

NWACC IRRIGATION LINE RELOCATION

WATER TOWER ROAD BENTONVILLE, AR
BID DOCUMENTS

GENERAL NOTES

INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS AND EXISTING FIELD CONDITIONS WHEN POSSIBLE. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY HAND DIGGING TEST PITS AT ALL UTILITY CROSSINGS IN ADVANCE OF TRENCHING WITH ANY MECHANICAL DEVICE. ANY CLEARANCES LESS THAN SPECIFIED ON THESE PLANS OR 18" (WHICHEVER IS LESS), CONTRACTOR SHALL CONTACT McCLELLAND CONSULTING ENGINEERS, INC. @ (479) 443-2377 PRIOR TO ANY FURTHER CONSTRUCTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION OR REMOVAL OF EXISTING UNDERGROUND UTILITIES SHOWN OR NOT SHOWN AT NO ADDITIONAL COST TO THE OWNER.

CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND USE OF ANY AND ALL REQUIRED OR NECESSARY SHORING, SHEETING, BRACING, AND SPECIAL EXCAVATION MEASURES REQUIRED ON THIS PROJECT. THESE MEASURES WILL MEET OR EXCEED OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS DURING CONSTRUCTION. McCLELLAND CONSULTING ENGINEERS, INC. AND THE DEVELOPER/OWNER ACCEPTS NO RESPONSIBILITY FOR THE CONTRACTORS FAILURE TO COMPLY WITH THESE REGULATIONS.

ALL UTILITIES, INCLUDING STORM SEWER, SHOWN WITHIN PUBLIC EASEMENTS OR RIGHT OF WAYS SHALL BE CONSTRUCTED TO THE GOVERNING AGENCY'S SPECIFICATIONS. ALL OTHER UTILITIES SHALL BE CONSTRUCTED TO THE CLIENT'S OR THE GOVERNING AGENCY'S SPECIFICATIONS, WHICHEVER IS MORE STRINGENT. IF THERE IS A QUESTION AS TO WHICH SPECIFICATIONS SHOULD APPLY, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD.

FURTHERMORE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE EROSION CONTROL MEASURES AS SHOWN ON THESE PLANS. CONTRACTOR SHALL KEEP THESE MAINTAINED THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR IMPLEMENTING THE SWPPP BEFORE, DURING, AND AFTER RAIN FALL EVENTS.

ALL PHASES OF CONSTRUCTION SHALL MEET OR EXCEED THE OWNER / DEVELOPER SITE WORK SPECIFICATIONS.

CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION PROCEDURES. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

A SURVEY WAS NOT PERFORMED FOR THIS PROJECT

THE GENERAL CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.

ALL CONSTRUCTION IN THE CITY RIGHT-OF-WAY SHALL BE COORDINATED WITH THE CITY OF BENTONVILLE.

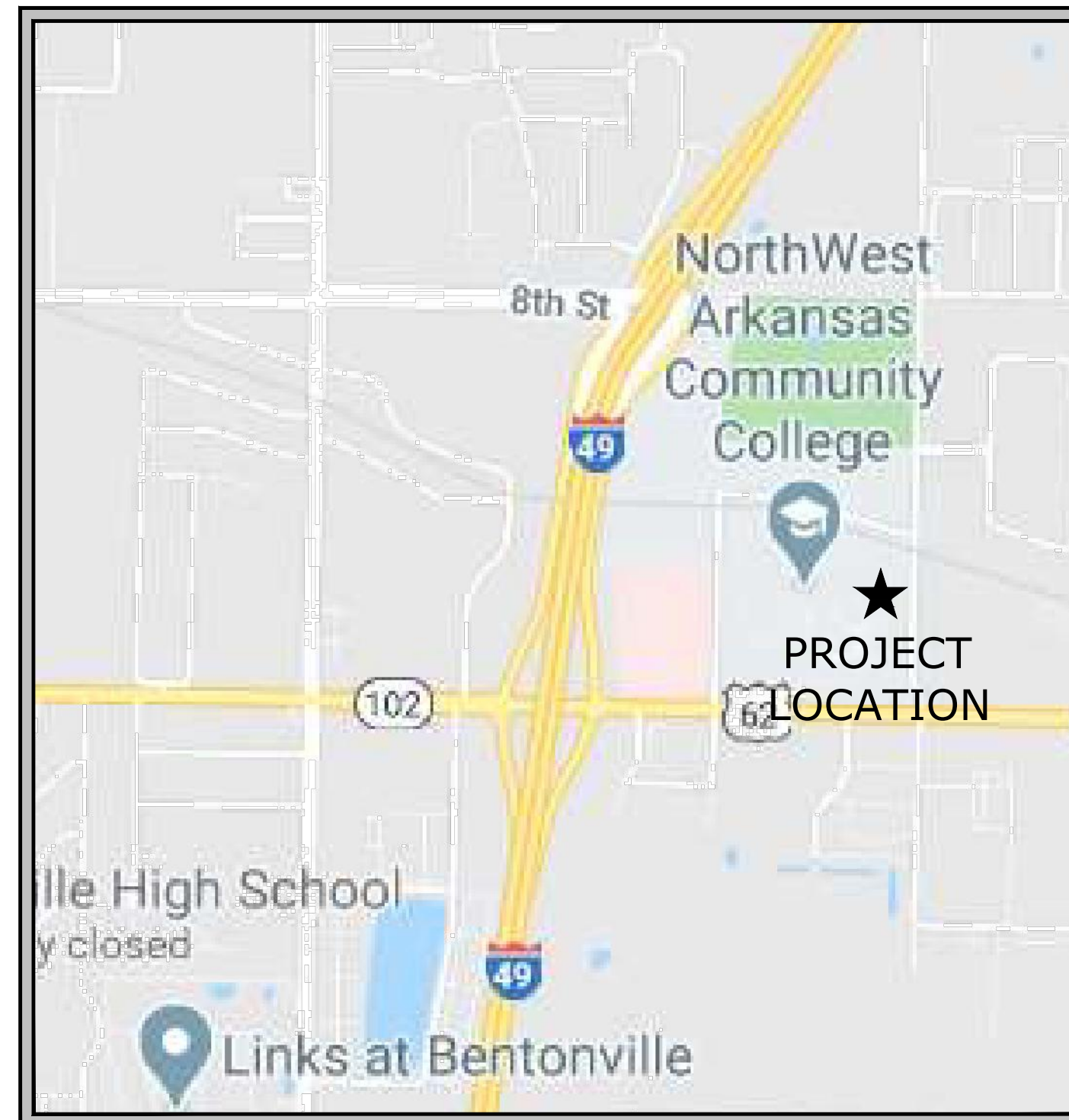
THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING ALL PHASES OF CONSTRUCTION OF THIS SITE. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO CONSTRUCTION WORKING HOURS.

WARRANTY / DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR DESIGN FUNCTION AND USE INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR HIS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION AT THE SITE.

CONTACTS

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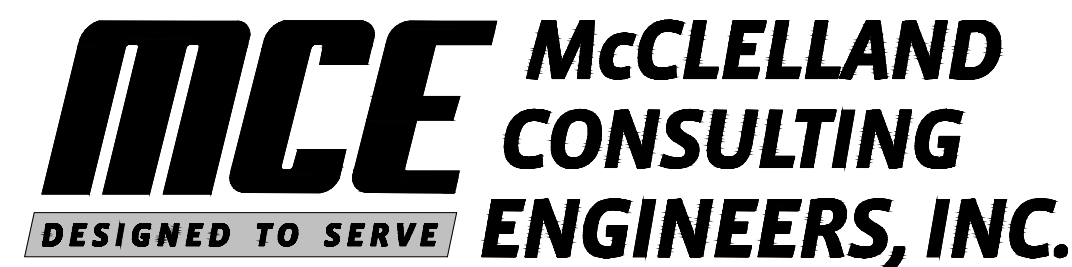
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VICINITY MAP

INDEX TO DRAWINGS	
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July 23, 2020
MCE PROJECT NUMBER 20-2147



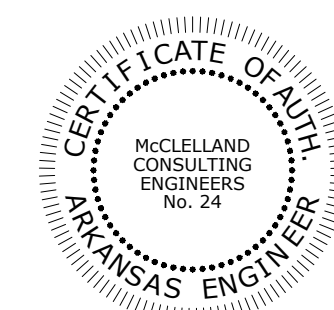
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REVISIONS		
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ORIGINAL SIGNATURE ON FILE

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KEYNOTES

- 212 REPLACE / RESTORE CURBS TO MATCH EXISTING (SEE DETAIL 20A THIS SET)
- 220 EXISTING LIGHT POLE / FIXTURE, PROTECT DURING CONSTRUCTION
- 410 GATE VALVE WITH ADJUSTABLE VALVE BOX (SEE SIZE AT SYMBOL)
- 411 CUT AND ABANDON EXISTING PIPE, AFTER NEW LINE IS IN SERVICE
- 412 REDUCER (SEE SIZE AT SYMBOL)
- 413 CAP / PLUG W/ THRUST BLOCKING (SEE SIZE AT SYMBOL)
- 414 TEE W/ THRUST BLOCKING (SEE SIZE AT SYMBOL)
- 416 90° BEND W/ THRUST BLOCKING (SEE SIZE AT SYMBOL)
- 417 45° BEND W/ THRUST BLOCKING (SEE SIZE AT SYMBOL)
- 418 22-1/2° BEND W/ THRUST BLOCKING (SEE SIZE AT SYMBOL)
- 419 11-1/4° BEND W/ THRUST BLOCKING (SEE SIZE AT SYMBOL)
- 449 CONTROL WIRE (TO BE TIED IN AT BOTH ENDS) & TERMINAL
- 602 SODDED AREA

