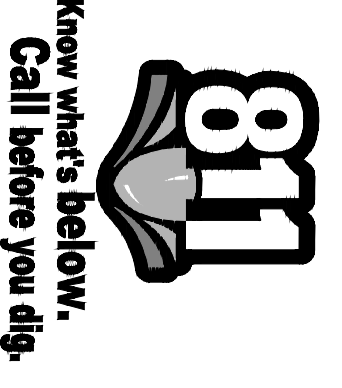


EXHIBIT 4

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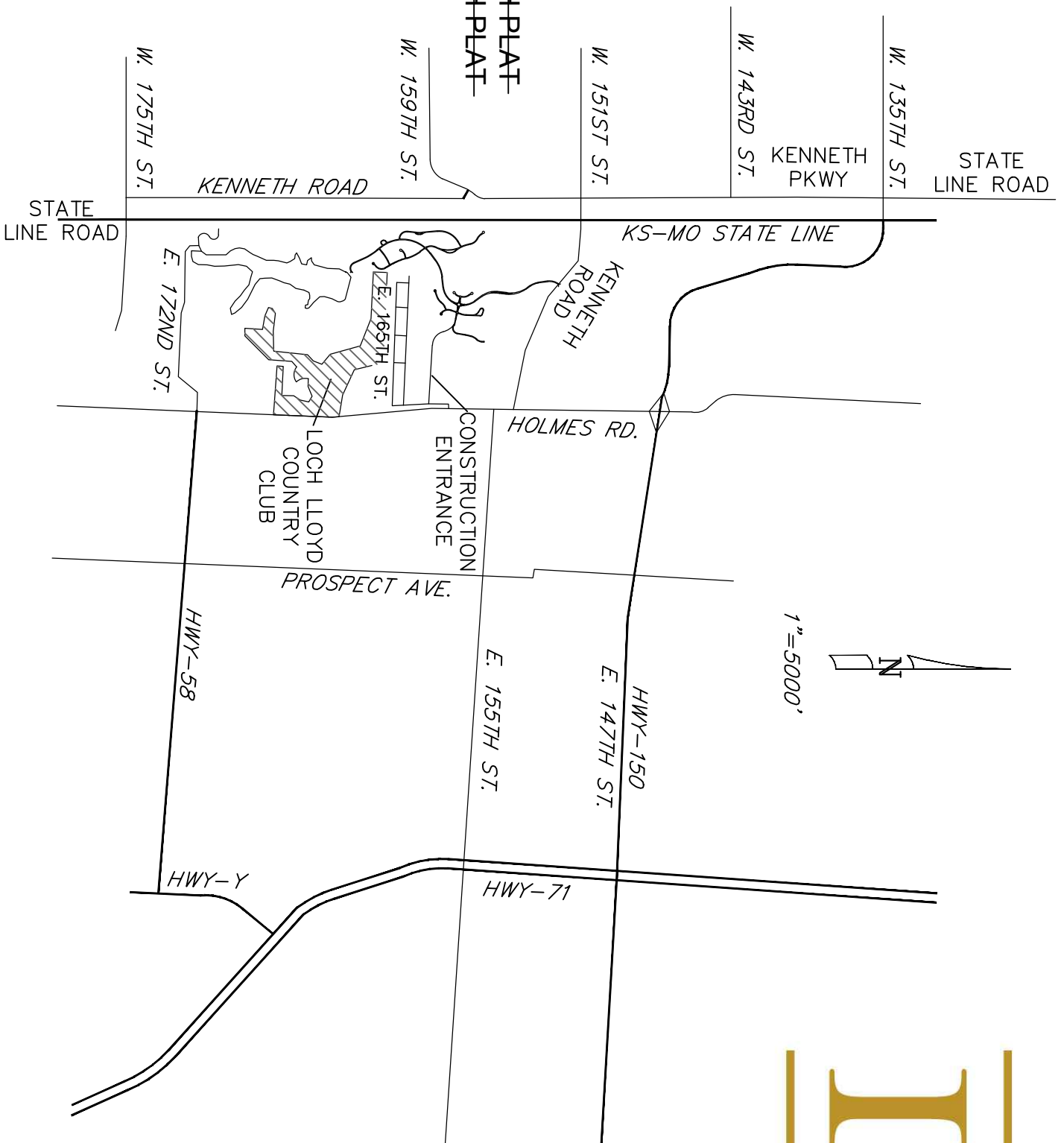
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REFER SHEETS C102, C121, C131, C141 FOR SURVEY CONTROL FOR THIS PROJECT.

