



# ROCK QUARRY SURPLUS WAREHOUSE - PAVING REPLACEMENT

## FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI PROJECT NO. CP221442

### LOCATION MAP



### PROJECT BENCHMARK:

TM #1 - CHISELED SQUARE IN NORTHERMOST CORNER OF CONCRETE WALL APPROX. 40' WEST OF CAPEN PARK DR. AND APPROX. 100' SOUTHEAST OF SOUTHEASTERN BUILDING CORNER. ELEVATION = 619.40'

### FLOOD PLAIN STATEMENT:

PART OF THIS TRACT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN AS PER THE BOONE COUNTY FIRM MAP #2900340287E DATED APRIL 19, 2017.

### UTILITY COMPANIES:

#### LOCATES:

MISSOURI ONE CALL INC.  
1022 B NORTHEAST DRIVE  
JEFFERSON CITY, MO 65109  
1-800-344-7483



#### NATURAL GAS:

AMEREN MISSOURI  
2001 MAGUIRE BLVD.  
COLUMBIA, MO 65201  
573-876-3030

#### FIBER & TELEVISION:

CHARTER COMMUNICATIONS  
1510 CHARTER BOONE  
INDUSTRIAL BOULEVARD  
COLUMBIA, MO 65202  
573-875-8875

#### TELEVISION:

MEDIACOM  
1211 WILKES BLVD  
COLUMBIA, MO 65201  
(855) 633-4226

#### TELEPHONE:

UNIVERSITY OF MISSOURI, DIVISION OF I.T.  
615 LOCUST ST.  
COLUMBIA, MO 65211  
573-882-5000

#### WATER/ELECTRIC/FIBER/SEWERMAIN:

CITY OF COLUMBIA  
P.O. BOX 6015  
WATER & LIGHT DEPARTMENT  
COLUMBIA, MO 65205  
573-874-7325

#### STORM, SANITARY SEWER LATERAL & SECONDARY ELECTRIC:

UNIVERSITY CAMPUS FACILITY OPERATIONS  
180 GENERAL SERVICES BUILDING  
COLUMBIA, MO 65211  
573-882-8211

### GENERAL NOTES:

CONTRACTOR WILL BE RESPONSIBLE FOR PLACEMENT AND MAINTENANCE OF TRAFFIC CONTROL DEVICES NECESSARY TO COMPLETE THEIR PORTION OF WORK. THE DEVICES AND METHODS EMPLOYED WILL COMPLY WITH THE CURRENT VERSION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).

EXISTING UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES PRIOR TO ANY EXCAVATION.

ALL EXCAVATION TO BE IN ACCORDANCE WITH SECTIONS 319.010-319.050, REVISED STATUTES OF THE STATE OF MISSOURI. SUCH COMPLIANCE SHALL NOT, HOWEVER, EXCUSE ANY PERSON MAKING ANY EXCAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR INJURY TO UNDERGROUND UTILITIES RESULTING FROM THE EXCAVATION.

IT IS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MO DNR CLEAN WATER COMMISSION.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES AND REMOVING THEM ONCE THE SITE IS STABILIZED.

CONTRACTOR TO PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND PAVEMENT THAT IS TO REMAIN. ALL DAMAGED ITEMS OUTSIDE THE SCOPE OF WORK TO BE REPLACED OR REPAIRED TO ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.

ALL PAVEMENTS, SIDEWALKS, ABANDONED SEWERS, PIPELINES, EXCESS EARTHWORK, OR OTHER OBSTRUCTIONS TO CONSTRUCTION THAT ARE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS SPECIFICALLY NOTED AND SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH STATE REGULATION 10 CSR 80-2.010 (9)(A).

ALL SLOPES ARE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

ALL DISTURBED AREAS WITHIN THE "LIMITS OF DISTURBANCE" THAT ARE NOT TO BE PAVED, SHALL BE FINE GRADED AND HAVE 6" MIN. TOP SOIL PLACED BY CONTRACTOR AND SEEDED AND MULCHED BY CONTRACTOR.

TOTAL DISTURBED AREA INCLUDING PAVED AREAS = 0.8 AC.

MISSOURI DNR LAND DISTURBANCE PERMIT NOT NEEDED FOR THIS PROJECT.

ALL WORK SHALL BE SCHEDULED WITH THE OWNER'S REPRESENTATIVE AND BE SUBJECT TO THE OWNER'S APPROVAL PRIOR TO PROCEEDING.

A GEOTECHNICAL EVALUATION HAS BEEN PERFORMED BY CROCKETT GEOTECHNICAL TESTING LAB (GTL). REFER TO REPORT NUMBER G22864 DATED JANUARY 11, 2023 BY CROCKETT GTL.

ALL STORM SEWER PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL FOR PIPE BEDDING REQUIREMENTS.

LAND DISTURBANCE SITES SHOULD BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 48 HOURS AFTER ANY STORM EVENT EQUAL TO OR GREATER THAN A 2-YEAR, 24-HOUR STORM HAS CEASED DURING A NORMAL WORK DAY OR WITHIN 72 HOURS IF THE RAIN EVENT CEASES DURING A NON-WORK DAY SUCH AS A WEEKEND OR HOLIDAY. ANY DEFICIENCIES SHALL BE CORRECTED WITHIN SEVEN CALENDAR DAYS.

### SPECIAL INSPECTIONS:

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE:

- a. PLACING OF CONCRETE AND REINFORCING STEEL (CONTINUOUS OF CONCRETE SAMPLING / PERIODIC OF REINFORCING)
- b. IN-SITU SOILS, EXCAVATIONS, FILLING & COMPACTION (PERIODIC)

THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

### DEFERRED SUBMITTALS:

NONE.

### ENGINEER CERTIFICATION:

BY SIGNING AND AFFIXING MY SEAL TO THESE PLANS, I HEREBY CERTIFY THESE DRAWINGS AND/OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND/OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI.

### Sheet List Table

Sheet Number	Sheet Title	BID SET 07/18/2024	REVISION 1	REVISION 2	REVISION 3
CE 0	COVER SHEET	X			
CE 1	DEMOLITION PLAN	X			
CE 2	EROSION CONTROL PLAN	X			
CE 3	GRADING PLAN	X			
CE 4	SITE AND UTILITY PLAN	X			
CE 5	STORM SEWER PROFILE AND DETAILS	X			
CE 6	SITE CONSTRUCTION DETAILS	X			
CE 7	PRIVATE CONSTRUCTION SPECIFICATIONS	X			

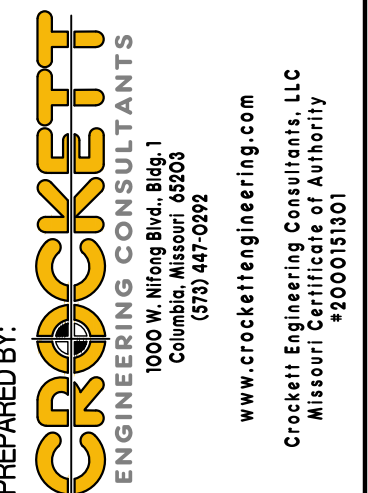
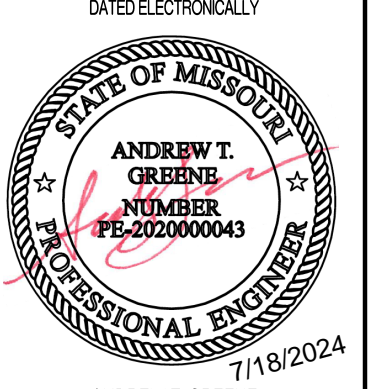
### LEGEND OF SYMBOLS:

---	EXISTING CURB	FF-XXXX	FINISH FLOOR OF STRUCTURE
---	PROPOSED CURB	XXXXXX TC	PROPOSED TOP OF CURB ELEVATION
---	RIP RAP	XXXXXX TP	PROPOSED TOP OF PAVEMENT ELEVATION
---	EXISTING STRUCTURE	XXXXXX FC	PROPOSED FINISH GRADE ELEVATION
---	EXISTING TREELINE	XXXXXX TW	PROPOSED TOP OF WALL
---	PROPOSED TREELINE	XX	LOT NUMBER
---	EDGE OF WATERWAY	X	STORM SEWER STRUCTURE LABEL
---	EXISTING WATERLINE	X	SANITARY SEWER STRUCTURE LABEL
---	PROPOSED WATERLINE	HP.	HIGH POINT
---	EXISTING GAS LINE	LP.	LOW POINT
---	PROPOSED GAS LINE	---	EXISTING SIGNS
---	EXISTING UNDERGROUND TELEPHONE	---	EXISTING POWER POLE
---	EXISTING UNDERGROUND CABLE TELEVISION	---	EXISTING GAS VALVE
---	EXISTING HIGH VOLTAGE ELECTRIC	---	EXISTING WATER VALVE
---	EXISTING OVERHEAD ELECTRIC	---	EXISTING GAS METER
---	EXISTING UNDERGROUND ELECTRIC	---	EXISTING WATER METER
---	EXISTING OVERHEAD ELEC. & TV	---	EXISTING FIRE HYDRANT
---	EXISTING OVERHEAD ELEC., TV & TELE.	---	MANHOLE
---	EXISTING SANITARY SEWER	---	EXISTING SANITARY SEWER LATERAL
---	PROPOSED SANITARY SEWER	---	PROPOSED SANITARY SEWER LATERAL
---	EXISTING MINOR CONTOUR	---	PROPOSED TRACER WIRE TEST STATION BOX
---	EXISTING MAJOR CONTOUR	---	EXISTING AIR CONDITIONER
---	PROPOSED MINOR CONTOUR	---	EXISTING TELEPHONE PEDESTAL
---	PROPOSED MAJOR CONTOUR	---	EXISTING ELECTRICAL TRANSFORMER
---	100 YEAR FLOOD PLAIN	---	EXISTING ELECTRIC METER
---	FLOODWAY	---	EXISTING LIGHT POLE
---	ORDINARY HIGH WATER MARK	---	EXISTING GUY WIRE
---	STREAM SIDE BUFFER	---	CONSTRUCTION BARRIER FENCING
---	OUTER STREAM BUFFER	---	EXISTING UTILITY LOCATED BY MAPPING ONLY
---	DEMOLITION LIMITS		
---	SILT FENCE		

### REVISIONS:

NO.	DATE
BID SET	07/18/2024

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.



OWNER:  
CURATORS OF THE UNIVERSITY OF MISSOURI  
225 UNIVERSITY HALL  
C/O BUSINESS SERVICES  
COLUMBIA, MO 65211

# ROCK QUARRY SURPLUS WAREHOUSE - PAVING REPLACEMENT - CP221442

COLUMBIA, BOONE COUNTY, MISSOURI

### DRAWING INCLUDES:

COVER SHEET

DESIGNED: ATG

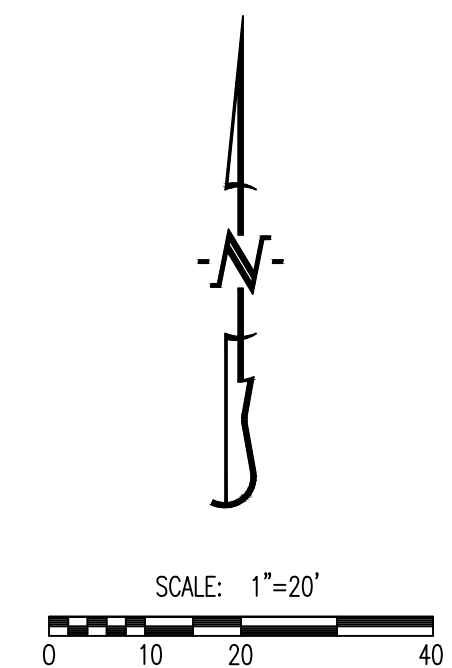
DRAWN: ATG

CEC PROJECT NO.: 220507

SHEET:

CE 0

Y:\2022\220607 - CP221442 Rock Quarry Surplus Warehouse Parking lot\Civil\ACAD Files\Construction Plans\220607 Site Base.dwg



LEGEND OF LABELS	
(A)	EXISTING PERMANENT FENCING AND GATE TO REMAIN.
(B)	REMOVE EXISTING PARKING LOT SURFACE AS SHOWN. DISPOSE OFF-SITE.
(C)	AT EDGE OF CAPEN PARK DRIVE, PROVIDE CLEAN, FULL DEPTH SAW CUT AT LIMITS OF PAVEMENT TO REMAIN.
(D)	EXISTING STAIR STRUCTURES TO REMAIN.
(E)	EXISTING DOWNSPOUT TO REMAIN. REFER TO SITE PLAN FOR NEW DOWNSPOUT EXTENSION PIPING.
(F)	EXISTING STORM PIPE TO BE REMOVED.
(G)	EXISTING BARE PARKING SIGN POSTS TO BE REMOVED.
(H)	EXISTING PARKING BUMPERS TO BE SALVAGED FOR REINSTALLATION. REFER TO SITE PLAN FOR NEW LOCATIONS.
(I)	REMOVE EXISTING TREES/BRUSH AS REQUIRED TO PERFORM SITE WORK.