DETAILS

- 40A THRUST BLOCKING
- 40F UTILITY MAIN ENCASEMENT
- 40L WATER LINE TRENCHING, BACKFILL, & BEDDING
- 42A ASPHALT PAVEMENT REPAIR
- 42D SIDEWALK PAVEMENT REPAIR

EROSION CONTROL DETAILS

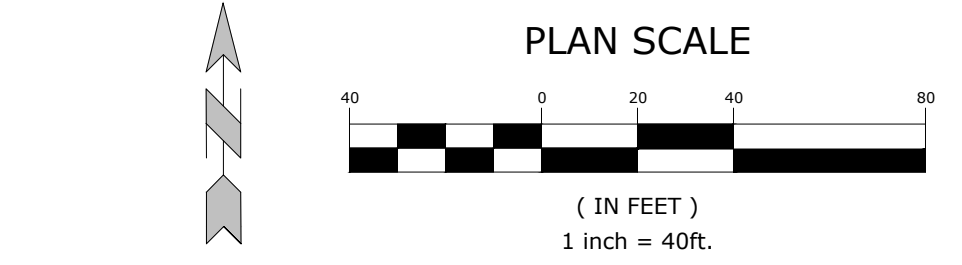
- 50A SILT FENCE
- 50B SILT SOCK
- 50N TEMPORARY CONCRETE WASHOUT

GENERAL EROSION CONTROL NOTES

1. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AND CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DIRECTED BY PERMITTING AGENCY AND OWNER OR AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
2. PERMIT FOR ANY CONSTRUCTION ACTIVITY MUST BE MAINTAINED ON SITE AT ALL TIMES.
3. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
4. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
5. ALL WASH WATER SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
6. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLotation BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
7. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
8. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
9. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDDED. THESE AREAS SHALL BE SEEDDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
10. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
11. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
12. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
13. CONTRACTOR SHALL DESIGNATE/IDENTIFY AREAS INSIDE THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.
14. ALL BMP'S SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED BY A MINIMUM OF 80% GRASS COVERAGE.
15. ALL DEWATERING ACTIVITIES SHALL CONFORM TO ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. DISCHARGED WATER MUST BE PROPERLY TREATED BEFORE RELEASING FROM THE SITE.

GENERAL UTILITY NOTES

1. ALL WATER MAINS SHALL BE PVC C-900 DR-25, UNLESS OTHERWISE SPECIFIED ON THE PLANS. SIZE AS NOTED ON THE PLANS AND TO MAINTAIN 36" OF COVER (MINIMUM).
2. EXISTING UTILITIES SHOWN ON PLANS HAVE BEEN SHOWN IN THEIR APPROXIMATE LOCATIONS PER AVAILABLE INFORMATION.
3. CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN UNLESS DULY AUTHORIZED TO DO SO BY NWACC. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR. MCGLELLAND CONSULTING ENGINEERS, INC. AND THE OWNER ARE TO BE HELD HARMLESS.
4. ALL TRENCHING, BACKFILLING AND PIPE LAYING IS TO MEET ALL OSHA REQUIREMENTS.
5. THE LOCATION, DESCRIPTION AND SIZE OF ALL ABOVE-GROUND AND UNDER-GROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN DETERMINED WITH DUE CARE AND DILIGENCE, USING CURRENT TECHNIQUES, EQUIPMENT AND PROPER ACCURACY CONTROL PROCEDURES. HOWEVER, INFORMATION SHOWN HEREON IS NOT WARRANTED TO BE CORRECT IN EVERY DETAIL BECAUSE OF INACCURACIES IN OR LACK OF EXISTING DATA OR MAPS AND THE INABILITY TO VERIFY IN THE FIELD. PERSONS USING INFORMATION CONTAINED HEREON ARE HEREBY CAUTIONED ACCORDINGLY.
6. ANY DAMAGE TO THE EXISTING PAVEMENT BEYOND THE LIMITS OF CONSTRUCTION DUE TO CONSTRUCTION ACTIVITIES SHALL BE REPAIRED / REPLACED AT THE CONTRACTOR'S EXPENSE.
7. ALL INSTALLED WATER LINES SHALL BE INSPECTED BY NWACC PERSONNEL, THE ENGINEER, OR HIS REPRESENTATIVE, PRIOR TO BACK FILLING.
8. ALL WATER LINE DIMENSIONS SHOWN ARE TO CENTER OF PIPE OR FITTING; ALL SEWER LINE DIMENSIONS ARE SHOWN TO CENTER OF MANHOLE OR CENTER OF PIPE.
9. TESTING OF WATER SHALL BE AT THE CONTRACTOR'S EXPENSE.
10. ALL UTILITIES UNDER PAVED AREAS SHALL RECEIVE CLASS 7 BASE BACKFILL FULL DEPTH.
11. ALL WATER FITTINGS SHALL BE RESTRAINED THROUGH THE USE OF THRUST BLOCKING PER DETAIL 40A.
12. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION OF PROPOSED UTILITIES.
13. WIRING ALONG NEW IRRIGATION LINE SHALL BE A TWO WIRE SYSTEM, USING 1/2" DECODER CABLE WITH BLACK AND RED JACKET AND SHALL BE SPLICED TO EXISTING WITH WATERPROOF DIRECT BURY SILICONE TUBES AND WIRE NUTS.



PROPOSED LEGEND

- CURB AND GUTTER
- ASPHALT PAVEMENT
- WATER LINE
- WATER VALVE
- WATER MECHANICAL JOINT FITTING
- SOD (TO MATCH SURROUNDING GRASS)
- SILT SOCK
- SILT FENCE

GENERAL SITE NOTES

1. CONTRACTOR SHALL RETAIN A FULL SET OF LATEST APPROVED CONSTRUCTION PLANS ON SITE DURING CONSTRUCTION ACTIVITIES.
2. CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED THE SITE WORK SPECIFICATIONS PROVIDED BY MCGLELLAND CONSULTING ENGINEERS, INC. OR AS SPECIFIED BY THE OWNER'S RESIDENT REPRESENTATIVE.
3. ALL CONSTRUCTION WORK AND UTILITY WORK OUTSIDE OF PROPERTY BOUNDARIES SHALL BE PERFORMED IN COOPERATION WITH AND IN ACCORDANCE WITH REGULATIONS OF THE AUTHORITIES CONCERNED.
4. PUBLIC CONVENIENCE AND SAFETY: THE CONTRACTOR SHALL CONDUCT THE WORK IN A MANNER THAT WILL INSURE, AS FAR AS PRACTICABLE, THE LEAST OBSTRUCTION TO TRAFFIC AND SHALL PROVIDE FOR THE CONVENIENCE AND SAFETY OF THE GENERAL PUBLIC AND RESIDENTS ALONG AND ADJACENT TO HIGHWAYS IN THE CONSTRUCTION AREA IN AN ADEQUATE AND SATISFACTORY MANNER IN ACCORDANCE WITH THE ARKANSAS DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
5. ALL DIMENSIONS, UNLESS OTHERWISE NOTED, ARE FROM THE FACE OF CURB, FACE OF BUILDING, OR CENTERLINE OF STRIPE.
6. CONTRACTOR SHALL REFER TO PROJECT SPECIFICATIONS FOR PROPER MATERIALS.
7. ALL RADII FOR CURBS ARE TO FACE UNLESS OTHERWISE NOTED.
8. ALL RADII ON CURBS ARE 3'-0" UNLESS OTHERWISE NOTED.
9. GENERAL CONTRACTOR SHALL COORDINATE AND COMPLY WITH ALL UTILITY COMPANIES INVOLVED IN PROJECT AND PAY ALL REQUIRED FEES AND COSTS.
10. ALL WATER MAINS SHALL BE C900, DR-14, UNLESS OTHERWISE SPECIFIED ON THE PLANS. SIZE AS NOTED ON THE PLANS AND TO MAINTAIN 36" OF COVER (MINIMUM).
11. ALL FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINTS

BMP MAINTENANCE

THE CONTRACTOR SHALL IMPLEMENT ALL MEASURES SHOWN ON THE EROSION CONTROL PLAN AND IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) TO THE FULLEST EXTENT PRACTICAL. THE CONTRACTOR SHALL HAVE CHECKED ALL SEDIMENT AND EROSION CONTROL MEASURES BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS OR EVERY FOURTEEN (14) DAYS AND WITHIN 24 HOURS OF THE END OF A RAINFALL EVENT EXCEEDING 0.25". ALL SITE BMP'S SHALL BE MAINTAINED IN A FULLY FUNCTIONAL CONDITION UNTIL FINAL STABILIZATION OF THE SITE HAS OCCURRED. ALL SITE BMP'S SHALL BE REPAIRED AND / OR CLEANED IN ACCORDANCE WITH THE FOLLOWING:

1. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION ENTRANCE(S) IN A SUCH A CONDITION THAT WILL PREVENT MUD BEING TRACKED INTO ANY PUBLIC RIGHT OF WAY(S). THIS MAY REQUIRE PERIODIC TOP DRESSING OF ALL CONSTRUCTION ENTRANCE(S) AS NECESSARY.
2. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION. THIS MAY REQUIRE PERIODIC TOP DRESSING OF ALL PARKING AND STORAGE AREA(S) AS NECESSARY.
3. CONTRACTOR SHALL REPAIR ALL SILT FENCING TO THEIR ORIGINAL CONDITION IF DAMAGED; SEDIMENT SHALL BE REMOVED FROM ALONG THE FENCE WHEN SEDIMENT REACHES NO MORE THAN ONE-HALF THE HEIGHT OF THE SILT FENCE.
4. INLET BMP'S SHALL BE REPAIRED AND/OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING. CONTRACTOR SHALL REPLACE IF THEY SHOW SIGNS OF DETERIORATION.
5. ALL SEEDDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. CONTRACTOR SHALL FERTILIZE AND RESEED THESE AREAS AS NECESSARY.
6. IF THE GRAVEL FOUND IN ANY SEDIMENT FILTER(S) BECOME CLOGGED WITH SEDIMENT, CONTRACTOR SHALL PULL THE GRAVEL AWAY, CLEAN THE GRAVEL, AND REPLACE IN THE SEDIMENT FILTER(S).