VICINITY MAP



SECHREST 3RD PLAT

STREET AND STORM SEWER PLANS EROSION CONTROL PLANS WATERMAIN AS-BUILT PLANS SANITARY AS-BUILT PLANS

VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

SEC. 7, TWP. 46N, RNG. 33W AND
 SEC. 23, TWP. 14S, RNG. 25E



LOCH LLOYD

AS-BUILT

CERTIFICATION

I HAVE REVIEWED THESE PLANS AND UNDERSTAND WHAT IS PROPOSED. THE WORK WILL BE ACCOMPLISHED IN ONE CONTRACT WITH A WORK BREAKDOWN AS FOLLOWS:

1. GENERAL CONTRACTOR

ANY INCIDENTAL WORK NOT SPECIFICALLY PERMITTED (i.e. FINAL CLEANUP) WILL BE COMPLETED BY THE GENERAL CONTRACTOR.

DEVELOPER: S-9 REDEV, L.L.C.
 11150 OVERBROOK RD
 LEAWOOD, KS 66211
 PHONE: 816-509-7754

DATE BROOK _____ DATE _____
 CO-MANAGER

CERTIFICATION BLOCK

I CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED, AND THESE PLANS PREPARED, TO MEET OR EXCEED THE DESIGN CRITERIA OF THE VILLAGE OF LOCH LLOYD, MISSOURI IN CURRENT USAGE, EXCEPT AS INDICATED BELOW:

EXCEPTIONS:

1. NONE
2. _____
3. _____

BRETT HAUGLAND, P.E. L.A. _____ DATE _____
 PROJECT MANAGER 02/23/2026

TRENT SHRIDDER, P.E. _____ DATE _____
 DESIGN ENGINEER P.E. 22100027

APPROVED BY: _____

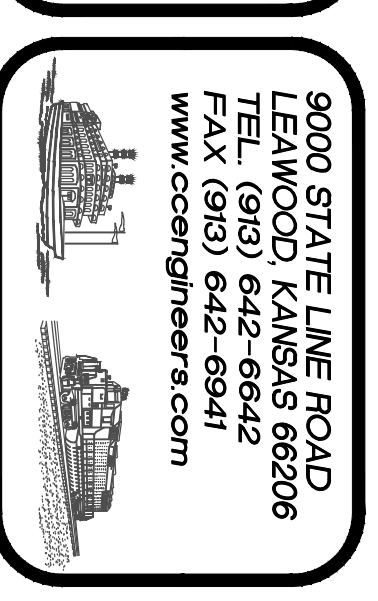
HOWARD WHITEY _____ DATE _____
 MANAGER NORTHWEST CASS COUNTY WATER & SEWER RESOURCE DISTRICT

SPECIFICATIONS

THE SPECIFICATIONS FOR THIS PROJECT SHALL BE THE AMERICAN PUBLIC WORKS ASSOCIATION "STANDARD SPECIFICATIONS AND DESIGN CRITERIA". THE STANDARD SPECIFICATIONS THROUGH AND INCLUDING THE LATEST AMENDMENTS SHALL BE A PART OF THESE PROJECT DRAWINGS AND SPECIFICATIONS AND ARE INCORPORATED HEREIN BY REFERENCE. THE MORE STRINGENT OF THESE STANDARD SPECIFICATIONS AND THOSE PREPARED BY THE ENGINEER PREPARING THESE PLANS SHALL GOVERN. IN ADDITION THE VILLAGE OF LOCH LLOYD WATERSEWER SPECIFICATIONS.

