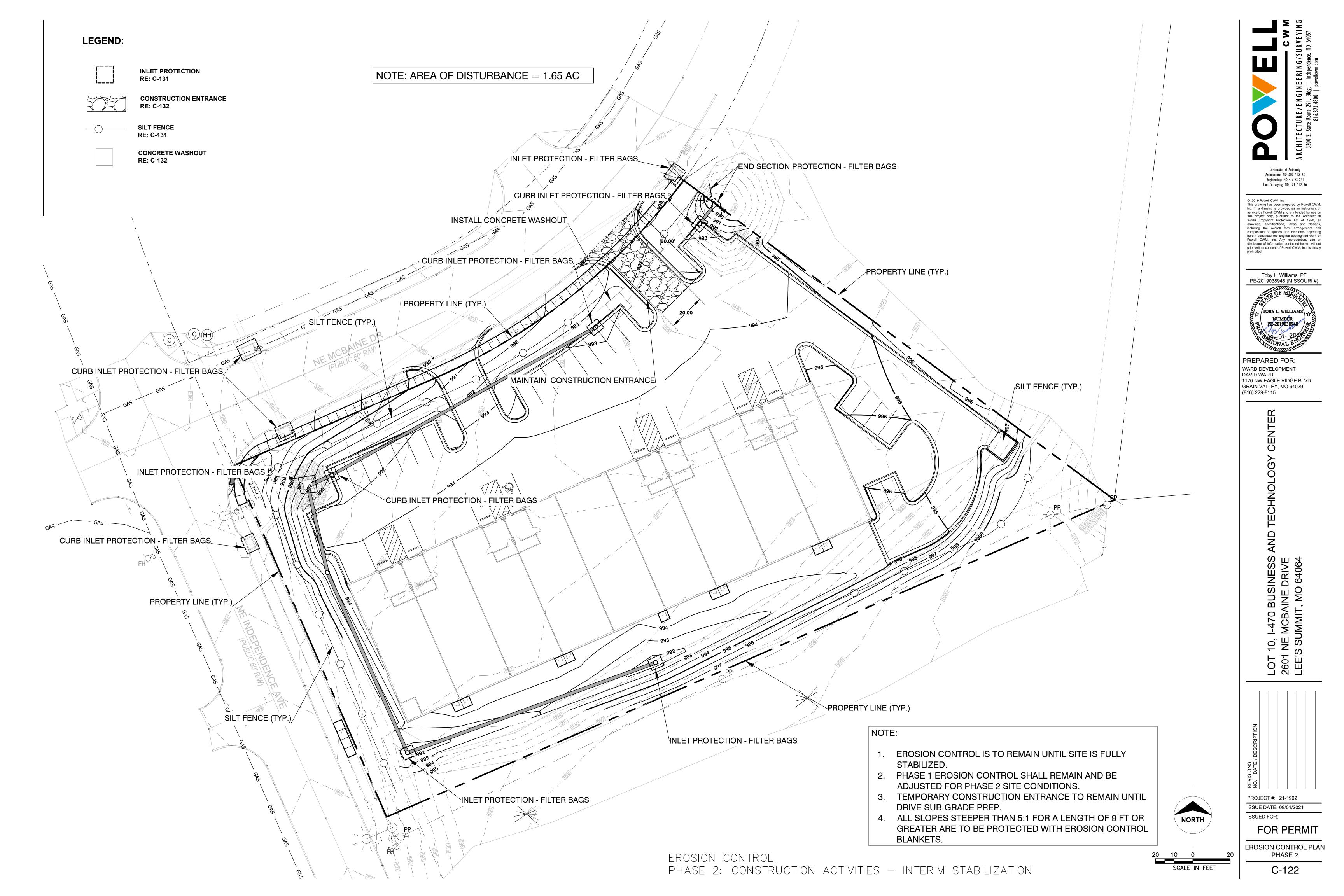


C-001

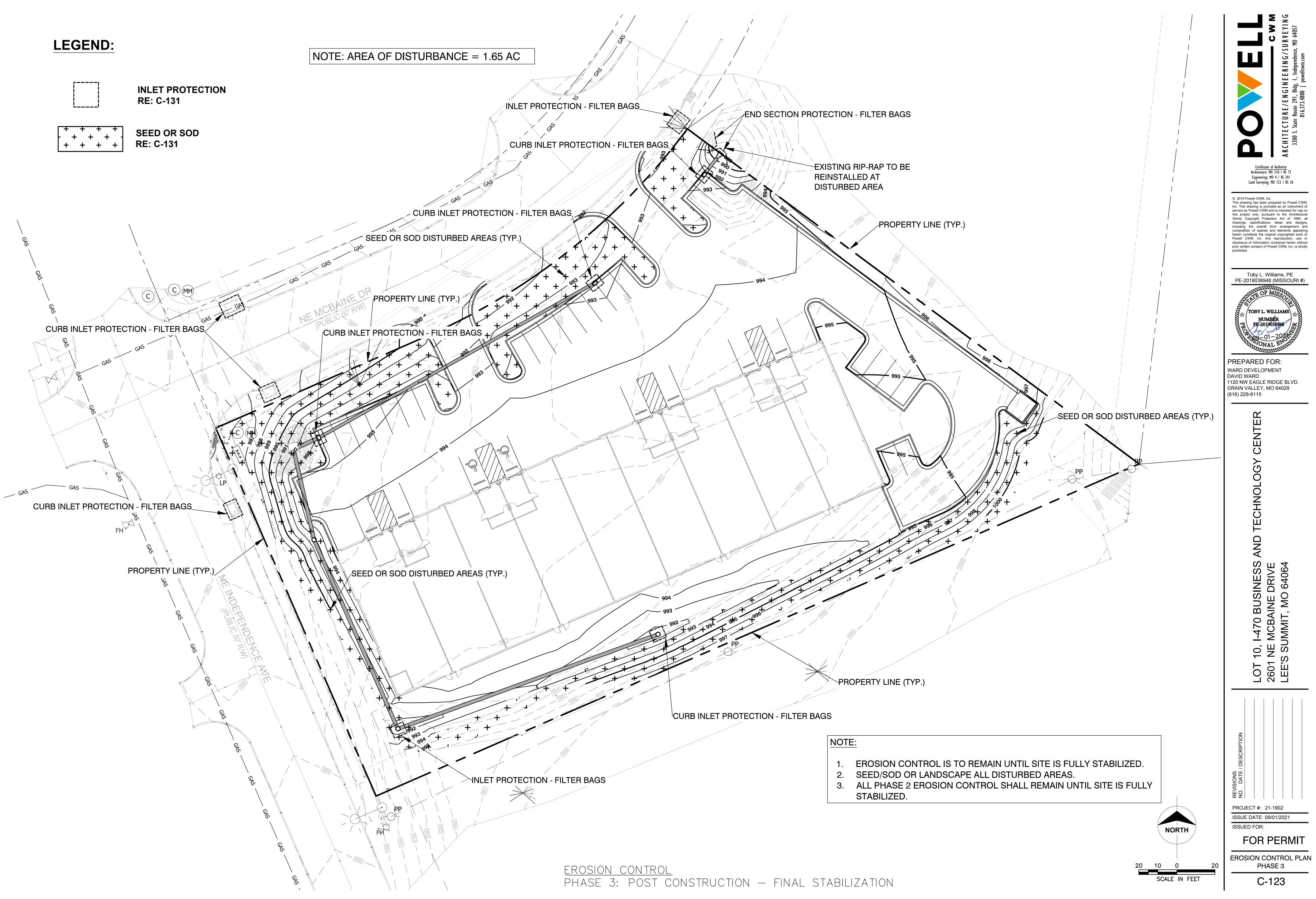


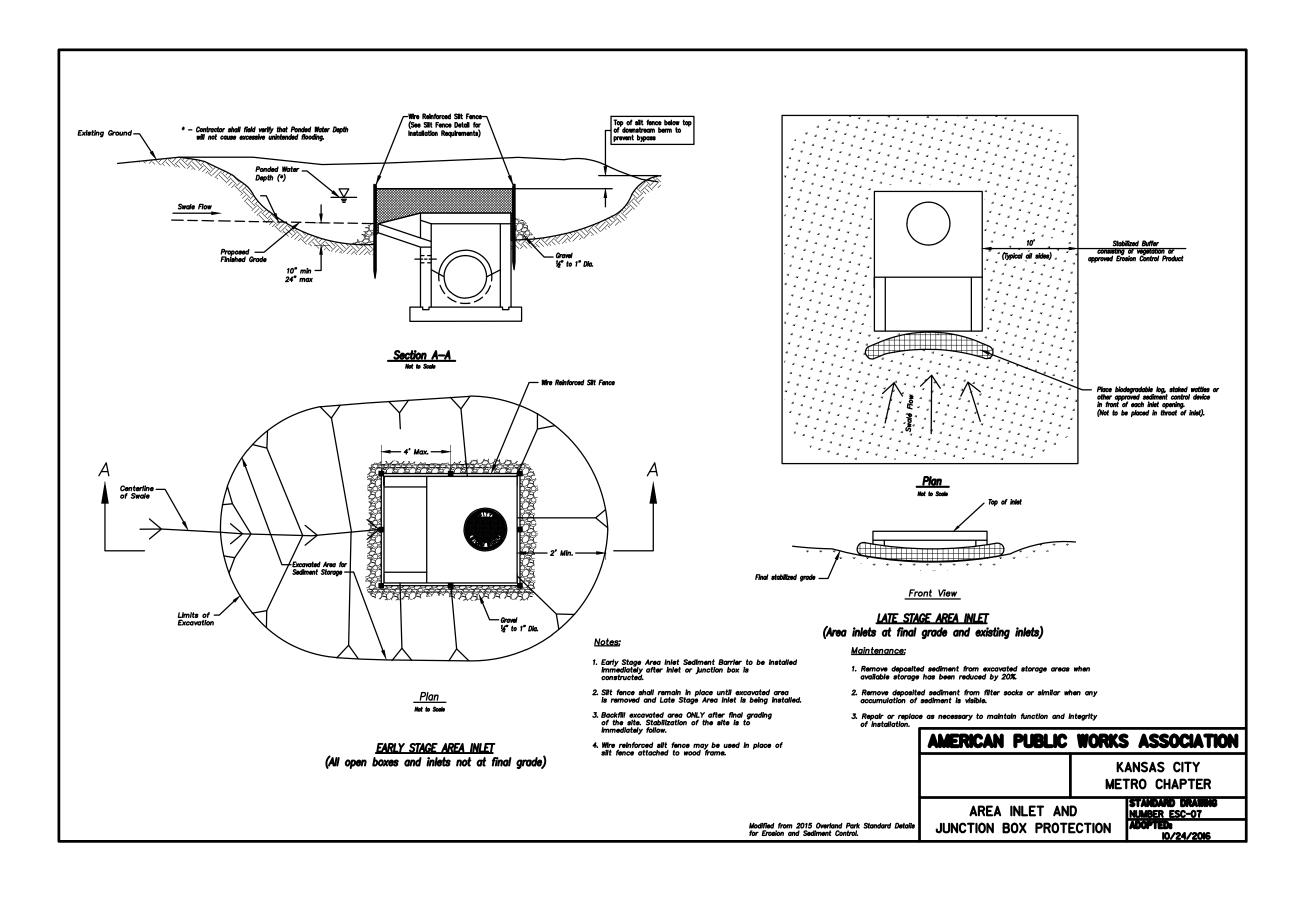


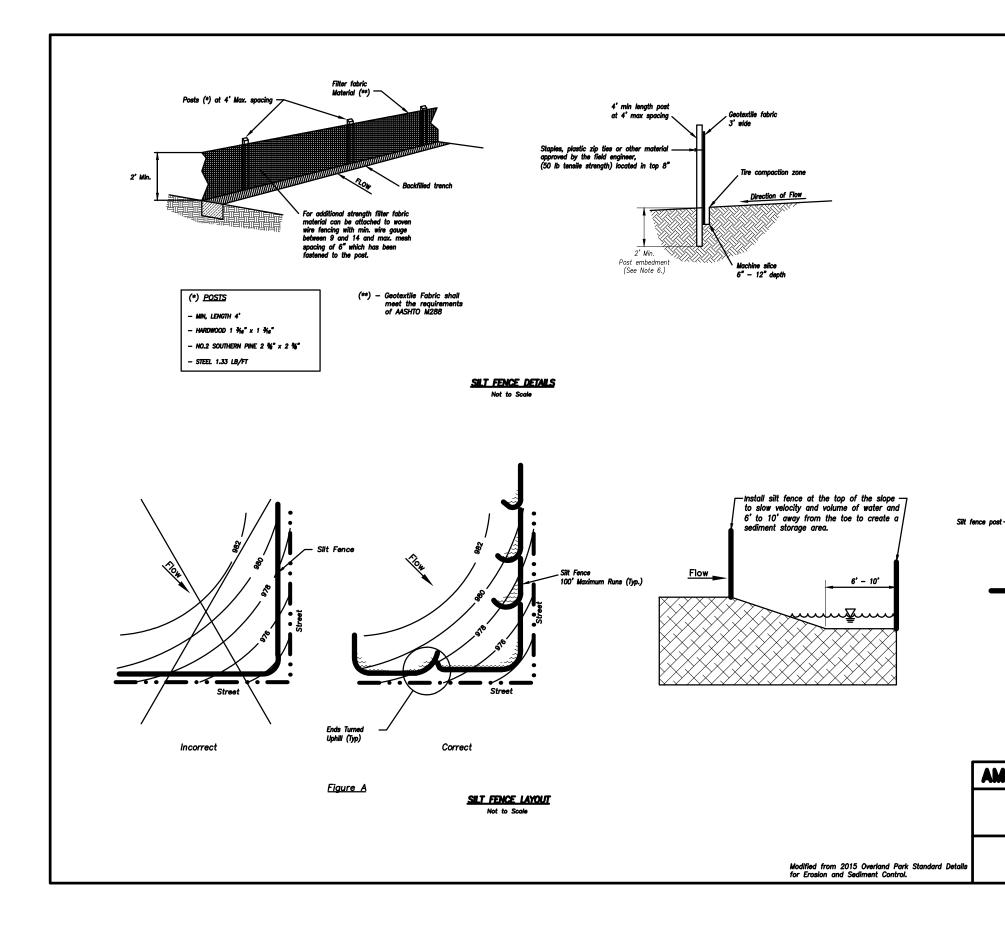


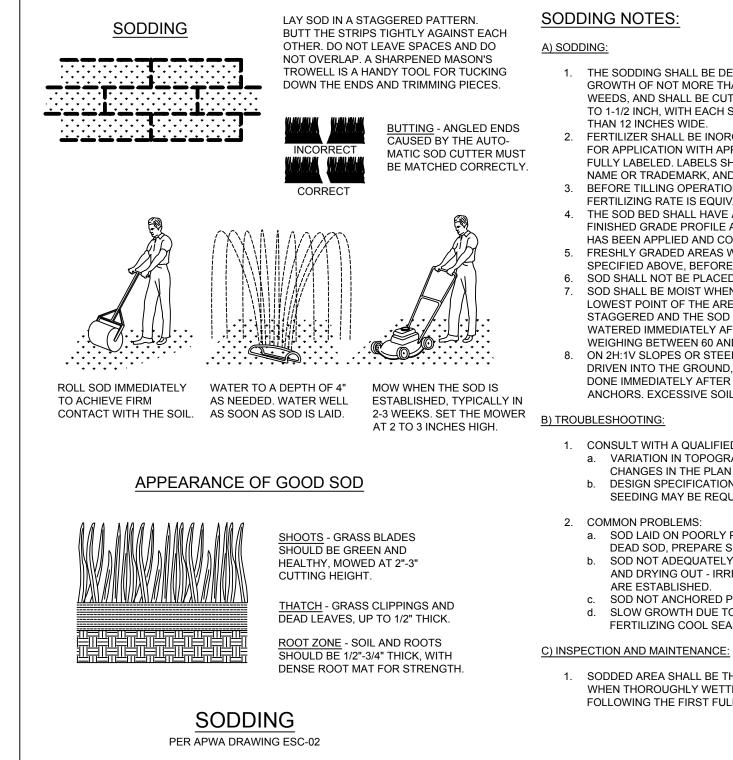


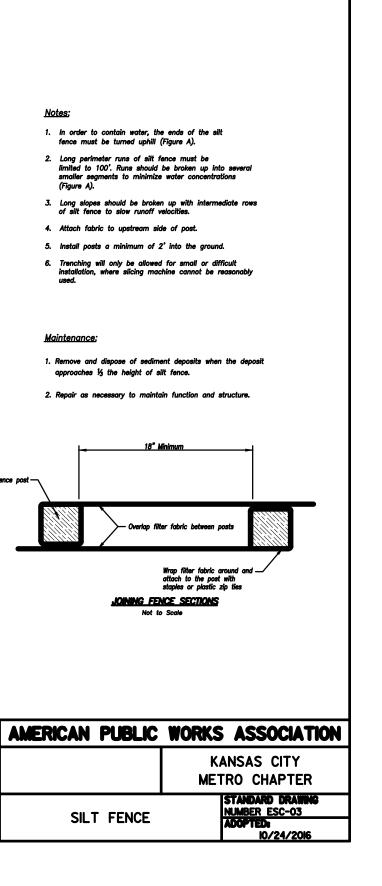


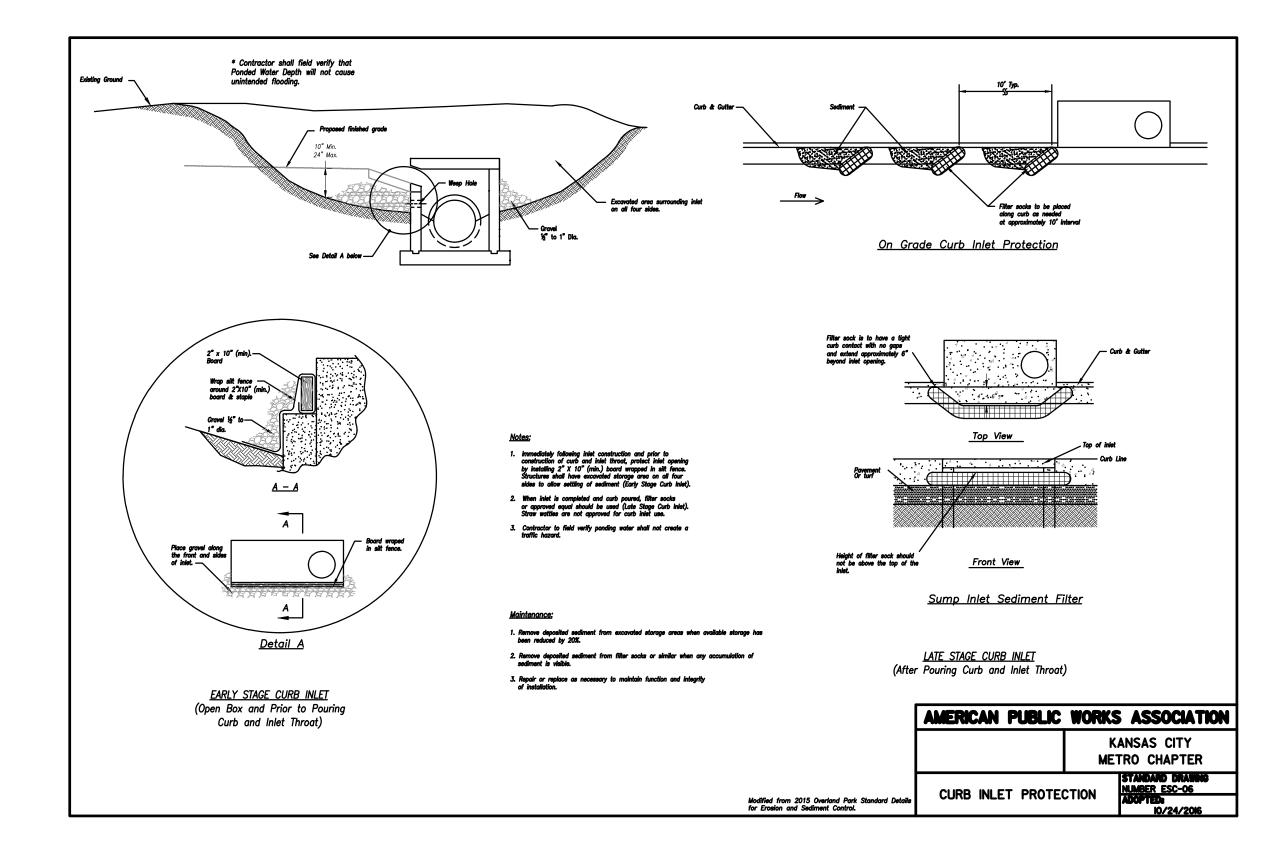












1. THE SODDING SHALL BE DENSELY ROOTED, NURSERY GROWN, AND A PERENNIAL GRASS. THE SOD SHALL CONTAIN A GROWTH OF NOT MORE THAN 10 PERCENT OF OTHER GRASSES, SHALL BE FREE FROM ALL PROHIBITED NOXIOUS WEEDS, AND SHALL BE CUT IN STRIPS OF UNIFORM THICKNESS. THE RANGE OF ACCEPTABLE THICKNESS SHALL BE 1/2 TO 1-1/2 INCH, WITH EACH STRIP CONTAINING AT LEAST ONE (1) SQUARE YARD. SOD SHALL BE CUT IN STRIPS NOT LESS THAN 12 INCHES WIDE. 2. FERTILIZER SHALL BE INORGANIC 12-12-12 OR 13-13-13 GRADE, UNIFORM IN COMPOSITION, FREE FLOWING, SUITABLE

FOR APPLICATION WITH APPROVED EQUIPMENT, AND DELIVERED TO THE SITE IN CONVENIENT CONTAINERS, EACH FULLY LABELED. LABELS SHALL CONFORM TO APPLICABLE STATE FERTILIZER LAWS AND BEARING THE NAME, TRADE NAME OR TRADEMARK, AND WARRANTY OF THE PRODUCER. 3. BEFORE TILLING OPERATIONS, FERTILIZER SHALL BE SPREAD UNIFORMLY AT THE RATE OF 300 POUNDS PER ACRE. FERTILIZING RATE IS EQUIVALENT TO 3.5 POUNDS PER 500 SQUARE FEET. 4. THE SOD BED SHALL HAVE A UNIFORM SURFACE FREE FROM WASHES AND DEPRESSIONS. IT SHALL CONFORM TO THE

FINISHED GRADE PROFILE AND CROSS SECTION SHOWN ON THE PLANS. THE SOIL, EXCEPT WHERE FRESH TOP SOIL HAS BEEN APPLIED AND COMPACTED, SHALL BE THOROUGHLY TILLED TO A DEPTH OF 2 INCHES. 5. FRESHLY GRADED AREAS WHICH HAVE SET LONG ENOUGH TO BECOME DRY AND CRUSTED OVER SHALL BE TILLED, AS SPECIFIED ABOVE, BEFORE PLACING SOD.

6. SOD SHALL NOT BE PLACED DURING A DROUGHT NOR ON FROZEN GROUND UNLESS AUTHORIZED BY THE ENGINEER. 7. SOD SHALL BE MOIST WHEN IT IS PLACED. SOD STRIPS SHALL BE LAID ALONG CONTOUR LINES, COMMENCING AT THE LOWEST POINT OF THE AREA AND WORKING UPWARD. THE TRANSVERSE JOINTS OF SOD STRIPS SHALL BE STAGGERED AND THE SOD CAREFULLY PLACED TO PRODUCE TIGHT JOINTS. THE SOD SHALL BE FIRMED AND WATERED IMMEDIATELY AFTER IT IS PLACED. THE FIRMING SHALL BE ACCOMPLISHED BY APPLICATION OF A ROLLER WEIGHING BETWEEN 60 AND 90 POUNDS PER LINEAL FOOT OF ROLLER. 8. ON 2H:1V SLOPES OR STEEPER THE SOD SHALL BE ANCHORED WITH 1/2-INCH SQUARE AY 8-INCH LONG WOODED PEGS DRIVEN INTO THE GROUND, 3 PEGS TO THE SQUARE YARD OR OTHER APPROVED CONFIGURATION. PEGGING SHALL BE DONE IMMEDIATELY AFTER SOD IS FIRMED. THE AREA SHALL BE CLEARED OF LOOSE SOD, EXCESS OR BROKEN ANCHORS. EXCESSIVE SOIL, AND OTHER FOREIGN MATERIALS.

1. CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR: a. VARIATION IN TOPOGRAPHY ON SITE INDICATE THE SODDING MATERIALS WILL NOT FUNCTION AS INTENDED; CHANGES IN THE PLAN MAY BE NEEDED. b. DESIGN SPECIFICATIONS FOR SOD VARIETY CANNOT BE MET OR IRRIGATION NOT POSSIBLE; SUBSTITUTION OR SEEDING MAY BE REQUIRED.

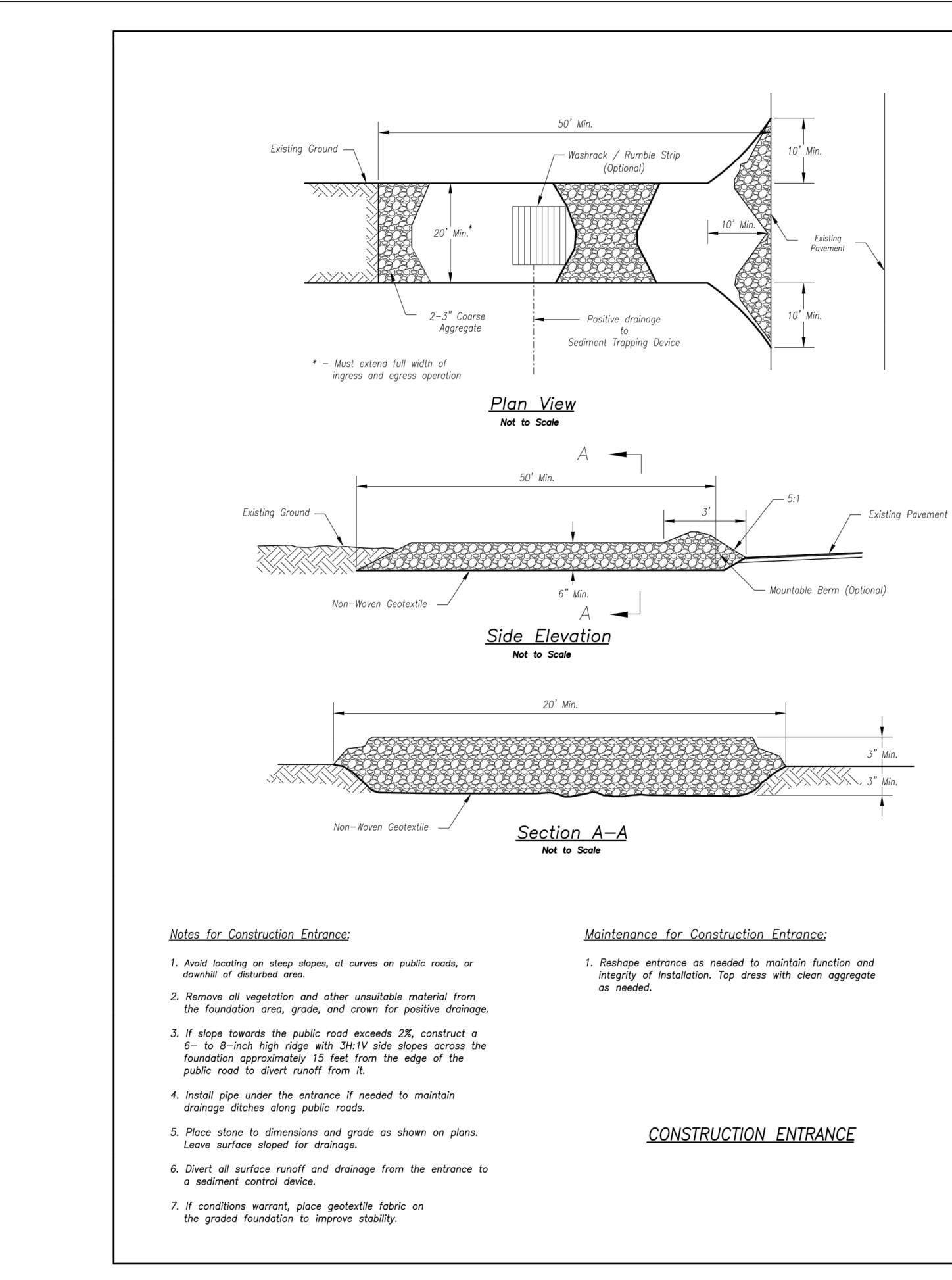
### 2. COMMON PROBLEMS:

a. SOD LAID ON POORLY PREPARED SOIL OR UNSUITABLE SURFACE DIES BECAUSE IT IS UNABLE TO ROOT - REMOVE DEAD SOD, PREPARE SURFACE, AND RESOD. b. SOD NOT ADEQUATELY IRRIGATED AFTER INSTALLATION CAUSES ROOT DIEBACK, GRASS TO NOT ROOT RAPIDLY, AND DRYING OUT - IRRIGATE SOD AND UNDERLYING SOIL TO A DEPTH OF 4 INCHES AND KEEP MOIST UNTIL ROOTS ARE ESTABLISHED.

c. SOD NOT ANCHORED PROPERLY IS LOOSENED BY RUNOFF - REPLACE DAMAGED AREAS AND ANCHOR SOD. d. SLOW GROWTH DUE TO LACK OF NITROGEN CAUSES YELLOWING OF LEAF BLADES - REFERTILIZE SOD, BUT AVOID FERTILIZING COOL SEASON GRASSES FROM LATE MAY THROUGH JULY.

1. SODDED AREA SHALL BE THOROUGHLY WATERED DAILY FOR A PERIOD OD FIFTEEN DAYS AFTER PLACING EXCEPT WHEN THOROUGHLY WETTED BY RAIN. ANY PORTION OF THE SOD THAT IS NOT IN GOOD GROWING CONDITION FOLLOWING THE FIRST FULL GROWING SEASON (SPRING TO FALL), SHALL BE REPLACED WITH FRESH LIVE SOD.



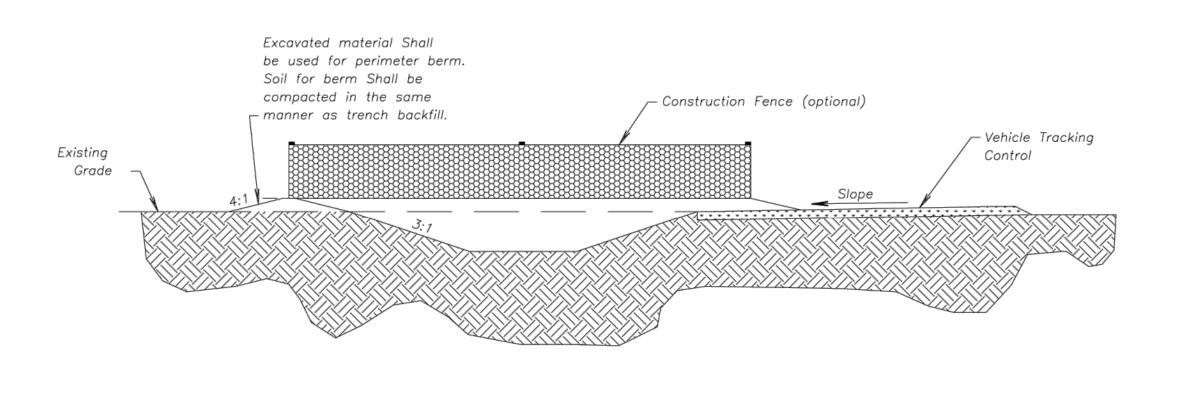


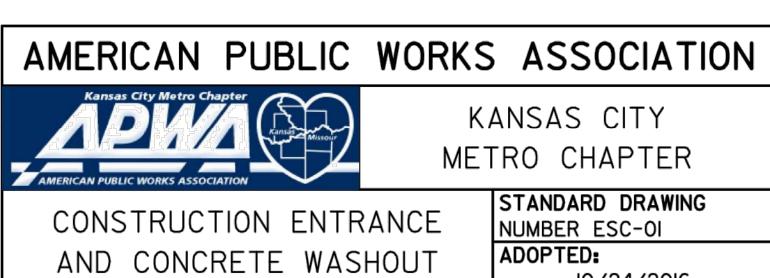
Notes for Concrete Washout:

- placement on site.
- 2. Concrete washout area shall include a flat subsurface pit sized pad shall be sloped towards the concrete washout area.
- 3. Vehicle tracking control is required at the access point to all concrete washout areas.
- 4. Signs shall be placed at the construction site entrance, washout of the concrete washout area(s) to operators of concrete truck and pump rigs.
- sides of the subsurface pit in sandy or gravelly soils.

### Maintenance for Concrete Washout:

- 1. Concrete washout materials shall be removed once the materials
- 2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
- 3. Concrete washout water, wasted pieces of concrete and all other in a water-tight container and disposed of properly.
- the project is placed.
- with suitable compacted backfill and topsoil, any disturbed areas concrete washout areas shall be stabilized.





Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

1. Concrete washout areas shall be installed prior to any concrete

relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking

area and elsewhere as necessary to clearly indicate the location(s)

5. A one-piece impervious liner may be required along the bottom and

have filled the washout to approximately 75% full.

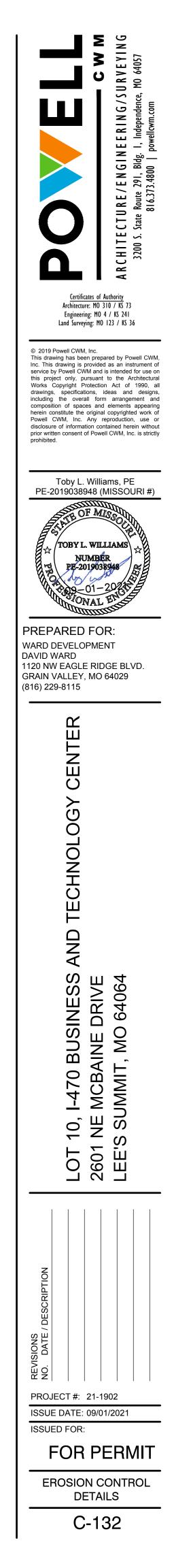
debris in the subsurface pit shall be transported from the job site

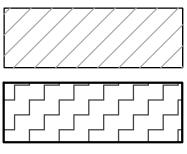
4. Concrete washout areas shall remain in place until all concrete for

5. When concrete washout areas are removed, excavations shall be filled associated with the installation, maintenance, and/or removal of the