SEQUENCE OF CONSTRUCTION

1. INSTALL PERIMETER EROSION CONTROL MEASURES AND TEMPORARY CONSTRUCTION ENTRANCES/CONCRETE WASHOUT.
2. INSTALL UNDERGROUND UTILITIES (ADJUST EXISTING SEDIMENT BARRIERS AS NECESSARY TO MAINTAIN SEDIMENT CONTROL); ADDITIONAL SEDIMENT BARRIERS SHALL BE UTILIZED AS REQUIRED TO BOUND THE DOWN SLOPE SIDE OF UTILITY CONSTRUCTION AND SOIL STOCKPILES.
3. FINAL GRADING (SEDIMENT BARRIERS SHALL BE MAINTAINED DOWN SLOPE FROM DISTURBED SOIL DURING THIS OPERATION).
4. COMPLETION OF ONSITE STABILIZATION.
5. REMOVE PERIMETER EROSION CONTROL MEASURES.

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STATE OF ARKANSAS
 LICENSED PROFESSIONAL ENGINEER
 No. 18410
 ERIC L. ANDERS ON
 07-23-2020
 ORIGINAL SIGNATURE ON FILE

NWACC IRRIGATION LINE RELOCATION
 WATER TOWER ROAD
 BENTONVILLE, AR

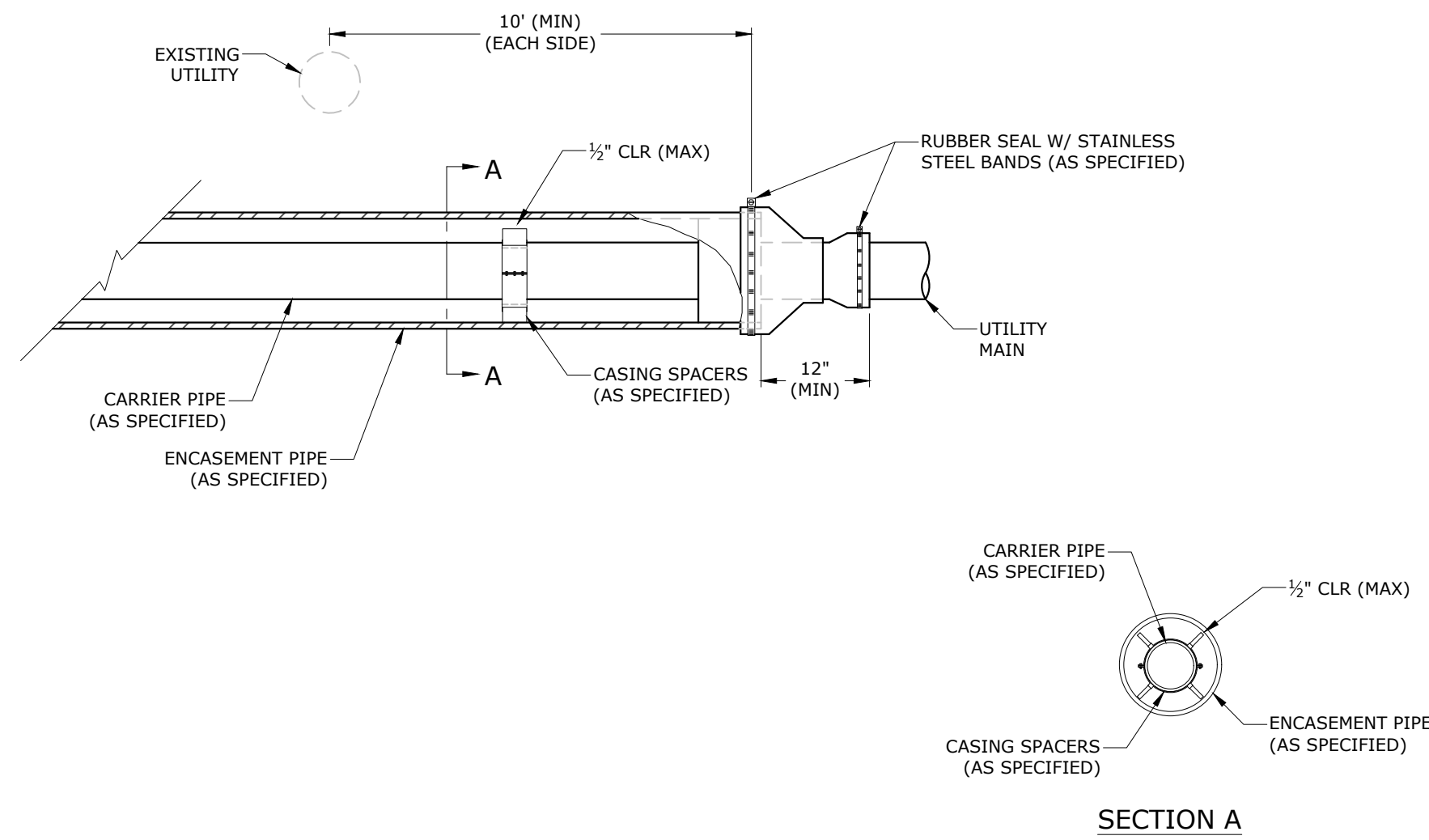
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 Know what's below.
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PLAN

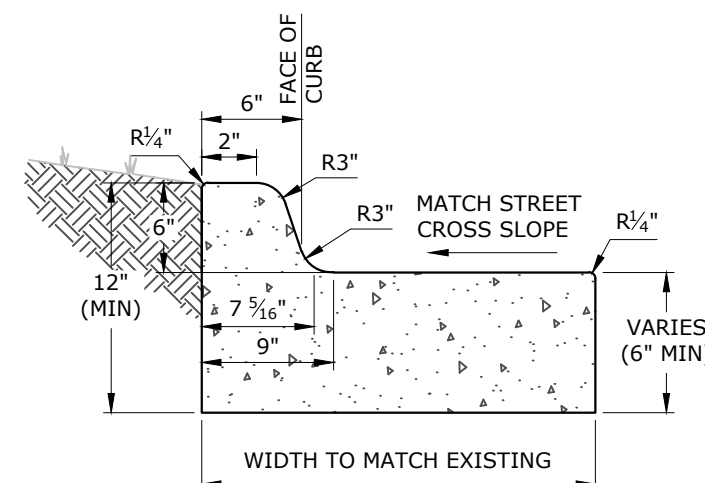
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DATE: 7/23/2020	REVISION: BID
SCALE: AS SHOWN	JOB NUMBER: 20-2147

- NOTES:
- INSTALL STEEL CASING ON UTILITY MAIN WHERE 18" SEPARATION BETWEEN WATER & SEWER CANNOT BE MAINTAINED, OR WATER MAIN IS LOCATED BELOW SEWER MAIN.
 - SPACERS SHALL BE PREFABRICATED STEEL SPACER SMITH-BLAIR MODEL #883 (OR APPROVED EQUAL)
 - QUANTITY OF RUNNERS SHALL BE IN ACCORDANCE W/ CARRIER PIPE SIZES:
UP TO 14"Ø: 4 RUNNERS
16"Ø - 36"Ø: 6 RUNNERS
 - DIMENSIONS BETWEEN SPACERS SHALL BE NO MORE THAN 6'-8"
 - A MINIMUM OF 3 SPACERS SHALL BE USED PER FULL JOINT OF PIPE.
 - SEWER LINES SHALL BE HELD TO SPECIFIED SLOPE (SEE PLANS).
 - CARRIER PIPE JOINTS IN CASINGS SHALL BE RESTRAINED JOINT FOR THRUST.
 - ALL ENCASEMENT PIPE SHALL BE NEW, SMOOTH WALL WELDED SHEET & HAVE A MINIMUM WALL THICKNESS PER THE ASSOCIATED ENCASEMENT CHART.



