

WHATABURGER
204 SW M150 HWY
LEE'S SUMMIT, MO 64801
JACKSON COUNTY
PROTOTYPE 22-M
FINAL DEVELOPMENT PLAN

LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	CONSTRUCTION LIMITS
---	---	PROPERTY LINE
---	---	EASEMENT
---	---	FENCE
⊠	⊠	LIGHT POLE
---	---	UNDERGROUND ELECTRIC LINE
---	---	ELECTRICAL STRUCTURE
---	---	UNDERGROUND TELECOMMUNICATION LINE
---	---	GAS LINE
⊕	⊕	GAS METER
---	---	WATER LINE
⊕	⊕	WATER STRUCTURE
---	---	FIRE HYDRANT
---	---	SANITARY LINE
⊕	⊕	SANITARY STRUCTURE
---	---	SANITARY GREASE TRAP
---	---	STORM LINE
⊕	⊕	STORM STRUCTURE
---	---	ROOFDRAIN / UNDERDRAIN
---	---	CONTOUR
---	---	TOP OF CURB
---	---	TOP OF PAVEMENT
---	---	FINISHED GRADE SPOT ELEVATION
---	---	GRADE SLOPE
---	---	MAJOR FLOOD ROUTING
HP	HP	HIGH POINT
---	---	SEEDING/LANDSCAPE AREA
---	---	CONCRETE
---	---	STRUCTURAL CONCRETE
---	---	CONCRETE PAVEMENT
---	---	ROCK AREA
---	---	HEAVY DUTY ASPHALT PAVEMENT



VICINITY MAP
N.T.S.

OWNER

WHATABURGER
300 CONCORD PLAZA DR.
SAN ANTONIO, TX 78216
PHONE: (210) 476-6842
CONTACT: ALYSSIA LESTER
EMAIL: alester@wbhq.com

ENGINEER

ms consultants, inc.
2221 SCHROCK ROAD
COLUMBUS, OHIO 43229
PHONE: (614) 898-7100
CONTACT: IAN AULTMAN
EMAIL: iaaultman@msconsultants.com

BENCHMARK

TBM 1:
1/2 IRON
NORTHING: 2822704.4825
EASTING: 978325.3390
ELEVATION = 1022.68

TBM 2:
1/2 IRON
NORTHING: 2822484.7625
EASTING: 978065.2866
ELEVATION = 1019.71

BASIS OF BEARINGS:
MO (C) STATE PLANE COORDINATE SYSTEM SPC (2402 MO C)

SURVEYOR

YOUNG - HOBBS AND ASSOCIATES
1202 CROSSLAND AVE.
CLARKSVILLE, TN 37040
PHONE: (931) 645-2524
CONTACT: DAVE R. HOBBS

GEOTECHNICAL ENGINEER

TERRACON CONSULTANTS, INC.
4765 WEST JUNCTION STREET
SPRINGFIELD, MISSOURI 65802
PHONE: (417) 864-5100
CONTACT: TY G. ALEXANDER, P.E.

FLOOD INFORMATION

THIS PROPERTY IS LOCATED WITHIN AN AREA HAVING ZONE DESIGNATIONS OF "X" BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, ON FLOOD INSURANCE RATE MAP NO. 29095C0532G, WITH A MAP EFFECTIVE DATE OF JANUARY 20TH, 2017, IN JACKSON COUNTY, STATE OF MISSOURI, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.

SHEET INDEX

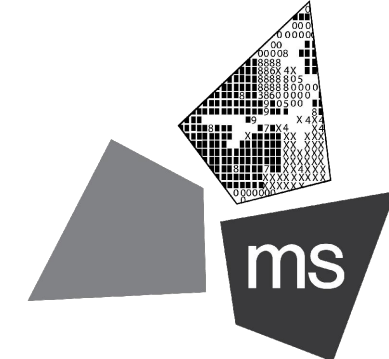
COVER SHEET	C-1.0
SURVEY	1 OF 1
SITE DEMOLITION PLAN	C-2.0
SITE DIMENSION PLAN	C-3.0
SITE ZONING PLAN	C-3.1
CONCRETE JOINTING PLAN	C-4.0
SITE GRADING PLAN	C-5.0
SITE DRAINAGE PLAN	C-5.1
STORM SEWER PLAN AND PROFILES	C-5.2
SITE UTILITY PLAN	C-6.0
SITE DETAILS	C-7.0
SITE DETAILS	C-7.1
SITE DETAILS	C-7.2
SITE DETAILS	C-7.3
DETENTION SYSTEM DETAILS	C-7.4
SITE DETAILS	C-7.5
SITE DETAILS	C-7.6
FIRE PROTECTION PLAN	C-8.0
SWPPP PHASE - PRE-CONSTRUCTION	C-9.0
SWPPP PHASE - DURING & POST CONSTRUCTION	C-9.1
SWPPP NOTES	C-10.0
SWPPP NOTES	C-10.1
SWPPP DETAILS	C-10.2
SWPPP DETAILS	C-10.3
LANDSCAPE PLAN	L-1.0
IRRIGATION PLAN	I-1.0

REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M
BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

COVER SHEET



DRAWN BY: TDB

CHECKED BY: PGD

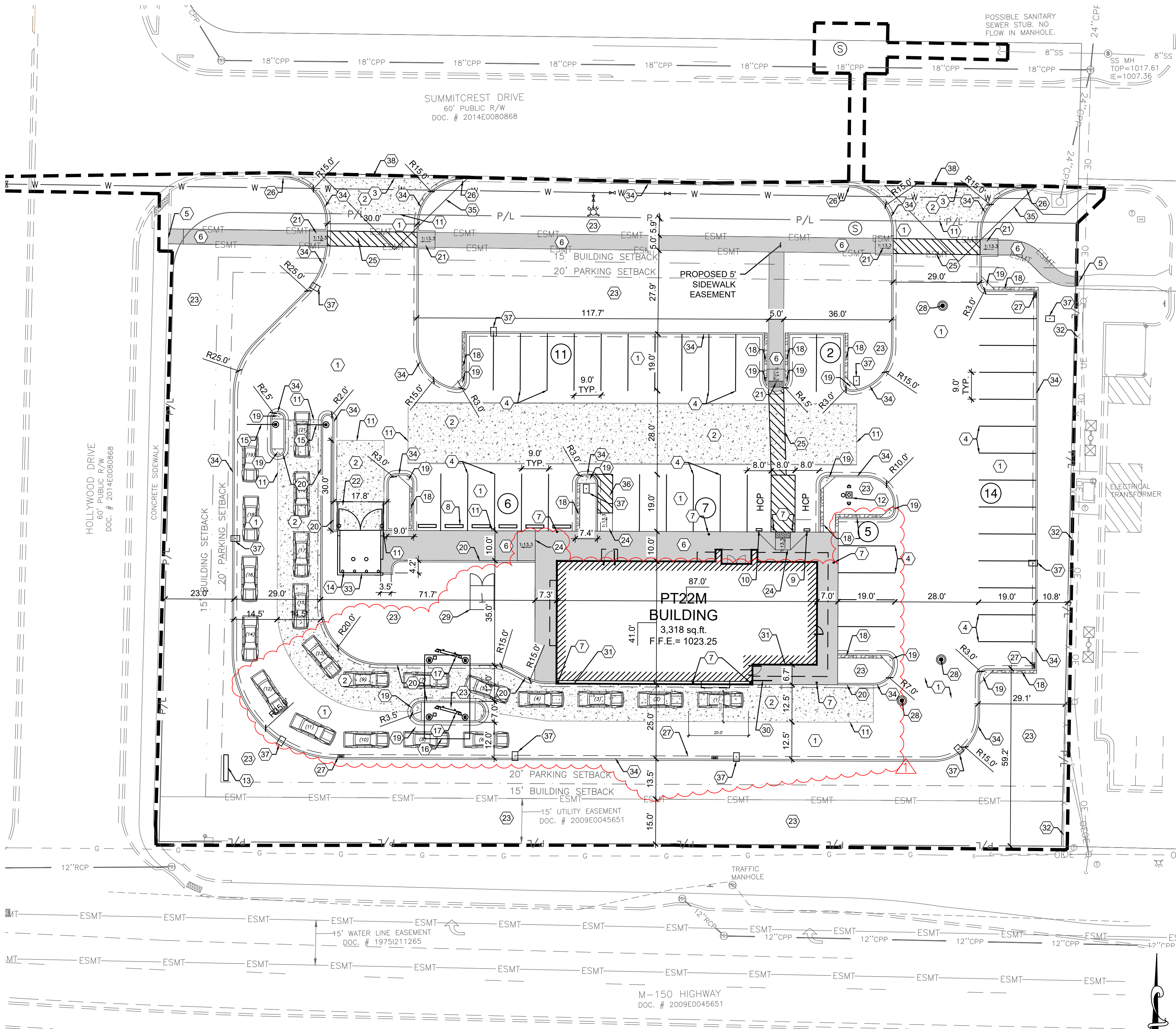
PROJECT NO: 40497-21

DRAWING

C-1.0



N:\03\62\40497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-3.0 Site Dimension Plan.dwg, 3/15/2023 2:33 PM, boley, jason



LAND DESCRIPTION:
AS SURVEYED

PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 30, TOWNSHIP 47 NORTH, RANGE 31 WEST, OF THE FIFTH PRINCIPAL MERIDIAN, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, DESCRIBED AS FOLLOWS:

BEING ALL OF TRACT "A", AS SHOWN ON THE CERTIFICATE OF SURVEY, RECORDED JULY 27, 2021 AS DOCUMENT NO. 2021E0081920 IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, ALSO DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2" IRON PIN FOUND (ID: 2651) AT THE RIGHT OF WAY LINE INTERSECTION OF 150 HIGHWAY AND HOLLYWOOD DRIVE; THENCE WITH THE EAST RIGHT OF WAY LINE OF SAID HOLLYWOOD DRIVE N 02°24'42" E A DISTANCE OF 190.89 FEET TO A 1/2" IRON PIN FOUND (ID: 2651); THENCE WITH THE RIGHT OF WAY LINE INTERSECTION OF SAID HOLLYWOOD DRIVE AND SUMMITCREST DRIVE WITH A CURVE TURNING TO THE RIGHT WITH AN ARC LENGTH OF 31.05 FEET WITH A RADIUS OF 20.00 FEET WITH A CHORD BEARING OF N 47°11'11" E, WITH A CHORD LENGTH OF 28.02 FEET TO A 1/2" IRON PIN FOUND (ID: 2651); THENCE WITH THE SOUTH RIGHT OF WAY LINE OF SAID SUMMITCREST DRIVE S 88°15'48" E A DISTANCE OF 282.03 FEET TO A 1/2" IRON PIN FOUND (ID: 2651); THENCE LEAVING SAID RIGHT OF WAY LINE WITH THE WEST LINE OF HAWKINS COMMERCIAL LOT 1, RECORDED IN DOCUMENT NO. 200E006255 S 02°26'57" W A DISTANCE OF 208.22 FEET TO A 3/8" IRON PIN FOUND IN THE NORTH RIGHT OF WAY LINE OF SAID 150 HIGHWAY; THENCE WITH SAID NORTH RIGHT OF WAY LINE N 88°42'20" W A DISTANCE OF 301.67 FEET TO THE POINT OF BEGINNING, HAVING AN AREA OF 63.083 SQUARE FEET, 1.448 ACRES, MORE OR LESS.

SITE DATA			
	SQ. FT.	ACRES	PERCENT
TOTAL BUILDING FLOOR AREA	3751	0.09	5.95
TOTAL SITE AREA	63083	1.45	100.0
LIMITS OF DISTURBANCE	68942	1.58	109.2
EXISTING PERVIOUS	62787	1.44	99.5
EXISTING IMPERVIOUS	296	0.01	0.5
TOTAL PROPOSED PERVIOUS	24129	0.55	38.2
TOTAL PROPOSED IMPERVIOUS	38954	0.89	61.8
CURRENT ZONING IS CP-2 PLANNED COMMUNITY COMMERCIAL ; APPROVED BY CITY COUNCIL ON 05/31/22 FLOOR AREA RATION = 0.059 SF			

PHASING PLAN		
PROJECT PHASE	BP DESCRIPTION	DATE
A-PRE-CONSTRUCTION	PREPARE SITE FOR CONSTRUCTION INCLUDING ESTABLISHING E&S PERIMETER CONTROLS	SEPTEMBER-22
B-PHASE I CONSTRUCTION	TOP SOIL STOCK PILE PROTECTION, SITE CLEARING, TEMPORARY SEEDING, GENERAL SITE PREP	SEPTEMBER-22 DECEMBER-22
C-PHASE II CONSTRUCTION	CONSTRUCT BUILDING ASPHALT PAVING, STORM STRUCTURE INSTALLATIONS	DECEMBER-22 JANUARY-23
D-FINAL STABILIZATION	PERMANENT SEEDING	JUNE-23

LEGEND

FEATURE	DESCRIPTION
	CONCRETE SIDEWALK
	HEAVY DUTY ASPHALT PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT
	CONSTRUCTION LIMITS
	BUILDING SETBACK LINE
	PARKING SETBACK LINE
	GUTTER LINE
	PROPOSED SIDEWALK EASEMENT
	EXISTING EASEMENT
	LIGHT POLE
	FIRE HYDRANT

PARKING DATA		
	REQUIRED	PROVIDED
STANDARD	53	43
HANDICAP	3	2
TOTAL	56	45
*14 PARKING SPACE REQUIRED PER 1000 S.F. OF THE GROSS BUILDING FLOOR AREA (3,751 SF OF DINING AREA)		
**1 ADA SPACE PER 25 STANDARD SPACES		
***FEWER SPACES ALLOWABLE IF EVIDENCE OF SUCCESS ON SIMILAR PROJECTS CAN BE PROVIDED.		
****PARKING JUSTIFICATION WAS SUBMITTED TO THE CITY ON 03/29/22 AS PART OF THE PDP PROCESS.		

GENERAL NOTES:

- ALL EXISTING CONDITIONS, TOPOGRAPHY, UTILITIES AND PROPERTY INFORMATION ARE TAKEN FROM A SURVEY OF LAND SITUATED IN THE CITY OF LEE'S SUMMIT, COUNTY OF JACKSON AND STATE OF MISSOURI, BY SURVEYOR: YOUNG-HOBBS AND ASSOCIATES, 1202 CROSSLAND AVENUE CLARKSVILLE, TN 37040.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION, AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.
- PROVIDE SMOOTH TRANSITION FROM NEWLY PAVED AREAS TO EXISTING PAVED AREAS AS NECESSARY. THE EXISTING EDGE OF PAVEMENT SHALL BE FREE OF ALL LOOSE DEBRIS AT ALL AREAS WHERE PROPOSED PAVEMENT MEETS EXISTING PAVEMENT. THE EDGE OF EXISTING ASPHALT PAVEMENT SHALL BE PROPERLY SEALED WITH A TACK COAT MATERIAL IN ALL AREAS WHERE NEW ASPHALT PAVEMENT IS INDICATED TO JOIN EXISTING.
- ALL DIMENSIONS TO FACE OF CURB AND/OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS AND ADDITIONAL INFORMATION.
- ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
- ALL EXCAVATED AREAS TO BE SEEDDED AND/OR SODDED AFTER FINISH GRADING UNLESS OTHERWISE NOTED. ALL NEWLY SEEDDED/SODDED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL. HOLD SLOE DOWN 1" FROM PAVEMENT ELEVATION. CONTRACTOR TO SUPPLY STRAW MULCH WHERE GRASS SEED HAS BEEN PLANTED.
- ALL RADII ARE 3.0 FEET UNLESS OTHERWISE SHOWN. ALL RADII INDICATED ON PLANS SHALL BE CONSTRUCTED AS CIRCULAR ARCS.
- THERE ARE NO OIL AND GAS WELLS (ACTIVE/INACTIVE/CAPPED) PER THE MISSOURI DEPARTMENT OF NATURAL RESOURCES MAPPING.
- ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXISTING BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
- THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

KEYED NOTES:

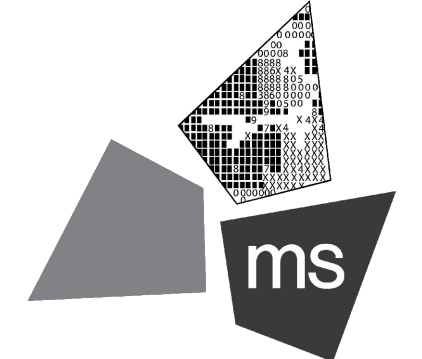
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL ON SHEET C-7.0.
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT, SEE DETAIL ON SHEET C-7.0.
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT TO BE FLUSH WITH EXISTING ASPHALT PAVEMENT.
- PROPOSED PAINTED PARKING STRIPING (TYPICAL). ALL PARKING STRIPES ARE TO BE 4" PAINTED WHITE, UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS OR SPECIFICATIONS.
- CONNECT TO EXISTING SIDEWALK. SEE THE GRADING PLAN FOR MORE DETAILS.
- PROPOSED CONCRETE SIDEWALK. SEE DETAIL ON SHEET C-7.0.
- PROPOSED BOLLARD, TYP. OF 9. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
- PROPOSED PRE-CAST CONCRETE WHEEL STOP (TYP. OF 6). SEE DETAIL ON SHEET C-7.3.
- GENERAL CONTRACTOR TO PROVIDE AND INSTALL (1) POLE-MOUNTED ADA PARKING SIGNS. SIGNS PROVIDED BY CONTRACTOR TO MEET LOCAL REQUIREMENTS, SEE DETAIL ON SHEET C-7.0.
- GENERAL CONTRACTOR TO PROVIDE AND INSTALL (1) POLE-MOUNTED ADA PARKING SIGN WITH "VAN ACCESSIBLE" SIGN. SIGNS PROVIDED BY CONTRACTOR TO MEET LOCAL REQUIREMENTS, SEE DETAIL ON SHEET C-7.0.
- CONCRETE TO BE FLUSH WITH ADJACENT ASPHALT PAVEMENT. SEE DETAIL ON SHEET C-7.1.
- FLAGPOLE WITH GROUND-MOUNTED LIGHTS, UNITEDFLAG AND BANNER, GARRISON TYPE OR OWNER APPROVED EQUAL, 30' HIGH, 5" BUTT ALUMINUM WITH 14 GAUGE ALUMINUM ROLLER, 30 FEET IN LENGTH, MEASURED FROM THE ENCLOSURE OPENING. THE PAD AND APPROACH SHALL BE IMPROVED WITH A MINIMUM 6" OF FULL DEPTH UNREINFORCED PORTLAND CEMENT CONCRETE CONSTRUCTED ON A SUB-GRADE OF 4" OF GRANULAR BASE COURSE. SEE DETAIL ON SHEET C-7.0.
- PROPOSED 35' HT POLE SIGN, CONTRACTOR TO COORDINATE WITH OWNER. SEE ELECTRICAL PLANS AND SIGNAGE PACKAGE FOR DETAILS.
- PROPOSED DUMPSTER ENCLOSURE AND CONCRETE PAD. SEE THE STRUCTURAL AND ARCHITECTURAL SHEETS FOR DETAILS.
- PROPOSED HEADACHE BAR. SEE ARCHITECTURAL PLANS FOR DETAILS.
- PROPOSED MENU BOARD CANOPY. SEE ARCHITECTURAL PLANS FOR DETAILS.
- PROPOSED EXTERIOR MENU BOARD. SEE ARCHITECTURAL PLANS FOR DETAILS.
- PROPOSED 1' WIDE CRUSHED GRANITE STRIP. SEE DETAIL ON SHEET L-1.0.
- PROPOSED CONCRETE ISLAND NOSE. SEE DETAIL ON SHEET C-7.1.
- PROPOSED 6" MONOLITHIC CURB. SEE DETAIL ON SHEET C-7.1.
- PROPOSED ADA SIDEWALK RAMP. SEE DETAIL ON SHEETS C-7.0 & C-7.1.
- CONCRETE DUMPSTER ENCLOSURE APRON, TRASH ENCLOSURE AREA SHALL BE IMPROVED WITH A PORTLAND CEMENT CONCRETE PAD AND PORTLAND CEMENT CONCRETE APPROX 30 FEET IN LENGTH, MEASURED FROM THE ENCLOSURE OPENING. THE PAD AND APPROACH SHALL BE IMPROVED WITH A MINIMUM 6" OF FULL DEPTH UNREINFORCED PORTLAND CEMENT CONCRETE CONSTRUCTED ON A SUB-GRADE OF 4" OF GRANULAR BASE COURSE. SEE DETAIL ON SHEET C-7.0.
- PROPOSED LANDSCAPE AREA. SEE LANDSCAPE PLAN ON SHEET L-1.
- PROPOSED CURB RAMP. SEE DETAIL ON SHEET C-7.0.
- PROPOSED SIDEWALK CROSSING. SEE DETAIL ON SHEET C-7.2.
- CONNECT PROPOSED CURB TO EXISTING CURB (TRANSITION REQUIRED).
- PROPOSED STORM INLET. SEE SHEETS C-5.0 AND C-7.5 FOR DETAILS.
- PROPOSED STORM MANHOLE/JUNCTION BOX. SEE SHEETS C-5.0, C-7.5, AND C-7.6 FOR DETAILS.
- PROPOSED ELECTRIC TRANSFORMER. COORDINATE DETAILS AND LOCATION WITH UTILITY OWNER AND ELECTRICAL PLANS. SEE SHEET C-6.0.
- PROPOSED HAND RAIL. SEE ARCHITECTURAL SHEETS FOR DETAILS.
- PROPOSED STRUCTURAL FOUNDATION.
- EXISTING WOODEN FENCE TO REMAIN.
- TRASH ENCLOSURE SHALL BE PROTECTED THROUGH INSTALLATION OF 4" BOLLARDS (TYP. OF 4) ALONG THE REAR WALL OF THE TRASH ENCLOSURE. SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
- TYPE CG-1 CURB AND GUTTER. SEE DETAIL ON SHEET C-7.1.
- SITE TRIANGLE.
- PROPOSED PARKING STRIPING. SEE DETAIL ON SHEET C-7.0.
- PROPOSED LIGHT POLE AND FOUNDATION. SEE STRUCTURAL PLANS FOR DETAILS.
- EXISTING GUTTER LINE TO BE MAINTAINED.
- PROPOSED PRE-CAST CONCRETE WHEEL STOP (TYP. OF 6). SEE DETAIL ON SHEET C-7.3.

REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

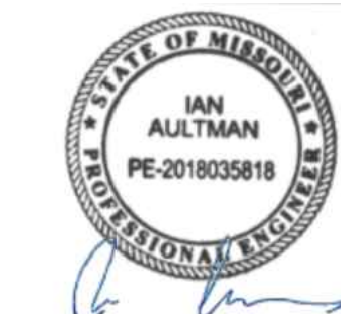
PROJECT

PROPOSED PT22M
BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SITE DIMENSION
PLAN



DRAWN BY: TDB

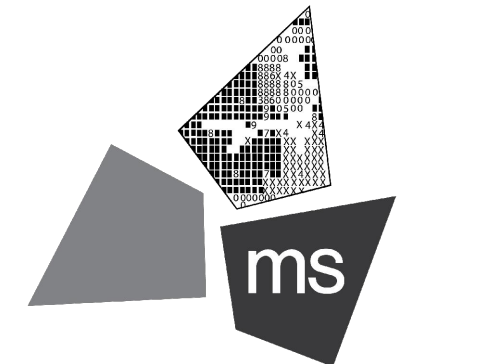
CHECKED BY: PGD

PROJECT NO: 40497-21

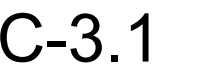
DRAWING

C-3.0

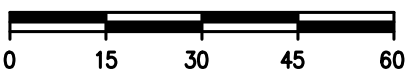
THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



SITE ZONING PLAN

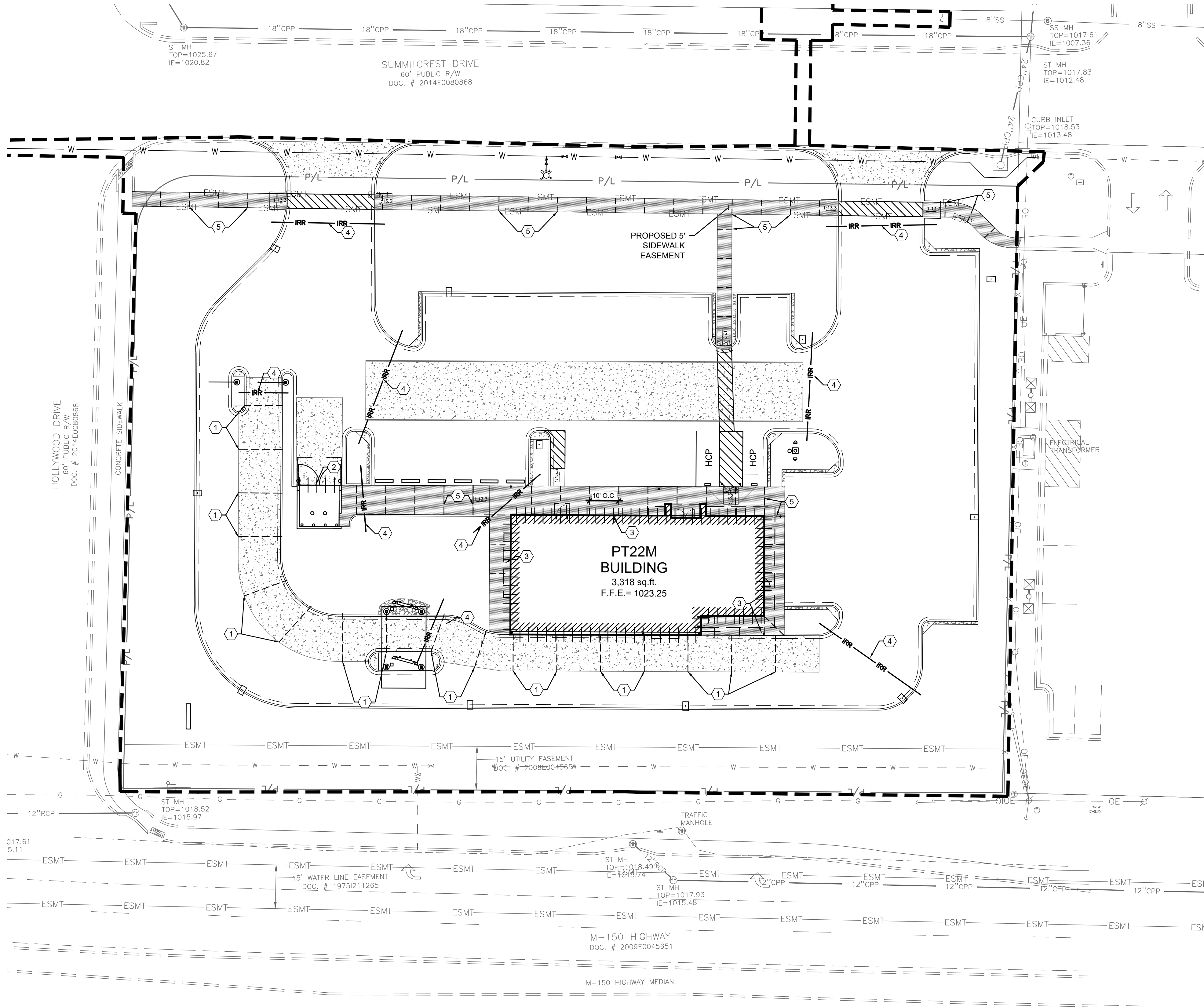


BEGINNING AT A 1/2" IRON PIN FOUND (ID: 2651) AT THE RIGHT OF WAY LINE INTERSECTION OF 150 HIGHWAY AND HOLLYWOOD DRIVE; THENCE WITH THE EAST RIGHT OF WAY LINE OF SAID HOLLYWOOD DRIVE N 02°24'42" E A DISTANCE OF 190.89 FEET TO A 1/2" IRON PIN FOUND (ID: 2651); THENCE WITH THE RIGHT OF WAY LINE INTERSECTION OF SAID HOLLYWOOD DRIVE AND SUMMITCREST DRIVE WITH A CURVE TURNING TO THE RIGHT WITH AN ARC LENGTH OF 31.05 FEET WITH A RADIUS OF 20.00 FEET WITH A CHORD BEARING OF N 47°11'11" E, WITH A CHORD LENGTH OF 28.02 FEET TO A 1/2" IRON PIN FOUND (ID: 2651); THENCE WITH THE SOUTH RIGHT OF WAY LINE OF SAID HOLLYWOOD DRIVE N 02°24'42" E A DISTANCE OF 20.93 FEET TO A 1/2" IRON PIN FOUND (ID: 2651); THENCE LEAVING SAID RIGHT OF WAY LINE WITH THE WEST LINE OF HAWKINS COMMERCIAL LOT 1, RECORDED IN DOCUMENT NO. 200E006255 S 02°26'57" W A DISTANCE OF 208.22 FEET TO A 3/8" IRON PIN FOUND IN THE NORTH RIGHT OF WAY LINE OF SAID 150 HIGHWAY; THENCE WITH SAID NORTH RIGHT OF WAY LINE N 88°42'07" W A DISTANCE OF 301.67 FEET TO THE POINT OF BEGINNING, HAVING AN AREA OF 63.083 SQUARE FEET, 1.448 ACRES, MORE OR LESS.



SCALE: 1"=30'

N:\03162\40497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-4.0 Concrete Jointing Plan.dwg, 3/15/2023 2:34 PM, boley, jason



GENERAL NOTES:

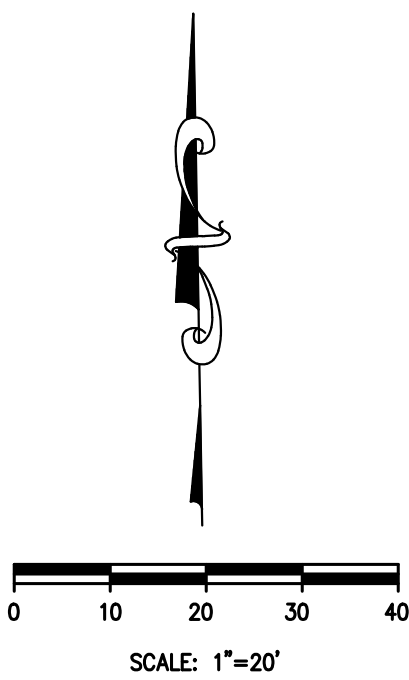
- A. PAVEMENT SPECIFICATION AND RECOMMENDATIONS TO BE TAKEN FROM GEOTECHNICAL REPORT.
- B. PORTLAND CEMENT CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- C. MAXIMUM CONTROL JOINT SPACING SHALL NOT EXCEED 15 FEET.
- D. EXPANSION JOINTS SHALL BE USED WHEREVER THE PAVEMENT WILL ABUT A STRUCTURAL ELEMENT SUBJECT TO DIFFERENT MAGNITUDE OF MOVEMENT (E.G., LIGHT POLES, RETAINING WALLS, EXISTING PAVEMENT, STAIRWAYS, ENTRYWAY PIERS, BUILDING WALLS, MANHOLES, ETC.).
- E. EXPANSION JOINTS SHALL BE SEALED PER DETAILS ON SHEET C-7.0 TO MINIMIZE MOISTURE INFILTRATION INTO SUBGRADE SOILS AND RESULTANT CONCRETE DETERIORATION AT THE JOINTS.
- F. SLEEVES SHOWN ARE FOR IRRIGATION ONLY. ADDITIONAL SLEEVES MAY BE REQUIRED FOR OTHER FRANCHISE UTILITIES. CONTRACTOR SHALL COORDINATE LOCATION AND SUPPLY ADDITIONAL SLEEVES REQUIRED FOR ELECTRICAL AND TELECOMMUNICATION SERVICES.
- G. ALL CONCRETE JOINTS SHALL RUN CONTINUOUSLY THROUGH CURBS.

KEYED NOTES:

- 1 SAWED CONSTRUCTION JOINT REQUIRED, TYPICAL. SEE DETAIL ON SHEET C-7.0.
- 2 DOWELED EXPANSION JOINT REQUIRED, TYPICAL. SEE DETAIL ON SHEET C-7.0.
- 3 EXPANSION JOINT REQUIRED WHERE CONCRETE OR CURBS ABUTS BUILDING FOUNDATION, STORM STRUCTURE, FLUME, OR SIDEWALK OPENING. SEE DETAIL ON SHEET C-7.0.
- 4 SCHEDULE 40 PVC IRRIGATION SLEEVE, SEE SHEET I-1.0 FOR MORE INFORMATION.
- 5 INSTALL CONTRACTION JOINTS 10' ON CENTER AS SHOWN ON DETAIL C ON SHEET C-7.0 (TYP).