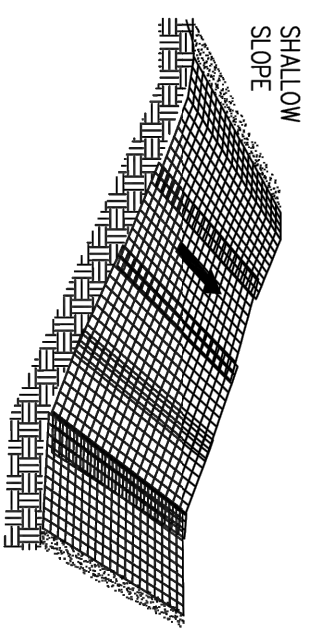
UTILITIES

AT&T - TRANSMISSION (JUSTIN RAHM)	678-231-5933
AT&T - DISTRIBUTION (BRENT RAMIREZ)	913-383-4884
LOCH LLOYD - NW CASS COUNTY RESOURCE BOARD	816-916-9365
(WATER AND SEWER SERVICES - HEATH ROSE)	816-276-5545
KCP&L (HEATH LENAHAN)	800-MCFLWORK
MC/WESTERN UNION	816-400-3327
SPIRE ENERGY (DORSEY TROUTMAN)	816-353-5000 OR 737-7821
MISSOURI PUBLIC SERVICE	913-643-4205
CHARTER - SPECTRUM (ANASTASIA VARSHYTSKA)	913-906-1512
PANHANDIE GAS-ENERGY TRANSFER (BRIAN ANDERSON)	913-837-3671
TALGRASS ENERGY (PAUL ERB)	913-599-8940
KANSAS GAS SERVICE	

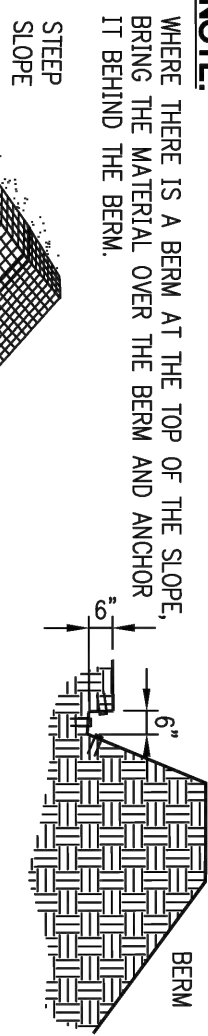


FEBRUARY 23, 2026

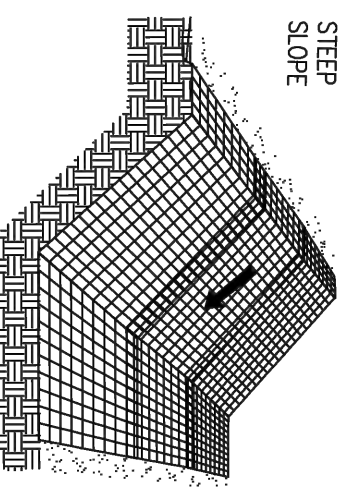
EROSION CONTROL BLANKET



NOTE:
 ON SHALLOW SLOPES, PROTECTIVE EROSION CONTROL FABRIC SHOULD BE LAYED ACROSS THE SLOPE.



NOTE:
 THERE IS A BERM AT THE TOP OF THE SLOPE. BRING THE MATERIAL OVER THE BERM AND ANCHOR IT BEHIND THE BERM.



TOP OF SLOPE BLANKET ANCHOR SLOT

NOTE:
 ON STEEP SLOPES, APPLY PROTECTIVE EROSION CONTROL FABRIC PERPENDICULAR TO THE DIRECTION OF FLOW AND ANCHOR SECURELY.



DITCH

NOTE:
 IN DITCHES APPLY PROTECTIVE EROSION CONTROL FABRIC PERPENDICULAR TO THE DIRECTION OF FLOW. USE CHECK SLOTS AS REQUIRED. AVOID JOINING MATERIAL IN THE CENTER OF THE DITCH IF AT ALL POSSIBLE. FOLLOW BLANKET MANUFACTURER'S RECOMMENDATIONS FOR ALLOWABLE VELOCITY AND SHEAR STRESS.

EROSION CONTROL BLANKET NOTES (1 OF 2):