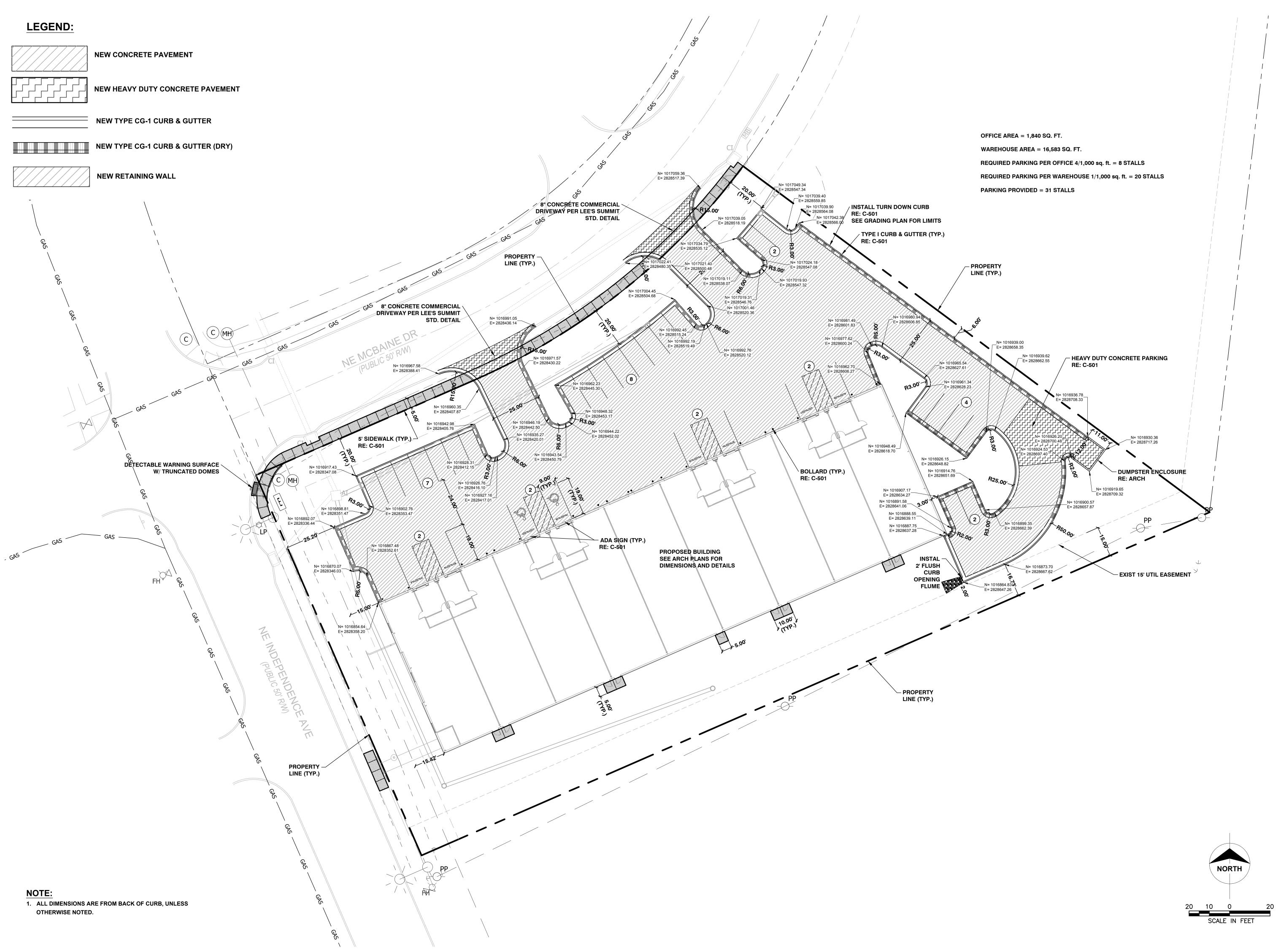
CONCRETE WASHOUT

10/24/2016

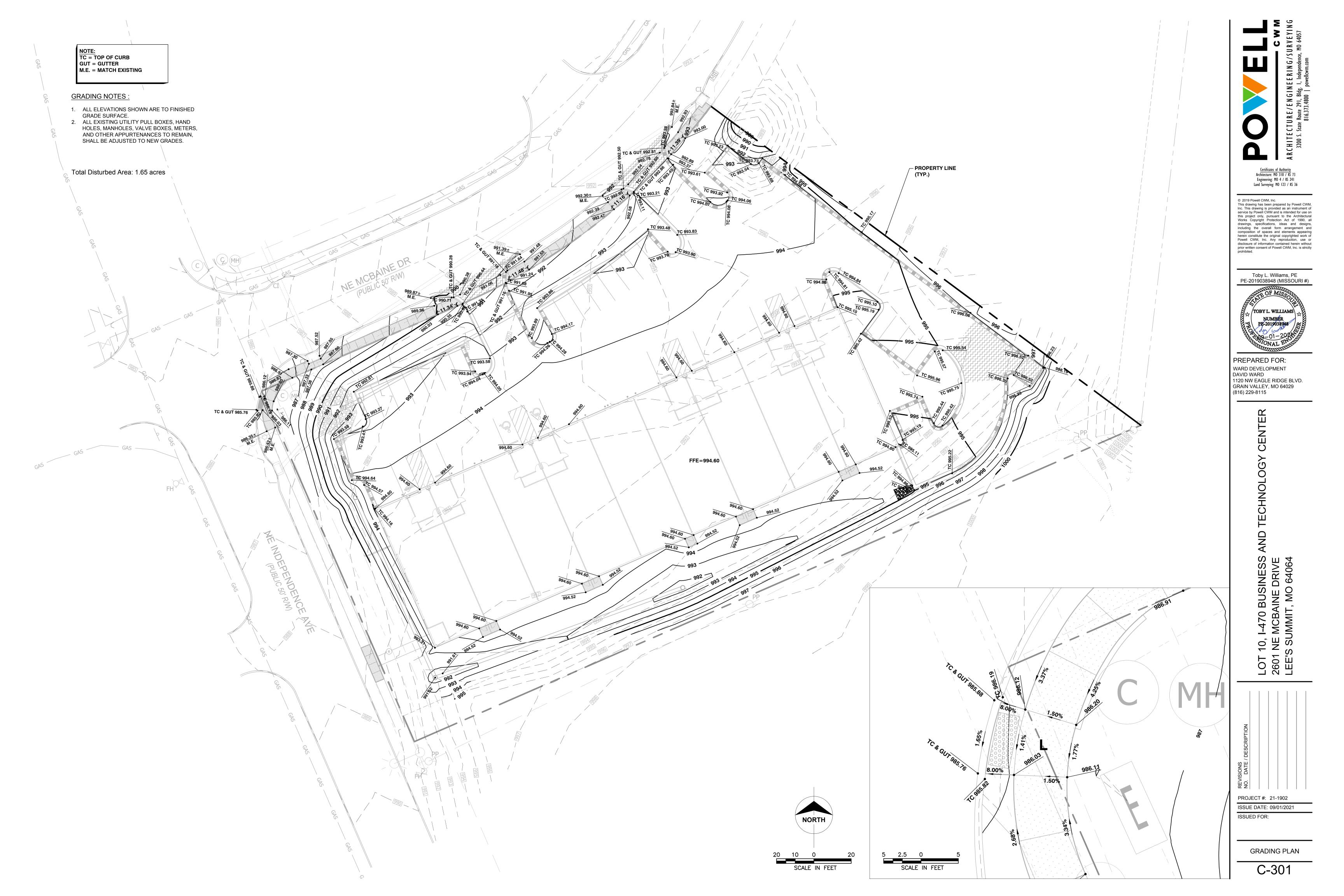


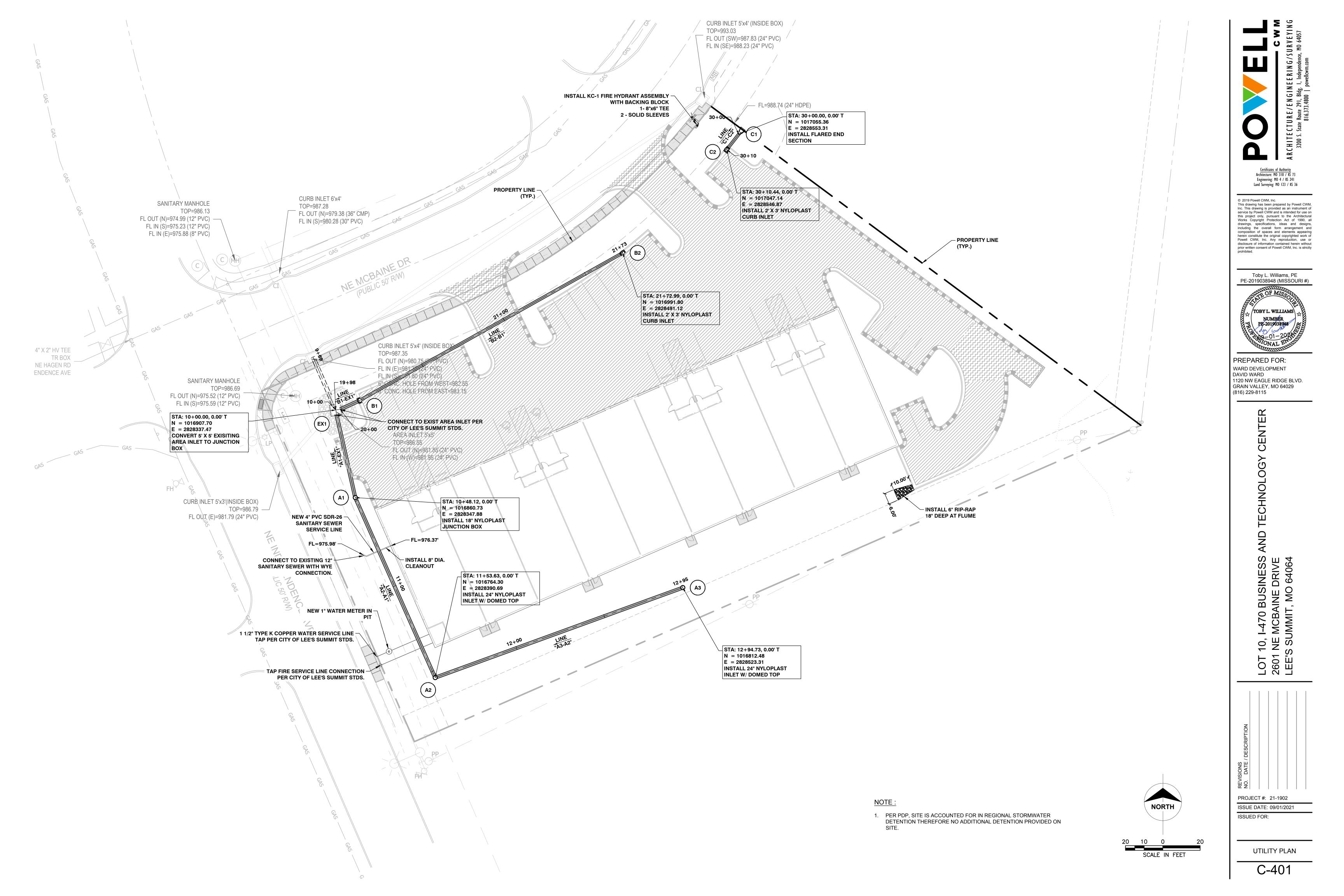


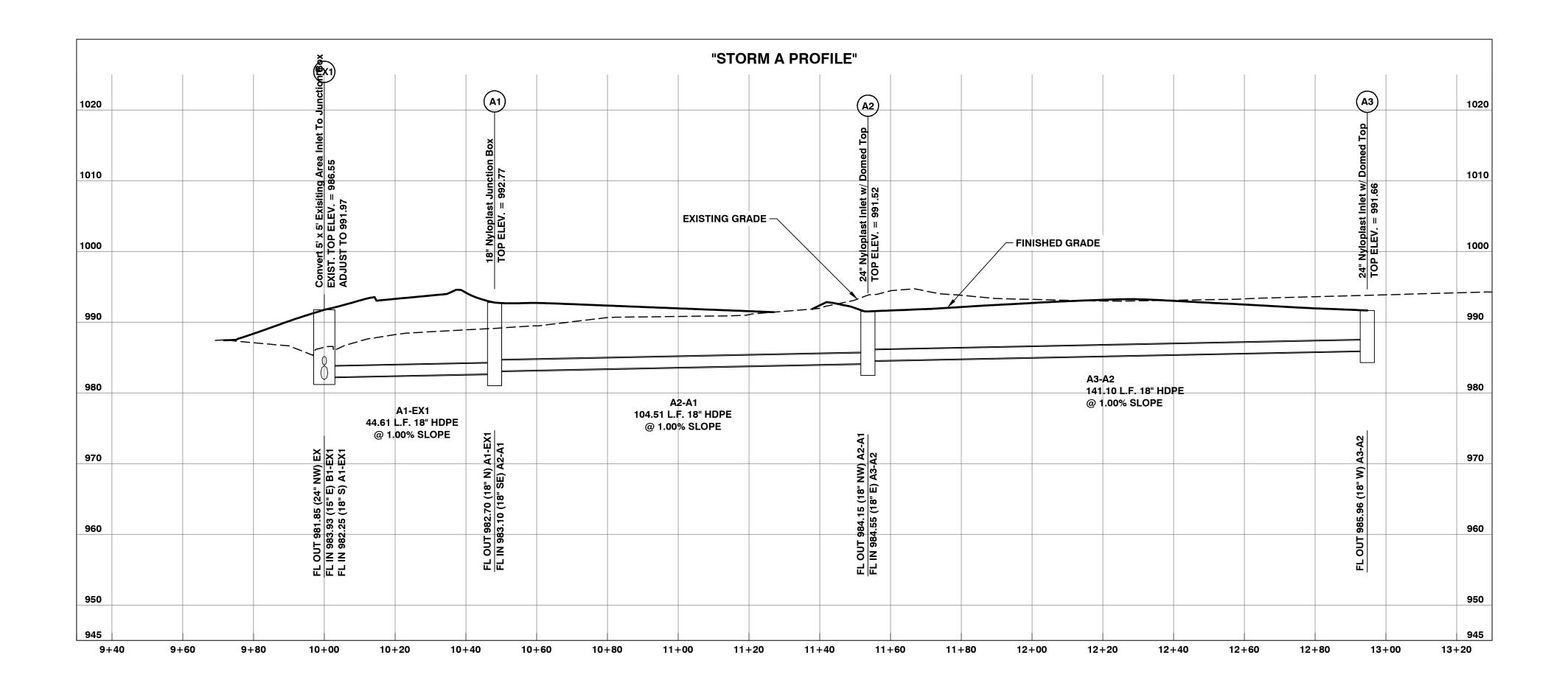


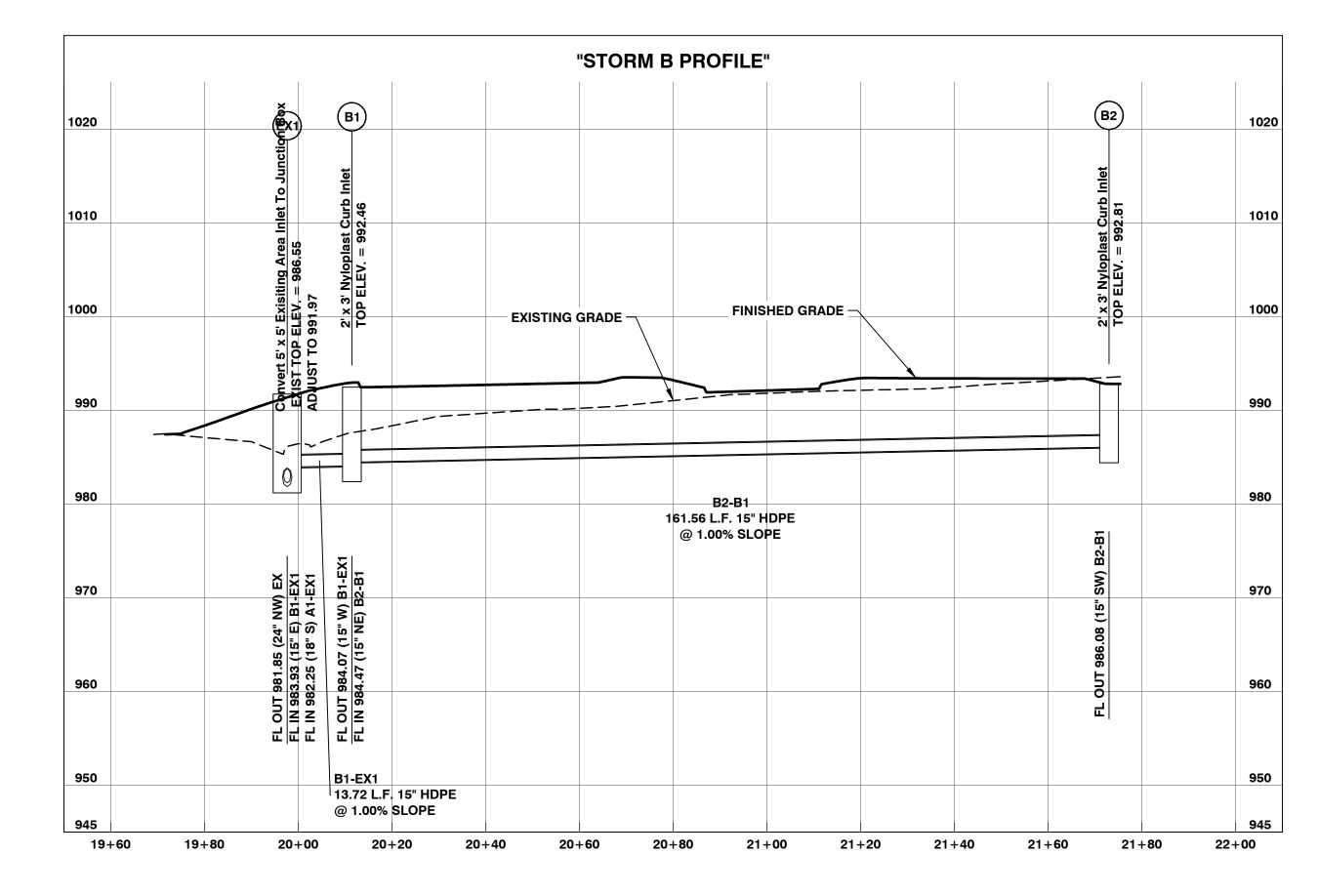


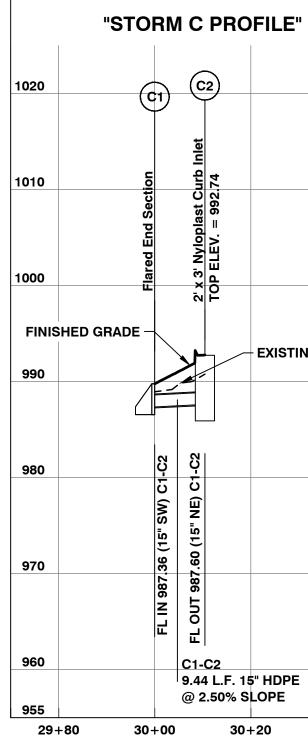
## Z 9 ш. НIТ RC Certificates of Authority Architecture: MO 310 / KS 73 Engineering: MO 4 / KS 241 Land Surveying: MO 123 / KS 36 © 2019 Powell CWM, Inc. This drawing has been prepared by Powell CWM This drawing has been prepared by Powell CWM, Inc. This drawing is provided as an instrument of service by Powell CWM and is intended for use on this project only, pursuant to the Architectural Works Copyright Protection Act of 1990, all drawings, specifications, ideas and designs, including the overall form arrangement and composition of spaces and elements appearing herein constitute the original copyrighted work of Powell CWM, Inc. Any reproduction, use or disclosure of information contained herein without disclosure of information contained herein without prior written consent of Powell CWM, Inc. is strictly prohibited. Toby L. Williams, PE PE-2019038948 (MISSOURI #) STE OF MIS. TOBY L. WILLIAMS NUMBER PE-2019038948 Onai PREPARED FOR: WARD DEVELOPMENT DAVID WARD 1120 NW EAGLE RIDGE BLVD. GRAIN VALLEY, MO 64029 (816) 229-8115 ШЧ ENT $\bigcirc$ Ο TECHNOL AND BUSINESS / AINE DRIVE T, MO 64064 -470 ACBA 10, NE () ŝ LOT 2601 LEE'S SIONS ШЧЧ PROJECT #: 21-1902 ISSUE DATE: 09/01/2021 ISSUED FOR: DIMENSION PLAN C-201

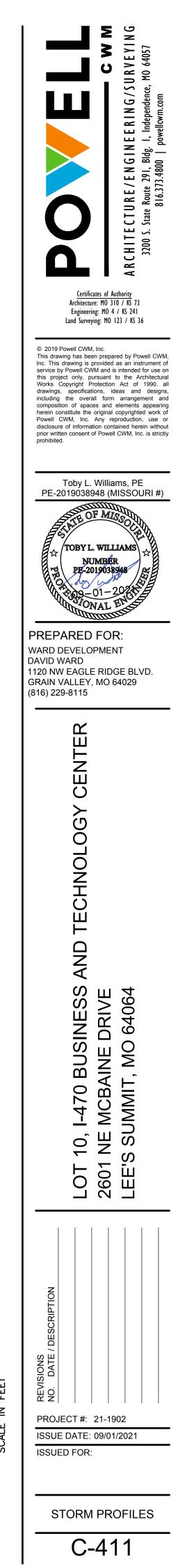






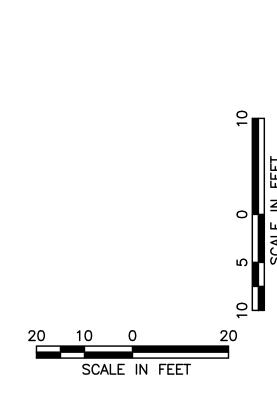


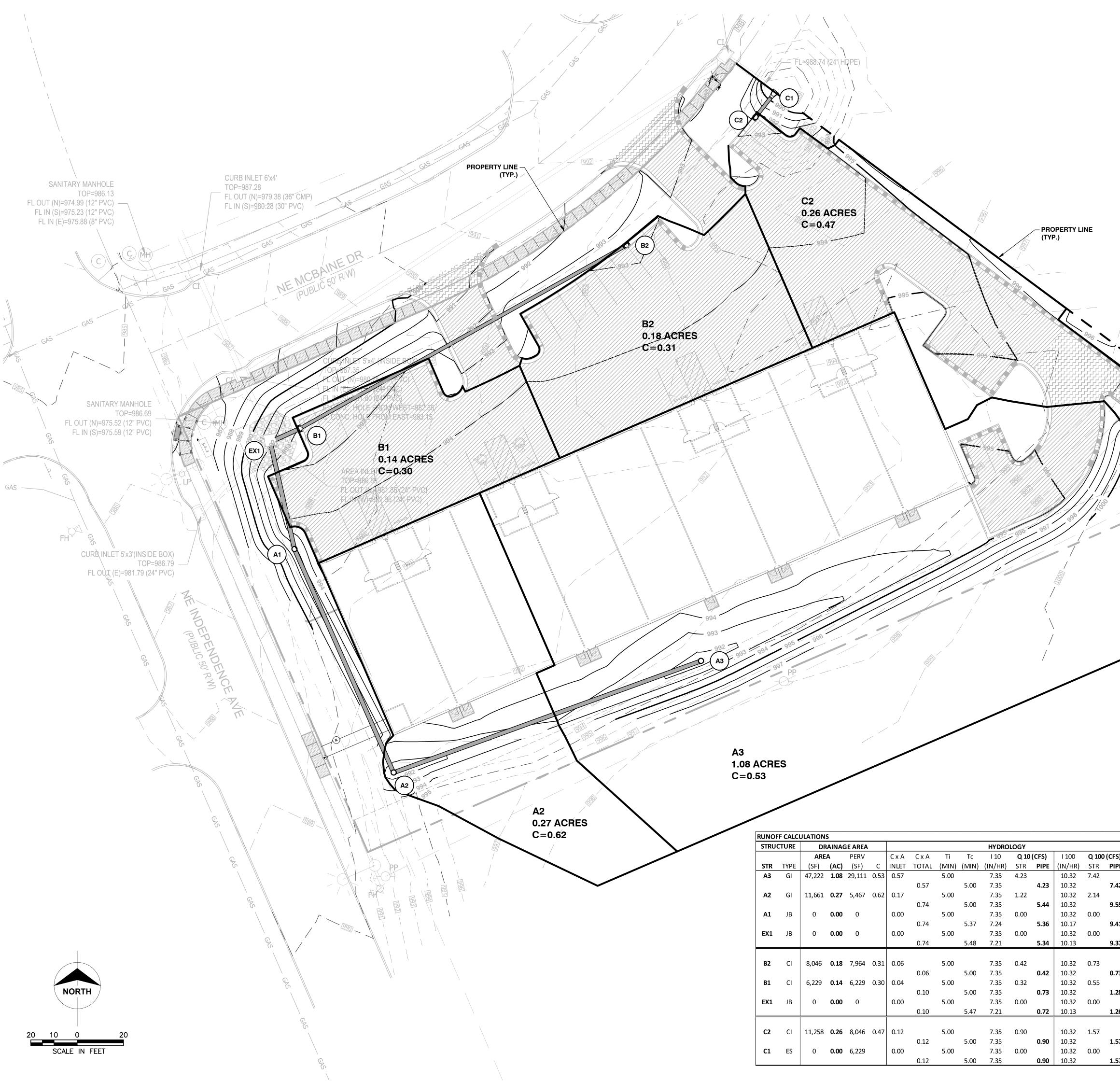




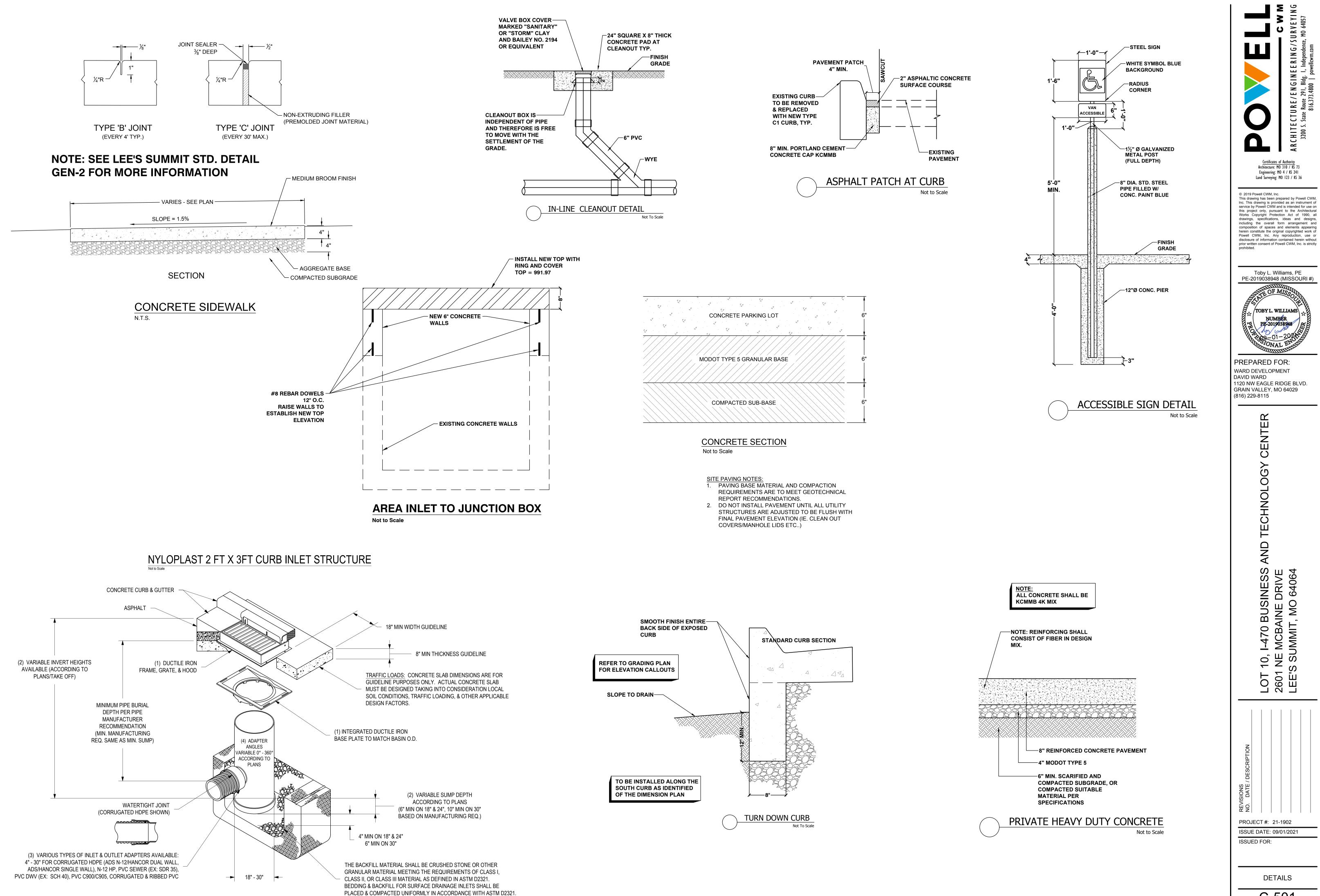
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### NOTE: ALL TOPS FOR NYLOPLAST 2'x3' CURB INLET ARE AT GUTTER

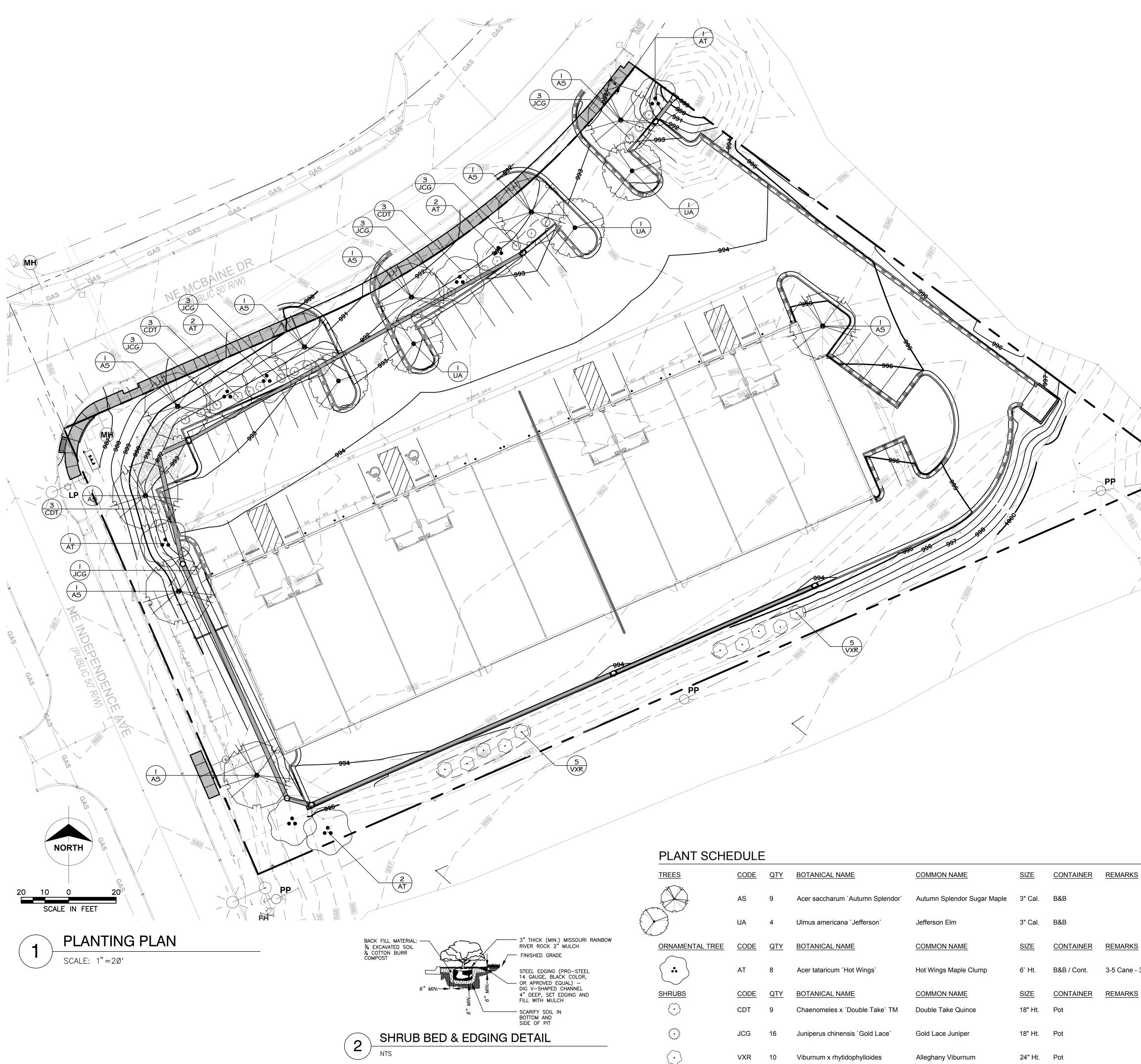




	Independent, No 6400 Long 100 Long 1
PIPE         DIA         TYPE         N         LENGTH         PIPE INVERT         SLOPE         AREA         Qf         Vf         Tt         Q 10         Q 100           PIPE         (IN)          (FT)         UPPER         LOWER         (%)         (SF)         (CFS)         (FPS)         (MIN)         (%)         (%)	
7.42       A3       A2       18       HDPE       0.012       141.1       985.96       984.55       1.00       1.77       11.38       6.44       0.37       100.0%       100.0%	z
<b>9.55</b> A2 A1 18 HDPE 0.012 104.5 984.15 983.10 1.00 1.77 11.41 6.45 0.27 100.0% 100.0%	
9.41 A1 EX1 18 HDPE 0.012 44.6 982.70 982.25 1.01 1.77 11.43 6.47 0.11 100.0% 100.0%	
9.37 EX1	REVISIONS NO. DATE
0.73       B2       B1       15       HDPE       0.012       161.6       986.08       984.47       1.00       1.23       6.99       5.69       0.47       100.0%       100.0%         1       D1       EVI       15       HDPE       0.012       161.6       986.08       984.47       1.00       1.23       6.99       5.69       0.47       100.0%       100.0%	PROJECT #: 21-1902
1.28       B1       EX1       15       HDPE       0.012       13.7       984.07       983.93       1.02       1.23       7.07       5.76       0.04       100.0%       100.0%         1.26       EX1       EX1       Image: Comparison of the second	ISSUE DATE: 09/01/2021 ISSUED FOR:
<b>1.57 C2 C1</b> 15 HDPE 0.012 9.4 987.60 987.36 2.54 1.23 <b>11.16</b> 9.09 0.02 100.0% 100.0%	
1.57       C2       C1       15       HDPE       0.012       9.4       987.80       987.36       2.54       1.23       11.16       9.09       0.02       100.0%         1.57       C1	DRAINAGE AREA MAP
	U-42 I



C-501



	PLANT SCHE	EDULE						
	TREES	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	CONTAINER	REMAR
		AS	9	Acer saccharum `Autumn Splendor`	Autumn Splendor Sugar Maple	3" Cal.	B&B	
		UA	4	Ulmus americana `Jefferson`	Jefferson Elm	3" Cal.	B&B	
(MIN.) MISSOURI RAINBOW CK 2" MULCH GRADE	ORNAMENTAL TREE	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	<u>SIZE</u>	CONTAINER	REMAR
GING (PRO-STEEL , BLACK COLOR, /ED EQUAL) –		AT	8	Acer tataricum `Hot Wings`	Hot Wings Maple Clump	6` Ht.	B&B / Cont.	3-5 Cane
APED CHAŃNEL SET EDGING AND MULCH	SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	REMAR
SOIL IN ND PIT		CDT	9	Chaenomeles x `Double Take` TM	Double Take Quince	18" Ht.	Pot	
L	3-0-E	JCG	16	Juniperus chinensis `Gold Lace`	Gold Lace Juniper	18" Ht.	Pot	
	$\bigcirc$	VXR	10	Viburnum x rhytidophylloides	Alleghany Viburnum	24" Ht.	Pot	

### LANDSCAPE PLAN NOTES:

1. Existing underground (u/g), overhead (o.h.) utilities and drainage structures have been plotted from available information and therefore, their locations must be considered approximate only. It is the responsibility of the individual contractors to verify existence and location of all utilities before starting any work.

2. Prior to commencement of work, the contractor shall give 48 hours advance notice to all those companies/utilities which have facilities in the near vicinity of the construction to be performed.

3. Contractor shall verify all landscape material quantities and shall report any discrepancies immediately to the Landscape Architect. 4. No substitutions for variety or cultivar shall be accepted without first obtaining written approval from Landscape Architect.

5. All plant material shall be of excellent quality, free of disease and infestation, and true to type, variety, size specified, and form per the American Standard for Nursery Stock (ANSI Z60.1 current version), published by the American Nurserymen's Association. 6. All shrub beds in lawn areas shall be edged as shown in the planting details.

7. All planting areas, as well as a minimum width of 18" from building foundation, shall receive 3" minimum depth of 2" Kansas River Rock as detailed, unless otherwise noted. In landscape beds, rock mulch shall be a consistent 3" depth throughout. Rock mulch shall be placed on top of woven weed fabric (DeWitt Pro-5, or equal), which shall be secured in place with sod pins.

8. Trees planted in turf areas shall have a 3" ring of shredded hardwood mulch formed into a saucer in a minimum ring twice the diameter of the rootball from the trunk.

9. Contractor shall thoroughly water in each plant immediately following installation.

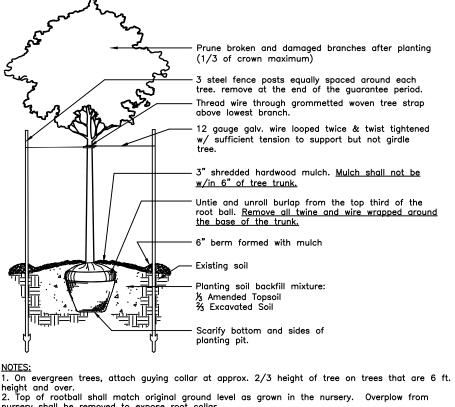
10. No plantings shall be placed closer than 4' from the back of curb to allow for vehicle bumper overhang.

11. Contractor shall be responsible for calculating all areas of sod and seed and the amounts of each needed for optimum coverage. 12. Contractor shall install sod in all turf areas. Sod shall be

turf-type tall Fescue consisting of 90% fescue blend and 10% bluegrass in all areas disturbed during construction not otherwise designated as another material. Sod placed in areas greater than 4:1 slope shall fastened to the slope with sod staples.

13. Proposed trees shall not be placed over existing or proposed utility service lines. It is the contractor's responsibility to understand utility locations and have them marked during tree planting operations. If utility is damaged during planting, contractor is responsible for notifying the general contractor and owner of utility and paying for repair of the damaged utility.

14. A fully automated irrigation system will be supplied for this project by the Contractor. Design shall be provided and approved by the landscape architect prior to ordering materials or installing any aspect of the irrigation system. General contractor shall supply tap location and water pressure to irrigation designer. Tap for irrigation shall be after the main building tap and shall be thru a deduct meter configuration. Irrigation system shall consist of tap, blackflow, smart controller, heads, pipe, valves, wire, flow sensing, weather station, and any other feature to give the most efficient and comprehensive system as deemed necessary by the irrigation designer and landscape architect. System shall cover all areas designated as turf or landscape beds. Turf, trees and shrubs shall all be on separate zones so that they can be watered at different rates. Submit all irrigation plans to the landscape architect for approval. Controller shall be mounted inside a stainless steel, lockable cabinet on exterior of building nearest the mechanical room access door or other utility panels, as agreed by the GC and Landscape Architect.



A bight and over.
2. Top of rootball shall match original ground level as grown in the nursery. Overplow from nursery shall be removed to expose root collar.
3. Do not fertilize the first growing season.
4. Use tree stakes only in open areas, do not use in parking lot islands where space is limited.

DECIDUOUS TREE PLANTING

ane - 3" Cal. Cumulative

3

NTS

RKS



### Chad D. Weinand, PLA, ASLA Landscape Architecture

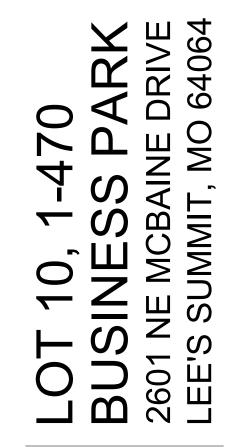
15173 W. 157th Terrace, Olathe, Kansas 66062 913.484.3738 - cweinand74@gmail.com Copyright 2021



Certificates of Authority Architecture: MO 310 / KS 73 Engineering: MO 4 / KS 241 Land Surveying: MO 123 / KS 36

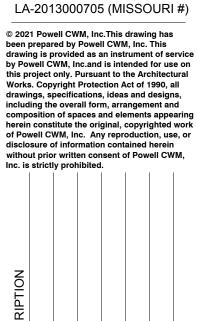
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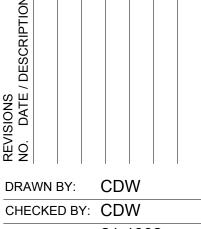
WARD DEVELOPMENT DAVID WARD 1120 NW EAGLE RIDGE BLVD. GRAIN VALLEY, MO 64029 (816) 229-8115