LEGEND

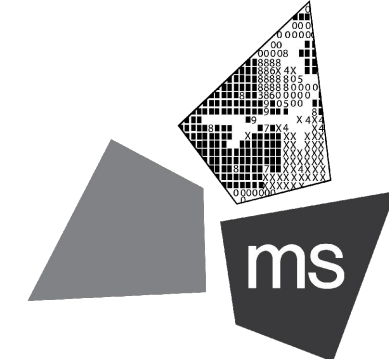
PROPOSED	DESCRIPTION
-----	CONTRACTION JOINT
+++++	EXPANSION JOINT
---IRR---	4" SCHEDULE 40 PVC SLEEVE
[Stippled Box]	CONCRETE SIDEWALK
[White Box]	HEAVY DUTY ASPHALT PAVEMENT
[Hatched Box]	HEAVY DUTY CONCRETE PAVEMENT



REVISION/DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

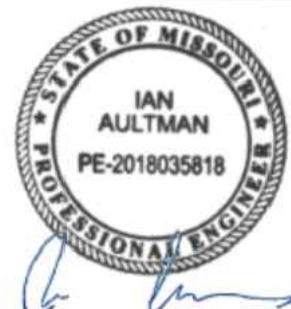
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

CONCRETE JOINTING PLAN

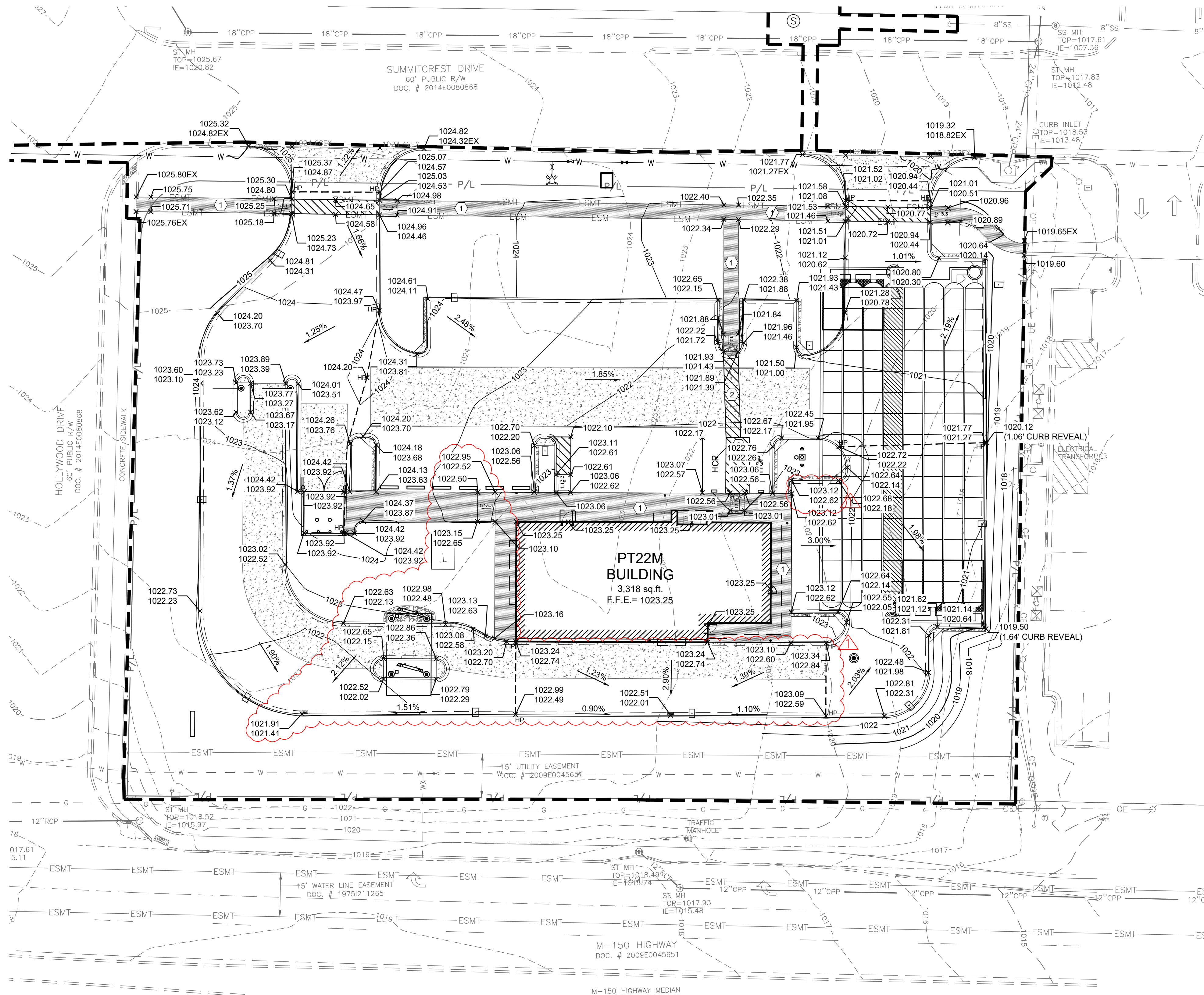


DRAWN BY:	TDB
CHECKED BY:	PGD
PROJECT NO:	40497-21

DRAWING

C-4.0

N:\031624\0497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-5.0 Site Grading and Drainage Plan.dwg, 3/15/2023 2:35 PM, boley, jason



GENERAL NOTES:

- ALL EXISTING CONDITIONS, TOPOGRAPHY, UTILITIES AND PROPERTY INFORMATION ARE TAKEN FROM A SURVEY OF LAND SITUATED IN THE CITY OF LEE'S SUMMIT, COUNTY OF JACKSON AND STATE OF MISSOURI, BY SURVEYOR: YOUNG-HOBBS AND ASSOCIATES, 1202 CROSSLAND AVENUE CLARKSVILLE, TN 37040.
- ALL CONSTRUCTION METHODS AND MATERIAL MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
- ALL PROPOSED SPOT ELEVATIONS SHOWN ARE TOP OF CURB AND FINAL GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR TO VERIFY ALL EXISTING GRADES AND CONTACT ENGINEER PRIOR TO BEGINNING WORK IF DISCREPANCY IS FOUND. CONTRACTOR TO VERIFY ASSUMED FINISHED FLOOR ELEVATION PRIOR TO BEGINNING WORK.
- THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS TO NOT CAUSE DAMAGE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS BEFORE CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATION IS AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.
- ALL WORK SHALL BE PERFORMED FROM PRIVATE PROPERTY. ALL TRAFFIC LANES MUST REMAIN OPEN AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES DURING CONSTRUCTION AND ALL DAMAGE SHALL BE REPAIRED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER OR CITY.
- CONTRACTOR SHALL INSTALL AND BACKFILL STRUCTURES AND TRENCHES PER DETAILS ON SHEET C-7.1.
- ALL EXISTING UTILITIES ARE TAKEN FROM SURVEY AND DO NOT NECESSARILY REPRESENT ALL UNDERGROUND UTILITIES ADJACENT TO OR UPON PREMISES SHOWN ON PLAN.
- ALL STORM CONDUITS ARE ADS N-12 SMOOTH INTERIOR HDPE PIPE OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
- THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

KEYED NOTES:

- CONTRACTOR TO MAINTAIN 2.00% MAX CROSS SLOPE ON SIDEWALK.
- CONTRACTOR TO MAINTAIN MAX 2.00% SLOPE IN ALL DIRECTIONS IN HANDICAP ACCESSIBLE AREA.

LEGEND

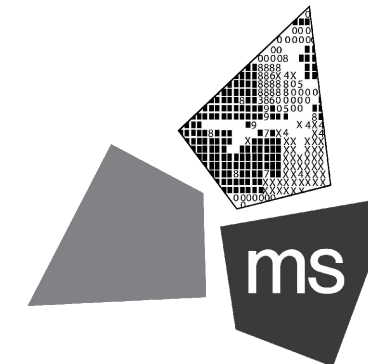
EXISTING	PROPOSED	DESCRIPTION
950.00 EX.	950.00	TOP OF CURB
949.50 EX.	949.50	TOP OF PAVEMENT
950.00 EX.	950.00	FINISHED GRADE SPOT ELEVATION
	1.00%	GRADE SLOPE
HP	HP	HIGH POINT
ST	ST	STORM MAIN
	RD	ROOFDRAIN / UNDERDRAIN
	---	CONSTRUCTION LIMITS
950	950	MAJOR CONTOUR LINES
	950	MINOR CONTOUR LINES
	INLET	INLET
CB	CB	CATCH BASIN
MH	MH	STORM MANHOLE
	←	MAJOR FLOOD ROUTING

REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SITE GRADING PLAN



DRAWN BY: TDB

CHECKED BY: PGD

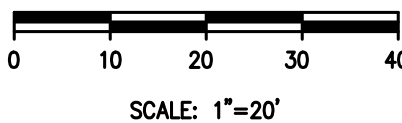
PROJECT NO: 40497-21

DRAWING

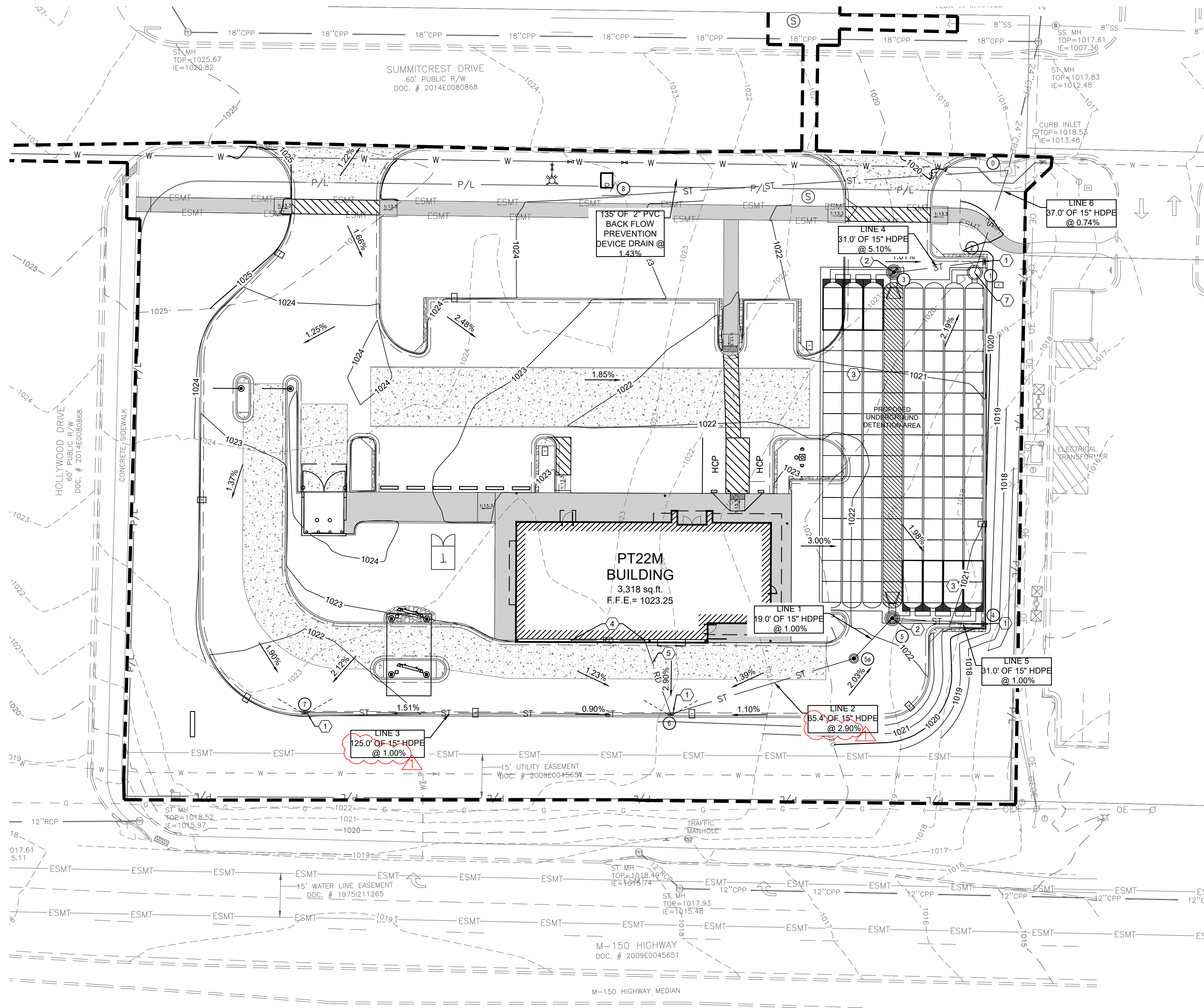
C-5.0



Know what's below.
Call before you dig.



N:\0316240497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-5.0 Site Grading and Drainage Plan.dwg, 3/15/2023 2:35 PM, boley, jason



Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - 13	2.73	15	Cir	18.974	1013.75	1013.94	1.001	1014.41	1014.60	0.14	1014.60	End	Manhole
2	Pipe - 10	2.79	15	Cir	65.400	1014.14	1016.05	2.920	1014.60	1016.72	n/a	1016.72	1	Curb-
3	Pipe - 9	1.96	15	Cir	125.000	1016.25	1017.50	1.000	1016.72	1018.06	n/a	1018.06	2	Curb-
4	Pipe - 12	2.71	15	Cir	31.102	1013.75	1015.34	5.112	1014.41	1016.00	0.26	1016.00	End	Curb-
5	Pipe - 14	1.02	15	Cir	30.930	1013.75	1014.06	1.002	1014.15	1014.46	n/a	1014.46	End	Curb-
6	Pipe - 11	0.19	15	Cir	36.725	1013.48	1013.75	0.735	1013.65	1013.92	0.06	1013.92	End	None

GENERAL NOTES:

- ALL EXISTING CONDITIONS, TOPOGRAPHY, UTILITIES AND PROPERTY INFORMATION ARE TAKEN FROM A SURVEY OF LAND SITUATED IN THE CITY OF LEE'S SUMMIT, COUNTY OF JACKSON AND STATE OF MISSOURI, BY SURVEYOR: YOUNG-HOBBS AND ASSOCIATES, 1202 CROSSLAND AVENUE CLARKSVILLE, TN 37040.
- ALL CONSTRUCTION METHODS AND MATERIAL MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.
- ALL PROPOSED SPOT ELEVATIONS SHOWN ARE TOP OF CURB AND FINAL GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR TO VERIFY ALL EXISTING GRADES AND CONTACT ENGINEER PRIOR TO BEGINNING WORK IF DISCREPANCY IS FOUND. CONTRACTOR TO VERIFY ASSUMED FINISHED FLOOR ELEVATION PRIOR TO BEGINNING WORK.
- THE EXCAVATING CONTRACTOR MUST TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. VERIFY COVER REQUIREMENTS BY UTILITY CONTRACTORS AND/OR UTILITY COMPANIES SO AS TO NOT CAUSE DAMAGE.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 48 HOURS BEFORE CONSTRUCTION IS TO START, TO VERIFY IF ANY UTILITIES ARE PRESENT ON SITE. ALL VERIFICATIONS (LOCATION, SIZE AND DEPTH) SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES. WHEN EXCAVATION IS AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY SO A REPRESENTATIVE OF THAT UTILITY COMPANY CAN BE PRESENT TO INSTRUCT AND OBSERVE DURING CONSTRUCTION.
- ALL WORK SHALL BE PERFORMED FROM PRIVATE PROPERTY. ALL TRAFFIC LANES MUST REMAIN OPEN AT ALL TIMES.
- CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES DURING CONSTRUCTION AND ALL DAMAGE SHALL BE REPAIRED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER OR CITY.
- CONTRACTOR SHALL INSTALL AND BACKFILL STRUCTURES AND TRENCHES PER DETAILS ON SHEET C-7.1.
- ALL EXISTING UTILITIES ARE TAKEN FROM SURVEY AND DO NOT NECESSARILY REPRESENT ALL UNDERGROUND UTILITIES ADJACENT TO OR UPON PREMISES SHOWN ON PLAN.
- ALL STORM CONDUITS ARE ADS N-12 SMOOTH INTERIOR HDPE PIPE OR APPROVED EQUAL, UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.
- THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

KEYED NOTES:

- PROPOSED CURB INLET AND FINGER DRAIN. SEE DETAILS ON SHEETS C-7.1 AND C-7.5.
- PROPOSED STORM MANHOLE/JUNCTION BOX. SEE DETAILS ON SHEET C-7.5 AND C-7.6.
- PROPOSED UNDERGROUND DETENTION SYSTEM, ADS STORMTECH MC-3500 CHAMBER SYSTEM, 19665 CF. SEE DETAILS ON SHEET C-7.5.
- PROPOSED DOWNSPOUT COLLECTOR SYSTEM.
- 6" STORM LINE FROM ROOF DRAIN TO CONNECT TO PROPOSED STORM SYSTEM. CONTRACTOR TO MAINTAIN A MINIMUM SLOPE OF 1.00% ON ALL ROOF DRAIN PIPES.
- PROPOSED STORM CLEANOUT. SEE DETAIL ON SHEET C-7.1 FOR DETAILS.
- PROPOSED OUTLET CONTROL STRUCTURE. SEE DETAIL ON SHEET C-7.6 FOR DETAILS.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
950.00 EX. 949.50 EX.	950.00 949.50	TOP OF CURB TOP OF PAVEMENT
950.00 EX.	950.00	FINISHED GRADE SPOT ELEVATION
	1.00%	GRADE SLOPE
	HP	HIGH POINT
	ST	STORM MAIN
	RD	ROOF DRAIN / UNDERDRAIN
	---	CONSTRUCTION LIMITS
	950	MAJOR CONTOUR LINES
	950	MINOR CONTOUR LINES
	INLET	INLET
	CATCH BASIN	CATCH BASIN
	STORM MANHOLE	STORM MANHOLE
	MAJOR FLOOD ROUTING	MAJOR FLOOD ROUTING

DETENTION SUMMARY

DESIGNED DETENTION VOLUME	AS-BUILT DETENTION VOLUME	REQUIRED DETENTION VOLUME
20,540 CU. FT.		19,000 CU. FT.

STORM STRUCTURE DATA

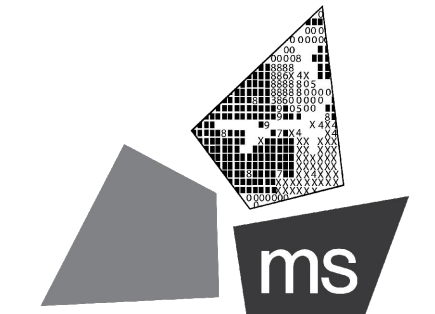
- EXISTING STORM INLET
RIM = 1018.53
EX: 24" INV. (NE) = 1013.48
PR: 15" INV (SW) = 1013.48
PR: 2" INV (W) = 1014.56
- PROPOSED OUTLET CONTROL STRUCTURE
(48" DIA. CONCRETE MANHOLE)
RIM = 1020.30
PR: 15" INV = 1013.75
- PROPOSED 2'X3' CONCRETE CURB INLET
RIM = 1020.16
PR: 15" INV OUT (W) = 1016.06
- PROPOSED STORM MANHOLE
(48" DIA. CONCRETE MANHOLE)
RIM = 1020.54
PR: 15" INV IN (E) = 1015.75
PR: BOTTOM INV = 1013.75
- PROPOSED 2'X3' CONCRETE CURB INLET
RIM = 1020.67
PR: 15" INV. OUT (W) = 1014.06
- PROPOSED STORM MANHOLE
(48" DIA. CONCRETE MANHOLE)
RIM = 1021.58
PR: 15" INV IN (SW,E) = 1013.75
PR: BOTTOM INV = 1013.75
- PROPOSED STORM MANHOLE
(48" DIA. CONCRETE MANHOLE)
RIM = 1022.25
PR: 15" INV OUT (NE) = 1013.94
PR: 15" INV IN (SW) = 1014.14
- PROPOSED 2'X3' CONCRETE CURB INLET
RIM = 1022.01
PR: 6" INV IN (NW) = 1016.80
PR: 15" INV OUT (NE) = 1016.05
PR: 15" INV IN (W) = 1016.25
- PROPOSED 2'X3' CONCRETE CURB INLET
RIM = 1021.41
PR: 15" INV OUT (E) = 1017.50
- PROPOSED 2" BACKFLOW VAULT DRAIN
RIM = 1021.75
PR: 2" INV (S) = 1015.89

REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SITE DRAINAGE PLAN



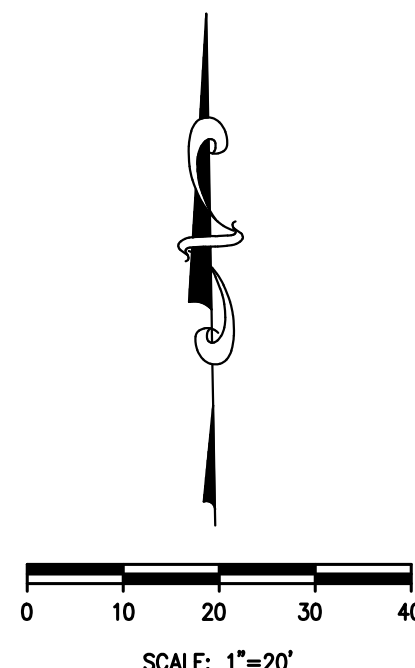
DRAWN BY: TDB

CHECKED BY: PGD

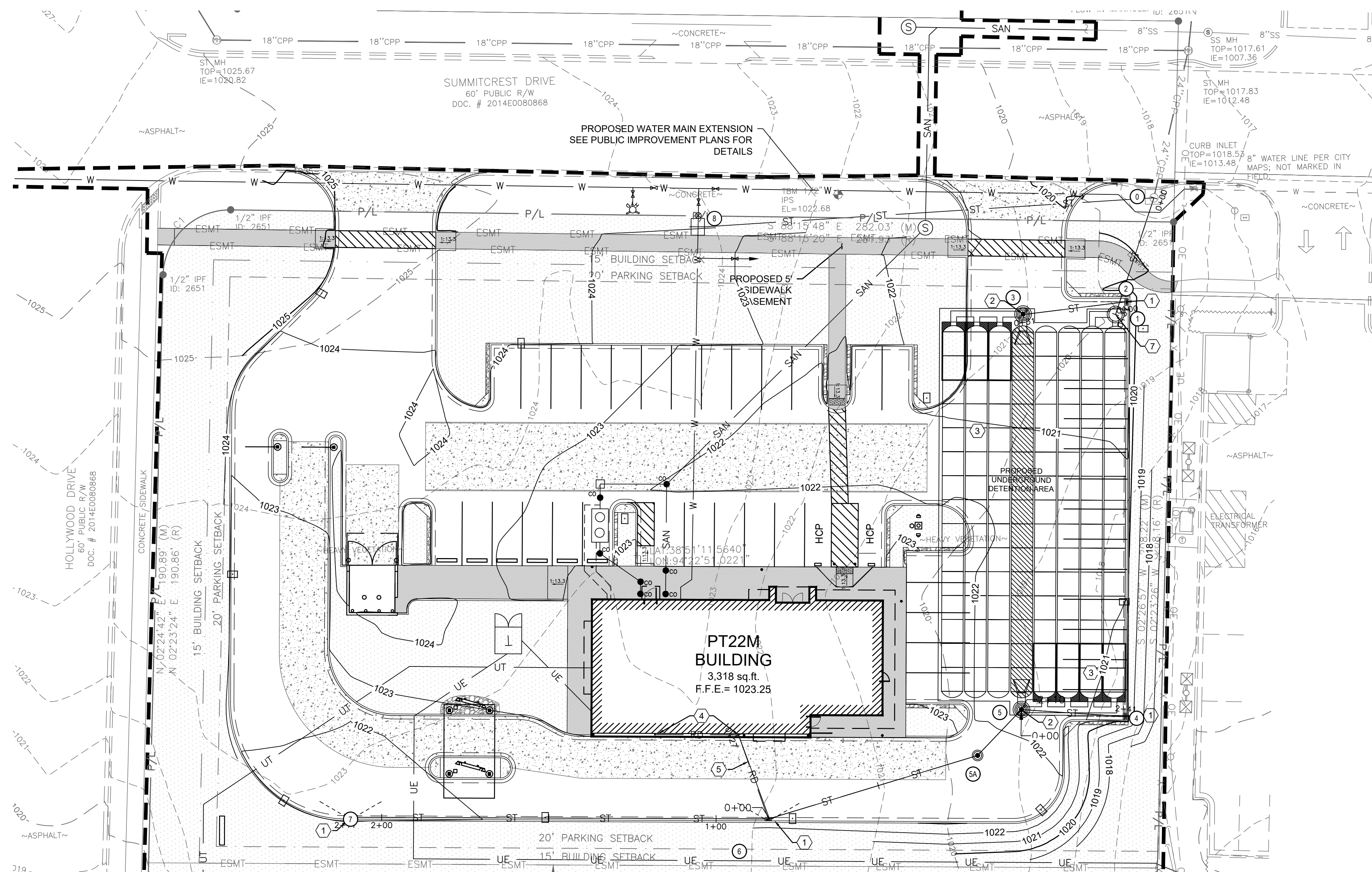
PROJECT NO: 40497-21

DRAWING

C-5.1

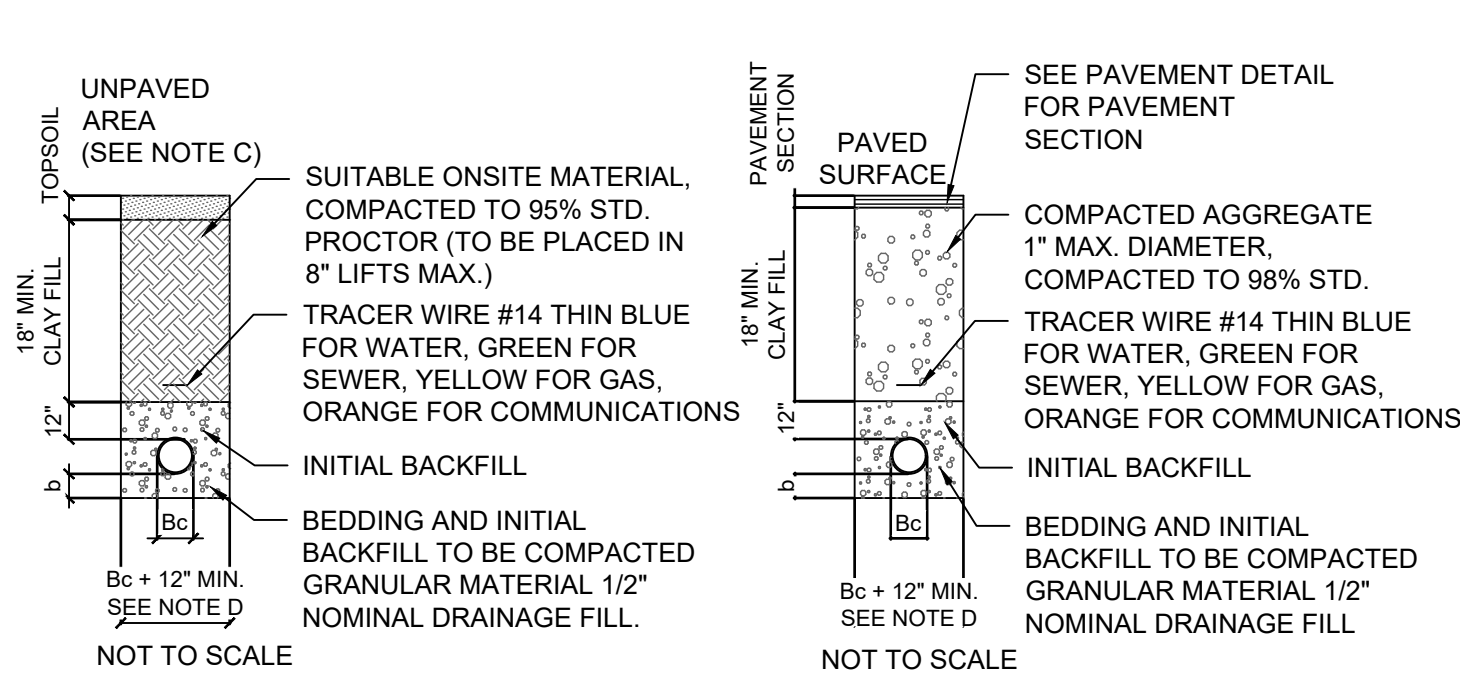


Know what's below.
Call before you dig.



C-6.0

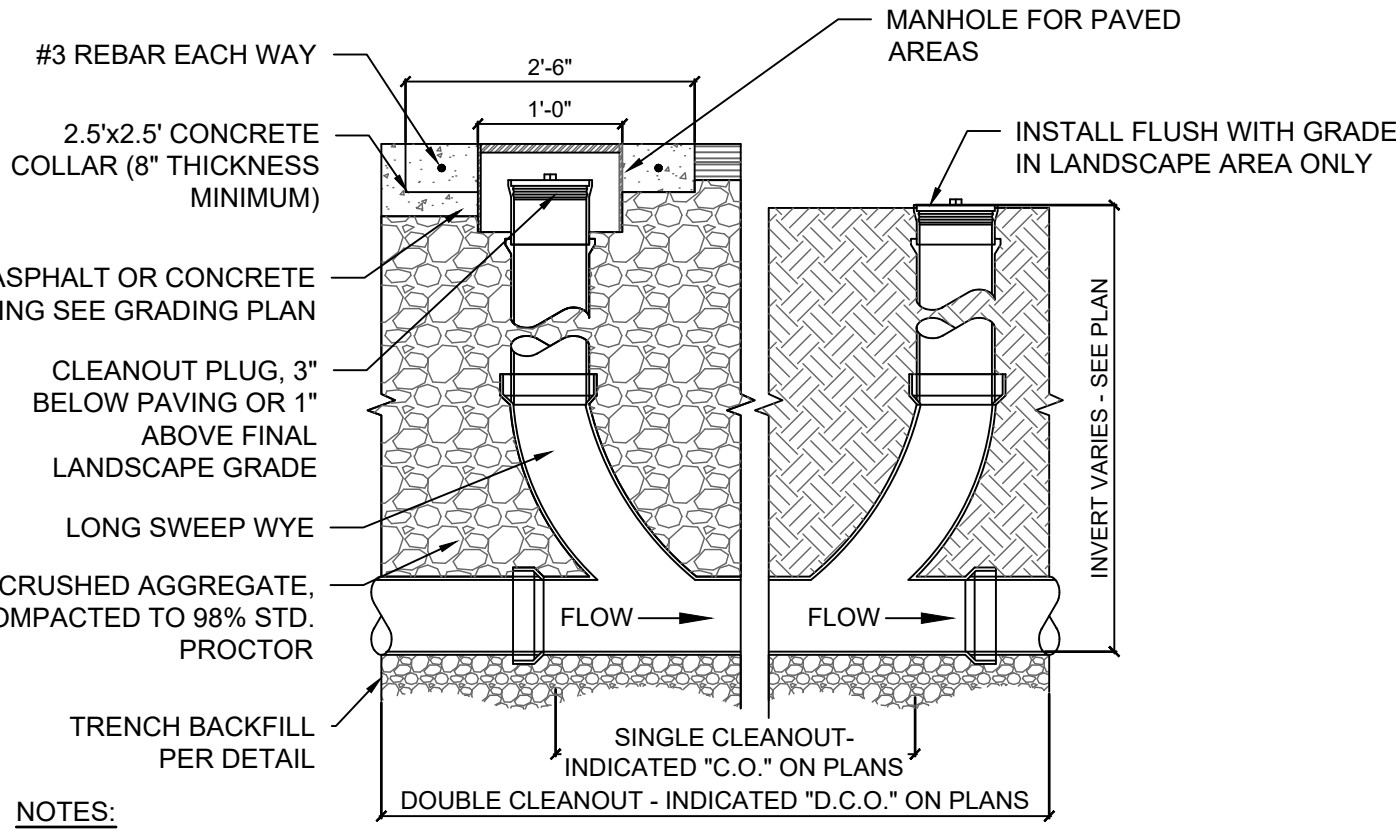
N:\0316240497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-7.1 Site Details.dwg, 3/15/2023 2:39 PM, boley, jason



TRENCH / BACKFILL NOTES

- BEDDING THICKNESS UNDER PIPE BARREL b, SHALL BE 1/8 OF Bc; 6" MIN. Bc IS OUTSIDE DIAMETER OF PIPE AT BELL.
- THE HAUNCH AREA OF THE PIPE MUST BE FULLY SUPPORTED; THEREFORE THE BEDDING MATERIAL SHALL BE HAND PLACED AND COMPACTED UNDER THE PIPE HAUNCH.
- IF UNPAVED AREA IS WITHIN 10' OF PAVEMENT OR STRUCTURE THEN FOLLOW TRENCH GUIDELINES FOR PAVED AREA.
- PIPE DIAMETER OF 4" OR SMALLER SHALL HAVE A MAXIMUM TRENCH WIDTH OF 12".
- BEDDING AND INITIAL BACKFILL SHALL BE SAND FOR ALL UTILITY CONDUIT CARRYING WATER, ELECTRIC, GAS, AND TELEPHONE.