**SITE SPECIFIC DEMOLITION NOTES:**

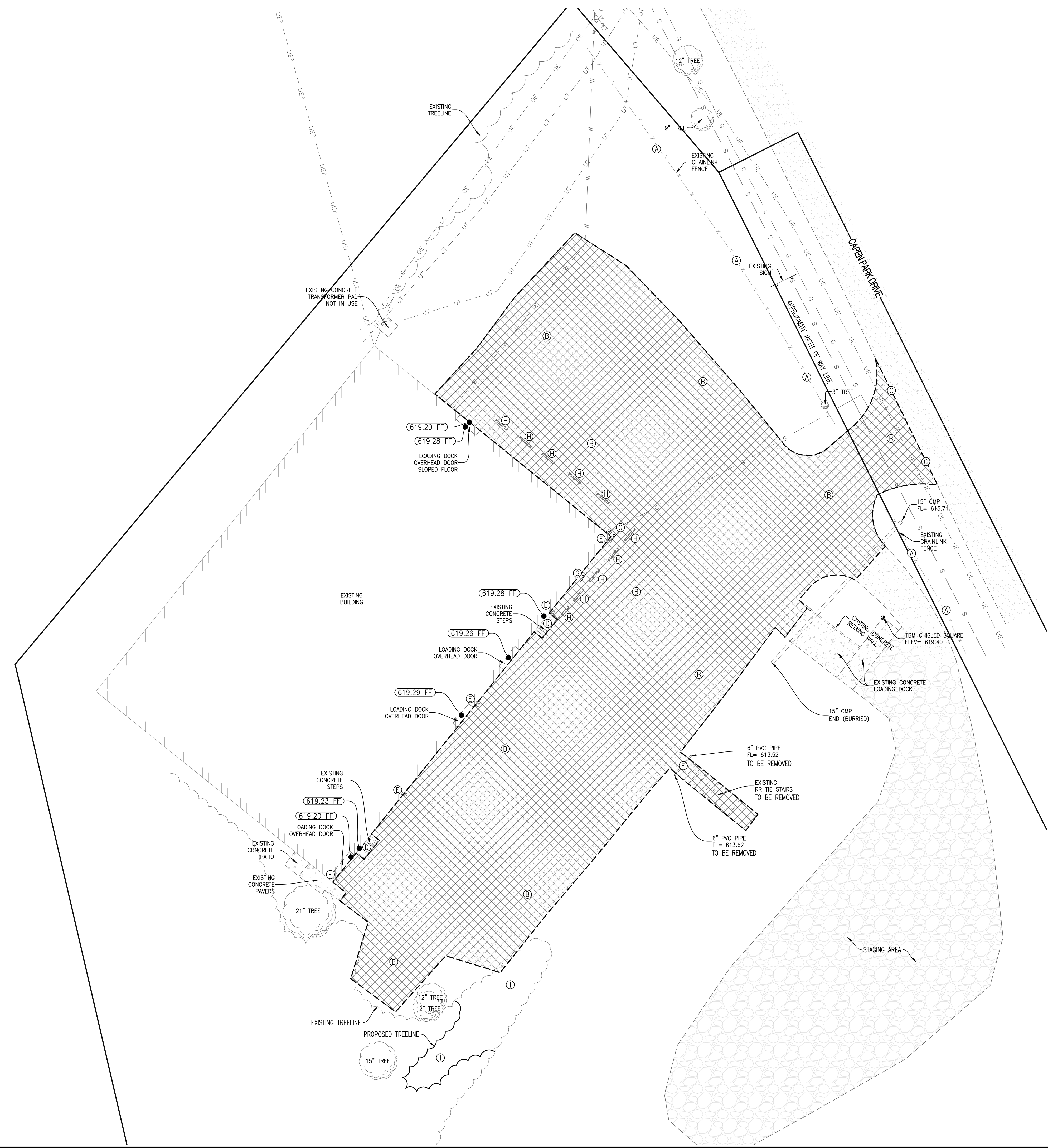
- CONTRACTOR SHALL TEMPORARILY RELOCATE EXISTING DUMPSTERS IN THE PARKING AREA TO PERFORM WORK. COORDINATE WITH OWNER'S REPRESENTATIVE ON PLACEMENT ON SITE.

**GENERAL DEMOLITION NOTES:**

- CONTRACTOR SHALL TAKE CAUTION TO PROTECT EXISTING UTILITIES THAT ARE TO REMAIN.
- CERTAIN AREAS MAY BE REQUIRED TO BE REMOVED IN PHASES. CONTRACTOR TO COORDINATE TIMING WITH OWNER.
- ITEMS OUTSIDE CONSTRUCTION LIMITS OR CALLED OUT TO REMAIN SHALL BE PROTECTED AS REQUIRED. CONTRACTOR SHALL REPAIR/REPLACE DAMAGED ITEMS OUTSIDE PROJECT SCOPE OF WORK AT NO EXPENSE TO THE OWNER.
- CONCRETE TO BE REMOVED TO THE NEAREST SAW JOINT, BUT NOT LESS THAN THE DEMOLITION LIMITS SHOWN ON THE PLAN.
- CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO DISCONNECTING ANY UTILITIES.
- ANY PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR.
- CONTRACTOR SHALL CLEAN/POWER WASH CONSTRUCTION AREA PAVEMENT ONCE WORK IS COMPLETE.

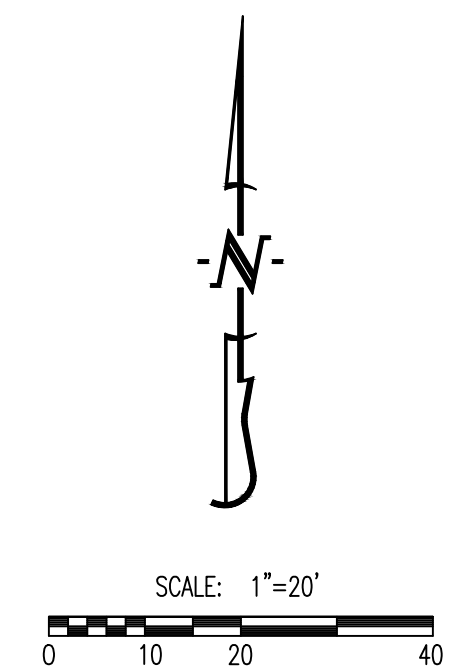
**UNSUITABLE SUBGRADE NOTES:**

- REFER TO EARTHMOVING SPECIFICATIONS ON CE 7.
- CONTRACTOR SHALL REMOVE EXISTING PAVEMENT, BASE AND/OR SUBGRADE TO A MINIMUM DEPTH OF THE REPLACEMENT PAVEMENT SECTION. THIS WILL ALLOW THE FULL DEPTH OF REPLACEMENT PAVEMENTS TO BE INSTALLED.
- CONTRACTOR SHALL THEN PROOF-ROLL THE SUBGRADE PER THE EARTHMOVING SPECIFICATIONS.
- IF PROOF-ROLL DOES NOT PASS REQUIREMENTS, CONTRACTOR CAN RECOMPACT THE EXISTING SUBGRADE UNTIL IT PASSES PROOF-ROLL OR REMOVE AND REPLACE THE SUBGRADE WITH TYPE 1 AGGREGATE AND RECOMPACT UNTIL IT PASSES PROOF-ROLL.
- ALL PROOF-ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE, AS PER THE EARTHMOVING SPECIFICATIONS.



<b>REVISIONS:</b>	
NO.	DATE
BID SET	07/18/2024
THIS SHEET HAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY	
ANDREW T. GREENE MO LICENSE: 202000043	
<b>PREPARED BY:</b>  ENGINEERS AND ARCHITECTS 1000 W. Illinois Blvd., Suite 200 Columbia, Missouri 65203 (314) 487-0200 www.crockettengineering.com Missouri Certificate of Authority #00000001	
<b>OWNER:</b> CURATORS OF THE UNIVERSITY OF MISSOURI 228 UNIVERSITY HALL COLUMBIA BUSINESS SERVICES COLUMBIA, MO 65211	
ROCK QUARRY SURPLUS WAREHOUSE - PAVING REPLACEMENT - CP221442 COLUMBIA, BOONE COUNTY, MISSOURI	
<b>DRAWING INCLUDES:</b>	
DEMOLITION PLAN	
<b>DESIGNED:</b>	ATG
<b>DRAWN:</b>	ATG
<b>CEC PROJECT NO.:</b> 220507	
<b>SHEET:</b>	CE1

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**LEGEND OF LABELS:**

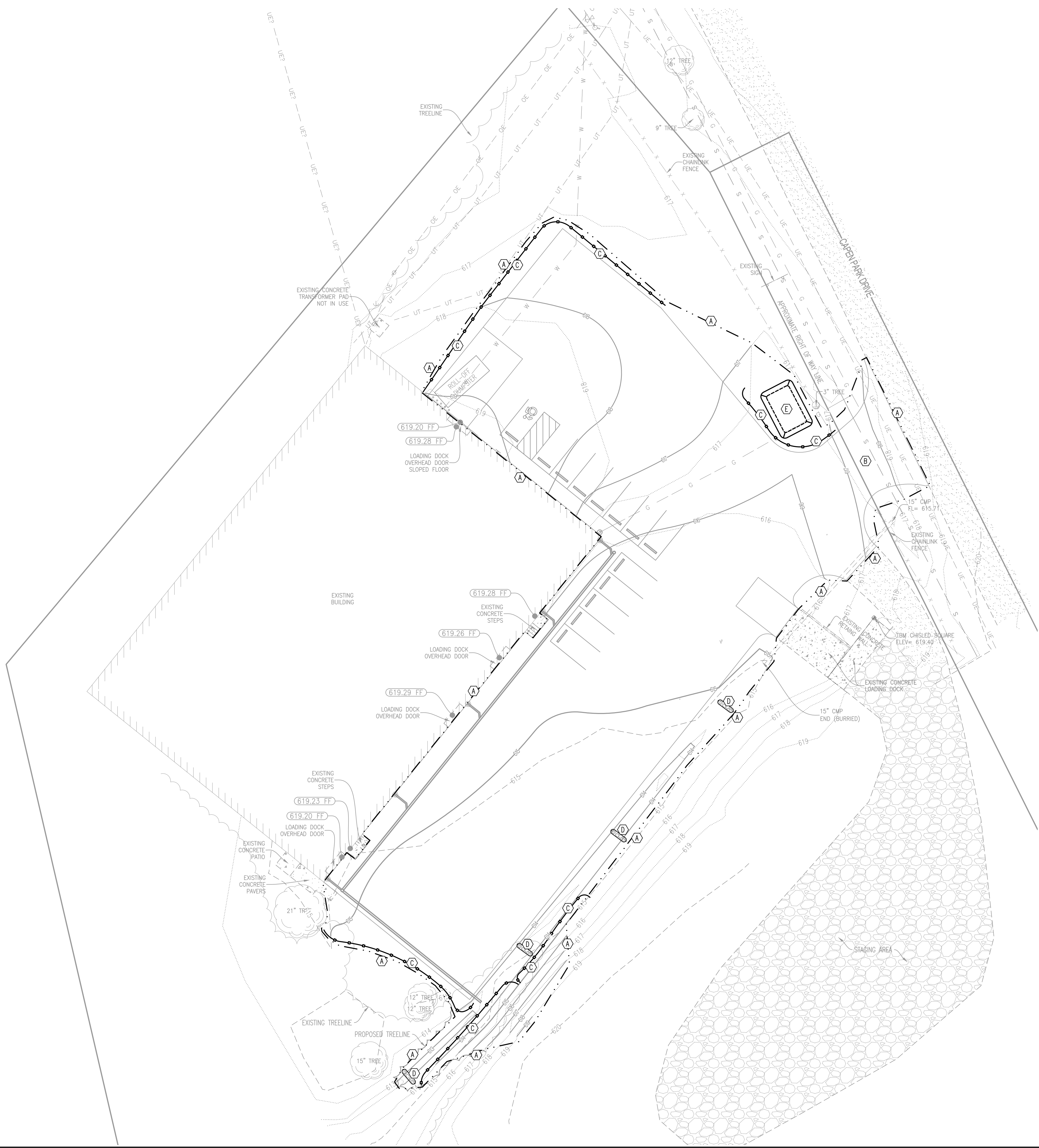
- (A) LIMITS OF DISTURBANCE.
- (B) CONTRACTOR TO USE EXISTING PAVING AS CONSTRUCTION ENTRY AND EXIT. ALL CONSTRUCTION TRAFFIC SHALL UTILIZE THIS ENTRY AND EXIT TO THE PROJECT. ANY DAMAGED PAVEMENT DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN/POWER WASH CONSTRUCTION AREA PAVEMENT ONCE WORK IS COMPLETE.
- (C) INSTALL SILT FENCE OR STRAW WADDE (OR APPROVED EQUAL) AS EROSION CONTROL DEVICE AS SHOWN.
- (D) INSTALL ROCK CHECK DAM IN RE-GRADED DITCH AS SHOWN.
- (E) 20' X 30' X 3' MIN CONCRETE WASHOUT FACILITY; OR CONTRACTOR SHALL DIRECT TRUCKS TO WASHOUT AT PLANT.  
THE WASHOUT FACILITY IS TO BE LINED WITH A PLASTIC LINING MATERIAL (10 MIL POLYETHYLENE SHEETING MIN.) FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COULD COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL. A SIGN SHALL BE INSTALLED ADJACENT TO FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. REMOVE WASHOUT ONCE CONSTRUCTION IS COMPLETED.

**GENERAL EROSION CONTROL NOTES:**

1. THE CONTRACTOR SHALL PROVIDE FOR CONTROL OF SURFACE EROSION AND SEDIMENT DEPOSITION DURING ALL PHASES OF CONSTRUCTION AND UNTIL THE OWNER ACCEPTS THE WORK AS SUBSTANTIALLY COMPLETE.
2. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ROADWAYS AND SIDEWALKS ADJACENT TO THE CONSTRUCTION SITE FREE OF DIRT AND DEBRIS RESULTING FROM ACTIVITIES RELATED TO THE CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL KEEP THE ENTIRE PROJECT SITE FREE OF DEBRIS AND TRASH AT ALL TIMES. CONTRACTOR SHALL EXECUTE WORK USING METHODS THAT MINIMIZE EXCESSIVE NOISE OR DUST EMISSIONS. CONTRACTOR SHALL PROVIDE METHODS, MEANS AND FACILITIES TO PREVENT CONTAMINATION OF SOIL OR WATER FROM DISCHARGE OF REGULATED MATERIALS (I.E., DIESEL FUEL) USED DURING CONSTRUCTION.
4. CONTRACTOR MUST INSTALL AND MAINTAIN THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN. IF THE ENGINEER, OWNER'S REPRESENTATIVE, DETERMINES THAT THE INSTALLATION OF THE MAINTENANCE IS INADEQUATE, THE CONTRACTOR MUST IMMEDIATELY CORRECT AT THEIR EXPENSE. IF IT IS DETERMINED THAT ADDITIONAL EROSION CONTROL MEASURES ARE NEEDED THE CONTRACTOR WILL BE DIRECTED TO INSTALL AND MAINTAIN THOSE MEASURES.
5. THE CONTRACTOR SHALL INSPECT THE LAND DISTURBANCE SITE AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN TWENTY-FOUR (24) HOURS FOLLOWING EACH RAINFALL EVENT OF 1/2" OR MORE WITHIN ANY TWENTY-FOUR (24) HOUR PERIOD. THE CONTRACTOR SHALL ALSO INSPECT AND ASSURE THAT ALL SEDIMENT CONTROL DEVICES ARE IN WORKING CONDITION PRIOR TO ANY FORECASTED RAINFALL.
6. THE CONTRACTOR SHALL REMOVE SEDIMENT FROM THE FLOW AREAS AND MAKE ALL NECESSARY REPAIRS TO MAINTAIN THE INTEGRITY OF THE SEDIMENT CONTROL MEASURES. SEDIMENT SHALL BE REMOVED ONCE IT REACHED 1/2 THE INSTALLED HEIGHT OF MEASURE.
7. SOME OF THE EROSION AND SEDIMENT CONTROL MEASURES, WILL REQUIRE THE CONTRACTOR TO INSTALL, REMOVE, AND REINSTALL THE MEASURES AS CONSTRUCTION PROCEEDS. THE PHASING OF THIS WORK IS DEPENDENT ENTIRELY ON THE CONTRACTOR'S SCHEDULE, AND IS NOT SPECIFIED HEREIN. HOWEVER, THE CONTRACTOR SHALL COORDINATE THESE ACTIONS WITH THE ENGINEER AT THE TIMES ADJUSTMENTS ARE NEEDED.
8. INSTALL CONCRETE WASHOUT PER THIS PLAN AND NOTES; OR CONTRACTOR SHALL DIRECT CONCRETE TRUCKS TO WASHOUT AT PLANT.