CARRIER & CASING SIZES							
CARRIER (ID)	2"	3"	4"	6"	8"	10"	12"
CASING (ID)	0'-5"	0'-6"	0'-8"	1'-0"	1'-0"	1'-0"	2'-4"
CASING WALL THICKNESS	0.25	0.25	0.25	0.25	0.25	0.25	0.375
CARRIER (ID)	14" - 16"	18" - 20"	24"	30"	36"	42"	48"
CASING (ID)	30"	36"	42"	48"	54"	60"	72"
CASING WALL THICKNESS	0.375	.5	.625	.625	.625	.625	.75

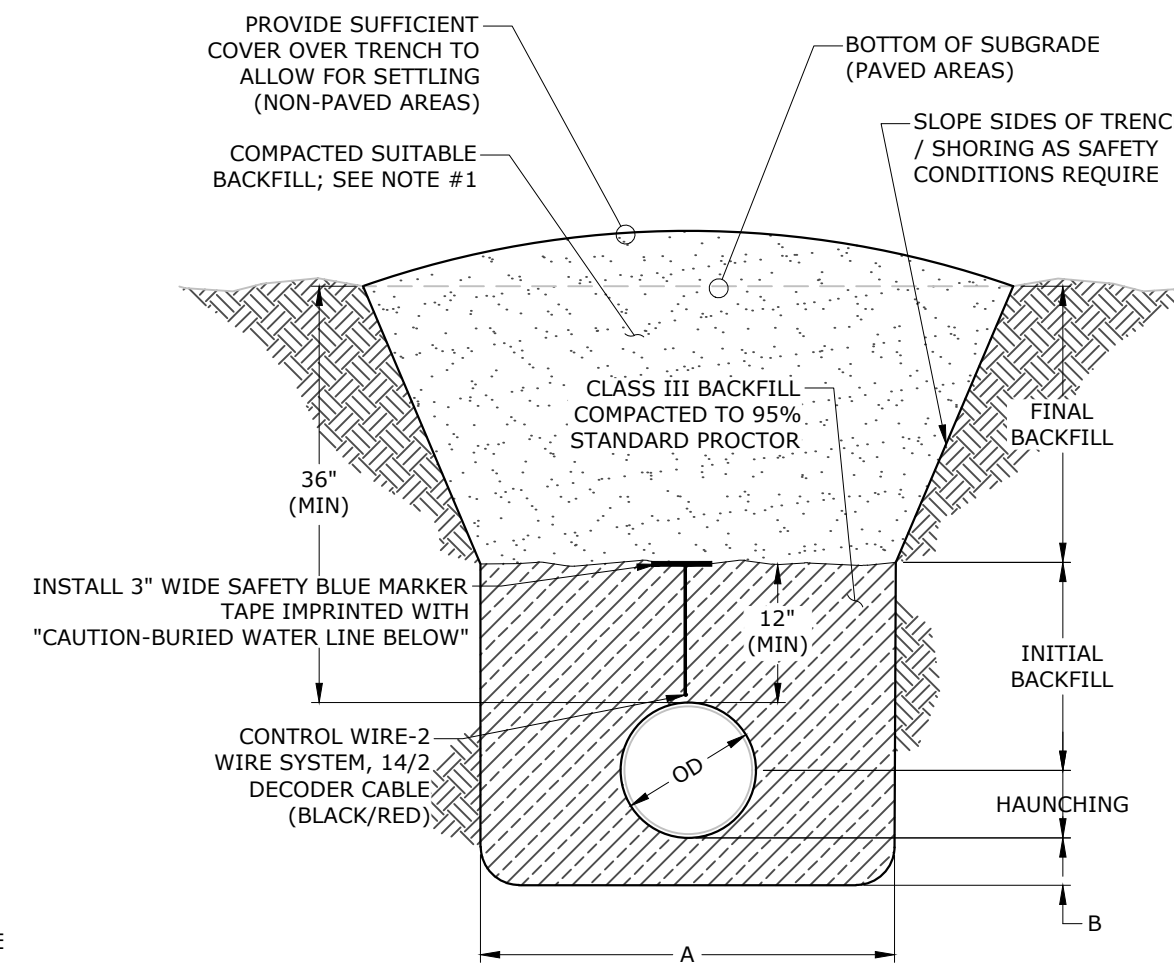
40F UTILITY MAIN ENCASEMENT
NTS



- NOTES:
- CONCRETE FOR CURB AND GUTTER TO BE CLASS A WITH A COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS (MIN).
 - ALL CURB AND GUTTER SHALL HAVE A BROOMED FINISH UNLESS OTHERWISE SPECIFIED.
 - SAW CUT JOINTS AT 15' O.C. SEAL WITH ONE PART COLD APPLIED SILICONE JOINT SEALER OR OTHER APPROVED SEALANT. ALL JOINTS TO BE SEALED PRIOR TO FINAL ASPHALT PLACEMENT.
 - PROVIDE 1/2" PREFORMED EXPANSION JOINT MATERIAL (ASPHALT IMPREGNATED FIBERBOARD OR OTHER APPROVED MATERIAL) AT STATIONARY STRUCTURES, (DROP INLETS, END OF CURBS, DRIVEWAYS - SEE DETAIL) OR AS DIRECTED BY ENGINEER.

20A TYPE 'A' STANDARD CONCRETE CURB & GUTTER
NTS

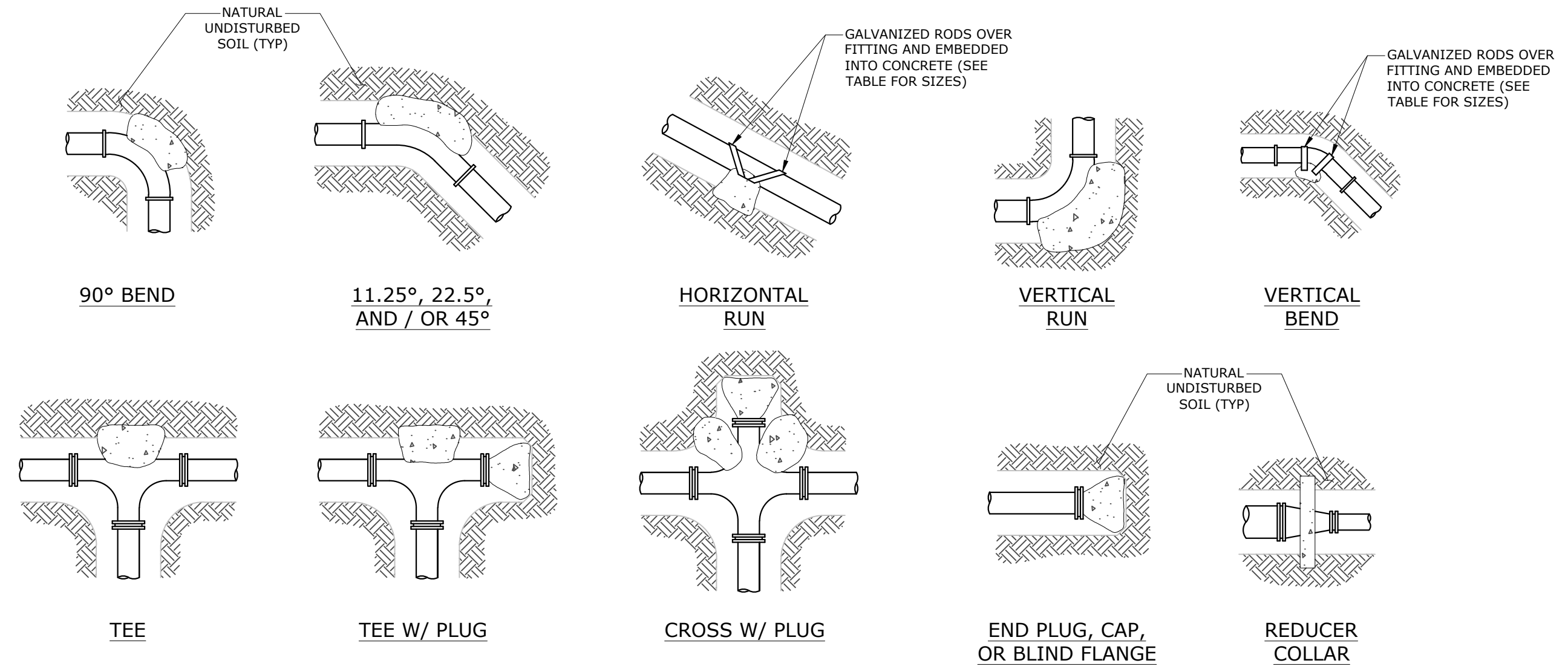
- NOTES:
- FOR AREAS WHERE PIPE IS LOCATED UNDER NON-PAVED AREAS, BACKFILL SHALL BE COMPACTED SUITABLE NATIVE MATERIAL (DO NOT INCORPORATE FROZEN MATERIAL OR SOFT, MUCK, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL).
 - FOR AREAS WHERE PIPE IS LOCATED UNDER PAVED AREAS, BACKFILL SHALL BE FULL DEPTH CLASS 7 BASE MATERIAL COMPACTED TO 95% MODIFIED PROCTOR IN LIFTS NO GREATER THAN 6 INCHES



TRENCHING, BACKFILL, & BEDDING TABLE	
'A'	ØD + 18" (MIN) ØD + 24" (MAX)
'B'	.25 x ØD (4" MIN)