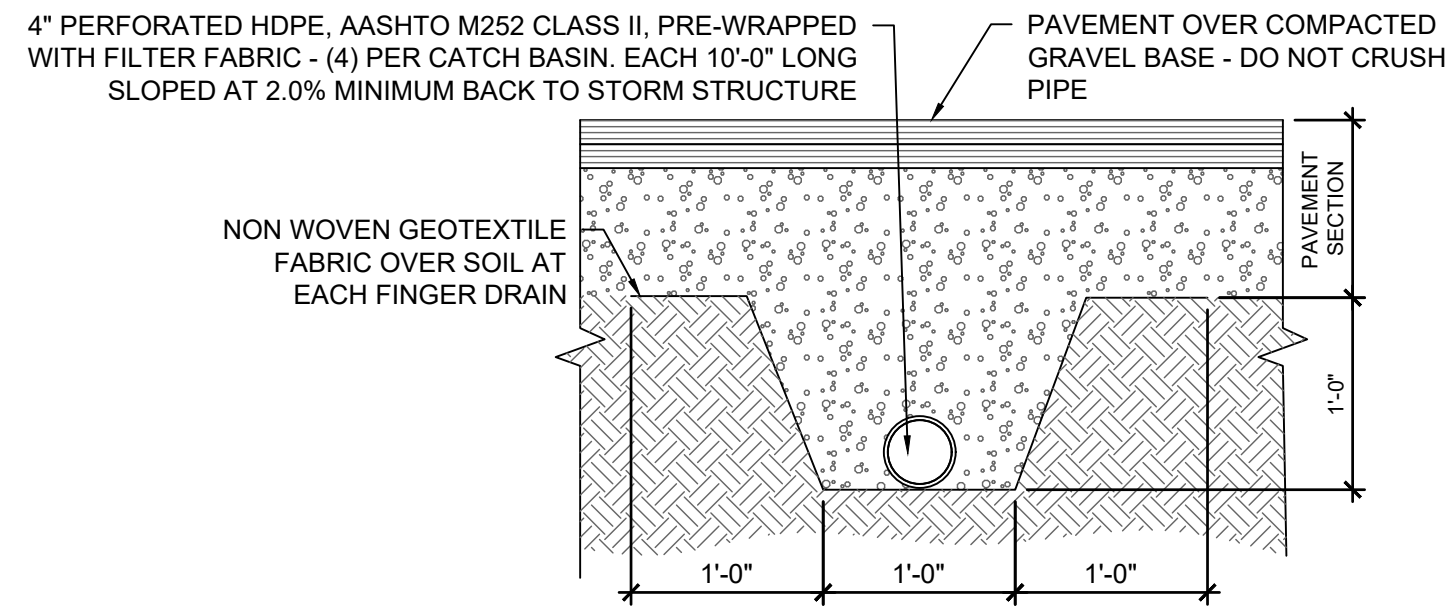
A TRENCH BACKFILL DETAIL
C7.1 N.T.S.



NOTES:

- CLEANOUT LOCATIONS INDICATED ON GRADING AND UTILITY PLANS AS "CO" FOR SINGLE CLEANOUT AND "DCO" FOR DOUBLE CLEANOUT.
- PROVIDE CLEANOUTS AS SPECIFIED:
- ZURN Z-1400 CLEANOUTS IN NON-TRAFFIC AREAS AND SIDEWALKS
- ZURN-1449 CLEANOUTS IN LANDSCAPED AREAS
- ZURN Z-1400 HD CLEANOUTS IN TRAFFIC AREAS WITH A "SERVICE STATION" TYPE MANHOLE, OPW #104 A12 - DOVER CORP./OPW DIV.

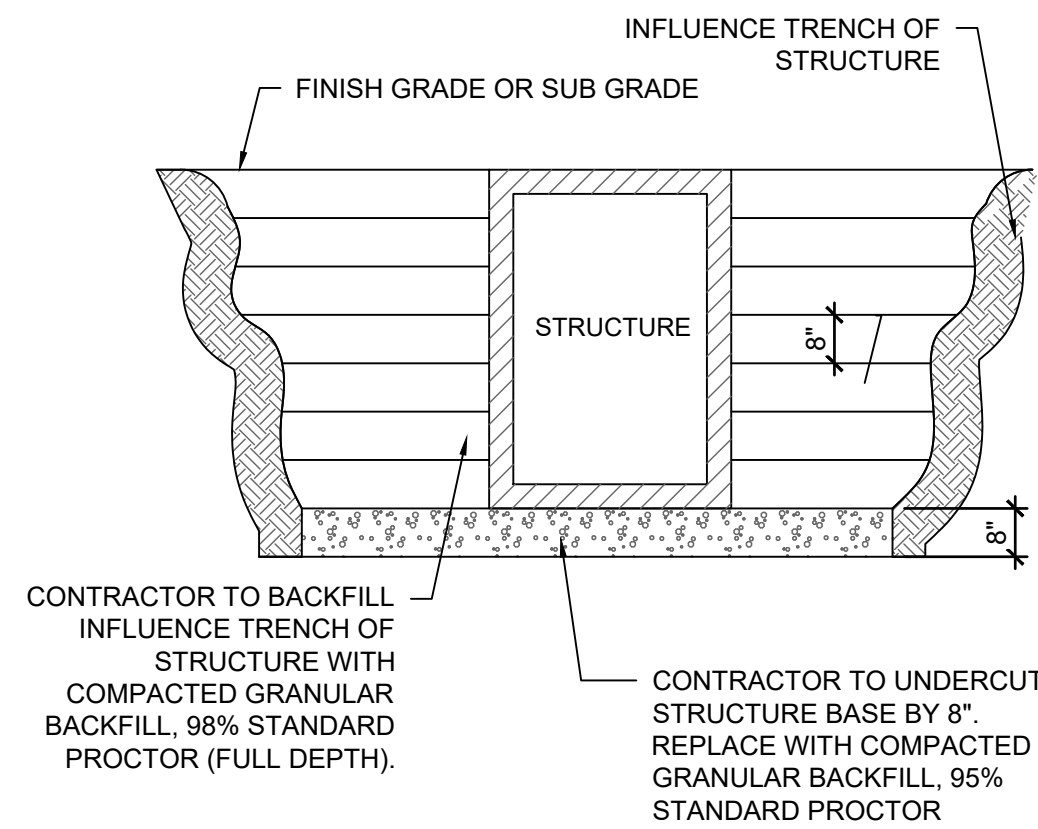
B PIPE CLEANOUT DETAIL
C7.1 N.T.S.



NOTES

- THE INTENTION OF THE FINGER DRAIN SYSTEM IS TO PREVENT EXCESS WATER ACCUMULATION AT THE LOW POINTS IN THE GRAVEL BASE AT DRAINAGE STRUCTURES. SYSTEM TO BE INSTALLED TO ASSURE ADEQUATE DRAINAGE OF PAVEMENT BASE.

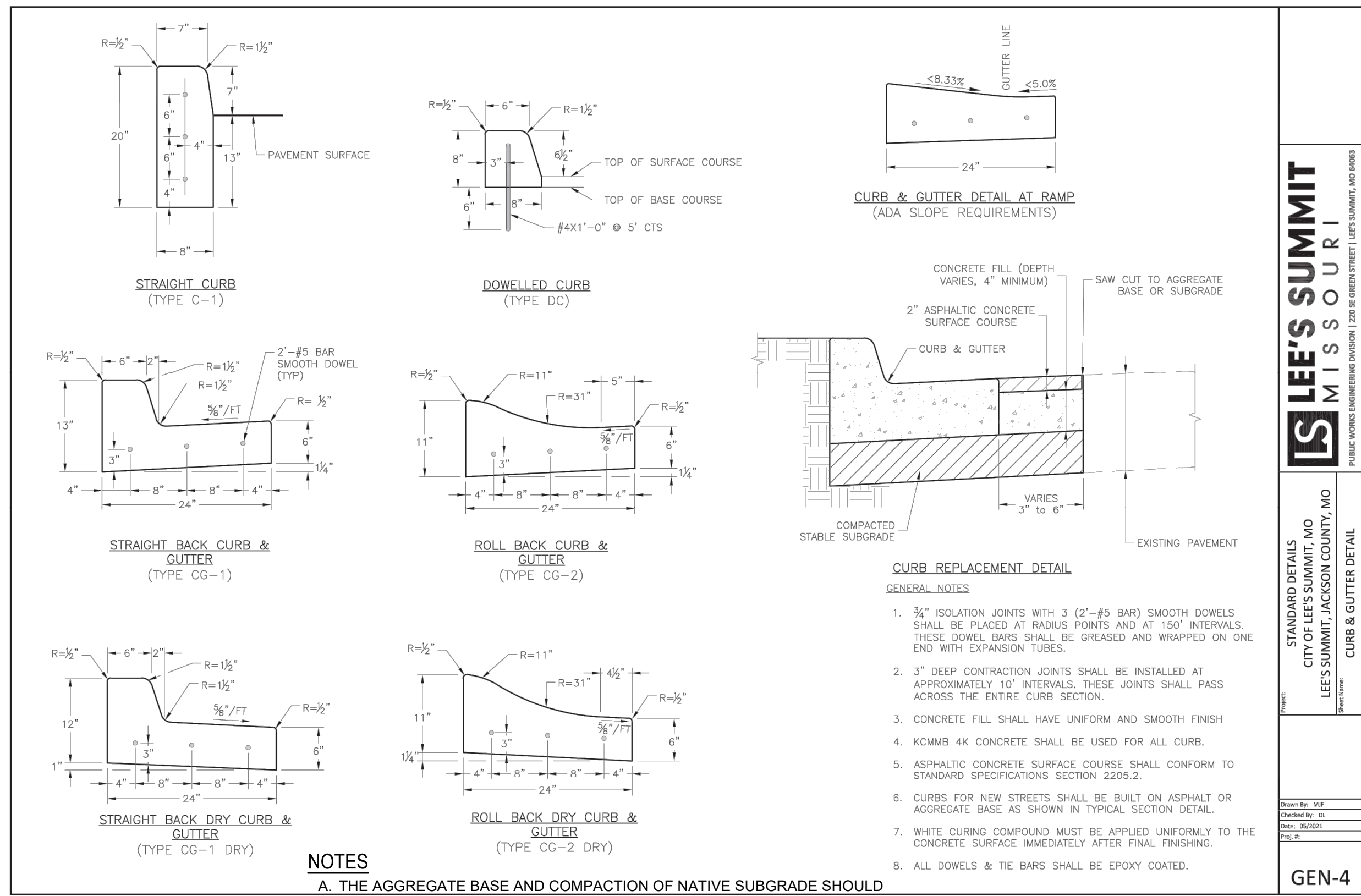
C FINGER DRAIN
C7.1 N.T.S.



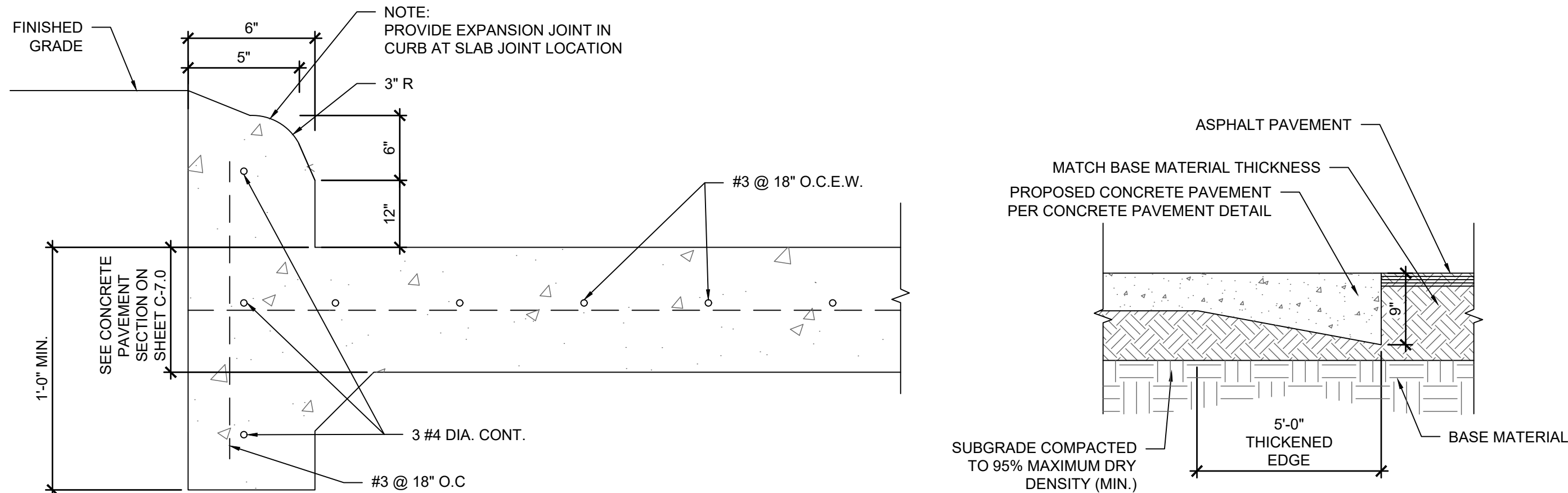
STRUCTURE BACKFILL NOTES

- BACKFILL TO BE PLACED IN 8" LIFTS
- NO ON SITE FILL WILL BE ALLOWED FOR UTILITY STRUCTURES.

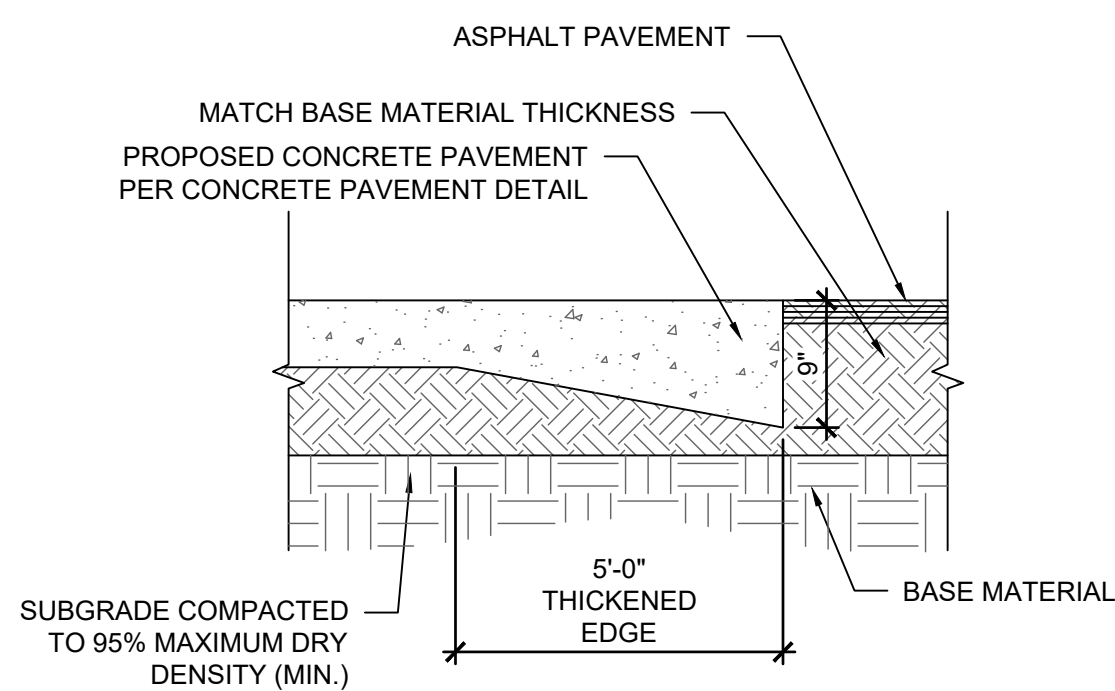
D STRUCTURE BACKFILL
C7.1 N.T.S.



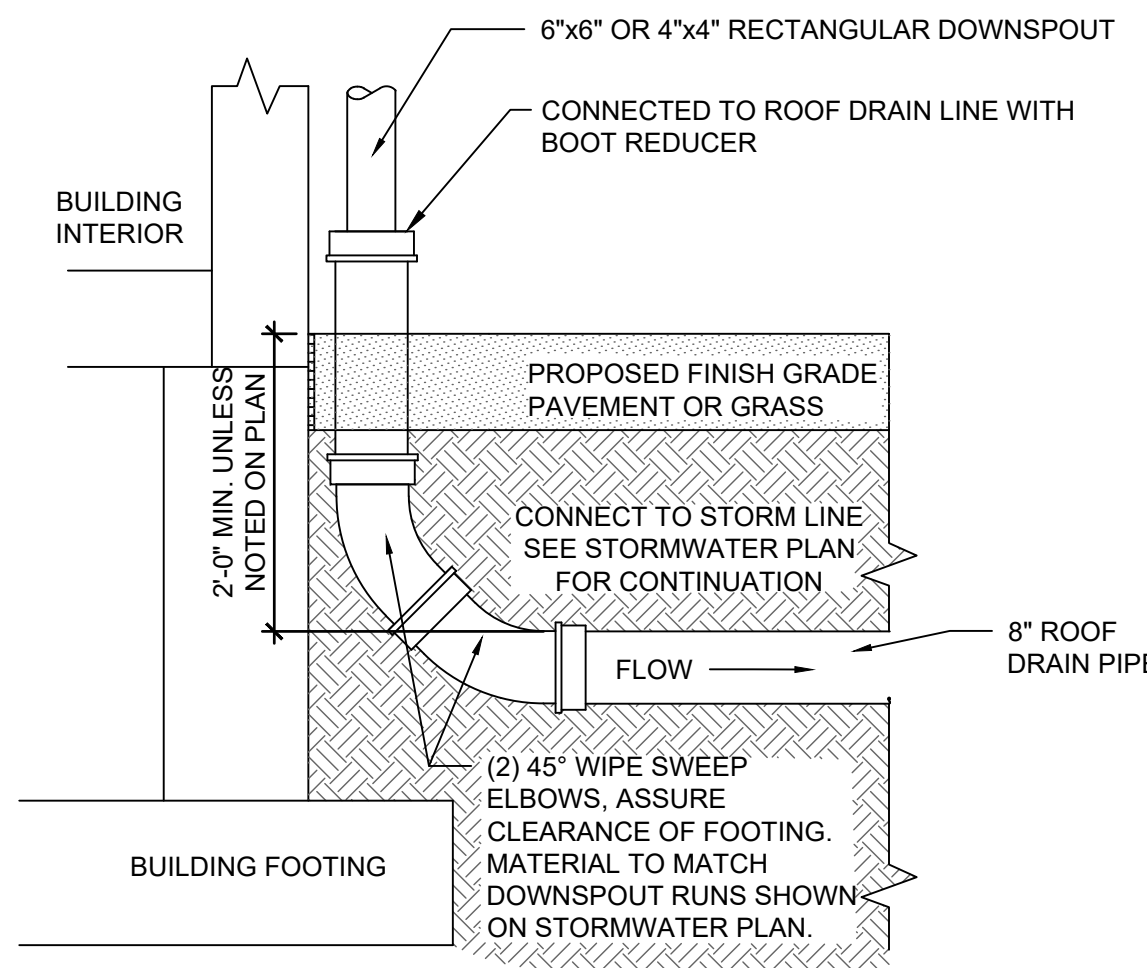
E CONCRETE CURB AND GUTTER DETAIL - CITY OF LS STANDARD DETAIL GEN-4
C7.1 N.T.S.



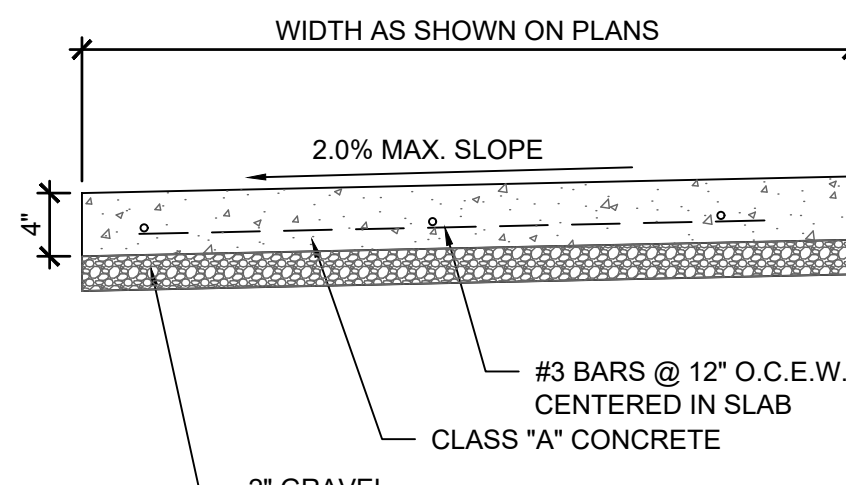
G MONOLITHIC CURB DETAIL
C7.1 N.T.S.



H PAVEMENT TRANSITION
C7.1 N.T.S.



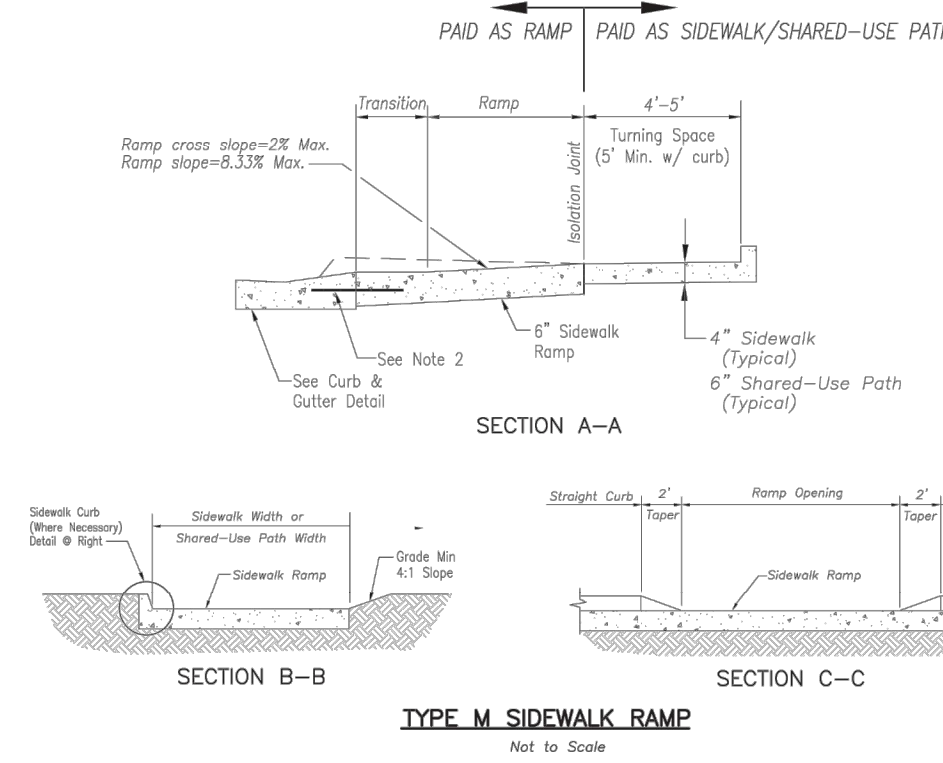
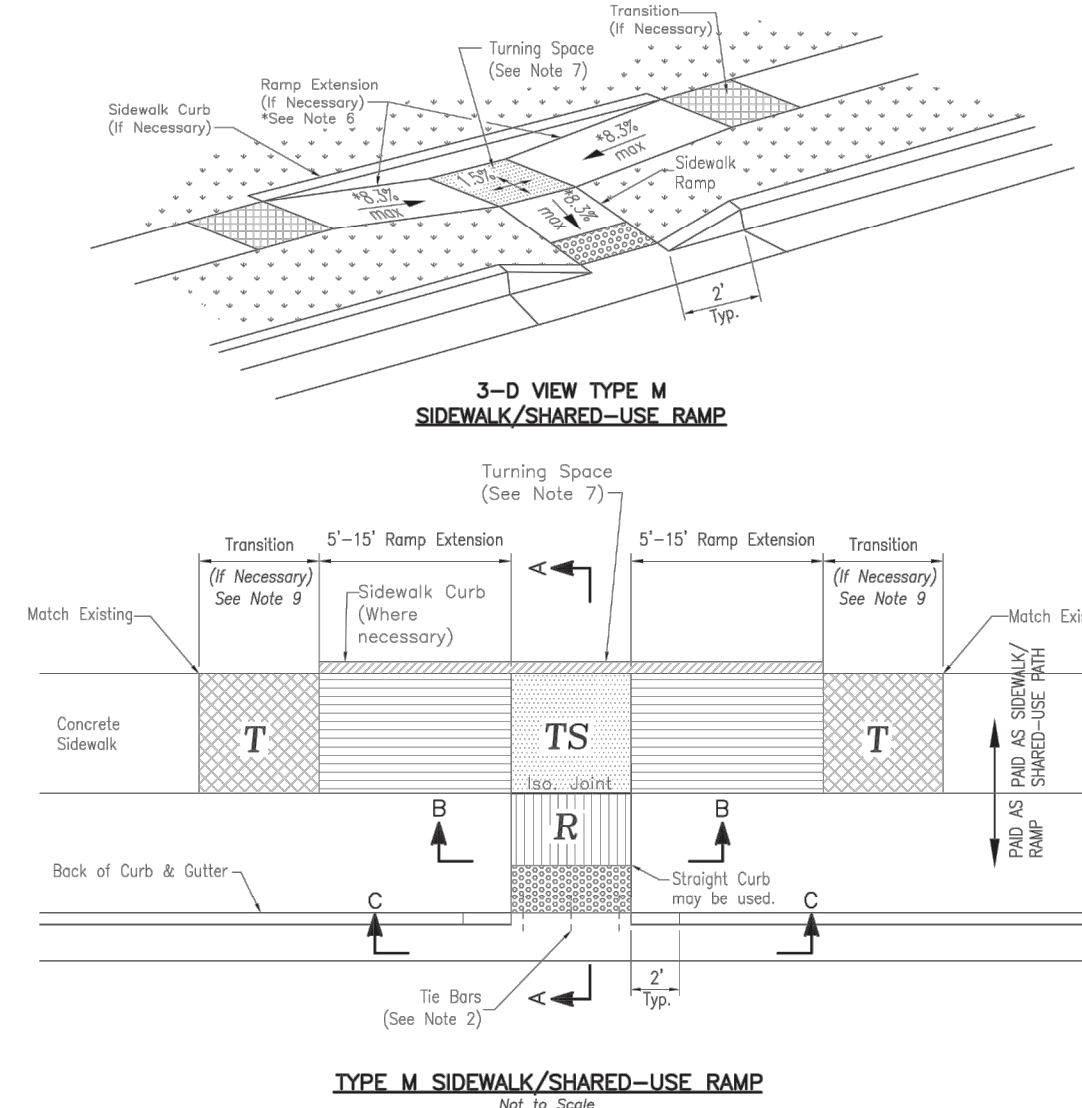
F EXTERIOR DOWNSPOUT BOOT
C7.1 N.T.S.



NOTES:

- CONCRETE FOR SIDEWALK SHALL BE 3,000 PSI MINIMUM.
- CONCRETE NOSE SHALL BE DOWELED INTO ADJACENT CURB

I CONCRETE CURB NOSE DETAIL
C7.1 N.T.S.



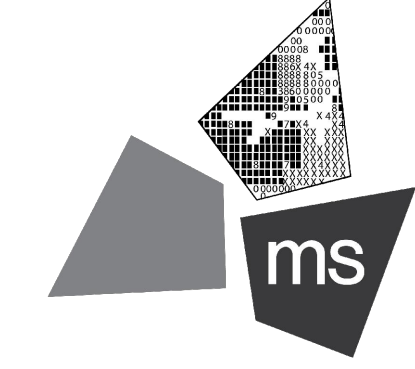
J ADA RAMP RETROFIT DETAIL - CITY OF LS STANDARD DETAIL GEN-3A
C7.1 N.T.S.



REVISION/DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

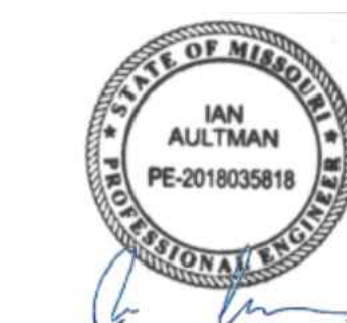
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SITE DETAILS