CHAD D. WEINAND, PLA

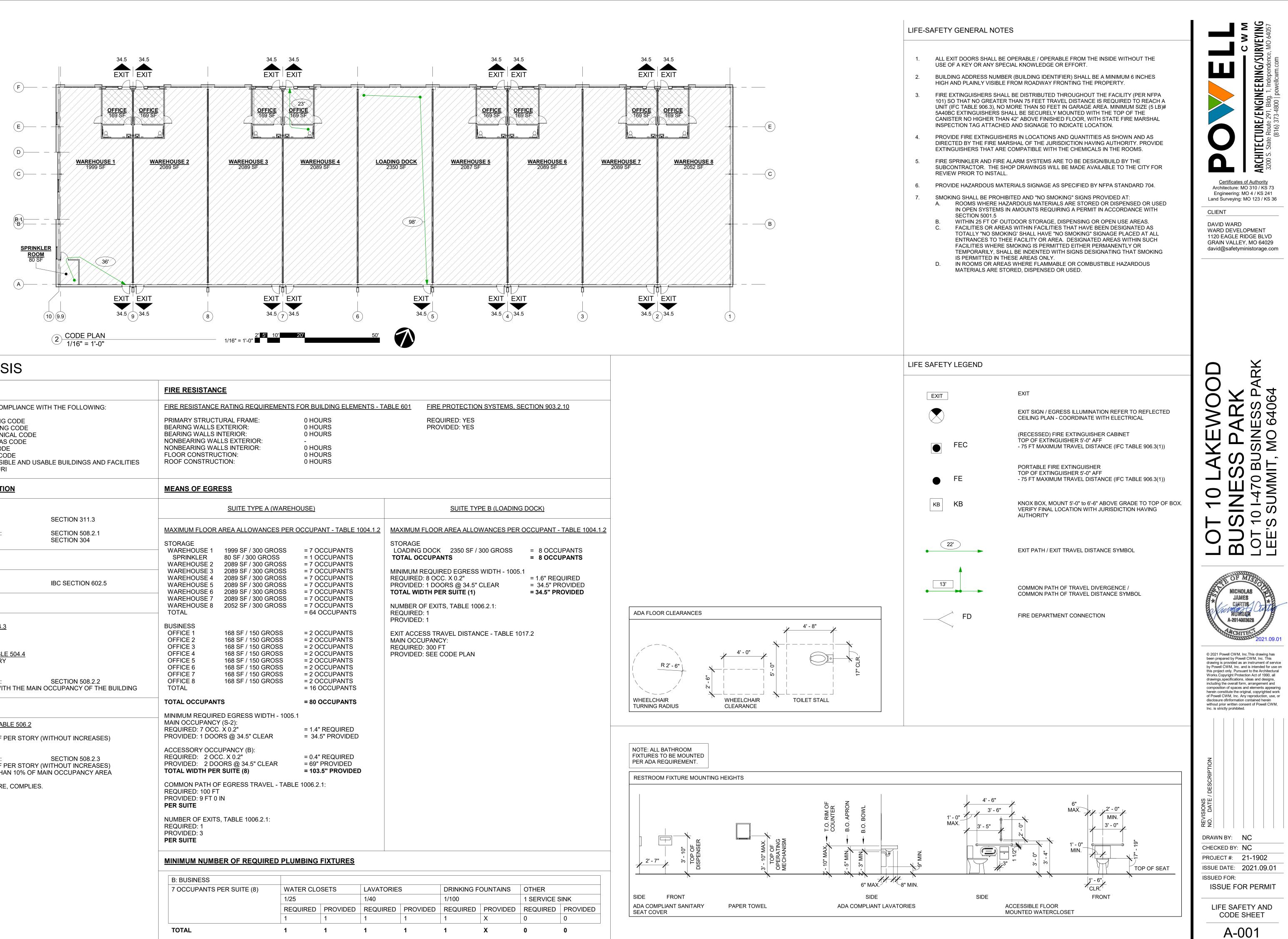




PROJECT #: 21-1902 ISSUE DATE: 8/23/2021 **ISSUED FOR:** CONSTRUCTION

LANDSCAPE PLAN

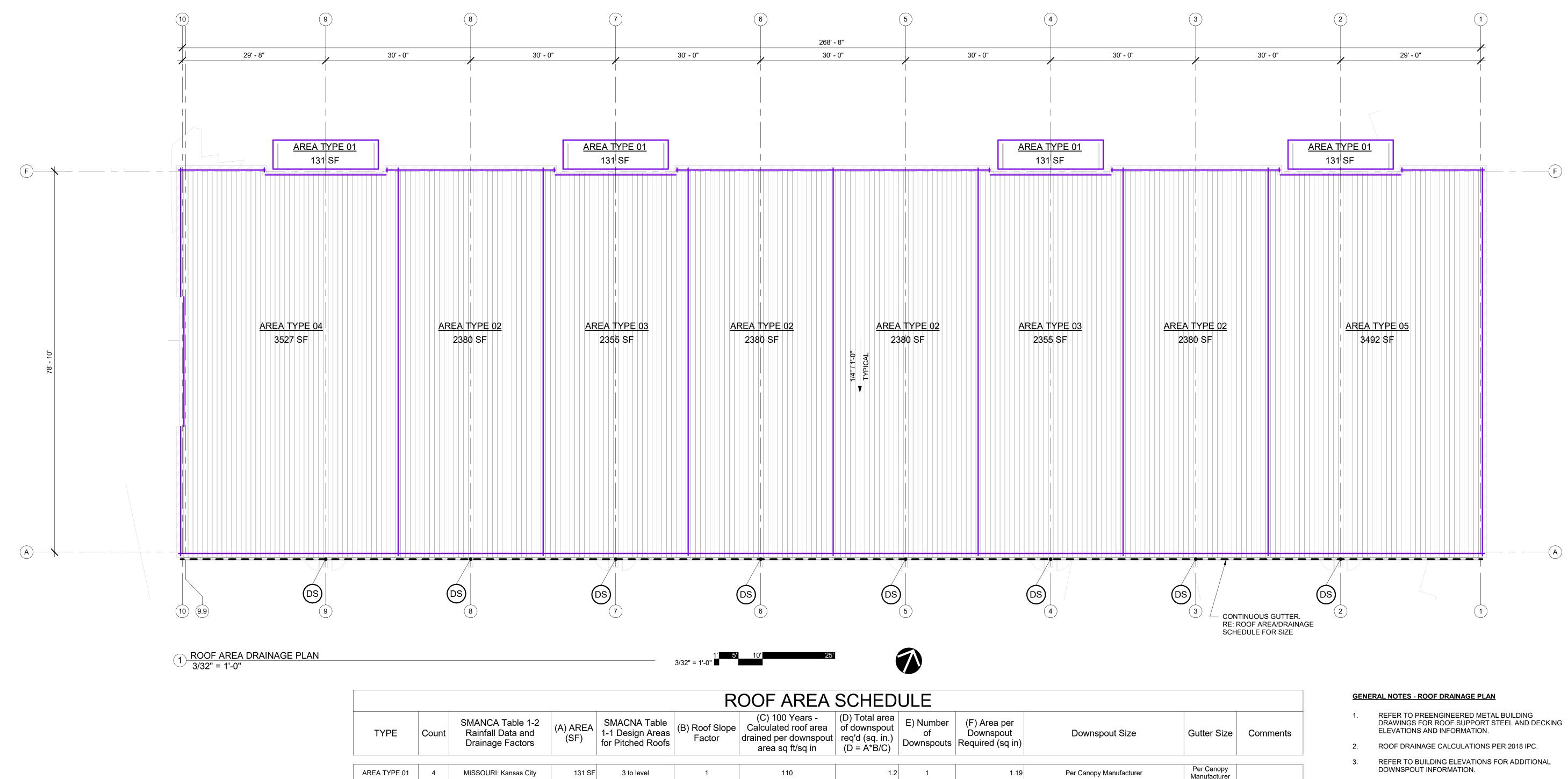
L-100



### CODE ANALYSIS

APPLICABLE CODES     FIRE RESISTANCE       THE REDING SHALL BE IN COMPLIANCE WITH THE FOLLOWING:     FIRE RESISTANCE RATING REQUIREMENTS FOR BULIONIS LEAVE PRIMARY STRUCTURAL THANK:     0 HOURS 0						
Description       Description       Description       Description       Description       Description         Descrescore       <	APPLICABLE CODES		FIRE RESISTAN	CE		
2016 MILENATIONAL PELVANCA. CODE 2019 MILENATIONAL PELVANCA. CODE 2010 MILENATIONA	THE BUILDING SHALL BE IN COMPLIANC	E WITH THE FOLLOWING:	FIRE RESISTANCE	RATING REQUIREM	ENTS FOR BL	ULDING ELEMEN
AMAIN OCCUPANCY (5-2): S-2: STORAGE (LOW-HAZARD STORAGE) SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 SECTION 938.2.1 STORAGE (DPE OF CONSTRUCTION TYPE OF CONSTRUCTION ALLOWABLE HEIGHTS MAIN OCCUPANCY (5-2): BUILDING 1: 100.875.00 GROSS = 7 OCCUPANTS ALLOWABLE HEIGHTS MAIN OCCUPANCY (5-2): BUILDING 1: 100.875.00 GROSS = 7 OCCUPANTS ACTUAL HEIGHT 1: TABLE 501.3 COUPANTS SECTION 602.2.2 SECTION 508.2.2 SECTION 508.2.3 SECTION 50	2018 INTERNATIONAL PLUMBING CODE 2018 INTERNATIONAL MECHANICAL COI 2018 INTERNATIONAL FUEL GAS CODE 2018 INTERNATIONAL FIRE CODE 2017 NATIONAL ELECTRICAL CODE ICC/ANSI A117.1-2009, ACCESSIBLE AND		BEARING WALLS E BEARING WALLS I NONBEARING WA NONBEARING WA FLOOR CONSTRU	EXTERIOR: NTERIOR: LLS EXTERIOR: LLS INTERIOR: CTION:	0 HO 0 HO - 0 HO 0 HO	URS URS URS URS
S-2: STORAGE (LOW-HAZARD STORAGE)       SECTION 311.3         ACCESSORY OCCUPANCY (B): B: BUSINESS       SECTION 508.2.1 SECTION 504.21         TYPE OF CONSTRUCTION Y <sup>4</sup> IBC SECTION 504.21         TYPE OF CONSTRUCTION Y <sup>4</sup> IBC SECTION 502.5         ALLOWABLE HEIGHTS       SECTION 502.5         MAXIMUM FLOOR AREA.ALLOWANCES PER OCCUPANTS SECTION 502.5       = 1 (2002) PARTS = 7 (2002) PART	OCCUPANCY CLASSIFICATION		MEANS OF EGR	ESS		
ACCESSORY OCCUPANCY (B): B: BUBINESS SECTION 304 SECTION 304 SECTI	S-2: STORAGE	SECTION 311.3		<u>SUITE TYPE A (W</u>	AREHOUSE)	
E. BUSINESS         SECTION 304         STOPAGE           TYPE OF CONSTRUCTION         WAREHOUSE 1 1999 SF / 300 GROSS SPRINKLER         7 OCCUPANTS 1 OCCUPANTS WAREHOUSE 2 2093 SF / 300 GROSS 7 OCCUPANTS WAREHOUSE 7 2093 SF / 300 GROSS 7 OCCUPANTS 7 OCCUPANTS			MAXIMUM FLOOR	AREA ALLOWANCES	PER OCCUP	ANT - TABLE 10
Impedication         IBC SECTION 602.5         WAREHOUSE 5         2008 SF / 300 GROSS         = 7 OCCUPANTS           ALLOWABLE HEIGHTS         WAREHOUSE 5         2008 SF / 300 GROSS         = 7 OCCUPANTS         = 7 OCCUPANTS           MIN OCCUPANCY (5-2): MULLOWADE HEIGHT = 60 17 ACTUAL HEIGHT = 22 FF 21N         WAREHOUSE 7         2008 SF / 150 GROSS         = 2 OCCUPANTS           BULDING HEIGHT - 18D LE 504.3 ALLOWADE HEIGHT = 20 FF 7 200 GROSS         = 2 OCCUPANTS         = 64 OCCUPANTS           ALLOWADE HEIGHT = 30 FF 300 GROSS         = 2 OCCUPANTS         = 64 OCCUPANTS         = 64 OCCUPANTS           ALLOWADE HEIGHT = 15 TORY         OFFICE 1         168 SF / 150 GROSS         = 2 OCCUPANTS           ALLOWADE HEIGHT = 15 TORY         SECTION 508.2.2         OFFICE 1         168 SF / 150 GROSS         = 2 OCCUPANTS           ALLOWABLE AREAS         OFFICE 5         168 SF / 150 GROSS         = 2 OCCUPANTS         = 16 OCCUPANTS           ALLOWABLE AREAS         ACCESSORY OCCUPANCY (8):         SECTION 508.2.2         OFFICE 5         168 SF / 150 GROSS         = 2 OCCUPANTS           ALLOWABLE AREAS         ACCESSORY OCCUPANCY (8):         SECTION 508.2.2         OFFICE 5         168 SF / 150 GROSS         = 2 OCCUPANTS           ALLOWABLE AREAS         ACCESSORY OCCUPANCY (8):         = 0.00 CCUPANTS         = 0.00 CCUPANTS         = 0.00 CCUPANTS	B: BUSINESS		WAREHOUSE 1 SPRINKLER WAREHOUSE 2	80 SF / 300 GROSS 2089 SF / 300 GRO	S = 1 C SS = 7 C	OCCUPANTS
ALLOWABLE HEIGHTS       WAREHOUSE & 2622 SF / 300 GROSS       = 7 OCCUPANTS = 64 OCCUPANTS         MAIN OCCUPANCY (5-2): BULIDING HEIGHT - 128 LE 504.3 ALLOWABLE HEIGHT = 80 FT ALLOWABLE AREAS       BUSINESS OFFICE 1       168 SF / 150 GROSS       = 2 OCCUPANTS = 0 OCCUPANTS         BUILDING # 0F STORIES - TABLE 504.4 ALLOWABLE AREAS       OFFICE 1       168 SF / 150 GROSS       = 2 OCCUPANTS = 0 OCCUPANTS         ACTUAL HEIGHT = 1 STORY       SECTION 508.2.2 SHALL BE IN ACCORDANCE WITH THE MAIN OCCUPANCY OF THE BUILDING       OFFICE 1       168 SF / 150 GROSS       = 2 OCCUPANTS = 0 OCCUPANTS         ALLOWABLE AREAS       OFFICE 7       168 SF / 150 GROSS       = 2 OCCUPANTS = 0 OCCUPANTS       = 16 OCCUPANTS = 16 OCCUPANTS         ALLOWABLE AREAS       MINIM OR UNRED EGRESS WIDTH - 1005.1 MINIM OCLOPANCY (6-2): ACTUAL AREA = 25,000 SF PER STORY (WITHOUT INCREASES) ACTUAL AREA = 25,000 SF PER STORY (WITHOUT INCREASES) ACTUAL AREA = 22,677 x . 10 = 2,677 THEREFORE, COMPLIES.       = 1.4" REQUIRED PROVIDED: 2 OCC X 0.2" PROVIDED: 2 OCC X 0.2		IBC SECTION 602.5	WAREHOUSE 4 WAREHOUSE 5	2089 SF / 300 GRO 2089 SF / 300 GRO	SS = 7 C SS = 7 C	OCCUPANTS
BULDING HEIGHT - TABLE 504.3 ALLOWABLE HEIGHT = 60 FT ACTUAL HEIGHT = 22 FT 2 IN       BUSINESS OFFICE 1       168 SF / 150 GROSS = 2 OCCUPANTS OFFICE 2       168 SF / 150 GROSS = 2 OCCUPANTS OFFICE 1       20 CCUPANTS 0 STORY         BULDING # 0 F STORIES - TABLE 504.4 ALLOWABLE HEIGHT = 1 STORY       0 FFICE 1       168 SF / 150 GROSS = 2 OCCUPANTS 0 FFICE 4       20 CCUPANTS 0 SFICE 2       20 CCUPANTS 0 FFICE 4       168 SF / 150 GROSS = 2 OCCUPANTS 0 FFICE 4       20 CCUPANTS 0 SFICE	ALLOWABLE HEIGHTS		WAREHOUSE 7 WAREHOUSE 8	2089 SF / 300 GRO	SS = 7 C SS = 7 C	CCUPANTS
ALLOWABLE AREAS       MINIMUM REQUIRED EGRESS WIDTH - 1005.1         MAIN OCCUPANCY (5-2):       MAIN OCCUPANCY (5-2):         ALLOWABLE AREA = 36.000 SF PER STORY (WITHOUT INCREASES)       REQUIRED: 7 OCC. X 0.2"       = 1.4" REQUIRED         ACCESSORY OCCUPANCY (B):       SECTION 508.2.3         ALCOWABLE AREA = 36.000 SF PER STORY (WITHOUT INCREASES)       ACCESSORY OCCUPANCY (B):       = 0.4" REQUIRED         SHALL NOT OCCUPY MORE THAN 10% OF MAIN OCCUPANCY AREA       ACCESSORY OCCUPANCY (B):       = 0.4" REQUIRED         SHALL NOT OCCUPY MORE THAN 10% OF MAIN OCCUPANCY AREA       ACCESSORY OCCUPANCY (B):       = 0.4" REQUIRED         SHALL NOT OCCUPY MORE THAN 10% OF MAIN OCCUPANCY AREA       ACCESSORY OCCUPANCY (B):       = 0.4" REQUIRED         22,677 x .10 = 2,677 THEREFORE, COMPLIES.       COMMON PATH OF EGRESS TRAVEL - TABLE 1006.2.1:       REQUIRED 100 FT         PROVIDED : 1       PROVIDED : 1       PROVIDED: 3       PROVIDED: 3         PROVIDED : 1       PROVIDED : 1       PROVIDED: 3       PROVIDED: 3         PROVIDED : 1       PROVIDED : 1       PROVIDED: 3       PROVIDED: 3         PROVIDED : 1       PROVIDED : 1       PROVIDED: 3       PROVIDED: 3         PROVIDED : 1       PROVIDED : 1       PROVIDED: 3       PROVIDED: 3         PROVIDED : 1       PROVIDED : 1       1       1         PROVI	BUILDING HEIGHT - TABLE 504.3 ALLOWABLE HEIGHT = 60 FT ACTUAL HEIGHT = 22 FT 2 IN BUILDING # OF STORIES - TABLE 504.4 ALLOWABLE HEIGHT = 3 STORY ACTUAL HEIGHT = 1 STORY ACCESSORY OCCUPANCY (B):		OFFICE 1 OFFICE 2 OFFICE 3 OFFICE 4 OFFICE 5 OFFICE 6 OFFICE 7 OFFICE 8	168 SF / 150 GROS 168 SF / 150 GROS	$\begin{array}{rcl} SS & = 2 \\ SS$	OCCUPANTS OCCUPANTS OCCUPANTS OCCUPANTS OCCUPANTS OCCUPANTS OCCUPANTS
ALLOWABLE FLOOR AREA - TABLE 506.2         MAIN OCCUPANCY (S-2):         MAIN OCCUPANCY (S-2):         ALLOWABLE AREA = 54,000 SF PER STORY (WITHOUT INCREASES)         ACTUAL AREA = 22,677 SF         ACCESSORY OCCUPANCY (B):       SECTION 508.2.3         ALLOWABLE AREA = 30,000 SF PER STORY (WITHOUT INCREASES)         SHALL NOT OCCUPY MORE THAN 10% OF MAIN OCCUPANCY AREA         ACTUAL AREA = 1,344 SF         22,677 x.10 = 2,677 THEREFORE, COMPLIES.         COMMON PATH OF EGRESS TRAVEL - TABLE 1006.2.1:         REQUIRED: 100 FT         PROVIDED: 3         PER SUITE         NUMBER OF EXITS, TABLE 1006.2.1:         REQUIRED: 100 FT         PROVIDED: 3         PER SUITE         MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES         B: BUSINESS         7 OCCUPANTS PER SUITE (8)	ALLOWABLE AREAS					OCCUPANTS
ACCESSORY OCCUPANCY (B): ACCESSORY OCCUPANCY (B): ALLOWABLE AREA = 36,000 SF PER STORY (WITHOUT INCREASES) SHALL NOT OCCUPY MORE THAN 10% OF MAIN OCCUPANCY AREA ACTUAL AREA = 1,344 SF 22,677 x .10 = 2,677 THEREFORE, COMPLIES. COMMON PATH OF EGRESS TRAVEL - TABLE 1006.2.1: REQUIRED: 100 FT PROVIDED: 9 FT 0 IN PER SUITE NUMBER OF EXITS, TABLE 1006.2.1: REQUIRED: 1 PROVIDED: 3 PER SUITE MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES B: BUSINESS 7 OCCUPANTS PER SUITE (8) WATER CLOSETS 1/25 REQUIRED PROVIDED 1 1	MAIN OCCUPANCY (S-2): ALLOWABLE AREA = 54,000 SF PER STC	_	MAIN OCCUPANC REQUIRED: 7 OCC	Y (S-2): 2. X 0.2"	= 1.4	
22,677 x .10 = 2,677 THEREFORE, COMPLIES. 22,677 x .10 = 2,677 THEREFORE, COMPLIES. COMMON PATH OF EGRESS TRAVEL - TABLE 1006.2.1: REQUIRED: 100 FT PROVIDED: 9 FT 0 IN PER SUITE NUMBER OF EXITS, TABLE 1006.2.1: REQUIRED: 1 PROVIDED: 3 PER SUITE MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES B: BUSINESS T OCCUPANTS PER SUITE (8) WATER CLOSETS 1/25 REQUIRED PROVIDED 1 1	ACCESSORY OCCUPANCY (B): ALLOWABLE AREA = 36,000 SF PER STC SHALL NOT OCCUPY MORE THAN 10% (	ORY (WITHOUT INCREASES)	REQUIRED: 2 OC PROVIDED: 2 DC	C. X 0.2" ` ORS @ 34.5" CLEAR	= 69"	PROVIDED
REQUIRED: 1 PROVIDED: 3 PER SUITE         MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES         B: BUSINESS         7 OCCUPANTS PER SUITE (8)         WATER CLOSETS         1/25         REQUIRED         REQUIRED         1		LIES.	REQUIRED: 100 FT PROVIDED: 9 FT 0	Г	TABLE 1006.2	2.1:
B: BUSINESS       WATER CLOSETS         7 OCCUPANTS PER SUITE (8)       WATER CLOSETS         1/25       REQUIRED       PROVIDED         1       1			REQUIRED: 1 PROVIDED: 3	S, TABLE 1006.2.1:		
7 OCCUPANTS PER SUITE (8)         WATER CLOSETS           1/25         REQUIRED         PROVIDED           1         1         1			MINIMUM NUME	ER OF REQUIRED	PLUMBING	FIXTURES
1/25REQUIREDPROVIDED11						
REQUIREDPROVIDED11				PER SUILE (8)		JSEIS
						PROVIDED
					1	1

TOTAL



ROOF AREA SCHEDULE												
TYPE	Count	SMANCA Table 1-2 Rainfall Data and Drainage Factors	(A) AREA (SF)	SMACNA Table 1-1 Design Areas for Pitched Roofs	(B) Roof Slope Factor	(C) 100 Years - Calculated roof area drained per downspout area sq ft/sq in	(D) Total area of downspout req'd (sq. in.) (D = A*B/C)	e) Number of	(F) Area per Downspout Required (sq in)	Downspout Size	Gutter Size	Comments
AREA TYPE 01	4	MISSOURI: Kansas City	131 SF	3 to level	1	110	1.2	1	1.19	Per Canopy Manufacturer	Per Canopy Manufacturer	
AREA TYPE 02	4	MISSOURI: Kansas City	2,380 SF	3 to level	1	110	21.6	2	10.82	Rectangular Corrugated, Nominal 5" Downspout (3.75x5" = 18.75") Net Area "A" = 16.63 sq in	5"W x 7.5"D	
AREA TYPE 03	2	MISSOURI: Kansas City	2,355 SF	3 to level	1	110	21.4	2	10.70	Rectangular Corrugated, Nominal 5" Downspout (3.75x5" = 18.75") Net Area "A" = 16.63 sq in	5"W x 7.5"D	
AREA TYPE 04	1	MISSOURI: Kansas City	3,527 SF	3 to level	1	110	32.1	2	16.03	Rectangular Corrugated, Nominal 5" Downspout (3.75x5" = 18.75") Net Area "A" = 16.63 sq in	5"W x 7.5"D	
AREA TYPE 05	1	MISSOURI: Kansas City	3,492 SF	3 to level	1	110	31.7	2	15.87	Rectangular Corrugated, Nominal 5" Downspout (3.75x5" = 18.75") Net Area "A" = 16.63 sq in	5"W x 7.5"D	

### ROOF DRAINAGE LEGEND

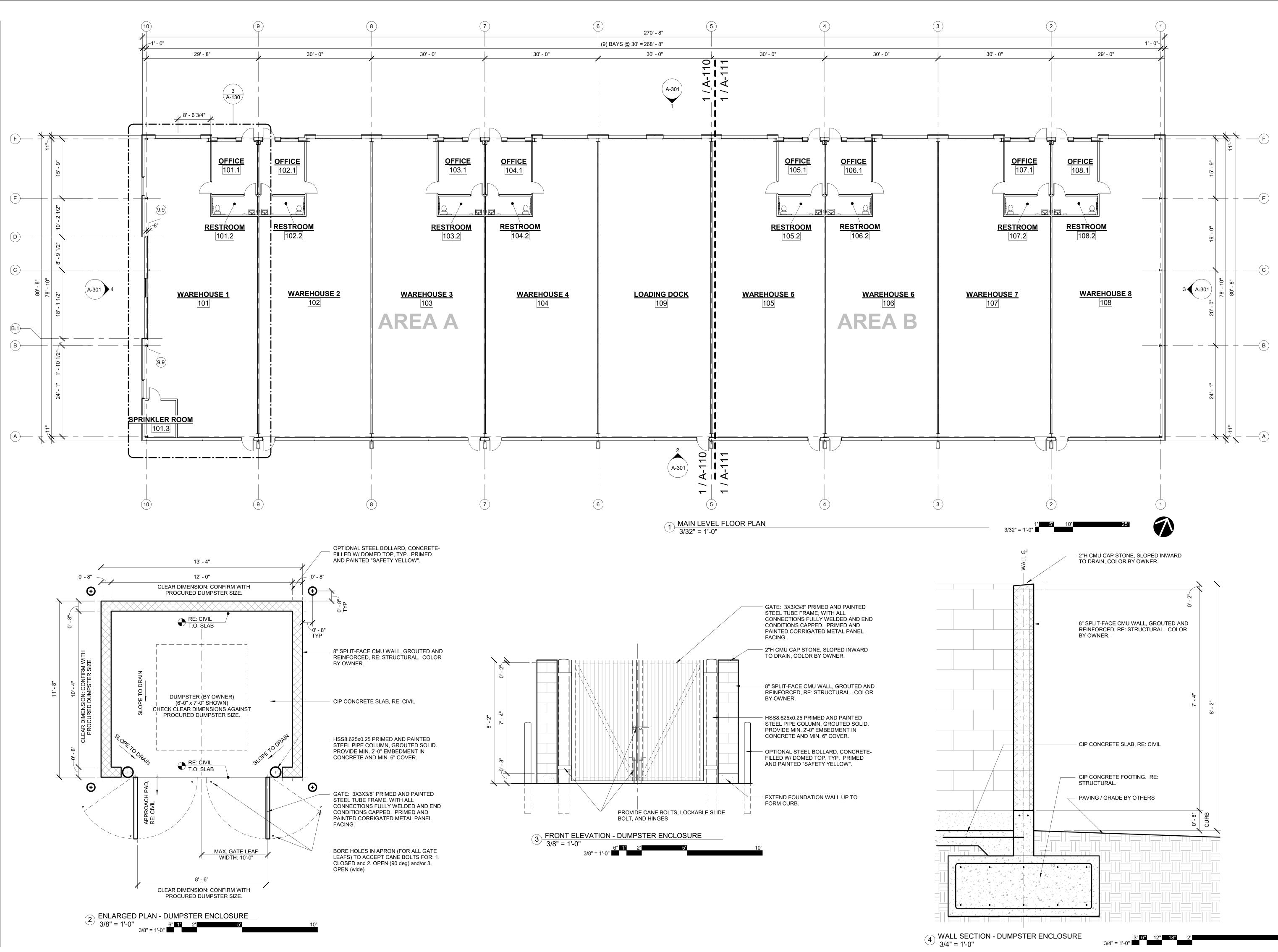


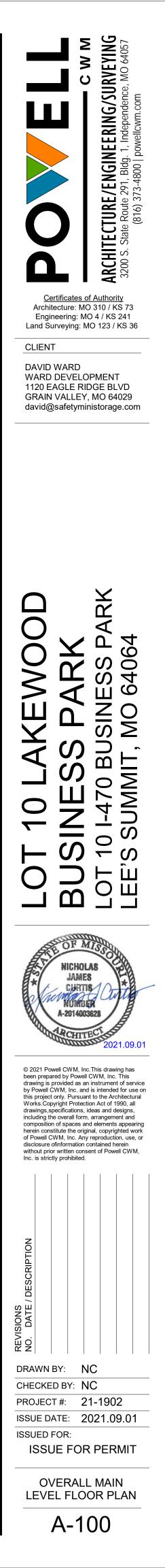
DOWNSPOUT, RE: ROOF AREA/DRAINAGE SCHEDULE FOR STYLE AND SIZE. **— — —** GUTTER

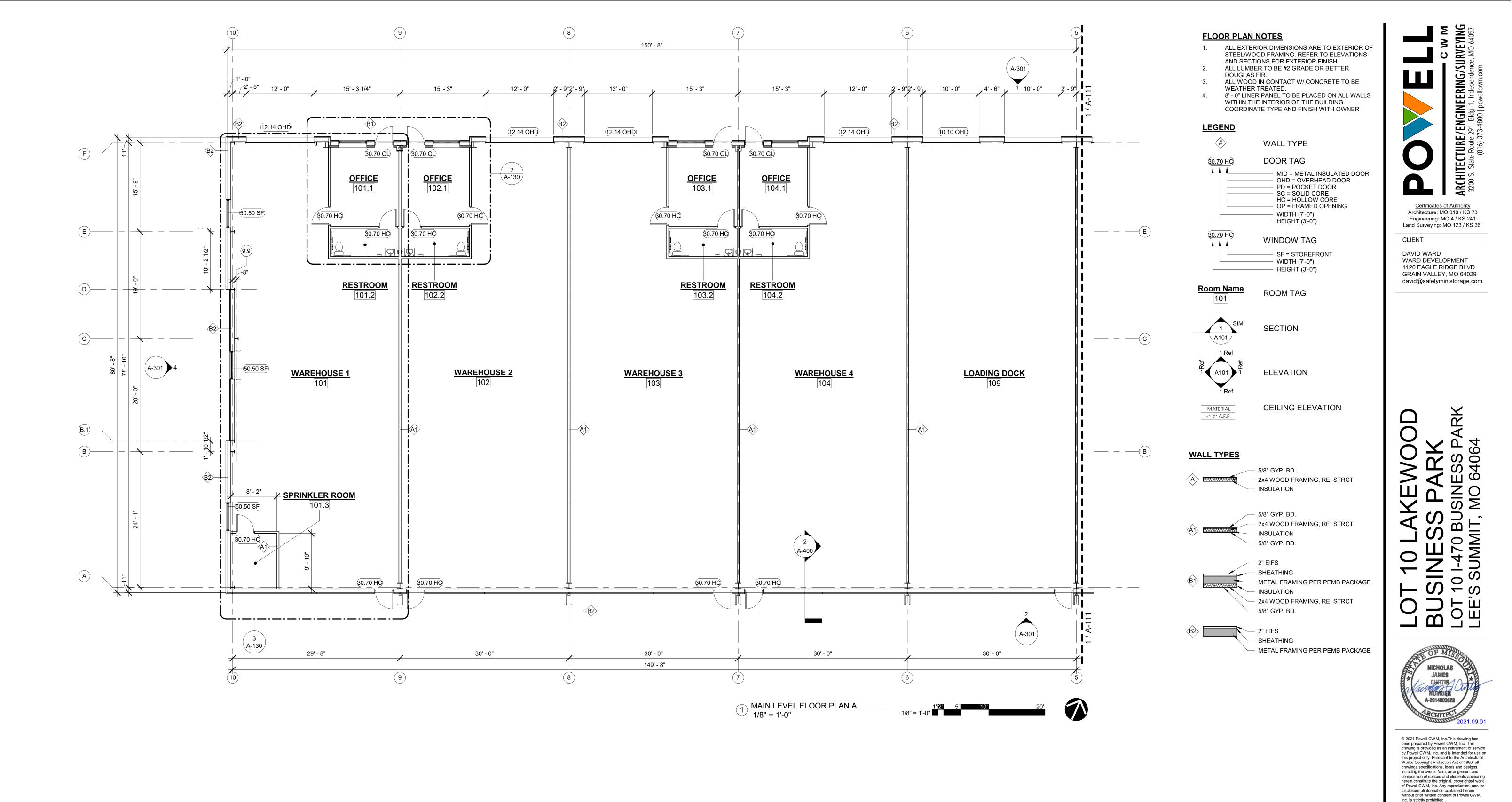
1/4" / 1'-0" SURFACE SLOPE ARROW

AREA BOUNDARY









ISSUE FOR PERMIT MAIN LEVEL FLOOR PLAN - AREA A A-110

/ DE

SIONS DATE

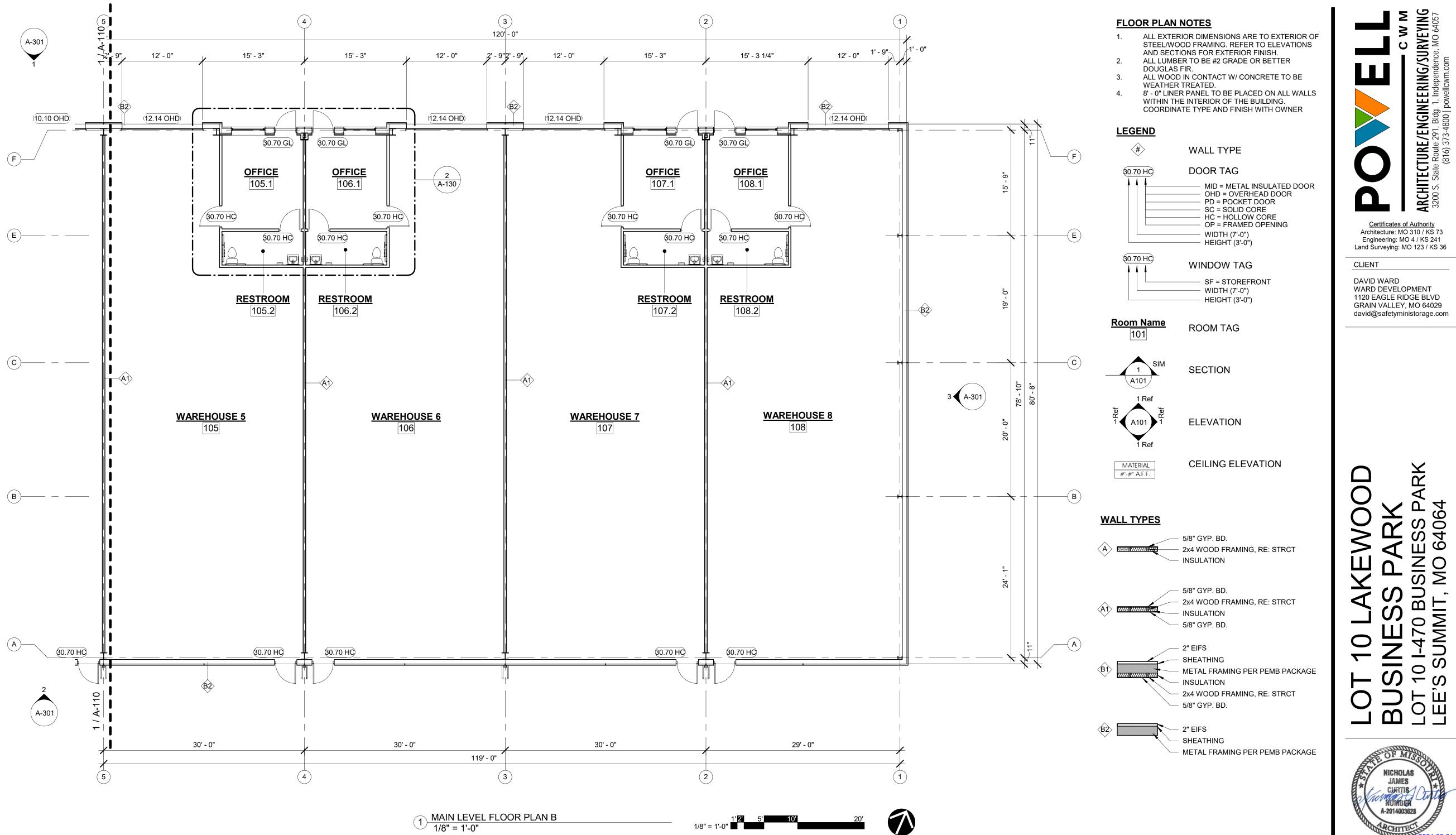
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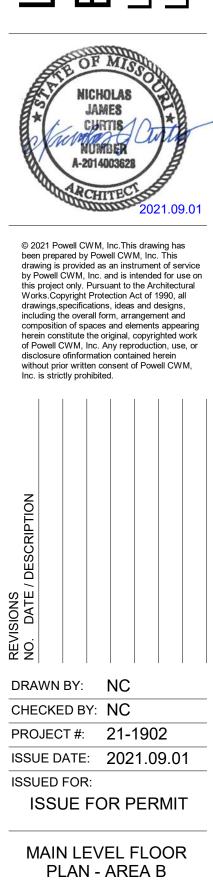
DRAWN BY: NC CHECKED BY: NC

ISSUED FOR:

PROJECT #: 21-1902

ISSUE DATE: 2021.09.01



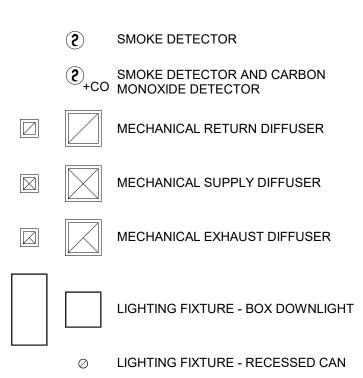


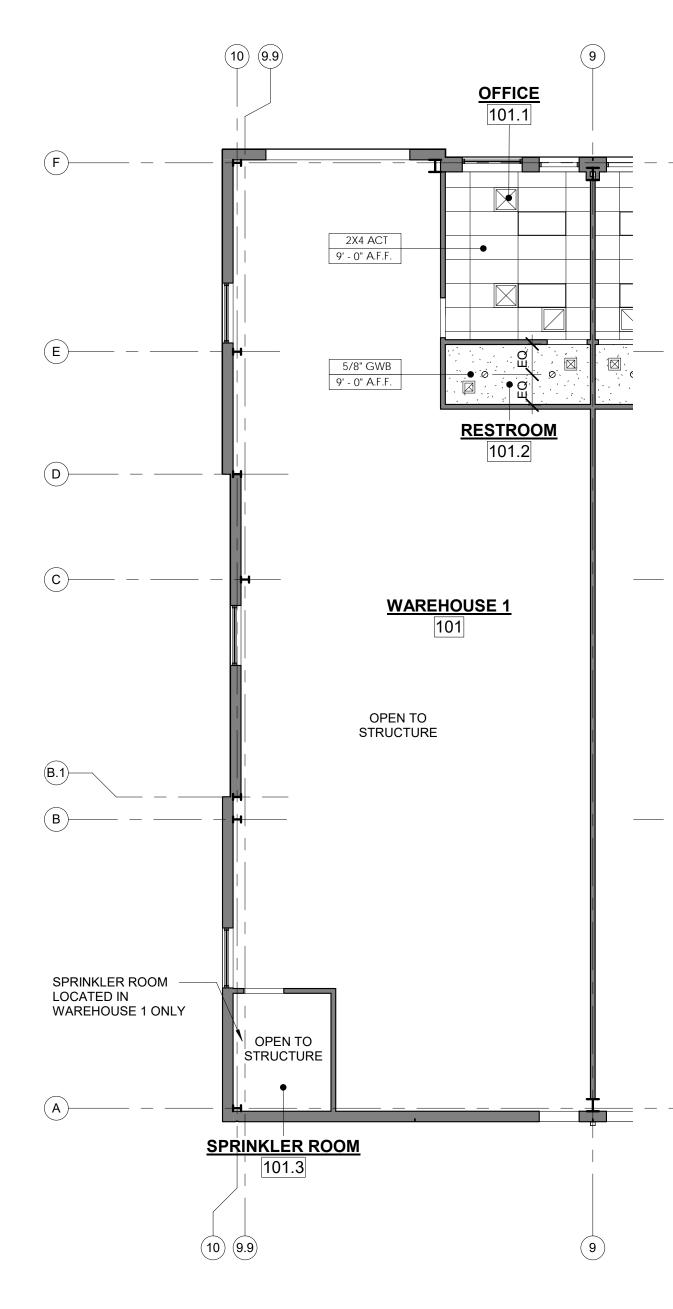
A-111

### **GENERAL NOTES - CEILING PLAN**

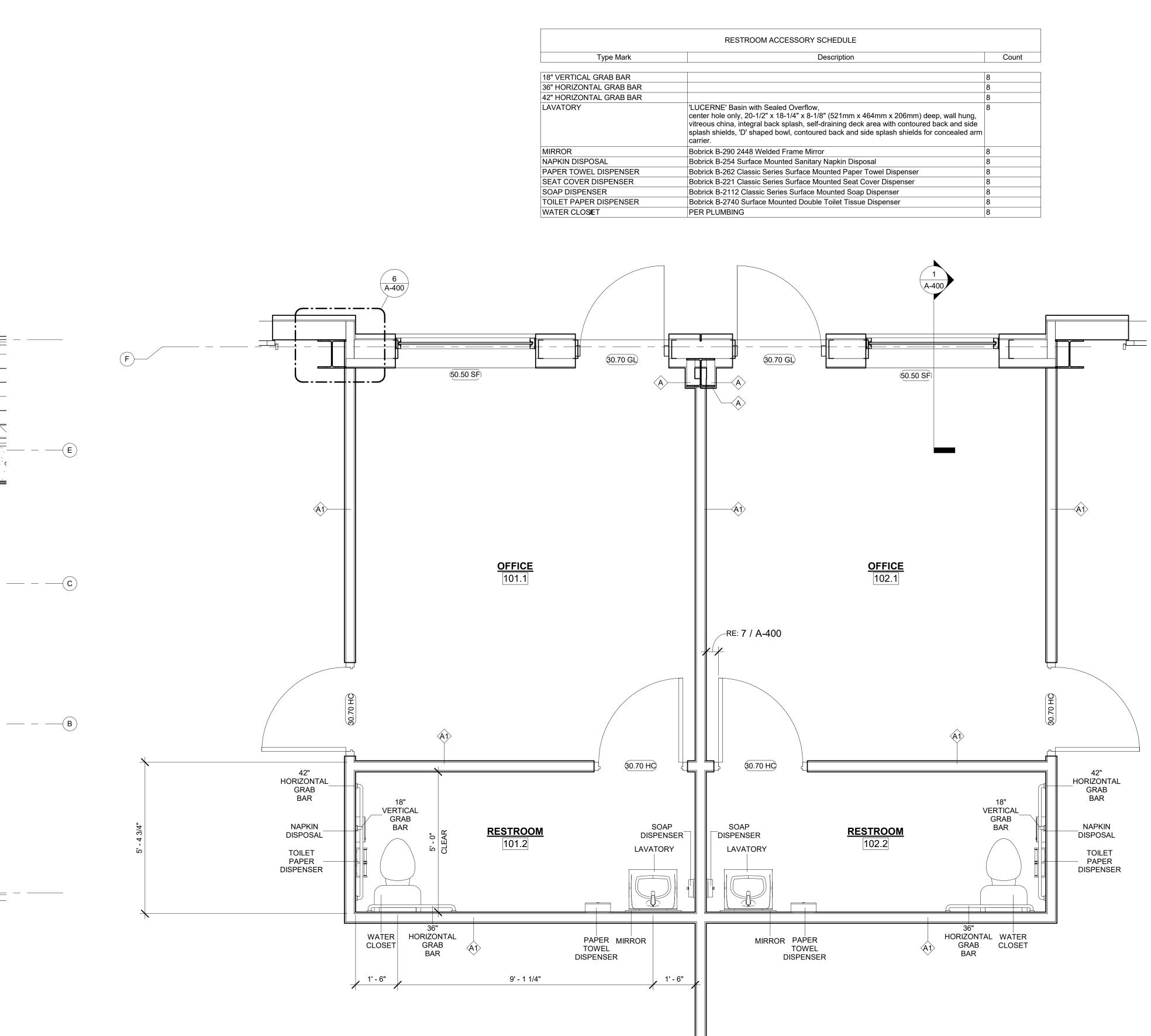
- REFER TO MEP DRAWINGS FOR ALL ADDITIONAL 1. CEILING MOUNTED DEVICES NOT SHOWN ON THIS DRAWING INCLUDING, BUT NOT LIMITED TO, LIGHTING, MECHANICAL REGISTERS, SMOKE DETECTORS, MOTION DETECTORS, EXIT SIGNAGE, HEAT DETECTORS, CAMERAS, COMMUNICATION
- EQUIPMENT, FIRE SPRINKLER HEADS, ETC. ALL EXPOSED STRUCTURAL STEEL SHALL BE PAINTED TO MATCH THE ADJACENT WALL COLOR. THIS INCLUDES, BUT IS NOT LIMITED TO STEEL BEAMS, LADDERS, GUARD RAILS, MISC. BRACING,
- ETC. SEE PEMB PACKAGE. CEILING R-VALUES SHALL MAINTAIN R-38. EXTERIOR WALL INSULATION SHALL MAINTAIN R-13 OR BETTER. WALL R-VALUES SHALL BE OF CONSTRUCTION TO EQUAL R-19 TOTAL.

### LEGEND - CEILING PLAN





Type Mark	
18" VERTICAL GRAB BAR	
36" HORIZONTAL GRAB BAR	
42" HORIZONTAL GRAB BAR	
LAVATORY	'LUCERI center ho vitreous splash sl carrier.
MIRROR	Bobrick I
NAPKIN DISPOSAL	Bobrick I
PAPER TOWEL DISPENSER	Bobrick I
SEAT COVER DISPENSER	Bobrick I
SOAP DISPENSER	Bobrick I
TOILET PAPER DISPENSER	Bobrick I
WATER CLOSET	PER PLU



1/2" = 1'-0"

ARCHITECTURE/ENGINEERING/SURVEYING 3200 S. State Route 291, Bldg. 1, Independence, MO 64057 C <u>Certificates of Authority</u> Architecture: MO 310 / KS 73 Engineering: MO 4 / KS 241 Land Surveying: MO 123 / KS 36 CLIENT DAVID WARD WARD DEVELOPMENT 1120 EAGLE RIDGE BLVD GRAIN VALLEY, MO 64029 david@safetyministorage.com M Ω <u>0</u>0  $\geq$ 4 G Ш 0 M SINESS 10 I-470 BU SUMMIT 0  $\overline{}$ v → ОШ Ц NICHOLAS JAMES CURTIS NUMBER A-201400362 © 2021 Powell CWM, Inc. This drawing has been prepared by Powell CWM, Inc. This been prepared by Powell CWM, Inc. This drawing is provided as an instrument of service by Powell CWM, Inc. and is intended for use on this project only. Pursuant to the Architectural Works.Copyright Protection Act of 1990, all drawings,specifications, ideas and designs, including the overall form, arrangement and composition of spaces and elements appearing herein constitute the original, copyrighted work of Powell CWM, Inc. Any reproduction, use, or disclosure ofinformation contained herein disclosure ofinformation contained herein without prior written consent of Powell CWM, Inc. is strictly prohibited.