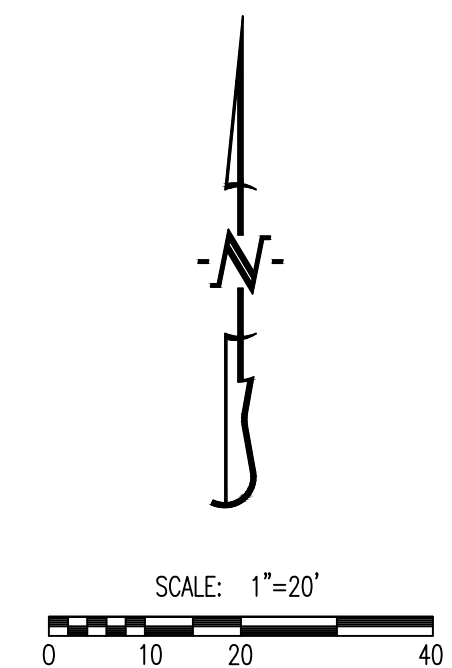
**GENERAL LANDSCAPE NOTES:**

1. VEHICLES ARE TO USE DESIGNATED CONSTRUCTION ENTRANCES AS INDICATED ON DRAWINGS OR CONSTRUCTION DOCUMENTS. IF NO CONSTRUCTION ROUTE IS INDICATED VEHICLES ARE RESTRICTED TO SIDEWALKS OR PAVED AREAS. ALL CONSTRUCTION EQUIPMENT AND OR VEHICLES SHALL VERIFY THE WEIGHT LIMIT AND RESTRICTION ON PAVEMENT PRIOR TO CONSTRUCTION AND NOTIFY OWNERS REPRESENTATIVE OF THE PLANNED ROUTE.
2. THERE SHALL BE NO VEHICLE MOVEMENT IN ANY LANDSCAPED, SHRUB OR PERENNIAL AREAS, MULCH BED AND/OR TREE CANOPY DRIP AND ROOT ZONES, WITHOUT PRIOR MODIFICATIONS AND APPROVAL FROM LANDSCAPE SERVICES. LANDSCAPE SERVICES REQUIRES ONE WEEK NOTICE PRIOR TO ANY VEHICLE MOVEMENT IN THESE AREAS.
3. VEHICLE ACCESS SHALL NOT BREAK OR RUB TREE BRANCHES. OWNER WILL PRUNE TREE BRANCHES TO PROVIDE CLEARANCE AROUND BUILDING ENTRANCE. OWNER REQUIRES ONE WEEKS NOTICE FOR THIS WORK TO BE DONE.
4. DO NOT COMPACT GRADE WITHIN THE DRIP LINE OF TREES TO REMAIN. PROVIDE APPROVED FENCING TO PREVENT DRIVING OR EQUIPMENT PARKING WITHIN DRIP LINE OF TREES. PRIOR TO CONSTRUCTION OR WORK IN THE PROJECT AREA, MU'S CAMPUS STANDARD 6' CHAIN LINK FENCE AND POST SHALL BE USED UNLESS OTHERWISE NOTED AND/OR APPROVED BY OWNERS REPRESENTATIVE.
5. IN TURF AREAS, CONTRACTOR SHALL RIP THE SUB-SOIL TO A DEPTH OF 6" TO BREAK UP COMPACTION. CONTRACTOR SHALL THEN COMPACT THE SUB-SOIL TO 85% OF THE MATERIAL'S STANDARD PROCTOR DRY DENSITY.
6. CONTRACTOR SHALL PLACE 6" OF TOP SOIL IN TURF AREAS AND 18" OF TOP SOIL IN PLANTER BED AREAS
7. CONTRACTOR SHALL SEED AND STRAW MULCH TURF AREAS DISTURBED.
8. THE CONTRACTOR SHALL ADJUST EXISTING AND NEW YARD BOXES VALVE BOXES, PULL BOXES, CLEANOUTS, AND MANHOLE LID RINGS ETC. (INCLUDES IRRIGATION, SEWERS, WATER AND ELECTRIC), TO THE INDICATED FINAL FINISH GRADE WHERE NEW FINISHED GRADE ELEVATIONS ARE PROVIDED, INDICATED, OR OTHERWISE IMPLIED.
9. PRIOR TO CONTRACTOR DE-MOBILIZING FROM THE SITE, ANY TURF AREA WASHOUTS OR GULLEY AREAS CREATED AFTER INITIAL TOP SOIL, SEED, OR STRAW MULCH PLACEMENT SHALL BE REGRADED TO REMOVE WASHOUT/GULLEY AND HAVE SEED AND STRAW RE-APPLIED.



<b>REVISIONS:</b>	
NO.	DATE
BID SET	07/18/2024
THIS SHEET HAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY	
ANDREW T. GREENE MO LICENSE: 2020000043	
<b>PREPARED BY:</b> ENGINEERING CONSULTANTS 1000 W. Illinois Blvd., Ste. 200 Columbia, Missouri 65203 (314) 487-0299 www.crockettengineering.com Crockett Engineering Consultants, LLC Missouri Certificate of Authority #00000001	
<b>OWNER:</b> CURATORS OF THE UNIVERSITY OF MISSOURI 225 UNIVERSITY HALL COLUMBUS BUSINESS SERVICES COLUMBIA, MO 65211	
<h1 style="margin: 0;">ROCK QUARRY SURPLUS WAREHOUSE</h1> <h2 style="margin: 0;">- PAVING REPLACEMENT - CP221442</h2> <p style="margin: 0;">COLUMBIA, BOONE COUNTY, MISSOURI</p>	
<b>DRAWING INCLUDES:</b>	
EROSION CONTROL PLAN	
<b>DESIGNED:</b> ATG	
<b>DRAWN:</b> ATG	
<b>CEC PROJECT NO.:</b> 220507	
<b>SHEET:</b> CE 2	

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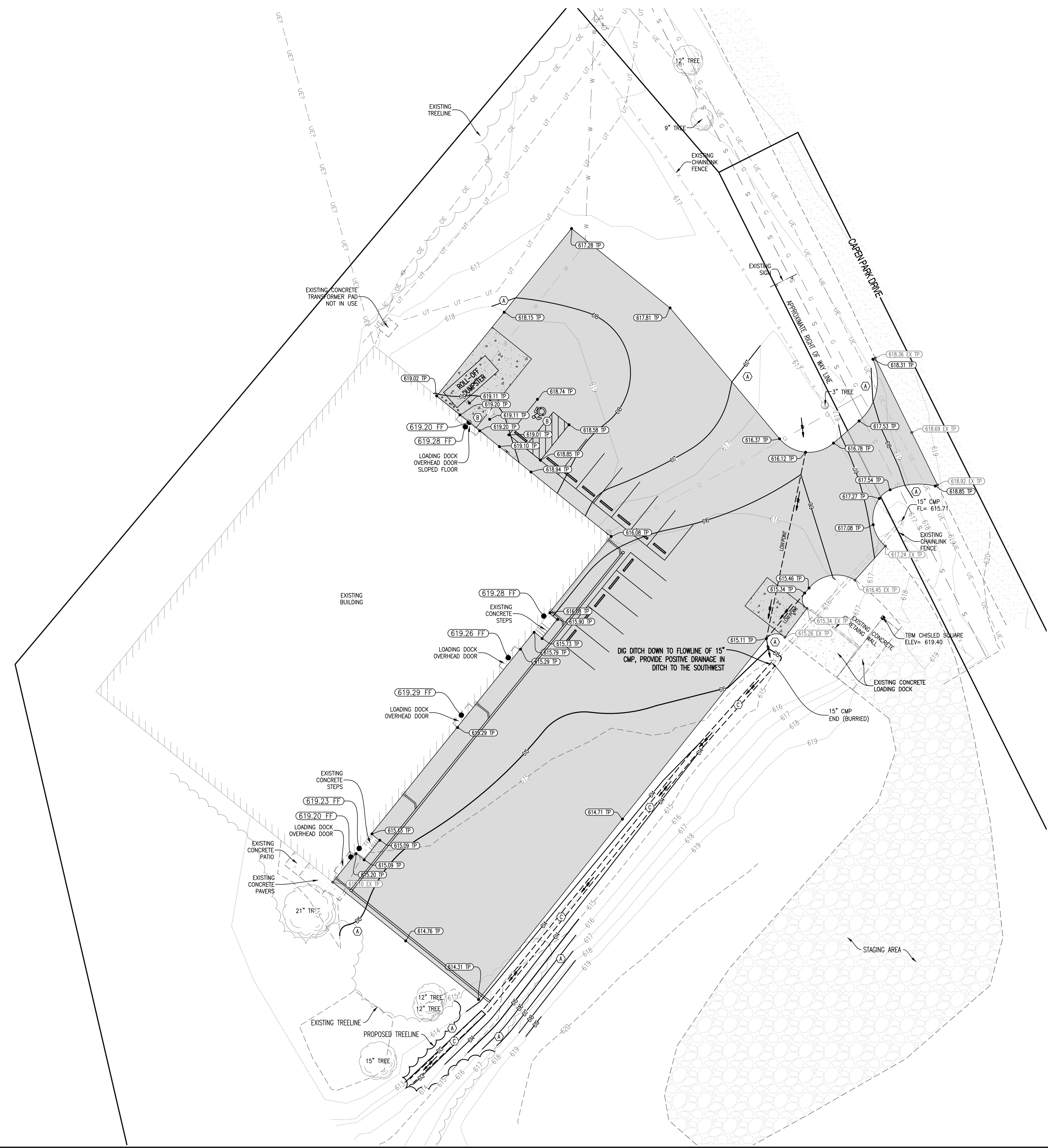


**LEGEND OF SYMBOLS:**

- xxx--- EXISTING MINOR CONTOUR
- - -xxx- - - EXISTING MAJOR CONTOUR
- xxx--- PROPOSED MINOR CONTOUR
- - -xxx- - - PROPOSED MAJOR CONTOUR
- (xxx.xx TP) PROPOSED TOP OF PAVEMENT ELEVATION
- (xxx.xx FG) PROPOSED FINISH GRADE ELEVATION
- (xxx.xx EX) EXISTING SPOT ELEVATION MODIFIER

**LEGEND OF LABELS**

- (A) ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS, THAT ARE NOT TO BE PAVED, SHALL BE FINE GRADED BY CONTRACTOR. CONTRACTOR SHALL THEN INSTALL 6" TOP SOIL AND INSTALL SEED AND STRAW MULCH ALL DISTURBED AREAS. REFER TO SPECIAL CONDITIONS WITHIN PROJECT MANUAL FOR FURTHER DIRECTION ON FINAL TURF ESTABLISHMENT.
- (B) GRADE ACCESSIBLE PARKING STALLS AND ROUTES AS SHOWN. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS. ALL ACCESSIBLE ELEMENTS SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
- (C) GRADE 2' WIDE DITCH AS SHOWN.



**REVISIONS:**

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THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

ANDREW T. GREENE  
MO LICENSE: 2020000043

PREPARED BY:

ENGINEERS AND ARCHITECTS  
1000 W. Illinois Blvd., Suite 200  
Columbia, Missouri 65203  
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www.crockettengineering.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#000000001

OWNER:

CURATORS OF THE UNIVERSITY OF MISSOURI  
225 UNIVERSITY HALL  
C/O BUSINESS SERVICES  
COLUMBIA, MO 65211

# ROCK QUARRY SURPLUS WAREHOUSE - PAVING REPLACEMENT - CP221442

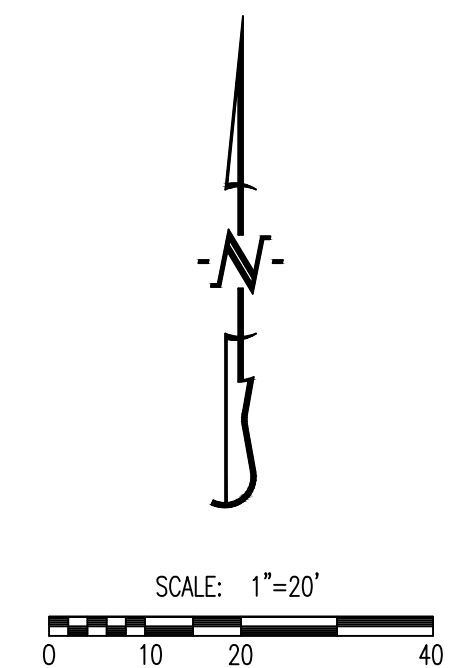
COLUMBIA, BOONE COUNTY, MISSOURI

DRAWING INCLUDES:

GRADING PLAN

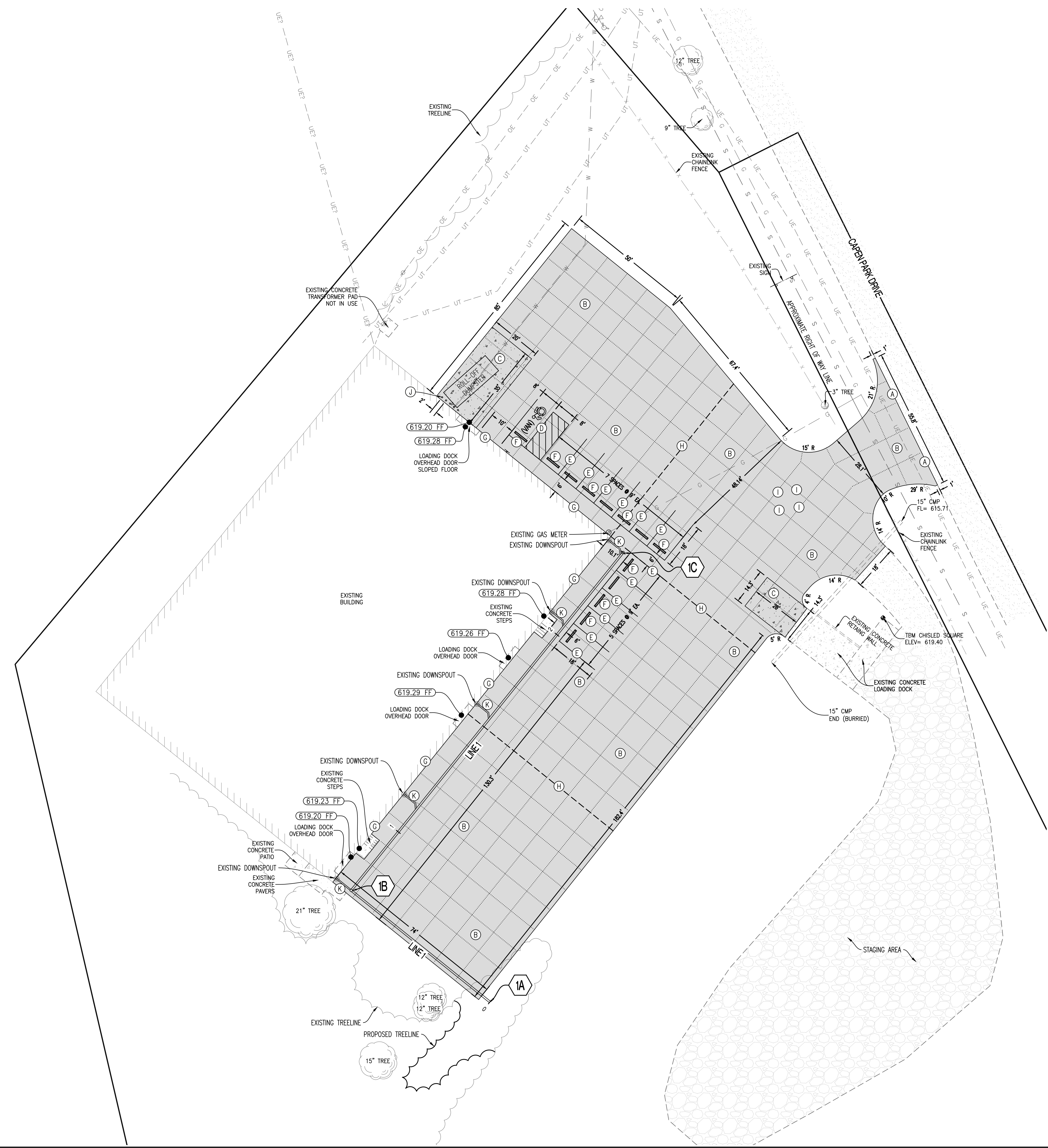
DESIGNED: ATG  
DRAWN: ATG  
CEC PROJECT NO: 220507  
SHEET: CE 3

Y:\2022\220507 - CP221442 - Rock Quarry Surplus Warehouse - Paving - ut\Civil\ACAD Files\Construction Plans\220507 Site Base.dwg



- LEGEND OF LABELS**
- (A) CONTRACTOR TO PROVIDE A CLEAN SAW CUT IN EXISTING PAVEMENT TO PROVIDE A CLEAN TIE INTO PROPOSED PAVEMENT.
  - (B) CONSTRUCT HEAVY DUTY PCC PAVEMENT AS SHOWN. REFER TO DETAIL ON CE\_6.
  - (C) CONSTRUCT DUMPSTER PAD AREA CONCRETE PAVEMENT AS SHOWN. REFER TO DETAIL ON CE\_6.
  - (D) CONSTRUCT ACCESSIBLE PARKING AREA WITH SIGNAGE AND PARKING BUMPERS AS SHOWN. PAINT 4" STRIPE AND ACCESSIBLE SYMBOL, COLOR BLUE. PAINT HATCH AREA AS SHOWN, COLOR BLUE. SLOPE OF THE PAVEMENT AT ALL ACCESSIBLE STALL SHALL NOT EXCEED 1:50. REFER TO DETAILS ON CE\_6 (TYPICAL).
  - (E) PAINT 4" PARKING STALL STRIPES AS SHOWN, COLOR WHITE. TYPICAL ALL STALLS EXCEPT ACCESSIBLE STALLS. REFER TO PLAN FOR WIDTH AND DEPTH OF STALLS.
  - (F) INSTALL SALVAGED PARKING BUMPERS/WHEEL STOPS AS SHOWN (TYPICAL). NEW BUMPERS/STOPS MAY BE NEEDED. CONTRACTOR TO CONFIRM QUANTITY SALVAGED VS QUANTITY OF FINAL PARKING STALLS. REFER TO DETAIL ON CE\_6.
  - (G) INSTALL 3/4" EXPANSION JOINT BETWEEN BUILDING AND PAVEMENT.
  - (H) INSTALL 1" EXPANSION JOINT OR TYPE A ALTERNATE EXPANSION JOINT IN PAVING. REFER TO DETAIL ON CE\_6.
  - (I) INSTALL TYPE C SAW JOINT WITH SEALANT IN PAVEMENT (TYPICAL). REFER TO DETAIL ON CE\_6.
  - (J) INSTALL FIVE (5) 6" BOLLARDS AS SHOWN. PROTECT EXISTING UTILITIES DURING EXCAVATION. REFER TO DETAIL ON CE\_6.
  - (K) INSTALL 6" SDR 26 PVC DOWNSPOUT LEADERS @ 1.0% MINIMUM SLOPE AS SHOWN. CONNECT TO BUILDING DOWNSPOUTS WITH DOWNSPOUT BOOT, ZURN Z191 (OR EQUAL) WITH OPTIONAL CLEANOUT PORT. WYE INTO STORM LINE AS SHOWN. REFER TO DETAILS AND PROFILE ON CE\_5.

**GENERAL NOTES:**  
 1) PAVEMENT JOINTS SHOWN ARE A GRAPHICAL REPRESENTATION OF A POSSIBLE JOINT LAYOUT. CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH JOINT LAYOUT FOR APPROVAL BY ENGINEER PRIOR TO POURING OF PAVEMENT.

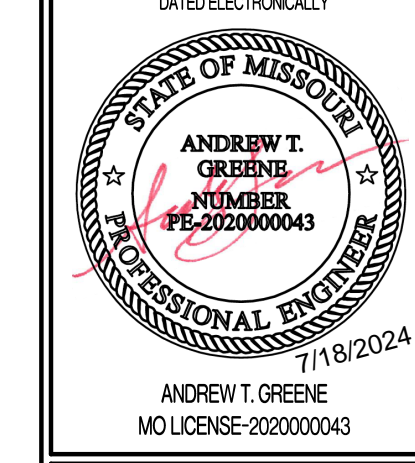


<b>REVISIONS:</b>	
NO.	DATE
BID SET	07/18/2024
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY	
<b>PREPARED BY:</b> <b>CROCKETT ENGINEERS &amp; ARCHITECTS</b> 1000 W. Illinois Blvd., Suite 200 Columbia, Missouri 65203 (314) 487-0299 <a href="http://www.crockettengineering.com">www.crockettengineering.com</a> Missouri Certificate of Authority #00000001	
<b>OWNER:</b> CURATORS OF THE UNIVERSITY OF MISSOURI 225 UNIVERSITY HALL COLUMBUS BUSINESS SERVICES COLUMBIA, MO 65211	
<h1 style="margin: 0;">ROCK QUARRY SURPLUS WAREHOUSE</h1> <h2 style="margin: 0;">- PAVING REPLACEMENT - CP221442</h2> <p style="margin: 0;">COLUMBIA, BOONE COUNTY, MISSOURI</p>	
<b>DRAWING INCLUDES:</b>	
SITE AND UTILITY PLAN	
<b>DESIGNED:</b>	ATG
<b>DRAWN:</b>	ATG
<b>CEC PROJECT NO:</b> 220507	
<b>SHEET:</b>	CE 4

REVISIONS:

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BID SET	07/18/2024

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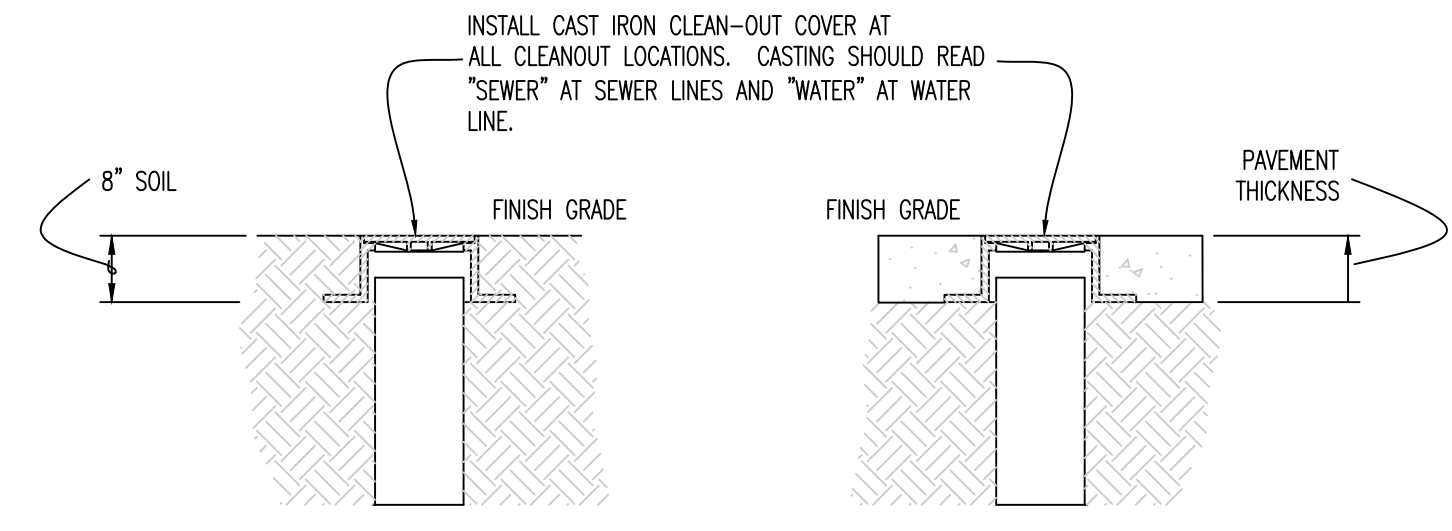


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# ROCK QUARRY SURPLUS WAREHOUSE - PAVING REPLACEMENT - CP221442

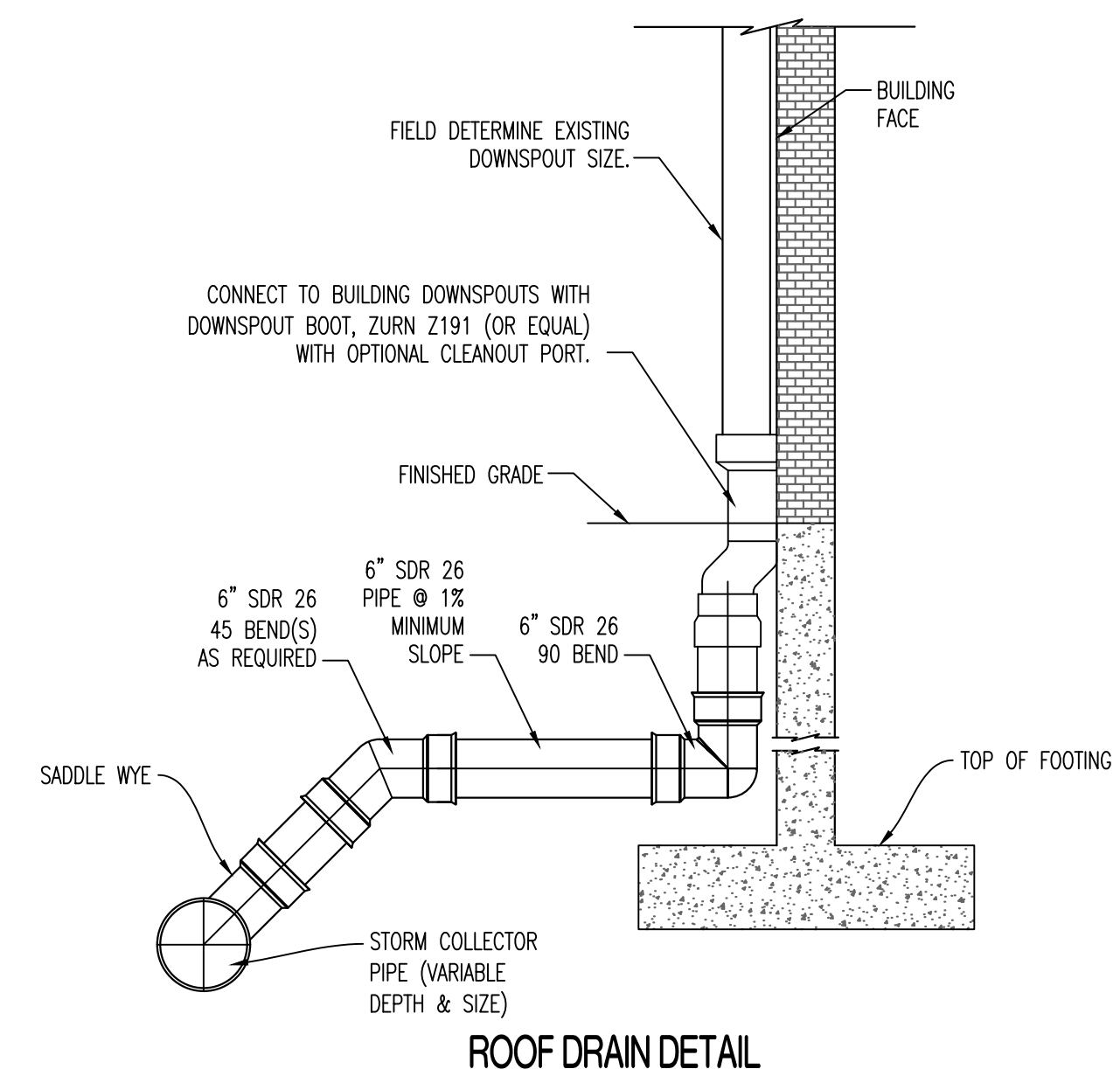
COLUMBIA, BOONE COUNTY, MISSOURI



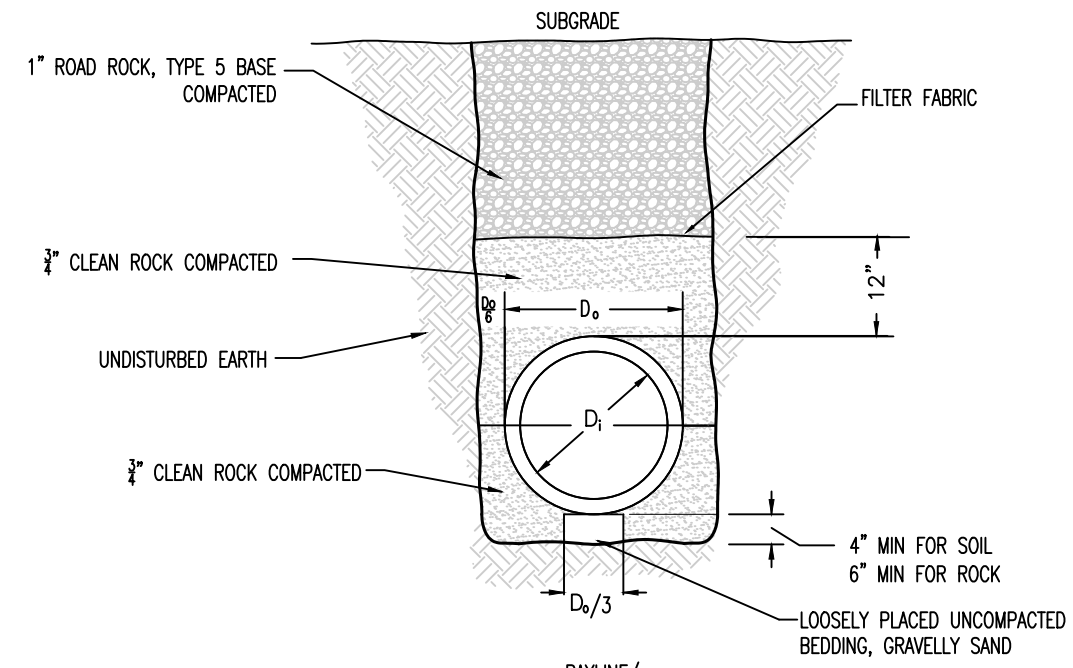
CLEANOUT COVERS

SCALE:  
 HORIZ 1" = 50'  
 VERT 1" = 10'

LEGEND OF LABELS:  
 (A) REFER TO PIPE EMBEDMENT DETAIL (UNDER PAVEMENT). SEE DETAIL ON THIS SHEET.