DRAWN BY:	TDB
CHECKED BY:	PGD
PROJECT NO:	40497-21
DRAWING	

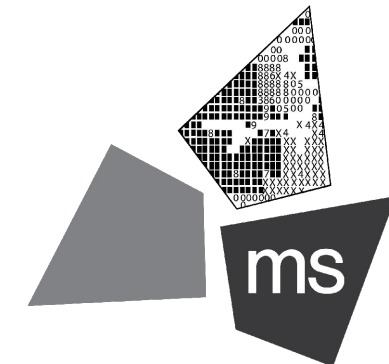
C-7.1

REVISION /DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

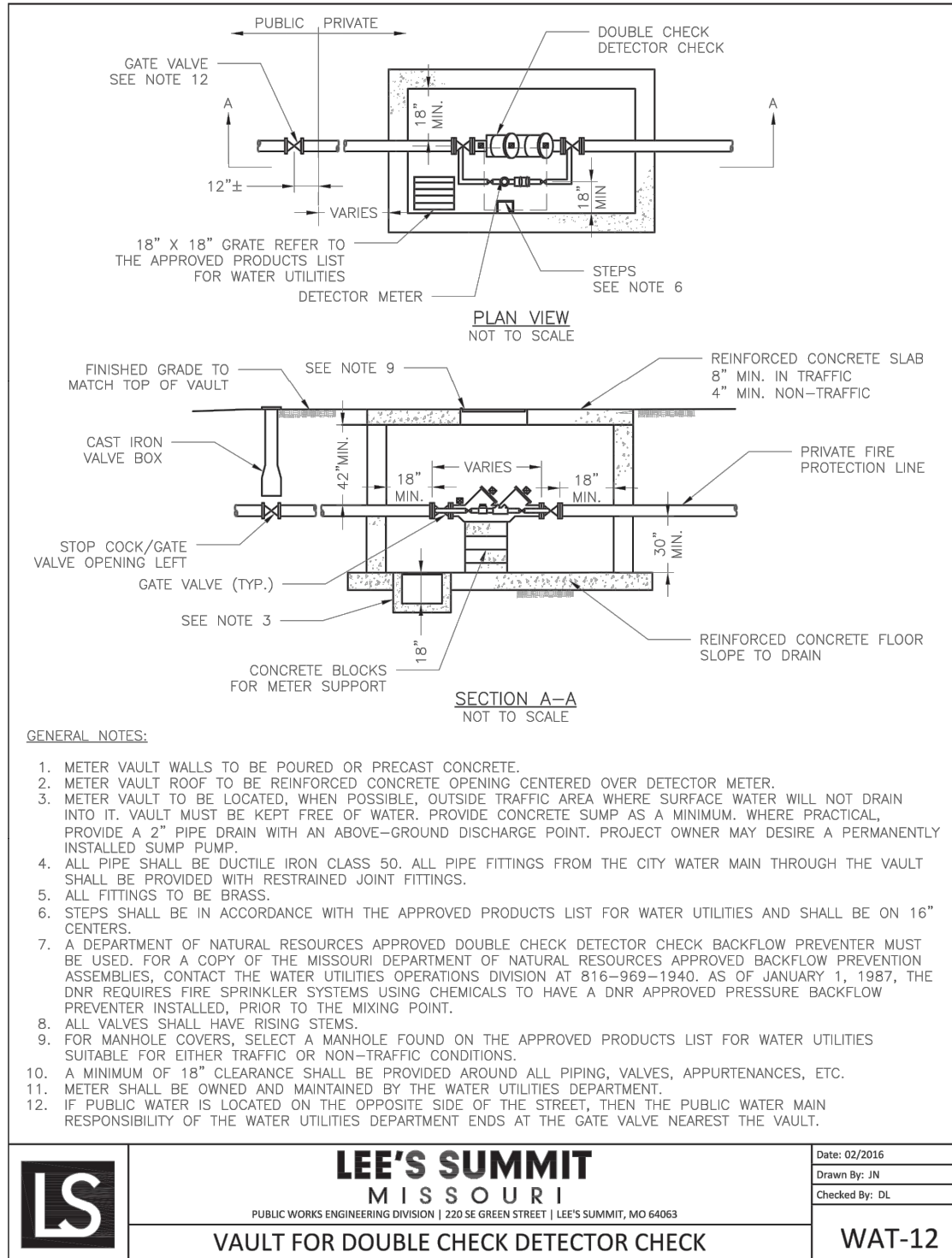
SHEET TITLE

SITE DETAILS

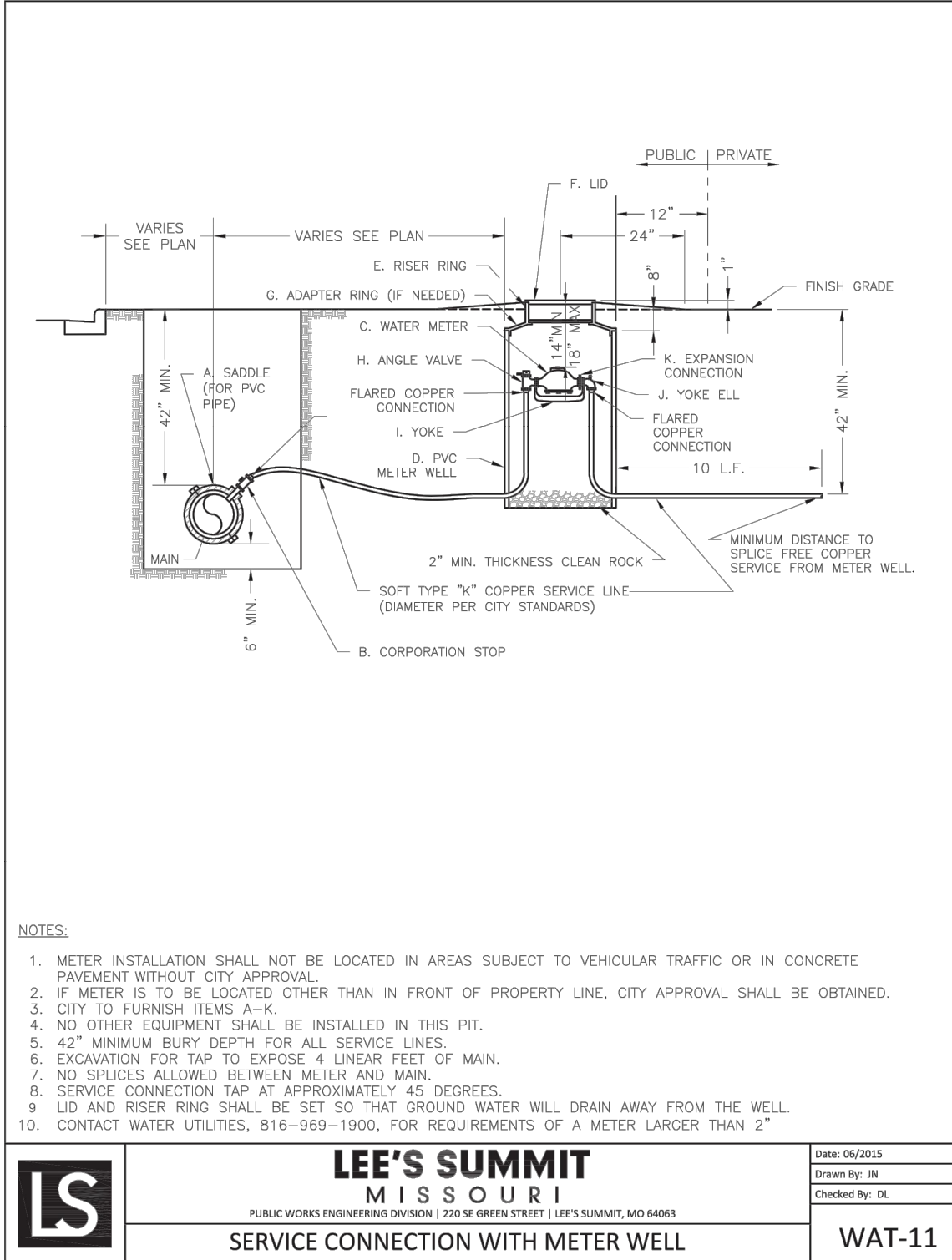


DRAWN BY:	TDB
CHECKED BY:	PGD
PROJECT NO:	40497-21
DRAWING	

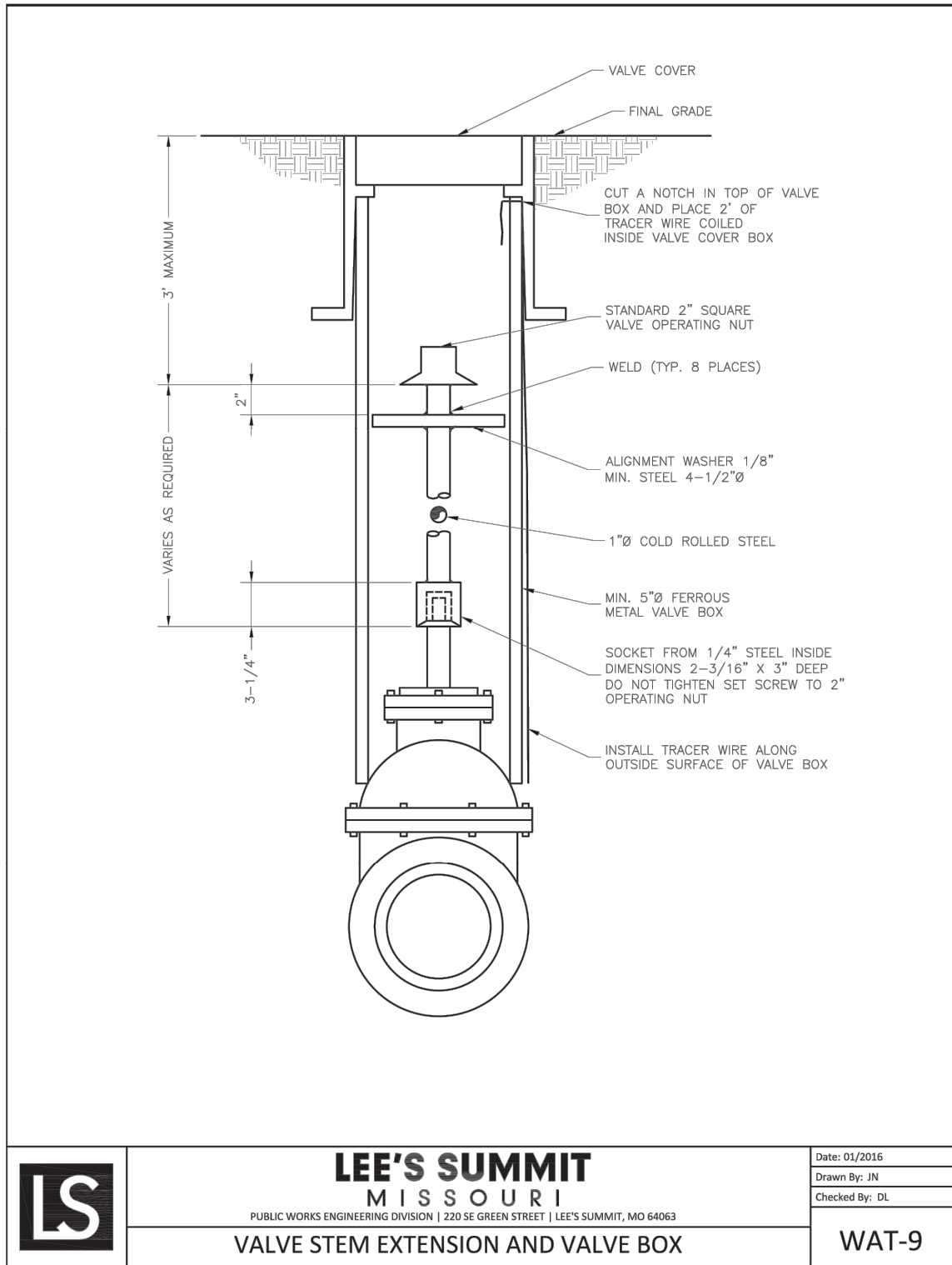
C-7.2



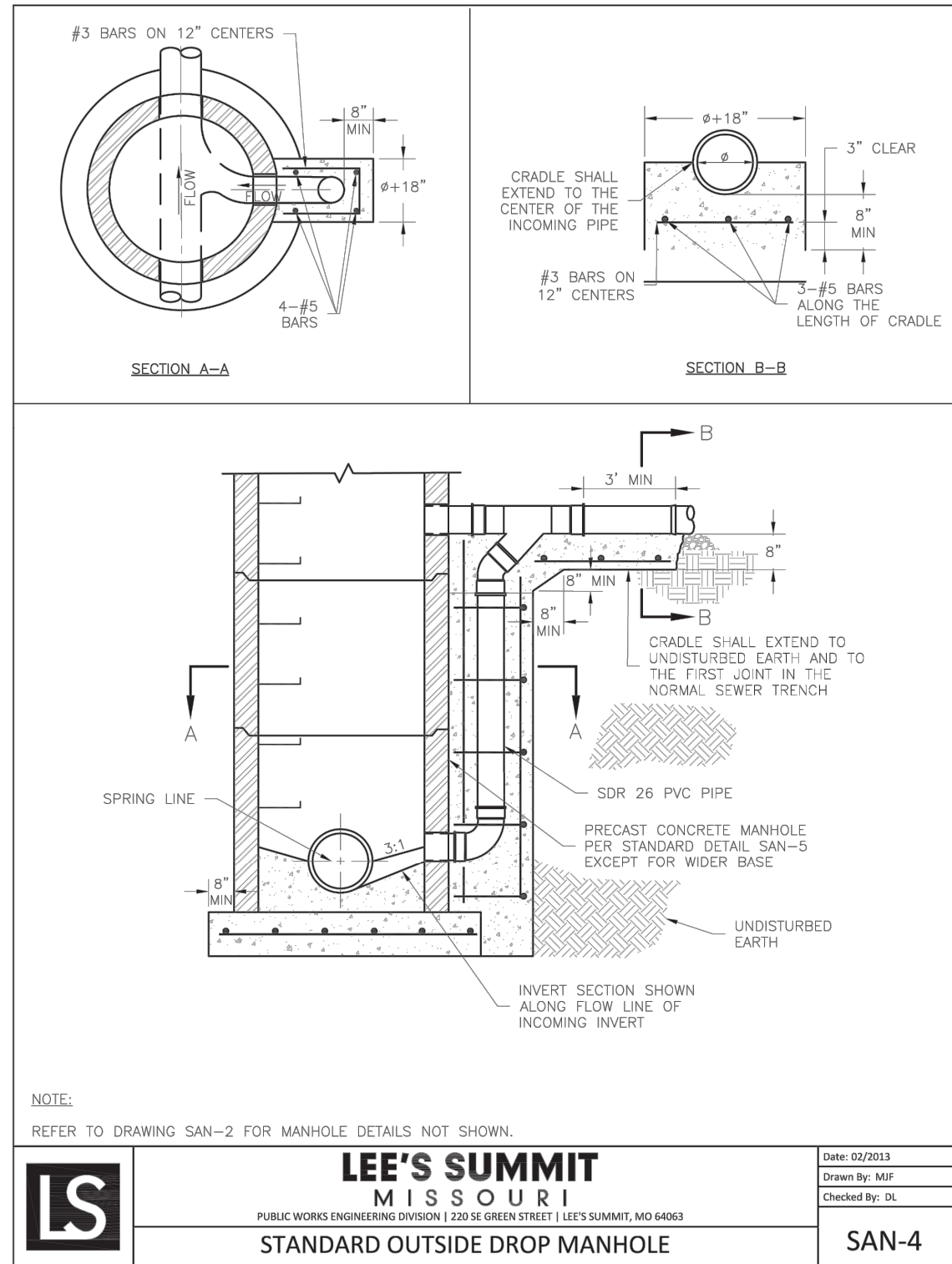
C VAULT FOR DOUBLE CHECK DETECTOR CHECK
C7.2 /N.T.S.



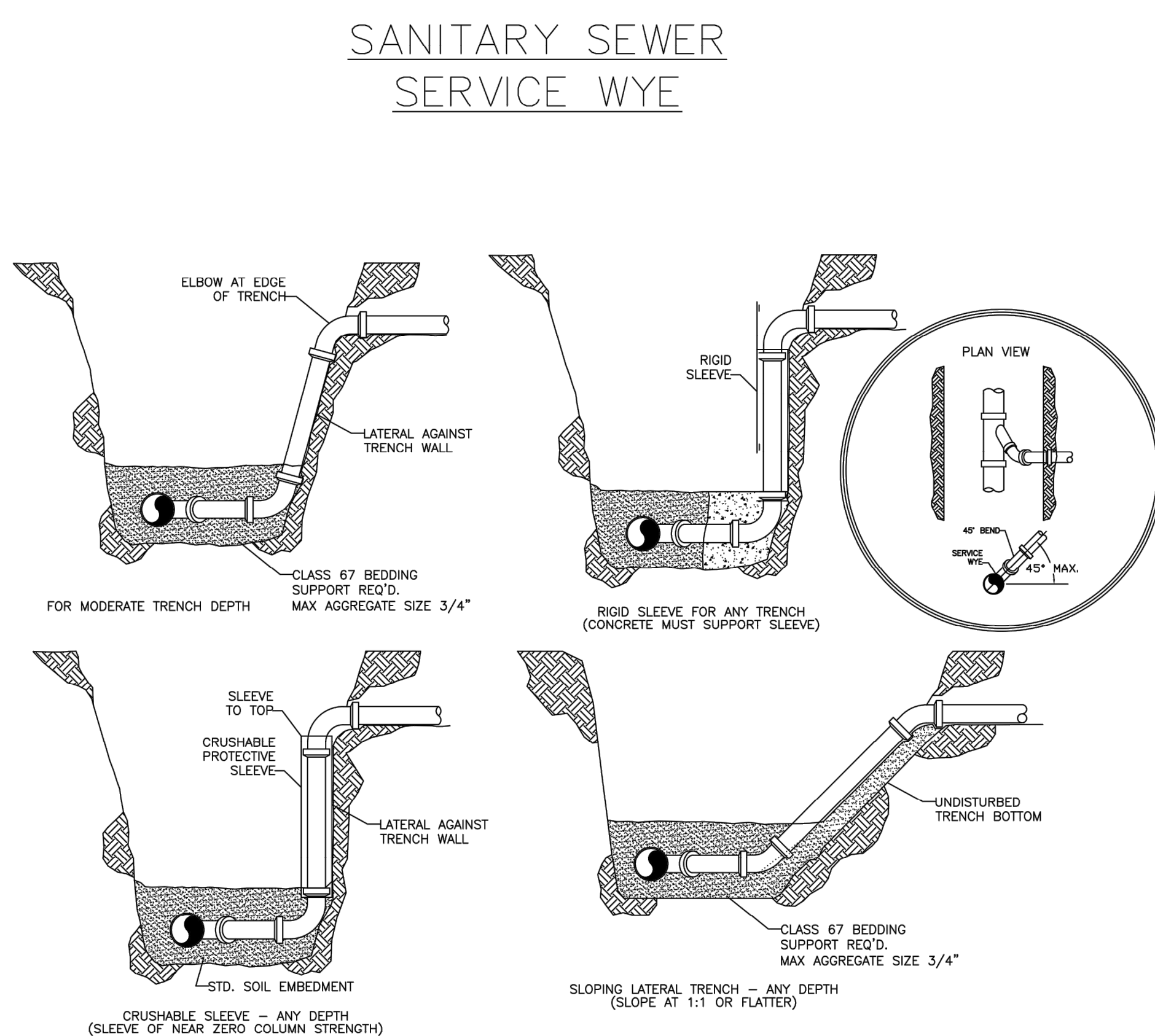
B SERVICE CONNECTION/METER WELL
C7.2 /N.T.S.



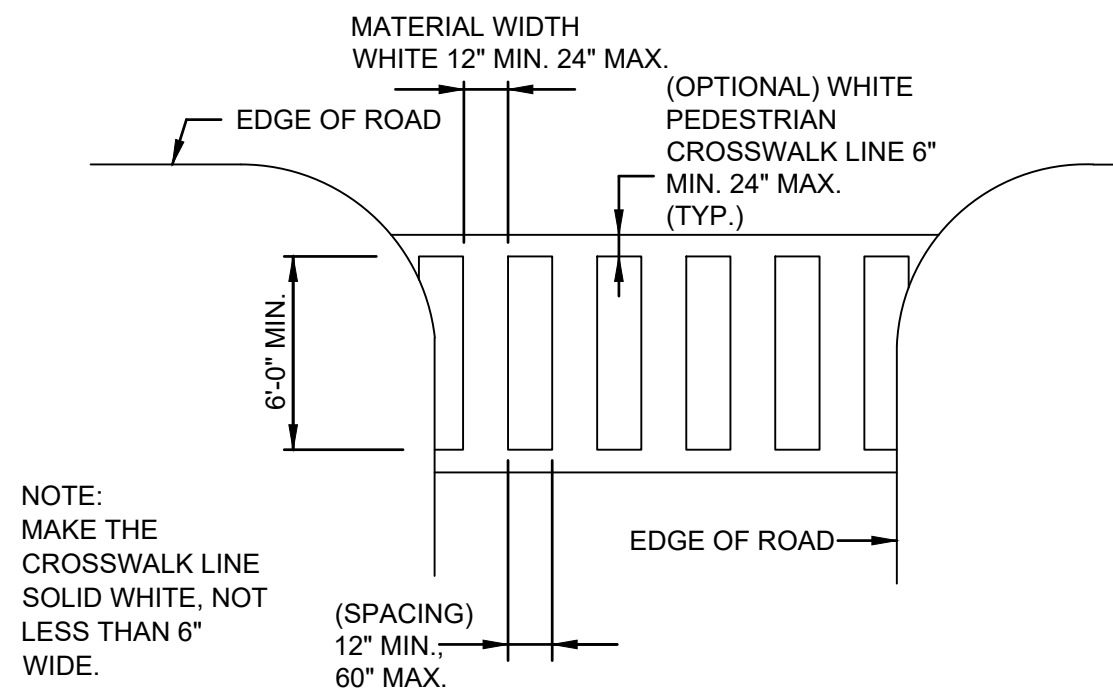
A VALVE STEM EXTENSION AND VALVE BOX
C7.2 /N.T.S.



E STANDARD DROP MANHOLE DETAIL
C7.2 /N.T.S.



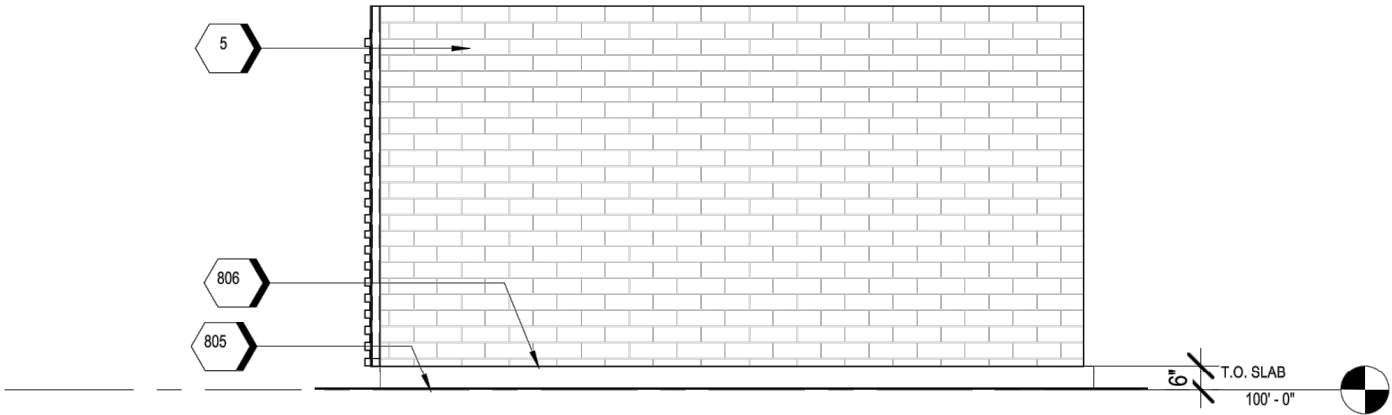
F SANITARY SERVICE WYE DETAIL
C7.2 /N.T.S.



D SIDEWALK CROSSING DETAIL
C7.2 /N.T.S.

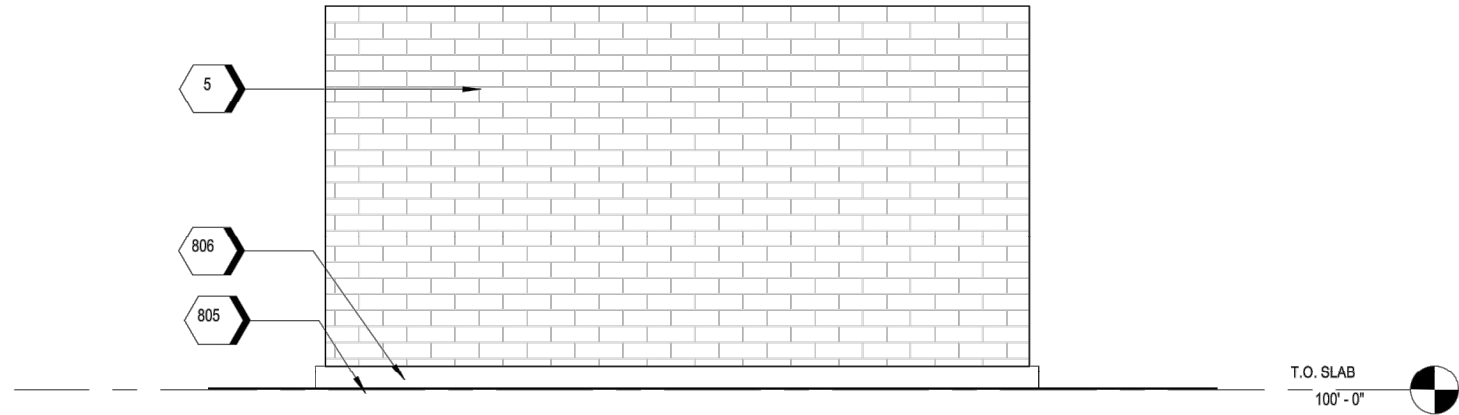
N:\036240497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-7.2 Site Details.dwg, 3/15/2023 2:40 PM, boley, jason

KEYNOTES	
5	PAINTED CMU FOR WALLS OF ENCLOSURE.
801	PRE-FINISHED CORRUGATED METAL PANEL (MP-01)
802	STRUCTURAL STEEL, PAINT WELDED UNITS PT-5, RE: STRUCTURAL
804	PIPE BOLLARDS: IDEAL SHIELD: URBAN BRONZE, PANTONE 2336 XGC. RE D3/S5.1
805	FINISHED PAVEMENT, RE: CIVIL
806	CONCRETE CURB, RE: STRUCTURAL
807	WELD ANGLE STOPS TO CORNER POST, PAINT PT-5



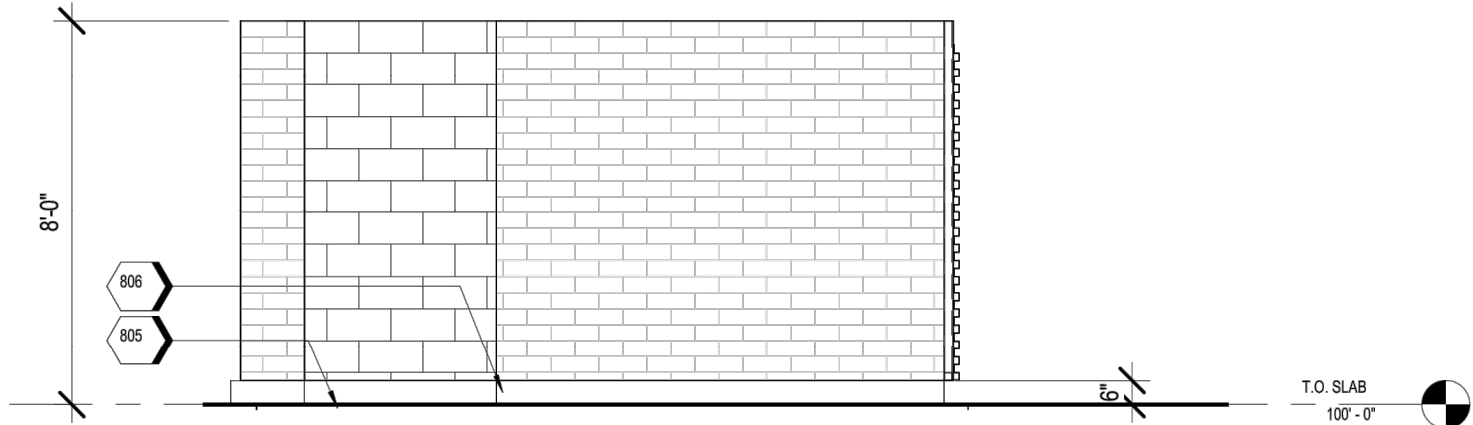
C2 DUMPSTER - ELEVATION @ EAST

SCALE 1/4" = 1'-0"



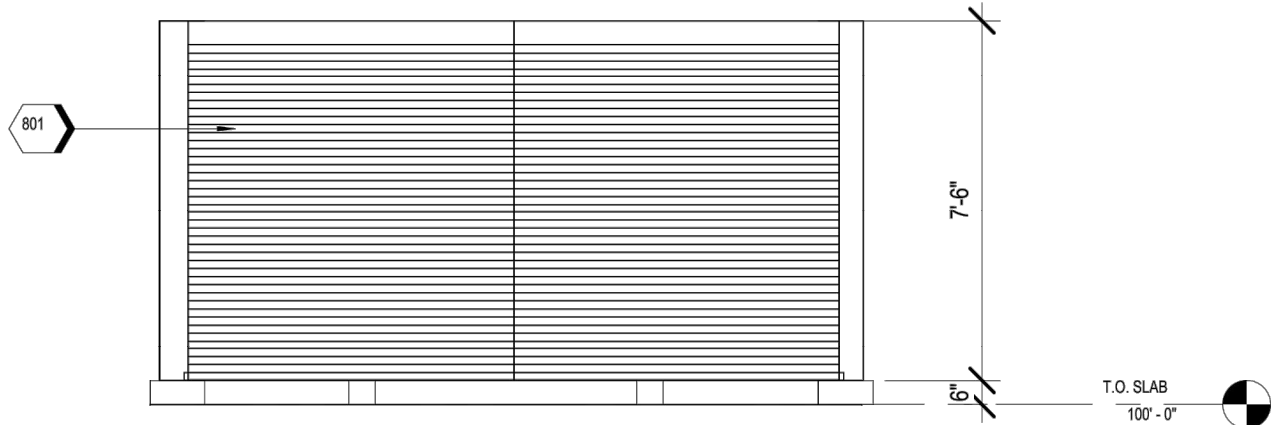
C1 DUMPSTER - ELEVATION @ REAR

SCALE 1/4" = 1'-0"



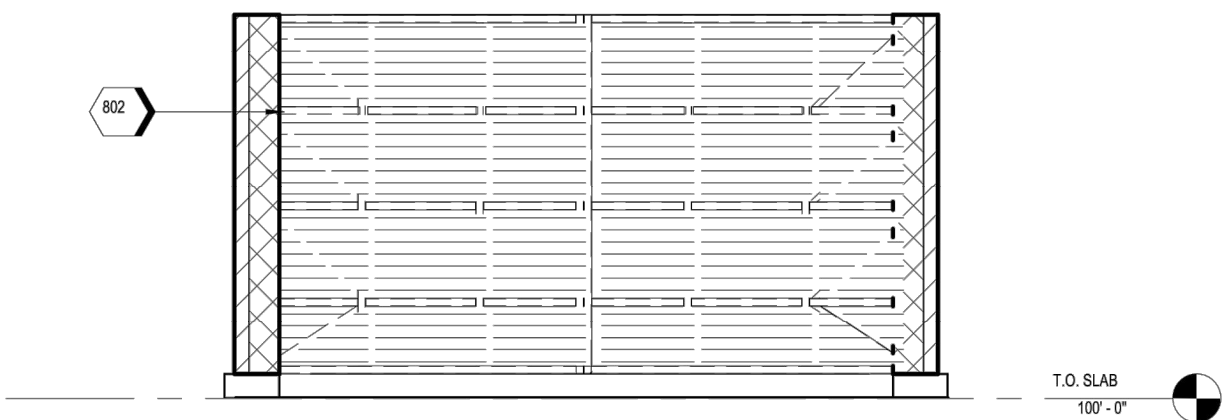
B2 DUMPSTER - ELEVATION @ SIDE ENTRY

SCALE 1/4" = 1'-0"



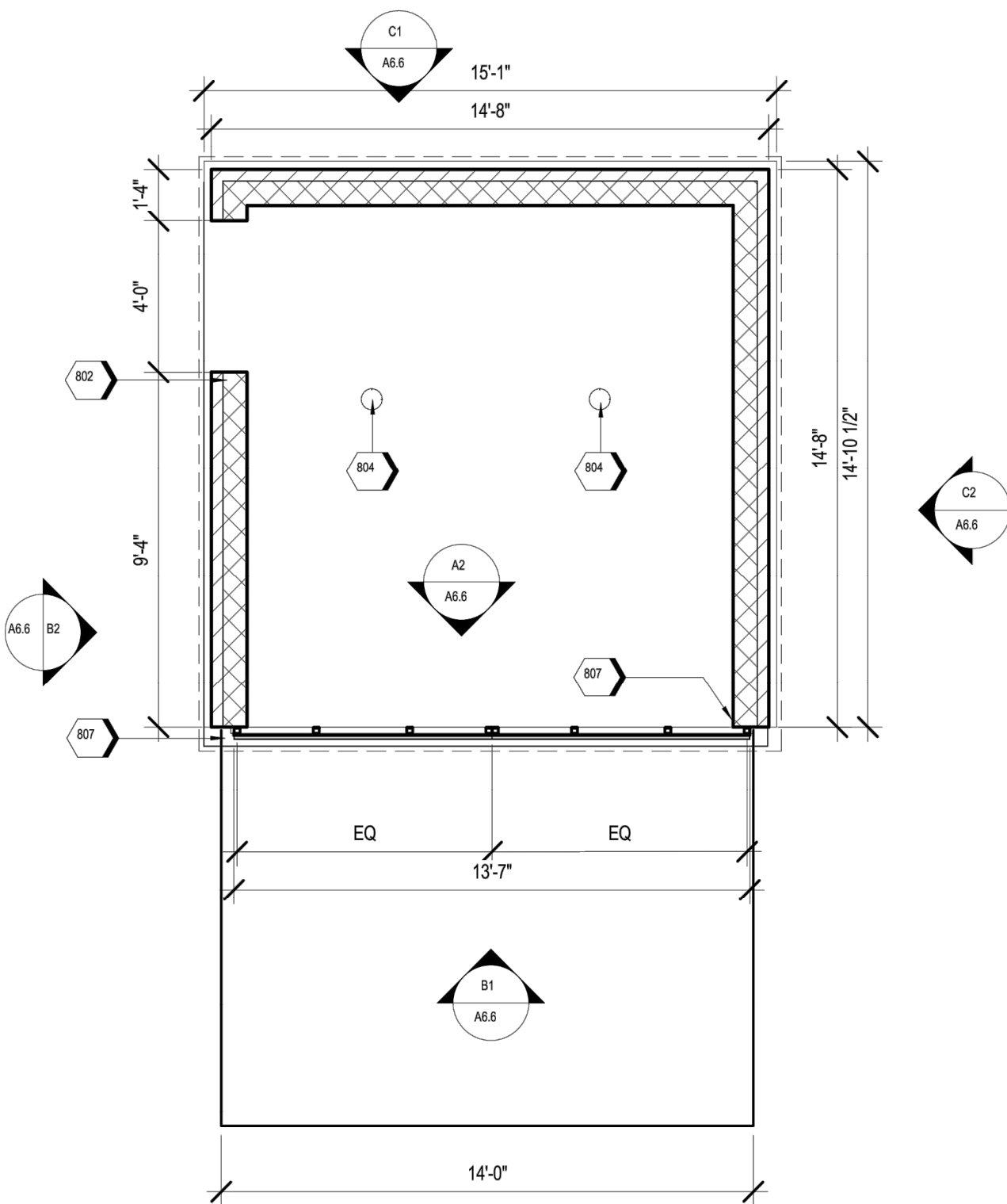
B1 DUMPSTER - ELEVATION @ GATE

SCALE 1/4" = 1'-0"



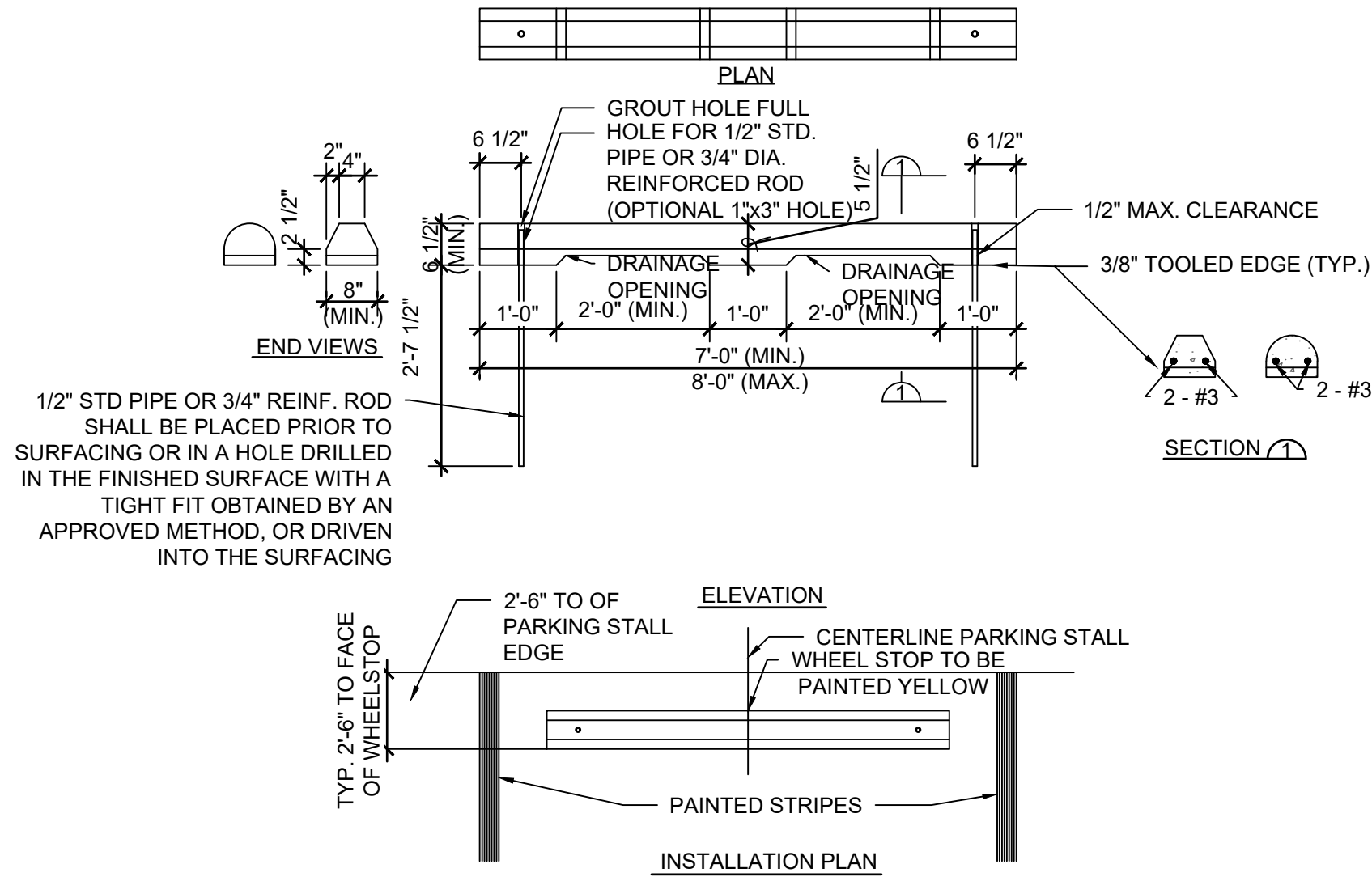
A2 DUMPSTER - GATE INSIDE FACE

SCALE 1/4" = 1'-0"



A1 DUMPSTER - ENLARGED

SCALE 1/4" = 1'-0"



B PRE-CAST CONCRETE WHEEL STOP

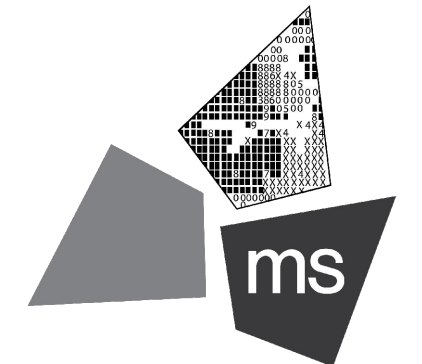
C7.3 N.T.S.

REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SITE DETAILS



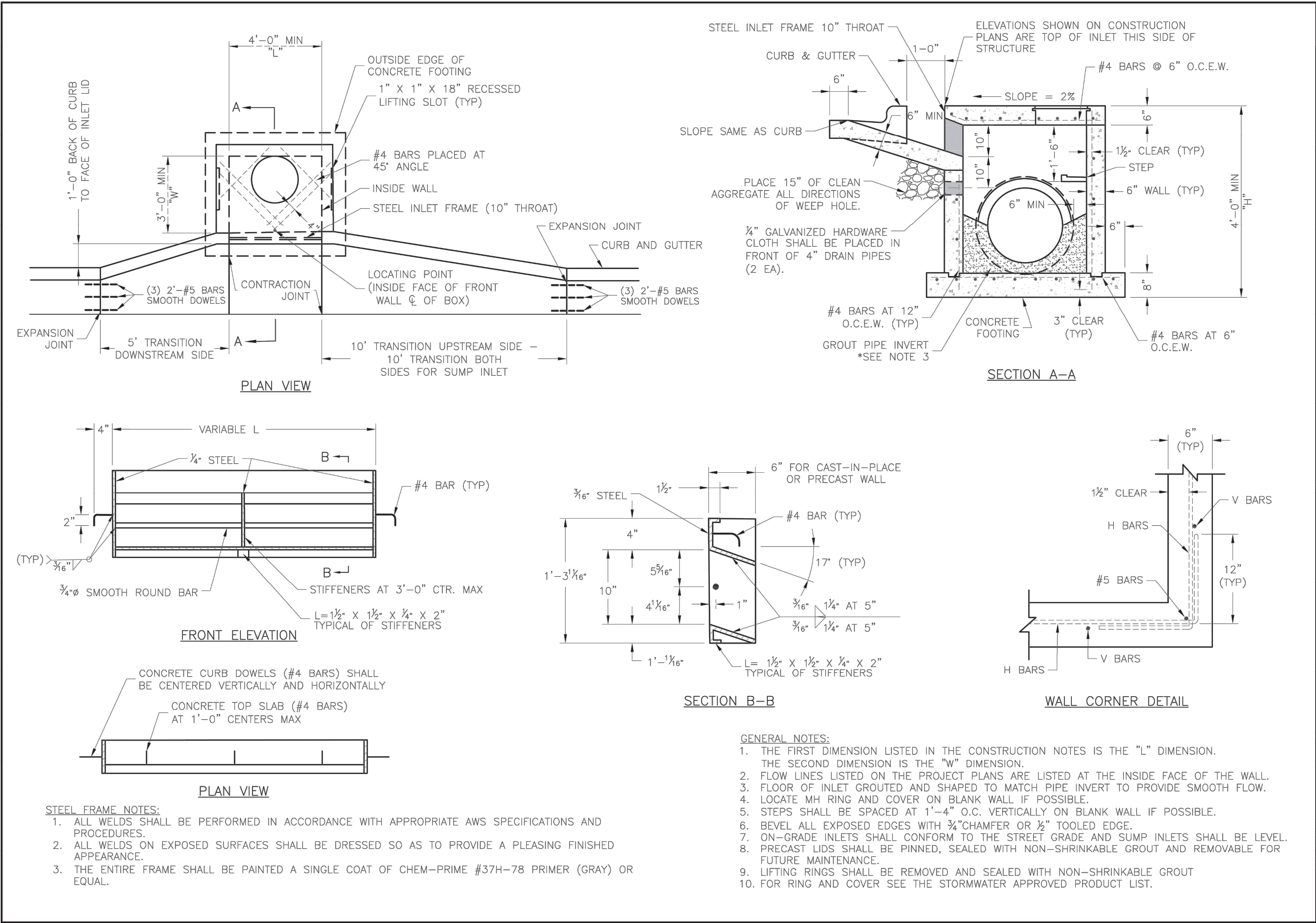
DRAWN BY:	TDB
CHECKED BY:	PGD
PROJECT NO:	40497-21

DRAWING

C-7.3



N:\031621\04977121-Lee's Summit, MO MarketDocs\CAD\Civil\DWG-set\C-7.2 Site Details.dwg, 3/15/2023 2:41 PM, boley, jason



LEE'S SUMMIT MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS

CITY OF LEE'S SUMMIT, MO

LEE'S SUMMIT, JACKSON COUNTY, MO

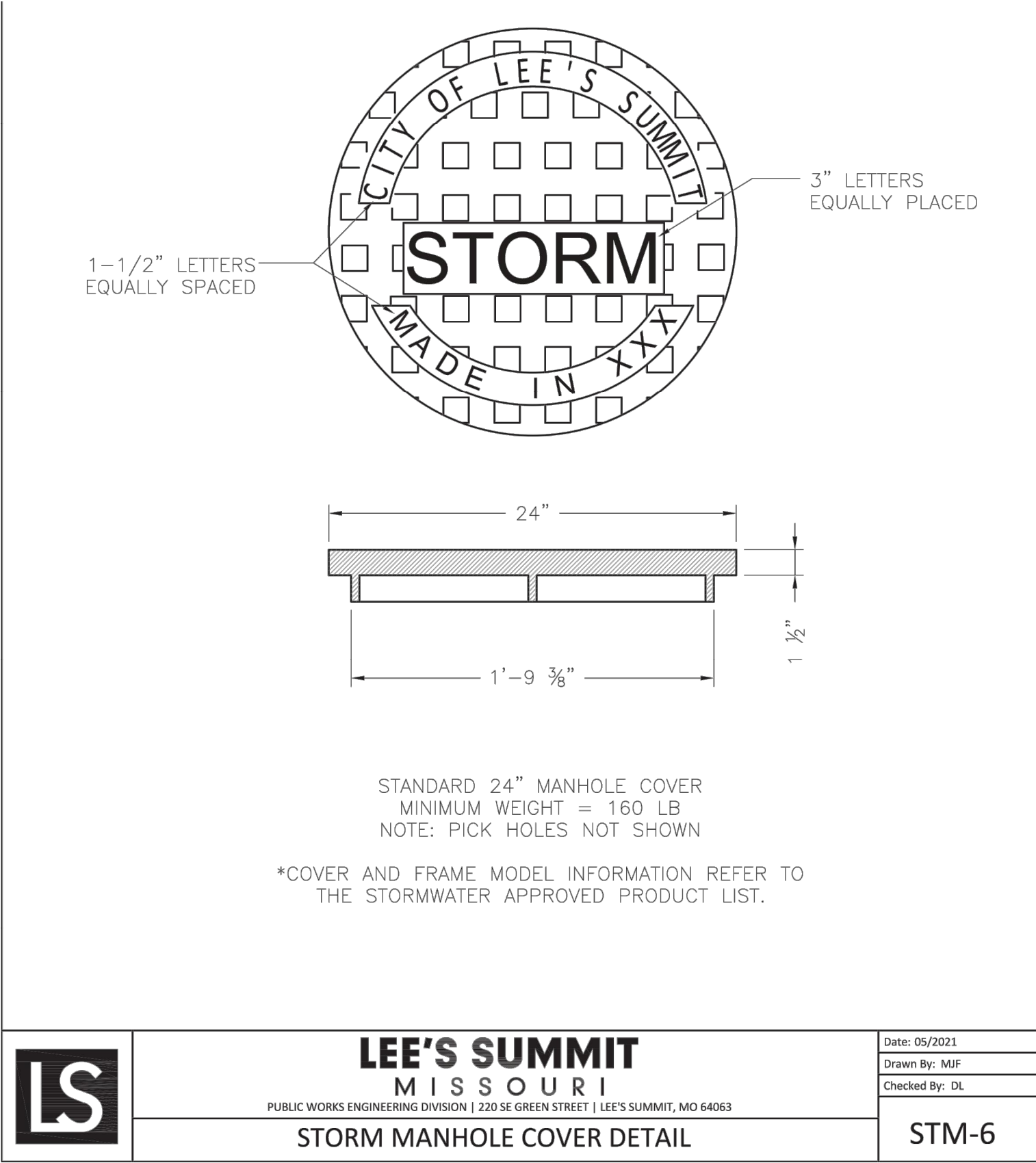
Sheet Name: CURB INLET DETAIL

Drawn By: MIF

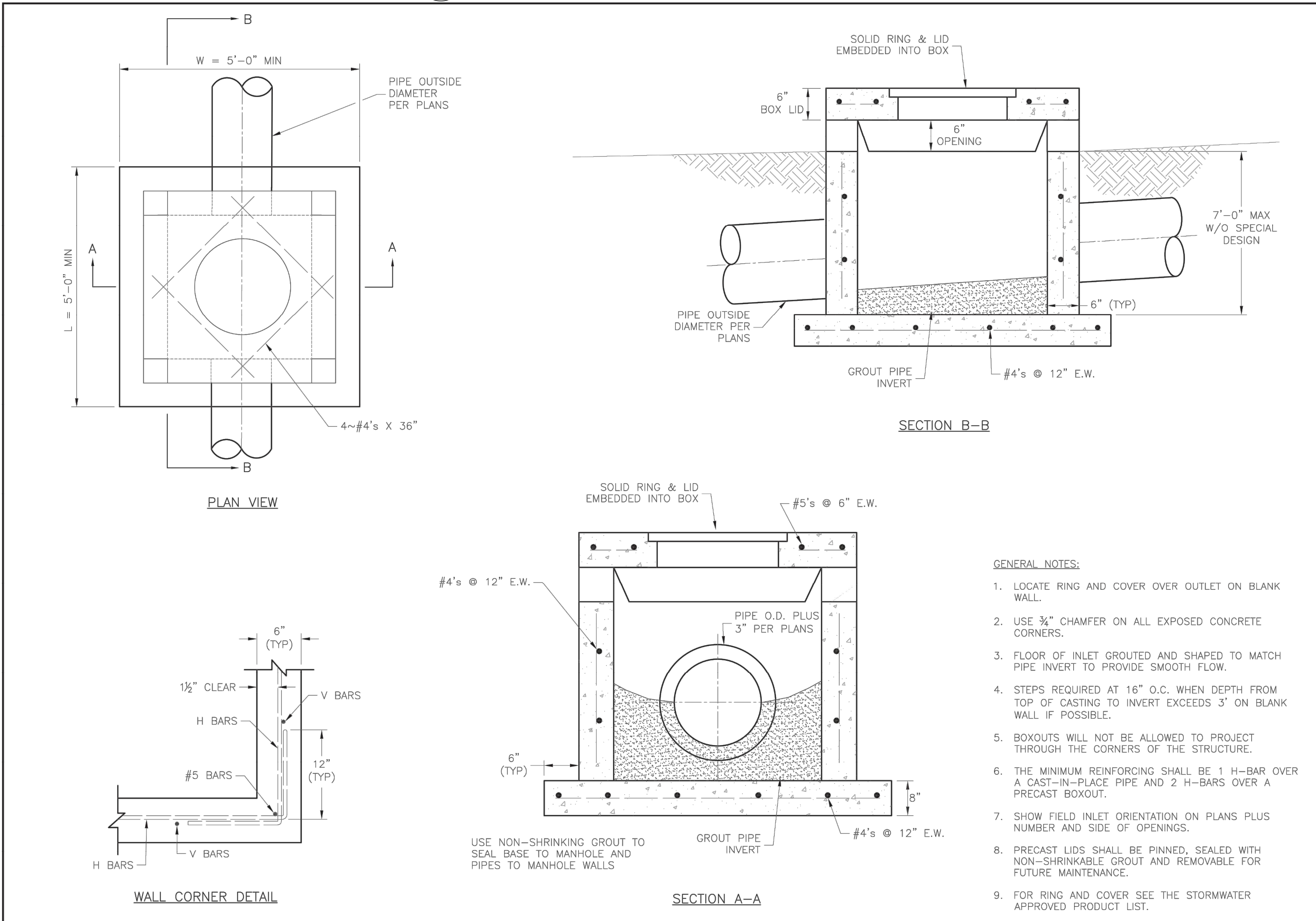
Checked By: DL

Date: 05/2023

Proj. #: STM-1



C STORM MANHOLE COVER DETAIL
C7.5/N.T.S.



LEE'S SUMMIT MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS

CITY OF LEE'S SUMMIT, MO

LEE'S SUMMIT, JACKSON COUNTY, MO

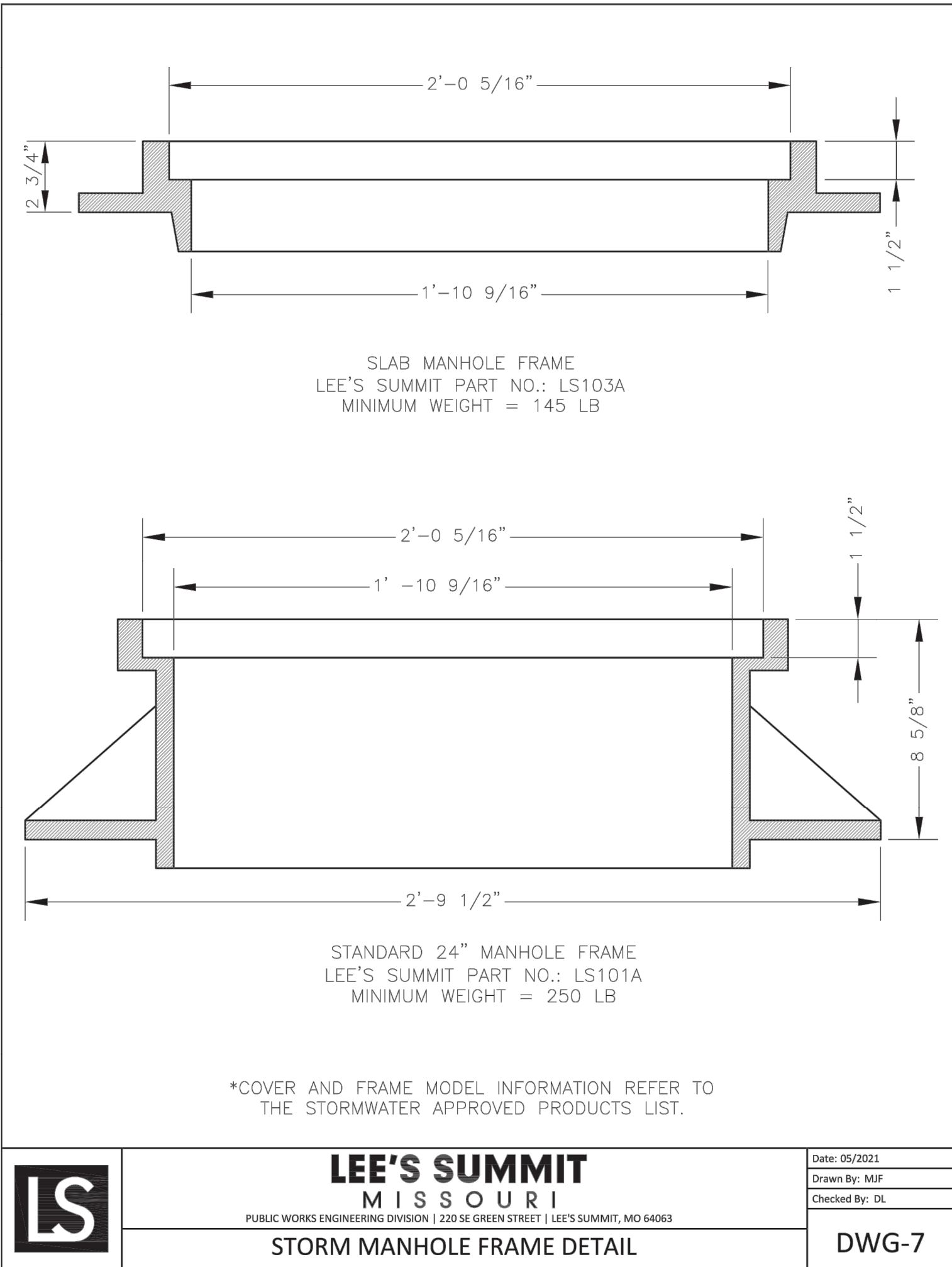
Sheet Name: FIELD INLET DETAIL

Drawn By: MIF

Checked By: DL

Date: 05/2023

Proj. #: STM-2

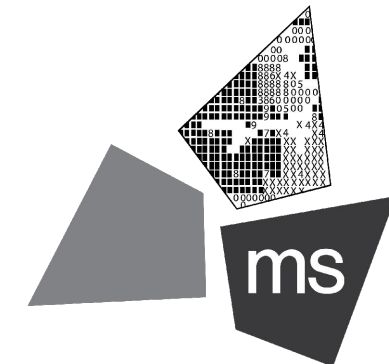


D STORM MANHOLE FRAME DETAIL
C7.5/N.T.S.

REVISION/DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SITE DETAILS



DRAWN BY: TDB

CHECKED BY: PGD

PROJECT NO: 40497-21

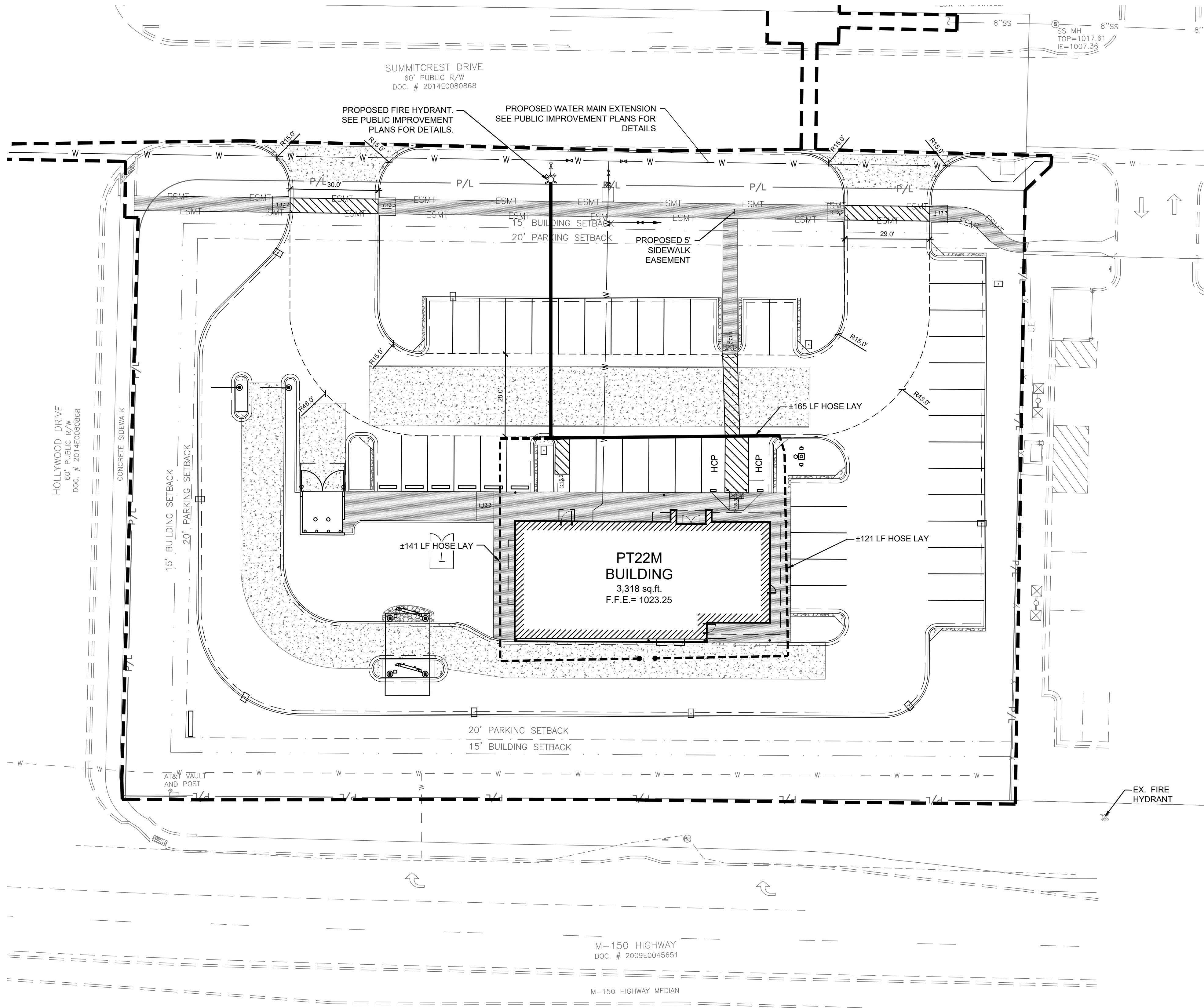
DRAWING



C-7.5

C-7.6

N:\03162\40497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-8.0 Fire Protection Plan.dwg, 3/15/2023 2:42 PM, boley, jason

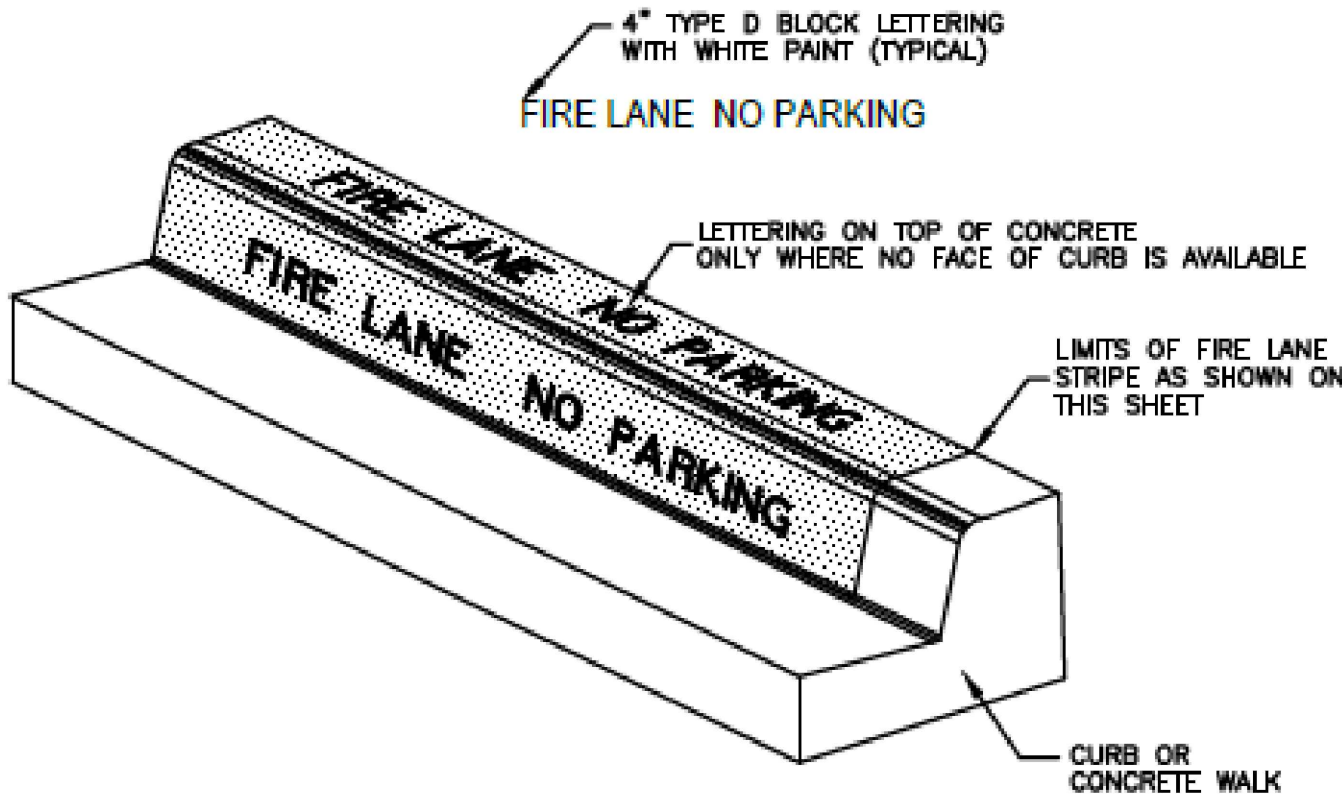


GENERAL NOTES:

A. DETAILS SHOWN ON THIS SHEET ARE SCHEMATIC. CONTRACTOR TO CONFIRM MARKINGS CONFORM TO ALL CODES AND REGULATIONS.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
— P/L —	— P/L —	PROPERTY LINE
—	—	FIRE HYDRANT
---	---	FIRE LANE
---	---	FIRE HOSE HAND LAY
---	---	FIRE HOSE TRUCK LAY

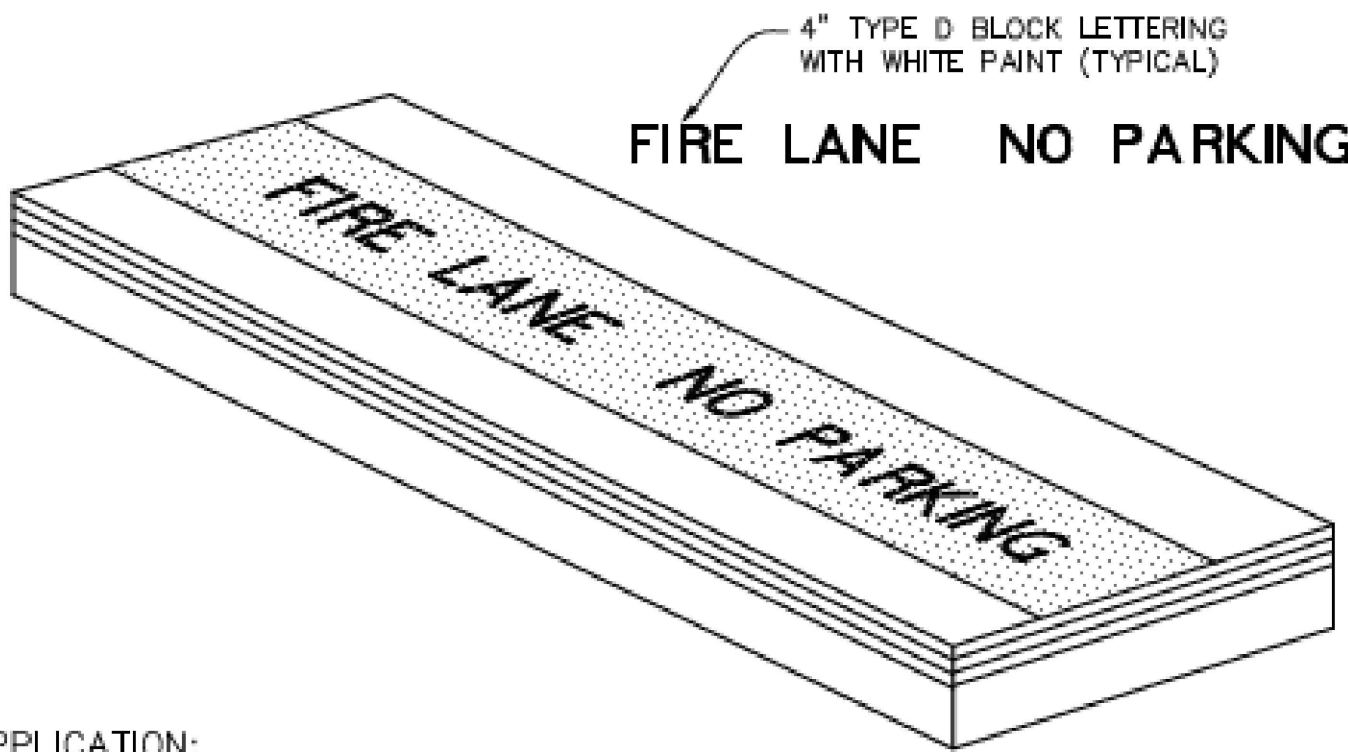


APPLICATION:

- ON 6" CURB: PAINT RED LANE STRIPE ON BOTH FACE AND TOP OF CURB. PAINT WHITE LETTERS ON FACE OF CURB ONLY.
- LOW CURB (HEADER CURB) OR CONCRETE PAVEMENT: PAINT RED LANE STRIPE AND WHITE LETTERS ON TOP OF CURB.
- 15 FEET SPACING BETWEEN THE BEGINNING OF THE WHITE LETTERING.

FIRE LANE STRIPING DETAIL

NOT-TO-SCALE



APPLICATION:

- CONTRACTOR SHALL COORDINATE WITH FIRE INSPECTOR FOR STRIPING LOCATIONS.
- PAINT A 6" WIDE RED STRIPE LOCATED 3" OFF EDGE OF PAVEMENT WITH 4" WHITE LETTERING ON RED STRIPE.
- SEE SITE, STRIPING AND DIMENSIONAL CONTROL PLAN FOR CURB TYPES & LOCATIONS.
- 15 FOOT SPACING BETWEEN THE BEGINNING OF THE WHITE LETTERING.