A-130

ENLARGED PLANS

**ISSUE FOR PERMIT** 

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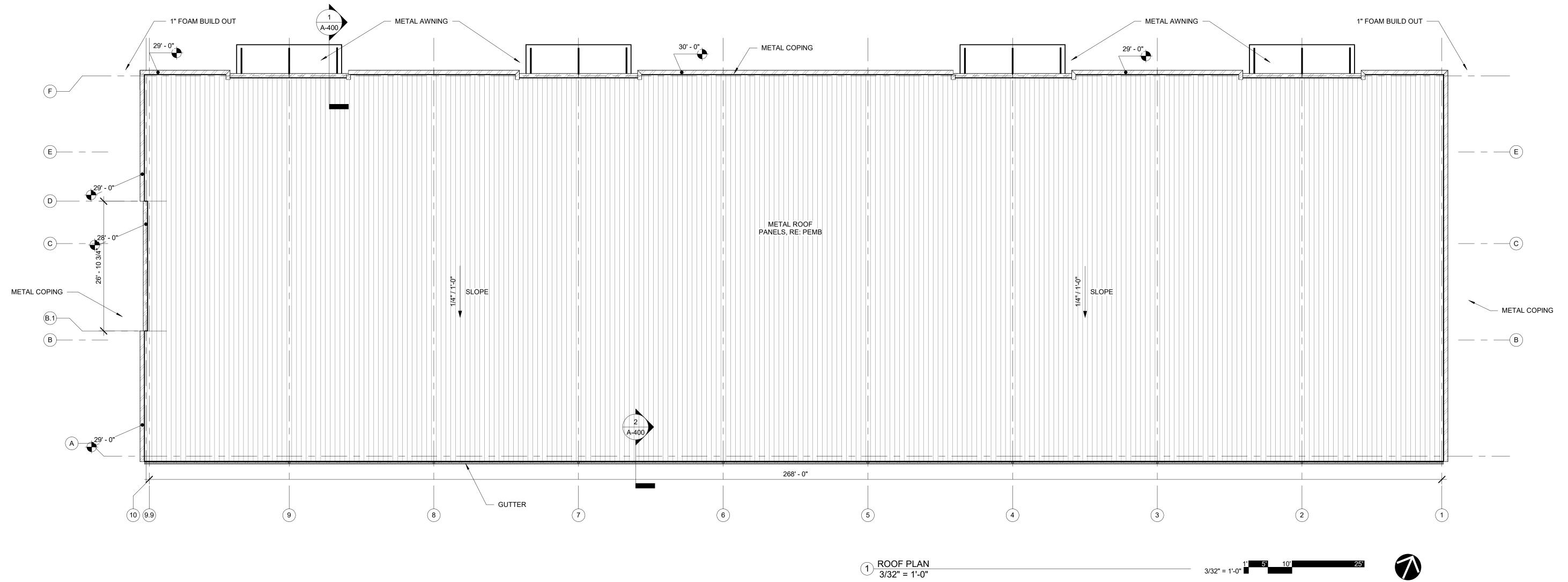
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ISSUED FOR:

PROJECT #: 21-1902

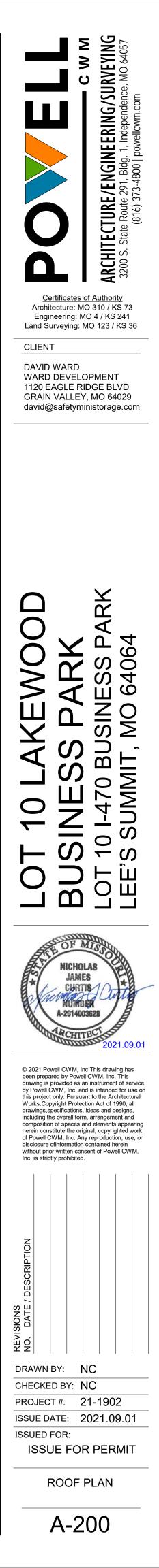
ISSUE DATE: 2021.09.01



1 ROOF PLAN 3/32" = 1'-0"

ROOF GENERAL NOTES

DIMENSIONS ARE FROM PEMB PACKAGE AND ARE 1. SHOWN FOR REFERENCE ONLY. PEMB DRAWINGS WILL OVER-RIDE INFO SHOWN IN ARCH PLANS.



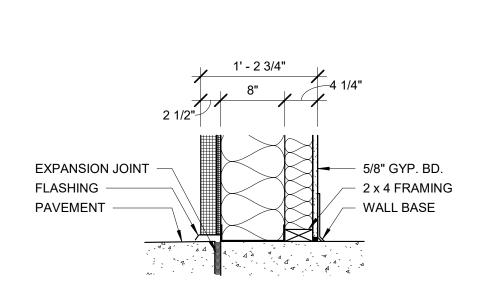


**EXTERIOR ELEVATION GENERAL NOTES** 

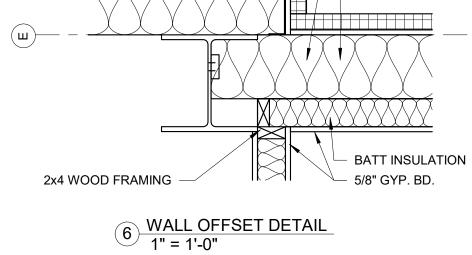
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DIMENSIONS ARE FROM PEMB PACKAGE AND ARE SHOWN FOR REFERENCE ONLY. PEMB DRAWINGS WILL OVER-RIDE INFO SHOWN IN ARCH PLANS.









8" GIRT

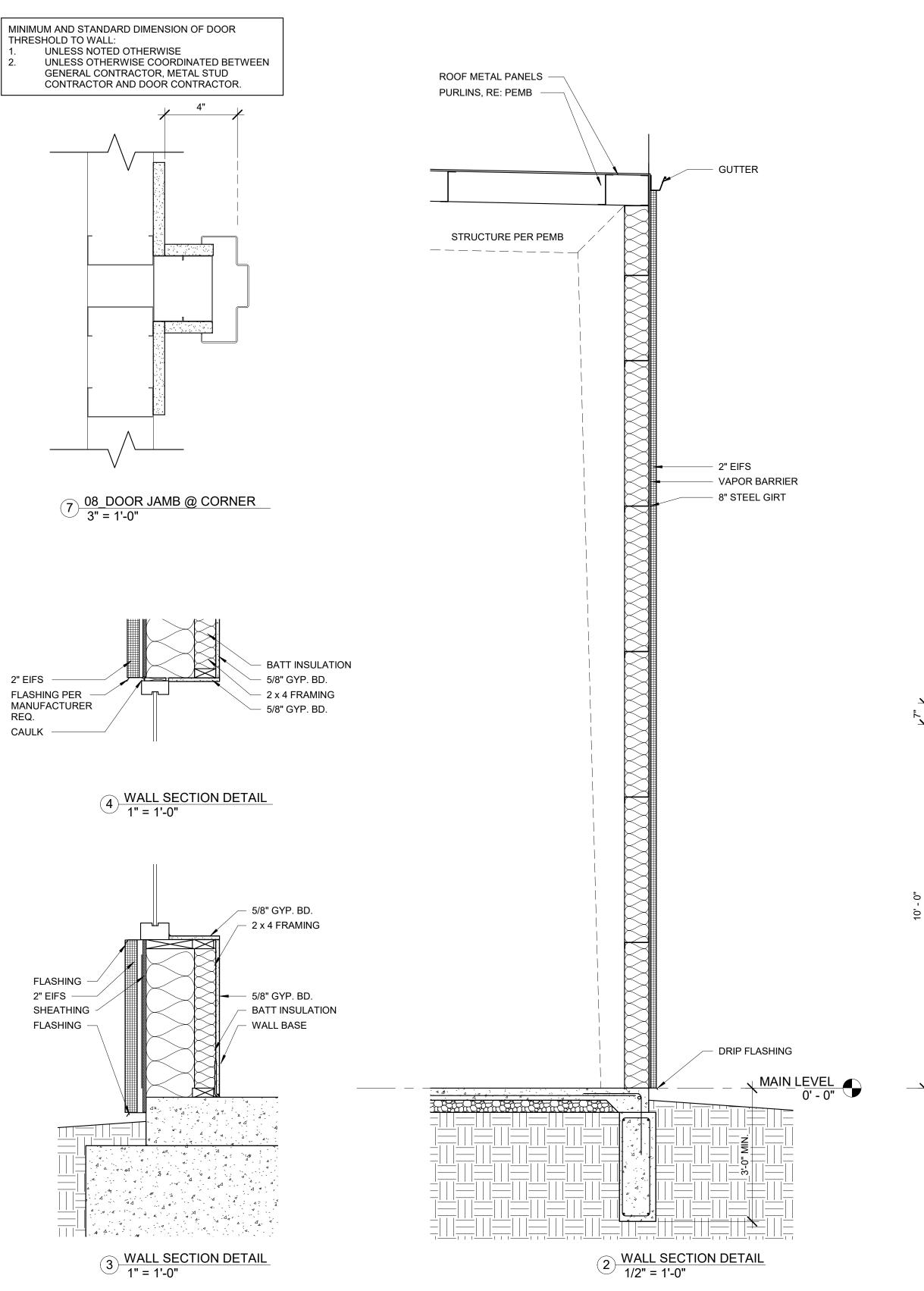
– 2" EIFS

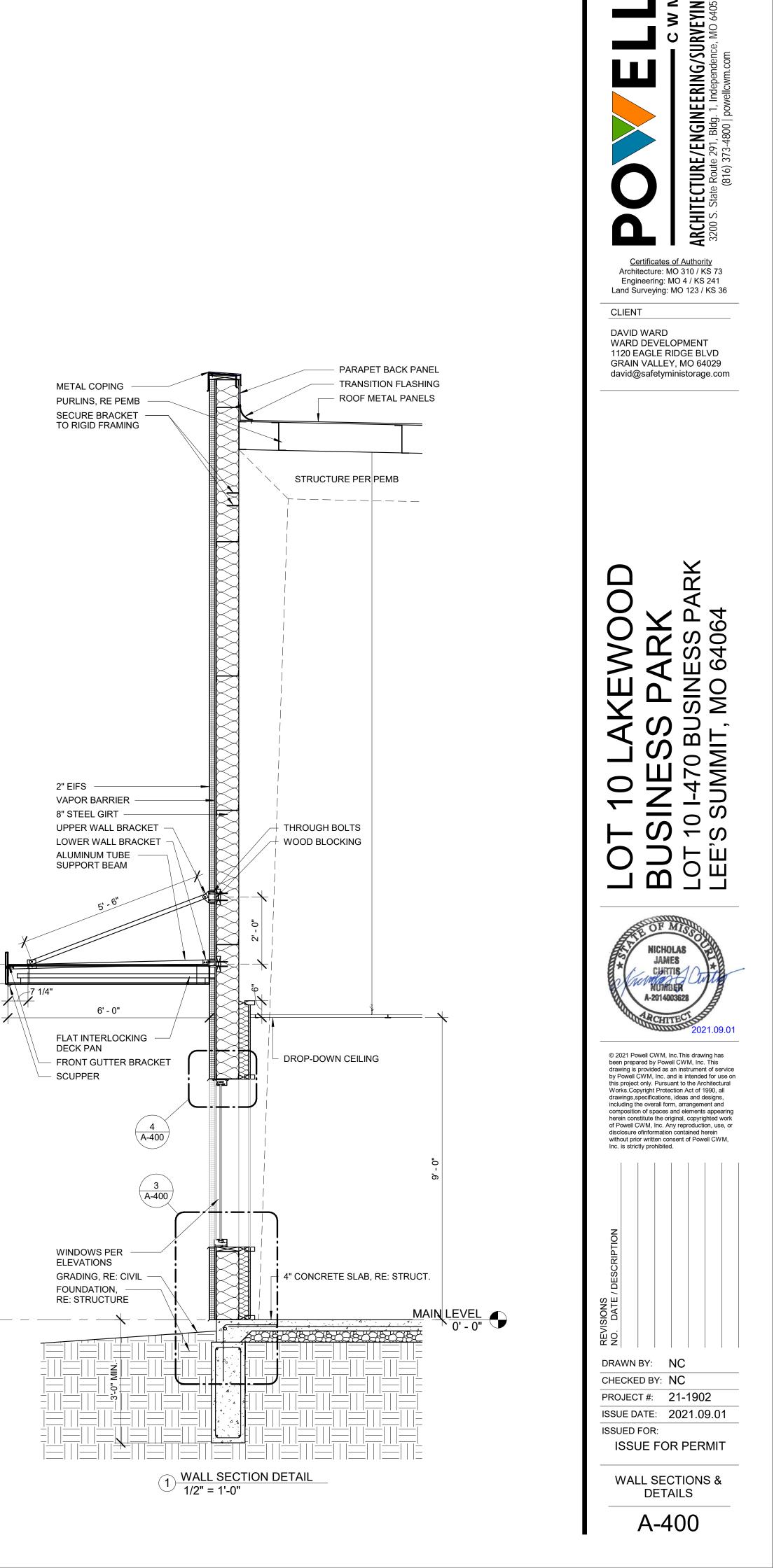
🗆 8" GIRT

- SHEATHING

- BATT INSULATION

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	03_Abbreviation Schedule
Abbreviation	Abbreviation Name
+/- ADDNL	PLUS OR MINUS ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF	ABOVE FINISHED FLOOR
ALT AR	ALTERNATE ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
B/ B/W	BOTTOM OF BETWEEN
BLDG	BUILDING
BLKG BM	BLOCKING BEAM
BOT	BOTTOM
BRG BWP	BEARING BRACED WALL PANEL
CFS	COLD FORMED STEEL
CHKD	CHECKED CAST IN PLACE
CJ	CONTROL JOINT
CJP CL	COMPLETE JOINT PENETRATION CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE CONNECTION
CONT	CONTINUOUS
CTR db	CENTER DIA OF REINF BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
DIA or Ø DIAG	DIAMETER DIAGONAL
DIR	DIRECTION
DWL	DOWEL EACH
EA EE	EACH EXTENDED END
EJ	EXPANSION JOINT
ELEV ENGR	ELEVATION ENGINEER
EOD	EDGE OF DECK
EOS EQ	EDGE OF SLAB EQUAL
EW	EACH WAY
EXIST EXT	EXISTING EXTERIOR
FDN	FOUNDATION
FLG FLR	FLANGE FLOOR
FS	FAR SIDE
FTG FV	FOOTING FIELD VERIFY
GA	GAUGE
GALV GB	GALVANIZED GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ HSA	HORIZONTAL HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
IF INT	INSIDE FACE INTERIOR
JST	JOIST
K LCE	KIPS (1000 LBS) COMPRESSION EMBEDMENT LENGTH
LCS	COMPRESSION LAP SPLICE LENGTH
LLH LLV	LONG LEG HORIZONTAL
LTE	TENSION EMBEDMENT LENGTH
LTS LW	TENSION LAP SLICE LENGTH
MFCR	MANUFACTURER
MTL	METAL NOT IN CONTRACT
NS	NEAR SIDE
NTS OC	NOT TO SCALE ON CENTER
OC	OUTSIDE FACE
OPP OVS	OPPOSITE OVERSIZED
P/C	PRECAST
PAF PAR	POWDER ACTUATED FASTENER PARALLEL
PAR PEMB	PARALLEL PRE-ENGINEERED METAL BUILDING
PEN	
PERP PL	PERPENDICULAR PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB PRELIM	PREFABRICATED PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI RC	POUNDS PER SQUARE INCH REINFORCED CONCRETE
RE:	REFER TO
REINF REQD	REINFORCING REQUIRED
RF	RIGID FRAME
SC SDS	SLIP CRITICAL SELF DRILLING SCREW
SIM	SIMILAR
SLV SOG	SHORT LEG VERTICAL SLAB ON GRADE
SQ	SQUARE
SS STD	STAINLESS STEEL STANDARD
STIR	STIRRUPS
STL SW	STEEL SHEAR WALL
SW SYM	SYMMETRIC
T&B	TOP AND BOTTOM
T/ TRANS	TOP OF TRANSVERSE
TYP	TYPICAL
1.1.10	UNLESS NOTED OTHERWISE
UNO VERT	VERTICAL
VERT W/	WITH
VERT	

### STRUCTURAL DESIGN CRITERIA (2018 IBC AND ASCE 7-16):

- 1. BUILDING OCCUPANCY RISK CATEGORY I
- 2. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]: -- ROOF:..... ...20 PSF / 300#

### 3. ROOF SNOW LOAD:

-- GROUND SNOW LOAD (Pg):. ...20 PSF -- FLAT ROOF SNOW LOAD (Pf): ..16.9 PSF W/ DRIFT -- SNOW EXPOSURE FACTOR (Ce):.....1.0, EXPOSURE C -- SNOW LOAD IMPORTANCE FACTOR (Is):.....1.0 -- THERMAL FACTOR (Ct):...

### 4. WIND DESIGN DATA:

- -- BASIC WIND SPEED (3 SEC GUST):. ..115 MPH -- WIND EXPOSURE ...
- -- DIRECTIONALITY FACTOR (Kd) . ..0.85 -- INTERNAL PRESSURE COEFF:. ...0.18

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION". REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.

2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK

4. THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.

5. FOR DEFERRED SUBMITTALS (EXAMPLES: PRE-ENGINEERED CANOPIES, WOOD TRUSSES, PRECAST CONCRETE ELEMENTS, COLD FORMED FRAMING), SHOP DRAWINGS AND CALCULATIONS SEALED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE JURISDICTION OF THE PROJECT SHALL BE FURNISHED TO THE ENGINEER OF RECORD FOR REIVEW.

6. TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED "S0XX". THE INCLUDED TYPICAL DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS. BUT ARE TO BE USED AS APPLICABLE

### EARTHWORK AND FOUNDATIONS:

1. ALLOWABLE BEARING PRESSURE = 2500 PSF (MUST BE CONFIRMED BY SPECIAL INSPECTION)

2. ALL FOOTINGS SHALL BEAR A MINIMUM DEPTH BELOW GRADE OF 3'-0" ON FIRM NATIVE MATERIALS, COMPACTED OR ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 2,500 PSF. DEEPEN FOOTINGS, AND REMOVE AND REPLACE SOFT SOILS WITH A 3'-0" GRAVEL TRENCH TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.

3. UNDERCUT THE PAD TO A DEPTH OF 18-INCHES BELOW BOTTOM OF FLOOR SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE MATERIALS PER THE GEOTECHNICAL REPORT.

4. FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/ GEOTECHNICAL ENGINEER

5. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.

6. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.

7. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINED RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

### CONCRETE REINFORCING STEEL:

1. SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.

2. ALL MESH SHALL MEET ASTM A-185: LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.

3. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE <sup>3</sup>/<sub>4</sub>" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).

4. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND RIGIDLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.

5. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES: MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES). USE 3" SBP SUPPORTS AT ALL FOOTINGS.

### CAST IN PLACE CONCRETE:

### 1. SUBMIT PROPOSED MIXED DEIGNS OF EACH TYPE FOR REVIEW. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:

a. FOOTING AND GRADEBEAM CONCRETE ... 4000 PSI b. SLAB ON GRADE . ..4000 PSI

A.C.I.. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE LATEST A.C.I. 301 STANDARDS PUBLICATION.

3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6% (PLUS/MINUS 1%) ENTRAINED AIR.

- 4. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.
- 5. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE

6. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE

RESPONSIBILITY OF THE CONTRACTOR

7. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.

8. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 100'-0".

9. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 8 HRS OLD). CLEAN EXISTING SURFACE OF LAITANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/4" AMPLITUDE.

10. SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL REINFORCED WITH 6x6-W2.1xW2.1. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE

11. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYP DETAIL RC-001A.

12. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2' -6" MIN.) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

13. CONTRACTOR SHALL COORDINATE ALL CURING COMPOUNDS WITH FLOOR FINISH REQUIREMENTS TO ENSURE COMPATIBILITY.

14. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TOLERANCES PER AISC REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.

15. AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

### CONCRETE MASONRY UNITS:

BE PER ASTM C270.

2. MASONRY MATERIALS SHALL BE AS FOLLOWS: A. fm = 2,000 PSI MINIMUM. ALL UNITS SHALL BE NORMAL-WEIGHT BLOCK. B. GROUT STRENGTH NOT LESS THAN 2,000 PSI. C. MORTAR TYPE S.

CLEAR FOR PLACMENT OF GROUT.

4. PLACEMENT OF REINFORCEMENT SHALL OCCUR PRIOR TO PLACEMENT OF GROUT.

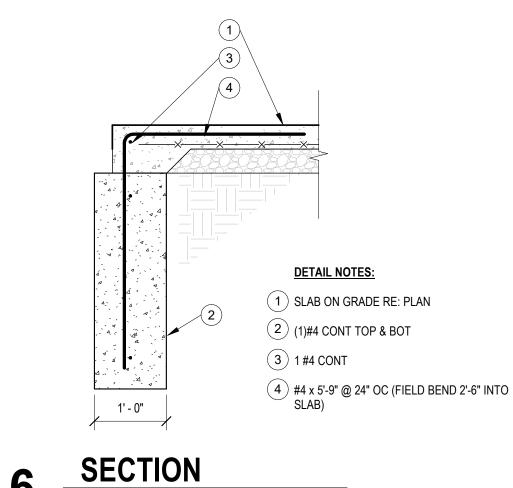
### SPECIAL INSPECTIONS

1. PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS BY A THIRD PARTY MEETING THE REQUIRMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICAL.

2. SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICALS, ARCHITECT, AND/OR ENGINEER

3. SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY, THEY SHAL NOTIFY CONTRACTOR FIRST, AND THEN ARCH/ ENGINEER IMMEDIATELY THEREAFTER IF CORRECTIVE ACTION IS NEEDED

4. SPECIAL INSPECTIONS AS REQUIRED BY CODE: A. CONCRETE: SECTION 1705.3 AND TABLE 1705.3 CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS. TAKE SET OF (3) CYLINDERS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAY'S WORK AND PER MIX. B. EARTHWORK: FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.



### 2. ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52, WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARD AND/OR CONTAIN WATER REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER

### 1. ALL MASONRY SHALL BE IN ACCORDNACE WITH ACI 530/TMS 402. INDIVIDUAL CMU'S SHALL BE PER ASTM C90 (4950 PSI). GROUT SHALL BE PER ASTM C476, MORTAR SHALL

### 3. PROVIDE NOT LESS THAN 9-GAUGE HORIZONTAL LADDER-TYPE REINFORCEENT AT NOT MORE THAN 16" OC VERTICALLY, LAPPED 8" MINIMUM. REBAR POSITIOERS SHALL BE USED FOR ALL VERTICAL BARS SUCH THAT A MINIMUM 3" OF SPACE IS MAINTAINED

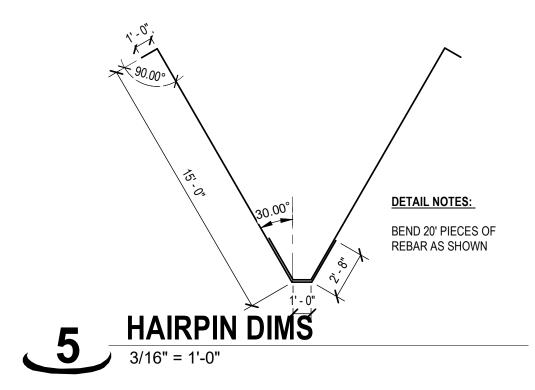
### PRE-ENGINEERED METAL BUILDING:

1. THE FRAMING OF THE PRE-ENGINEERED METAL BUILDINGS IS THE RESPONSIBILITY OF THE OTHER PARTIES AND THEIR ENGINEER OF RECORD, AND NOT PART OF THESE STRUCTURAL DOCUMENTS.

2. ALL BASE REACTIONS ARE ASSUMED TO BE PINNED.

3. METAL BUILDING REACTIONS AND FOUNDATIONS HAVE BEEN ESTIMATED ONLY BASED ON STANDARD METAL BUILDING DETAILING PRACTICES. PRELIMINARY METAL BUILDING REACTIONS AND LAYOUT HAS NOT BEEN PROVIDED. FINAL METAL BUILDING DRAWINGS MUST BE PROVIDED FOR VERIFICATION OF ALL FOUNDATION SIZES AND LOCATIONS. OTHERWISE, ALL DRAWINGS ARE CONSIDERED NULL AND VOID.

	SPECIAL INSPECTION OF SOILS - TABLE 1704.7								
REQ'D	VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC						
Х	1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		Х						
х	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH & HAVE REACHED PROPER MATERIAL		Х						
х	3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		Х						
х	4. VERIFY USE OF PROPER MATERIALS, DESITIES & LIFT THICKNESSES DURING PLACEMENT & COMPACTION OF CONTROLLED FILL	Х							
Х	5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		Х						



### **DETAIL NOTES:**

1) COL AND BASE PLATE, RE: PLAN & COL SCHEDULE

(2) PROVIDE OVERSIZED HOLES IN BASE PLATE AND 1/4" PL WASHER WITH HEAVY HEX NUTS ON ANCHOR RODS. WELD WASHERS TO BASE PLATE 1" MIN ALL 4 SIDES

(3) 1 1/2" MIN NON-SHRINK NON-METALLIC GROUT

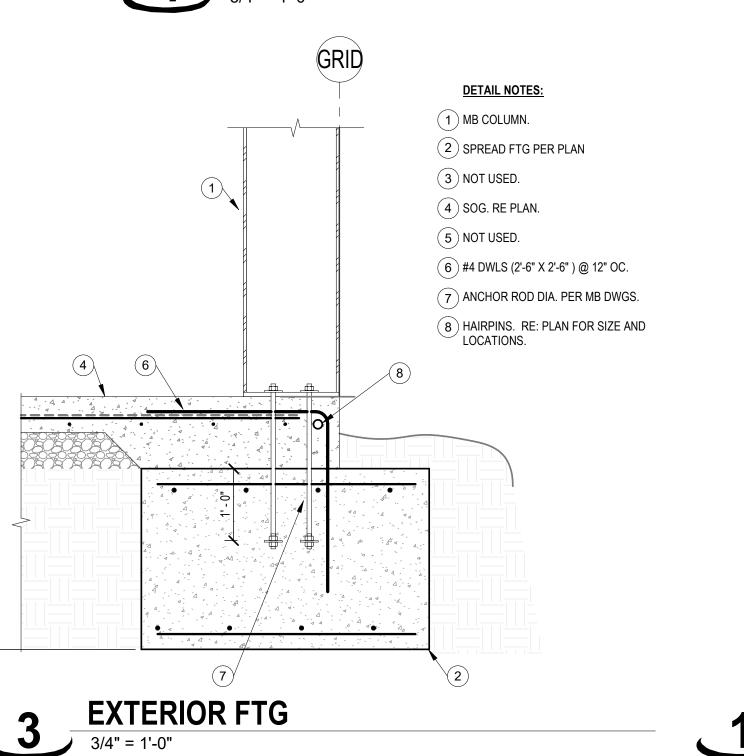
( 4 ) 3" SQ x 1/4" PL WASHER WITH HEAVY HEX NUT. TACK WELD WASHER TO ANCHOR ROD

(5) 3/4"ø ANCHOR ROD. RODS TO EXTEND 1/2" MIN THRU NUTS TOP AND BOT

A. ACCOUNT FOR GROUT THICKNESS WHEN DETERMINING BOTTOM OF BASE PLATE ELEVATION B. ANCHOR RODS SHALL BE F1554 GR. 36 UNO

## **ANCHOR ROD**

(2)

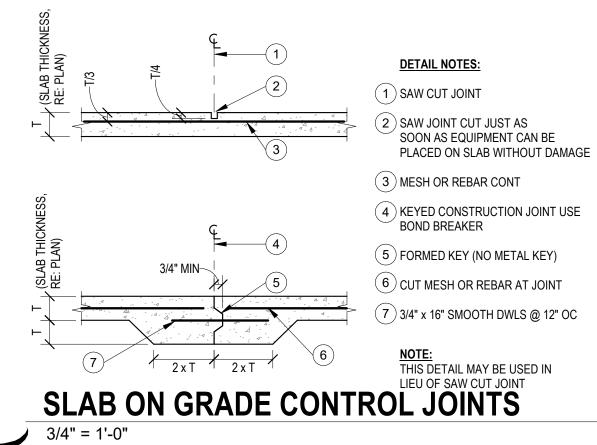


	SPECIAL INSPECTION OF CONSTRUCTION - TABLE		
REQ'D	VERIFICATION & INSPECTION	CONTINUOUS	PERIODIC
Х	1. INSPECTION OF REINFORCING STEEL & PLACEMENT		Х
	2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE W/ TABLE 1704.3 ITEM 5B	х	
Х	3. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO & DURING PLACEMENT OF CONCRETE	х	
Х	4. VERIFYING USE OF REQUIRED MIX DESIGN		Х
х	5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUP & AIR CONTENT TESTS, & DETERMINE THE TEMPERATURE OF THE CONCRETE	Х	
Х	6. INSPECTION OF CONCRETE & SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	Х	
Х	7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE & TECHNIQUES		х
	8. INSPECTION OF PRESTRESSED CONCRETE		х
	9. ERECTION OF PRECAST CONCRETE MEMBERS		Х
Х	10. VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES & FORMS FROM BEAMS & STRUCTURAL SLABS		х
Х	11. INSPECT FORMWORK FOR SHAPE, LOCATION, & DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		Х

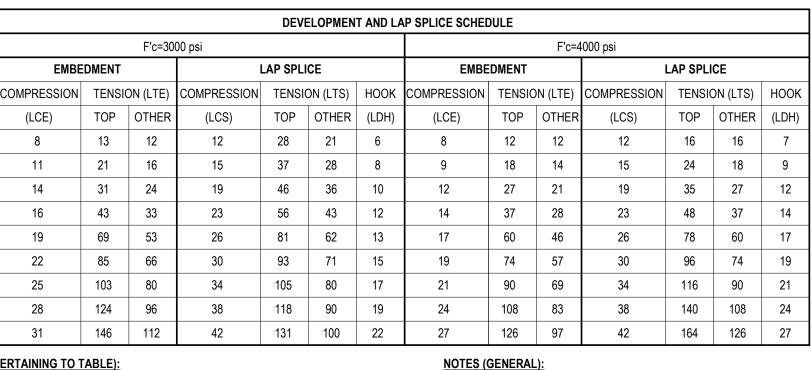


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MULTIPLIERS:

NOTES (PERTAINING TO TABLE): A. TOP BARS ARE HORIZONTAL BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE A. STAGGER ALL SPLICES 12 db MIN, BUT NOT LESS THAN 12"

B. ALL BARS THAT ARE NOT "TOP BARS" ARE "OTHER" BARS

- LCE - COMPRESSION EMBEDMENT LENGTH - LTE - TENSION EMBEDMENT LENGTH

BAR

#3

#10

#11

CAST BELOW THEM.

C. ABBREVIATIONS:

3/4" = 1'-0"

(LCE)

8

11

14

16

19

22

25

28

31

- LCS - COMPRESSION LAP SPLICE LENGTH

- LTS - TENSION LAP SPLICE LENGTH - LDH - HOOKED BAR TENSION EMBEDMENT LENGTH

**SPLICE & DEVELOPMENT SCHEDULE** 

ALL EMBEDMENT AND LAP SPLICE LENGTHS SHALL BE INCREASED AS REQ'D BY THE MULIPLIERS BELOW. APPLY MULTIPLE

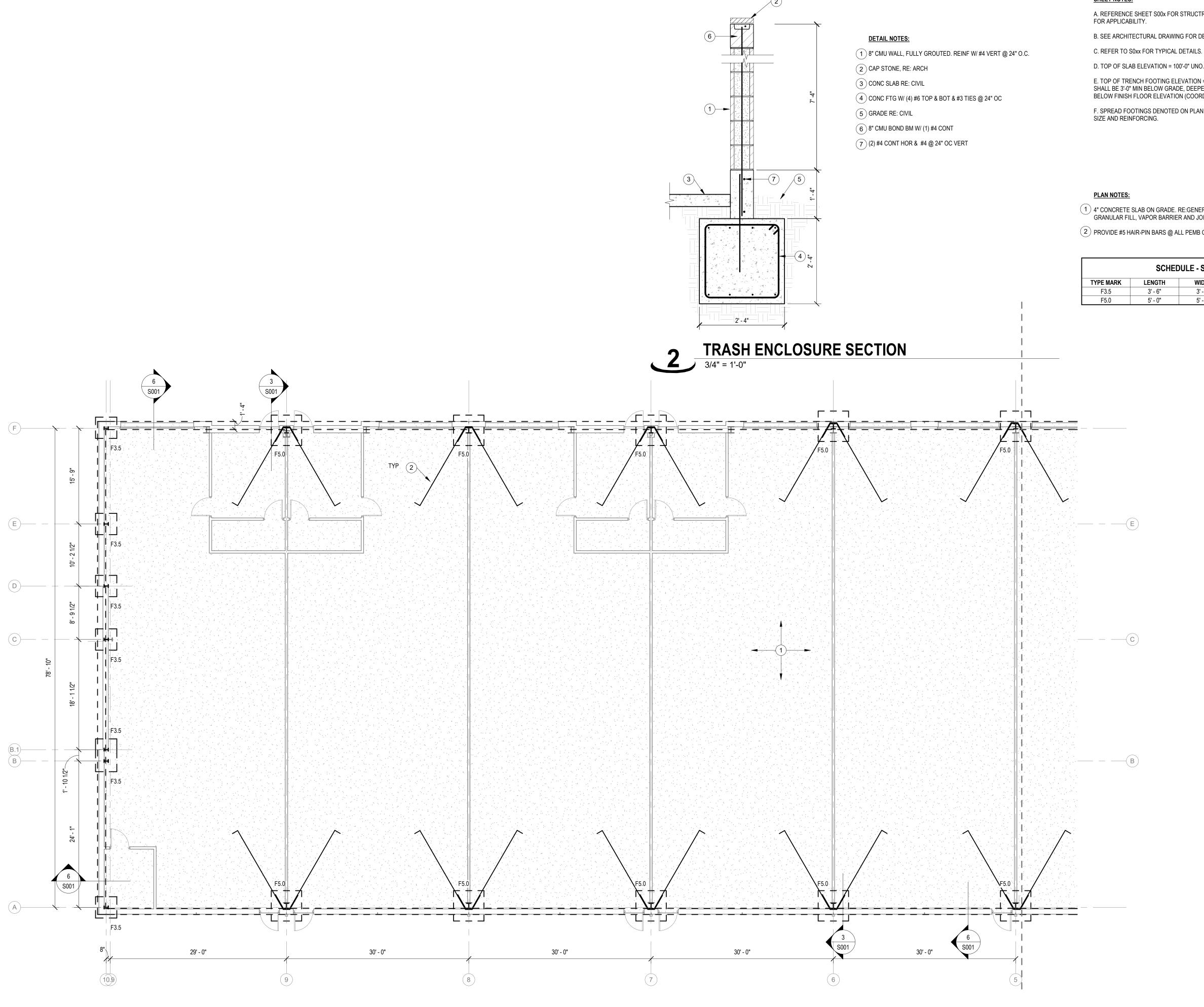
B. ALL DIMENSIONS INDICATED IN TABLE ARE IN INCHES

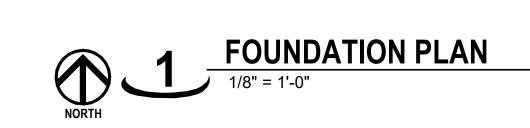
C. BARS GREATER THAN #11 SHALL BE MECHANICALLY SPLICED

D. ALL SPLICES SHALL BE WIRED IN CONTACT STACKED VERTICAL

MULTIPLIERS IF APPLICABLE 1.3 -- IF CONC CONTAINS LIGHT WEIGHT AGGREGATES

1.3 -- IF EPOXY COATED REBAR USED





### SHEET NOTES:

A. REFERENCE SHEET S00x FOR STRUCTRURAL GENERAL NOTES. REVIEW NOTES & DETAILS

B. SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.

D. TOP OF SLAB ELEVATION = 100'-0" UNO.

E. TOP OF TRENCH FOOTING ELEVATION = 99'-4" UNO. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 3'-0" MIN BELOW GRADE, DEEPEN FOOTINGS AS REQUIRED. GRADE IS GENERALLY 6" BELOW FINISH FLOOR ELEVATION (COORDINATE WITH CIVIL).

F. SPREAD FOOTINGS DENOTED ON PLAN BY "Fx.x". REFER TO SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCING.

1 4" CONCRETE SLAB ON GRADE. RE:GENERAL NOTES FOR REINFORCING, GRANULAR FILL, VAPOR BARRIER AND JOINTING REQUIREMENTS

2 PROVIDE #5 HAIR-PIN BARS @ ALL PEMB COLUMNS RE: 5/S001

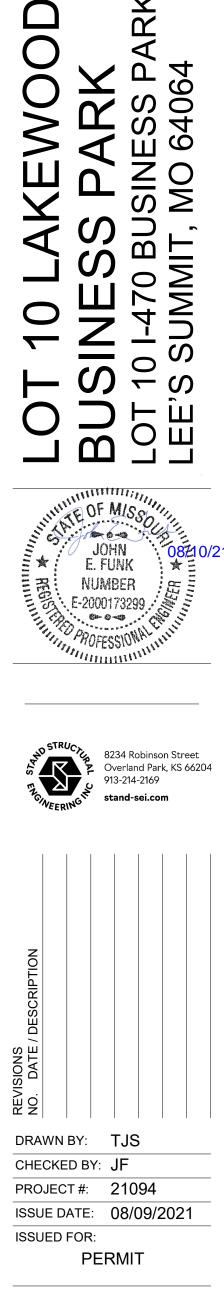
	SCHEDULE - SPREAD FOOTING									
TYPE MARK	LENGTH	WIDTH	THICKNESS	REINF						
F3.5	3' - 6"	3' - 6"	3' - 0"	(5) #4 EW TOP & BOT						
F5.0	5' - 0"	5' - 0"	3' - 0"	(8) #4 EW TOP & BOT						



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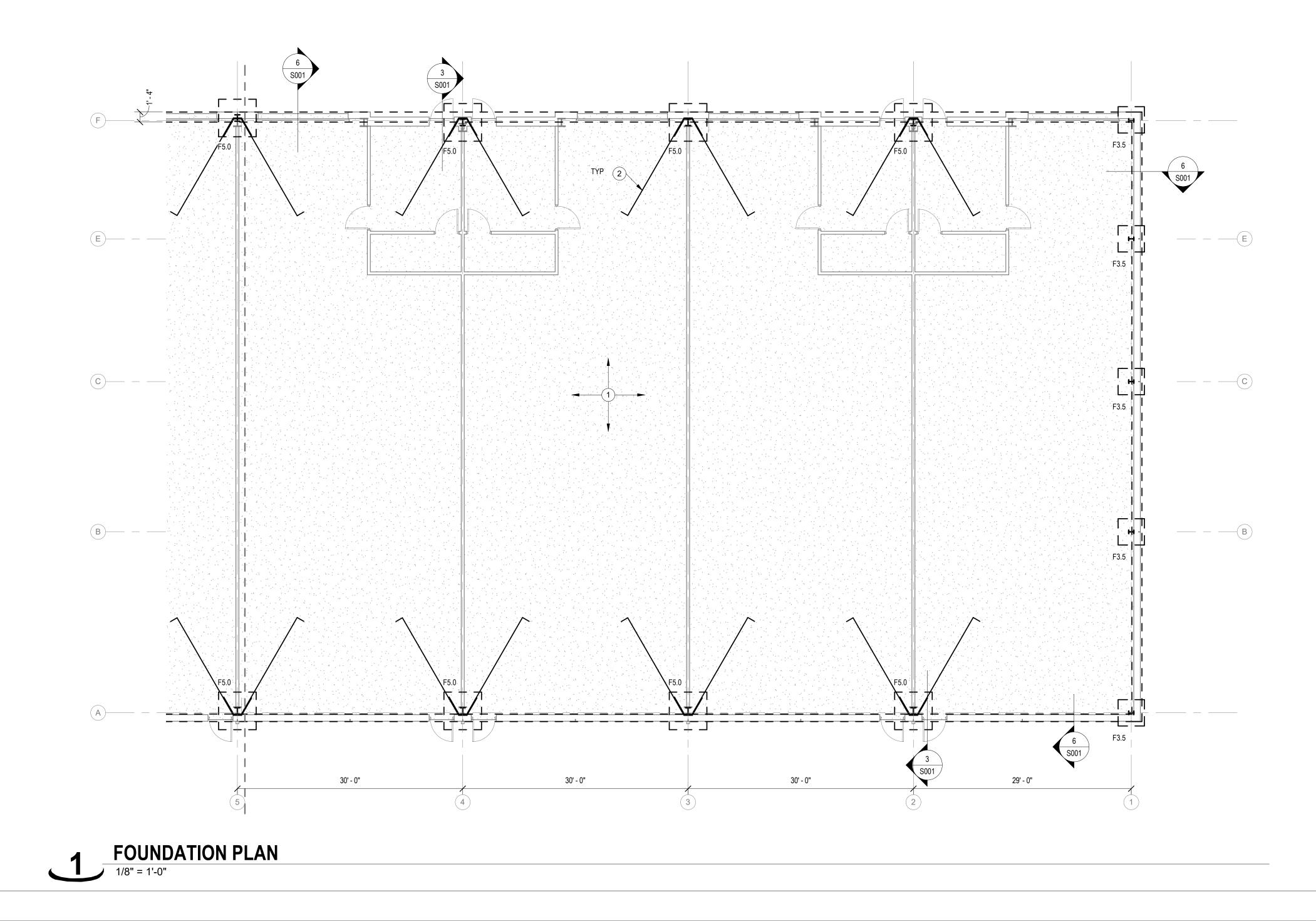
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### FOUNDATION PLAN

S100



### S101

FOUNDATION PLAN

### SHEET NOTES:

A. REFERENCE SHEET S00x FOR STRUCTRURAL GENERAL NOTES. REVIEW NOTES & DETAILS FOR APPLICABILITY.

B. SEE ARCHITECTURAL DRAWING FOR DETAILS & DIMENSIONS NOT SHOWN.

C. REFER TO S0xx FOR TYPICAL DETAILS.

D. TOP OF SLAB ELEVATION = 100'-0" UNO.

E. TOP OF TRENCH FOOTING ELEVATION = 99'-4" UNO. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 3'-0" MIN BELOW GRADE, DEEPEN FOOTINGS AS REQUIRED. GRADE IS GENERALLY 6" BELOW FINISH FLOOR ELEVATION (COORDINATE WITH CIVIL).