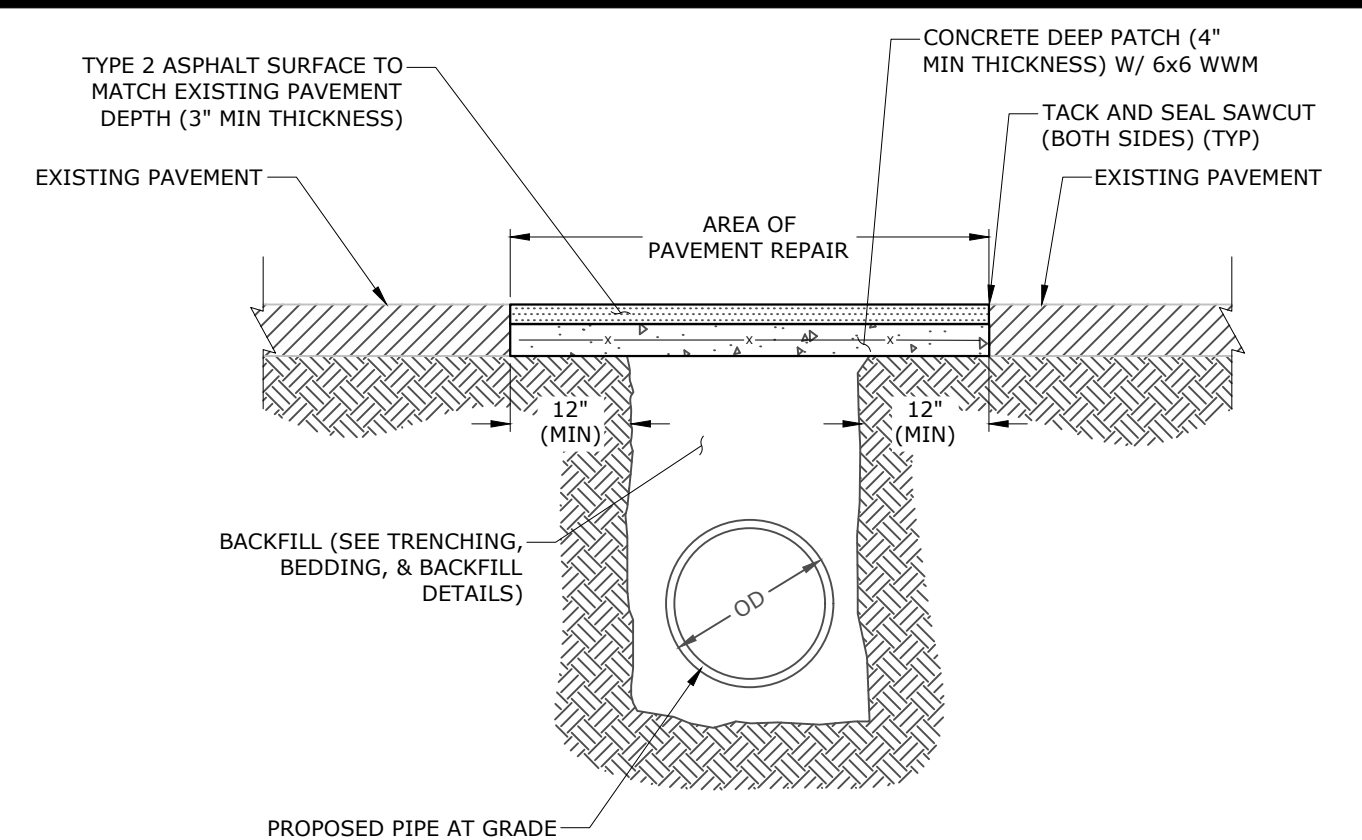
40L WATER LINE TRENCHING, BACKFILL, & BEDDING
NTS

- NOTES:
- CONCRETE FOR THRUST BLOCKS SHALL DEVELOP NOT LESS THAN 2500 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND BE PLACED AGAINST UNDISTURBED SOIL.
 - ALL BENDS, BOTH HORIZONTAL AND VERTICAL, SHALL BE BACKED WITH CONCRETE. VERTICAL BENDS SHALL BE PLACED ON CONCRETE PADS WHERE BENDS TURN UP, OR LOADED WHERE BENDS TURN DOWN.
 - WRAP PIPE JOINTS IN 8 MIL POLYETHYLENE BEFORE PLACING CONCRETE. USE LONG-RADIUS FITTINGS WHEREVER POSSIBLE.
 - BEARING AREA SHOWN IN TABLE, IS BASED UPON A 2000 LB/SF. SOIL BEARING, AND UPON A PIPELINE PRESSURE OF 250 PSI PLUS WATER HAMMER. AREAS SHOWN SHALL BE ADJUSTED, SHOULD FIELD CONDITIONS VARY.
 - UTILIZE MEGALUG THRUST RESTRAINTS ON MECHANICAL JOINT FITTINGS AND VALVES, IN ADDITION TO THESE THRUST BLOCKS.

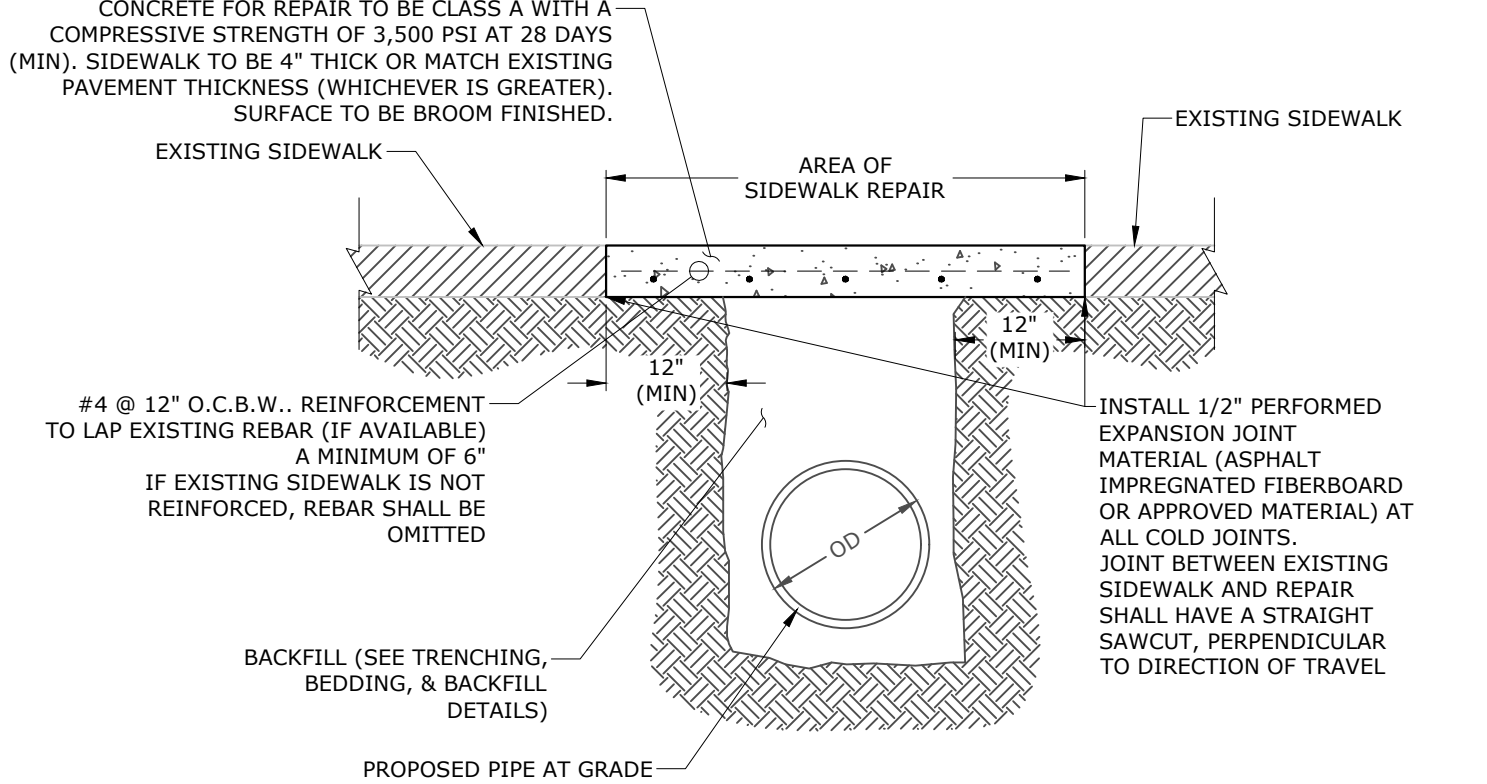


THRUST BLOCKING SCHEDULE												
BEARING AREA OF THRUST BLOCKING (SQ. FT.) (HORIZONTAL BENDS)						VOLUME OF THRUST BLOCKING (CU. FT.) (VERTICAL BENDS)						
FITTING SIZE	TEE, WYE, PLUG, OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN (A1)	TEE PLUGGED ON RUN (A2)	BEND ANGLES	FITTING SIZE	BEND ANGLES			ROD SIZE	EMBEDMENT	CUBIC YARDS
							45°	22.5°	11.25°			
2", 3", & 4"	1.30	1.80	1.30	1.80	1.00	2", 3", & 4"	1.50	0.5	0.3	#6	30"	-
6"	2.80	4.00	2.80	4.00	2.20	6"	3.60	1.3	0.5	#6	30"	-
8"	5.00	7.10	5.00	7.10	3.80	8"	5.30	2.0	0.8	#6	30"	0.6
10"	7.90	11.10	7.90	11.10	6.00	10"	8.00	3.1	1.2	#6	30"	-
12"	11.30	16.00	11.30	16.00	8.70	12"	11.30	4.3	1.7	#6	30"	1.3