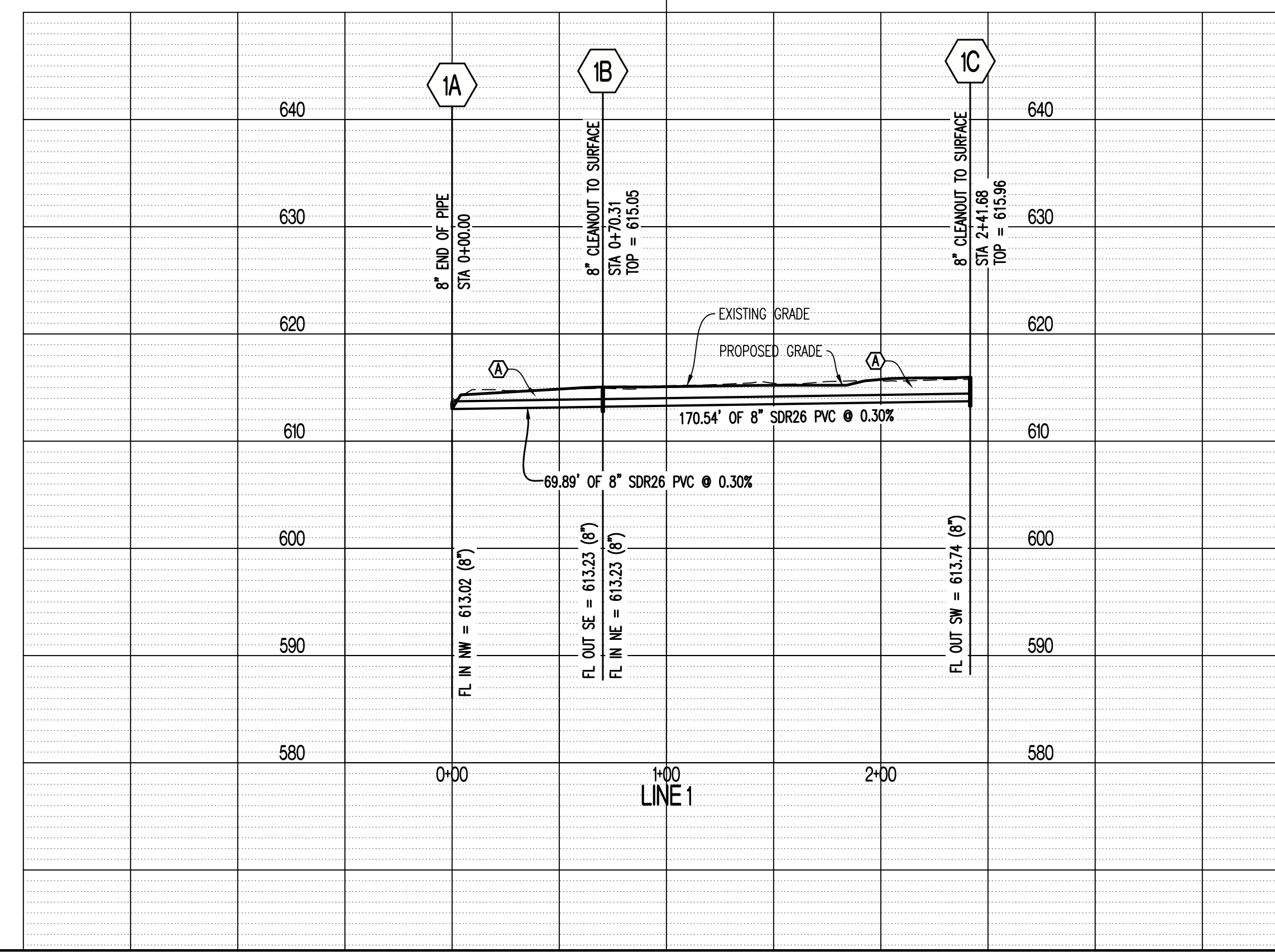


ROOF DRAIN DETAIL



PIPE DIAMETER	PAVEMENT/ MIN. TRENCH WIDTH	MAX. TRENCH WIDTH
8" - 36"	D <sub>1</sub> +12"	D <sub>2</sub> +24"
42" - 72"	D <sub>1</sub> +1(D <sub>2</sub> /3)	D <sub>2</sub> +30"
72" +	D <sub>1</sub> +1(D <sub>2</sub> /3)	D <sub>2</sub> +48"

PIPE EMBEDMENT (UNDER PAVEMENT)



DRAWING INCLUDES:  
 STORM SEWER PROFILE AND DETAILS

DESIGNED: ATG  
 DRAWN: ATG  
 CEC PROJECT NO: 220507  
 SHEET: CE 5

REVISIONS:

NO.	DATE
BID SET	07/18/2024

THIS SHEET HAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY

ANDREW T. GREENE  
MO LICENSE: 2020000043

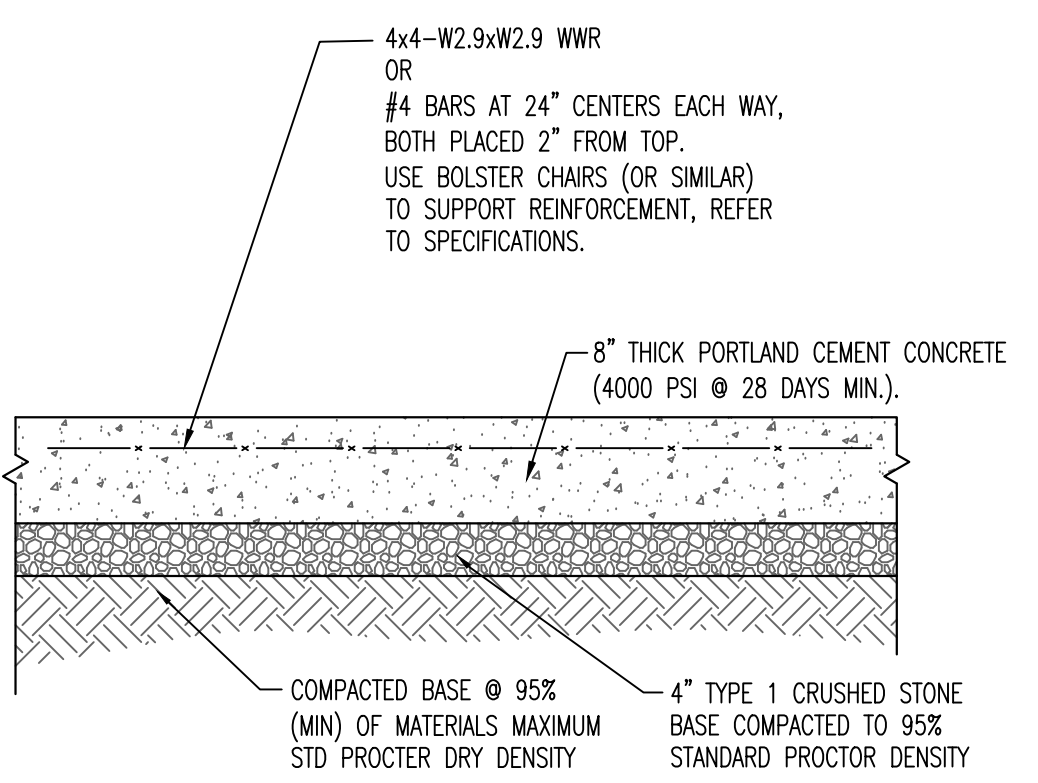
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COLUMBIA, MO 65211

**ROCK QUARRY SURPLUS WAREHOUSE  
- PAVING REPLACEMENT - CP221442**  
COLUMBIA, BOONE COUNTY, MISSOURI

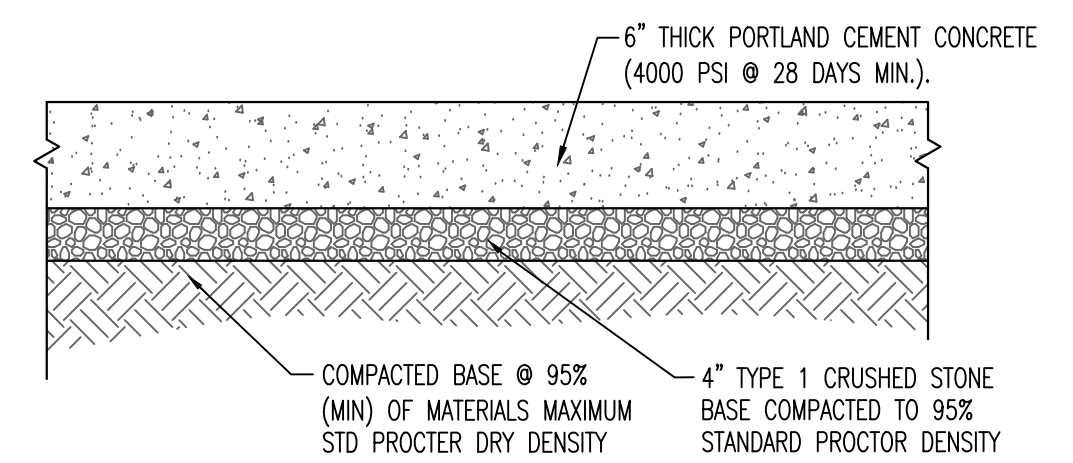
DRAWING INCLUDES:  
SITE CONSTRUCTION DETAILS

DESIGNED: ATG  
DRAWN: ATG  
CEC PROJECT NO: 220507  
SHEET:  
CE 6



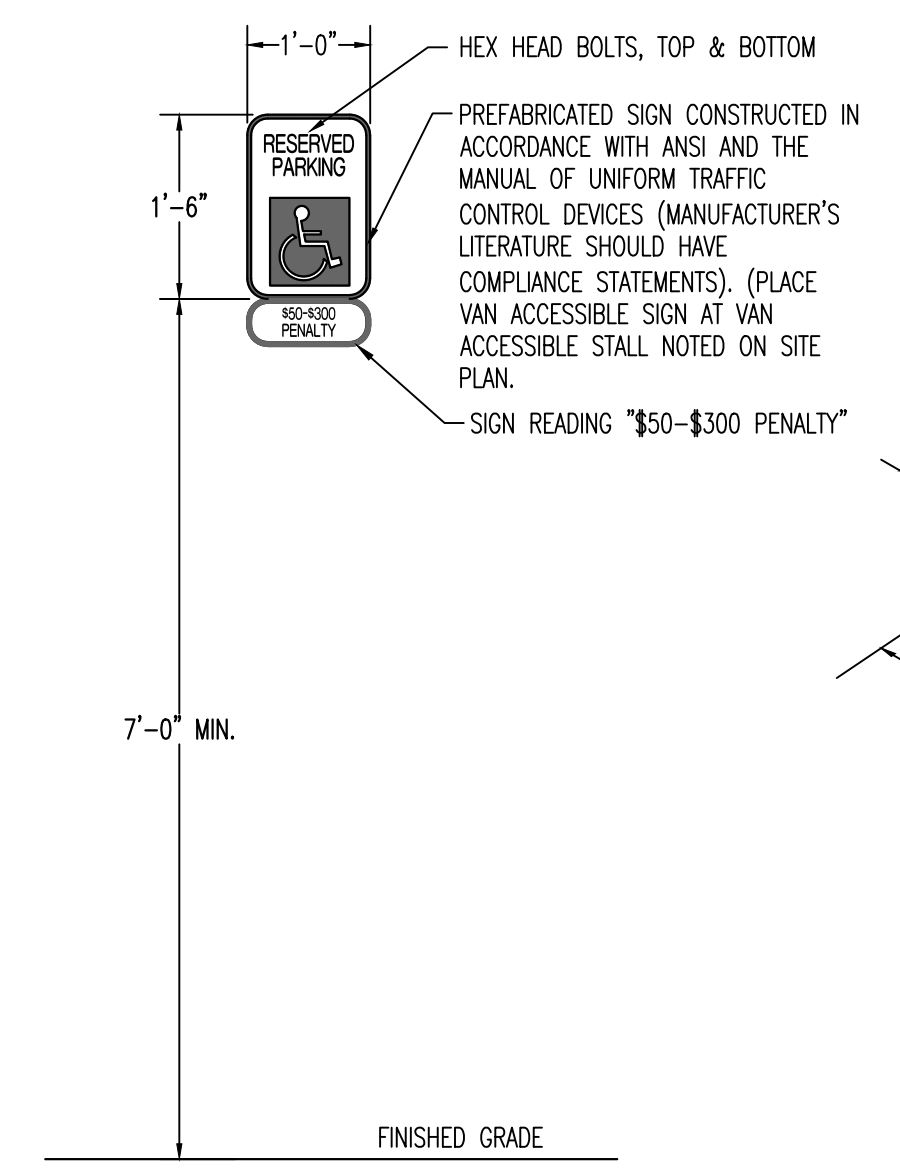
- NOTES:
1. ALL PAVEMENT IS TO HAVE PANELS SAW CUT WITH JOINTS NO LARGER THAN 12'X12' IN SIZE. FILL JOINT WITH BITUMINOUS SEALER.
  2. CONCRETE SHALL BE CLASS AA REINFORCING STEEL SHALL BE GRADE 60.