TYPICAL FIRE LANE MARKING DETAIL

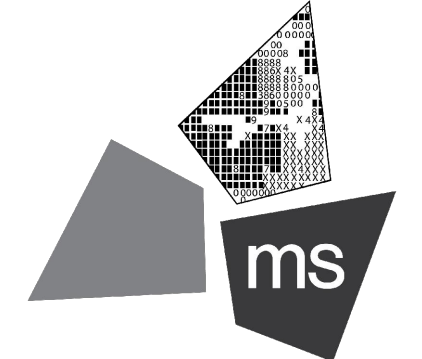
NOT TO SCALE

REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

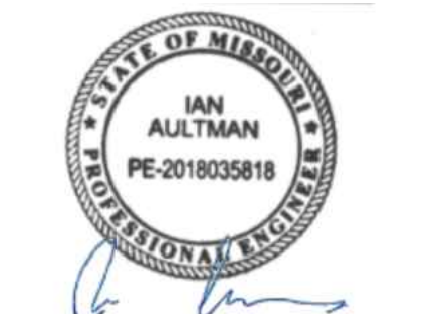
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

FIRE PROTECTION PLAN



DRAWN BY: TDB

CHECKED BY: PGD

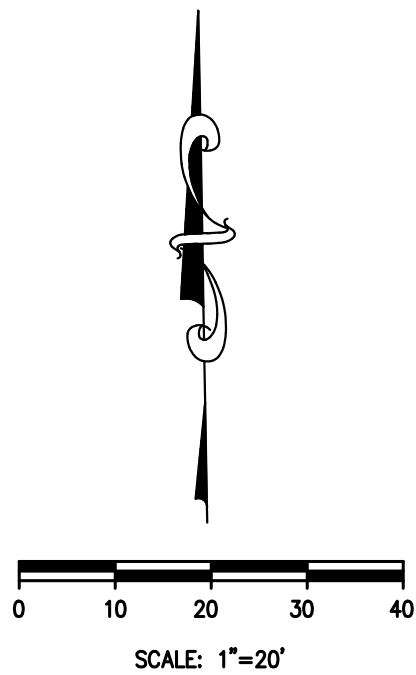
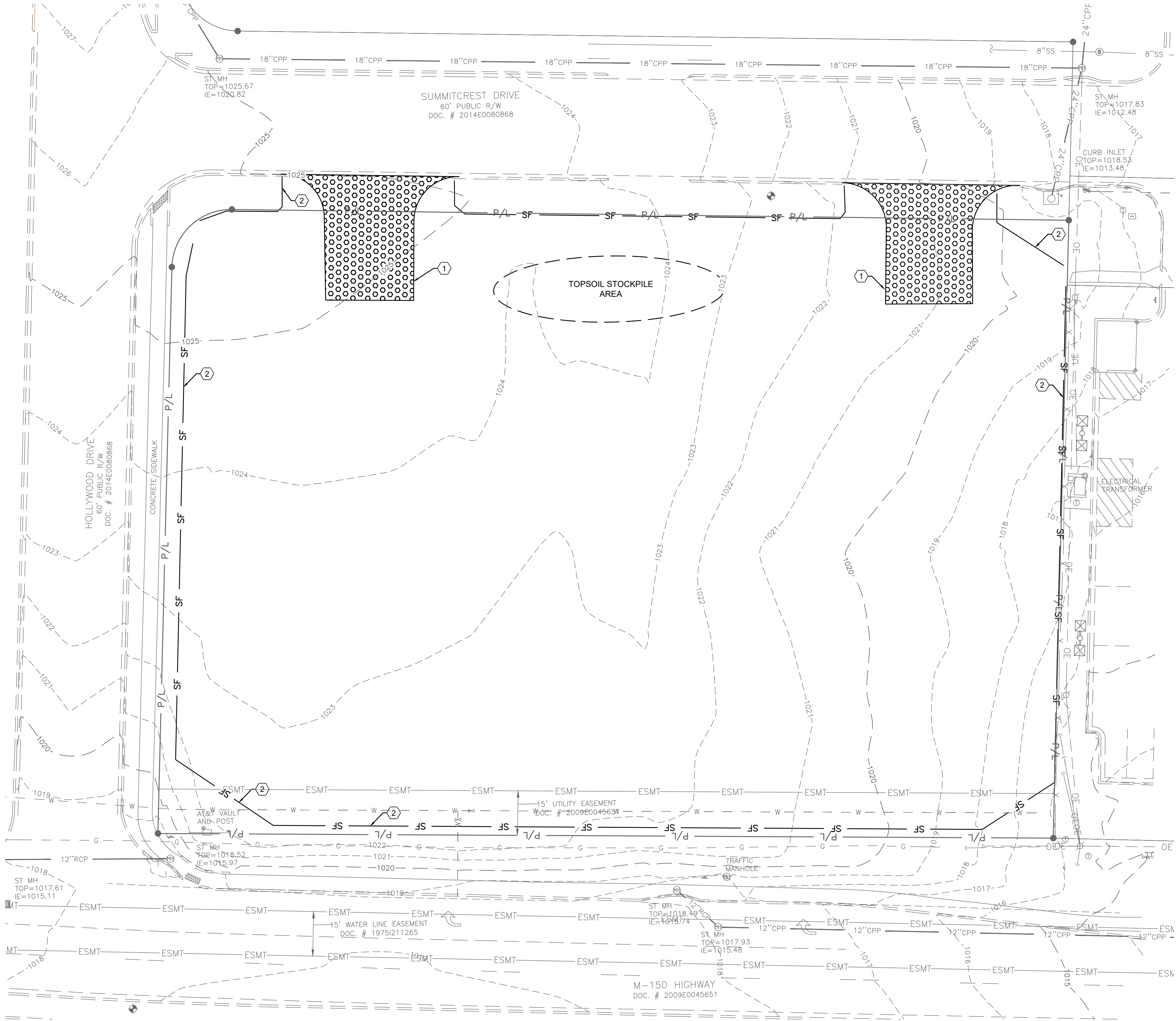
PROJECT NO: 40497-21

DRAWING

C-8.0



N:\0316240497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-9.0 SWPPP.dwg, 3/15/2023 2:42 PM, boley_jason



KEYED NOTES:

- ① CONSTRUCTION ENTRANCE. SEE DETAIL ON SHEET C-10.2.
- ② TEMPORARY SILT FENCE, SEE DETAIL ON SHEET C-10.2.

CONSTRUCTION SEQUENCE
THE ORDER OF MAJOR ACTIVITIES WILL BE AS FOLLOWS:

1. PRE-CONSTRUCTION MEETING
2. BEFORE ANY SITE GRADING ACTIVITIES BEGIN
- a. INSTALL PERIMETER SILT FENCES
- b. INSTALL INLET PROTECTING ON EXISTING INLETS
- c. CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCES

*ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.

*THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

LEGEND

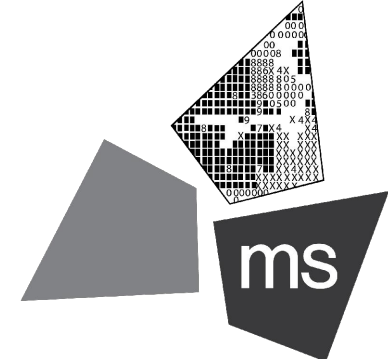
EXISTING	PROPOSED	DESCRIPTION
950	1015	CONTOUR
	SF	SILT FENCE
		INLET PROTECTION
		CONCRETE WASHOUT
		CONSTRUCTION ENTRANCE



REVISION /DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

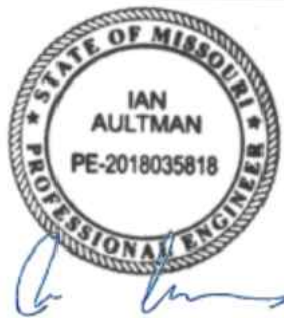
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

STORMWATER POLLUTION PREVENTION PLAN PRE CONSTRUCTION



DRAWN BY: TDB

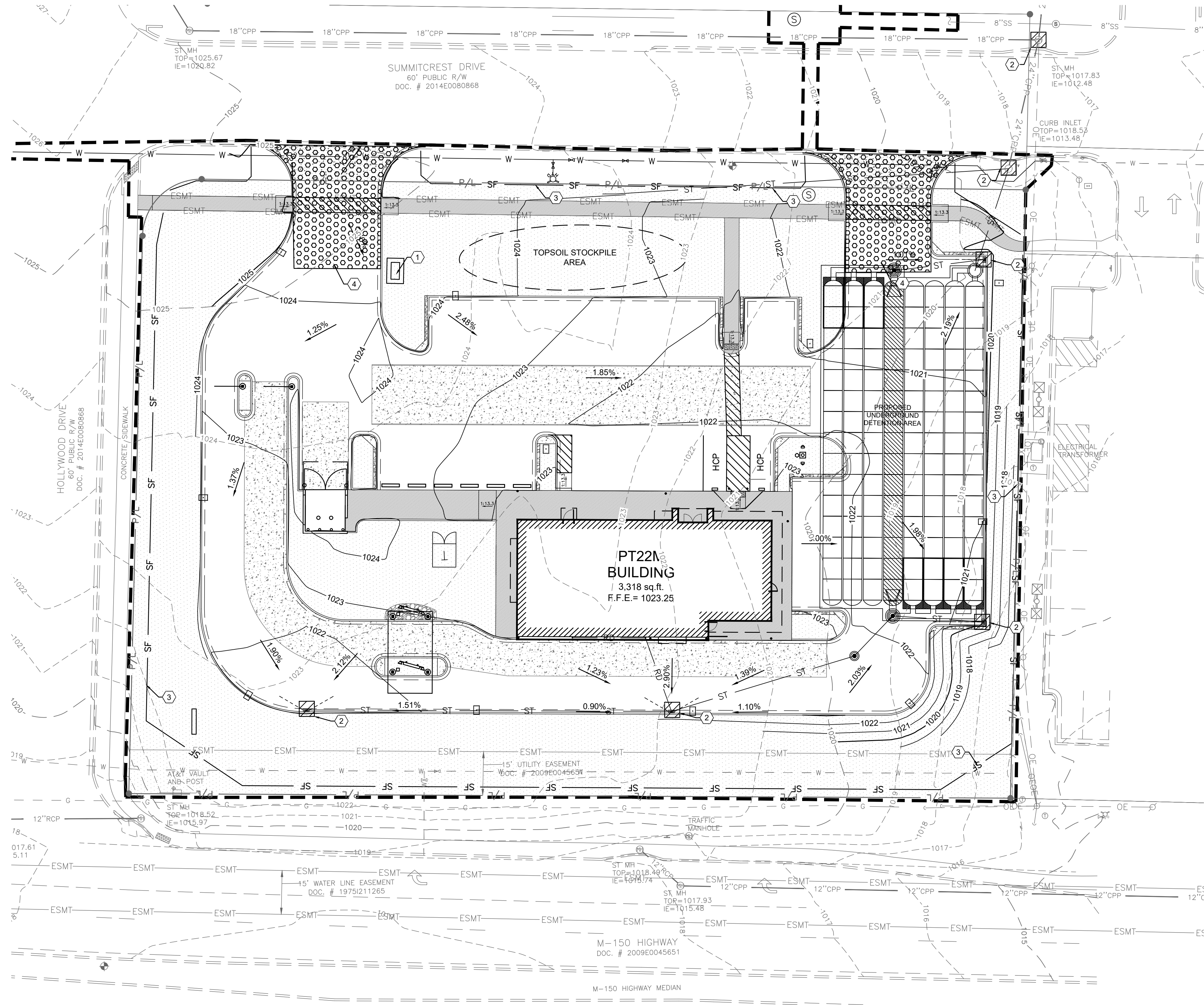
CHECKED BY: PGD

PROJECT NO: 40497-21

DRAWING

C-9.0

N:\03162\40497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-9.0 SWPPP.dwg, 3/15/2023 2:42 PM, boley_jason



KEYED NOTES:

- 1 CONCRETE WASHOUT, SEE DETAIL ON SHEET C-10.2.
- 2 INLET PROTECTION. SEE DETAILS ON SHEET C-10.3.
- 3 TEMPORARY SILT FENCE. SEE DETAIL ON SHEET C-10.2.
- 4 CONSTRUCTION ENTRANCE. SEE DETAIL ON SHEET C-10.2.

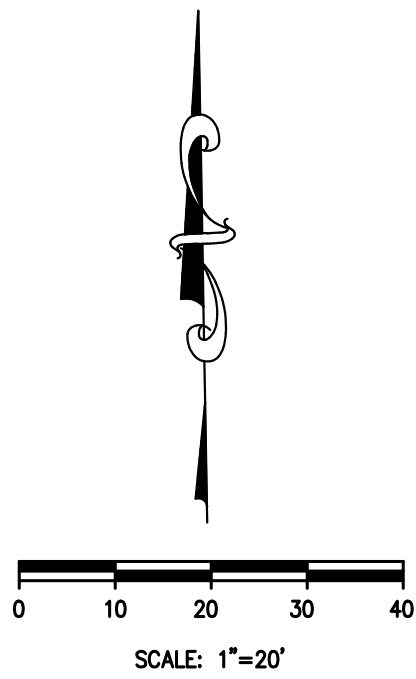
- CONSTRUCTION SEQUENCE
THE ORDER OF MAJOR ACTIVITIES WILL BE AS FOLLOWS:
- BEGIN SITE GRADING AND TOPSOIL STRIPPING
 - ESTABLISH TOPSOIL STOCK PILE WITHIN SILT FENCE PERIMETER
 - STABILIZE DENUDED AREAS AND STOCKPILES WITHIN 14 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA
 - INSTALL EROSION CONTROL MATTING AT LOCATIONS INDICATED ON PLAN
 - INSTALL UTILITIES, SANITARY SEWERS, WATER SERVICES, AND STORM SEWERS
 - BEGIN CONSTRUCTION OF BUILDING FOUNDATION AND STRUCTURE
 - INSTALL CURBS, PREPARE PAVEMENT SUBGRADE AND PROVIDE GOOD AGGREGATE BASE TO AREAS TO BE PAVED
 - PAVE AREAS AND EXTERIOR BUILDING CONSTRUCTION
 - FINAL GRADING AND PERMANENT SEEDING OF NON-PAVED AREAS OF THE SITE WITHIN 7 DAYS OF FINISHING FINAL GRADE
 - ONCE 70% VEGETATIVE COVERAGE IS ACHIEVED, REMOVE EROSION PROTECTION

*ALL CONSTRUCTION SHALL FOLLOW THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813. WHERE DISCREPANCIES EXIST BETWEEN THESE PLANS AND THE DESIGN AND CONSTRUCTION MANUAL, THE DESIGN AND CONSTRUCTION MANUAL SHALL PREVAIL.

*THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

LEGEND

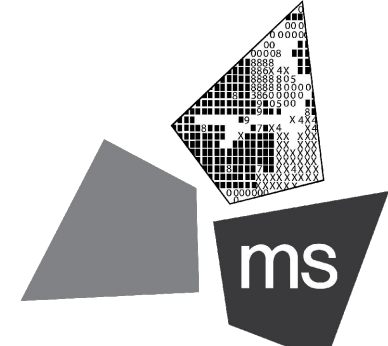
EXISTING	PROPOSED	DESCRIPTION
950	1015	CONTOUR
	SF	SILT FENCE
		INLET PROTECTION
		CONCRETE WASHOUT
		CONSTRUCTION ENTRANCE
		PERMANENT STABILIZATION AREA



REVISION/DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

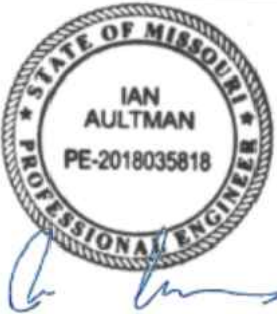
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

STORMWATER POLLUTION PREVENTION PLAN DURING AND POST CONSTRUCTION



DRAWN BY: TDB

CHECKED BY: PGD

PROJECT NO: 40497-21

DRAWING

N:\03\62\40497\21-Lee's Summit, MO Market\Docs\CAD\CIVIL\DWG-set\C-10.0 SWPPP Notes and Details.dwg, 3/15/2023 2:42 PM, boley, jason

PROJECT NAME AND LOCATION
WHATABURGER
NWQ HWY 150 & HOLLYWOOD ST
LEE'S SUMMIT, MO 64802

OWNER NAME AND ADDRESS
WHATABURGER
300 CONCORD PLAZA DR.
SAN ANTONIO, TX 78216
PHONE: (210) 476-6842
CONTACT: CINDY ESPINOZA
EMAIL: cespinoza@wbhq.com

SITE CONTACT
WHATABURGER
300 CONCORD PLAZA DR.
SAN ANTONIO, TX 78216
PHONE: (210) 476-6842
CONTACT: CINDY ESPINOZA
EMAIL: cespinoza@wbhq.com

GENERAL SCOPE OF PROJECT
THIS PROJECT WILL CONSIST OF A RESTAURANT AND THE CONSTRUCTION OF ASSOCIATED DRAINAGE FACILITIES AND OTHER MISCELLANEOUS SITE WORK.

NATURE OF CONSTRUCTION ACTIVITY (CHECK ALL THAT APPLY)
SUBDIVISION
COMMERCIAL ☒
INDUSTRIAL ☐
P.U.D. ☐
OTHER ☐

SOIL TYPES

CONSTRUCTION SITE ESTIMATES	
TOTAL SITE AREA:	1.45 AC.
CONSTRUCTION SITE AREA TO BE DISTURBED:	1.53 AC.
PERCENTAGE IMPERVIOUS AREA BEFORE CONSTRUCTION:	0.5%
RUNOFF COEFFICIENT BEFORE CONSTRUCTION:	
PERCENTAGE IMPERVIOUS AREA AFTER CONSTRUCTION:	61.8%
RUNOFF COEFFICIENT AFTER CONSTRUCTION:	

RECEIVING WATERS
LAKE WINNEBAGO

CONSTRUCTION SEQUENCE
THE ORDER OF MAJOR ACTIVITIES WILL BE AS FOLLOWS:

- PRE-CONSTRUCTION MEETING
- BEFORE AND SITE GRADING ACTIVITIES BEGIN
 - INSTALL PERIMETER SILT FENCES
 - INSTALL INLET PROTECTION ON EXISTING INLETS
 - CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE
- BEGIN SITE GRADING AND TOPSOIL STRIPPING
 - ESTABLISH TOPSOIL STOCKPILE WITHIN SILT FENCE PERIMETER
 - STABILIZE DENUDED AREAS AND STOCKPILES WITHIN 14 DAYS OF LAST CONSTRUCTION ACTIVITY IN THAT AREA
 - INSTALL EROSION CONTROL MATTING AT LOCATIONS INDICATED ON PLAN
- INSTALL UTILITIES, SANITARY SEWERS, WATER SERVICES AND STORM SEWERS
- BEGIN CONSTRUCTION OF BUILDING FOUNDATION AND STRUCTURE
- INSTALL CURBS, PREPARE PAVEMENT SUBGRADE AND PROVIDE GOOD AGGREGATE BASE TO AREAS TO BE PAVED.
- PAVE AREAS AND EXTERIOR BUILDING CONSTRUCTION.
- FINAL GRADING AND PERMANENT SEEDING OF THE NON-PAVED AREAS OF THE SITE WITHIN 7 DAYS OF FINISHING FINAL GRADE
- ONCE 70% VEGETATIVE COVERAGE IS ACHIEVED, REMOVE EROSION PROTECTION.

POTENTIAL SOURCES OF POLLUTION
CONCRETE
DETERGENTS
WOOD
FERTILIZERS
PAINTS (ENAMEL AND LATEX)
CLEANING SOLVENTS
PETROLEUM BASED PRODUCTS

EROSION AND SEDIMENT CONTROLS
BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

CLEARING AND GRUBBING
AS NEEDED
TECHNICAL SPECIFICATION

BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

DUST CONTROL
AS NEEDED
E&S DETAILS

BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

TEMPORARY SEEDING AND MULCHING
WEEKLY AND AFTER HEAVY RAIN
E&S DETAILS

BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

PERMANENT SEEDING AND MULCHING
WEEKLY AND AFTER HEAVY RAIN
E&S DETAILS

BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

CONSTRUCTION ENTRANCE
AS NEEDED
E&S DETAILS

BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

ADS - ISOLATOR ROW
AS NEEDED
O&M MANUAL

BMP DESCRIPTION:
MAINTENANCE AND INSPECTION:
REFERENCE:

TOPSOIL STOCKPILE
AS NEEDED
O&M MANUAL

POST CONSTRUCTION BMP'S

- GREEN SPACE

OTHER SEDIMENT AND EROSION CONTROL NOTES

- TEMPORARY EROSION CONTROLS WILL BE APPLIED PRIOR TO ONSET OF WINTER WEATHER FOR DISTURBED AREAS THAT WILL BE LEFT BARE OVER WINTER.
- PERMANENT EROSION CONTROLS WILL BE APPLIED WITHIN 7 DAYS FOR DISTURBED AREAS REMAINING DORMANT FOR OVER 1 YEAR OR AT FINAL GRADE.
- SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED FOR ALL AREAS REMAINING DISTURBED OVER 7 DAYS.

ADDITIONAL BMP'S

OPEN BURNING: NO MATERIALS MAY BE BURNED WHICH CONTAIN RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS SUCH AS TIRES, CARS, AUTO PARTS, PLASTICS OR PLASTIC COATED WIRE. OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS. RESTRICTED AREAS ARE DEFINED AS:

- WITHIN CORPORATION LIMITS
- WITHIN 1,000 FEET OF A MUNICIPAL CORPORATION
- WITHIN A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE

OUTSIDE THE RESTRICTED AREA, NO OPEN BURNING CAN TAKE PLACE WITHIN 1,000 FEET OF AN INHABITED BUILDING LOCATED OFF THE PROPERTY WHERE THE FIRE IS SET. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR THE FOLLOWING ACTIVITIES: HEATING TAR, WELDING AND ACETYLENE TORCHES, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING OR WARMTH FOR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE WASTES (PLANT MATERIAL), LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM EPA), AND AGRICULTURAL WASTES (MATERIAL GENERATED BY CROP, HORTICULTURAL, OR LIVESTOCK PRODUCTION PRACTICES.

DUST CONTROL/SUPPRESSANTS: DUST CONTROL IS REQUIRED TO PREVENT NUISANCE CONDITIONS. DUST CONTROLS MUST BE USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION AND NOT BE APPLIED IN A MANNER, WHICH WOULD RESULT IN A DISCHARGE TO WATERS OF THE STATE. ISOLATION DISTANCES FROM BRIDGES, CATCH BASINS, AND OTHER DRAINAGE WAYS MUST BE OBSERVED. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN PRECIPITATION IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.

AIR PERMITTING REQUIREMENTS: ALL CONTRACTORS AND SUB CONTRACTORS MUST BE MADE AWARE THAT CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS. ACTIVITIES INCLUDING BUT NOT LIMITED TO MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC., WILL REQUIRE SPECIFIC MISSOURI EPA AIR PERMITS FOR INSTALLATION AND OPERATION. THESE ACTIVITIES MUST SEE AUTHORIZATION FROM THE CORRESPONDING OF MISSOURI EPA. NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO MISSOURI EPA FOR ALL COMMERCIAL SITES TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.

WASTE DISPOSAL: THE CONTRACTOR SHALL PROVIDE LITTER CONTROL AND COLLECTION OF MATERIALS WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION. ALL FERTILIZER, HYDROCARBON, OR OTHER CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH THE EPA'S STANDARD PRACTICES. NO SOLID MATERIAL INCLUDING BUILDING AND CONSTRUCTION MATERIAL SHALL BE DISPOSED OF, DISCHARGED OR BURIED ONSITE.

OFFSITE VEHICLE TRACKING: LOADED HAUL TRUCKS SHALL BE COVERED WITH A TARPULIN. EXCESS DIRT MATERIAL ON THE ROADS SHALL BE REMOVED IMMEDIATELY. HAULING ON UNPAVED SURFACES SHALL BE MONITORED TO MINIMIZE DUST AND CONTROL EROSION. HAUL ROADS SHALL BE WATERED OR OTHER CONTROLS PROVIDED AS NECESSARY TO REDUCE DUST AND CONTROL SEDIMENTS.

SANITARY WASTE: THE CONTRACTOR SHALL PROVIDE PORTABLE SANITARY WASTE FACILITIES. THESE FACILITIES SHALL BE COLLECTED OR EMPTIED BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS.

FERTILIZERS AND PESTICIDES: FERTILIZER SHALL BE APPLIED AT A RATE SPECIFIED BY THE SPECIFICATIONS OR THE MANUFACTURER. THE APPLICATION OF FERTILIZERS SHALL BE ACCOMPLISHED IN A MANNER AS DESCRIBED BY THE SPECIFICATION OR MANUFACTURER TO ENSURE THE PROPER INSTALLATION AND TO AVOID OVER FERTILIZING. PESTICIDES ARE NOT ANTICIPATED FOR THIS PROJECT.

MAINTENANCE

THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES AND THE REMOVAL OF THE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE NOTICE OF TERMINATION IS EXECUTED.

THE CONTRACTOR SHALL REVIEW THE PROJECT AND ALL EROSION AND SEDIMENT CONTROLS ON A DAILY BASIS AND DURING AND FOLLOWING RAINFALL EVENTS. AN INSPECTION FORM HAS BEEN PROVIDED IN THE SPECIFICATIONS. THE CONTRACTOR SHALL BE REQUIRED TO KEEP A LOG OF ALL THE DAILY INSPECTION REPORTS, GRADING AND STABILIZATION ACTIVITIES, AND SWPPP AMENDMENTS AT THE SITE. THE FOLLOWING PRACTICES WILL BE IMPLEMENTED TO MAINTAIN AND MONITOR EROSION AND SEDIMENT CONTROLS.

- PROJECT REVIEW ON A DAILY BASIS.
- PROVIDE AND MAINTAIN RAIN GAUGES ONSITE (IF NOT AVAILABLE IN THE AREA) TO RECORD RAINFALL DATA DAILY.
- REVIEW STABILIZATION PRACTICES AND CONTROLS ON A DAILY BASIS AND MAINTAIN AND REPAIR THESE MEASURES AND CONTROLS AS NECESSARY. TEMPORARY AND/OR PERMANENT SEEDING, MULCHING AND SODDING SHALL BE REPAIRED IN BARE SPOTS AND WASHOUTS, AND HEALTHY GROWTH ESTABLISHED.
- ONCE HEALTHY GROWTH OF TURF IS ESTABLISHED, THE CONTRACTOR SHALL MAINTAIN THESE AREAS TO INSURE THE HEIGHT OF THE GRASS DOES NOT REACH MORE THAN 6 INCHES ABOVE THE ESTABLISHED GRADE.
- REVIEW STRUCTURAL PRACTICES ON A DAILY BASIS AND MAINTAIN AND REPAIR THESE MEASURES AND CONTROLS AS NECESSARY. BUILT UP SEDIMENTS SHALL BE REMOVED FROM SILT FENCES AND FILTER CLOTH SHALL BE REPLACED AS NECESSARY AND WHEN THEY HAVE SERVED THEIR USEFULNESS.
- AN INSPECTION AND MAINTENANCE REPORT SHALL BE COMPLETED WEEKLY AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE. THE CONTRACTOR SHALL CREATE AN INSPECTION AND MAINTENANCE REPORT LOG AND NOTE ANY AMENDMENTS TO THE SWPPP THAT OCCUR DURING CONSTRUCTION.
- IF THE CONTRACTOR ELECTS TO APPLY FOR PERMITS FOR DISCHARGE OF STORMWATER FROM THE SITE DURING CONSTRUCTION, ALL POINTS OF DISCHARGE OF STORMWATER RUNOFF FROM THE SITE SHALL BE INSPECTED ON A DAILY BASIS AND CONTROLS AND MEASURES REPAIRED AS NECESSARY TO MAINTAIN ACCEPTABLE WATER QUALITY AND DISCHARGE VOLUMES IN ACCORDANCE WITH THE PERMIT.

INSPECTIONS

QUALIFIED PERSONNEL SHALL INSPECT ALL POINTS OF DISCHARGE, AS APPLICABLE, FROM THE PROJECT SITE AND ALL DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN STABILIZED. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR POTENTIAL FOR, POLLUTANTS ENTERING THE STORMWATER MANAGEMENT SYSTEM. THE STORMWATER MANAGEMENT SYSTEM AND EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. INSPECTION AND MAINTENANCE REPORTS SHALL BE COMPLETED AT LEAST EVERY WEEK AND FOLLOWING A RAINFALL EVENT OF 0.5 INCHES OF WATER OR GREATER (SEE ATTACHED FORM). THESE FORMS SHALL BE RETAINED FOR A PERIOD OF AT LEAST 3 YEARS FOLLOWING THE DATE THE SITE IS FINALLY STABILIZED.

ALLOWABLE NON-STORMWATER DISCHARGE MANAGEMENT

ALLOWABLE NON-STORMWATER DISCHARGES AND THE MEASURES USED TO ELIMINATE OR REDUCE THEM AND TO PREVENT THEM FROM BECOMING CONTAMINATED MAY INCLUDE DEPENDING ON THE PERMIT:

- WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
- WATER USED TO CONTROL DUST
- POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHINGS
- ROUTINE EXTERNAL BUILDING WASH DOWN THAT DOES NOT USE DETERGENTS
- PAVEMENT WASH WATER WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED
- UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
- UNCONTAMINATED GROUND WATER OR SPRING WATER
- FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS
- UNCONTAMINATED EXCAVATION DEWATERING
- LANDSCAPE IRRIGATION

ESTABLISH PROPER EQUIPMENT/VEHICLE FUELING AND MAINTENANCE PRACTICES

EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES, OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HOURS OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER.

SPILL PREVENTION CONTROL PLAN

SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVEGROUND STORAGE OF 1,320 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. SOILS THAT HAVE BEEN CONTAMINATED MUST BE DISPOSED OF IN ACCORDANCE WITH SECTION "CONTAMINATED SOILS" FOUND BELOW.

SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, CAT LITTER OR OTHER ABSORBENT MATERIAL AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO THE EPA (1-913-281-0991). SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO EPA (1-913-281-0991), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE DISCOVERY OF THE RELEASE. ALL SPILLS, WHICH RESULT IN CONTACT WITH WATER OF THE STATE, MUST BE REPORTED TO THE EPA'S HOTLINE.

CONTAMINATED SOILS

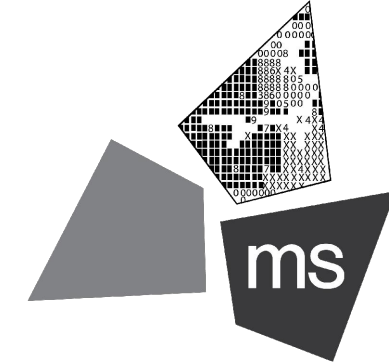
IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC., ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). PLEASE BE AWARE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT BEING AUTHORIZED UNDER THE EPA'S GENERAL STORMWATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES. IN THE EVENT THERE ARE LARGE EXTENSIVE AREAS OF CONTAMINATED SOILS ADDITIONAL MEASURES ABOVE AND BEYOND THE CONDITIONS OF THE EPA'S GENERAL CONSTRUCTION STORMWATER PERMIT WILL BE REQUIRED. DEPENDING ON THE EXTENT OF CONTAMINATION, ADDITIONAL TREATMENT AND/OR COLLECTION AND DISPOSAL MAY BE REQUIRED. ALL STORMWATER DISCHARGES ASSOCIATED WITH CONTAMINATED SOILS MUST BE AUTHORIZED UNDER AN ALTERNATE NPDES PERMIT.

REVISION /DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

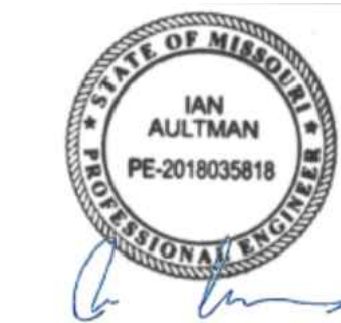
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SWPPP NOTES



DRAWN BY: TDB

CHECKED BY: PGD

PROJECT NO: 40497-21

DRAWING

C-10.0



N:\0316214049\721-Lee's Summit, MO Market\Docs\CAD\CIVIL\DWG-set\C-10.0 SWPPP Notes and Details.dwg, 3/15/2023 2:43 PM, boley, jason

TEMPORARY SEEDING

DESCRIPTION

TEMPORARY SEEDINGS ESTABLISH TEMPORARY COVER ON DISTURBED AREAS BY PLANTING APPROPRIATE RAPIDLY GROWING ANNUAL GRASSES OR SMALL GRAINS. TEMPORARY SEEDING PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES, WHICH ARE QUICK GROWING, ARE SEEDED AND USUALLY MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. IT EFFECTIVELY MINIMIZES THE AREA OF A CONSTRUCTION SITE PRONE TO EROSION AND SHOULD BE USED EVERYWHERE THE SEQUENCE OF CONSTRUCTION OPERATIONS ALLOWS VEGETATION TO BE ESTABLISHED.

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB/1000 SF	LB/ACREA
MAR 1 TO AUG 15	OATS	3	128-4 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	PERENNIAL RYGRASS	1	40
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	ANNUAL RYEGRASS	1.25	55
	PERENNIAL RYEGRASS	3.25	142
	CREEPING RED FESCUE	0.40	17
	KENTUCKY BLUEGRASS	0.40	17
	OATS	3	128-3 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
AUG 16 TO NOV	RYE	3	112-3 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	WHEAT	3	120-2 BUSHEL
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	PERENNIAL RYE	1	40
	TALL FESCUE	1	40
	ANNUAL RYEGRASS	1	40
	ANNUAL RYEGRASS	1.25	40
	PERENNIAL RYEGRASS	3.25	40
	CREEPING RED FESCUE	0.40	40
	KENTUCKY BLUEGRASS	0.40	
NOV 1 TO FEB 29	USE MULCH ONLY OR DORMANT SEEDING		

- STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
- TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING.
- THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHOULD NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
- SOIL AMENDMENTS—TEMPORARY VEGETATION SEEDING RATES SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION, WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
- SEEDING METHOD—SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING:

- APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH, WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE, VERY FLAT SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
- MATERIALS:
 - STRAW—IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 LBS/ 1,000 SQ. FT. (2-3 BALES)
 - HYDROSEEDERS—IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2000 LBS/ AC, OR 46 LB./ 1,000-SQ.-FT.
 - OTHER—OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TON/ AC.
- STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING METHODS:
 - MECHANICAL—A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT LEFT TO A LENGTH OF APPROXIMATELY 6 INCHES.
 - MULCH NETTING—NETTING SHALL BE USED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
 - SYNTHETIC BINDERS—SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TRACK OR EQUIVALENT MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
 - WOOD-CELLULOSE FIBER—WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WT. OF 750 LB./AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.