- A) SITE PREPARATION:**
 AFTER SITE HAS BEEN SHAVED AND GRADED, PREPARE A FERTILE SEEDBED RELATIVELY FREE FROM CLDS AND ROCKS MORE THAN 1 INCH IN DIAMETER AND ANY FOREIGN MATERIAL THAT WILL PREVENT UNIFORM CONTACT OF THE PROTECTIVE COVERING WITH THE SOIL SURFACE.
- B) PLANTING:**
 LIME, FERTILIZER, AND SEED IN ACCORDANCE WITH SEEDING OR PLANTING PLAN. WHEN USING LIME USE ON A SEEDING AREA. APPLY PROTECTIVE COVERING ONE HALF THE SEED AFTER LAYING THE MAT. THE PROTECTIVE COVERING CAN BE LAID OVER SPRIGGED AREAS WHERE SMALL GRASS PLANTS HAVE BEEN INSERTED INTO THE SOIL. WHERE GROUND COVERING ARE TO BE PLANTED, LAY THE PROTECTIVE COVERING FIRST AND THEN PLANT THROUGH THE MATERIAL AS PER PLANTING PLAN.
- C) LAYING AND STAPLING:**
 IF INSTRUCTIONS HAVE BEEN FOLLOWED, ALL NEEDED CHECK SLOTS WILL HAVE BEEN INSTALLED, AND THE PROTECTIVE COVERING WILL BE LAID ON A FERTILE SEEDBED FREE FROM CLDS, ROCKS, ROOTS, ETC. THAT WOULD IMPEDER GOOD CONTACT.
1. START LAYING THE PROTECTIVE COVERING FROM THE TOP OF THE CHANNEL OR SLOPE AND UNROLL DOWN-GRADE.
 2. ALLOW TO LAY LOOSELY ON SOIL. DO NOT STRETCH.
 3. STAPLE TO THE SOIL AT 12 INCHES ON SLOPES AND 6 INCHES ON FLAT.
 4. FINALLY OVER THE MATERIAL, WHEN TOP IS RELATIVELY FLAT, EXTEND BLANKET ABOUT 40 INCHES AWAY FROM SLOPE.
 5. STAPLE THE MATERIAL AT A MINIMUM OF EVERY 12 INCHES ACROSS THE TOP END.
 6. EDGES OF THE MATERIAL SHALL BE STAPLED EVERY 3 FEET, WHERE MULTIPLE WIDTHS ARE LAID SIDE BY SIDE. THE ADJACENT EDGES SHALL BE OVERLAPPED A MINIMUM OF 6 INCHES AND STAPLED TOGETHER.
 7. STAPLES SHALL BE PLACED DOWN THE CENTER, STAPLED WITH THE EDGES AT 3'-00" INTERVALS.

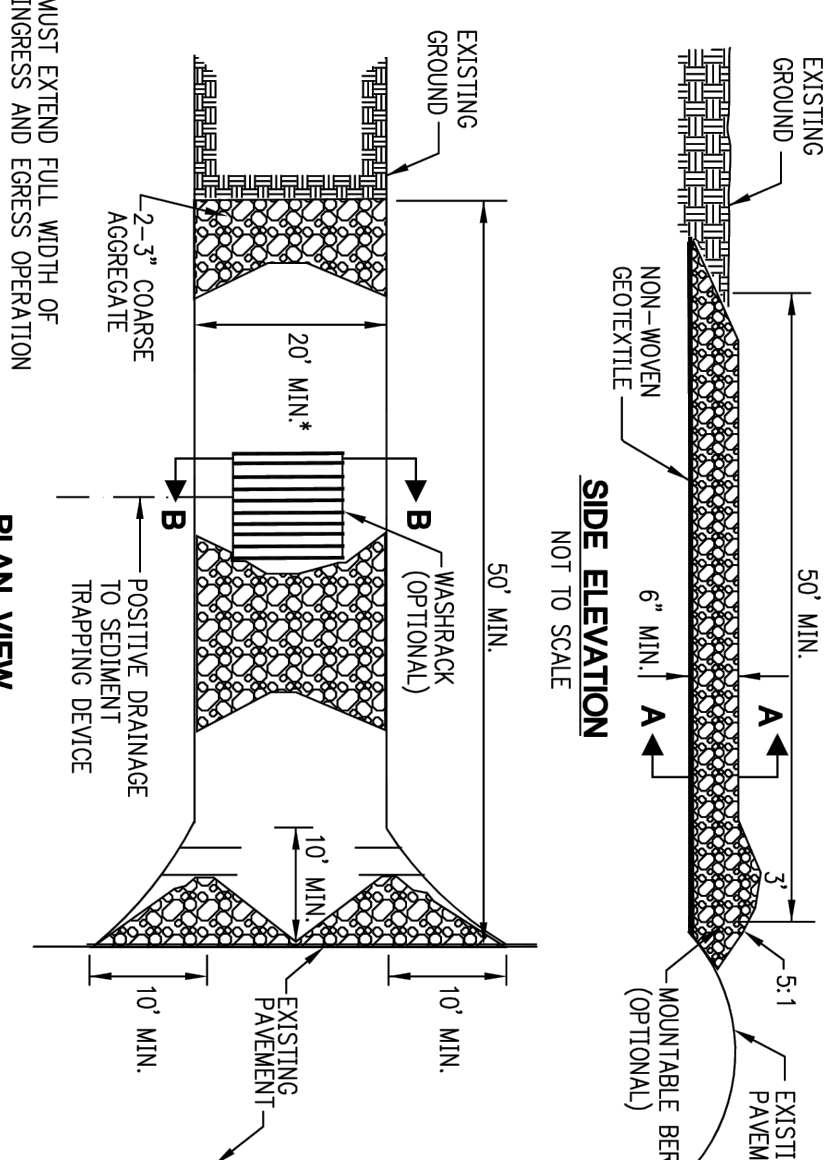
D) TROUBLESHOOTING:

- CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL, IF ANY OF THE FOLLOWING OCCUR:
1. MOVEMENT OF THE BLANKET OR EROSION UNDER THE BLANKET IS OBSERVED.
 2. VARIATIONS IN TOPOGRAPHY ON SITE INDICATE EROSION CONTROL MAT WILL NOT FUNCTION AS INTENDED. CHANGES IN PLAN OR ELEVATION SHALL BE MADE TO CORRECT THE PROBLEM.
 3. DESIGN SPECIFICATIONS FOR SEED VARIETY, SEEDING DATES, OR EROSION CONTROL MATERIALS CANNOT BE MET. SUBSTITUTION MAY BE REQUIRED. UNAPPROVED SUBSTITUTIONS COULD RESULT IN FAILURE TO ESTABLISH VEGETATION.

E) MAINTENANCE & INSPECTION

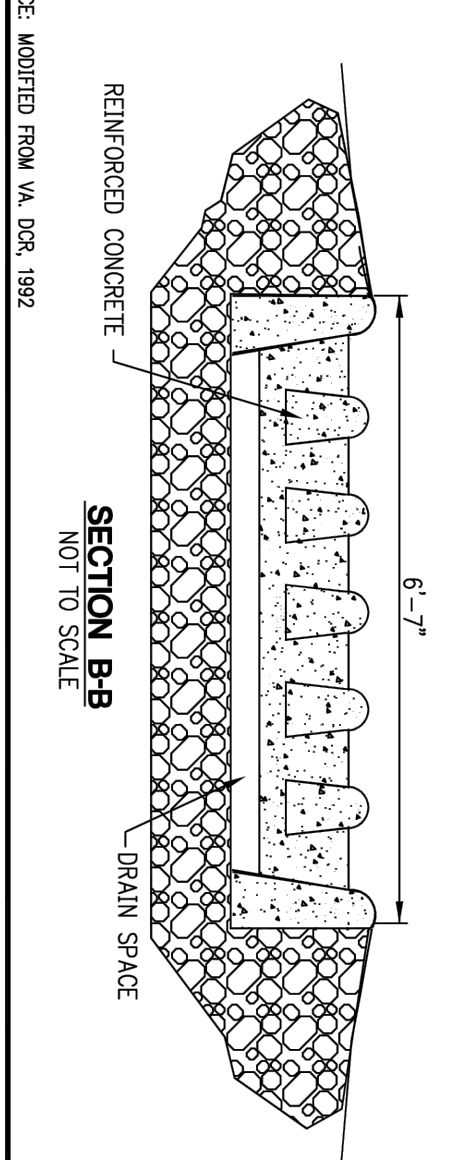
INSPECT CONTROL AFTER EACH RAIN EVENT OF 1/2 INCH OR GREATER, AND EVERY 7 DAYS UNTIL VEGETATION IS ESTABLISHED. FOR EROSION OR UNDERMINING BENEATH THE NETTING, BLANKETS, OR MATS. IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE MATERIAL, AND SOIL, TAMP DOWN, AND RESEED. RESCUE THE MATERIAL IN PLACE. IF NETTING, BLANKETS OR MATS BECOME DISLOCHED OR DAMAGED, REPAIR OR REPLACE AND RESEED IMMEDIATELY.