CONCRETE PAVEMENT CROSS SECTION (DUMPSTER PAD AREA)

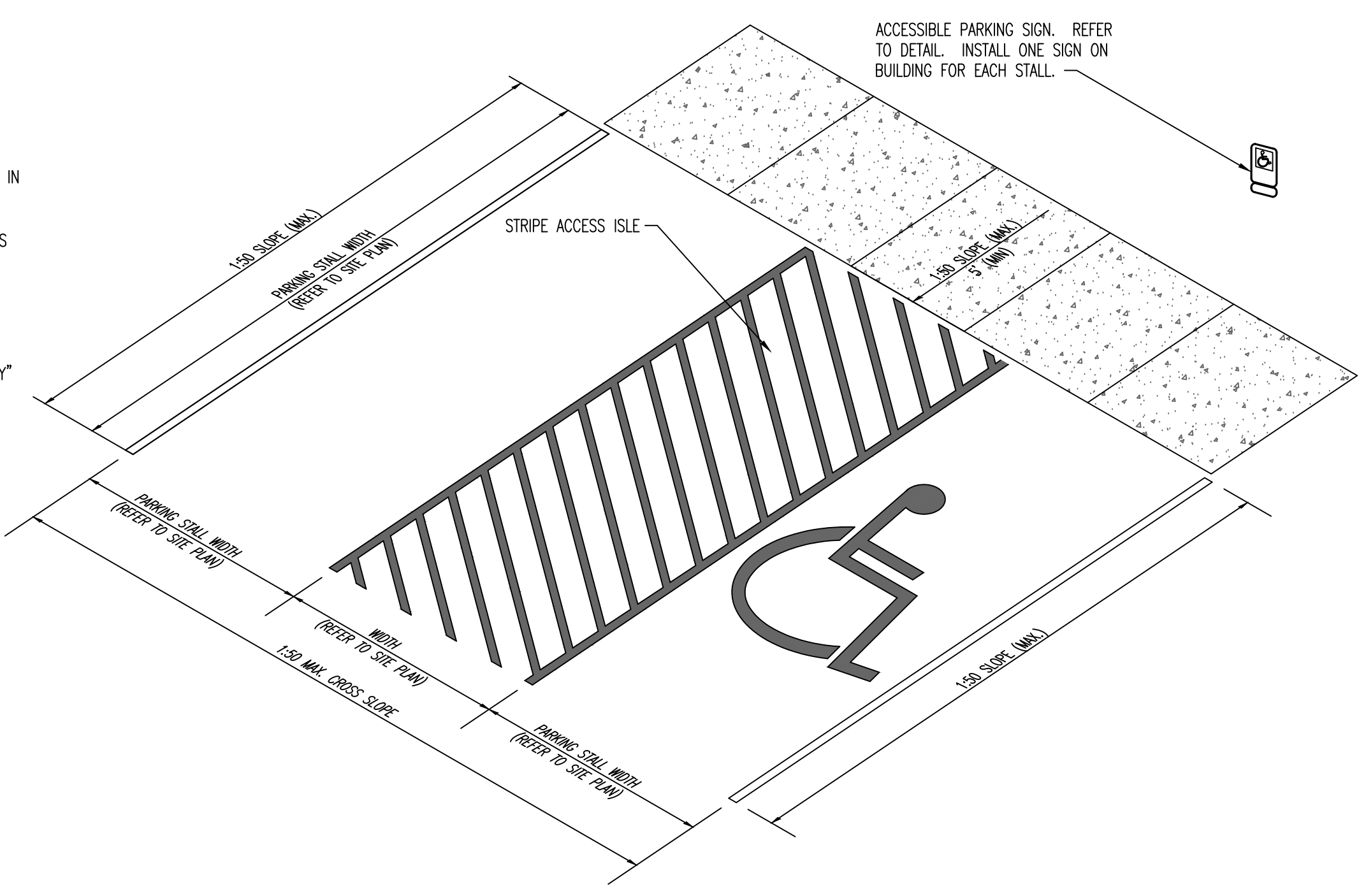


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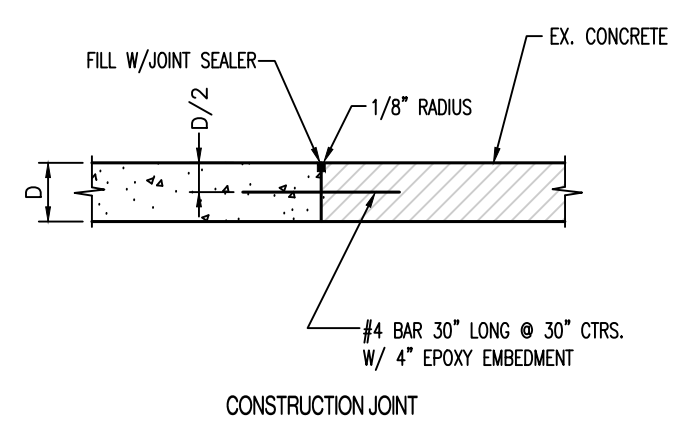
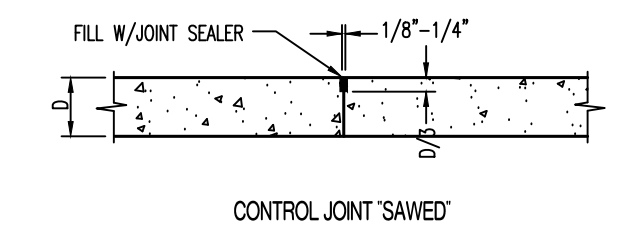
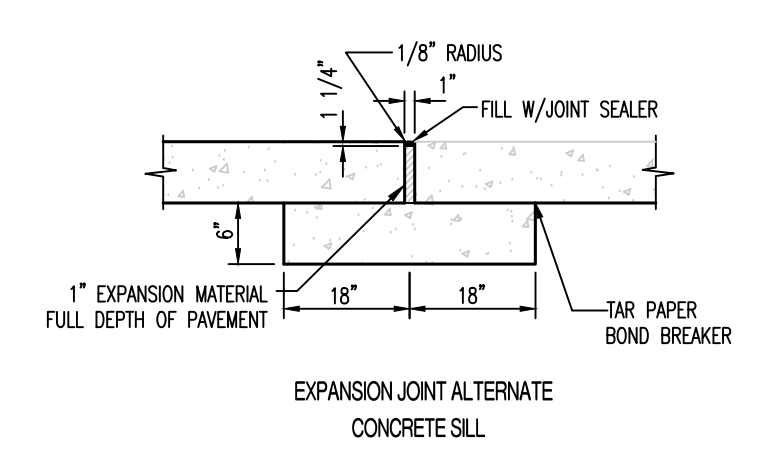
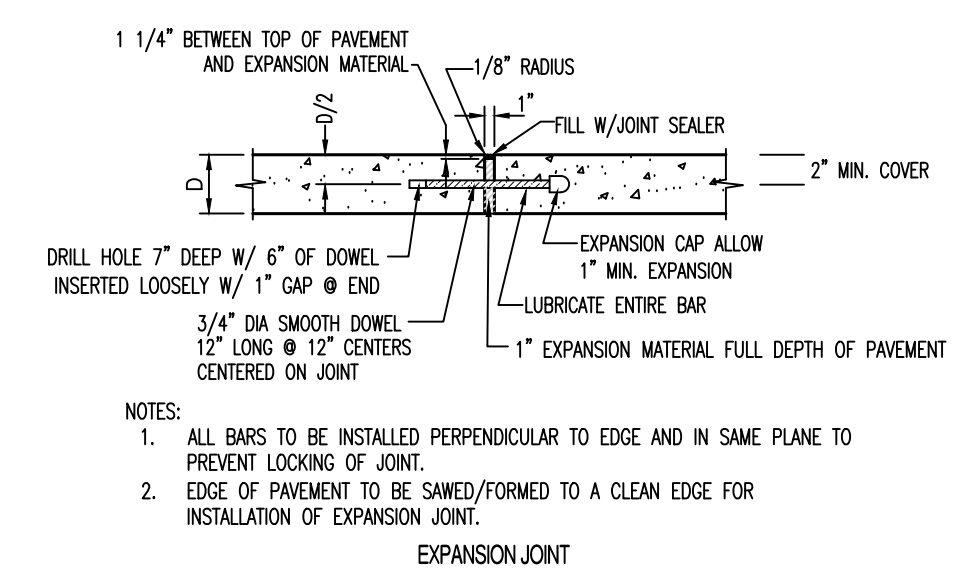
TYPICAL HEAVY DUTY CONCRETE PAVEMENT CROSS SECTION



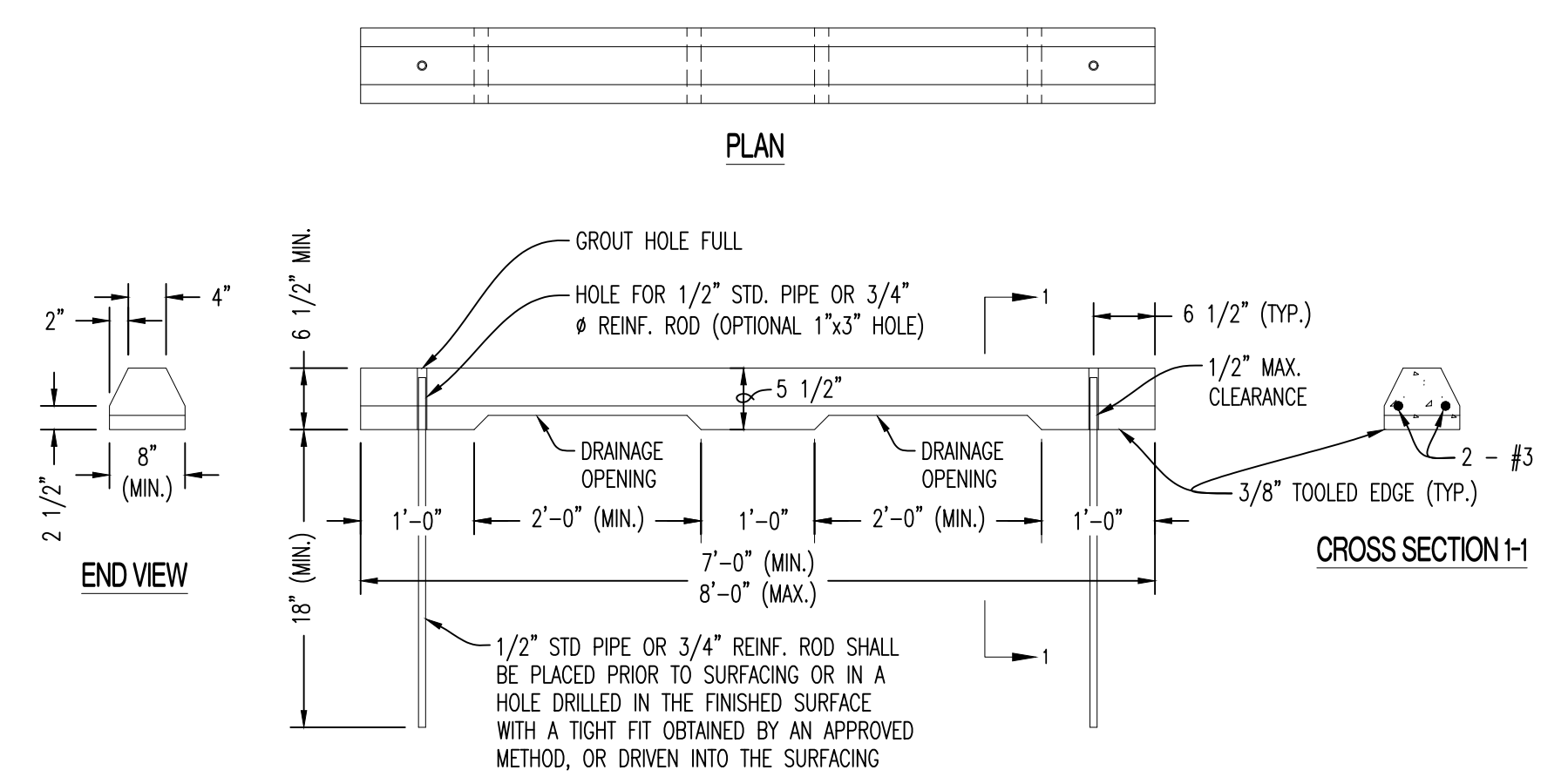
ACCESSIBLE PARKING SIGN



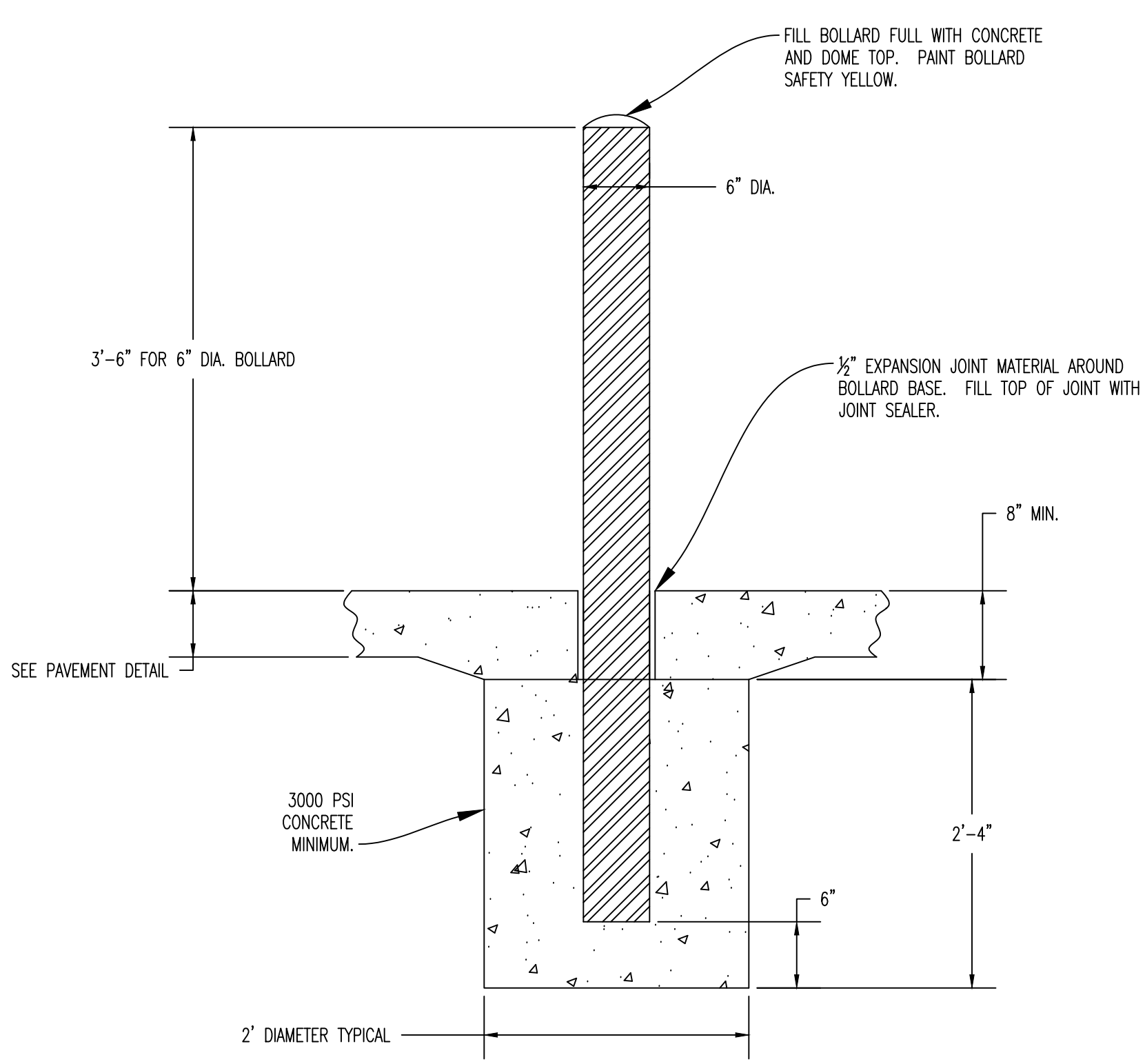
ACCESSIBLE PARKING SIGN AREA DETAIL



JOINT DETAILS (P.C. CONCRETE PAVEMENT)



PRECAST CONCRETE WHEEL STOP DETAILS



BOLLARD INSTALLATION DETAIL

**PAVEMENT MARKINGS:**

APPLIES TO PAVEMENT MARKINGS IN PARKING LOTS, ROADWAYS, SAFETY ZONES, ADA ZONES, LOADING ZONES, AND NO PARKING ZONES AS INDICATED ON DRAWINGS.