DUST CONTROL

DESCRIPTION

DUST CONTROL INVOLVES PREVENTING OR REDUCING DUST FROM EXPOSED SOILS OR OTHER SOURCES DURING LAND DISTURBING, DEMOLITION AND CONSTRUCTION ACTIVITIES TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS OR HARM ANIMAL OR PLANT LIFE.

SPECIFICATIONS FOR DUST CONTROL

- VEGETATIVE COVER AND/MULCH – APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREAS THAT WILL REMAIN IDLE FOR OVER 21 DAYS. SAVING EXISTING TREES AND LARGE SHRUBS WILL ALSO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING; PERMANENT SEEDING; MULCHING PRACTICES; AND TREE AND NATURAL AREA PROTECTION PRACTICES.
- WATERING – SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED, ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS.
- SPRAY-ON ADHESIVES – APPLY ADHESIVE ACCORDING TO THE FOLLOWING TABLE OR MANUFACTURER'S INSTRUCTIONS.
- STONE – GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICABLE AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
- BARRIERS – EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL.
- OPERATION AND MAINTENANCE – WHEN TEMPORARY DUST CONTROL MEASURES ARE USED; REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL. STREET CLEANING - PAVED AREAS THAT HAVE ACCUMULATED SEDIMENT FROM CONSTRUCTION SHOULD BE CLEANED DAILY, OR AS NEEDED, UTILIZING A STREET SWEEPER OR BUCKET -TYPE END LOADER OR SCRAPER.

PERMANENT SEEDING

DESCRIPTION

PERENNIAL VEGETATION IS ESTABLISHED ON AREAS THAT WILL NOT BE RE-DISTURBED FOR PERIODS LONGER THAN 12 MONTHS. PERMANENT SEEDING INCLUDES SITE PREPARATION, SEEDBED PREPARATION, PLANTING SEED, MULCHING, IRRIGATION AND MAINTENANCE.

PERMANENT VEGETATION IS USED TO STABILIZE SOIL, REDUCE EROSION, PREVENT SEDIMENT POLLUTION, REDUCE RUNOFF BY PROMOTING INFILTRATION, AND PROVIDE STORMWATER QUALITY BENEFITS OFFERED BY DENSE GRASS COVER.

SPECIFICATION FOR PERMANENT SEEDING

SITE PREPARATION:

- SUBSOILER, PLOW, OR OTHER IMPLEMENT SHALL BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. (MAXIMIZING INFILTRATION WILL HELP CONTROL BOTH RUNOFF RATE AND WATER QUALITY.) SUBSOILING SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
- THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
- TOPSOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

SEEDBED PREPARATION:

- TEST THE SOIL CONDITIONS FOR FEEDING BEFORE STARTING SEEDING AND MULCHING.
- LIME—AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 POUNDS PER 1,000-SQ. FT. OR 2 TONS PER ACRE.
- FERTILIZER—FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY A SOIL TEST. CONTRACTOR SHALL PERFORM LAB TESTING ON SOIL AND PROVIDE A CERTIFIED FERTILIZER RATIO FOR THE SITE SOILS AND SPECIFIED SEED MIX.
- THE LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3 INCHES. ON SLOPING LAND, THE SOIL SHALL BE WORKED ON THE CONTOUR.

SEEDING DATES AND SOIL CONDITIONS:

SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THE ABOVE SPECIFIED DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. FOR WINTER SEEDING, SEE THE FOLLOWING SECTION ON DORMANT SEEDING.

DORMANT SEEDINGS:

- SEEDINGS SHOULD NOT BE MADE FROM OCTOBER 1 THROUGH NOVEMBER 20. DURING THIS PERIOD, THE SEEDS ARE LIKELY TO GERMINATE BUT PROBABLY WILL NOT BE ABLE TO SURVIVE THE WINTER.
- THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING":
 - FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER, THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE MARCH 15, BROADCAST THE SELECTED SEED MIXTURE. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
 - FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRO-SEEDER (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
- WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE CONTOUR WHERE FEASIBLE.

MULCHING:

- MULCH MATERIAL SHALL BE APPLIED IMMEDIATELY AFTER SEEDING. DORMANT SEEDING SHALL BE MULCHED. 100% OF THE GROUND SURFACE SHALL BE COVERED WITH AN APPROVED MATERIAL.
- MATERIALS:
 - STRAW—IF STRAW IS USED IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT THE RATE OF 2 TONS PER ACRE OR 90 POUNDS (TWO TO THREE BALES) PER 1,000-SQ. FT. THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY APPLIED SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000-SQ.-FT. SECTIONS AND SPREAD TWO 45-LB. BALES OF STRAW IN EACH SECTION.
 - HYDROSEEDERS—IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE APPLIED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
 - OTHER—OTHER ACCEPTABLE MULCHES INCLUDE ROLLED EROSION CONTROL MATTINGS OR BLANKETS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS PER ACRE.
- STRAW AND MULCH ANCHORING METHODS—STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER:
 - MECHANICAL—A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LEFT LONGER THAN 6 INCHES. MULCH NETTING—NETTING SHALL BE USED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
 - ASPHALT EMULSION—ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURE OR AT THE RATE OF 160 GALLONS PER ACRE.
 - SYNTHETIC BINDERS—SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUIVALENT MAY BE USED AT RATES SPECIFIED BY THE MANUFACTURER.
 - WOOD CELLULOSE FIBER—WOOD CELLULOSE FIBER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER WITH THE MIXTURE CONTAINING A MAXIMUM OF 50 POUNDS CELLULOSE PER 100 GALLONS OF WATER.

IRRIGATION:

PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY WEATHER OR ON ADVERSE SITE CONDITIONS, WHICH REQUIRE ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH. IRRIGATION RATES SHALL BE MONITORED TO PREVENT EROSION AND DAMAGE TO SEEDED AREAS FROM EXCESSIVE RUNOFF. CONTRACTOR SHALL MAINTAIN PERMANENT SEEDING FOR UP TO ONE YEAR FROM SUBSTANTIAL COMPLETION TO FIX, REPAIR, WATER, REFERTILIZE AND/OR RESEED GRASSED AREAS.

SEED MIX	SEEDING RATE		NOTES
	LBS/ACRE	LBS/1,000 SF	
GENERAL USE			
CREEPING RED FESCUE	20-40	½-1	FOR CLOSE MOWING AND FOR WATERWAYS WITH <2.0 FT/SEC VELOCITY
DOMESTIC RYEGRASS	10-20	¼-½	
KENTUCKY BLUEGRASS	20-40	½-1	
TALL FESCUE	40-50	1-1½	
TURF-TYPE (DWARF) FESCUE	90	2¼	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40-50	1-1½	
CROWN VETCH	10-20	¼-½	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20-30	½-¾	
FLAT PEA	20-25	½-¾	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20-30	½-¾	
ROAD DITCHES AND SWALES			
TALL FESCUE	40-50	1-1½	
TURF-TYPE (DWARF) FESCUE	90	2¼	
KENTUCKY BLUE GRASS	5	¾	
LAWNS			
KENTUCKY BLUEGRASS	100-120	2	
PERENNIAL RYEGRASS		2	
KENTUCKY BLUEGRASS	100-120	2	FOR SHADED AREAS
CREEPING RED FESCUE		1-½	

PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREA THAT WILL LIE DORMANT FOR ONE YEAR OR MORE.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE.
ANY AREA WITHIN 50 FEET OF A STREAM OR A RIPARIAN SETBACK AREA AND AT FINAL GRADE.	WITHIN 2 DAYS OF REACHING FINAL GRADE.
ANY AREA AT FINAL GRADE.	WITHIN 7 DAYS OF REACHING FINAL GRADE WITHIN THAT AREA.

TEMPORARY STABILIZATION

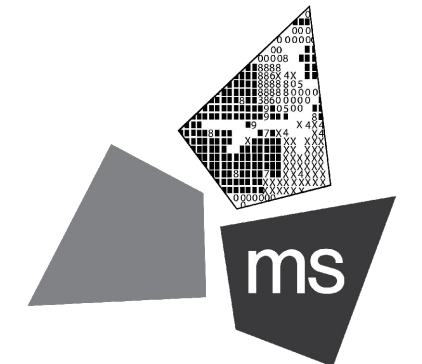
AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREA WITHIN 50 FEET OF A STREAM OR A RIPARIAN SETBACK AREA AND NOT AT FINAL GRADE.	WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE IF THAT AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS.
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER.	PRIOR TO NOVEMBER 1.
NOTE: WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. THESE TECHNIQUES MAY INCLUDE MULCHING OR EROSION MATTING.	

REVISION /DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

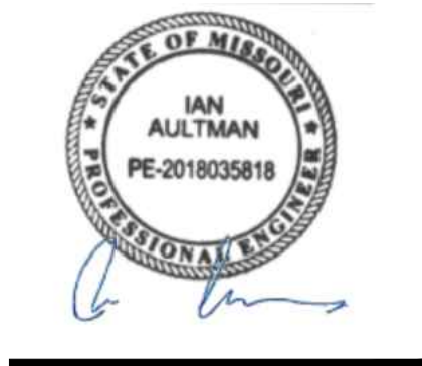
PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SWPPP NOTES



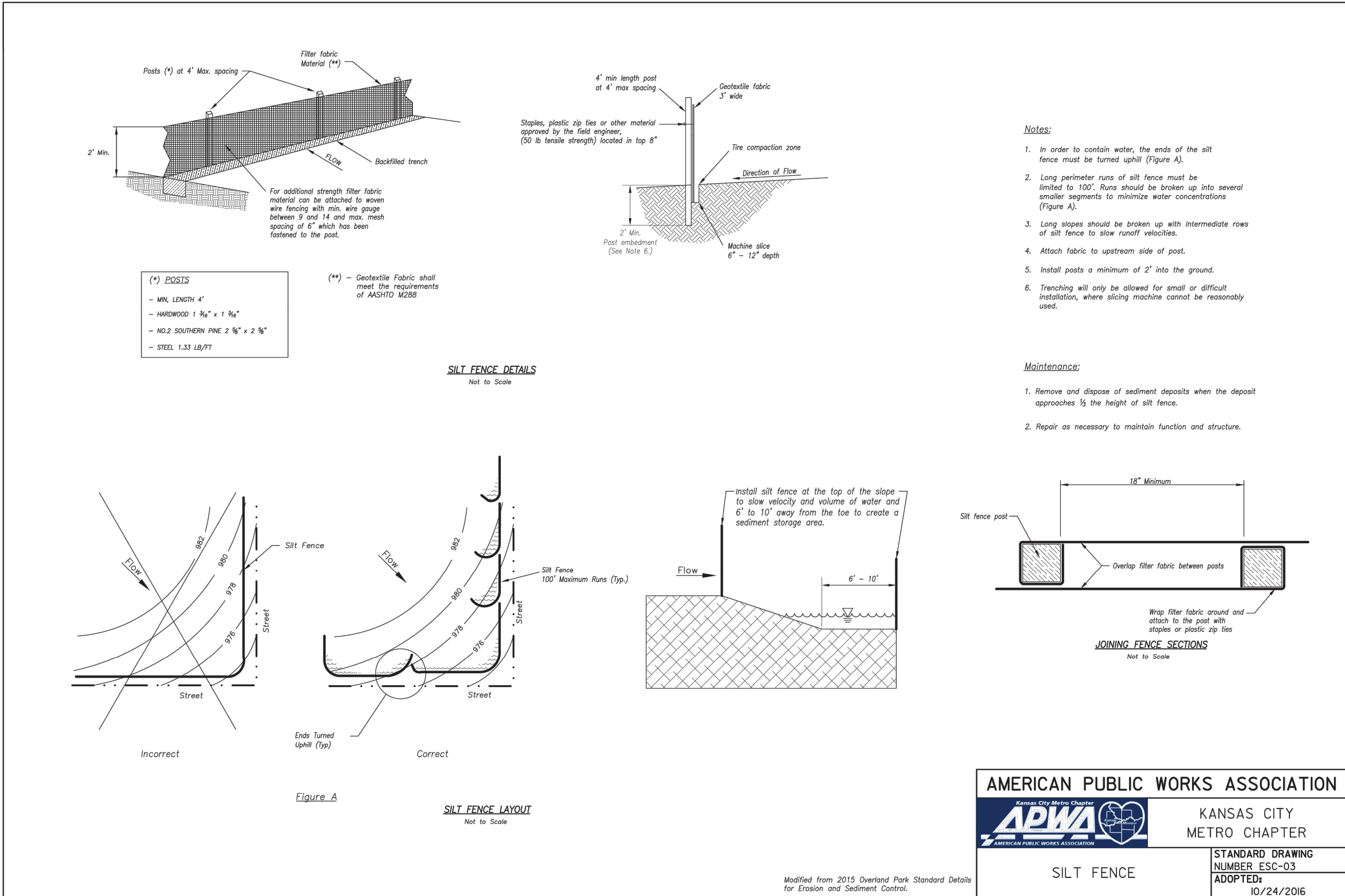
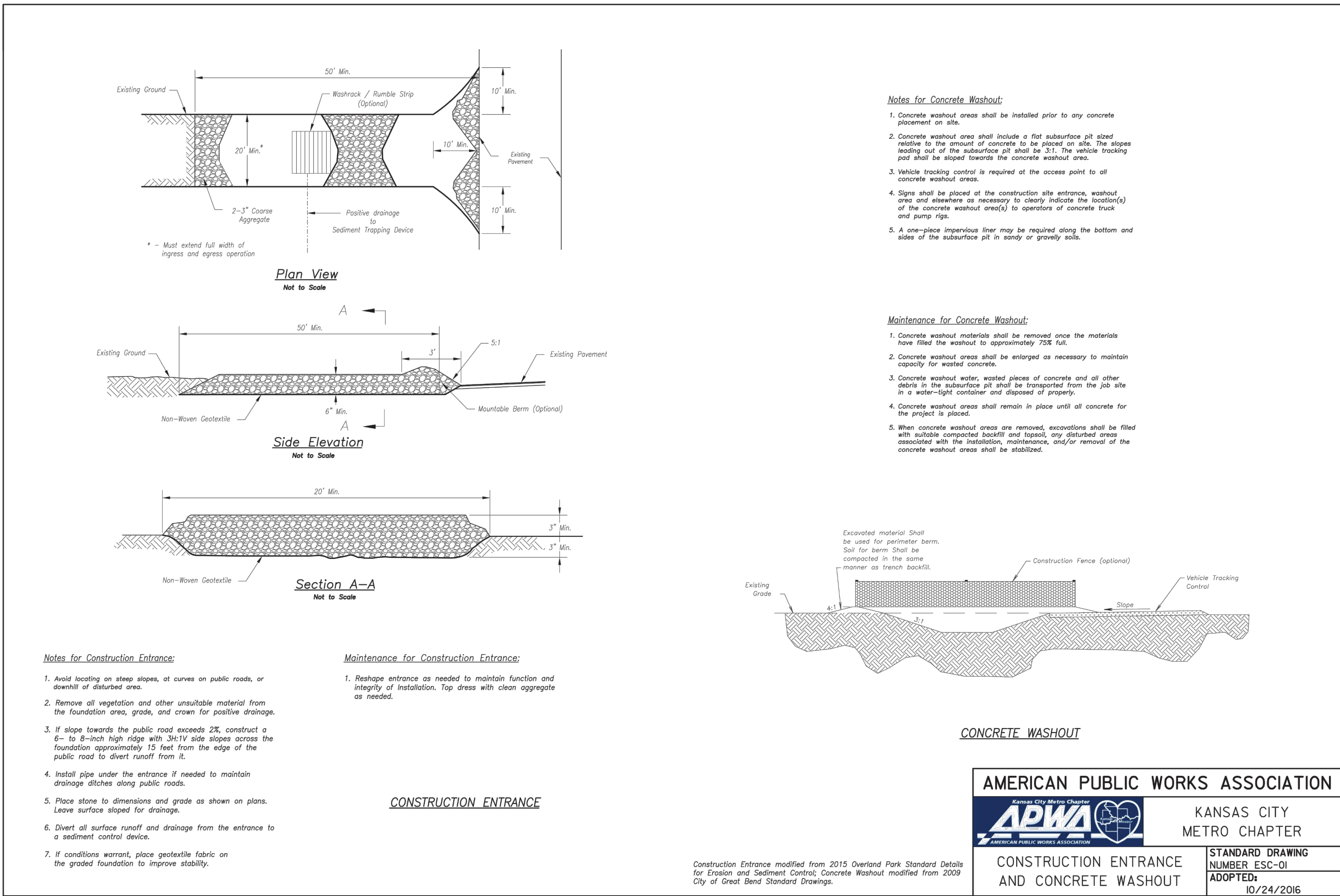
DRAWN BY:	TDB
CHECKED BY:	PGD
PROJECT NO:	40497-21

DRAWING

C-10.1



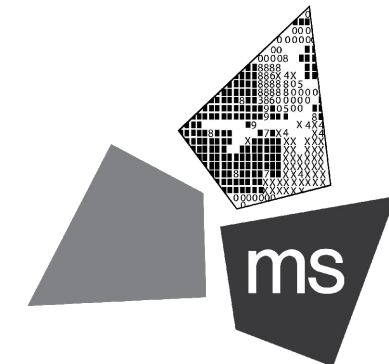
N:\031621\4049721-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-10.1 SWPPP Notes and Details.dwg, 3/15/2023 2:43 PM, boley, jason



REVISION /DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS I	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SWPPP DETAILS

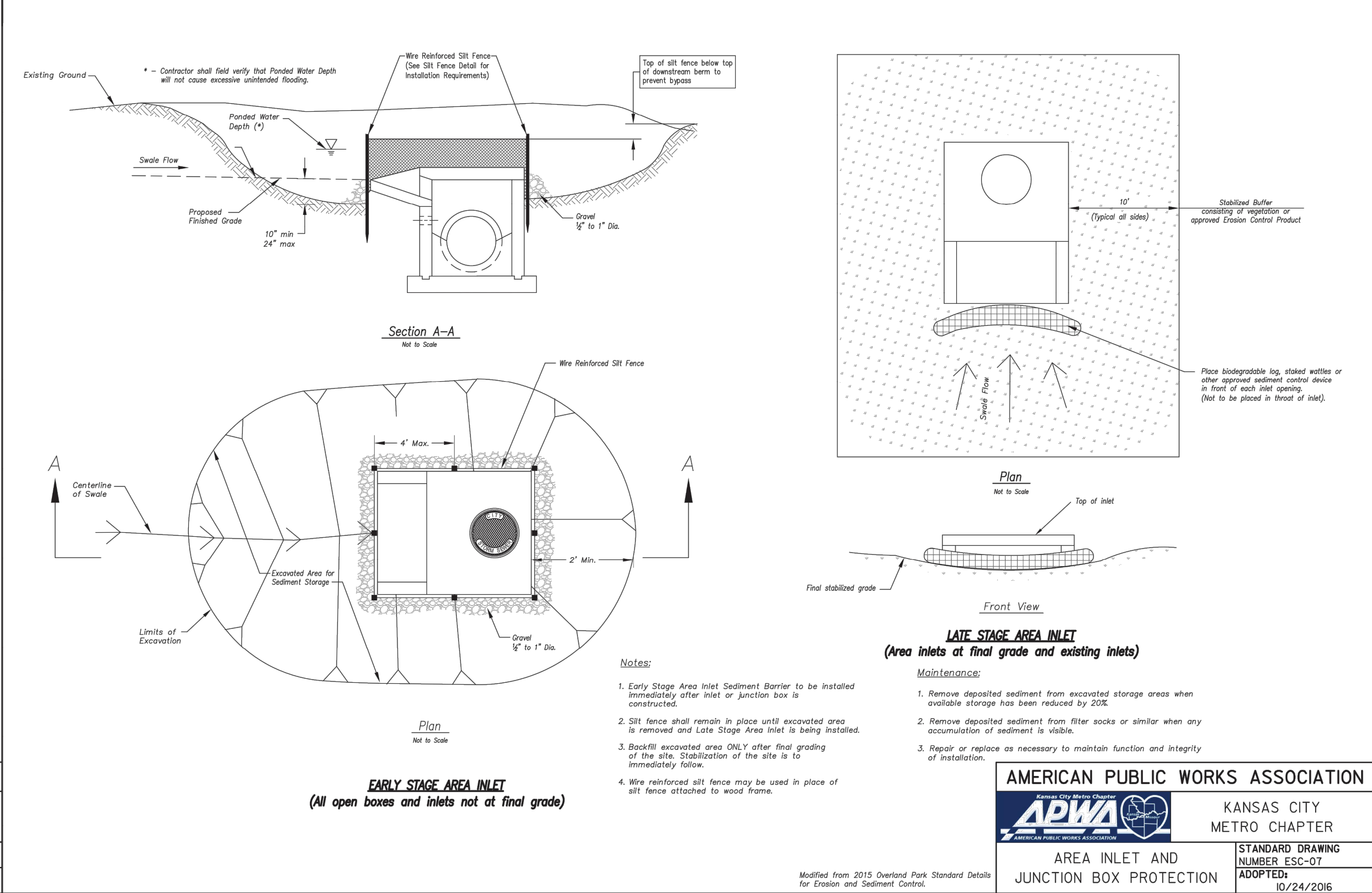
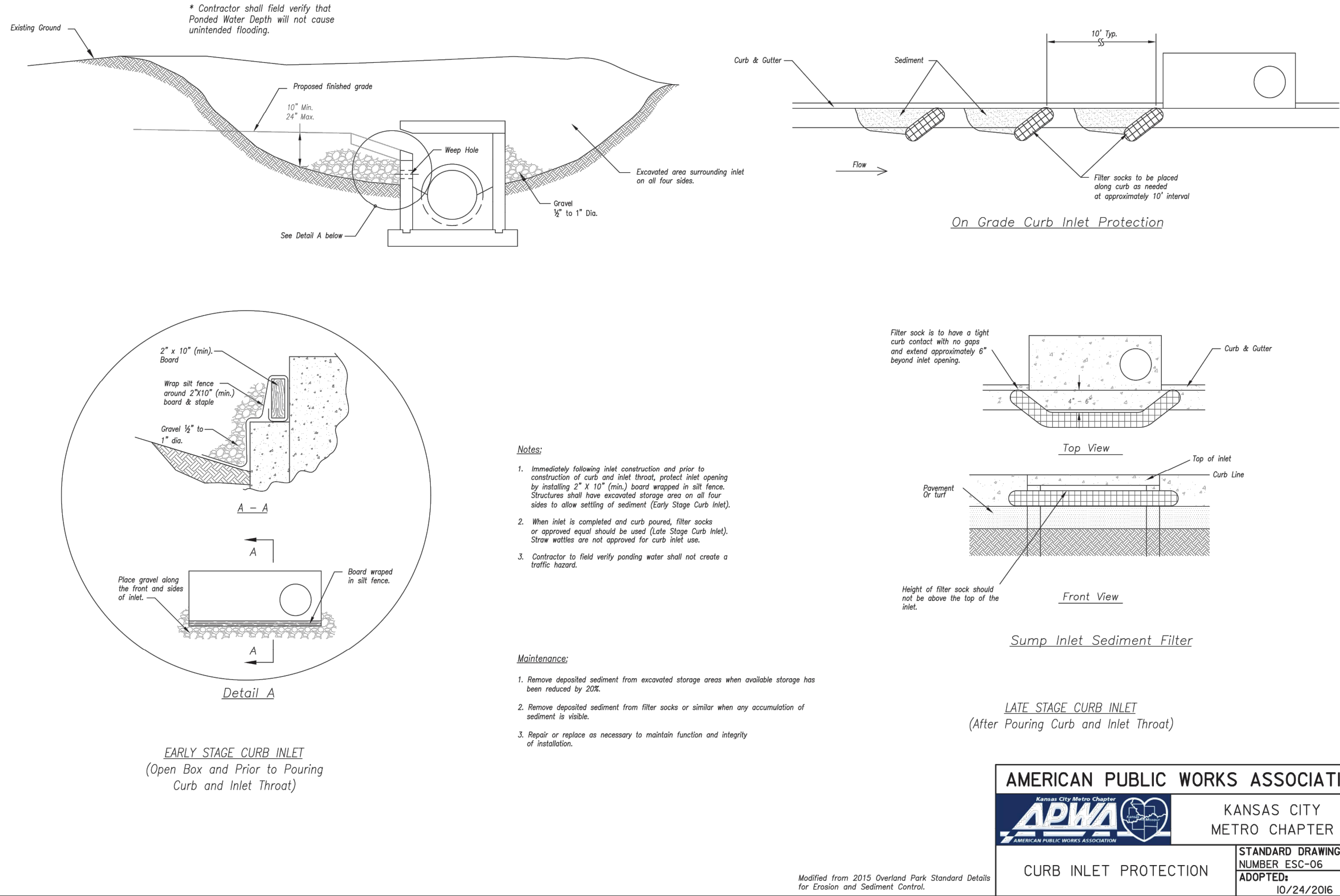


DRAWN BY: TDB
CHECKED BY: PGD
PROJECT NO: 40497-21

DRAWING

C-10.2

N:\0316240497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-set\C-10.1 SWPPP Notes and Details.dwg, 3/15/2023 2:43 PM, boley, jason

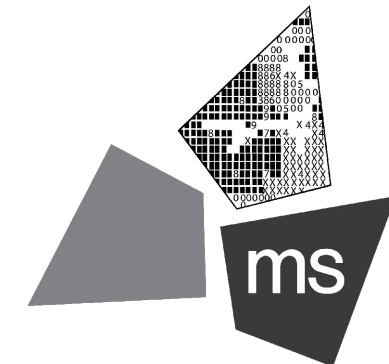


REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

SWPPP DETAILS



DRAWN BY: TDB

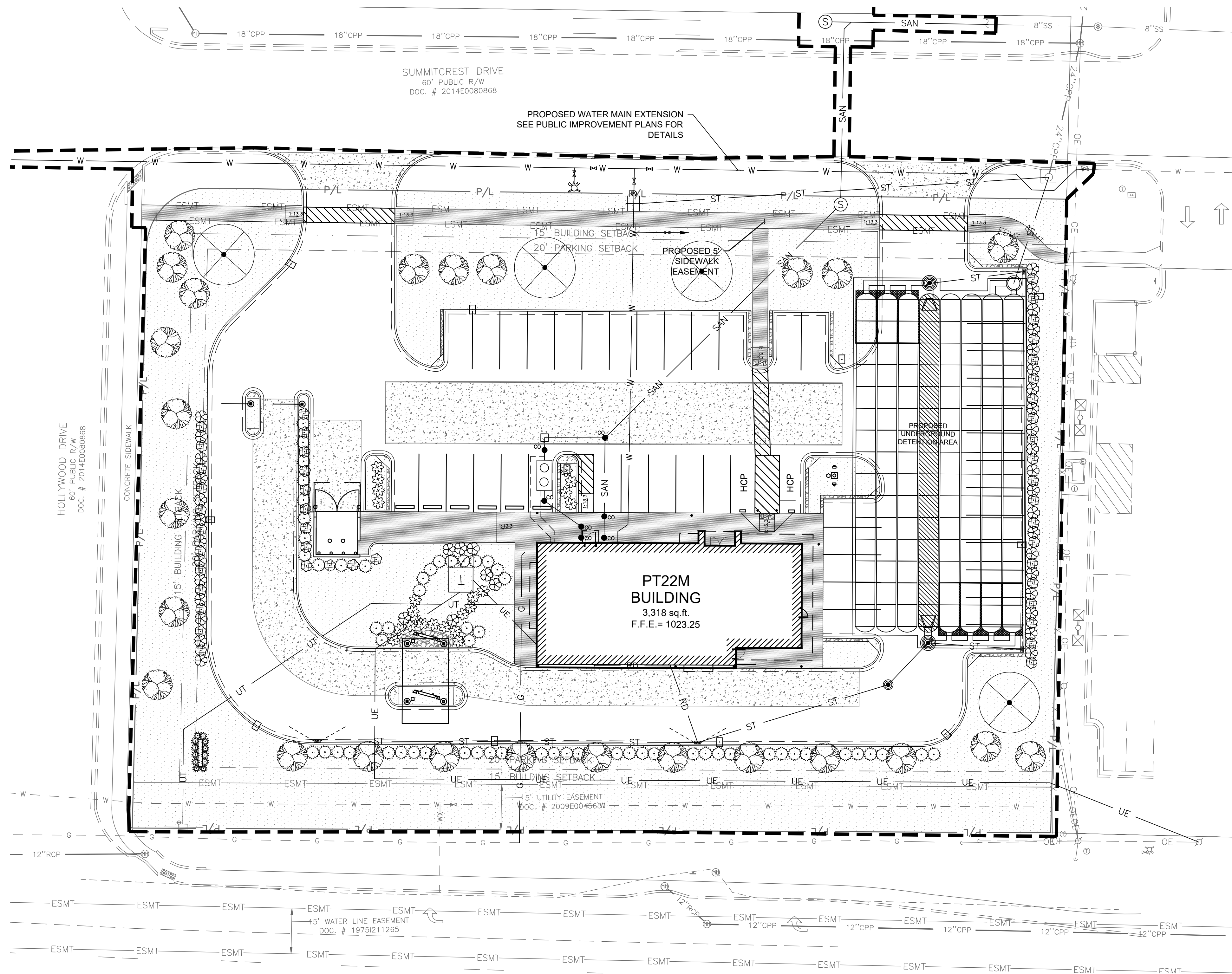
CHECKED BY: PGD

PROJECT NO: 40497-21

DRAWING

C-10.3

N:\03162\40497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-setL-1 Landscape Plan.dwg, 3/15/2023 2:32 PM, boley, jason

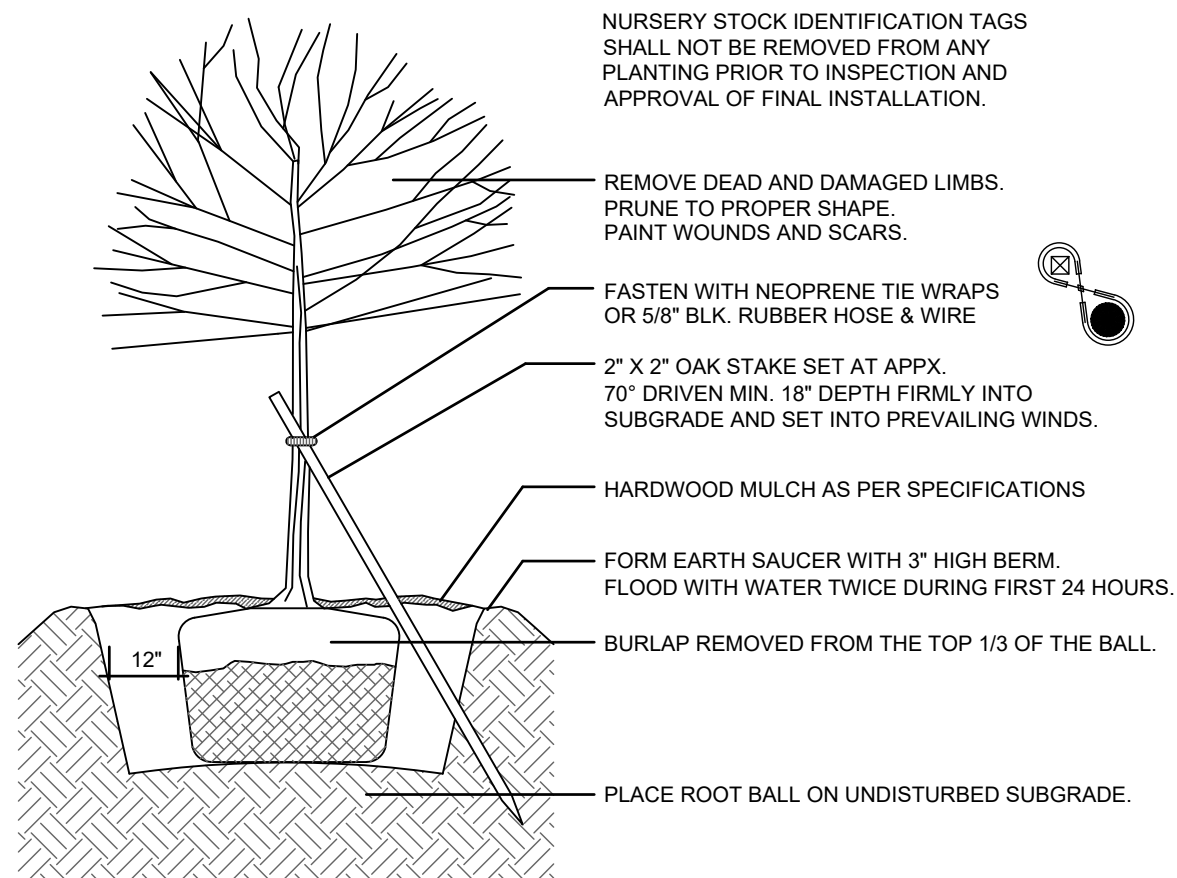


GENERAL NOTES:

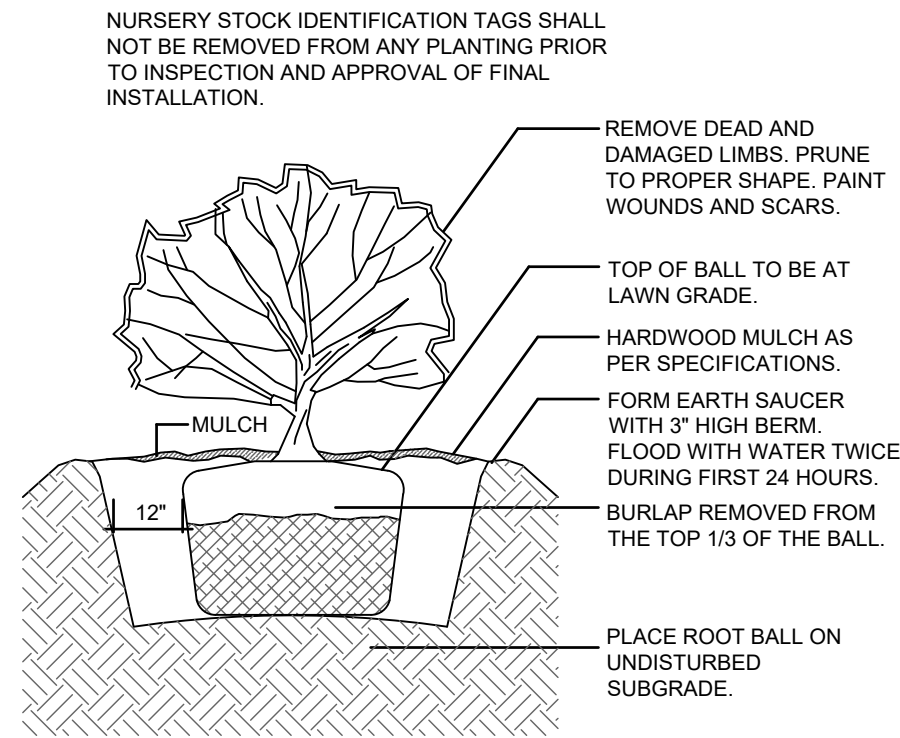
- A. ALL PLANT MATERIALS TO COMPLY WITH THE LATEST EDITION OF A.N.A. STANDARDS FOR NURSERY STOCK AND BE GUARANTEED UNTIL THE CERTIFICATE OF OCCUPANCY IS OBTAINED OR FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE, WHICHEVER IS GREATER. ANY PLANTINGS NEEDING REPLACEMENT WILL BE GUARANTEED FROM THE TIME OF REPLACEMENT IF AFTER FINAL ACCEPTANCE.
- B. LANDSCAPE CONTRACTOR IS TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES AND RECEIVE APPROVAL FROM GENERAL CONTRACTOR OR SITE SUPERVISOR, IF NECESSARY, TO MAKE CHANGES IN PLANT LOCATIONS.
- C. LANDSCAPE CONTRACTOR MUST COORDINATE WITH GENERAL CONTRACTOR AND OTHER SITE OPERATIONS.
- D. MINOR ADJUSTMENTS TO THE PLANT LOCATIONS ARE TO BE MADE IN THE CASE OF ANY CONFLICTS WITH PROPOSED UTILITIES.
- E. ALL PLANTING BEDS AND FREE STANDING TREES TO BE MULCHED WITH 4" OF SHREDDED HARDWOOD MULCH. BEDS ARE TO BE GRADED SMOOTH AND FREE OF SOIL CLODS AND STONES. ALL TREES TO BE STAKED AND WRAPPED WITH KRAFT TREE WRAP.
- F. ALL PLANTS ARE TO BE REMOVED FROM CONTAINERS, CAGES AND NON-BIODEGRADABLE MATERIALS.
- G. GENERAL CONTRACTOR IS RESPONSIBLE FOR FINISHED GRADES; LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINE GRADING AND TO PROVIDE 4" OF AMENDED TOPSOIL FOR PLANTING BEDS.
- H. ALL ORGANIC MATTER AND DEBRIS ARE TO BE REMOVED FROM THE SITE BY THE LANDSCAPE CONTRACTOR. LAWN AREAS AND BEDS SHOULD BE FREE OF STONES GREATER THAN 2".
- I. PLANT QUANTITIES HAVE BEEN PROVIDED FOR CONVENIENCE ONLY; THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR HIS OWN "TAKE OFFS". DRAWING PREVAILS OVER WRITTEN QUANTITIES.
- J. THE LANDSCAPE CONTRACTOR SHALL SUBMIT A ONE (1) YEAR MAINTENANCE CONTRACT FOR CONSIDERATION BY THE OWNER. CONTRACT SHALL BE SEPARATE FROM INSTALLATION CONTRACT.
- K. PLANTING BEDS SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE APPLIED AT PRODUCT SPECIFIED RATE UNLESS OTHERWISE NOTED.
- L. PLANTING SHALL BE FERTILIZED UPON INSTALLATION. RECOMMENDED FERTILIZER SHALL BE MIXED WITH BACKFILL AT PRODUCT SPECIFIED RATE.
- M. BED EDGE SHALL BE SMOOTH, CONSISTENT 4 1/2" DEEP AND HAND CUT, EDGES TO BE LOCATED BETWEEN ALL BEDS (INCLUDING TREES) AND LAWN AREAS.
- N. CONTRACTOR TO SEED ALL DISTURBED AREAS WITH A LOCALLY ADAPTIVE SEED MIX UNLESS OTHERWISE DIRECTED BY THE GENERAL CONTRACTOR.
- O. TOPSOIL SHALL BE BACK FILLED TO PROVIDE POSITIVE DRAINAGE OF ALL LANDSCAPE AREAS. SEE GRADING AND DRAINAGE PLAN SHEET C-5.0.
- P. LANDSCAPING MATERIALS ARE REQUIRED TO PROVIDE FULL SCREENING AT THE TIME OF PLANTING.
- Q. ALL OPEN AREAS NOT COVERED WITH OTHER MATERIALS SHALL BE COVERED WITH SOD.

PROPOSED PLANT SCHEDULE

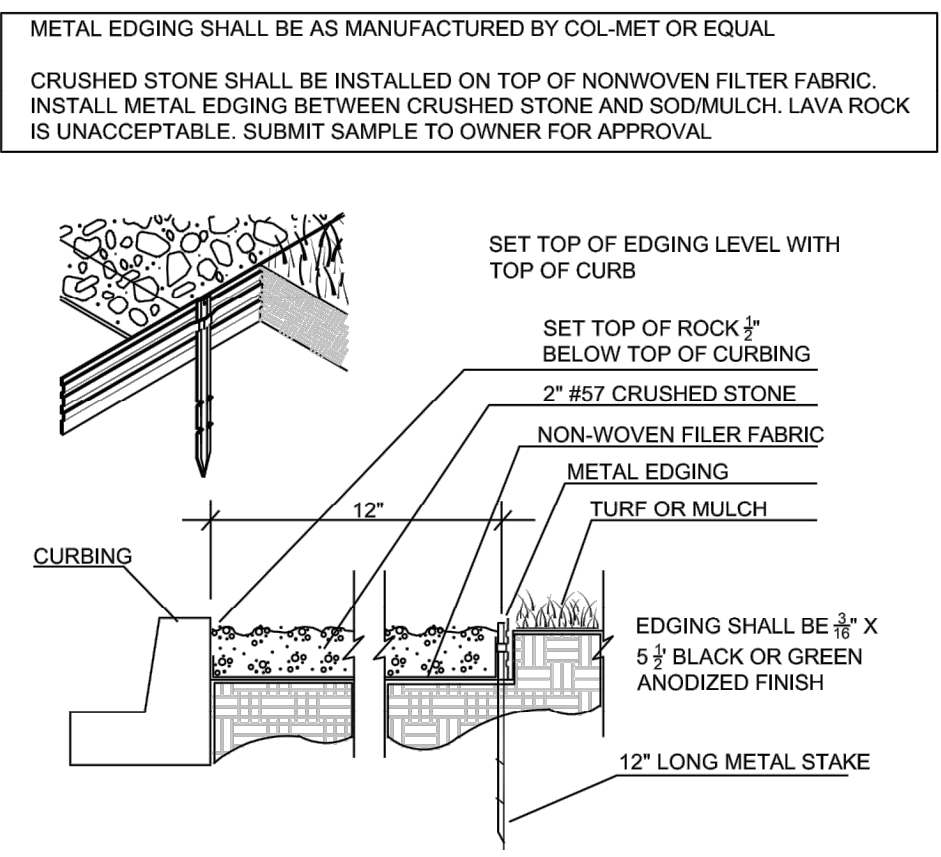
TREES	BOTANICAL NAME	COMMON NAME	TYPE	QTY	HEIGHT AT TIME OF PLANTING	APPROXIMATE MATURE HEIGHT (H X W)	CONT
AR	ACER RUBRUM	RED MAPLE	DECIDUOUS	4	3" CAL MEASURED AT A POINT 6" ABOVE THE GROUND OR TOP OF ROOT BALL, AT PLANTING.	(40' X 40')	B+B
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	DECIDUOUS	25	3" CAL MEASURED AT A POINT 6" ABOVE THE GROUND OR TOP OF ROOT BALL, AT PLANTING.	(15' X 25')	B+B
SHRUBS	BOTANICAL NAME	COMMON NAME	TYPE	QTY			
WF	WEIGELA FLORIDA 'ALEXANDRA'	WINE AND ROSES WEIGELA	DECIDUOUS	38	2 GAL	(4' X 4')	
RI	RHAPHIOLEPIS INDICA 'MAJESTIC BEAUTY'	MAJESTIC BEAUTY INDIAN HAWTHORN	EVERGREEN	44	2 GAL	(4' X 4')	
HP	HYDRANGEA PANICULATA 'LITTLE LIME'	LITTLE LIME HYDRANGEA	DECIDUOUS	22	2 GAL	(3' X 3')	
IV	ILEX VOMITORIA 'NANA'	DWARF YAUPON	EVERGREEN	60	2 GAL	(4' X 5')	



A DECIDUOUS TREE PLANTING DETAIL
L-1.0 N.T.S.



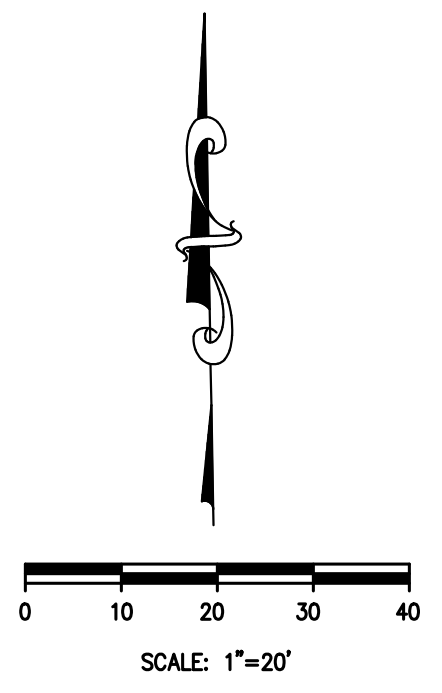
B SHRUB PLANTING DETAIL
L-1.0 N.T.S.



C GRANITE DETAIL
L-1.0 N.T.S.

LEGEND

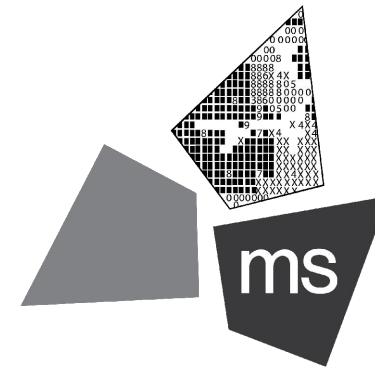
PROPOSED	DESCRIPTION
[Pattern]	GRASS/LANDSCAPED AREA TO BE IRRIGATED
[Pattern]	CONCRETE SIDEWALK
[Pattern]	HEAVY DUTY CONCRETE PAVEMENT
[Pattern]	ROCK AREA
[Pattern]	HEAVY DUTY ASPHALT PAVEMENT



REVISION/DATE/DESCRIPTION	
SIR UPDATES	09/13/21
60% SET	01/24/22
PDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

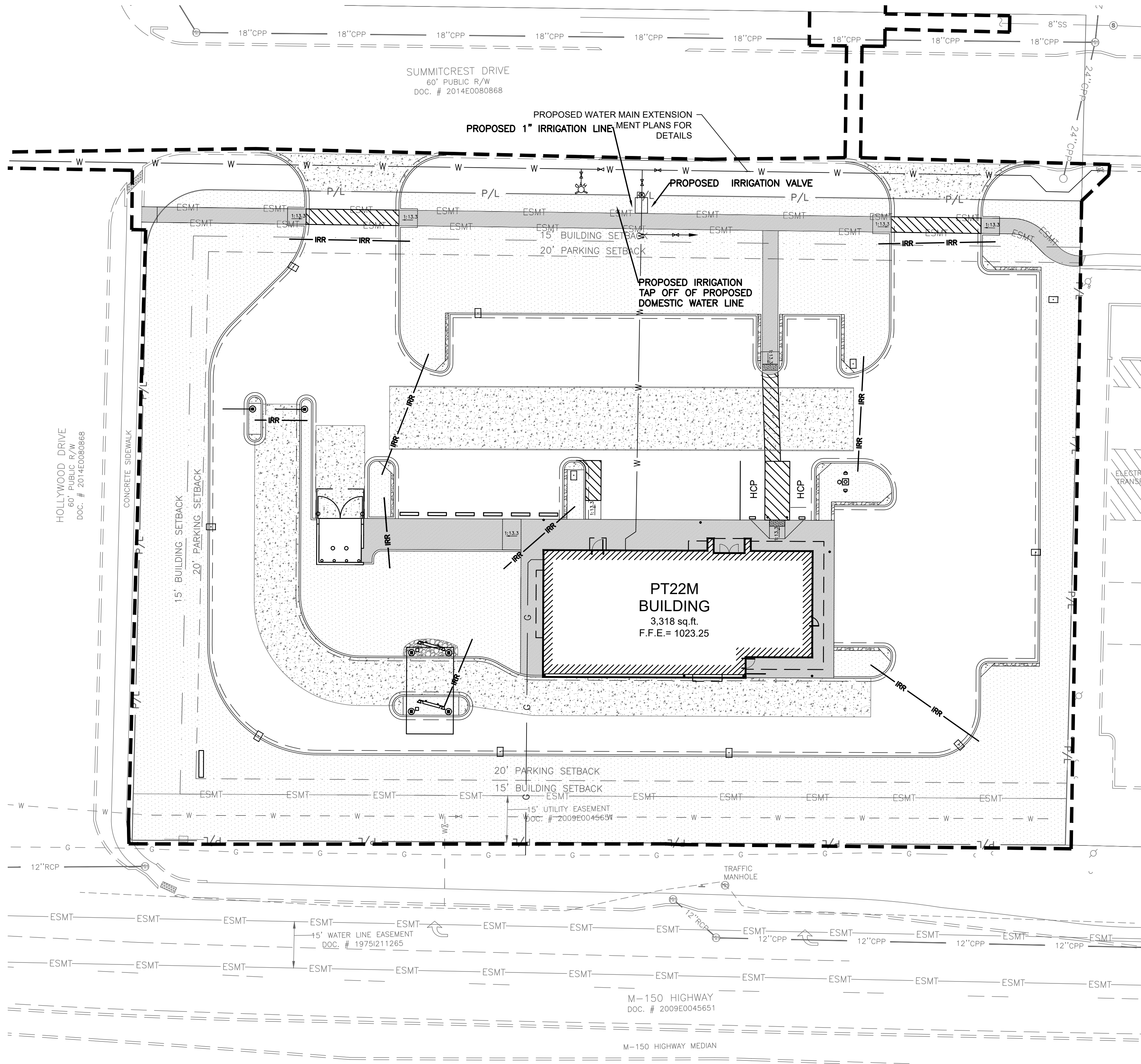
LANDSCAPE PLAN



DRAWN BY:	TDB
CHECKED BY:	PGD
PROJECT NO:	40497-21
DRAWING	

L-1.0

N:\03162\40497\21-Lee's Summit, MO MarketDocs\CAD\CIVIL\DWG-seal-1 Irrigation Plan.dwg, 3/15/2023 2:43 PM, boley_jason



LEGEND

PROPOSED	DESCRIPTION	PROPOSED	DESCRIPTION
	GRASS/LANDSCAPED AREA TO BE IRRIGATED		ROCK AREA
	CONCRETE SIDEWALK		HEAVY DUTY ASPHALT PAVEMENT
	HEAVY DUTY CONCRETE PAVEMENT		4" SCHEDULE 40 PVC SLEEVE FOR FUTURE IRRIGATION LINES. CONTRACTOR TO MARK END OF SLEEVES.

- THE LANDSCAPE IRRIGATION SYSTEM SHALL IRRIGATE ALL PROPOSED LANDSCAPE AND GRASS AREAS ON THE PROPERTY. THE DESIGN, PERMITTING, AND INSTALLATION OF THE SYSTEM SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE/IRRIGATION CONTRACTOR (CONTRACTOR).
- THE CONTRACTOR IS TO INSTALL EQUIPMENT NECESSARY TO PROVIDE A COMPLETE, FUNCTIONAL SYSTEM THAT IS IN COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS.
- THE IRRIGATION CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE OWNER'S REPRESENTATIVE FOR APPROVAL, PRIOR TO CONSTRUCTION, WHICH WILL ILLUSTRATE TYPE OF HEADS, VALVES, CONTROLLER, PIPING AND ACCESSORIES. IRRIGATION HEADS, VALVES AND CONTROLLER ARE TO BE FROM A SINGLE MANUFACTURER. ALL EQUIPMENT MUST HAVE A MANUFACTURERS FIVE YEAR WARRANTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND FIELD ADJUSTMENT OF THE ABOVE ITEMS.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE OWNER THE FINAL LOCATION OF THE CONTROL PANEL(S). NO ADDITIONAL COSTS SHALL BE ALLOWED FOR ANY ADJUSTMENTS MADE TO THE FINAL LOCATION OF ALL EQUIPMENT.
- THE IRRIGATION CONTRACTOR SHALL SUBMIT A WARRANTY POLICY TO THE OWNER WHICH SHALL COVER THE FUNCTION OF THE ENTIRE SYSTEM FOR A PERIOD OF ONE YEAR AFTER THE ACCEPTANCE OF THE SYSTEM BY THE OWNER.
- CONTRACTOR WILL VERIFY STATIC PRESSURE AND VOLUME OF SITE WATER SUPPLY AND ADJUST ENTIRE IRRIGATION SYSTEM ACCORDINGLY. EACH ZONE OF IRRIGATION SYSTEM IS TO BE DESIGNED WITH A MINIMUM OPERATING PRESSURE OF 45 PSI. IF THE PRESSURE IS BELOW 45 PSI, A PROPERLY SIZED BOOSTER PUMP WILL BE REQUIRED. AS PART OF THE SHOP DRAWINGS, THE IRRIGATION CONTRACTOR WILL PROVIDE CALCULATIONS SHOWING PRESSURE LOSS FROM THE POINT OF CONNECTION TO THE FURTHEST HEAD (AND FOR THE FURTHEST HEAD ON THE LARGEST ZONE). ADJUST DESIGN TO MEET AVAILABLE PRESSURES AND VOLUMES. A CURRENT STATIC PRESSURE READING AT THE POINT OF CONNECTION WAS NOT AVAILABLE PRIOR TO DESIGN.
- THE CONTRACTOR IS TO INSTALL ALL EQUIPMENT SUCH THAT THE BUILDING, PARKING AREAS, AND SIDEWALKS ARE NOT SPRAYED OR SUBJECT TO EXCESSIVE RUNOFF. FIELD ADJUSTMENTS MAY BE NECESSARY TO AVOID UNFORESEEN OBSTACLES AND SIMPLIFY INSTALLATION. IRRIGATION SYSTEM ACCESSORIES SUCH AS QUICK COUPLER VALVES, ISOLATION VALVES, AND MANUAL DRAIN VALVES ARE TO BE LOCATED AS NECESSARY TO COMPLETE THE SYSTEM.
- THE IRRIGATION CONTROLLER IS TO BE A HYBRID SOLID STATE TYPE WITH PLASTIC LOCKABLE CABINET. CONTROLLER MUST HAVE DUAL PROGRAMMING FOR TURF SPRAY ZONES AND SHRUB SPRAY ZONES AND BE CAPABLE OF OPERATING MULTIPLE VALVES PER STATION.
- PROVIDE DESIGNATED PVC SLEEVES FOR IRRIGATION PIPES AND WIRING THAT CROSSES UNDER WALKS, STREETS AND CONCRETE PADS. COMBINE PIPING WHENEVER POSSIBLE TO REDUCE QUANTITY OF SLEEVING MATERIALS. WHEN INSTALLING IRRIGATION PIPE ALONG CURBS OR IN ISLANDS, PLACE PIPE AS CLOSE TO CURB AS POSSIBLE TO ALLOW FOR PLANTING OF FUTURE TREES AND SHRUBS.

PART 1 GENERAL

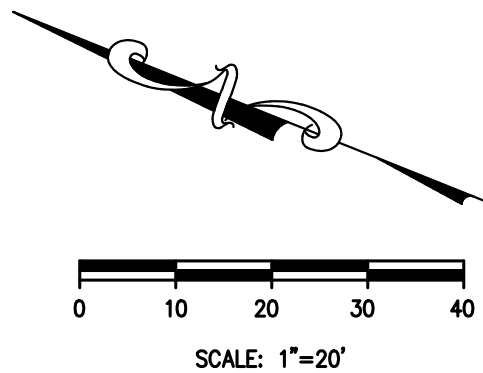
- REFERENCES
 - ASTM INTERNATIONAL:
 - ASTM B32 - STANDARD SPECIFICATION FOR SOLDER METAL.
 - ASTM B42 - STANDARD SPECIFICATION FOR SEAMLESS COPPER PIPE, STANDARD SIZES.
 - ASTM B88 - STANDARD SPECIFICATION FOR SEAMLESS COPPER WATER TUBE.
 - ASTM D2235 - STANDARD SPECIFICATION FOR SOLVENT CEMENT FOR ACRYLONITRILE-BUTADIENE-STYRENE (ABS) PLASTIC PIPE AND FITTINGS.
 - ASTM D2241 - STANDARD SPECIFICATION FOR POLYETHYLENE (PE) PLASTIC PIPE (SDR-PR) BASED ON CONTROLLED INSIDE DIAMETER.
 - ASTM D2564 - STANDARD SPECIFICATION FOR SOLVENT CEMENTS FOR POLY (VINYL CHLORIDE) (PVC) PLASTIC PIPING SYSTEMS.
 - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION:
 - NEMA 250 - ENCLOSURES FOR ELECTRICAL EQUIPMENT (1000 VOLTS MAXIMUM).
- SYSTEM DESCRIPTION
 - HYBRID SOLID STATE CONTROLLED UNDERGROUND IRRIGATION SYSTEM, WITH PRESSURE BLOW-OUT DRAIN.
 - SOURCE POWER: 120 VOLT.
- SUBMITTALS
 - SHOP DRAWINGS: INDICATE PIPING LAYOUT TO WATER SOURCE, LOCATION OF SLEEVES UNDER PAVEMENT, LOCATION AND COVERAGE OF SPRINKLER HEADS, COMPONENTS, PLANT AND LANDSCAPING FEATURES, SITE STRUCTURES, SCHEDULE OF OUTLETS AND FITTINGS TO BE USED.
 - PRODUCT DATA: SUBMIT COMPONENT AND CONTROL SYSTEM AND WIRING DIAGRAMS.
- CLOSEOUT SUBMITTALS
 - PROJECT RECORD DOCUMENTS: RECORD ACTUAL LOCATIONS OF CONCEALED COMPONENTS BY NORthing AND EASTING.
 - OPERATION AND MAINTENANCE DATA TO OWNER:
 - SUBMIT INSTRUCTIONS FOR OPERATION AND MAINTENANCE OF SYSTEM AND CONTROLS, SEASONAL ACTIVATION AND SHUTDOWN, AND MANUFACTURER'S PARTS CATALOG.
 - SUBMIT SCHEDULE INDICATING LENGTH OF TIME EACH VALVE IS REQUIRED TO BE OPEN TO DELIVER DETERMINED AMOUNT OF WATER.
- QUALITY ASSURANCE
 - PERFORM WORK IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
- COORDINATION
 - COORDINATE THE WORK WITH SITE BACKFILLING, PAVING, LANDSCAPE GRADING AND DELIVERY OF PLANT LIFE.

PART 2 PRODUCTS

- PIPE MATERIALS
 - PVC PIPE: ASTM D2241, SDR 26; 160 PSI SOLVENT WELDED SOCKETS.
 - HDPE PIPE: ASTM D-2239, SDR-15, 100 PSI.
 - COPPER TUBING: ASTM B88 TYPE K.
 - FITTINGS: TYPE AND STYLE OF CONNECTION TO MATCH PIPE.
 - SOLVENT CEMENT: [ASTM D2564 FOR PVC PIPE AND FITTINGS] [ASTM D2235 FOR ABS PIPE AND FITTINGS].
 - SLEEVE MATERIAL: PVC SCH 40.
- OUTLETS
 - OUTLETS: BRASS CONSTRUCTION.
 - ROTARY TYPE SPRINKLER HEAD: POP-UP TYPE WITH SCREENS; FULLY ADJUSTABLE FOR FLOW AND PRESSURE; WITH LETTER OR SYMBOL DESIGNATING DEGREE OF ARC AND ARROW INDICATING CENTER OF SPRAY PATTERN.
 - SPRAY TYPE SPRINKLER HEAD: POP-UP HEAD WITH FULL CIRCLE PATTERN.
 - QUICK COUPLER: GALVANIZED.
- MANUAL VALVES
 - VALVES: HIGHLY CORROSION RESISTANT CONSTRUCTION (BRASS, STAINLESS STEEL, ETC.). ALL VALVES SHALL BE ACCESSIBLE FROM ABOVE THROUGH A VALVE BOX.
 - BACKFLOW PREVENTERS: BRONZE BODY CONSTRUCTION, REDUCED PRESSURE TYPE OR AS DESIGNATED BY LOCAL PLUMBING CODE REQUIREMENTS.
 - VALVE BOX AND COVER: HDPE RESIN THAT IS RESISTANT TO UV LIGHT, CORROSION, MOISTURE, AND CHEMICALS.
- CONTROLS AND CONTROL VALVES
 - CONTROLLER: MUST WORK WITH MANUFACTURER FLOW SENSOR, RAIN SENSOR, AND ***** [OR] *****
 - CONTROLLER: AUTOMATIC CONTROLLER, MICROPROCESSOR SOLID STATE CONTROL WITH VISIBLE READOUT DISPLAY, TEMPORARY OVERRIDE FEATURE TO BYPASS CYCLE FOR INCLEMENT WEATHER, PROGRAMMABLE FOR 7 DAYS IN QUARTER HOUR INCREMENTS, WITH AUTOMATIC START AND SHUTDOWN.
 - CONTROLLER HOUSING: NEMA 250 TYPE 3R; WEATHERPROOF, WATERTIGHT, WITH LOCKABLE ACCESS DOOR.
 - VALVES: HYDRAULIC; NORMALLY CLOSED, INCLUDING REQUIRED FITTINGS AND ACCESSORIES.
 - WIRE CONDUCTORS: COPPER CONDUCTOR, DIRECT BURIAL TYPE.
 - RAIN SENSORS: PER SELECTED MANUFACTURER.
- ELECTRICAL CHARACTERISTICS AND COMPONENTS
 - ELECTRICAL CHARACTERISTICS:
 - 120 VOLTS, SINGLE PHASE, 60 HZ.
 - DISCONNECT SWITCH: FACTORY MOUNT DISCONNECT SWITCH IN CONTROL PANEL.

PART 3 EXECUTION

- EXAMINATION
 - VERIFY LOCATION OF EXISTING UTILITIES.
 - VERIFY REQUIRED UTILITIES ARE AVAILABLE, IN PROPER LOCATION, AND READY FOR USE.
- PREPARATION
 - ROUTE PIPING TO AVOID PLANTS, GROUND COVER, AND STRUCTURES.
 - LAYOUT AND STAKE LOCATIONS OF SYSTEM COMPONENTS.
 - REVIEW LAYOUT REQUIREMENTS WITH OTHER AFFECTED WORK, COORDINATE LOCATIONS OF SLEEVES UNDER PAVING TO ACCOMMODATE SYSTEM.
- TRENCHING
 - TRENCH SIZE:
 - MINIMUM COVER OVER INSTALLED SUPPLY PIPING: 18 INCHES.
 - MINIMUM COVER OVER INSTALLED BRANCH PIPING: 15 INCHES.
 - TRENCH TO ACCOMMODATE GRADE CHANGES AND SLOPE TO DRAIN(S).
 - MAINTAIN TRENCHES FREE OF DEBRIS, MATERIAL, OR OBSTRUCTIONS DAMAGING TO PIPE.
- INSTALLATION
 - CONNECT TO UTILITIES.
 - SET OUTLETS AND BOX COVERS AT FINISH GRADE ELEVATIONS.
 - PROVIDE FOR THERMAL MOVEMENT OF COMPONENTS IN SYSTEM.
 - SLOPE PIPING FOR SELF DRAINAGE TO DAYLIGHT.
 - USE THREADED NIPPLES FOR RISERS TO EACH OUTLET.
 - INSTALL CONTROL WIRING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PRACTICES. PROVIDE 10 INCH EXPANSION COIL AT EACH CONTROL VALVE, AND AT 100 FT INTERVALS. BURY WIRE BESIDE PIPE. MARK VALVES WITH NEOPRENE VALVE MARKERS CONTAINING LOCKING DEVICE. SET VALVE MARKERS IN VALVE BOXES SET TO FINISH GRADE.
 - AFTER PIPING IS INSTALLED, BUT BEFORE OUTLETS ARE INSTALLED AND BACKFILLING COMMENCES, OPEN VALVES AND FLUSH SYSTEM WITH FULL HEAD OF WATER.
- BACKFILLING
 - BACKFILL WITH COMPACTED BACKFILL IN ACCORDANCE WITH DETAIL A ON SHEET C-7.1.
 - INSTALL 3 INCH SAND BEDDING BELOW AND COVER OVER PIPING.
 - PROTECT PIPING FROM DISPLACEMENT.
- FIELD QUALITY CONTROL
 - PRIOR TO BACKFILLING, TEST SYSTEM FOR LEAKAGE FOR WHOLE SYSTEM TO MAINTAIN 100 PSI PRESSURE FOR ONE HOUR.
 - SYSTEM IS ACCEPTABLE WHEN NO LEAKAGE OR LOSS OF PRESSURE OCCURS DURING TEST PERIOD.
 - PROVIDE ONE COMPLETE SPRING SEASON START-UP AND FALL SEASON SHUTDOWN.
- ADJUSTING
 - ADJUST CONTROL SYSTEM TO ACHIEVE TIME CYCLES REQUIRED
 - ADJUST HEAD TYPES FOR FULL WATER COVERAGE AS DIRECTED BY OWNER'S REPRESENTATIVE.
- DEMONSTRATION AND TRAINING
 - INSTRUCT OWNER'S PERSONNEL IN OPERATION AND MAINTENANCE OF SYSTEM, INCLUDING ADJUSTING OF SPRINKLER HEADS. USE OPERATION AND MAINTENANCE MATERIAL AS BASIS FOR DEMONSTRATION.

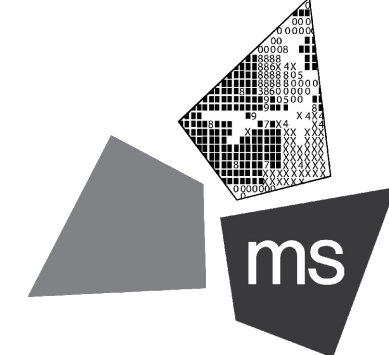


REVISION/DATE/DESCRIPTION

SIR UPDATES	09/13/21
60% SET	01/24/22
FDP APPLICATION TO CITY	02/24/22
RESPONSE TO CITY COMMENTS I	03/29/22
FINAL DEVELOPMENT SET	06/29/22
RESPONSE TO FDP COMMENTS	08/30/22
RESPONSE TO FDP COMMENTS II	09/29/22
RESPONSE TO FDP COMMENTS III	10/24/22
RESPONSE TO FDP COMMENTS IV	11/03/22
PT22M PROGRESS SET	03/08/23
ISSUE FOR PERMIT	03/15/23

NOTICE

THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIALLY RESERVED.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
phone 614.898.7100
fax 614.898.7570

PROJECT

PROPOSED PT22M BUILDING

204 SW M150 HWY
LEE'S SUMMIT, MO 64081

SHEET TITLE

IRRIGATION PLAN



DRAWN BY: TDB

CHECKED BY: PGD

PROJECT NO: 40497-21

DRAWING

I-1.0