40A THRUST BLOCKING
NTS



42A ASPHALT PAVEMENT REPAIR
NTS



42D SIDEWALK PAVEMENT REPAIR
NTS

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18410
ERIC L. ANDERSON
09.23.2020

ORIGINAL SIGNATURE ON FILE

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BENTONVILLE, AR

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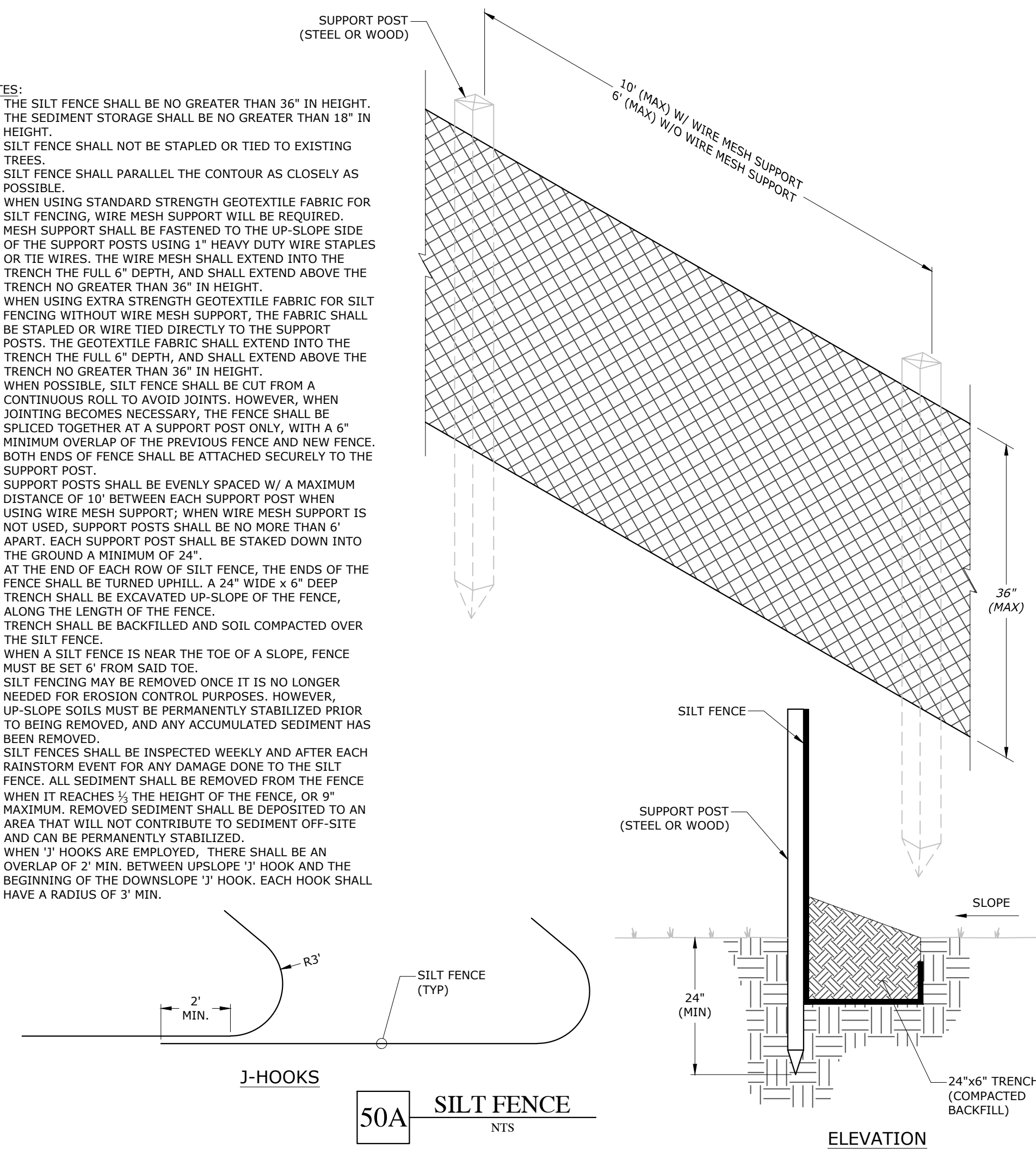
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DETAILS I

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REVISION: BID
JOB NUMBER: 20-2147

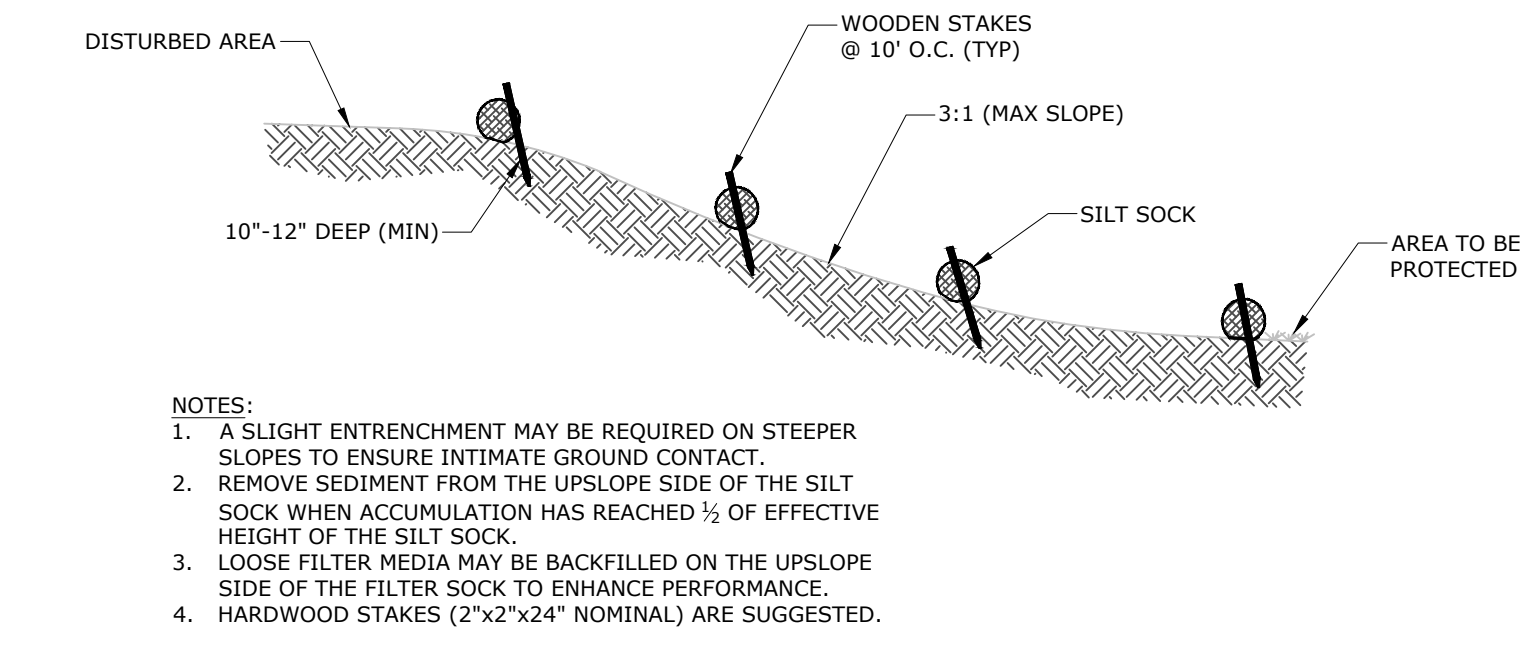
NOTES:

1. THE SILT FENCE SHALL BE NO GREATER THAN 36" IN HEIGHT.
2. THE SEDIMENT STORAGE SHALL BE NO GREATER THAN 18" IN HEIGHT.
3. SILT FENCE SHALL NOT BE STAPLED OR TIED TO EXISTING TREES.
4. SILT FENCE SHALL PARALLEL THE CONTOUR AS CLOSELY AS POSSIBLE.
5. WHEN USING STANDARD STRENGTH GEOTEXTILE FABRIC FOR SILT FENCING, WIRE MESH SUPPORT WILL BE REQUIRED. MESH SUPPORT SHALL BE FASTENED TO THE UP-SLOPE SIDE OF THE SUPPORT POSTS USING 1" HEAVY DUTY WIRE STAPLES OR TIE WIRES. THE WIRE MESH SHALL EXTEND INTO THE TRENCH THE FULL 6" DEPTH, AND SHALL EXTEND ABOVE THE TRENCH NO GREATER THAN 36" IN HEIGHT.
6. WHEN USING EXTRA STRENGTH GEOTEXTILE FABRIC FOR SILT FENCING WITHOUT WIRE MESH SUPPORT, THE FABRIC SHALL BE STAPLED OR WIRE TIED DIRECTLY TO THE SUPPORT POSTS. THE GEOTEXTILE FABRIC SHALL EXTEND INTO THE TRENCH THE FULL 6" DEPTH, AND SHALL EXTEND ABOVE THE TRENCH NO GREATER THAN 36" IN HEIGHT.
7. WHEN POSSIBLE, SILT FENCE SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID JOINTS. HOWEVER, WHEN JOINING BECOMES NECESSARY, THE FENCE SHALL BE SPLICED TOGETHER AT A SUPPORT POST ONLY, WITH A 6" MINIMUM OVERLAP OF THE PREVIOUS FENCE AND NEW FENCE. BOTH ENDS OF FENCE SHALL BE ATTACHED SECURELY TO THE SUPPORT POST.
8. SUPPORT POSTS SHALL BE EVENLY SPACED W/ A MAXIMUM DISTANCE OF 10' BETWEEN EACH SUPPORT POST WHEN USING WIRE MESH SUPPORT; WHEN WIRE MESH SUPPORT IS NOT USED, SUPPORT POSTS SHALL BE NO MORE THAN 6' APART. EACH SUPPORT POST SHALL BE STAKED DOWN INTO THE GROUND A MINIMUM OF 24".
9. AT THE END OF EACH ROW OF SILT FENCE, THE ENDS OF THE FENCE SHALL BE TURNED UPHILL. A 24" WIDE X 6" DEEP TRENCH SHALL BE EXCAVATED UP-SLOPE OF THE FENCE, ALONG THE LENGTH OF THE FENCE.
10. TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE SILT FENCE.
11. WHEN A SILT FENCE IS NEAR THE TOE OF A SLOPE, FENCE MUST BE SET 6' FROM SAID TOE.
12. SILT FENCING MAY BE REMOVED ONCE IT IS NO LONGER NEEDED FOR EROSION CONTROL PURPOSES. HOWEVER, UP-SLOPE SOILS MUST BE PERMANENTLY STABILIZED PRIOR TO BEING REMOVED, AND ANY ACCUMULATED SEDIMENT HAS BEEN REMOVED.
13. SILT FENCES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINSTORM EVENT FOR ANY DAMAGE DONE TO THE SILT FENCE. ALL SEDIMENT SHALL BE REMOVED FROM THE FENCE WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE, OR 9" MAXIMUM. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
14. WHEN 'J' HOOKS ARE EMPLOYED, THERE SHALL BE AN OVERLAP OF 2' MIN. BETWEEN UPSLOPE 'J' HOOK AND THE BEGINNING OF THE DOWNSLOPE 'J' HOOK. EACH HOOK SHALL HAVE A RADIUS OF 3' MIN.



50A SILT FENCE
NTS

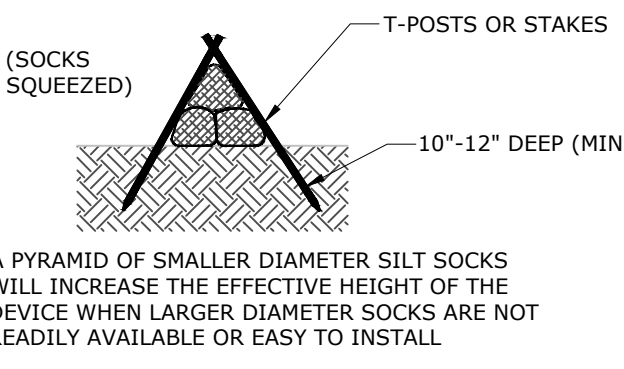
SLOPE INTERRUPTION



NOTES:

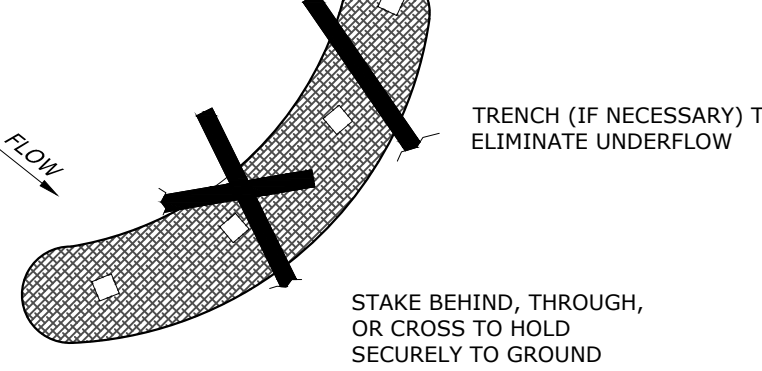
1. A SLIGHT ENTRENCHMENT MAY BE REQUIRED ON STEEPER SLOPES TO ENSURE INTIMATE GROUND CONTACT.
2. REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF THE SILT SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF EFFECTIVE HEIGHT OF THE SILT SOCK.
3. LOOSE FILTER MEDIA MAY BE BACKFILLED ON THE UPSLOPE SIDE OF THE FILTER SOCK TO ENHANCE PERFORMANCE.
4. HARDWOOD STAKES (2"x2"x24" NOMINAL) ARE SUGGESTED.

PYRAMID INSTALLATION STAKING



A PYRAMID OF SMALLER DIAMETER SILT SOCKS WILL INCREASE THE EFFECTIVE HEIGHT OF THE DEVICE WHEN LARGER DIAMETER SOCKS ARE NOT READILY AVAILABLE OR EASY TO INSTALL