F. SPREAD FOOTINGS DENOTED ON PLAN BY "Fx.x". REFER TO SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCING.

### PLAN NOTES:

1 4" CONCRETE SLAB ON GRADE. RE:GENERAL NOTES FOR REINFORCING, GRANULAR FILL, VAPOR BARRIER AND JOINTING REQUIREMENTS

2 PROVIDE #5 HAIR-PIN BARS @ ALL PEMB COLUMNS RE: 5/S001

	SCHEDULE - SPREAD FOOTING									
TYPE MARK	LENGTH	WIDTH	THICKNESS	REINF						
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F5.0	5' - 0"	5' - 0"	3' - 0"	(8) #4 EW TOP & BOT						



<u>Certificates of Authority</u> Architecture: MO 310 / KS 73 Engineering: MO 4 / KS 241 Land Surveying: MO 123 / KS 36

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Α.	<u>NERAL PROVISIONS:</u> PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF
В.	THE PLUMBING AND MECHANICAL SYSTEMS OUTLINED. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATIONS OF COMPLIANCE OR
C.	APPROVAL AS REQUIRED BY AUTHORITIES. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND
	REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
E.	DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, PIPE, DUCT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNDAMAGED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED
F.	BEFORE FINAL ACCEPTANCE. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS
	NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE
G.	MAINTAINED. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECT FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
Н.	INSPECTION OF THE SITE: THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE MEP DRAWINGS, SPECIFICATIONS, DETAIL, AND THE SITE. THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT
١.	OF ANY SPECIAL OR UNUSUAL PROBLEMS, CONFLICTS, OR OBSTRUCTIONS THAT AFFECT HIS BID. FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE MECHANICAL AND PLUMBING DRAWINGS ARE
	ESSENTIALLY DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS AND FITTINGS REQUIRED FOR INSTALLATION. DO NOT SCALE DRAWINGS. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO
	SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DATA AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE MECHANICAL WORK
J.	INTERFACES WITH OTHER TRADES. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS OR WITH CODE REQUIREMENTS, THE NOTE OR CODE WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE
К.	JOB OR HIGHER STANDARD SHALL PREVAIL. INSTALL MATERIALS AND SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND
	APPROVED SUBMITTALS. INSTALL MATERIALS IN PROPER RELATION WITH ADJACENT CONSTRUCTION AND WITH UNIFORM APPEARANCE FOR EXPOSED WORK. COORDINATE WITH WORK OF OTHER SECTIONS.
	COMPLY WITH APPLICABLE REGULATIONS AND CODE REQUIREMENTS. PROVIDE PROPER CLEARANCES FC SERVICING.
L.	INCLUDE ALL BASIC MATERIALS AND CONSTRUCTION METHODS INCLUDING PIPES, PIPE FITTINGS, AND SPECIALTIES AND SUPPORTING DEVICES, VALVES, PIPE AND VALVE IDENTIFICATION, PUMPS, VIBRATION ISOLATION, ETC.
М.	ISOLATION, ETC. FURNISH ADEQUATE ACCESS PANELS AND DOORS TO ALLOW FOR FUTURE PIPING ALTERATIONS, REPLACEMENT, AND MAINTENANCE OF PIPING. PROPERLY IDENTIFY ALL ACCESS PANELS AND DOORS.
	PERATION AND MAINTENANCE MANUALS:
A.	DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS,
В.	ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION THE OPERATING AND MAINTENANCE MANUALS.
3. M≠	ANUFACTURERS:
	MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS
_	LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN.
В.	THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE ELECTRICAL REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT
	OTHER THAN THE SPECIFIED EQUIPMENT BEING FURNISHED SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
	DTORS:
	PROVIDE THERMAL OVERLOAD PROTECTION FOR EACH MOTOR PROVIDED BY THIS WORK.
	<u>DIMBING.</u> PROVIDE AN APPROVED WATER HAMMER ARRESTOR FOR EACH PLUMBING FIXTURE SUPPLY AS REQUIRED BY FIXTURE MANUFACTURER.
В. С.	ALL EXPOSED PIPE IN FINISHED AREAS SHALL BE CHROME PLATED BRASS PIPE, NO FERROUS PIPE. PROVIDE CLEANOUTS AT EACH CHANGE IN DIRECTION AND AT 100 FOOT INTERVALS IN STRAIGHT RUN
	PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES AND TRAPS.
	CLEANOUTS:
	CLEANOUTS: 1. UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. 2. WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.
E.	<ul> <li>CLEANOUTS:</li> <li>UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL.</li> <li>WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (GCO): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.</li> <li>ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</li> </ul>
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E. F.	<ul> <li>CLEANOUTS:</li> <li>UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL.</li> <li>WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (GCO): JR SMITH #4476, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.</li> <li>ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.</li> <li>INSTALL 3" AND LARGER PIPE AT 1/8" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN</li> </ul>
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Е. F. G. H. <u>6. Plf</u> А. В.	<ul> <li>CLEANOUTS:</li> <li>UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL.</li> <li>WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (GCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (GCO): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.</li> <li>ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</li> <li>INSTALL 3" AND LARGER PIPE AT 1/4" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT TALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT TALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT TALL.</li> <li>PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS.</li> <li>ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</li> <li>INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE.</li> <li>INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE.</li> </ul> PING DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). 1. TYPE L HARD DRAWN COPPER TUBING, ASTM B–88 WITH WROUGHT BRONZE SOLDERED FITTINGS CATE VALVE: CRANE #428 OR EQUAL. 3. BALL VALVE: CRANE #428 OR EQUAL. 3. BALL VALVE: CRANE #932 OR EQUAL. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). 1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B–88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. POLYNHYL CHLORIDE (PVC) DWY PIPE, SCHEDULE 40, SOLVENT JOINT. 2. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE D
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Е. F. G. H. <u>6. РІГ</u> А. В. С. D.	CLEANOUTS: UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. WINTINSHED FLOOR (FCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. GRADE (GCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. CRADE (GCO): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. PINC DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS GATE VALVE: CRANE #322 OR EQUAL. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS GATE VALVE: CRANE #322 OR EQUAL. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO
Е. F. G. H. <u>6. РІГ</u> А. В. С. D.	<ul> <li>CLEANOUTS:</li> <li>UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL.</li> <li>WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (GCO): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER.</li> <li>ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT A BPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE FOLLOWING SLOPES.</li> <li>INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE.</li> <li>INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE.</li> </ul> PING DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS CATE VALVE: CRANE #428 OR EQUAL. BALL VALVE: CRANE #428 OR EQUAL. BALL VALVE: CRANE #428 OR EQUAL. CONTS ON SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. CATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF ANALER. AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENTRACTOR IN SUCH A MAINNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENTRACTOR IN SUCH A MAINNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENTRACTOR IN SUCH A MAINNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENTRACTOR IN SUCH A MAINNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENTRACE.
Е. F. G. H. <u>6. РІГ</u> А. В. С. D.	CLEANOUTS: 1. UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. 2. WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. GRADE (GCO): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 1. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. 2. INSTALL 2-1/2" AND SMALLE PIPE AT 1/8" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 4. INSTALLED (SCREWED, SOLDERED, OR FLANGED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS. 4.LI SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE. 2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 2% SLOPE. 2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. PINC DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). 1. TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS 3. GATE VALVE: CRANE #932 OR EQUAL. 3. BALL VALVE: CRANE #932 OR EQUAL. 3. DALL VALVE: CRANE #932 OR EQUAL. 3. DALL VALVE: CRANE #932 OR EQUAL. 4. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). 1. TYPE L HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. 5. SANTARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. POLYNNYL CHLORIDE (PVC) DWY PIPE, SCHEDULE 40, SOLVENT JOINT. 2. SEVER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE. 3. VENT STACKS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4 POUN LEAD SHETS TURNED DOWN INTO THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL DIRECTIONS FROM THE PIPE
Е. F. G. H. <u>6. РІГ</u> А. В. С. D.	CLEANOUTS: UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. WALL (WCO): JR SMITH #472, OR EQUAL, 24" ABOVE THE FLOOR. GRADE (GCO): JR SMITH #472, OR EQUAL, 24" ABOVE THE FLOOR. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. MHICH INSTALLED (SCREWED, SOLDERED, OR FLANCED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. PINC DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. PINC DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. PINC DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. PINC DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). INSTALL 4" AND SNOT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). POLYMYL CHLORIDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). VENT STACKS SHALL BE EVETNEDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4 POUN LEAD SHEETS TURNED DOWN INTO THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL DRECTIONS SHALL BE EVETNEDED FULL SIZE THROUGH THE ROOF SHALL NOT BE LESS THAN 3". PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF. WHERE APPLICATIONS SHALL BE EVETNEDED FULL SIZE THROUGH THE ROOF SHALL NOT BE LESS THAN 3". PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF. WHERE APPLICABLE FOR COONT HISTIC VANDE FOR VENT PIPING THROUGH THE PROOF. WHERE A
Е. F. G. H. <u>6. РІ</u> А. В. С. С. Е.	CLEANOUTS: UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. WALL (WCO): JR SMITH #472, OR EQUAL, 24" ABOVE THE FLOOR. GRADE (GCO): JR SMITH #472, OR EQUAL, 24" ABOVE THE FLOOR. ALL SEWER PIPING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. INSTALL 3" AND LARGER PIPE AT 1/4" PER FOOT FALL. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. PROVIDE DIELECTRIC UNIONS WITH APPROPRIATE END CONNECTION TO MATCH THE PIPE SYSTEM IN WHICH INSTALLED (SCREWED, SOLDERED, OR FLANCED). PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS. ALL SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. PING DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. PING DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND). INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. PING DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). INSTALL 4" AND DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). POLYMYL CHLORDE (PVC) DWY PIPE, SCHEDLE 40, SOLVENT JOINT. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). POLYMYL CHLORDE (PVC) DWY PIPE, SCHEDLE 40, SULVENT JOINT. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWNGS. THE EXACT LOCATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWNGS. THE EXACT LOCATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWNGS. THE EXACT LOCATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWNGS. THE EXACT LOCATIONS SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWNGS. THE EXACT LOCATIONS SHALL BE DOCATED IN TO THE STACK AT LEAST " AND EXTREDED TO!" INTHAL AP
Е. F. G. H. <u>6. РІ</u> А. В. С. С. Е.	CLEANOUTS: 1. UNFINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. 2. WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. GRADE (GCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. GRADE (GCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. 5. INSTALL 3" AND LARGER PIPE AT 1/4" PER FOOT FALL. 3. INSTALL 3" AND LARGER PIPE AT 1/4" PER FOOT FALL. 4. INSTALL 3" AND LARGER PIPE AT 1/4" PER FOOT FALL. 5. CONDENATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL. 5. CONDENATE DRAIN SHALL BE INSTALLED AT 1/4" PER FOOT FALL. 7. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1/4" PER FOOT FALL. 6. CONNECTIONS TO HOT WATER HEATENS AND EXPANSION JOINTS. 6. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 7. INSTALL 6" AND HOT WATER RECIRCULATING (ABOVEGROUND). 7. TYPE L HARD DRAWN COPPER TUBING, ASTM B–88 WITH WROUGHT BRONZE SOLDERED FITTINGS 7. GATE VALVE: CARNE #2420 GR EQUAL. 7. BALL VALVE: CARNE #2420 GR EQUAL. 7. BALL VALVE: CARNE #2420 GR EQUAL. 7. DOLYVINYL CHLORIDE (PVC) DWY PIPE, SCHEDULE 40, SOLVENT JOINT. 7. SEVER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 7. POLYVINYL CHLORIDE (PVC) DWY PIPE, SCHEDULE 40, SOLVENT JOINT. 7. SEWER LINES SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE. 7. VENT FING SHALL DE EXTERDIDED THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL 7. DIRECTIONS SHALL BE DETERMINED THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL 7. DIRECTIONS SHALL BE DETERMINED THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL 7. DIRECTIONS SHALL BE DETERMINED THE STACK AT LEAST 2" AND EXTENDED 12" IN ALL
Е. F. G. H. <u>6. РІ</u> А. В. С. С. Е.	CLEANOUTS: 1. UNINISHED FLOOR (FCO): JR SMITH #4240, OR EQUAL. 2. WALL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. GRADE (GCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. INSTALL 2-1/2" AND SWALLER PIPE AT 1/4" PER FOOT FALL. 2. INSTALL 2-1/2" AND SWALLER PIPE AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/6" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/6" PER FOOT FALL. 4. INSTALL D: SOCREWED, SOLDERED, OR FLANGED, PROVIDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS. 4. LISEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 5. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE. 5. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE. 5. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 2% SLOPE. 5. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. 5. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. 5. INSTALL 4" AND MALLER PIPE AT A MINIMUM OF 1% SLOPE. 5. INSTALL 4" AND HOT WATER RECIRCULATING (ABOVECROUND). 1. TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS 5. GATE VALVE: CRANE #428 OR EQUAL. 5. BALL VALVE: CRANE #432 OR EQUAL. 5. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). 1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. 5. SANITARY SEVER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. POLYMYL CHLORDER (PVC) DWY PIPE, SCHEDULE 40, SOLVENT JOINT. 2. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWNGS. THE EXACT 1. LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROVER CLEARANCES AND SUFFICIENT SLOPE OF ENSURE DRAINAGE. 3. VENT STACKS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROVER CLEARANCES AND SUFFICIENT SLOPE OF ENSURE DRAINAGE. 3. VENT STACKS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROVERE CLEARANCES AND SUFFICIENT SLOPE OF ENSURE
Е. F. G. H. <u>6. РІ</u> А. В. С. С. Е.	<ul> <li>CLEANOUTS:</li> <li>UNFINISHED FLOOR (FC0): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (CC0): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>GRADE (CC0): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.</li> <li>INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL.</li> <li>INSTALL 50 (SCREWED, SOLDERED, OR FLANGED), PROYDE DIELECTRIC UNIONS ON ALL PIPING CONTECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS.</li> <li>LLISSWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES.</li> <li>INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 2% SLOPE.</li> <li>PING</li> <li>DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING (ABOVEGROUND).</li> <li>TYPE L HARD DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS.</li> <li>GATE VALVE: CRANE #428 OR EQUAL.</li> <li>DAULYE: CRANE #428 OR EQUAL.</li> <li>DAULYE: CRANE #428 OR EQUAL.</li> <li>DAULYE: CRANE #428 OR EQUAL.</li> <li>POLYWIN CHLORDE (PVC) DWY PIPE, SCHEDULE 40, SOLVENT JOINT.</li> <li>PLOYINUT. CHLORDE CONTEN UNDERGROUND, INTERIOR TO BUILDING).</li> <li>PLYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN HETTINGS.</li> <li>SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING).</li> <li>POLYMIN CHLORDE DETERMINED BY THE CONTRACTOR IN SUMMINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUMMINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUMMAS. THE E</li></ul>
E. F. G. H. <u>6. PII</u> A. B. C. E. F.	CLEANOUTS: 1. UNFINISHED FLOOR (FC0): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 2. WAL (WCO): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. ORADE (CCC): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. ORADE (CCC): JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. ORADE (CCC): JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER. 4. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 4. INSTALL 2-1/2" AND SMALLER PIPE AT 1/8" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 4. INSTALL 20' ADD ARGER PIPE AT A MINIMUM OF TALL. 4. INSTALL DE (SCREWED, SOLDERED, OR FLANCED), PROVDE DIELECTRIC UNIONS ON ALL PIPING CONNECTIONS TO HOT WATER HEATERS AND EXPANSION JOINTS. 4. LISSWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 72 SLOPE. 2. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 72 SLOPE. 2. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 72 SLOPE. 2. INSTALL 4" AND MANN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS 3. GATE VALVE: CRANE #428 OR EQUAL. 3. BALL VALVE: CRANE #428 OR EQUAL. 4. SHALL VALVE: CRANE #428 OR EQUAL. 5. MITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. 5. MITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. POLYWIN, CHLORIE DE EDTERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE. THE XACT LICOATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE. HEACT STAR AND ENDINE SHALL BE DETERMINED BY THE CONTRACTOR FINAL MANE RAS TO MAINTR
E. F. G. H. <u>6. PII</u> A. B. C. E. F.	CLEANOUTS: 1. UNFINSHED FLOOR (FC0):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 2. WALL (WC0):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. ORADE (GC0):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. ORADE (GC0):JR SMITH #4256, OR EQUAL, WITH HEAVY DUTY CAST IRON BODY AND COVER. ALL SEWER PHING LOCATED INSIDE THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 1. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALED AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALED AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALED AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALED AT 1/4" PER FOOT FALL. 3. CONDENSATE DRAIN SHALL BE INSTALED AT 1/4" PER FOOT FALL. 3. DONESTIC COND. HOT WATER HEATERS AND EXPANSION JOINTS. 4.L SEWER PIPING LOCATED EXTERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 1. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. 2. INSTALL 4" AND SMALLER PIPE AT A MINIMUM OF 1% SLOPE. 2. INSTALL 4" AND MALLER PIPE AT A MINIMUM OF 1% SLOPE. 3. BALL VALVE: GRANE #428 OR EQUAL. 3. DOMESTIC COLD, HOT, AND HOT WATER RECORCULATING, 1"-3" (UNDERGROUND). 1. TYPE L HARD DR SOFT DRAWL COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERED FITTINGS 3. SANTARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. TYPE VIENES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT 1. LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER LLPRS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN 1. POLYMINT: CHLORDE (PVC) DWV PIPE, SCHEDULE 40, SOLVENT JOINT. 3. SWENT STACKS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH ALL POUN 1. EACOTONS STAUL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN 1. PROPER LLPRS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH ALL POUN 1. EACOTO
E. F. G. H. <u>6. PII</u> A. B. C. E. F.	CLEANOUTS: 1. UNFINISHED FLOOR (FCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 2. WALL (WCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. GRADE (GCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. GRADE (GCO):JR SMITH #4472, OR EQUAL, 24" ABOVE THE FLOOR. 3. INSTALL 2-1/2" AND SMALLER PIPE AT 1/4" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. ONDENSATE DRAIN SHALL BE INSTALLED AT 1/8" PER FOOT FALL. 3. INSTALL 50 (SCREWED, SOLDERED, OR FLANCED). PROVED ELECTRIC UNIONS ON ALL PIPING 3. COATED SCHEMERT, DIE STERIOR TO THE BUILDING SHALL BE INSTALLED WITH THE FOLLOWING SLOPES. 4. INSTALL 4" AND SWALLER PIPE AT A MINIMUM OF 1% SLOPE. 2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 2. INSTALL 6" AND LARGER PIPE AT A MINIMUM OF 1% SLOPE. 3. GATE VALVE: CRANE #428 OR EQUAL. 3. BALL VALVE: CRANE #428 OR EQUAL. 3. BALL VALVE: CRANE #428 OR EQUAL. 3. BALL VALVE: CRANE #428 OR EQUAL. 4. DOMESTIC COLD, HOT, AND HOT WATER RECIRCULATING, 1"-3" (UNDERGROUND). 1. TYPE K HARD OR SOFT DRAWN COPPER TUBING, ASTM B-88 WITH WROUGHT BRONZE SOLDERIN FITTINGS. 3. SANITARY SEWER AND VENTS (UNDERGROUND, INTERIOR TO BUILDING). 1. FOLVINIYL CHLORIDE (PVC) DW PIPE, SCHEDULE 40, SOLVENT JOINT. 3. SEVER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT 1. LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE. 4. VENT STACKS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAN PROPER CLEARANCES AND SUFFICIENT SLOPE TO ENSURE DRAINAGE. 5. PUPYING LOCATES SHALL BE DETERMINED PATHERACTOR RE

### MECHANICAL AND PLUMBING SPECIFICATIONS

- 3. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WATERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.
- 4. PLUMBING VENTS: FLASH ROOF VENT INTO ROOFING SYSTEM AS REQUIRED BY THE ROOFING CONTRACTOR TO MAINTAIN THE EXISTING ROOF WARRANTY. ALL PLUMBING VENT TERMINALS SHALL TERMINATE A MINIMUM OF 12" ABOVE ROOF OR EQUAL TO HEIGHT OF PARAPET, WHICHEVER IS GREATER.
- I. PROVIDE CHROME PLATED ESCUTCHEONS ON ALL PIPE ENTERING FINISHED AREAS.

### 7. INSULATION:

- A. ALL INSULATIONS AND ACCESSORIES SHALL HAVE A FIRE HAZARD CLASSIFICATION WITH A FLAME SPREAD RATING OF NOT OVER 25, A FUEL CONTRIBUTION RATING OF NOT OVER 50, AND A SMOKE DEVELOPMENT RATING OF NOT OVER 50, IN ACCORDANCE WITH NFPA.
- B. PIPE INSULATION (ABOVE GRADE):
  1. THE PIPE INSULATION USED SHALL HAVE A THERMAL CONDUCTIVITY OF 0.27 BTU PER IN/HR\*SQ-FT\*\*F OR LESS.
- FIBERGLASS INSULATION WITH FACTORY APPLIED VAPOR BARRIER, ASJ JACKET, FACTORY APPLIED PRESSURE SEALING LONGITUDE LAP JOINT, NO STAPLES, ZESTON PREMOLDED PVC FITTING COVERS. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 3. FLEXIBLE CLOSED CELL ELASTOMERIC THERMAL INSULATION, UNSLIT OR PRESLIT WITH PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING, EQUAL TO ARMSTRONG AP ARMAFLEX OR ARMAFLEX 2000.
- 4. FOR NON CIRCULATING SYSTEMS THE FIRST 8 FEET OF INLET AND OUTLET PIPING BETWEEN THE TANK AND HEAT TRAP (INCLUDING THE HEAT TRAP) MUST BE INSULATED.

1/2"

- INSULATION SCHEDULE: a. DOMESTIC COLD WATER:
- b. DOMESTIC COLD WATER:c. REFRIGERANT SUCTION:
- 1-1/2" FOR PIPING UP TO 1-1/2"ø, 2" FOR PIPING 1-1/2"ø AND LARGER.

### C. DUCTWORK INSULATION:

- DUCT COVERING: 3/4 LB/CF, FIBERGLASS BLANKET WITH FACTORY APPLIED VAPOR BARRIER AND FACING. THICKNESS AS SCHEDULED, INSTALLATION IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. DUCT COVERING SHALL BE MINIMUM R-6.
   a. SUPPLY AIR DUCT: 2"
  - b. RETURN AIR DUCT:
- 8. TESTING, BALANCING AND CLEANING:
- A. ALL PIPING SHALL BE TESTED FOR LEAKS BEFORE BEING CONCEALED IN WALL CONSTRUCTION OR
- COVERED WITH INSULATION. B SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTE
- B. SEWER AND VENT PIPING SHALL BE HYDROSTATICALLY TESTED WITH NO LESS THAN 10 FEET OF HEAD FOR A PERIOD OF NOT LESS THAN 15 MINUTES, PER THE LOCAL PLUMBING CODE, WITH NO LEAKS.
- C. DOMESTIC WATER PIPING SHALL BE HYDROSTATICALLY TESTED AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 60 PSI, FOR A PERIOD OF NOT LESS
- THAN 2 HOURS, WITH NO LEAKS. D. BEFORE DOMESTIC WATER PIPING IS PLACED IN SERVICE, ALL DOMESTIC WATER DISTRIBUTION SYSTEMS, INCLUDING THOSE FOR COLD WATER AND HOT WATER SYSTEMS, SHALL BE FLUSHED, STERILIZED AND CHLORINATED IN ACCORDANCE WITH THE HEALTH DEPARTMENT REGULATIONS. THE SYSTEMS SHALL BE THOROUGHLY FLUSHED OF ALL DIRT AND FOREIGN MATTER, THEN FILLED WITH WATER TREATED WITH 50 PPM OF CHLORINE. DURING THE FILLING PROCESS, VALVES AND FAUCETS SHALL BE OPENED SEVERAL TIMES TO ASSURE TREATMENT OF THE ENTIRE SYSTEM. THE TREATED WATER SHALL BE LEFT IN THE SYSTEM FOR 24 HOURS AFTER WHICH TIME THE SYSTEM SHALL BE FLUSHED; IF THE RESIDUAL CHLORINE IS NOT LESS THAN 10 PPM, THE FLUSHING SHALL BE REPEATED. AFTER STERILIZATION SAMPLES OF WATER FROM THE SYSTEM SHALL BE APPROVED BY THE BOARD OF HEALTH.
- E. NATURAL GAS SYSTEMS SHALL BE TESTED WITH COMPRESSED AIR AT A PRESSURE OF NOT LESS THAN 1-1/2 TIMES THE OPERATING PRESSURE, BUT NOT LESS THAN 50 PSIG FOR A PERIOD OF 2 HOURS WITH NO LEAKS.
- F. THE INSPECTION AUTHORITY HAVING JURISDICTION SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO PERFORMANCE OF ALL TESTS SO THAT THEY TESTS MAY BE WITNESSED IF DEEMED NECESSARY.G. DUCTWORK AND PIPING SHALL BE BALANCED BY QUALIFIED BALANCING PERSONNEL WHO HAVE
- PREVIOUS EXPERIENCE WITH BALANCING PROCEDURES AND ARE FAMILIAR WITH TESTING AND BALANCING PROCEDURES OF THE ASSOCIATED AIR BALANCE COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB).
- BALANCING SHALL INCLUDE THE BALANCING OF THE EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE DESIGN QUANTITIES INDICATED AND VERIFICATION PERFORMANCE OF ALL EQUIPMENT AND AUTOMATIC CONTROLS.
- 2. WITH IN 30 DAYS OF THE COMPLETION OF THE TESTING AND BALANCING WORK, SUBMIT THE TEST AND BALANCING REPORT BEARING THE SIGNATURE OF THE TEST AND BALANCE ENGINEER. THE REPORTS SHALL BE CERTIFIED PROOF THAT THE SYSTEMS HAVE BEEN TESTED, ADJUSTED, AND BALANCED IN ACCORDANCE WITH THE REFERENCED STANDARDS; ARE AN ACCURATE REPRESENTATION OF HOW THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING. REPORTS SHALL BE BOUND IN A VINYL BINDER AND THE BINDER LABELLED OR MAY BE AN ELECTRONIC PDF SUBMITTAL.

### 9. DUCTWORK:

- A. ALL DUCTWORK UNLESS OTHERWISE INDICATED SHALL BE FABRICATED FROM GALVANIZED SHEET STEEL COMPLYING WITH ASTM A 527, LOCKFORMING QUALITY, WITH G60 ZINC COATING IN ACCORDANCE WITH ASTM A 525, AND MILL PHOSPHATIZED FOR EXPOSED LOCATIONS.
- B. DUCTWORK METAL GAUGES, REINFORCING, ETC SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION FOR A 2" WATER GAUGE STATIC PRESSURE.
- C. ALL FITTINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION
- STANDARDS," LATEST EDITION.
- D. RECTANGULAR DUCT:
   1. ELBOWS, UNLESS INDICATED OTHERWISE, SHALL BE CONSTRUCTED WITH CENTERLINE RADIUS OF NOT LESS THAN 1.5 DUCT WIDTH OR SQUARE ELBOWS WITH DOUBLE WALL STREAMLINE ELBOWS.
   2. TAKE-OFF FITTINGS: BRANCH DUCT TAKE-OFF FITTINGS FOR SUPPLY AND EXHAUST
- DIFFUSER/REGISTERS SHALL INCLUDE AN INTEGRAL MANUAL VOLUME DAMPER WITH LOCKING QUADRANT, DAMPER NOT REQUIRED ON RETURN AIR. FOR RECTANGULAR TO ROUND TAKE-OFFS, UTILIZE A "BUCKLEY" MODEL 3300 & 3300D OR EQUAL.
- 3. RETURN AIR ACOUSTIC ELBOWS AND SOUND BOOTS SHALL BE A SQUARE ELBOW WITH NO TURNING VANES.
- 4. SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE A MINIMUM 1 TO 3. E. ROUND AND OVAL SPIRAL SEAM DUCT:
- 1. PROVIDE RADIUS TYPE FITTINGS FABRICATED OF MULTIPLE SECTIONS WITH MAXIMUM 15 DEGREE CHANGE OF DIRECTION PER SECTION. UNLESS SPECIFICALLY DETAILED OTHERWISE, USE 45 DEGREE LATERALS FOR BRANCH TAKEOFF CONNECTIONS. WHERE 90 DEGREE BRANCHES ARE INDICATED PROVIDE CONICAL TYPE TEES.
- SLOPES FOR TRANSITIONS OR OTHER CHANGES IN DIMENSIONS SHALL BE MINIMUM 1 TO 3.
   ROUND LONGITUDINAL SEAM DUCT: USE FOR RIGID METAL DUCT ON LEAVING SIDE OF DUCT IN CONCEALED LOCATIONS FOR EXTENSION TO FLEX FOR DIFFUSERS.
- F. SEAL ALL CONCEALED DUCTWORK JOINTS WITH NON-HARDENING, NON-MIGRATING MASTIC SEALANT, AS RECOMMENDED FOR SEALING SEAMS AND JOINTS IN DUCTWORK. OIL BASED CAULKING AND GLAZING COMPOUNDS SHALL NOT BE ACCEPTABLE. DUCTS SHALL BE SEALED TO THE CLASS LEVEL LISTED BELOW:

BELOW:			
(1) UNCONDITIONED SPACES:	CLASS B	CLASS C	CLASS B
(2) CONDITIONED SPACES (PLENUM):	CLASS C	CLASS B	CLASS C
<u>Sl</u>	JPPLY 2"WC OR LESS	<u>EXHAUST</u>	<u>RETURN</u>

- G. DUCT SIZES SHOWN ON THE DRAWINGS ARE SHEET METAL SIZES. INCREASE SHEET METAL SIZES
- ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER. H. WHETHER SHOWN ON PLANS OR NOT, PROVIDE MANUAL VOLUME DAMPERS IN EACH RUNOUT TO EACH SUPPLY DIFFUSER OR REGISTER. PROVIDE ACCESS PANELS TO DAMPERS LOCATED ABOVE HARD CEILINGS.
- I. PROVIDE AUXILIARY STEEL AS REQUIRED TO ADEQUATELY SUPPORT DUCTWORK.
   J. WHERE DUCTS PASS THROUGH FIRE-RATED FLOORS, WALLS, OR PARTITIONS, PROVIDE FIRESTOPPING BETWEEN DUCT AND WALL.
- K. WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS OR EXTERIOR WALLS, AND ARE EXPOSED TO VIEW, CONCEAL SPACE BETWEEN OPENING AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME GAUGE AS DUCT. OVERLAP OPENING ON 4 SIDES BY AT LEAST 1-1/2". FASTEN TO DUCT AND WALL.

### 10. FLEXIBLE DUCT:

- A. ATCO #086 (R-6), OR EQUAL.
- B. FACTORY APPLIED INSULATION AND VAPOR BARRIER, 1-1/2" THICK. C. MAXIMUM LENGTH OF 6'-0".

### 11. FLUES AND ACCESSORIES:

A. FLUE FOR GAS FIRED FURNACE SHALL BE AS RECOMMENDED BY THE GAS APPLIANCE MANUFACTURER.
 FLUES SHALL BE SCHEDULE 40 PVC OR CPVC PER THE MANUFACTURE'S INSTALLATION REQUIREMENTS.
 B. PROVIDE MANUFACTURERS STANDARD ACCESSORY ITEMS INCLUDING BIRD PROOF TOP, STORM COLLAR,

ROOF THIMBLE, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION. ROOF THIMBLES THROUGH THE BUILDING ROOF SHALL BE SUITABLE FOR USE WITH THE ROOF PROVIDED.C. FLUES FOR HEATERS SHALL BE DOUBLE WALL TYPE B EQUAL TO METALBESTOS. PROVIDE MANUFACTURER'S STANDARD FITTING AND ACCESSORIES (ROOF THIMBLE, STORM COLLAR, COUNTER FLASHING, ETC.) AS REQUIRED FOR A COMPLETE INSTALLATION.

### 12. EXHAUST FANS:

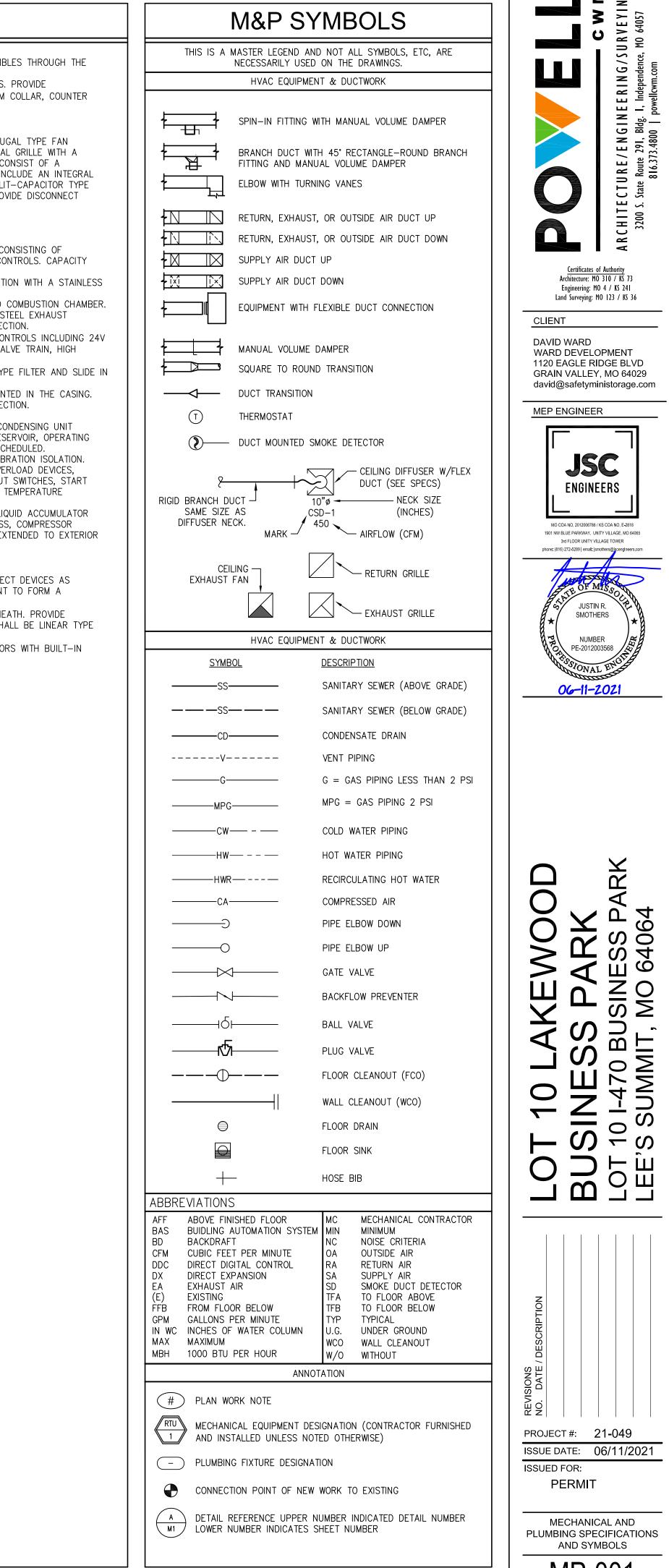
A. CENTRIFUGAL CEILING EXHAUSTERS SHALL BE ELECTRICALLY POWERED CENTRIFUGAL TYPE FAN SUITABLE FOR MOUNTING IN THE CEILING WITH A PERFORATED OFF-WHITE METAL GRILLE WITH A THUMBSCREW ATTACHMENT FOR EASY ACCESS TO FAN HOUSING. UNIT SHALL CONSIST OF A GALVANIZED STEEL HOUSING LINED WITH ACOUSTICAL INSULATION AND SHALL INCLUDE AN INTEGRAL BACKDRAFT DAMPER ON FAN DISCHARGE. MOTOR SHALL BE A PERMANENT SPLIT-CAPACITOR TYPE MOTOR, PERMANENTLY LUBRICATED WITH THERMAL OVERLOAD PROTECTION. PROVIDE DISCONNECT SWITCH OR OTHER MEANS OF DISCONNECT AT MOTOR IN FAN HOUSING.

### 13. FURNACE AND CONDENSING UNIT: A. CONDENSING FURNACES:

- 1. GAS FIRED FURNACE SHALL BE FACTORY ASSEMBLED, PRE-WIRED UNIT CONSISTING OF SHEETMETAL CASING, SUPPLY FAN, GAS FIRED HEAT EXCHANGER, AND CONTROLS. CAPACITY SHALL BE AS SCHEDULED.
- 2. THE PRIMARY HEAT EXCHANGER SHALL BE ALUMINIZED STEEL CONSTRUCTION WITH A STAINLESS STEEL SECONDARY HEAT EXCHANGER.
- 3. THE FURNACE SHALL BE OF THE CONDENSING TYPE, UTILIZING A SEALED COMBUSTION CHAMBER. UNIT SHALL INCLUDE FINNED CAST IRON HEAT EXCHANGER, ALUMINIZED STEEL EXHAUST DECOUPLER SECTION AND FINNED STAINLESS STEEL TUBE CONDENSER SECTION.
- 4. THE UNIT SHALL BE EQUIPPED WITH THE MANUFACTURER'S STANDARD CONTROLS INCLUDING 24V CONTROL TRANSFORMER, AUTOMATIC SPARK IGNITION, AUTOMATIC GAS VALVE TRAIN, HIGH TEMPERATURE LIMIT SWITCH AND EAN THEO DELAY DELAY.
- TEMPERATURE LIMIT SWITCH, AND FAN TIMED DELAY RELAY.
  5. RETURN AIR INLET ON UNIT SHALL BE PROVIDED WITH 1" THROWAWAY TYPE FILTER AND SLIDE IN EDAME. MOUNTED ON THE HUNT.
- FRAME, MOUNTED ON THE UNIT.
  FAN SHALL BE A DIRECT DRIVE MULTI-SPEED BLOWER, RESILIENTLY MOUNTED IN THE CASING. MOTOR SHALL BE PROVIDED WITH AUTOMATIC THERMAL OVERLOAD PROTECTION.
- FURNACE SHALL BE AGA APPROVED.
   B. CONDENSING UNIT SHALL BE FACTORY ASSEMBLED AND TESTED AIR-COOLED CONDENSING UNIT CONSISTING OF COMPRESSOR, CONDENSER COIL, FAN, MOTOR, REFRIGERANT RESERVOIR, OPERATING CONTROLS, ETC. CAPACITY AND ELECTRICAL CHARACTERISTICS SHALL BE AS SCHEDULED.
- . COMPRESSOR: HERMETICALLY SEALED WITH BUILT-IN OVERLOADS AND VIBRATION ISOLATION. COMPRESSOR MOTOR SHALL HAVE THERMAL AND CURRENT SENSITIVE OVERLOAD DEVICES, INTERNAL HIGH PRESSURE PROTECTION, HIGH AND LOW PRESSURE CUTOUT SWITCHES, START
- CAPACITOR AND RELAY, 2-POLE CONTACTOR, CRANKCASE HEATER, AND TEMPERATURE ACTUATED SWITCH AND TIMER TO PREVENT COMPRESSOR RAPID CYCLE.
- COIL SHALL BE COPPER TUBING WITH ALUMINUM FINS: COMPLETE WITH LIQUID ACCUMULATOR AND LIQUID SUBCOOLER. UNIT SHALL INCLUDE FILTER DRYER, SIGHT GLASS, COMPRESSOR SERVICE VALVE, LIQUID LINE SERVICE VALVE, AND REFRIGERANT PIPING EXTENDED TO EXTERIOR OF CASING.