MATERIAL SHALL BE AN EPOXY PAVEMENT MARKING MATERIAL WITH DROP-ON GLASS BEADS IN ACCORDANCE WITH MODOT SPECIFICATIONS, 620.20.3, 1048.20.2, AND 1048.30 OR GEVEXO PLASTICROUTE (MMA) OR APPROVED EQUAL AT LOCATIONS SHOWN ON THE PLANS.

MATERIAL TYPE MUST BE COMPATIBLE WITH THE SURFACES TO BE MARKED

MARKINGS SHALL BE APPLIED PER THE FOLLOWING COLOR CODE: WHITE FOR STANDARD PARKING SPACE LINES, SIDEWALK CROSSINGS, AND DRIVE LINES AS NOTED ON THE PLANS. BLUE FOR ADA PARKING STALL AND SYMBOLS AND ASSOCIATED CROSS-HATCHED AREAS. YELLOW FOR DRIVE LINES AS NOTED ON THE PLANS.

DELIVER MATERIALS TO THE SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELS INTACT.

PROTECT ALL MATERIAL FROM FREEZING.

DO NOT ALLOW MATERIAL TO SETTLE, CAKE, OR THICKEN IN THE CONTAINER. READY STIR WITH A PADDLE TO A SMOOTH CONSISTENCY.

MATERIAL SHALL ARRIVE ON THE JOB COLOR-MIXED EXCEPT FOR TINTING OF UNDERCOATS AND POSSIBLE THINNING.

PRIOR TO BEGINNING CLEANING OR MARKING OPERATIONS, CONTRACTOR SHALL PROTECT ALL ITEMS OR SURFACES NOT INCLUDED IN AREA TO BE MARKED. PROTECT VEHICLES, EQUIPMENT, STRUCTURES, OR OTHER ITEMS FROM MATERIAL SPATTERS, OVER SPRAY, OR DAMAGE.

CONTRACTOR SHALL PROVIDE BARRICADES AND ANY SIGNAGE NEEDED TO PROTECT ALL MARKED AREAS FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL ACHIEVING SUFFICIENT DRYING TIME.

PERFORM PAVEMENT MARKINGS AS SOON AS FEASIBLE AND PRACTICAL AFTER THE FINISHING OF THE PAVEMENT OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

ADEQUATE LIGHTING SHALL BE AVAILABLE AT THE TIME OF PAVEMENT MARKING.

THE SURFACE ON WHICH PERMANENT PAVEMENT MARKING IS TO BE PLACED SHALL BE CLEAN, DRY AND FREE OF ALL DEBRIS, LAITANCE, CURING COMPOUND AND ANY OTHER CONTAMINANTS THAT MAY HINDER THE ADHESION OF THE SYSTEM TO THE SURFACE. PERMANENT PAVEMENT MARKING SHALL NOT BE APPLIED IN DAMP CONDITIONS OR IF THERE IS ANY EVIDENCE OF SURFACE MOISTURE ON THE PAVEMENT. EXAMINE ALL SURFACES TO RECEIVE PAVEMENT MARKING TO MAKE SURE THERE ARE NO DEFECTS IN THE SURFACE TO BE STRIPPED. DO NOT MARK PAVEMENT OVER RUST, SCALE, GREASE, OIL, FUEL, DUST, WET PAVEMENT, OR OTHER CONDITIONS DETRIMENTAL TO PAVEMENT MARKING ADHESION. REMOVE GREASE, OIL, OR FUEL ON ANY SURFACE BEFORE MARKING PAVEMENT. CORRECT ALL SURFACE DEFECTS BEFORE MARKING PAVEMENT.

CONTRACTOR SHALL EXAMINE AREAS TO HAVE PAVEMENT MARKING. NOTIFY THE OWNERS REPRESENTATIVE IN WRITING OF CONDITIONS THAT MIGHT DELAY TIMELY COMPLETION OF THE WORK.

THE PAVEMENT MARKING SHALL ONLY BE APPLIED DURING DRY WEATHER AND ON DRY PAVEMENT SURFACES. THE PAVEMENT SURFACE TEMPERATURE AND AMBIENT AIR TEMPERATURE SHALL BE IN ACCORDANCE WITH THE MATERIAL MANUFACTURER'S RECOMMENDATIONS THROUGHOUT THE APPLICATION AND DURING THE SPECIFIED TIME FOR CURING OF THE MATERIAL.

AREAS TO BE MARKED SHALL NOT BE LESS THAN 25 MILS THICKNESS WITH THE PROPER APPLICATION OF GLASS BEADS. IN LOCATIONS REQUIRING MULTIPLE COATS, PRIOR COAT SHALL BE DRY TO MANUFACTURER'S RECOMMENDATIONS BEFORE APPLYING THE NEXT COAT.

FINISHED WORK SHALL BE UNIFORM, APPROVED COLOR, FREE OF RUNS, DRIPS, DEFECTIVE BRUSHING, SPRAYING, AND CLOGGING. PARKING LINES AND SYMBOLS SHALL BE NEAT AND WELL DEFINED. ONLY SKILLED APPLICATORS SHALL APPLY PAVEMENT MARKINGS.

REMOVE PAVEMENT MARKING SPATTER FROM ADJACENT AREAS OR AREAS NOT DESIGNATED TO RECEIVE PAVEMENT MARKING.

CONTRACTOR SHALL REPAIR OR TOUCH UP ANY SURFACES IF EXPOSED TO VEHICULAR AND PEDESTRIAN TRAFFIC, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER.

WHEN COLOR, DRY, STAINS, EXISTING PAVEMENT MARKINGS, ETC., SHOW THROUGH THE FINAL COAT, REMARK THE SURFACE UNTIL THE FILM IS UNIFORM IN FINISH, COVERAGE, COLOR, AND APPEARANCE

**SITE CLEARING & DEMOLITION:**

IT IS THE INTENT THAT THE DEMOLITION BE COMPLETE AND ADEQUATE FOR THE INTENDED PURPOSE. THIS WORK SHALL INCLUDE THE REMOVAL OF ALL ITEMS, WHETHER IN VIEW OR HIDDEN UNDERNEATH THE SURFACE OF THE GROUND, REGARDLESS OF WHETHER SHOWN ON THE DRAWINGS OR ENCOUNTERED DURING CONSTRUCTION.

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING MATERIALS, METHODS OF WORK, AND DISPOSAL OF EXCESS WASTE MATERIALS.

ERECT BARRIERS TO PROTECT PERSONNEL, STRUCTURES AND UTILITIES REMAINING INTACT.

PROTECT ALL EXISTING OBJECTS INTENDED TO REMAIN. IN CASE OF DAMAGE, MAKE REPAIRS OR REPLACEMENTS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

MINIMIZE INTERFERENCE WITH ROADS, STREETS, DRIVEWAYS, SIDEWALKS, AND ADJACENT FACILITIES.

DO NOT CLOSE OR OBSTRUCT STREETS, SIDEWALKS, ALLEYS OR PASSAGEWAYS WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.

IF CLOSURE IS PERMITTED, PROVIDE SIGNAGE INDICATING CLOSURE AND SIGNAGE TO DIRECT TRAFFIC TO ALTERNATE ROUTE.

MOISTEN SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND CONCURRENT PERFORMANCE OF OTHER WORK ON THE SITE.

PROVIDE THE OWNER'S REPRESENTATIVE A MINIMUM OF TWO BUSINESS DAYS' NOTICE PRIOR TO COMMENCING WORK OF THIS SECTION.

THE CONTRACTOR SHALL LOCATE EXISTING UTILITY LINES AND SERVICES TRAVERSING THE SITE AND DETERMINE THE REQUIREMENTS FOR THEIR PROTECTION. THE CONTRACTOR SHALL PRESERVE ACTIVE UTILITIES ON THE SITE THAT ARE DESIGNATED TO REMAIN.

BEFORE STARTING SITE OPERATIONS, THE CONTRACTOR SHALL DISCONNECT OR ARRANGE FOR THE DISCONNECTION OF ALL UTILITY SERVICES DESIGNATED TO BE REMOVED. THE CONTRACTOR SHALL PERFORM ALL SUCH WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY OR AGENCY INVOLVED.

IN REMOVING PAVEMENT, CURB AND GUTTER, SIDEWALKS, ETC., WHERE A PORTION IS LEFT IN PLACE, REMOVAL SHALL BE TO AN EXISTING JOINT OR TO A JOINT SWEED TO A MINIMUM DEPTH OF 2" WITH A TRUE SAW LINE AND A VERTICAL FACE. REMOVE SUFFICIENT PAVEMENT TO PROVIDE FOR PROPER GRADE AND CONNECTIONS IN THE NEW WORK REGARDLESS OF ANY LIMITS INDICATED ON THE DRAWING.

EXISTING CASTINGS AND CULVERTS, IF SALVAGEABLE AND REMOVED INTACT, REMAIN THE PROPERTY OF THE CONTRACTOR.

ALL SEWERS AND DRAINAGE PIPES, WHICH HAVE BEEN OR ARE TO BE ABANDONED, SHALL BE PERMANENTLY SEALED AT THE ENDS WITH BULKHEADS CONSTRUCTED OF CONCRETE, HAVING A MINIMUM THICKNESS OF 8".

ABANDON STORM OR SANITARY SEWER STRUCTURES BY BREAKING THE CONCRETE BOTTOM OF THE STRUCTURE INTO PIECES NO LARGER THAN 12" IN ANY DIRECTION AND REMOVING THE TOP OF THE STRUCTURE TO 3" BELOW FINISHED GRADE. PLUG ALL PIPES WITH CONCRETE AND FILL STRUCTURE WITH 1" CLEAN GRAVEL.

ALL DEBRIS SHALL BE DISPOSED OF OFF-SITE

DO NOT STORE OR BURN MATERIALS ON-SITE UNLESS PERMITTED BY THE GOVERNING JURISDICTION.

ALL ASPHALT OR CONCRETE MATERIALS SHALL BE DISPOSED OF OFF-SITE.

MATERIAL ACQUIRED THROUGH DEMOLITION, OTHER THAN THOSE REQUIRED TO COMPLETE THE CONSTRUCTION PROJECT AND DESIGNATED FOR RETURN TO OWNER, WILL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE REMOVED FROM THE SITE. THE MATERIAL WILL BE DISPOSED OF IN A LEGAL MANNER.

THE CONTRACTOR'S OPERATIONS SHALL BE RESTRICTED TO THOSE AREAS INSIDE THE CONSTRUCTION LIMITS INDICATED ON THE DRAWINGS. IF LIMITS ARE NOT INDICATED, RESTRICT WORK TO THE OWNER'S PROPERTY, EASEMENT, OR PUBLIC RIGHTS-OF-WAY.

COMPLETE WORK WITHIN PUBLIC RIGHTS-OF-WAY UNDER THE PERMISSION OF THE GOVERNING AGENCY.

IF ITEMS OUTSIDE THE LIMITS OF DISTURBANCE GET DAMAGED, OWNER COMPLETES THE REQUIRED REPAIRS AND CHARGES THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR THE ADJUSTMENT OF ALL MANHOLES, CASTINGS, WATER VALVES IRRIGATION BOXES, CLEAN OUTS AND ETC. WITHIN THE GRADING LIMITS TO MATCH THE FINISHED SURFACE. ADJUSTMENTS SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO CONSTRUCTION UNLESS NOTED AS A BID ITEM. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITY STRUCTURES AND APPURTENANCES THAT OCCURS DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.

**EARTHMOVING:**

CONTRACTOR TO SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH MATERIAL AND PRODUCT USED.

TEST REPORTS: SUBMIT FOR APPROVAL TEST REPORTS, LIST OF MATERIALS AND GRADATIONS PROPOSED FOR USE. OBTAIN SAMPLES OF ANY PROPOSED FILL MATERIAL AND CONTRACTOR TO PROVIDE STANDARD PROCTOR TEST REPORTS TO ENGINEER.

COMPACTION REQUIREMENTS ARE AS FOLLOWS:

- 1. UNDER STEPS, PAVEMENTS, AND WALKWAYS, 95 PERCENT STANDARD PROCTOR MINIMUM DENSITY, ASTM D 698.
- 2. UNDER LAWNS OR UNPAVED AREAS, 85 PERCENT, ASTM D 698.

GRADING TOLERANCES OUTSIDE BUILDING LINES ARE AS FOLLOWS:

- 1. LAWNS, UNPAVED AREAS, AND WALKS, PLUS OR MINUS 1 INCH.
- 2. PAVEMENTS, PLUS OR MINUS 1/2 INCH.
- 3. ALL ADA ROUTES AND PARKING ARE TO MEET ADA REQUIRMENTS AT ALL TIMES.