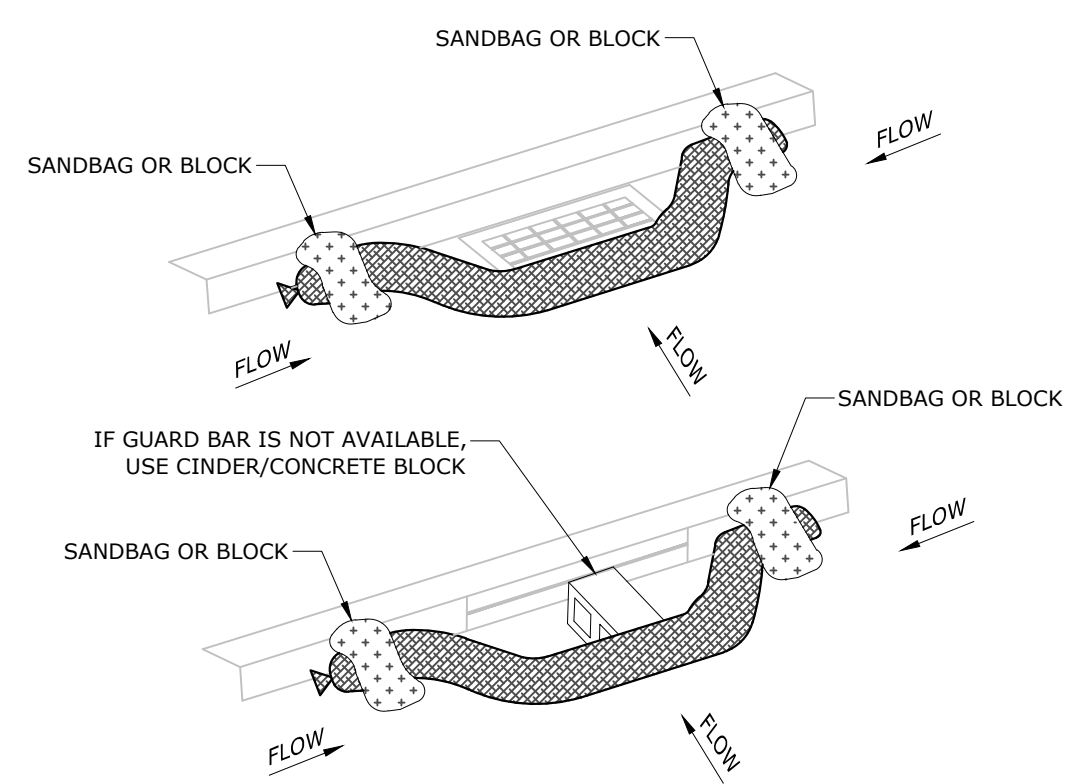
DITCH CHECK



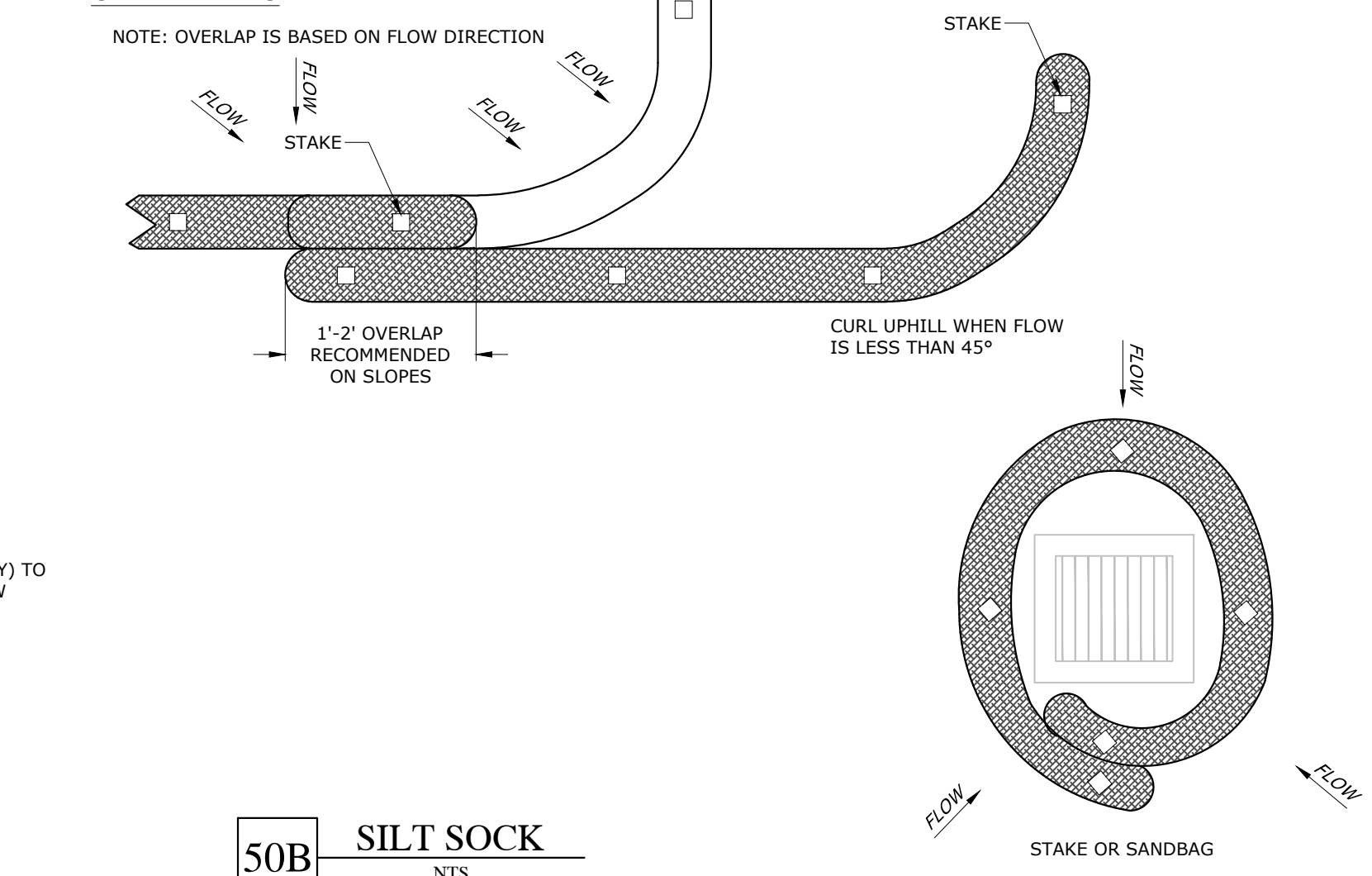
INSTALL SILT SOCK PERPENDICULAR TO FLOW WITH ENDS CURLED SLIGHTLY UPSTREAM TO PREVENT HIGH WATER FROM GOING AROUND THE ENDS. SLOW AND SPREAD WATER TO REDUCE CHANNELING AND EROSION

50B SILT SOCK
NTS

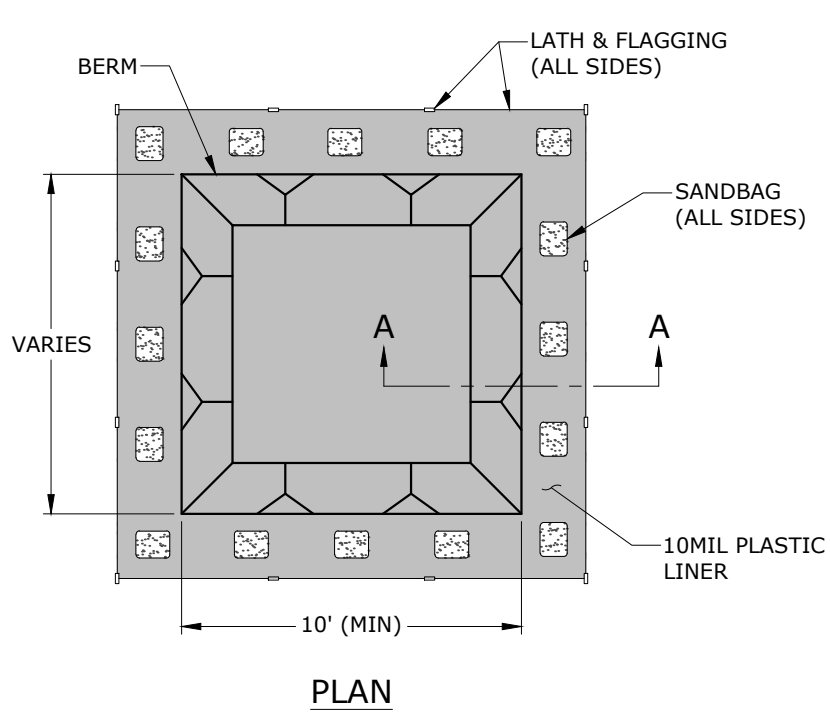
INLET PROTECTION



PERIMETER CONTROL & OVERLAPPING

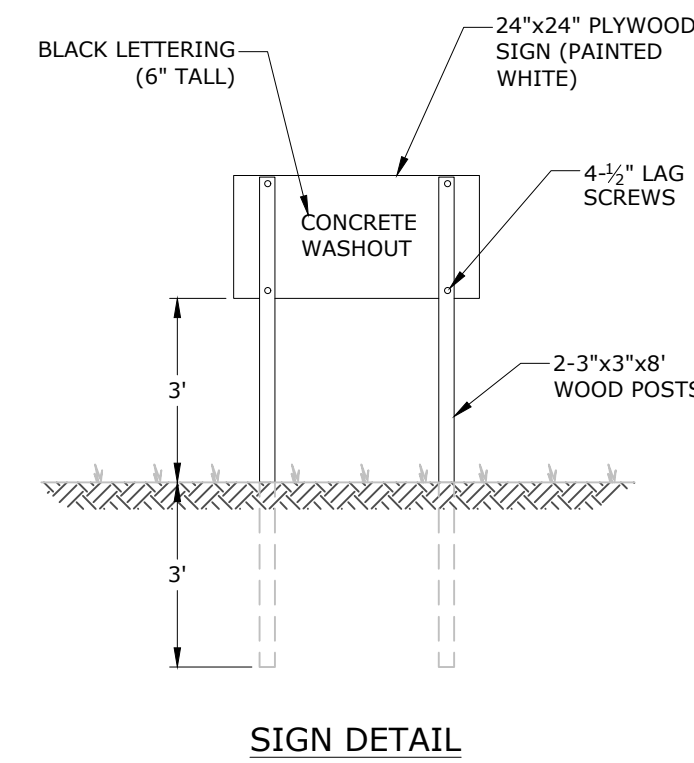
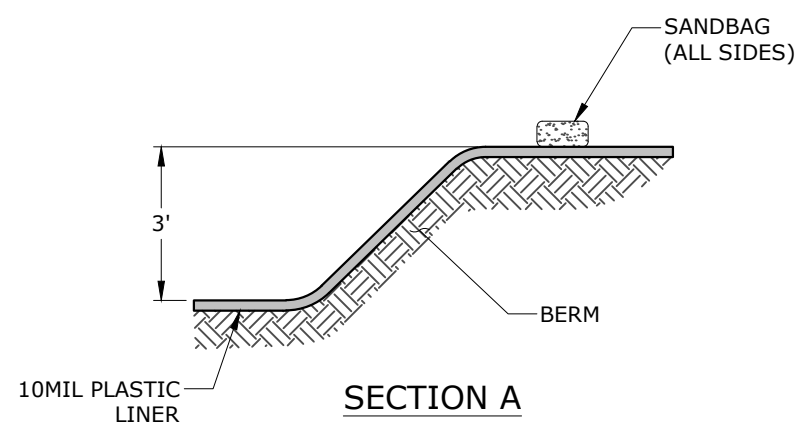


50C PERIMETER CONTROL & OVERLAPPING
NTS



NOTES:

1. NO WASHING OUT OF CONCRETE TRUCKS OR WASHING OF SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS IS ALLOWED.
2. EXCESS CONCRETE IS NOT ALLOWED TO BE DUMPED ON-SITE, EXCEPT IN DESIGNATED TEMPORARY CONCRETE WASHOUT PIT AREAS.
3. ON-SITE TEMPORARY CONCRETE WASHOUT AREAS WILL BE LOCATED AT LEAST 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES AS DETERMINED IN THE FIELD.
4. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
5. TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
6. WASHOUT FACILITIES WILL BE CLEANED OUT ONCE THE WASHOUT IS 75% FULL.
7. PLASTIC LINING MATERIAL WILL BE MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND WILL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS.
8. WHEN WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR WORK, THE HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE REMOVED FROM THE SITE AND DISPOSED OF.



SIGN DETAIL

50D TEMPORARY CONCRETE WASHOUT
NTS

MCE McClelland Consulting Engineers, Inc.
DESIGNED TO SERVE
1810 N COLLEGE AVE
FAYETTEVILLE, ARKANSAS 72703
(479) 443-2377
HTTP://WWW.MCE.US.COM

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18410
ERIC L. ANDERS ON
09-23-2020

ORIGINAL SIGNATURE ON FILE

NWACC IRRIGATION LINE RELOCATION
WATER TOWER ROAD
BENTONVILLE, AR

811
Know what's below.
Call before you dig.

REVISIONS	DESCRIPTION
REV	DATE

DETAILS II

DESIGNED BY: ELA	DRAWN BY: JPS
DATE: 7/23/2020	REVISION: BID
SCALE: AS SHOWN	JOB NUMBER: 20-2147