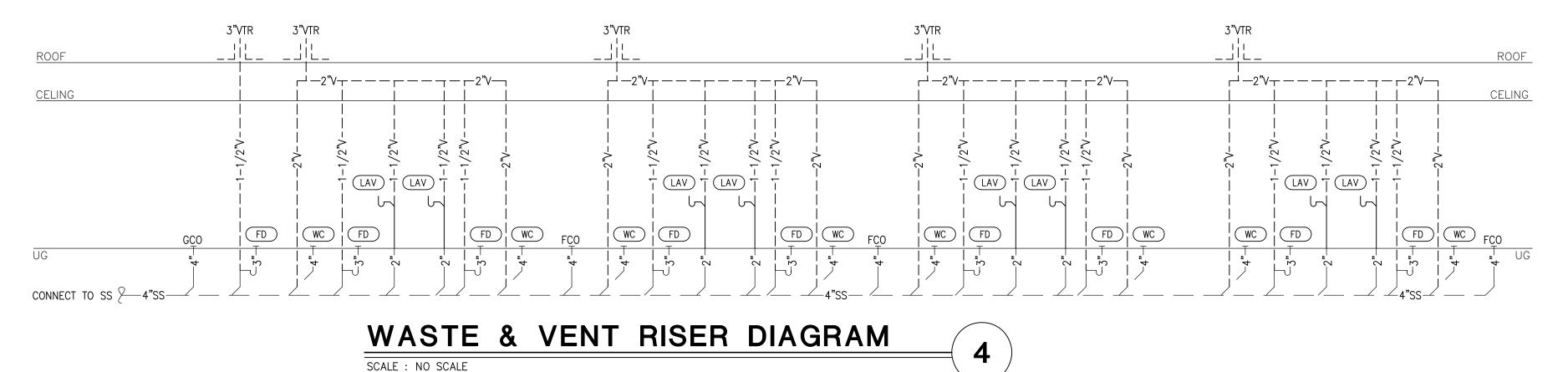
### 14. ELECTRIC WALL HEATERS

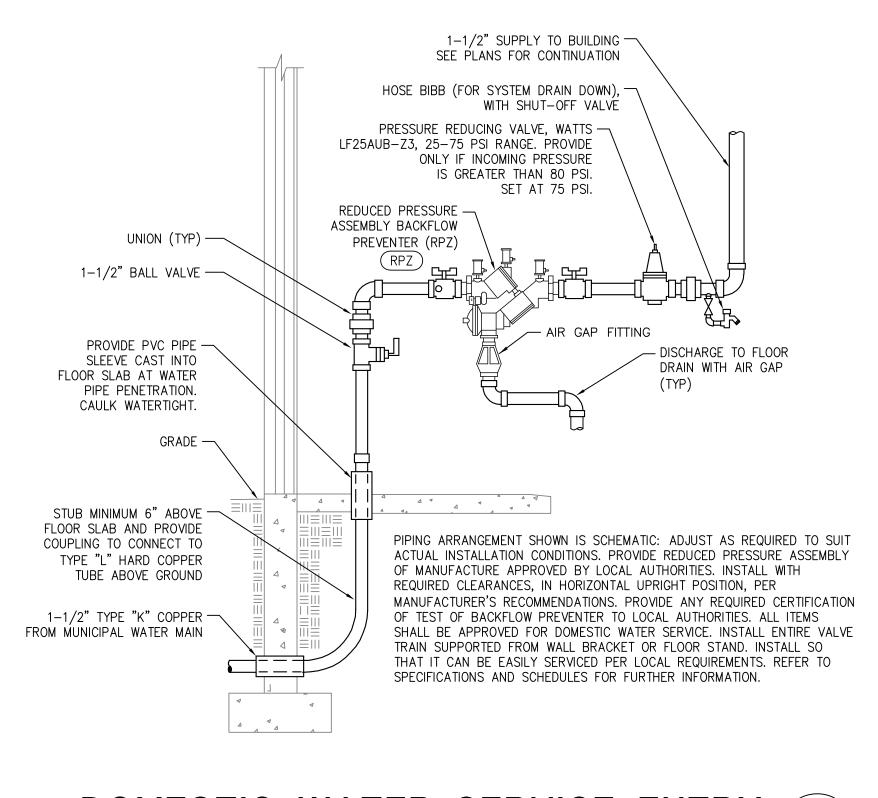
- A. UNIT SHALL INCLUDE ELECTRIC HEATING ELEMENTS WITH SAFETY AND DISCONNECT DEVICES AS REQUIRED BY NEC, INCLUDING RELAYS, CONTROLLERS AND REQUIRED EQUIPMENT TO FORM A COMPLETE AND FUNCTIONAL HEATER.
- B. ELEMENTS SHALL BE HEAVY DUTY ALUMINUM-FINNED, COPPER CLAD STEEL SHEATH. PROVIDE AUTOMATIC RESET THERMAL OVER-HEAT PROTECTION. THERMAL PROTECTOR SHALL BE LINEAR TYPE TO SENSE TEMPERATURES THE ENTIRE LENGTH OF HEATING ELEMENT.
- C. FANS SHALL BE DIRECT DRIVE USING PERMANENT SPLIT CAPACITOR TYPE MOTORS WITH BUILT-IN AUTOMATIC RESET MOTOR OVERLOAD PROTECTION.



MP-00

	PLUMBING F
	FLOOR DRAIN: SOUIX CHIE
FD	CLAMPING COLLAR, ADJU
FU	PROVIDE WITH PROSET SY
	DRAIN MODEL AND SIZE P
	WALL-MOUNT LAVATORY
	ELLIPTICAL BOWL, MOUNT
LAV	LEVER LAVATORY FAUCET
	WITH CHROME PLATED ST
	ESCUTCHEONS. INSULATE
	FLOOR-MOUNTED ADA W
	ACCESSIBLE, VIREOUS CHI
WC	W/ 17.125" SEAT HEIGHT, V
WC	CONTAINING FLUSHOMET
	BACKFLOW PREVENTER, V
	FLEXIBLE RISER TUBE, BOL
WH	10 GAL WATER HEATER: AG
VVII	SINGLE ELEMENT, 120V, 16
	REDUCED PRESSURE ZONE
RPZ	MEETING ASSE 1013, LEAD
	COCKS, QUARTER TURN B





DOMESTIC WATER SERVICE ENTRY SCALE : NO SCALE

### FIXTURE SCHEDULE

IEF 842-4PNR, ROUND FLOOR DRAIN, PVC BODY AND USTABLE 6-1/2" ROUND NICKEL BRONZE STRAINER. SYSTEMS "TRAP GUARD" INSERT FOR ACTUAL FLOOR PROVIDED.

Y: KOHLER K-1997-1-0, SINGLE-HOLE, 14.375"X12.3125' NT AT ADA HEIGHT, VITREOUS CHINA, WITH SINGLE Γ (KOHLER K-10215-4). PROVIDE FLEXIBLE SS RISERS

STOP VALVES, P-TRAP WITH CLEANOUT AND E WITH "HANDI-LAV-GLUARD" MODEL 102, OR EQUAL. WATER CLOSET: KOHLER K-3519-TR, HANDICAP

HINA, 1.28 GPF, ELONGATED BOWL, FLOOR MOUNTED , WHITE, VITREOUS CHINA TANK AND COVER

ETER/TANK WITH BUILT-IN PRESSURE REGULATOR AND WHITE OPEN-FRONT SEAT, CHROME STOPS, C.P. DLT CAPS, AND ESCUTCHEON.

AO SMITH EJC-10, 8 GPH RECOVERY AT 90 DEG F RISE, 1650W

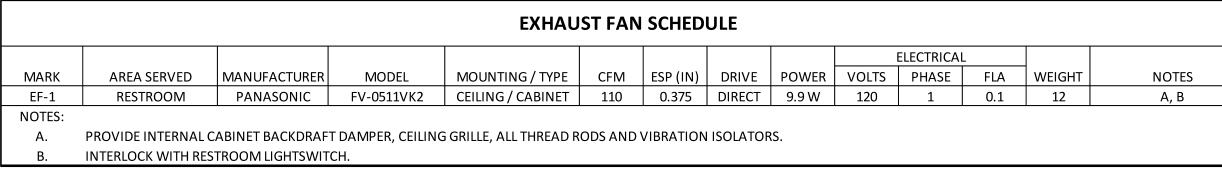
IE BACKFLOW PREVENTER: WATTS LF009, 1-1/2", AD FREE CAST BRONZE BODY, QUARTER TURN TESTING

BALL VALVES, AND AIR GAP FITTING.

					GAS	5 FURN	ACE SC	CHEDU	LE										
		GENERAL D	ATA				HI	EATING			FAN	DATA				EL	ECTRICAL	-	
TAG	BASIS OF DESIGN MFR/MODEL	FLOW DIRECTION	WEIGHT (LBS)	DIMENSIONS (WxDxH)	OUTSIDE AIR (CFM)	INPUT (BTUH)		AFUE	VENT	TYPE	ΗР	CFM	ESP (IN WG)	VOLT	PHASE	HZ	MOCP	MCA	NOTES
F-1	LENNOX / EL296UH070XV36B	HORIZONTAL	136	29.25x33x17.5	0	66,000	62,000	96	CONCENTRIC	VARIABLE	1/2	840	0.5	120	1	60	15	7.7	A,B,C,D,E

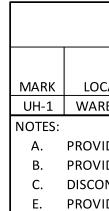
NOTES: A. EXTERNAL STATIC PRESSURE LISTED REPRESENTS STATIC PRESSURE REQUIRED FOR DUCTWORK AND DIFFUSERS OUTSIDE THE HVAC UNIT COMPLETELY INDEPENDENT OF ANY PRESSURE DROP THROUGH THE HVAC EQUIPMENT INCLUDING FILTER AND COIL. B. PROVIDE UNIT WITH 7-DAY PROGRAMMABLE HEAT/COOL/AUTO CHANGEOVER MULTISTAGE THERMOSTAT W/HUMIDITY SENSOR. C. PROVIDE MANUFACTURER'S CONCENTRIC VENT KIT. SIZE AND INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS WHILE ADHERING TO LENGTH AND FITTING LIMITATIONS. D. PROVIDE END RETURN FILTER KIT.

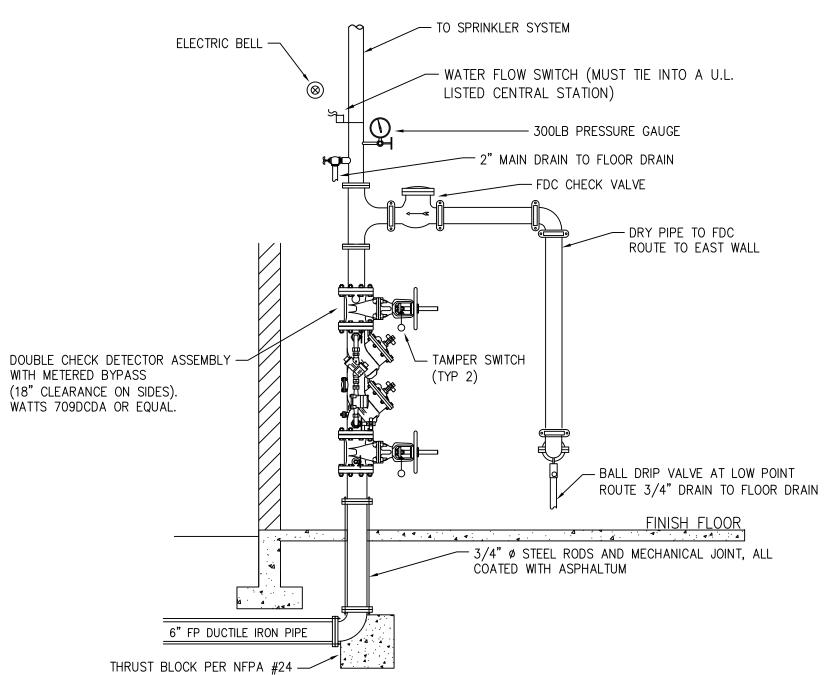
E. ADJUST FACTORY DEFAULT SETTINGS TO LIMIT BLOWER SPEED TO 840 CFM.



			СО	DNDENSING UN	IT SCHEDU	JLE							
	GENERAL DATA ELECTRICAL COOLING COIL & MISC.												
TAG	BASIS OF DESIGN MFR/MODEL	LOCATION	WEIGHT (LBS)	DIMENSIONS (WxDxH) (IN.)	NOMINAL CAP. (MBH)	VOLT	PHASE	ΗZ	МОСР	МСА	REFR.	EVAP COIL MODEL #	NOTES
CU-1	LENNOX / XC20-024-230	GROUND	243	35.5x39.5x39	24	208	1	60	30	19.1	R410A	CH35-30B-2F	A,B,C
NOTES:													

A. PROVIDE TIME DELAY ON COMPRESSOR RE-START KIT, CRANKCASE HEATER, AND COMPRESSOR LOCK-OUT WITH AMBIENT BELOW 35F. B. MECHANICAL CONTRACTOR SHALL COORDINATE ALL UNIT MOCP'S OF ACTUAL INSTALLED EQUIPMENT WITH ELECTRICAL CONTRACTOR. C. PROVIDE MIN. 4" TALL PRE-MANUFACTURED POLYOLEFIN PAD.





NOTES:

3

- 1) SEE NFPA 13 FOR CONNECTIONS PASSING THROUGH OR UNDER FOUNDATION WALLS.
- 2) ADEQUATE CLEARANCE SHALL BE PROVIDED AROUND FIRE RISER. DIMENSIONS FROM FACE-OF-PIPE SHALL MEASURE A MINIMUM OF 12" OFF THE BACK WALL, 18" ON EACH SIDE, AND 36" CLEAR IN FRONT. ALL VALVES NO MORE THAN 7'-0" AFF. 3) TAMPER SWITCH OR CHAIN & LOCK REQUIRED FOR CONTROL VALVES.
- 4) MONITORING SYSTEM: PROVIDE A SYSTEM FOR DETECTION OF FLOW AND SUPERVISION OF VALVES, CAPABLE WITH COMMUNICATING WITH OWNER'S MONITORING COMPANY. PROVIDE ALL WIRING. ROUTE COMMUNICATION CABLE TO TELEPHONE EQUIPMENT FOR CONNECTIONS BY OWNER.
- 5) DRAWING IS SCHEMATIC. ORIENT VALVE SO THAT 36" CLEAR IS IN FRONT OF HANDWHEEL. 6) HORIZONTAL INSTALLATION ALSO ALLOWED.



140°F HW 

THERM-X-TROL, MODEL ST-5

MOUNT ON SUSPENDED PLATFORM

SCALE : NO SCALE

	G	AS UN	IT HEAT	FER SCH	IEDULI	E				
				FEE		WEIGHT	E	LECTRICA	L	
MFR.	MODEL				CEM		VOLTS	РН	FLA	NOTES
LENNOX	LF25-125A	125	103.75	83.5	1950	167.00	115	1	5	A-E
	MFR. LENNOX	MFR. MODEL	MFR. MODEL (MBH)	MFR. MODEL (MBH) (MBH)	MFR. MODEL (MBH) (MBH) (%)	MFR. MODEL (MBH) (MBH) (%) CFM	MFR. MODEL (MBH) (MBH) (%) CFM (LBS)	MFR. MODEL (MBH) (MBH) (%) CFM (LBS) VOLTS	MFR. MODEL (MBH) (MBH) (%) CFM (LBS) VOLTS PH	MFR. MODEL (MBH) (MBH) (%) CFM (LBS) VOLTS PH FLA

A. PROVIDE WALL MOUNTED THERMOSTAT.

B. PROVIDE 4" TYPE 'B' VENT.

C. DISCONNECT BY ELECTRICAL.

PROVIDE NECESSARY MOUTING BRACKET AND ACCESSORIES FOR VERTICAL MOUNTING.

### DIFFUSER, REGISTER AND GRILLE SCHEDULE

			-				
MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING TYPE	FACE SIZE (IN.)	MAX NC	NOTES
SUPPLY							
CSD-1	TITUS	OMNI	PLAQUE FACE	LAY-IN	24x24	25	A,B,C
CSD-2	TITUS	TDC	LOUVERED	SURFACE	12.5x12.5	25	A,B,C
RETURN							
CRG-1	TITUS	50F	EGGCRATE	LAY-IN	24x24	25	A,B,C,D
NOTES:							

A. NECK SIZE SHOWN ON DRAWINGS.

BAKED ENAMEL FINISH, WHITE В.

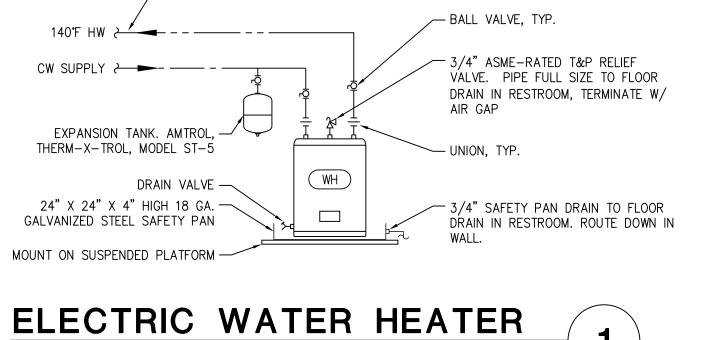
FRAME TYPE TO MATCH CEILING CONSTRUCTION, COORDINATE WITH ARCHITECTURAL REFLECTED CEILING PLAN. PAINT THE INSIDE OF CANS FLAT BLACK.

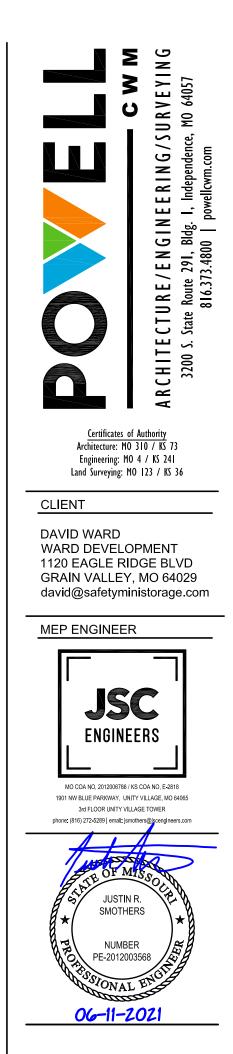
### FIXTURE BRANCH CONNECTION SCHEDULE

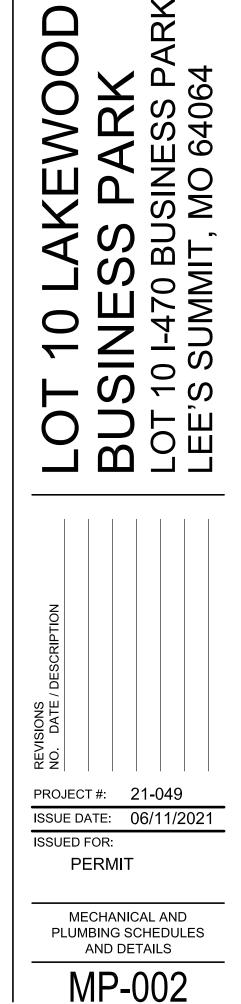
FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
FLOOR DRAIN	-	-	3"	1 1/2"
LAVATORY / SINK	1/2"	1/2"	1 1/2"	1 1/2"
WATER CLOSET (FLUSH TANK)	1/2"	-	4"	2"
NOTE:	PIPE SIZES SHOW	N ARE MINIMUM	1. 2" MIN. UNDERG	ROUND.

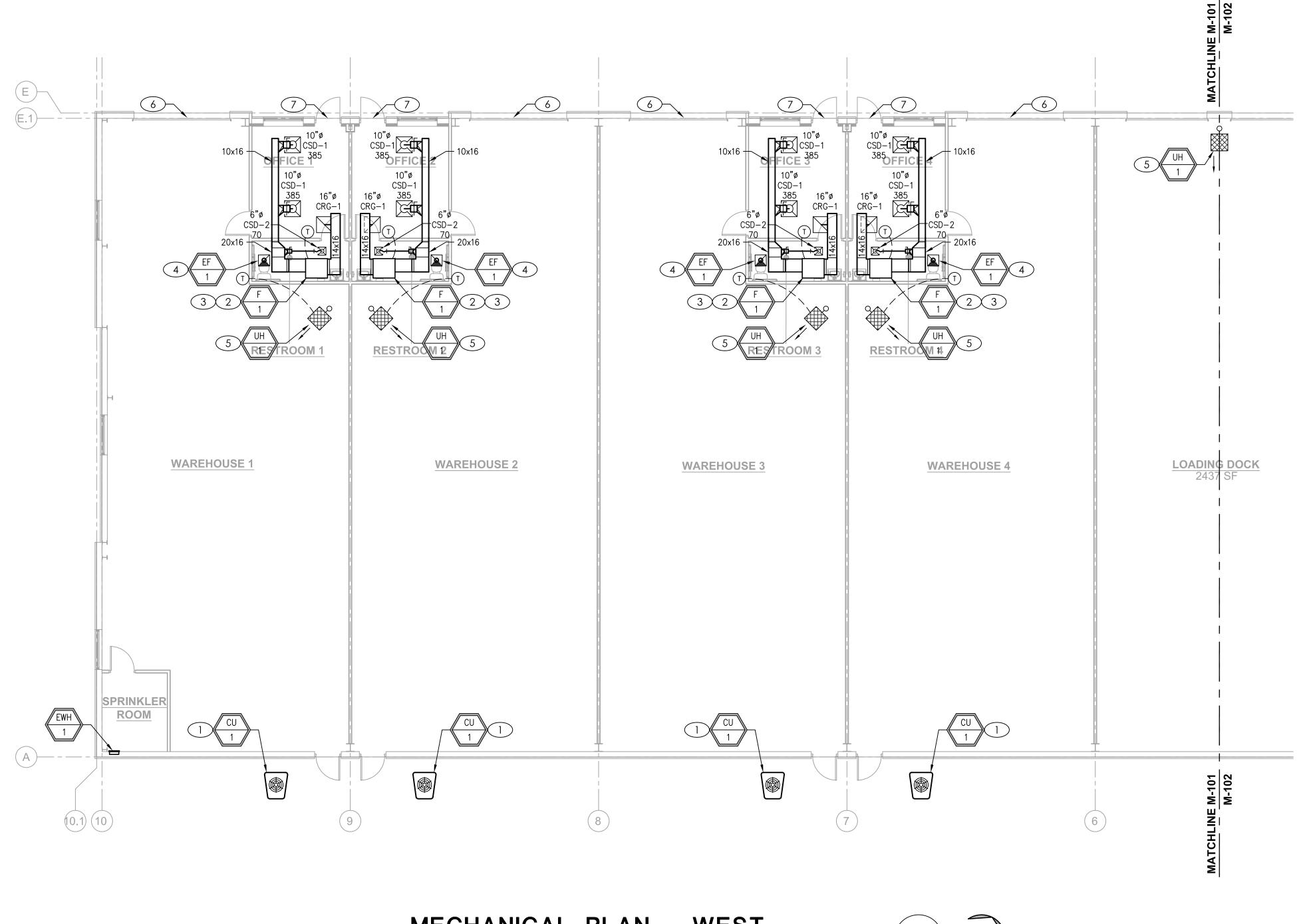
ELECTRIC UNIT HEATER SCHEDULE										
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	KW	VOLTAGE/PH	REMARKS				
EWH-1	QMARK	LFK204F	22	3	208/1	1,2				
REMARKS:										
1. PROVIDE SURFACE MOUNT FRAME.										
2. PROVIDE \	WITH INTEGRAL THE	RMOSTAT AN	ID DISCONN	ECT.						

— 1/2" TO LAVATORY









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

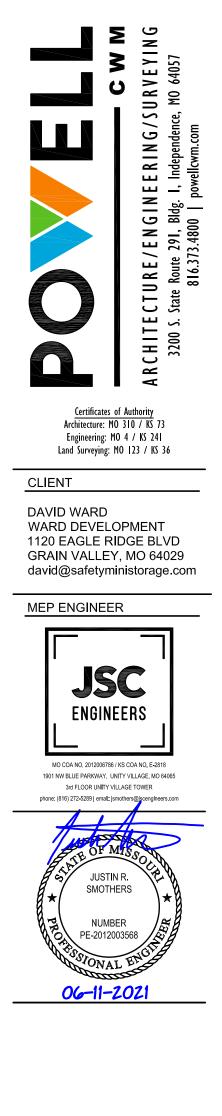
**MECHANICAL PLAN - WEST** 

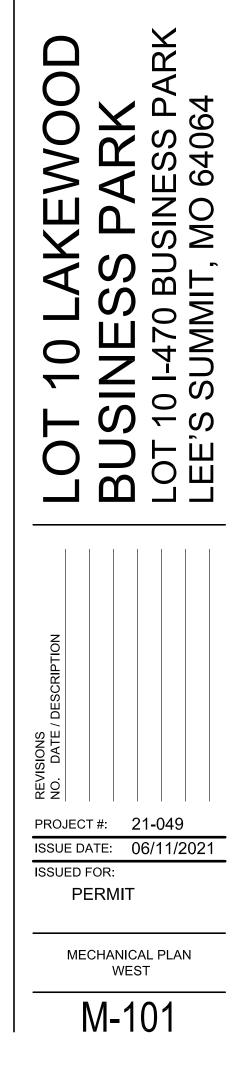


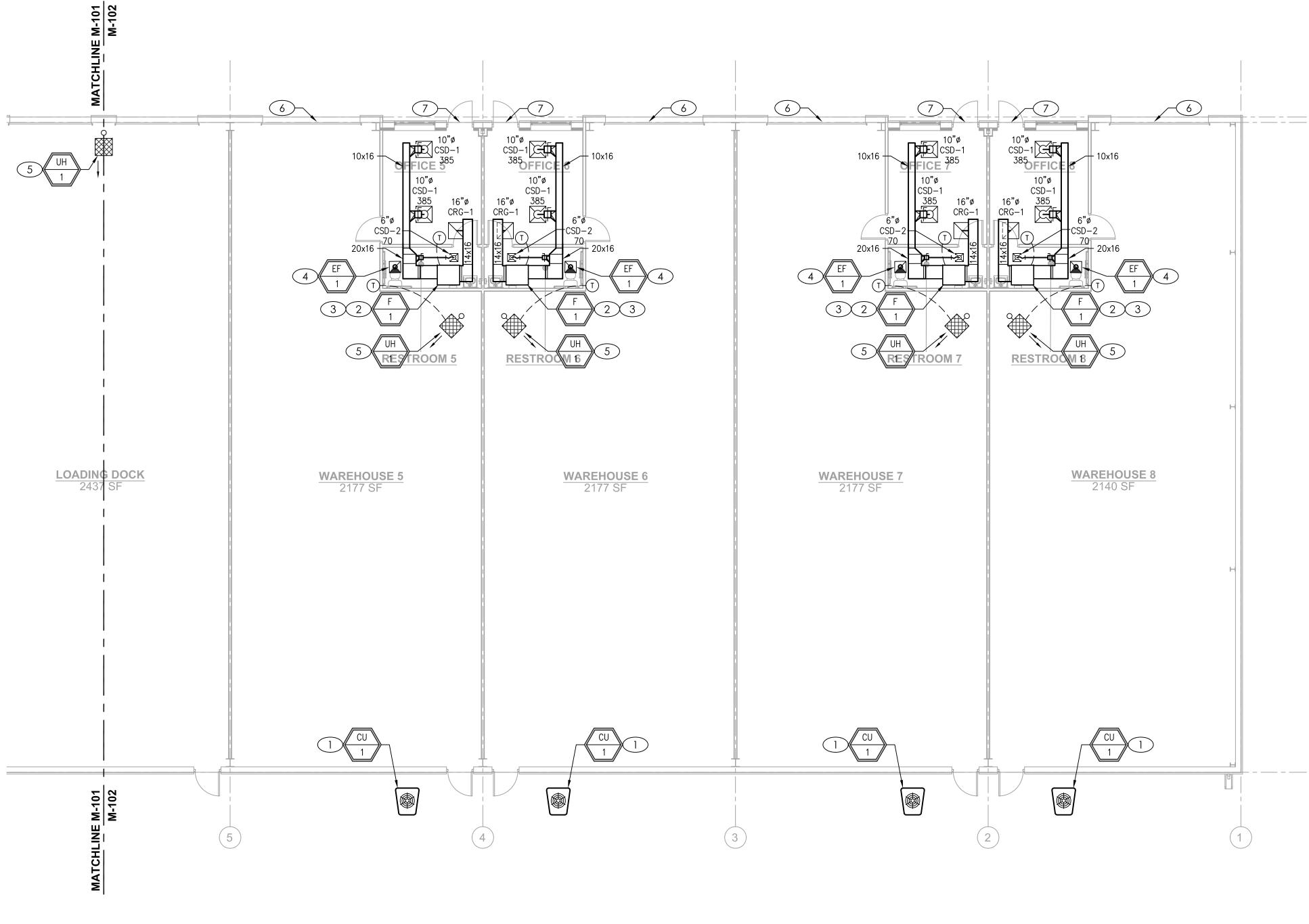
### **GENERAL NOTES**

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- B. COORDINATE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION AND AVOID CONFLICTS. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. VERIFY DUCT SPACE AVAILABLE ABOVE ALL CEILINGS PRIOR TO ANY FABRICATION OF INSTALLATION.
- C. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AROUND EQUIPMENT.
- D. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- E. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE ROOF.
- F. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.

- 1. CONDENSING UNIT LEVEL AT GRADE ON PREMANUFACTURED PAD. INSTALL PER MANUFACTURER'S INSTRUCTIONS MAINTAINING RECOMMENDED SERVICE CLEARANCES. ROUTE REFRIGERANT LINES THOUGH WALL 18" AFG. WEATHER SEAL REFRIGERANT LINE PENETRATIONS OF BUILDING. PROVIDE ALL RECOMMENDED VALVES, FILTERS, FITTINGS, ETC. AND MAKE ALL NECESSARY CONNECTIONS TO COOLING COIL.
- 2. MOUNT HORIZONTAL FURNACE AND COIL ABOVE RESTROOM CEILING. TRANSITION DUCTWORK TO UNIT AS REQUIRED. AT RETURN PROVIDE MANUFACTURER'S END RETURN FILTER KIT AND FILTER. ROUTE CONDENSATE DRAINS FROM FURNACE AND COIL TO FLOOR DRAIN BELOW.
- 3. PROVIDE CONCENTRIC VENT FOR FURNACE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ADHERE TO SIZE AND LENGTH LIMITATIONS. LOCATE VENT A MINIMUM OF 5'-0" FROM OUTSIDE AIR INTAKE. ROUTE TO ROOF OR WALL. COORDINATE LOCATION WITH GC PRIOR TO INSTALLATION.
- 4. CEILING MOUNT EXHAUST FAN. ROUTE 6"Ø EXHAUST DUCT UP THROUGH ROOF TO ROOF CAP. LOCATE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE. SEAL ROOF PENETRATION WEATHER TIGHT.
- 5. HANG UNIT HEATER 14' AFF FROM OVERHEAD STRUCTURAL STEEL. PROVIDE TYPE 'B' VENT THROUGH ROOF. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 6. VENTILATION AIR FOR WAREHOUSE IS BY OPERABLE WAREHOUSE DOOR. 12'X14' DOOR PROVIDES 168 SQFT OF OPEN AREA. BY THE 4% RULE PER IMC SECTION 402, MIN REQUIRED VENTILATION AREA IS 0.04\*2431 SQFT =97.24 SQFT.
- 7. VENTILATION AIR FOR OFFICE IS BY OPERABLE DOOR. 3'X7' DOOR PROVIDES 21 SQFT OF OPEN AREA. BY THE 4% RULE PER IMC SECTION 402, MIN REQUIRED VENTILATION AREA IS 0.04\*171 SQFT=6.8 SQFT.







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

## MECHANICAL PLAN - EAST

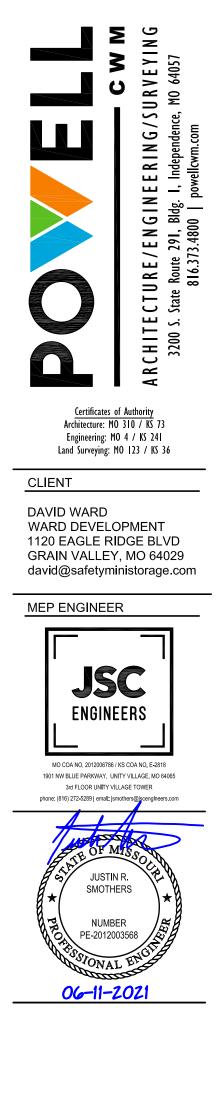


### GENERAL NOTES

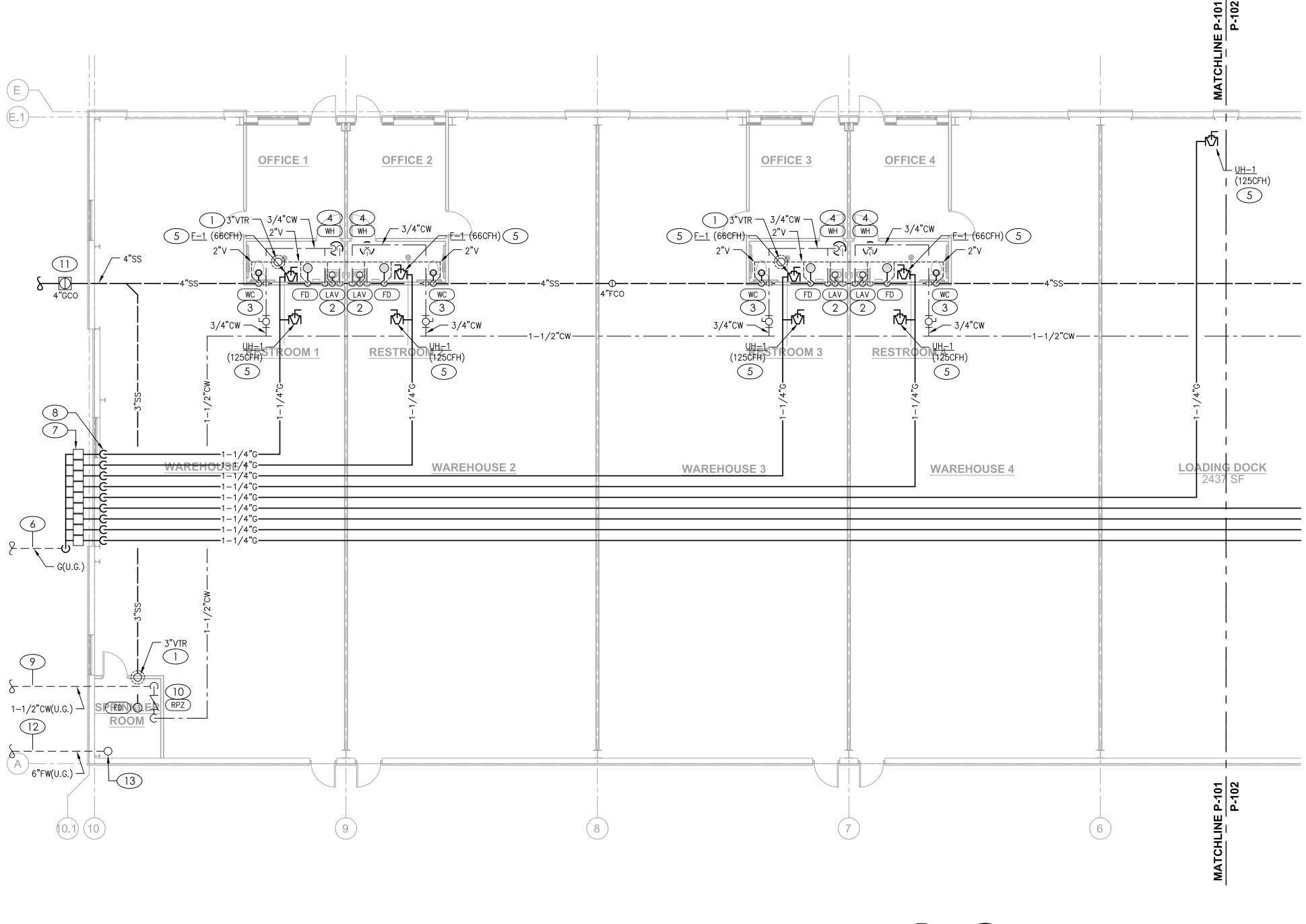
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- C. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AROUND EQUIPMENT.
- D. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- E. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE ROOF.
- F. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.

### **# KEYED PLAN NOTES**

- 1. CONDENSING UNIT LEVEL AT GRADE ON PREMANUFACTURED PAD. INSTALL PER MANUFACTURER'S INSTRUCTIONS MAINTAINING RECOMMENDED SERVICE CLEARANCES. ROUTE REFRIGERANT LINES THOUGH WALL 18" AFG. WEATHER SEAL REFRIGERANT LINE PENETRATIONS OF BUILDING. PROVIDE ALL RECOMMENDED VALVES, FILTERS, FITTINGS, ETC. AND MAKE ALL NECESSARY CONNECTIONS TO COOLING COIL.
- 2. MOUNT HORIZONTAL FURNACE AND COIL ABOVE RESTROOM CEILING. TRANSITION DUCTWORK TO UNIT AS REQUIRED. AT RETURN PROVIDE MANUFACTURER'S END RETURN FILTER KIT AND FILTER. ROUTE CONDENSATE DRAINS FROM FURNACE AND COIL TO FLOOR DRAIN BELOW.
- 3. PROVIDE CONCENTRIC VENT FOR FURNACE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ADHERE TO SIZE AND LENGTH LIMITATIONS. LOCATE VENT A MINIMUM OF 5'-0" FROM OUTSIDE AIR INTAKE. ROUTE TO ROOF OR WALL. COORDINATE LOCATION WITH GC PRIOR TO INSTALLATION.
- 4. CEILING MOUNT EXHAUST FAN. ROUTE 6"Ø EXHAUST DUCT UP THROUGH ROOF TO ROOF CAP. LOCATE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE. SEAL ROOF PENETRATION WEATHER TIGHT.
- 5. HANG UNIT HEATER 14' AFF FROM OVERHEAD STRUCTURAL STEEL. PROVIDE TYPE 'B' VENT THROUGH ROOF. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
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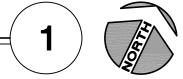


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ISSUI	ED FOR	:			
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SCALE : 1/8" = 1'-0"

PLUMBING PLAN - WEST



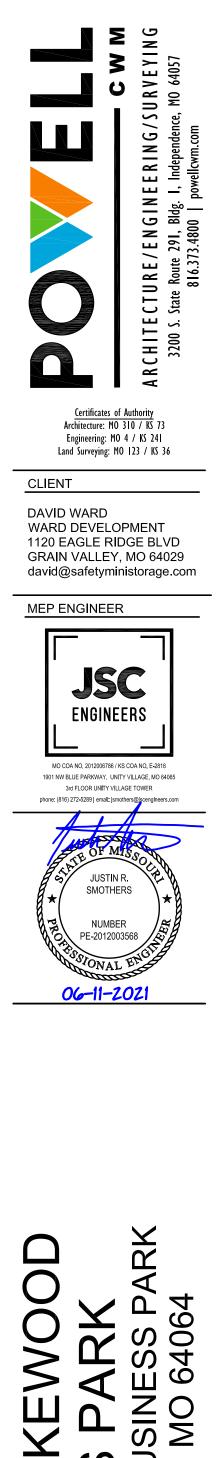
### **GENERAL NOTES**

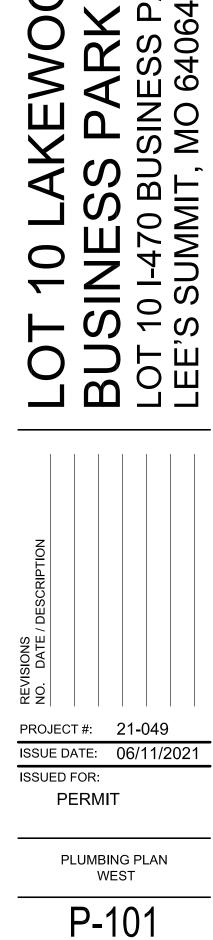
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- B. PROVIDE THE ARCHITECT AND OWNER WITH A COPY OF THE INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.
- C. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- D. EXACT LOCATION AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE VERIFIED PRIOR TO ANY INSTALLATION OR CONNECTIONS THEREOF.
- E. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- F. COORDINATE THE ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 3' FROM ALL OTHER EQUIPMENT.
- G. PROVIDE SHIELDED ADAPTOR COUPLINGS FOR CONNECTIONS OF PVC DWV TO CAST IRON SANITARY, WASTE AND VENT PIPE.
- H. REFER TO PLUMBING FIXTURE SCHEDULE FOR MINIMUM BRANCH WASTE AND VENT PIPE SIZING.