ALL ACTIVITIES WILL BE CONTAINED WITHIN CONSTRUCTION BOUNDARIES INDICATED ON SITE PLAN. SPECIFIED EXCAVATION REQUIREMENTS, PRECAUTIONS, AND PROTECTIVE SYSTEMS WILL BE OBSERVED AT ALL TIMES.

MOVEMENT OF TRUCKS AND EQUIPMENT ON OWNER'S PROPERTY WILL BE IN ACCORDANCE WITH OWNER'S INSTRUCTIONS.

TOPSOIL WILL BE STRIPPED FROM THE CONSTRUCTION SITE AND WILL BE DISPOSED OF LEGALLY OFF SITE.

TRENCHES WILL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE COMPLETED AND THE UTILITY SYSTEMS, AS INSTALLED, CONFORM TO REQUIREMENTS SPECIFIED BY THE CONTRACT DOCUMENTS.

EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE REGARDLESS OF MATERIALS ENCOUNTERED. REPAIR EXCAVATIONS BEYOND ELEVATIONS AND DIMENSIONS INDICATED AS FOLLOWS:

- 1. AT STRUCTURE: CONCRETE OR COMPACTED STRUCTURAL FILL.
  - 2. ELSEWHERE: BACKFILL AND COMPACT AS DIRECTED.
- MAINTAIN STABILITY OF EXCAVATIONS; CONTRACTOR TO BE RESPONSIBLE FOR DESIGN AND COORDINATION OF SHORING AND BRACING AS REQUIRED. PREVENT SURFACE AND SUBSURFACE WATER FROM ACCUMULATING IN EXCAVATIONS. STOCKPILE SATISFACTORY MATERIALS FOR REUSE, ALLOW FOR PROPER DRAINAGE AND DO NOT STOCKPILE MATERIALS WITHIN DRIP LINE OF TREES TO REMAIN.

COMPACT MATERIALS AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 698 BY AERATION OR WETTING TO THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY:

- 1. STRUCTURE, PAVEMENT, WALKWAYS: SUBGRADE AND EACH FILL LAYER TO 95% (-2%+4%) OF STANDARD PROCTOR MAXIMUM DRY DENSITY TO SUITABLE DEPTH. COMPACTION TESTING SHALL BE PERFORMED IMMEDIATELY PRIOR TO THE PLACEMENT OF REINFORCING STEEL AND NEW PAVING MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING TESTING WITH OWNERS DESIGNATED TESTING AGENCY.
- 2. UNPAVED AREAS: TOP 6" OF SUBGRADE AND EACH FILL LAYER TO 90% MAXIMUM DRY DENSITY.
- 3. A PROOF-ROLL SHALL BE REQUIRED OF THE SUBGRADE PRIOR TO PLACEMENT OF THE BASE COURSE. PROOF ROLLING SHALL CONSIST OF PASSING A LOADED, 20-TON, TANDEM DUMP TRUCK OVER THE PREPARED SUBGRADE SOIL WITH A MAXIMUM ALLOWABLE DISPLACEMENT OF 1". ANY AREAS THAT DISPLACE MORE THAN 1" SHALL BE COMPACTED UNTIL THIS CRITERION IS MET, OR THOSE AREAS MAY BE EXCAVATED AND BACKFILLED WITH COMPACTED TYPE 1 AGGREGATE USED FOR BASE MATERIAL. ALL PROOF ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- 4. CUT AREAS UNDER PROPOSED ASPHALT OR CONCRETE PAVEMENTS SHALL BE CUT AND COMPACTED. AFTER GRADING TO SUBGRADE ELEVATION, SCARIFY THE TOP SIX INCHES OF THE SUB-BASE AND COMPACT AS OUTLINED ABOVE.

PLACE ACCEPTABLE MATERIALS IN LAYERS NOT MORE THAN 6" LOOSE DEPTH FOR MATERIALS COMPACTED BY HEAVY EQUIPMENT AND NOT MORE THAN 4" LOOSE DEPTH FOR MATERIALS COMPACTED BY HAND EQUIPMENT TO SUBGRADE AS FOLLOWS:

- 1. STRUCTURAL FILL: USE UNDER FOUNDATIONS, SLABS ON GRADE IN LAYERS AS INDICATED.
- 2. DRAINAGE FILL: USE UNDER DESIGNATED BUILDING SLABS, AT FOUNDATION DRAINAGE AND ELSEWHERE AS INDICATED.
- 3. LANDSCAPE AREA FILL:
  - 3.1. ALL SUB-GRADE AREAS SHALL BE "RIPPED" TO A MINIMUM 6" DEEP AND A MAXIMUM OF 12" APART IN OPPOSITE DIRECTIONS WITH MINIMAL TRAFFIC TO FOLLOW.
  - 3.2. CONTRACTOR TO LEAVE AREAS 6" OR 18" (PLANTER AREAS) BELOW FINISH GRADE. OWNER TO PLACE TOPSOIL AND ALL PLANTINGS.
  - 3.3. ANY FILL SOIL WITHIN 36" OF FINISHED GRADE IN LAWN AND PLANTER AREAS SHALL BE COHESIVE SOILS IN SOIL CLASSIFICATIONS GROUPS ML, CL, CH OR A COMBINATION THEREOF, FREE OF ROCK OR GRAVEL LARGER THAN 1" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIAL, VEGETATION AND OTHER DELETERIOUS WATER.
- 4. SUB-BASE MATERIAL: USE UNDER PAVEMENT, WALKS, STEPS, PIPING AND CONDUIT.

GRADE TO WITHIN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE AND WITHIN A TOLERANCE OF 1/2" IN 10'.

PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION. RECOMPACT AND REGRADE SETTLED, DISTURBED AND DAMAGED AREAS AS NECESSARY TO RESTORE QUALITY, APPEARANCE, AND CONDITION OF WORK.

CONTROL EROSION TO PREVENT RUNOFF INTO SEWERS OR DAMAGE TO SLOPED OR SURFACED AREAS.

CONTROL DUST TO PREVENT HAZARDS TO ADJACENT PROPERTIES AND VEHICLES. IMMEDIATELY REPAIR OR REMEDY DAMAGE CAUSED BY DUST INCLUDING AIR FILTERS IN EQUIPMENT AND VEHICLES. CLEAN SOLED SURFACES.

DISPOSAL OF EXCAVATION WASTE AND UNSUITABLE MATERIALS SHALL BE THE RESPONSIBILITY OF THE SITE WORK CONTRACTOR. NO SPECIFIC OR PRE-APPROVED LOCATION IS BEING PROVIDED BY THE OWNER.

**CONCRETE PAVING JOINT SEALANTS:**

DELIVER MATERIALS TO PROJECT SITE IN ORIGINAL UNOPENED CONTAINERS OR BUNDLES WITH LABELS INDICATING MANUFACTURER, PRODUCT NAME AND DESIGNATION, COLOR, EXPIRATION DATE, POT LIFE, CURING TIME, AND MIXING INSTRUCTIONS FOR MULTICOMPONENT MATERIALS.

STORE AND HANDLE MATERIALS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS TO PREVENT THEIR DETERIORATION OR DAMAGE DUE TO MOISTURE, HIGH OR LOW TEMPERATURES, CONTAMINANTS, OR OTHER CAUSES.

- DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS UNDER THE FOLLOWING CONDITIONS:
  - 1. WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 DEG F.
  - 2. WHEN JOINT SUBSTRATES ARE WET OR COVERED WITH FROST.
  - 3. WHERE JOINT WIDTHS ARE LESS THAN THOSE ALLOWED BY JOINT-SEALANT MANUFACTURER FOR APPLICATIONS INDICATED.
  - 4. WHERE CONTAMINANTS CAPABLE OF INTERFERING WITH ADHESION HAVE NOT YET BEEN REMOVED FROM JOINT SUBSTRATES.

PROVIDE JOINT SEALANTS, BACKING MATERIALS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT-SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE.

COLD-APPLIED JOINT SEALANTS ARE TO BE TYPE NS SILICONE SEALANT FOR CONCRETE: SINGLE-COMPONENT, LOW-MODULUS, NEUTRAL-CURING, NONSAG SILICONE SEALANT COMPLYING WITH ASTM D 5983 FOR TYPE NS. PRODUCTS ALLOWED ARE: CRAFDO INC.: ROADSAVER SILICONE , DOW CORNING CORPORATION; 888, PECORA NS 301, OR APPROVED EQUAL.

CONTRACTOR TO PROVIDE JOINT-SEALANT BACKER MATERIALS THAT ARE NONSTANNING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS INDICATED BY JOINT-SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING. ROUND BACKER ROOLS FOR COLD-APPLIED SEALANTS: ASTM D 5249, TYPE 3, OF DIAMETER AND DENSITY REQUIRED TO CONTROL SEALANT DEPTH AND PREVENT BOTTOM-SIDE ADHESION OF SEALANT.

PRIOR TO JOINT INSTALLATION, CONTRACTOR IS TO EXAMINE JOINTS INDICATED TO RECEIVE JOINT SEALANTS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR JOINT CONFIGURATION, INSTALLATION TOLERANCES, AND OTHER CONDITIONS AFFECTING JOINT-SEALANT PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS.

COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PRODUCTS AND APPLICATIONS INDICATED, UNLESS MORE STRINGENT REQUIREMENTS APPLY.

COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.

INSTALL BACKER MATERIALS OF TYPE INDICATED TO SUPPORT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY. DO NOT LEAVE GAPS BETWEEN ENDS OF BACKER MATERIALS. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR BACKER MATERIALS. REMOVE ABSORBENT BACKER MATERIALS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.

INSTALL SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKING ARE INSTALLED:

- 1. PLACE SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.
- 2. COMPLETELY FILL RECESSES PROVIDED FOR EACH JOINT CONFIGURATION.
- 3. PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.

IMMEDIATELY AFTER SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO REQUIREMENTS SPECIFIED BELOW TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED; TO ELIMINATE AIR POCKETS; AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT. REMOVE EXCESS SEALANTS FROM SURFACES ADJACENT TO JOINT-USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY JOINT-SEALANT MANUFACTURER AND THAT DO NOT DISCOLOR SEALANTS OR ADJACENT SURFACES.

PROVIDE JOINT CONFIGURATION TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS OTHERWISE INDICATED.

PROVIDE RECESSED JOINT CONFIGURATION FOR SILICONE SEALANTS OF RECESS DEPTH AND AT LOCATIONS INDICATED.

CLEAN OFF EXCESS SEALANTS OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS APPROVED BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

PROTECT JOINT SEALANTS DURING AND AFTER CURING PERIOD FROM CONTACT WITH CONTAMINATING SUBSTANCES AND FROM DAMAGE RESULTING FROM CONSTRUCTION OPERATIONS OR OTHER CAUSES SO SEALANTS ARE WITHOUT DETERIORATION OR DAMAGE AT TIME OF SUBSTANTIAL COMPLETION. IF, DESPITE SUCH PROTECTION, DAMAGE OR DETERIORATION OCCURS, CUT OUT AND REMOVE DAMAGED OR DETERIORATED JOINT SEALANTS IMMEDIATELY AND REPLACE WITH JOINT SEALANT SO INSTALLATIONS WITH REPAIRED AREAS ARE INDISTINGUISHABLE FROM THE ORIGINAL WORK.

**CONCRETE:**

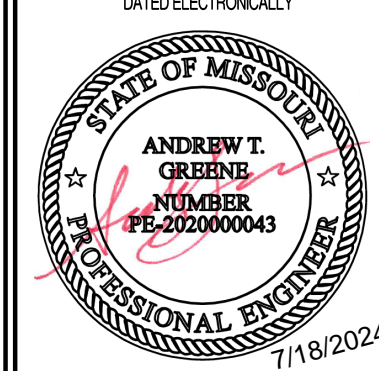
CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE, WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- 1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
  - FOUNDATIONS - 3,000 PSI
  - CAST-IN-PLACE WALLS - 3,500 PSI
  - FLOOR SLAB - 4,000 PSI
  - EXTERIOR SLABS, WALLS AND CURBS - 4,000 PSI
- 2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.
- 3. CHLORIDE-BASED ADMIXTURES ARE PROHIBITED IN ALL CONCRETE.
- 4. REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.
- 5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION.
- 6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE.
- 7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4 +/- 1" (ASTM C - 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 6" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN THE SPECIAL INSPECTOR'S RECORDS.
- 8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.
- 9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED AND ARE ACCEPTABLE TO THE ENGINEER.
- 10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.
- 11. CONCRETE WORK EXECUTION
  - A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.
  - B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE, UNLESS NOTED OTHERWISE ON THE DRAWINGS:
    - CAST AGAINST AND EXPOSED TO EARTH.....3 INCHES
    - EXPOSED TO EARTH OR WEATHER.....2 INCHES
    - NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH.....1 1/2 INCHES
  - C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL JOINTS MINIMUM 1/4 OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.
  - D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS. BROOM FINISH ALL EXTERIOR CONCRETE SLABS.
  - E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.
- 12. FLINT AND CHERT WILL BE LIMITED TO 1% MAXIMUM, BY WEIGHT OF THE COURSE AGGREGATE, IN ALL EXPOSED CONCRETE. (CAST-IN-PLACE OR PRECAST). LIGHTNITE WILL BE LIMITED TO 0.5% BY WEIGHT OF THE FINE AGGREGATE IN ALL EXPOSED CONCRETE. SOME APPLICATIONS MAY BE REQUIRED TO BE LIGHTNITE FREE.
- 13. CONCRETE SHALL NOT BE PLACED UPON FROZEN SUBGRADE. ALL CONCRETE SHALL BE EFFECTIVELY PROTECTED FROM FREEZING UNTIL A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI HAS BEEN ATTAINED. THE CONTRACTOR SHALL PROVIDE A METHOD, MEETING THE APPROVAL FROM THE ENGINEER, OF MONITORING THE CONCRETE THAT DEMONSTRATES THAT THE CONCRETE HAS BEEN PROTECTED FROM FREEZING. REGARDLESS OF PRECAUTIONS TAKEN, THE CONTRACTOR SHALL ASSUME ALL RISKS, AND ALL FROZEN CONCRETE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

**REVISIONS:**

NO.	DATE
BID SET	07/18/2024

THIS SHEET HAS BEEN SOMEWHAT SEALED AND DATED ELECTRONICALLY



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**ROCK QUARRY SURPLUS WAREHOUSE  
- PAVING REPLACEMENT - CP221442  
COLUMBIA, BOONE COUNTY, MISSOURI**

**DRAWING INCLUDES:**

PRIVATE CONSTRUCTION SPECIFICATIONS

**DESIGNED:** ATG

**DRAWN:** ATG

**CEC PROJECT NO.:** 220507

**SHEET:**

CE 7