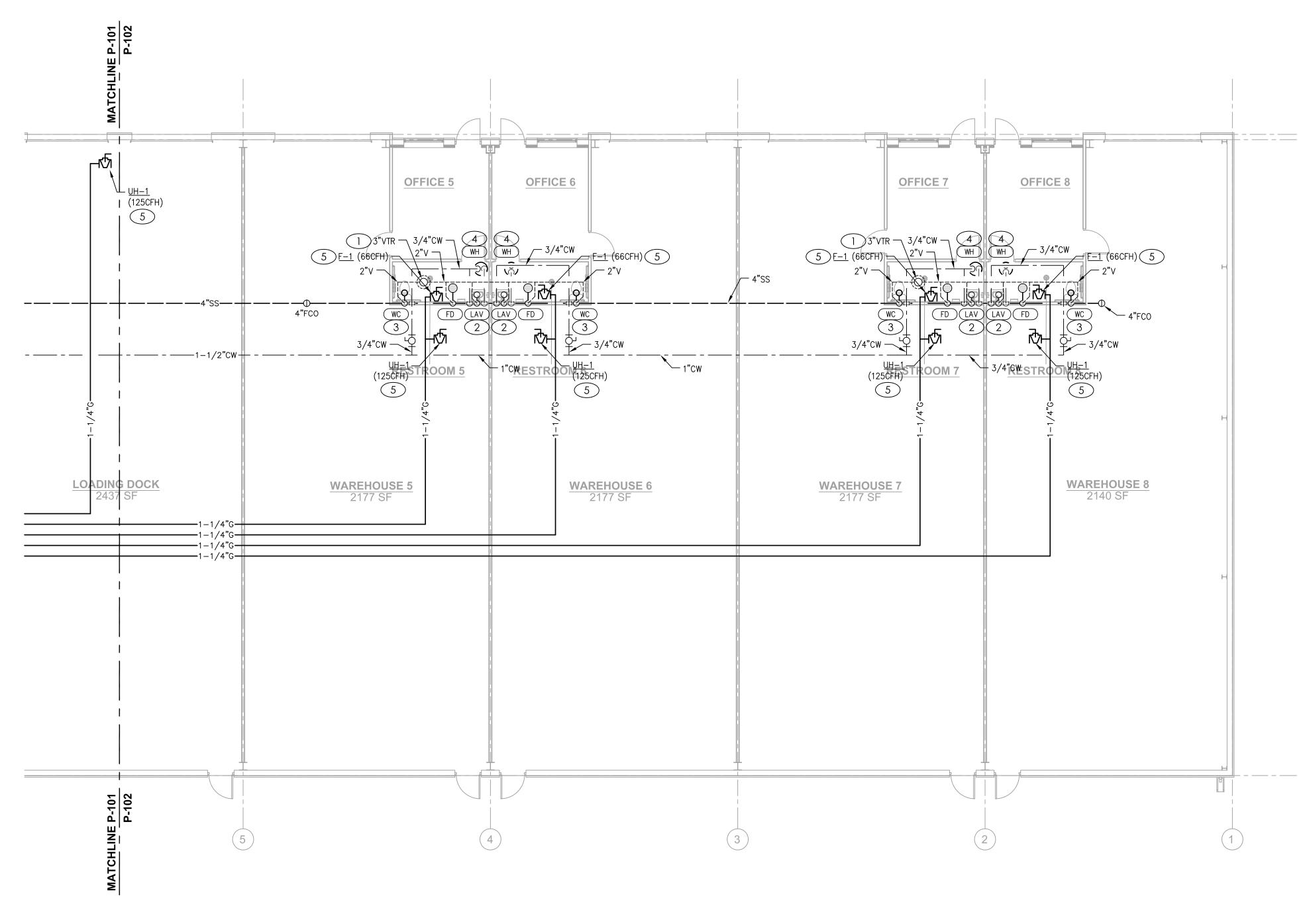
### **# KEYED PLAN NOTES**

### (NOT ALL NOTES NECESSARILY USED ON THIS SHEET)

- 1. NEW VENT THROUGH ROOF (VTR). LOCATE VTR A MINIMUM OF 3'-0" FROM EDGE OF ROOF AND MINIMUM 10'-0" FROM ANY OUTSIDE AIR INTAKE. SEAL PENETRATION WEATHER TIGHT. COORDINATE WITH MECHANICAL CONTRACTOR.
- 2. PROVIDE 1-1/2"V, 2"SS, 1/2"CW AND 1/"HW IN WALL TO LAV. PROVIDE THERMOSTATIC MIXING VALVE FOR FIXTURE EQUAL TO LEONARD MODEL 170. SET HW SUPPLY WATER TEMPERATURE TO 110°F.
- 3. PROVIDE 2"V, 4"SS, AND 1/2"CW IN WALL TO WATER CLOSET.
- 4. INSTALL WATER HEATER ABOVE CEILING. ROUTE 1/2"CW TO WATER HEATER THEN 1/2"HW FROM WH TO LAVATORY. ROUTE 3/4" T&P RELIEF FROM WATER HEATER TO FLOOR DRAIN WITH AIR GAP. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- 5. PROVIDE SHUT-OFF VALVE AND DIRT LEG PRIOR TO EQUIPMENT CONNECTION. COORDINATE EXACT EQUIPMENT LOCATION WITH MECHANICAL CONTRACTOR.
- 6. GAS PIPING TO UTILITY MAIN. TOTAL ESTIMATED GAS LOAD FOR BUILDING IS 1,653 CFH. REFER TO CIVIL PLANS FOR CONTINUATION. CONTRACTOR TO COORDINATE WITH GAS UTILITY FOR INSTALLATION.
- 7. COORDINATE WITH GAS COMPANY FOR INSTALLATION OF METER BANK WITH 9 TENANT METERS. DEMAND FOR EACH METER IS 191 CFH @ 12"W.C.
- 8. ROUTE GAS PIPING THROUGH EXTERIOR WALL THEN UP ON INTERIOR OF WALL. ROUTE TIGHT TO WALL. CONTINUE ROUTING AS SHOWN AT BOTTOM OF JOIST ELEVATION. SEAL WALL PENETRATION WEATHERTIGHT.
- 9. 1-1/2" DOMESTIC COLD WATER TO UTILITY SERVICE. CONTRACTOR SHALL WORK WITH THE WATER COMPANY AND FOR THE INSTALLATION OF A NEW WATER MAIN ENTRANCE, INCLUDING TAP, METER, METER PIT, PIPING, ETC. FOR A COMPLETE INSTALLATION. SEE CIVIL PLANS FOR CONTINUATION. MAINTAIN MINIMUM 48" BURY FOR FREEZE PROTECTION.
- 10. 1-1/2" SHUT-OFF VALVE AND 1-1/2" RPZ BACKFLOW PREVENTER APPROVED FOR DOMESTIC WATER SERVICE. PROVIDE PRESSURE REDUCING VALVE IF SERVICE PRESSURE AT DOMESTIC WATER ENTRY EXCEEDS 75 P.S.I. DOWNSTREAM OF REDUCED PRESSURE BACKFLOW PREVENTER. SEE INSTALLATION DETAIL.
- 11. 4" SANITARY TO UTILITY SERVICE. REFER TO CIVIL PLANS FOR CONTINUATION. PROVIDE 4"GCO AT EXTERIOR OF BUILDING.
- 12. 6" FIRE SERVICE TO MAIN. REFER TO CIVIL DRAWINGS FOR CONTINUATION.
- 13. FIRE RISER. SEE DETAIL ON MPOO1 FOR GENERAL REQUIREMENTS. COORDINATE WITH FIRE SPRINKLER CONTRACTOR FOR INSTALLATION, SIZING, AND ROUTING OF FIRE DEPARTMENT CONNECTION.







PLUMBING PLAN - EAST SCALE : 1/8" = 1'-0"



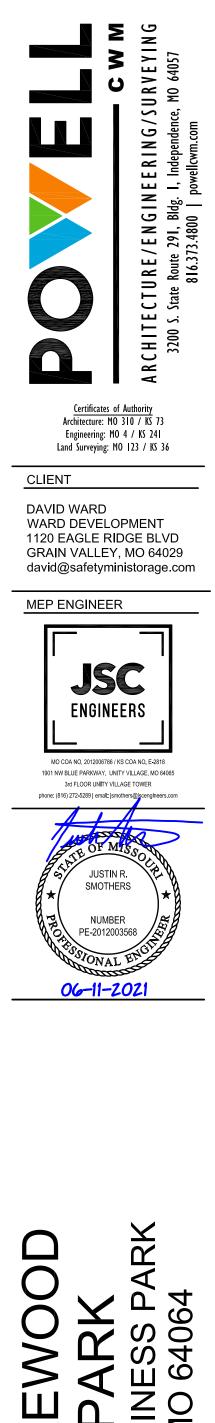
### **GENERAL NOTES**

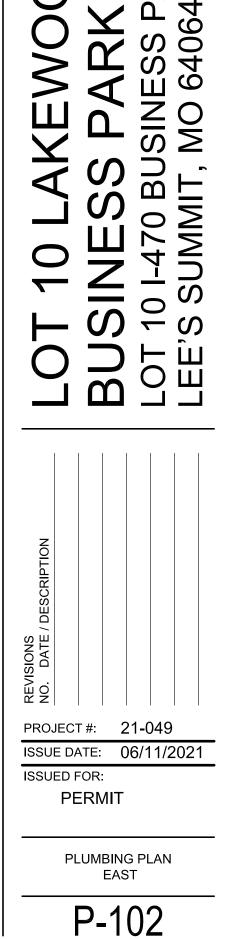
- A. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- B. PROVIDE THE ARCHITECT AND OWNER WITH A COPY OF THE INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS.
- C. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- D. EXACT LOCATION AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE VERIFIED PRIOR TO ANY INSTALLATION OR CONNECTIONS THEREOF.
- E. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- F. COORDINATE THE ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 3' FROM ALL OTHER EQUIPMENT.
- G. PROVIDE SHIELDED ADAPTOR COUPLINGS FOR CONNECTIONS OF PVC DWV TO CAST IRON SANITARY, WASTE AND VENT PIPE.
- H. REFER TO PLUMBING FIXTURE SCHEDULE FOR MINIMUM BRANCH WASTE AND VENT PIPE SIZING.

### **# KEYED PLAN NOTES**

### (NOT ALL NOTES NECESSARILY USED ON THIS SHEET)

- 1. NEW VENT THROUGH ROOF (VTR). LOCATE VTR A MINIMUM OF 3'-0" FROM EDGE OF ROOF AND MINIMUM 10'-0" FROM ANY OUTSIDE AIR INTAKE. SEAL PENETRATION WEATHER TIGHT. COORDINATE WITH MECHANICAL CONTRACTOR.
- 2. PROVIDE 1-1/2"V, 2"SS, 1/2"CW AND 1/"HW IN WALL TO LAV. PROVIDE THERMOSTATIC MIXING VALVE FOR FIXTURE EQUAL TO LEONARD MODEL 170. SET HW SUPPLY WATER TEMPERATURE TO 110°F.
- 3. PROVIDE 2"V, 4"SS, AND 1/2"CW IN WALL TO WATER CLOSET.
- 4. INSTALL WATER HEATER ABOVE CEILING. ROUTE 1/2"CW TO WATER HEATER THEN 1/2"HW FROM WH TO LAVATORY. ROUTE 3/4" T&P RELIEF FROM WATER HEATER TO FLOOR DRAIN WITH AIR GAP. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- 5. PROVIDE SHUT-OFF VALVE AND DIRT LEG PRIOR TO EQUIPMENT CONNECTION. COORDINATE EXACT EQUIPMENT LOCATION WITH MECHANICAL CONTRACTOR.
- 6. GAS PIPING TO UTILITY MAIN. TOTAL ESTIMATED GAS LOAD FOR BUILDING IS 1,653 CFH. REFER TO CIVIL PLANS FOR CONTINUATION. CONTRACTOR TO COORDINATE WITH GAS UTILITY FOR INSTALLATION.
- 7. COORDINATE WITH GAS COMPANY FOR INSTALLATION OF METER BANK WITH 9 TENANT METERS. DEMAND FOR EACH METER IS 191 CFH @ 12"W.C.
- 8. ROUTE GAS PIPING THROUGH EXTERIOR WALL THEN UP ON INTERIOR OF WALL. ROUTE TIGHT TO WALL. CONTINUE ROUTING AS SHOWN AT BOTTOM OF JOIST ELEVATION. SEAL WALL PENETRATION WEATHERTIGHT.
- 9. 1-1/2" DOMESTIC COLD WATER TO UTILITY SERVICE. CONTRACTOR SHALL WORK WITH THE WATER COMPANY AND FOR THE INSTALLATION OF A NEW WATER MAIN ENTRANCE, INCLUDING TAP, METER, METER PIT, PIPING, ETC. FOR A COMPLETE INSTALLATION. SEE CIVIL PLANS FOR CONTINUATION. MAINTAIN MINIMUM 48" BURY FOR FREEZE PROTECTION.
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## **ELECTRICAL SPECIFICATIONS**

PART I – GENERAL	2. THE CONTRACTOR SHALL SUBMIT S FOLLOWING ITEMS:
<ul> <li><u>A. CONDITIONS</u></li> <li>I. FURNISH AND INSTALL A COMPLETELY WIRED AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO, THESE MAJOR ITEMS.</li> <li>A. LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.</li> <li>B. ELECTRICAL PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.</li> <li>C. TELEPHONE, TELEVISION, AND FIRE ALARM. OUTLETS AND CONDUIT AS INDICATED.</li> </ul>	<ul> <li>A. LIGHTING FIXTURE CUTS AND PI</li> <li>B. OUTLINE DRAWINGS AND DATA PANELS.</li> <li>C. OUTLINE DRAWINGS OF ALL SWI</li> <li>D. WIRING DEVICES AND COVERPLA</li> <li>E. ALL CIRCUIT BREAKERS INSTALI</li> </ul>
2. OBTAIN AND REVIEW ALL OTHER DRAWINGS INCLUDING REFLECTED CEILING PLAN, INTERIOR AND EXTERIOR ELEVATIONS, FURNITURE PLANS AND ALL MILL WORK DRAWINGS. COORDINATE INSTALLATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT PRIOR TO ROUGH-IN.	3. SUBMIT ITEMS AT ONE TIME IN A PARTIAL SUBMITTALS WILL NOT BE C. SYSTEM GROUNDING
. OBTAIN SUBMITTAL AND SHOP DRAWINGS FROM OTHER TRADES AND EQUIPMENT TO COORDINATE INSTALLATION ACCORDINGLY.	1. GROUNDING SHALL COMPLY WITH F METALLIC PARTS OF ELECTRICAL E GROUNDING CONDUCTOR OF NONM
INSTALLATION SHALL COMPLY WITH ALL CURRENT APPLICABLE CODES AND GOVERNING AGENCIES HAVING JURISDICTION.	RACEWAYS, AND GROUNDED COND 2. GROUNDING CONDUCTOR (NEUTRAL GROUNDING CONDUCTOR AT A SIN
FIRE ALARM SYSTEM, IF REQUIRED PER IBC, SHALL BE DESIGN—BUILD BY OWNER'S/GC'S FIRE ALARM CONTRACTOR. DESIGN SHALL BE IN ACCORDANCE WITH NFPA 72. FIRE ALARM CONTRACTOR SHALL SUBMIT STAMPED DRAWINGS TO AHJ FOR REVIEW AND APPROVAL. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR TESTING AND VERIFYING THAT THE AUDIBILITY OF THE FIRE ALARM SYSTEM MEETS A MINIMUM OF 15 DBA ABOVE AMBIENT NOISE LEVELS. ADD HORNS WHERE REQUIRED TO MAINTAIN MINIMUM LEVELS.	ACCORDING TO THE APPLICABLE F CONDUCTOR (NEUTRAL) TO THE G ENCLOSURE FOR THE SYSTEM'S O' PLANS OR SPECIFICATIONS. 3. A GROUND BUS SEPARATE FROM AND PANELBOARDS. PROPER TOF
PROVIDE FIRE STOP ON ALL PIPING THAT PENETRATES RATED WALLS. METHOD OF FIRE STOP SHALL MEET WALL RATING. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS. THIS CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH-IN BOXES, PANELS, ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENINGS IN RATED ASSEMBLIES.	<ul> <li>RECOMMENDATIONS, PRIOR TO ENERGY</li> <li>4. GROUND BUSES AND NEUTRAL BU THOSE PROVIDED IN ANY EQUIPME AS SPECIFIED ABOVE FOR THE SE</li> <li>5. WHEN INDICATED ON THE DRAWING THE GROUND BUS IN THE DISTRIB WHERE THEY ARE PROVIDED. WH</li> </ul>
<u>RELATED WORK BY OTHERS</u> THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH	SHALL BE CONNECTED TO EQUIPM REMOVAL OF THE RECEPTACLE, EQUIPM BUSING SHALL NOT AFFECT THE ( 6. RACEWAYS MAY NOT BE USED AS
SERVING UTILITY COMPANY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE COORDINATE WITH LOCAL UTILITY COMPANIES.	<ul> <li>CONDUIT SHALL HAVE SEPARATE</li> <li>INSURE A CONTINUOUS GROUNDIN</li> <li>7. IN INACCESSIBLE LOCATIONS, MAK</li> <li>8. IN ACCESSIBLE LOCATIONS, CONNE</li> <li>SOLDERLESS BRONZE GROUNDING</li> </ul>
CODES, REGULATIONS, AND STANDARDS THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION. THE LATEST EDITIONS OF THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS: A. THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS. B. THE NATIONAL ELECTRICAL CODE, INCLUDING LOCAL AMENDMENTS. C. UNDERWRITER LABORATORIES INCORPORATED STANDARDS. D. AMERICAN NATIONAL STANDARDS INSTITUTE. E. INTERNATIONAL DUW DINC CODE	<ul> <li>D. WIRE</li> <li>1. CONDUCTOR SIZES SHOWN ON TH SPECIFIED, ALL WIRE SHALL BE T' AWG, TYPE THHN/THWN INSULATION BRANCH CIRCUIT WIRING SHALL B</li> <li>2. ALUMINUM CONDUCTORS MAY BE SHALL BE ALUMINUM ALLOW AA-</li> <li>3. THE WIRES SHALL BE MARKED WI' REQUIRED BY LOCAL ORDINANCES 120V-WHITE, AND LIVE WIRES 208</li> </ul>
E. INTERNATIONAL BUILDING CODE. <u>INSPECTION OF SITE</u> PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES, AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NONCOMPLIANCE WITH THIS CONDITION AFTER BIDDING. ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS. STORAGE AND HANDLING OF MATERIAL	<ul> <li>AND BLUE (PHASE C). CIRCUIT S</li> <li>4. ALL CONDUCTORS SHALL BE RATH</li> <li>5. SPLICES IN EXTERIOR PULL BOXES</li> <li>SPLICE KIT OR APPROVED EQUAL.</li> <li>APPROVED EQUAL.</li> <li>6. PROVIDE SOLID CONDUCTOR FOR</li> <li>7. NO WIRE SHALL BE INSTALLED IN MINERALAC NO. 100 OR EQUIVALE CONDUCTORS IN THE CONDUIT SY</li> </ul>
DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD. ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION. COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.	<ol> <li>MC CABLE WITH COPPER CONDUCT</li> <li>ALL WIRING SHALL BE INSTALLED SECTIONS. RGS, WITH A 20 MIL BE USED IN INDOOR LOCATIONS N LOCATIONS NOT IN CONTACT WITH DAMAGE. PVC MAY BE USED IN CONDUIT SHALL BE USED FOR INI 72". LIQUID-TIGHT FLEXIBLE STE EQUIPMENT NOT TO EXCEED 48".</li> </ol>
CLEANUP KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK REMOVE ALL SURPLUS MATERIALS, TOOLS, ETC., AND LEAVE THE PREMISES BROOM-CLEAN.	2. WHERE CONDUIT ENTERS OUTLET COMPRESSION CONNECTORS, OR I OR INSULATED THROAT CONNECT EXPOSED CONDUIT PARALLEL TO T & B OR APPLETON, OR EQUAL
EXCAVATION, CUTTING, AND FITTING PERFORM ALL EXCAVATION AND BACK FILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY. PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.	<ol> <li>COVER METALLIC CONDUIT IN CON LAPPED TO PROVIDE 20 MIL. THIC NOT UNDER BUILDINGS AND FEED COMPOUND TO BE WATERTIGHT.</li> <li>SCHEDULE 40 PVC CONDUIT SHAL APPROVED AND CEMENTED JOINTS 22° SHALL BE WRAPPED RIGID GA</li> <li>FITTINGS AND CONDUIT BODIES SH</li> </ol>
DRAWINGS THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK DATA PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.	<ol> <li>CONDUIT SIZES SHALL BE AS REG</li> <li>ALL EMPTY CONDUIT SYSTEMS SH INSTALLATION OF FUTURE WIRE.</li> <li>WIRING, CONDUITS, AND OUTLETS CERTAIN MOTOR AND LIGHTING FE INDICATED ON THE DRAWINGS.</li> <li>CONDUIT PENETRATION THROUGH FLASHING SLEEVE. INSTALLATION</li> <li>CONDUITS SHALL BE ROUTED PAR</li> <li>CONTLET, PULL, AND JUNCTION BOXES</li> <li>ALL JUNCTION AND OUTLET BOXES</li> <li>BOXES INSTALLED IN POURED CEM WATERTIGHT GASKETED COVERS. COVERING, COVERS SHALL BE OF</li> <li>BOXES INSTALLED FOR THE ALARN APPROPRIATE COVER PLATES.</li> </ol>
COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE VERIFIED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS. CAREFULLY VERIFY THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES. COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY	<ul> <li>4. BOXES FOR TELEPHONE, COMPUTE MINIMUM 2–1/8" DEEP.</li> <li><u>G WIRING DEVICES (COMMERCIAL)</u></li> <li>1. WALL SWITCHES SHALL BE SPECIFIC</li> <li>2. RECEPTACLES SHALL BE SPECIFIC</li> </ul>
COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR. COORDINATE HVAC AND PLUMBING EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC AND PLUMBING CONTRACTORS. <u>RECORD DRAWINGS</u> THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS. AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL RECORD	<ol> <li>2. RECEPTACLES SHALL BE SPECIFIC GROUNDED TYPE. SPECIAL APPLIC GROUND DOWN.</li> <li>3. DEVICE PLATES SHALL BE EQUAL WHITE, UNLESS OTHERWISE NOTED</li> <li>4. RECEPTACLES IN OUTDOOR AND V COVER/ENCLOSURE CLEARLY MAR EQUAL TO TAYMAC SPECIFICATION</li> </ol>
CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.	<ul> <li>H. SERVICE ENTRANCE SECTION</li> <li>1. THE SERVICE ENTRANCE EQUIPMENT CARRY THE U.L. LABEL AND SHAN</li> <li>2. SERVICE ENTRANCE EQUIPMENT SI</li> </ul>
A. MATERIALS ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITER'S LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.	HORIZONTALLY TAPERED BUSSING <u>I. DISTRIBUTION PANELS</u> 1. DISTRIBUTION PANELS SHALL BE I TAPERED BUSSING SHALL NOT BE

### BMIT SEVEN (7) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE

ND PERFORMANCE DATA. DATA SHEETS OF EACH PANELBOARD, LOAD CENTERS, AND DISTRIBUTION SWITCH GEAR COMPONENTS.

ERPLATES. ISTALLED IN PANELBOARDS, LOAD CENTERS, AND DISTRIBUTION PANELS. IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. OT BE ACCEPTABLE.

WITH REQUIREMENTS OF ARTICLE 250. ALL EXPOSED NONCURRENT CARRYING CAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, METALLIC CABLE ARMOR, NONMETALLIC SHEATHED CABLES, GROUNDING CONDUCTOR IN NONMETALLIC CONDUCTORS OF THE WIRING SYSTEM SHALL BE GROUNDED. JTRAL) OF THE WIRING SYSTEM SHALL BE CONNECTED TO THE SYSTEM

SINGLE PLACE IN EACH SYSTEM BY REMOVABLE BONDING JUMPERS, SIZED BLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE. THE GROUNDED HE GROUNDING CONDUCTOR CONNECTION SHALL BE LOCATED IN THE 1'S OVERCURRENT PROTECTION OR WHERE OTHERWISE INDICATED ON THE

ROM THE NEUTRAL BUS SHALL BE PROVIDED IN ALL DISTRIBUTION PANELS TORQUE ON GROUND BUS SHALL BE VERIFIED, PER MANUFACTURER'S ENERGIZING EQUIPMENT.

BUSES IN ALL DISTRIBUTION PANELS, LOAD CENTERS, PANELBOARDS, AND JIPMENT SHALL BE ISOLATED EXCEPT WHERE REQUIRED TO BE CONNECTED E SERVICE ENTRANCE

AWINGS, EQUIPMENT GROUNDING CONDUCTORS SHALL BE EXTENDED FROM STRIBUTION EQUIPMENT TO THE RECEPTACLE, FIXTURE OR DEVICE LUGS WHERE LUGS ARE NOT PROVIDED, EQUIPMENT GROUNDING CONDUCTORS QUIPMENT ENCLOSURES. THE CONNECTIONS SHALL BE ARRANGED SUCH THAT E, EQUIPMENT GROUND CONDUCTORS, OR GROUND JUMPERS FROM GROUND THE GROUND SYSTEM.

D AS A GROUNDING CONDUCTOR FOR POWER AND LIGHTING CIRCUITS. ALL ATE CODE SIZED GREEN GROUND WIRE INSTALLED IN THE CONDUIT TO INDING PATH.

MAKE CONNECTIONS BY EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL BE MADE WITH BOLTED THROUGH, APPROVED DING DEVICES.

THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE BE TYPE XHHW OR SE FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 ILATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL LL BE COPPER.

BE UTILIZED FOR SERVICE ENTRANCE AND PANEL FEEDERS. CONDUCTORS AA-8000 SERIES.

O WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE NCES GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE 5 208Y/120V AND 120/240 SHALL BE BLACK (PHASE A), RED (PHASE B), UIT SHALL BE LABELED IN EACH J-BOX. RATED 600 VOLT.

BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" QUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR

FOR 12 AWG AND SMALLER. D IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE IVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE SYSTEM.

NDUCTORS AND GROUND WIRE MAY BE USED WHERE PERMITTED.

LED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED IN OTHER MIL PVC COATING WILL BE USED WHEN IN CONTACT WITH EARTH. IMC MAY INS NOT IN CONTACT WITH THE EARTH. EMT MAY BE USED IN INDOOR WITH EARTH, NOT IN CONCRETE SLABS OR WALLS AND NOT SUBJECT TO IN OR BELOW CONCRETE AND DIRECT BURIED IN EARTH. FLEXIBLE STEEL INDOOR FINAL CONNECTIONS TO EQUIPMENT IN LENGTHS NOT TO EXCEED STEEL CONDUIT SHALL BE FOR OUTDOOR FINAL CONNECTIONS TO

ILET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, OR DOUBLE LOCKNUTS FOR GRC. ALL CONNECTIONS SHALL HAVE BUSHINGS ECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT,

CONTACT WITH EARTH WITH POLYETHYLENE TAPED SPIRAL WRAPPED, 1/2 THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS FEEDER DUCTS SHALL BE INSTALLED PER N.E.C. 300-5. MAKE JOINTS WITH

SHALL BE PERMITTED UNDERGROUND WITH PROPER FITTINGS, ALL UL OINTS. PENETRATIONS THROUGH FLOOR SLABS AND BENDS GREATER THAN GALVANIZED STEEL ELBOWS.

ES SHALL BE STEEL. DIECAST FITTINGS ARE NOT ACCEPTABLE. REQUIRED BY CODE AND AS INDICATED OR SPECIFIED. SHALL HAVE A 200 LB. TEST NYLON PULL STRING TO FACILITATE

LETS SHALL BE CONCEALED WITH THE BUILDING STRUCTURE, EXCEPT THAT IG FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS

UGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER

TION SHALL BE WATERTIGHT. PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

### BOXES CONCEALED IN WALLS SHALL BE STEEL. CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH RS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR E OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING. ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH

IPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE

PECIFICATION GRADE AC SILENT TYPE SWITCHES, 20A 120/277 VOLT. CIFICATION GRADE, DUPLEX TYPE. NEMA5-20R, 20 AMPERE, 120VOLT PPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS. MOUNT WITH THE

QUAL TO SIERRA SMOOTH-LINE PLASTIC WALL PLATES. COLOR SHALL BE

ND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET MARKED AND U.L. LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE, ATION GRADE.

IPMENT SHALL BE AS INDICATED ON THE DRAWINGS. EQUIPMENT SHALL SHALL CONFORM TO THE POWER COMPANY REGULATIONS. IT SHALL BE PROVIDED WITH A FULLY RATED COPPER OR ALUMINUM BUS. SING SHALL NOT BE ALLOWED.

BE PROVIDED WITH FULLY RATED COPPER OR ALUMINUM BUS. HORIZONTAL F BE ALLOWED

- ACCEPTABLE MANUFACTURERS CUTLER HAMMER, SEIMENS, SQUARE D OR GENERAL ELECTRIC FACTORY ASSEMBLED DEAD FRONT, METAL ENCLOSED, AND SELF-SUPPORTING SWITCH BOARD ASSEMBLY CONFORMING T NEMA PB 2 AND UL 891, AND COMPLETE FROM INCOMING LINE TERMINALS TO LOAD SIDE
- TERMINATIONS. 4. LINE AND LOAD TERMINATIONS: ACCESSIBLE FROM FRONT ONLY OF THE SWITCH BOARD. SUITABLE FOR CONDUCTOR MATERIALS AND NUMBER OF CONDUCTORS USED.
- BUS CONNECTIONS: BOLTED. ACCESSIBLE FROM FRONT FOR MAINTENANCE. PROVIDE BELLEVILLE WASHERS FOR PROPERLY TORQUE ALL CONNECTIONS
- PROVIDE FULLY-RATED NEUTRAL BUS AND FULLY RATED GROUND BUS MATCHING MATERIAL USED FOR 6. MAIN BUS. FUTURE PROVISIONS: FULLY EQUIP SPACES FOR FUTURE DEVICES WITH BUSSING AND BUS CONNECTIONS 7.
- SUITABLY INSULATED AND BRACED FOR SHORT CIRCUIT CURRENTS. CONTINUOUS CURRENT RATING AS INDICATED ON DRAWINGS. 8. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.

. PANEL BOARDS

- 1. CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. UNLESS INDICATED OTHERWISE, ALL PANELS SHALL HAVE PANEL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT-ON CIRCUIT BREAKERS FOR 30 PANELS
- MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SEIMENS, CUTLER-HAMMER WITH VOLTAGE, 2. SIZES, AND RATINGS AS INDICATED ON DRAWINGS. THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE-POLE, DOUBLE-POLE, AND THREE-POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAN TERMINALS SHALL BE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI-POLE BREAKERS NOT

### K. LOAD CENTER

ACCEPTABLE.

- CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. MANUFACTURERS SHALL BE GENERAL ELECTRIC, SQUARE D, SIEMENS, CUTLER-HAMMER/EATON WITH VOLTAGE, SIZES, AND RATINGS AS INDICATED ON DRAWINGS.
- THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE-POLE AND DOUBLE-POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAIN TERMINALS SHALL BE OF THE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI-POLE BREAKERS NOT ACCEPTABLE
- A. CIRCUIT BREAKERS SHALL BE PLUG-IN TYPE WIRE TERMINATION FOR PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE LISTED AS SUITABLE FOR 75 - 3. DEGREES C.
- PROVIDE A TYPEWRITTEN CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE LOAD SERVED. ALL CIRCUIT BREAKERS SHALL BE
- IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR. 5. PANEL BOARDS/LOAD CENTERS TO BE PROVIDED WITH COPPER BUSSIING ONLY.

### <u>. LIGHTING FIXTURES</u>

PROVIDE ALL LIGHTING FIXTURES, WIRED AND CONNECTED. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES. THE LAMPS SHALL BE BY THE SAME MANUFACTURER. VERIFY CEILING CONSTRUCTION BEFORE ORDERING RECESSED UNITS. PROVIDE PLASTER FRAMES AND HANGERS AS REQUIRED. CEILING CONSTRUCTION, ARCHITECTURAL ACCESSORIES, VOLTAGE, AND BALLASTS TO MEET THE EXISTING CEILING CONDITION.

### M. LIGHTING CONTROL

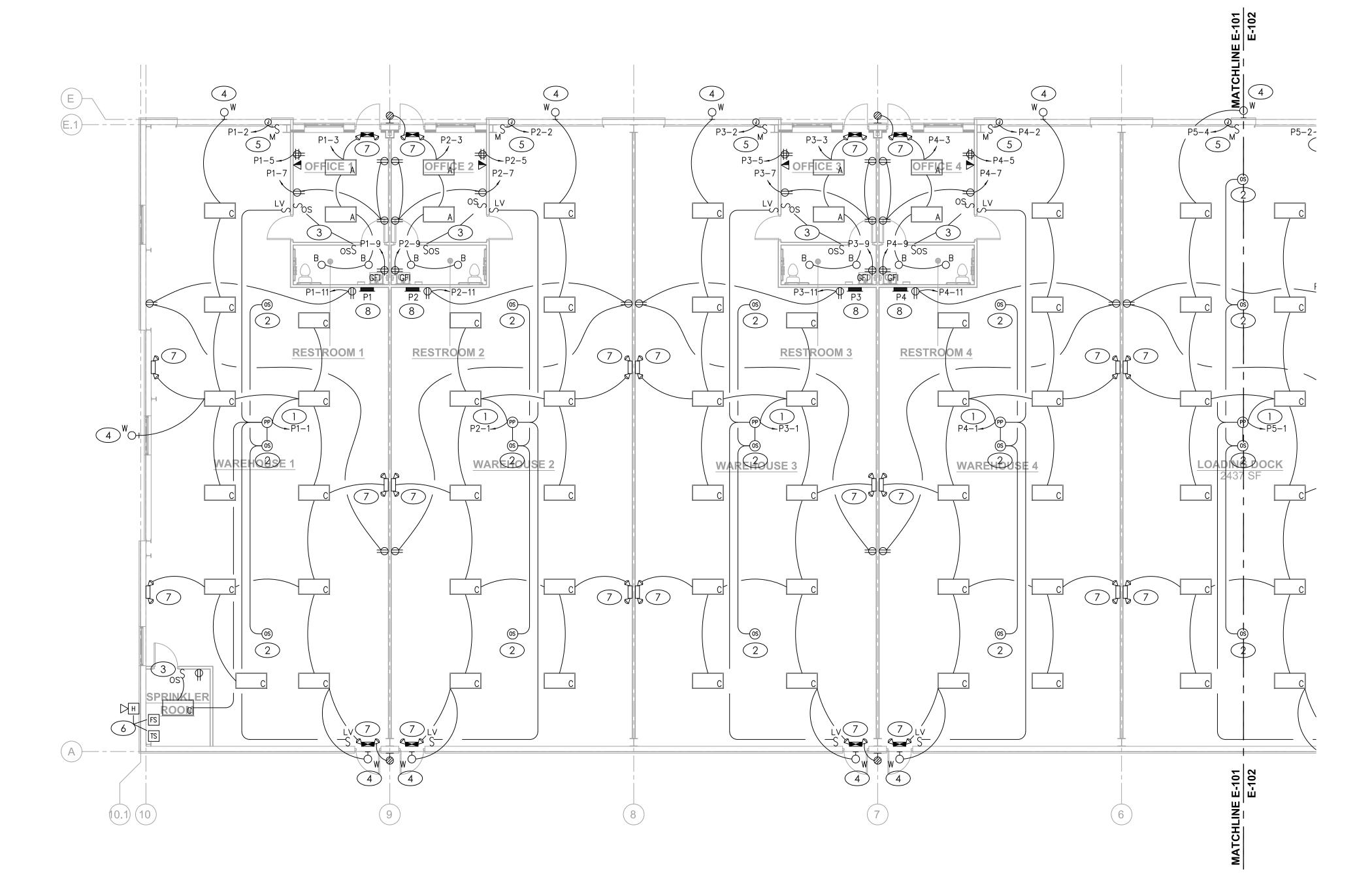
- FURNISH AND INSTALL TIME SWITCHES, PHOTOCELLS, CONTRACTORS AND FULL LIGHTING CONTROL
- SYSTEMS AS REQUIRED FOR LIGHTING CONTROLS INDICATED ON THE DRAWINGS. TIME SWITCHES SHALL BE EQUAL TO PARAGON, GENERAL ELECTRIC, TORK, OR INTERMATIC AND SHALL HAVE SIZE AND NUMBER OF POLES AS REQUIRED.
- PHOTOCELLS SHALL BE EQUAL TO TORK OR INTERMATIC WITH VOLTAGE AS INDICATED.
- N. TELEPHONE AND CABLE TELEVISION SYSTEMS TELEPHONE WALL OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CARLE
- CABLE TELEVISION OUTLETS SHALL CONSIST OF STANDARD BOXES MOUNTED 18" ABOVE THE FLOOR 2. UNLESS OTHERWISE INDICATED. PROVIDE A TERMINAL MOUNTING BOARD FOR THE INCOMING SERVICE CABLE.

### <u>O. GUARANTEI</u>

GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO EXPENSE TO THE OWNER.

	SYMBOLS LEGEND	A R C H I T E C T U R E / E N G I M G S State Route 291, Bldg. 1, Independence, M0 64057 3200 S. State Route 291, Bldg. 1, Independence, M0 64057 816.373.4800   powellcwm.com
	NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ETC, ARE NECESSARILY USED ON THE DRAWINGS.	CTURE/ENGINEERING/SURVEY State Route 291, Bldg. 1, Independence, M0 64057 816.373.4800   powellcwm.com
	FLUORESCENT OR LED FIXTURE (SEE SCHEDULE)	N E E R I N G / Powellcwm.com
	FIXTURE WITH EMERGENCY BATTERY BALLAST UNIT	'E N GI 3.4800
	TRACK LIGHT DOWNLIGHT FIXTURE WITH EMERGENCY BATTERY BALLAST UNIT	T U R E /
С О	WALL MOUNTED FIXTURE WITH EMERGENCY BATTERY BALLAST UNIT DOWNLIGHT FIXTURE	HITE C
с М М	WALL MOUNTED FIXTURE PENDANT MOUNTED FIXTURE	
•	WALL WASHER SINGLE FACE EXIT SIGN – UNIVERSAL MOUNTED	<u>Certificates of Authority</u> Architecture: MO 310 / KS Engineering: MO 4 / KS 241 Land Surveying: MO 123 / KS 36
l⊗ <del>l⊛t</del>	SINGLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD DOUBLE FACE EXIT SIGN W/ DIRECTIONAL ARROWS – UNIVERSAL MTD	
	DUAL HEADED EMERGENCY UNIT	DAVID WARD WARD DEVELOPMENT 1120 EAGLE RIDGE BLVD
A	COMBO DUAL HEADED EMERGENCY AND EXIT SIGN UNIT LETTER INDICATES LIGHT FIXTURE AS INDICATED ON FIXTURE SCHED	GRAIN VALLEY, MO 64029 david@safetyministorage.com
S S <sub>abc</sub>	SINGLE POLE SWITCH @ +48" UNLESS NOTED SWITCH BANK @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.	
S2 S3	2 POLE SWITCH @ +48" UNLESS NOTED 3-WAY SWITCH @ +48" UNLESS NOTED	
S₄ Sd S3d	4-WAY SWITCH @ +48" UNLESS NOTED DIMMER SWITCH - SIZE AS REQUIRED @ +48" UNLESS NOTED	ENGINEERS
S3Dxy	3-WAY DIMMER SWITCH - SIZE AS REQUIRED @ +48" UNLESS NOTED 3-WAY DIMMER SWITCH BANK @ +48" UNLESS NOTED. LOWER CASE LETTER INDICATES FIXTURE CONTROLLED.	MO COA NO, 2012006786 / KS COA NO. E-2818 1901 NW BLUE PARKWAY, UNITY VILLAGE, MO 64065 3rd FLOOR UNITY VILLAGE TOWER
Ss Sm @\$	SWITCH SENSOR @ +48" UNLESS NOTED MANUAL MOTOR STARTER OCCUPANCY SENSOR	phone: (816) 272-5289   email: jsmothers@jscengineers.com
Sos	WALL SWITCH WITH OCCUPANCY SENSOR. TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH.	JUSTIN R. SMOTHERS
Sd	PROVIDES ON/OFF/0-10V DIMMING. SWITCH @ +48" UNLESS NOTED. TWO BUTTON DIGITAL LOW VOLTAGE WALL SWITCH. PROVIDES ON/OFF/0-10V DIMMING. SWITCH	NUMBER PE-2012003568
RT	<ul> <li>@ +48" UNLESS NOTED.</li> <li>DUCT DETECTOR REMOTE TEST STATION - MOUNT AT 60" AFF</li> </ul>	06-11-2021
@ ©	LIGHTING CONTROLS POWER PACK LIGHTING CONTROLS PHOTOCELL	
FS TS	FIRE SUPPRESSION FLOW SWITCH FIRE SUPPRESSION TAMPER SWITCH	
	SPRINKLER ALARM NOTIFICATION HORN	
 ⑤ ▶	CAMERA SPEAKER TELEPHONE OUTLET@ +18" UNLESS NOTED	
	DATA OUTLET @ +18" UNLESS NOTED COMBINATION TELEPHONE/DATA OUTLET @ +18" UNLESS NOTED	
	TELEVISION OUTLET @ +18" UNLESS NOTED DUCT DETECTOR	
(FD) (SD)	HEAT DETECTOR 120 VOLT SMOKE DETECTOR WITH SOUNDER BASE AND BATTERY BACKUP	
	AUXILIARY SYSTEM TERMINAL CABINET SWITCHBOARD, MOTOR CONTROL CENTER OR DISTRIBUTION BOARD	
	120/208V., 3 PHASE, 4 WIRE PANELBOARD, UNO CARD READER. PROVIDE 2-GANG OUTLET BOX WITH SINGLE GANG RING AND 3/4" CONDUIT STUBBED UP IN WALL TO ABOVE ACCESSIBLE CEILING WITH BUSHING ON END OF CONDUIT @ 48"	
	UNLESS NOTED OTHERWISE.	
© T ⁄⁄	TRANSFORMER MOTOR OUTLET	
	DISCONNECT SWITCH – SIZE AND TYPE NOTED COMBINATION FUSED STARTER DISCONNECT SWITCH FUSE SIZE AS INDICATED, STARTER SIZE '1'	
(EF)	MECHANICAL EQUIP. CONNECTION, SEE SCHED. ON MECH. PLAN	
	JUNCTION BOX CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING CONDUIT RUN BELOW FLOOR OR GRADE	
€	SPECIAL HEAVY DUTY RECEPTACLE – SIZE AS NOTED. @ +18" UNLESS NOTED	
<b>⊕</b> ⊙	1/2 SWITCHED RECEPTACLE @ +18" UNLESS NOTED FIRE RATED POKE THRU WITH TYPE INDICATED	
•	FLUSH FLOOR BOX WITH TYPE INDICATED SINGLE RECEPTACLE @ +18" UNLESS NOTED	NOL
⊕	DUPLEX RECEPTACLE @ +18" UNLESS NOTED DOUBLE DUPLEX RECEPTACLE @ +18" UNLESS NOTED	DESCRIPTION
	GFI DUPLEX RECEPTACLE FULL SWITCHED RECEPTACLE	REVISIONS NO. DATE/I
⊕ ⊕ ₩P	DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP DUPLEX RECEPTACLE WITH WEATHERPROOF COVERPLATE @ 18" UNLESS NOTED	
P1-3,5,7	HOMERUN TO PANELBOARD, INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO ASSOCIATED NOTE FOR BRANCH CIRCUIT CONDUCTOR SIZES.	PROJECT #: 21-049 ISSUE DATE: 06/11/2021 ISSUED FOR:
ςα	NDICATES 1/2" CONDUIT CONCEALED IN CEILING OR WALL WITH (3) CONDUCTORS. (1) PHASE, (1) NEUTRAL AND (1) GROUND WIRE. ALL ARE #12 AWG UNLESS NOTED OTHERWISE.	
_///	WHIP COUNT INDICATES NUMBER OF HOT CONDUCTORS	ELECTRICAL SPECIFICATIONS AND

## DNS AND E-001



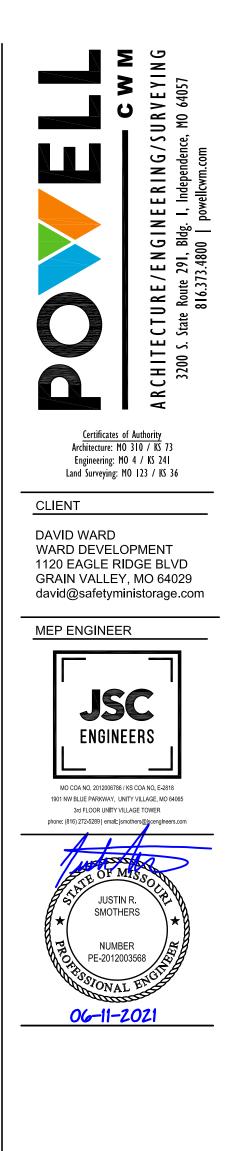
SCALE : 1/8" = 1'-0"

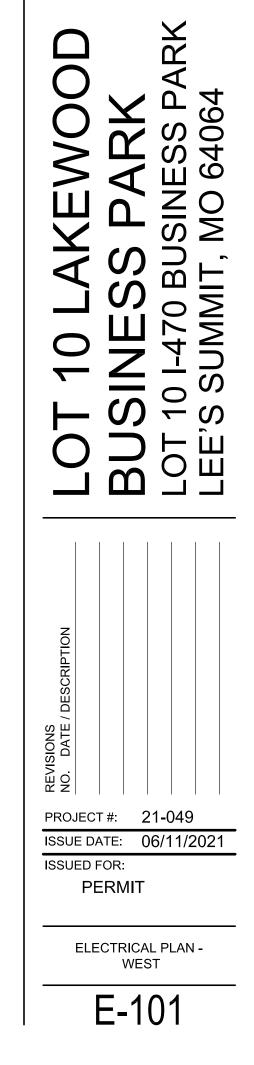
### LIGHTING AND POWER PLAN - WEST THE STREET

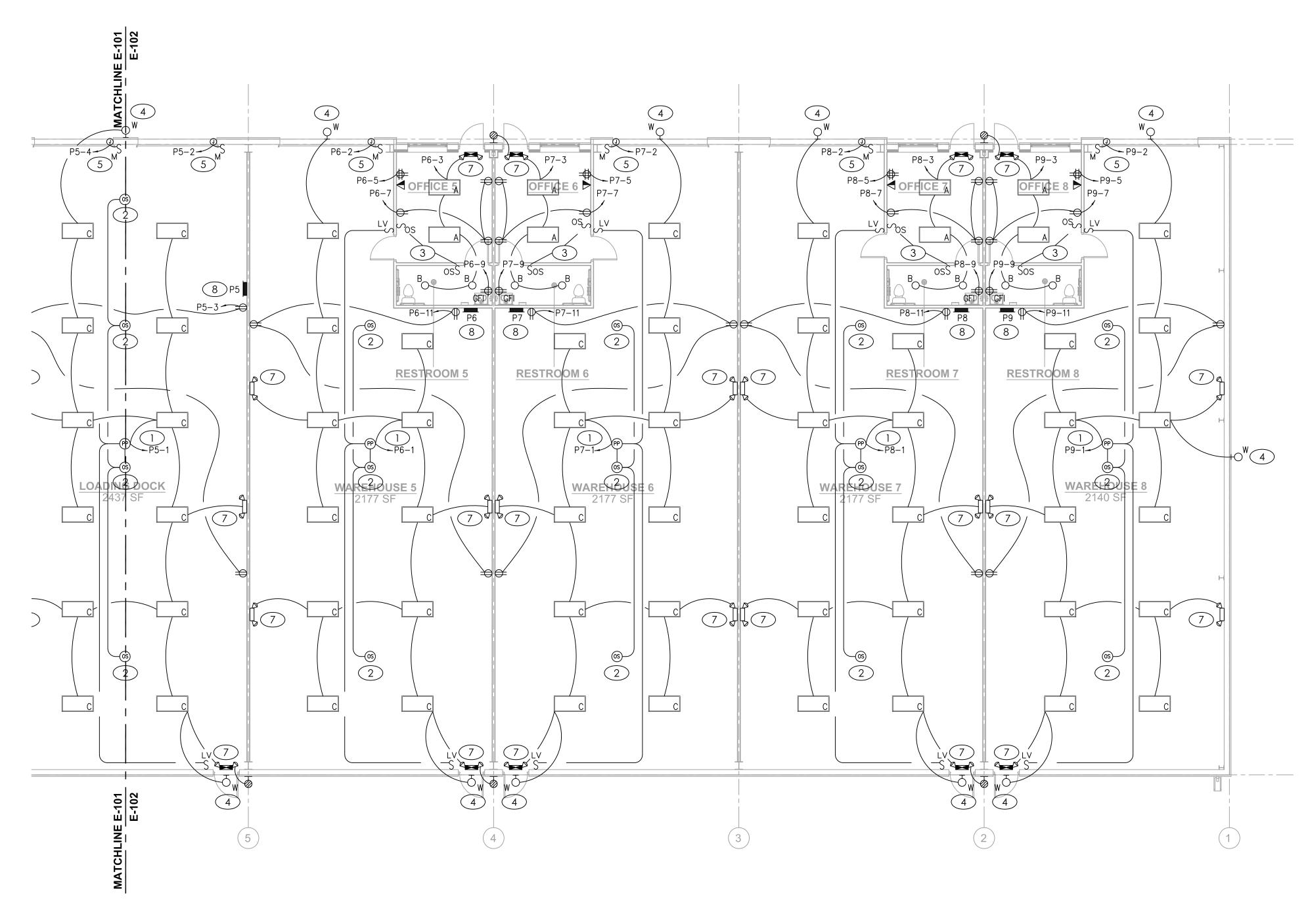
### GENERAL NOTES

- A. DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS OR FIELD MEASUREMENTS FOR DIMENSIONS.
- B. ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL LOCAL BUILDING CODES AND AMENDMENTS.
- C. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.
- D. COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.
- E. THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEMS.
- F. ALL WIRING SHALL BE IN APPROVED RACEWAY.
- G. WIRE SIZE SHALL BE MINIMUM #12 AWG, THWN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.
- H. MAXIMUM NUMBER OF UNGROUNDED WIRES IN ANY CONDUIT SHALL BE THREE. ADDITIONAL WIRES ARE ACCEPTABLE IF WIRE SIZE IS INCREASED TO ALLOW FOR DERATING PER CODE. PROVIDE ADDITIONAL WIRES FOR SWITCHING AS REQUIRED.
- I. REFER TO LIGHTING FIXTURE SCHEDULE ON E201 FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.
- J. CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
- K. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL HVAC EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- L. FIRE ALARM, AUDIO/VIDEO AND SURVEILLANCE SYSTEMS BY OTHERS.
- M. PROVIDE ALL ADDITIONAL EXTRA CONDUCTORS NEEDED FOR UNSWITCHED AND SWITCH LEGS AND TRAVELERS BETWEEN SWITCHES.
- N. REFER TO NATIONAL ACCOUNT LIGHTING FIXTURE SCHEDULE ON SHEET E203 FOR LIGHTING FIXTURE INFORMATION.

- 1. LIGHTING CONTROLS POWER PACK. SENSORWORX SWX-900 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- 2. LIGHTING CONTROLS CEILING MOUNTED OCCUPANCY SENSOR. SENSORWORX SWX-200 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- 3. OCCUPANCY SENSING WALL SWITCH. SENSORWORX SWX-100 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- PHOTOCELL PROVIDED WITH FIXTURE TO CONTROL ONLY THE ASSOCIATED FIXTURE.
- 5. MAKE CONNECTION TO POWER AND CONTROLS FOR OVERHEAD COILING DOOR PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- 6. COORDINATE CONNECTION TO SPRINKLER SYSTEM WATERFLOW AND TAMPER SWITCHES AND NOTIFICATION HORN WITH SPRINKLER SYSTEM INSTALLER PRIOR TO CONSTRUCTION. MAKE CONNECTION PER MANUFACTURER'S RECOMMENDATIONS AND NFPA REQUIREMENTS.
- 7. CONNECT EMERGENCY/EXIT LIGHT VIA UNSWITCHED HOT CONDUCTOR.
- 8. NEW 225A FRAME/200A MCB, 208Y/120V, 3¢, 4W, 42-POLE PANELBOARD. REFER TO SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULES ON SHEET E-201 FOR MORE INFORMATION.







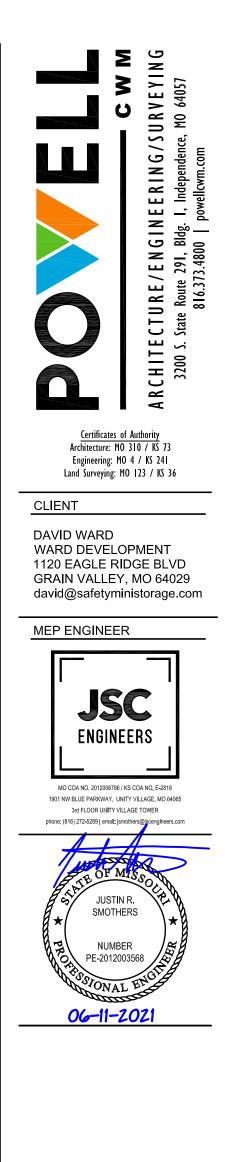
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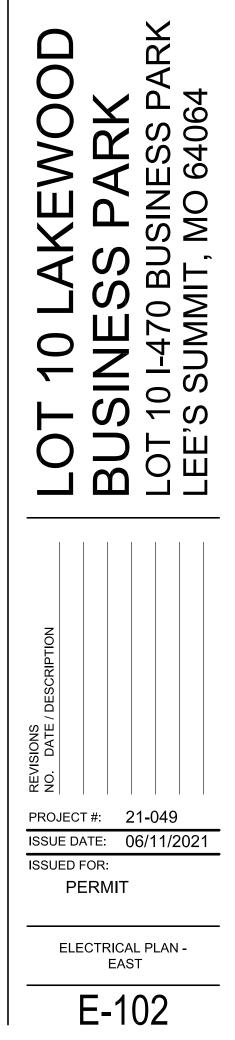
### LIGHTING AND POWER PLAN - EAST THE A

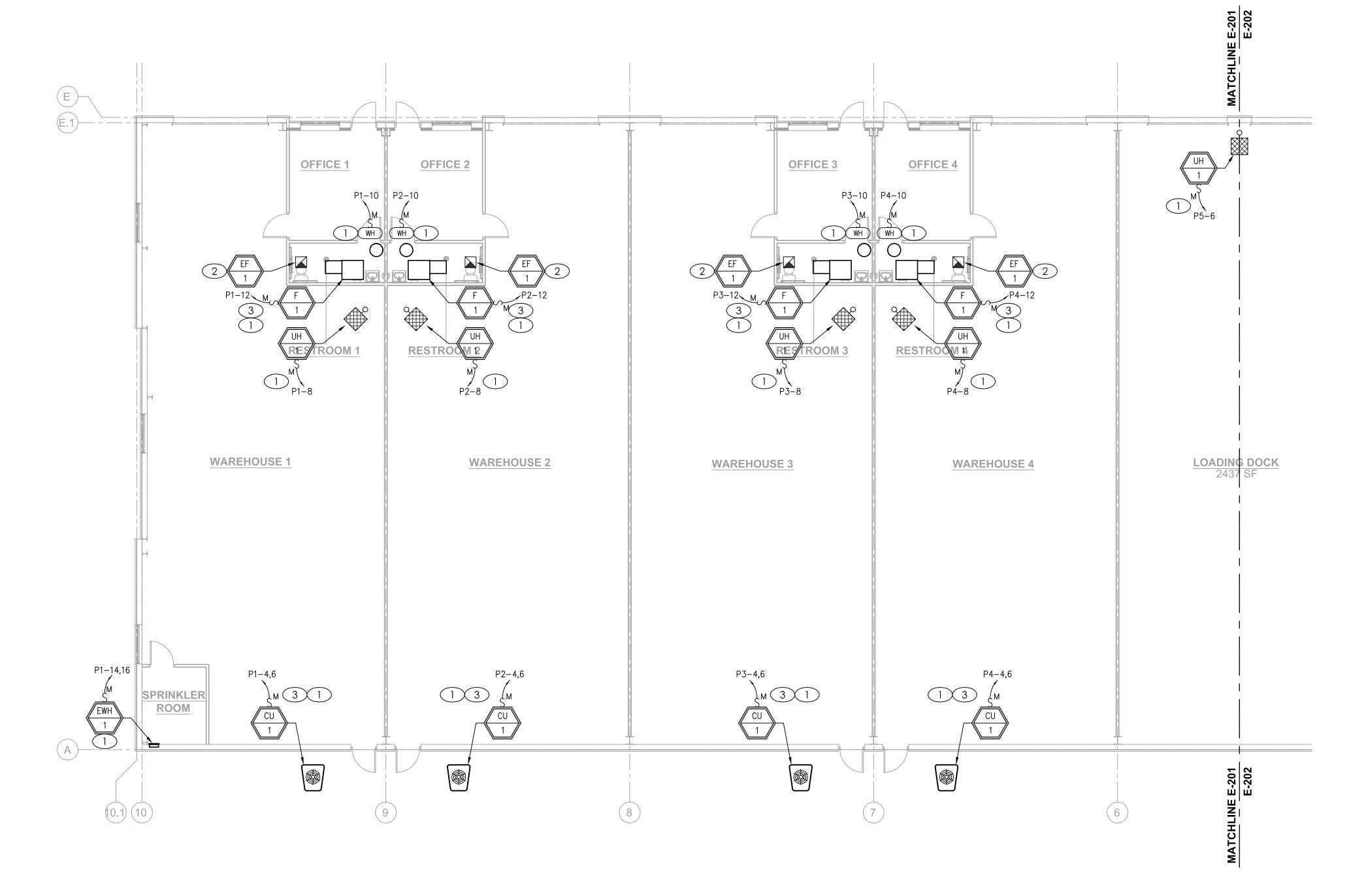
### GENERAL NOTES

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- B. ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL LOCAL BUILDING CODES AND AMENDMENTS.
- C. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.
- D. COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.
- E. THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEMS.
- F. ALL WIRING SHALL BE IN APPROVED RACEWAY.
- G. WIRE SIZE SHALL BE MINIMUM #12 AWG, THWN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.
- H. MAXIMUM NUMBER OF UNGROUNDED WIRES IN ANY CONDUIT SHALL BE THREE. ADDITIONAL WIRES ARE ACCEPTABLE IF WIRE SIZE IS INCREASED TO ALLOW FOR DERATING PER CODE. PROVIDE ADDITIONAL WIRES FOR SWITCHING AS REQUIRED.
- I. REFER TO LIGHTING FIXTURE SCHEDULE ON E201 FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.
- J. CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
- K. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL HVAC EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- L. FIRE ALARM, AUDIO/VIDEO AND SURVEILLANCE SYSTEMS BY OTHERS.
- M. PROVIDE ALL ADDITIONAL EXTRA CONDUCTORS NEEDED FOR UNSWITCHED AND SWITCH LEGS AND TRAVELERS BETWEEN SWITCHES.
- N. REFER TO NATIONAL ACCOUNT LIGHTING FIXTURE SCHEDULE ON SHEET E203 FOR LIGHTING FIXTURE INFORMATION.

- 1. LIGHTING CONTROLS POWER PACK. SENSORWORX SWX-900 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- 2. LIGHTING CONTROLS CEILING MOUNTED OCCUPANCY SENSOR. SENSORWORX SWX-200 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- 3. OCCUPANCY SENSING WALL SWITCH. SENSORWORX SWX-100 SERIES OR PRE-BID APPROVED EQUAL. PROVIDE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- PHOTOCELL PROVIDED WITH FIXTURE TO CONTROL ONLY THE ASSOCIATED FIXTURE.
- 5. MAKE CONNECTION TO POWER AND CONTROLS FOR OVERHEAD COILING DOOR PER MANUFACTURER'S RECOMMENDATIONS AND NEC REQUIREMENTS.
- 6. NOT USED ON THIS SHEET.
- 7. CONNECT EMERGENCY/EXIT LIGHT VIA UNSWITCHED HOT CONDUCTOR.
- 8. NEW 225A FRAME/200A MCB, 208Y/120V, 34, 4W, 42-POLE PANELBOARD. REFER TO SINGLE LINE DIAGRAM AND PANELBOARD SCHEDULES ON SHEET E-201 FOR MORE INFORMATION.

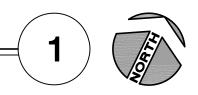






SCALE : 1/8" = 1'-0"

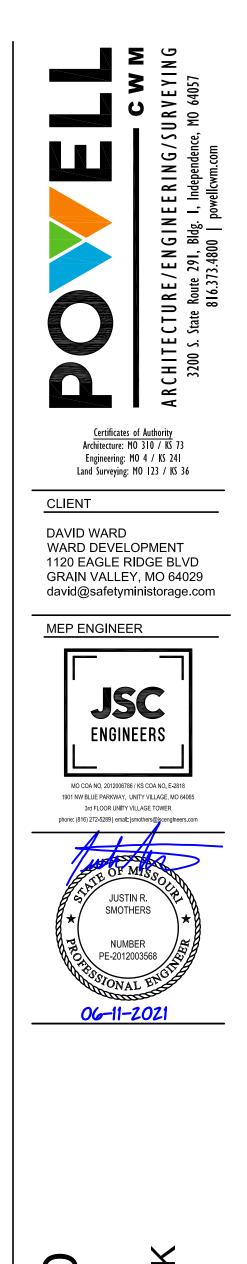
## EQUIPMENT POWER PLAN - WEST

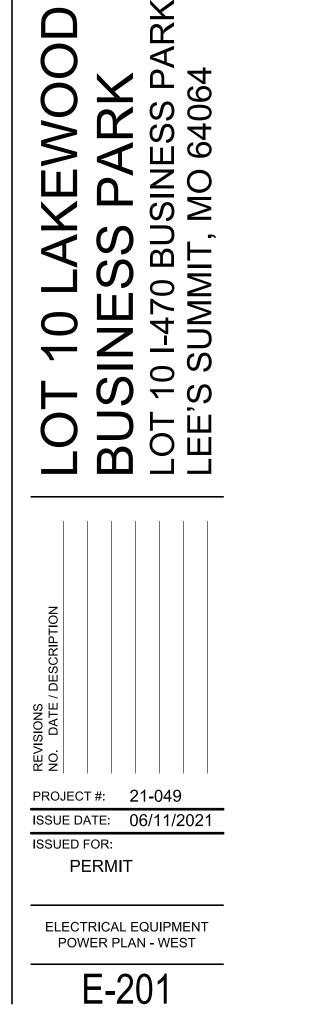


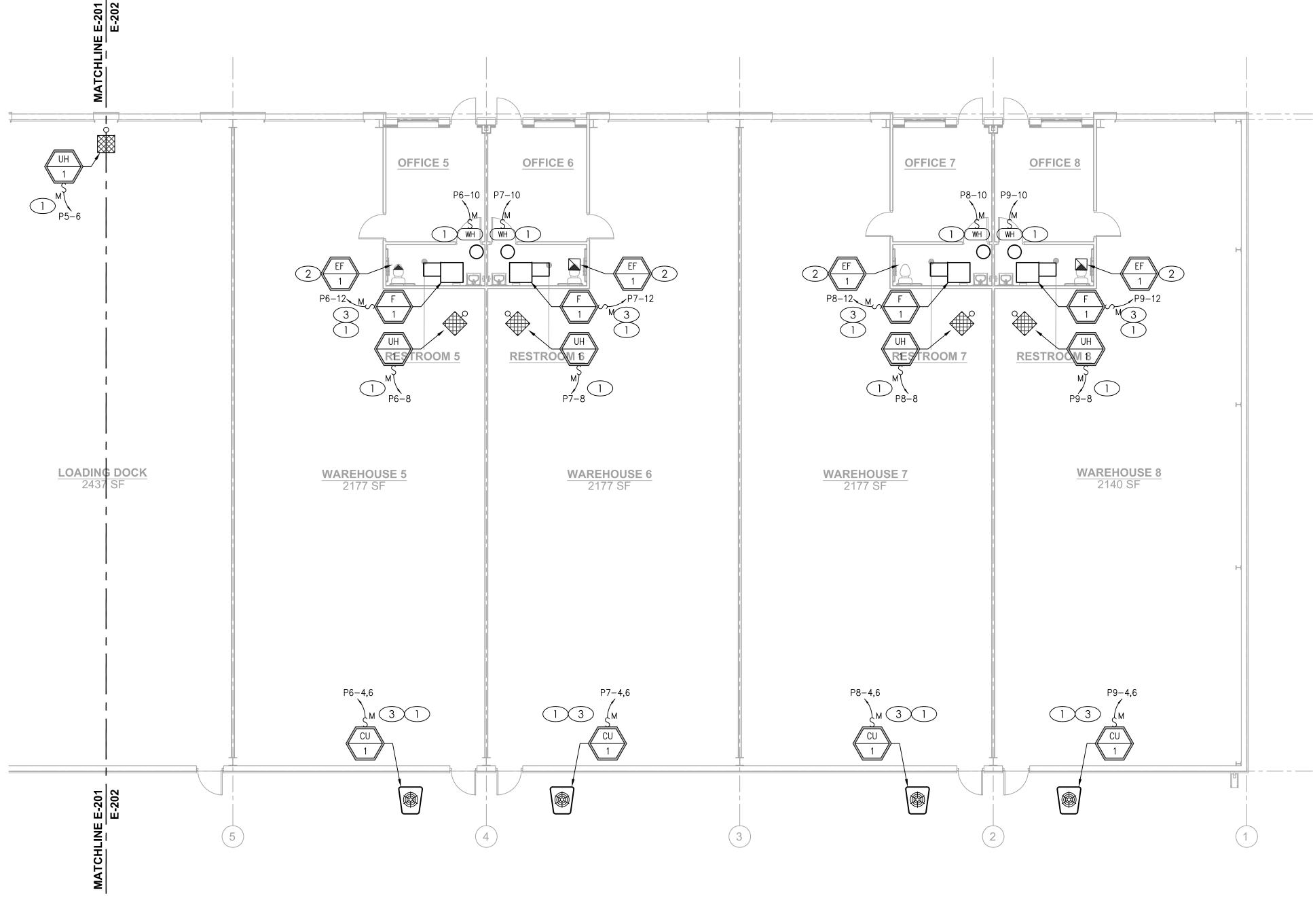
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- C. ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCED ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.
- D. COORDINATE ALL WORK WITH OTHER TRADES AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACE AVAILABLE, AND WITHOUT INTERFERENCES.
- E. THIS CONTRACTOR SHALL PERFORM ALL WORK INDICATED AND/OR AS REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF THE ELECTRICAL SYSTEMS.
- F. ALL WIRING SHALL BE IN APPROVED RACEWAY.
- G. WIRE SIZE SHALL BE MINIMUM #12 AWG, THWN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.
- H. MAXIMUM NUMBER OF UNGROUNDED WIRES IN ANY CONDUIT SHALL BE THREE. ADDITIONAL WIRES ARE ACCEPTABLE IF WIRE SIZE IS INCREASED TO ALLOW FOR DERATING PER CODE. PROVIDE ADDITIONAL WIRES FOR SWITCHING AS REQUIRED.
- I. REFER TO LIGHTING FIXTURE SCHEDULE ON E201 FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.
- J. CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
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- L. FIRE ALARM, AUDIO/VIDEO AND SURVEILLANCE SYSTEMS BY OTHERS.
- M. PROVIDE ALL ADDITIONAL EXTRA CONDUCTORS NEEDED FOR UNSWITCHED AND SWITCH LEGS AND TRAVELERS BETWEEN SWITCHES.
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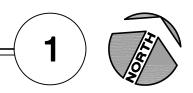
- 1. MAKE CONNECTION TO DIV 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATION AND NEC REQUIREMENTS. COORDINATE WORK WITH DIVISION 22/23 CONTRACTOR PRIOR TO CONSTRUCTION.
- 2. WIRE SO THAT ON/OFF OPERATION OF EXHAUST FAN COORDINATES WITH LIGHTING IN ROOM.
- 3. MAKE CONNECTION FROM INDOOR TO OUTDOOR UNIT PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE WORK WITH DIVISION 23 CONTRACTOR.







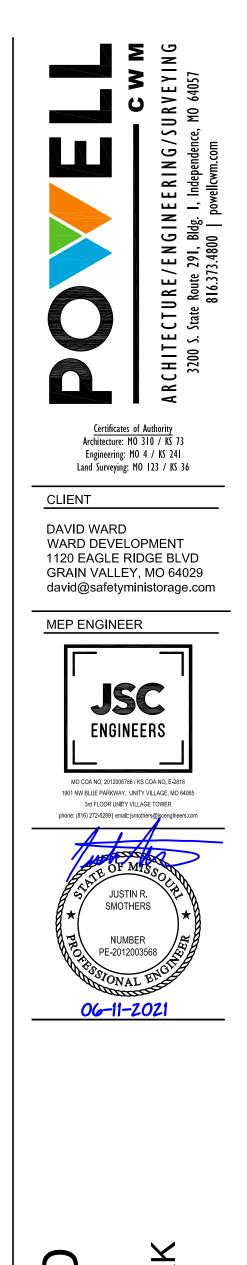
**POWER PLAN - EAST** SCALE : 1/8" = 1'-0"

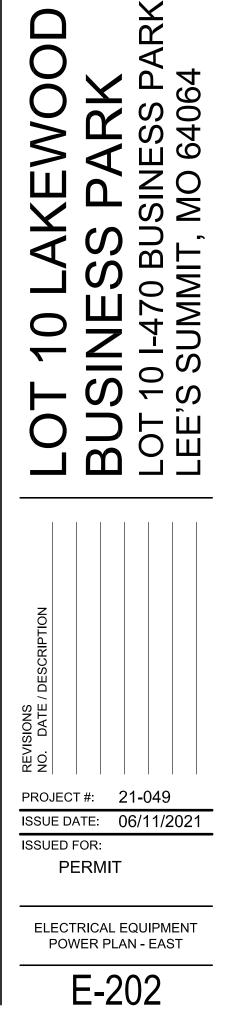


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- G. WIRE SIZE SHALL BE MINIMUM #12 AWG, THWN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.
- H. MAXIMUM NUMBER OF UNGROUNDED WIRES IN ANY CONDUIT SHALL BE THREE. ADDITIONAL WIRES ARE ACCEPTABLE IF WIRE SIZE IS INCREASED TO ALLOW FOR DERATING PER CODE. PROVIDE ADDITIONAL WIRES FOR SWITCHING AS REQUIRED.
- I. REFER TO LIGHTING FIXTURE SCHEDULE ON E201 FOR LIGHT FIXTURE TYPES AND REQUIREMENTS.
- J. CONNECT ALL EXIT SIGNS AND EMERGENCY LIGHTING UNITS TO THE INDICATED CIRCUIT WITH A SEPARATE AND UN-SWITCHED CONDUCTOR BYPASSING ALL CONTROLS AND CONTACTORS. REFER TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR PROPER INSTALLATION AND TESTING.
- K. THE ELECTRICAL SYSTEM DESIGN IS BASED IN PART ON THE SPECIFIED HVAC EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE EXACT LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL HVAC EQUIPMENT BEING FURNISHED. ANY CHANGES TO THE ELECTRICAL SYSTEM DUE TO HVAC EQUIPMENT SUBSTITUTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- L. FIRE ALARM, AUDIO/VIDEO AND SURVEILLANCE SYSTEMS BY OTHERS.
- M. PROVIDE ALL ADDITIONAL EXTRA CONDUCTORS NEEDED FOR UNSWITCHED AND SWITCH LEGS AND TRAVELERS BETWEEN SWITCHES.
- N. REFER TO NATIONAL ACCOUNT LIGHTING FIXTURE SCHEDULE ON SHEET E203 FOR LIGHTING FIXTURE INFORMATION.

- 1. MAKE CONNECTION TO DIV 22/23 EQUIPMENT PER MANUFACTURER'S RECOMMENDATION AND NEC REQUIREMENTS. COORDINATE WORK WITH DIVISION 22/23 CONTRACTOR PRIOR TO CONSTRUCTION.
- 2. WIRE SO THAT ON/OFF OPERATION OF EXHAUST FAN COORDINATES WITH LIGHTING IN ROOM.
- 3. MAKE CONNECTION FROM INDOOR TO OUTDOOR UNIT PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE WORK WITH DIVISION 23 CONTRACTOR.





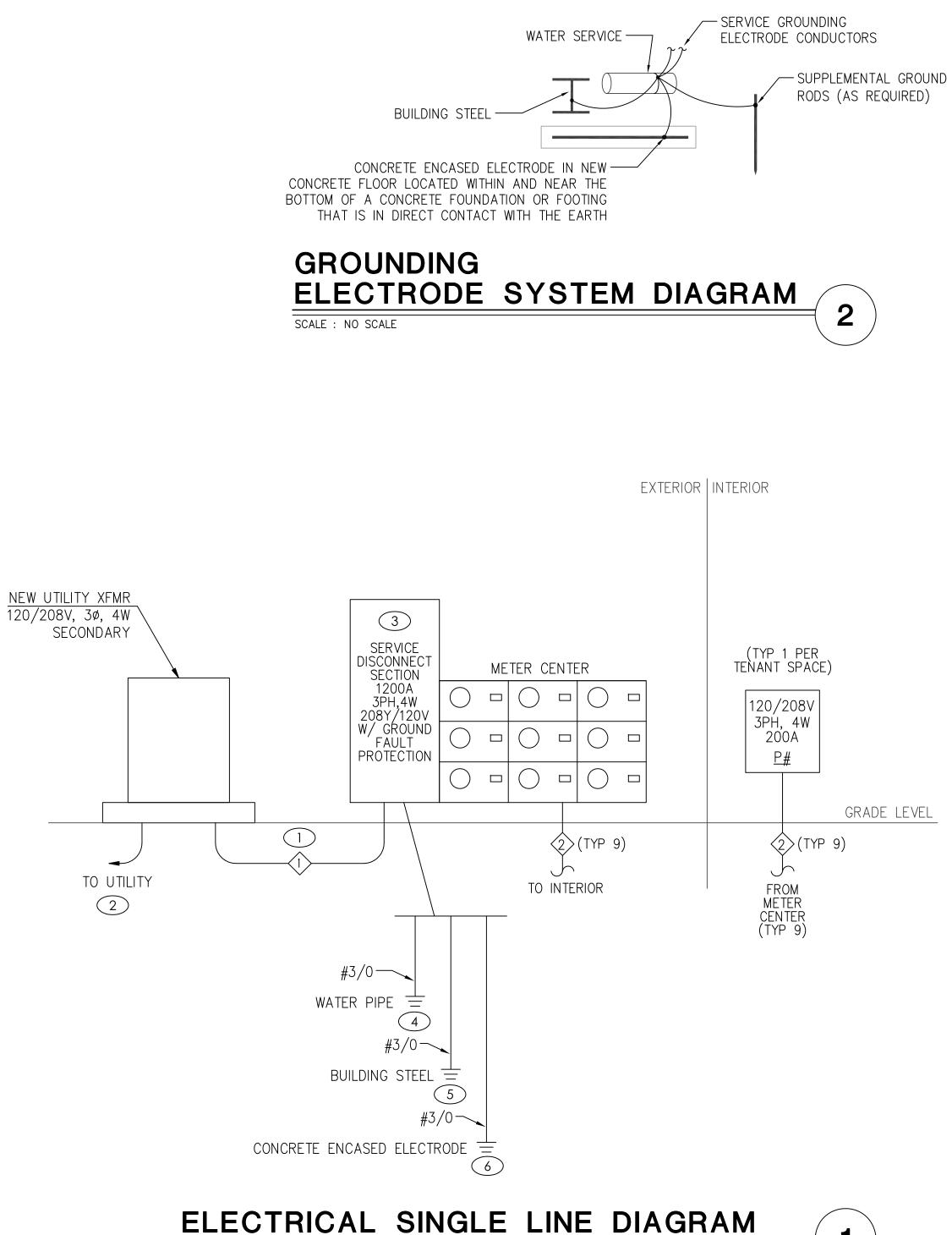
PANELBOARD: P5 (NEW) BUS AMPS: 225A MAIN SIZE/TYPE: 200A MCB VOLTS/PHASE: 208Y/120V, 3PH, 4W							ROM:				SERV	LINE-SIDE LUGS: MECHANICAL EQUIPMENT GROUND BUS				
							ATING	):	420	000 FUI	LY RA					
							/ES: TE	EN/	٩NT	SPAC	Έ					
							NTING	: SL	JRF	ACE						
EC	TION: 1					LOCA	TION:	WA	RE	HOUS	E					
СКТ	DESCRIPTIC	N	VOL	FAMPS/P	HASE	WIRE	BKR	Ρ	Ρ	BKR	WIRE	VOL	TAMPS/PH	HASE	DESCRIPTION	CK
١0.			А	В	С	NO.	AMP			AMP	NO.	А	В	С		NO
1	LTG - WAREHOUSE		880			12	20	1	1	20	12	1,000			PWR - GARAGE DOOR 1	2
3	RCPT - WAREHOUSE	GEN		720		12	20	1	1	20	12		1,000		PWR - GARAGE DOOR 2	4
5	SPARE						20	1	1	20	12			600	PWR - UH-1	6
7	SPARE						20	1	1	20					SPARE	8
9	SPARE						20	1	1	20					SPARE	10
11	SPARE						20	1	1	20					SPARE	12
13	SPARE						20	1	1	20					SPARE	14
15	SPARE						20	1	1	20					SPARE	16
17	SPARE						20	1	1	20					SPARE	18
19	SPARE						20	1	1	20					SPARE	20
21	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	26
27	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	42
	SUBTOTAL		880	720								1,000	1,000	600	SUBTOTAL	
	TOTAL PHASE A - VA	1,880	LOAD		CONN. \	/A	DF		LO	AD		C	ONN. VA	DF		
	AMPS	16	COOLIN	G			0		RE	FRIG				1.00		
	TOTAL PHASE B - VA	1,720	HEATING	3	600		1.00			GN/DIS				1.25		
	AMPS	14	LIGHTIN	G	880		1.25		KIT	CHEN	1			1.00		
	TOTAL PHASE C - VA	600	RECEPT	ACLES	720		1.0/.5		ΕX	ISTIN	G			1.00		
	AMPS	5	MOTORS	6	2,000		1.00		LR	G MO	TOR			1.25	TOTAL DEMAND	
	TOTAL PNLBD - VA	4,200	SUPP HE	EAT			1.00		SH	IOW W	/NDW			1.25	4,420	VA
AMPS 12 MISC EQUIP						GTRA	GTRACK 1.00			1.00	12 A					

BUS MAIN VOL	NELBOARD: P1 AMPS: 225A SIZE/TYPE: 200A MCB TS/PHASE: 208Y/120V, 3 TION: 1		6,7,8,9	(NEV	V)	AIC R SER\ MOUI	ROM: ATING /ES: TI NTING ATION:	B: ENA : SL	ANT JRF	SPAC ACE	LLY RA CE	ICE ENTI TED	RANCE		LINE-SIDE LUGS: MECHAN EQUIPMENT GROUND	_
СКТ	DESCRIPTION	١	VOL	AMPS/P	HASE	WIRE	BKR	Ρ	Ρ	BKR	WIRE	VOL	TAMPS/PH	IASE	DESCRIPTION	СКТ
NO.			A	В	C	NO.	AMP			AMP	NO.	А	В	С		NO.
1	LTG - WAREHOUSE		851			12	20	1	1	20	12	1,000			PWR - GARAGE DOOR	2
3	LTG - OFFICE/RR			76		12	20	1	1	30	10		1,987		PWR - CU-1	4
•	RCPT - OFFICE QUAD				360	12	20	1	1	30				1,987		6
7	RCPT - OFFICE GEN		540			12	20	1	1	20	12	600			PWR - UH-1	8
9	RCPT - RR GFI			180		12	20	1	1	20	12		1,650		PWR - WH	10
11	RCPT - WAREHOUSE O	SEN			720	12	20	1	1	15	12			924	PWR - F-1	12
13	SPARE						20	1	1	30	10	1,500			PWR - EWH-1 (PNLBD 1 ONLY)	14
	SPARE						20	1	1 30 10			1,500		, , , , , , , , , , , , , , , , , , , ,	16	
	SPARE						20	1	1	20					SPARE	18
	SPARE						20	1	1	20					SPARE	20
	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	22
23	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	24
25	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	26
	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	28
29	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	30
31	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	32
33	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	34
35	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	36
37	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	38
39	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	40
41	PROVISIONAL SPACE							1	1						PROVISIONAL SPACE	42
	SUBTOTAL		1,391	256	1,080							3,100	5,137	2,911	SUBTOTAL	
	TOTAL PHASE A - VA	4,491	LOAD		CONN. \	/Α	DF		LO	AD		С	ONN. VA	DF		
	AMPS	37	COOLIN	G	2,772		0		RE	FRIG				1.00	1	
	TOTAL PHASE B - VA	5,393	HEATING	3	5,250		1.00		SIC	GN/DIS	SP			1.25	1	
	AMPS	45	LIGHTIN	G	927		1.25		KIT	CHEN	1			1.00	1	
	TOTAL PHASE C - VA	3,991	RECEPT		1,800					ISTIN	G			1.00	1	
	AMPS	33	MOTORS	;	1,924		1.00		LR	G MO	TOR			1.25	TOTAL DEMAND	
	TOTAL PNLBD - VA	13,875	SUPP HE				1.00		SH	<b>OWV</b>	NDW			1.25	11,335 VA	
	AMPS	39	MISC EQ	UIP	1.202		1.00			G TRA	CK			1.00	31 A	1

ELECTRICAL PANEL SCHEDULES

SCALE : NO SCALE

		ELECTRIC	AL LI	GHTING SC	CHEDULE (OR EQUAL. VE	ERIFY ALL SELECTIONS AND FINISHES WITH OWNER AND ARCHITECT PRIOR TO ORDERING).	
FIXTURE TYPE	MANUFACTURER NAME SERIES		VOLT AMPS	MOUNTING	LAMP TYPE	REMARKS	VOLT
A	LITHONIA	EPANL	31	RECESSED/GRID	INCLUDED 4000K LED	LED 2'X4' FLAT PANEL - 4000LM OUTPUT HIGH EFFICIENCY	MVOLT
В	LITHONIA	WF6	14	RECESSED	INCLUDED 2700K LED	WAFER-STYLE 6" LED DOWNLIGHT	MVOLT
С	LITHONIA	CPHB 12LM MVOLT 40K	88	SUSPENDED	INCLUDED 4000K LED	COMPACT HIGH-BAY LED WAREHOUSE FIXTURE - 12000 LUMEN OUTPUT	MVOLT
W	LITHONIA	WDGE3	59	WALL	INCLUDED 4000K LED	EXTERIOR WALL PACK - P2 PACKAGE - PROVIDE WITH 'PE' PHOTOCELL OPTION	MVOLT
	LITHONIA	ELM2L-SDRT	5	SURFACE	INCLUDED LED	EMERGENCY EGRESS LIGHTING UNIT WITH 90 MIN. BATTERY PACK	120
	LITHONIA	LHQM-LED-R-SD	5	SURFACE	INCLUDED LED	EMERGENCY EXIT EGRESS COMBO LIGHTING UNIT WITH RED FACE EXIT SIGN AND 90 MIN. BATTERY PACK	120
Ø	LITHONIA	ELA-B-T-QWP-L0309-SD	5	SURFACE	INCLUDED LED	OUTDOOR EMERGENCY REMOTE EGRESS LIGHTING UNIT	120



SCALE : NO SCALE

FEEDER SCHEDULE FEEDER CONDUIT AND CONDUCTOR SIZES NUMBER (4) 4"EA W/ 4 #500KCM AL  $\langle 1 \rangle$  $\langle 2 \rangle$ (1) 2" W/ 4 #3/0 CU & #6 CU GND THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS AND FEEDERS PER THE NATIONAL ELECTRICAL CODE, ARTICLE 210.19(A)(1) FPN NO. 4.

THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATING INDICATED FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

GRADE LEVEL

### **# KEYED SLD NOTES**

- 1. PROVIDE NEW CONDUCTORS TO UTILITY SOURCE. VERIFY EXACT LOCATION AND REQUIREMENTS WITH UTILITY PRIOR TO ROUGH-IN.
- 2. CONTRACTOR TO PROVIDE AND INSTALL TWO 4" PVC CONDUITS FOR SERVICE PRIMARY TO LOCATION DETERMINED BY UTILITY.
- 3. NEW DISCONNECT WITH GROUND FAULT PROTECTION PER UTILITY REQUIREMENTS.
- 4. PROVIDE NEW GROUND PER NEC 250.52(A)(1).
- 5. PROVIDE NEW GROUND PER NEC 250.52(A)(2).
- 6. PROVIDE NEW GROUND PER NEC 250.52(A)(3).