TEMPORARY CONSTRUCTION ENTRANCE



* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION

PLAN VIEW

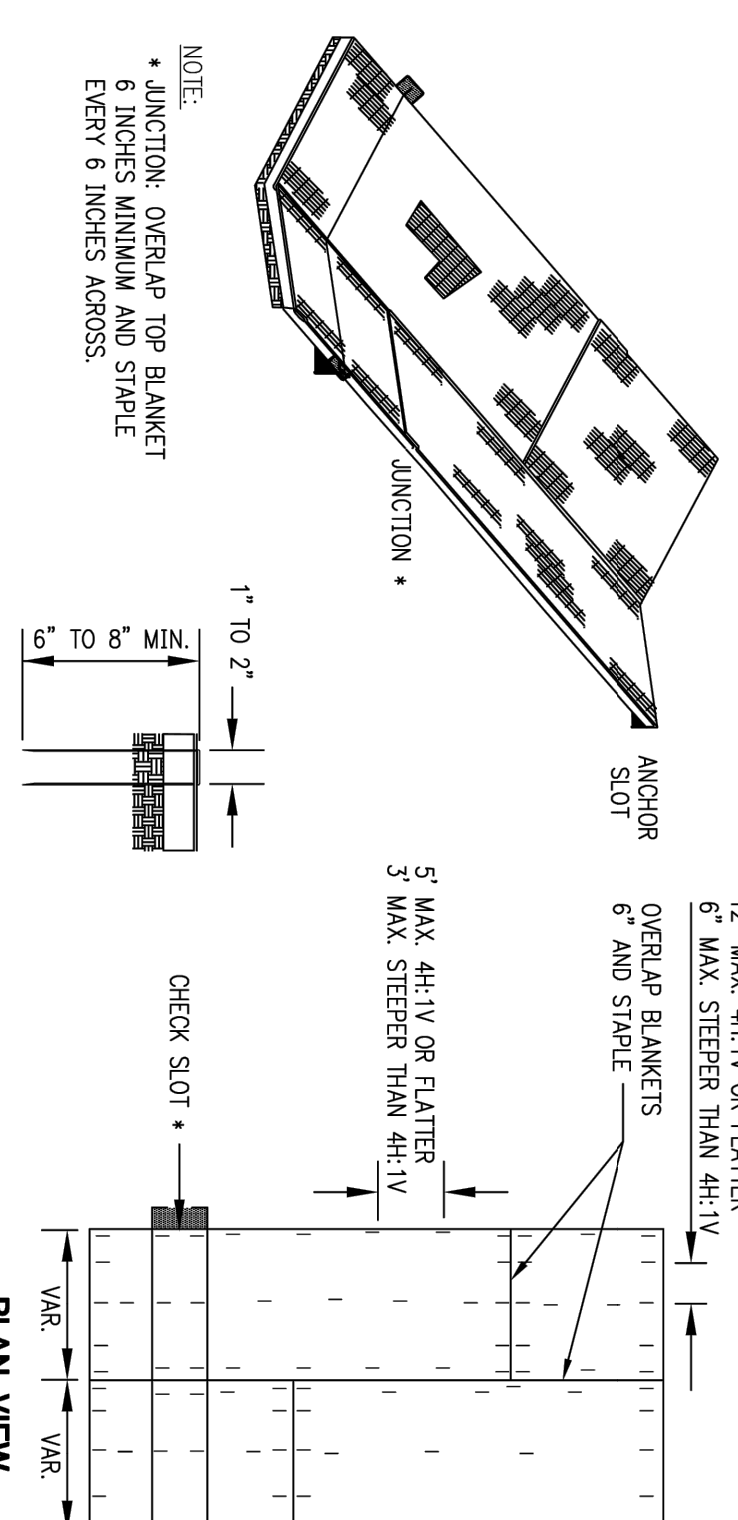


TEMPORARY CONSTRUCTION ENTRANCE PAD NOTES:

- A) INSTALLATION:**
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED.
 2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
 3. IF SLOPE TOWARDS THE PUBLIC ROAD EXCEEDS 2% CONSTRUCT A 6-TO 8-INCH HIGH RIDGE WITH 3H:1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERST RUNOFF AWAY FROM IT.
 4. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS.
 5. PLACE STONE TO TO DIMENSIONS AND GRADE AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
 6. DIVERST ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE.
 7. IF MET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.
- B) TROUBLESHOOTING:**
- a. INADEQUATE RUNOFF CONTROL TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROAD - INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES.
 - b. SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL. - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC.
 - c. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.
- C) INSPECTION AND MAINTENANCE:**
1. INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER 1/2-INCH OR GREATER STORM EVENTS.
 2. RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL.
 3. TOPRESS WITH CLEAN 2-AND 3-INCH STONE AS NEEDED.
 4. IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.
 5. REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED.

AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY
TEMPORARY CONSTRUCTION ENTRANCE	METROPOLITAN CHAPTER
	STANDARD SPECIFICATIONS FOR EROSION CONTROL
	ADOPTED

EROSION CONTROL BLANKET INSTALLATION FOR CHANNELS



NOTE:
 ACTION OVERLAP TOP BLANKET 6 INCHES MINIMUM AND STAPLE EVERY 6 INCHES ACROSS.

NOTE:
 STAPLE FORMED FROM NO.11 STEEL WIRE. MIN. 8" STAPLE LENGTH FOR SANDY SOIL. MIN. 6" STAPLE LENGTH FOR OTHER SOIL.

NOTE:
 APPROXIMATELY 200 STAPLES ARE REQUIRED PER 100 SQ. YDS. OF MATERIAL ROLL. ANCHOR SLOTS, JOINTION SLOTS, AND CHECK SLOTS TO BE BURRED 6" TO 12" DEEP.

NOTE:
 CHECK SLOTS AT MIN. 50' INTERVALS, NOT TO BE BURRED WITH ALL COMBINATION BLANKETS.

EROSION CONTROL BLANKET NOTES (2 OF 2):

- F) STAPLES:**
 STAPLES FOR ANCHORING BLANKET SHALL BE NO. 11-GAUGE WIRE OR HEAVIER. THEIR LENGTH SHALL BE A MINIMUM OF 8 INCHES. A LARGER STAPLE WITH A MINIMUM OF 10" TO 12 INCHES SHALL BE USED ON LOOSE, SANDY OR UNSUITABLE SOILS.
- G) JOINING PROTECTIVE COVERINGS:**
 OVERLAP THE END OF THE PREVIOUS ROLL A MINIMUM OF 6 INCHES AND STAPLE. STAPLE ACROSS THE END OF THE ROLL. JUST BELOW THE ANCHOR SLOT AND ACROSS THE MATERIAL EVERY 6 INCHES.
- H) TERMINAL END:**
 AT THE POINT AT WHICH THE MATERIAL IS DISCONTINUED, OR WHERE THE MATERIAL REMAINS WEZLS A STRUCTURE OF SOME TYPE, STAPLE A MINIMUM OF EVERY 12 INCHES.
- I) FINAL CHECK:**
 THESE INSTALLATION CRITERIA MUST BE ADHERED TO.
1. ALL DISTURBED AREAS ARE SEEDED.
 2. PROTECTIVE BLANKET IS IN UNIFORM CONTACT WITH THE SOIL.
 3. ALL LAP JOINTS ARE SECURE.
 4. ALL STAPLES ARE DRIVEN FLUSH WITH THE GROUND.

SEEDING WITH HYDROMULCH SPECIFICATION

A 12-12-12 FERTILIZER SHALL BE INCORPORATED AT A RATE OF 200 LBS. PER ACRE INTO THE HYDROMULCH SLURRY.

HYDROMULCH PRODUCT SHALL BE A BONDED FIBER MATRIX (SPRAYMATT) AS SUPPLIED BY CENTRAL FIBER CORPORATION OR EQUAL (48" x 48" FIBER LAKE, WELLSVILLE, KANSAS 800-654-6171).

BONDED FIBER MATRIX SHALL BE MADE FROM NON-TOXIC, BIODEGRADABLE, VIRGIN WOOD FIBER. THE ONE 50 LB BAG PRODUCT DOES NOT REQUIRE ADDITIONAL TAGGERS TO PERFORM EROSION CONTROL MEASURES.

ADD 100 GALLONS OF WATER TO EACH 50 LB BAG OF SPRAYMATT. ADD SEED AND FERTILIZER TO SLURRY MIX. THE SLURRY SHOULD APPEAR AS A BLEND OF MATERIALS WITH NO SEPARATION OF WATER AND ADDITIVES. SLURRY SHALL BE HELD IN TRUCK FOR NO LONGER THAN 12 HOURS PRIOR TO APPLICATION.

WATER RATIO: 1 BAG IN APPROX. 100 GAL. WATER

REQUIRED USAGE: 3,000 LBS. PER ACRE

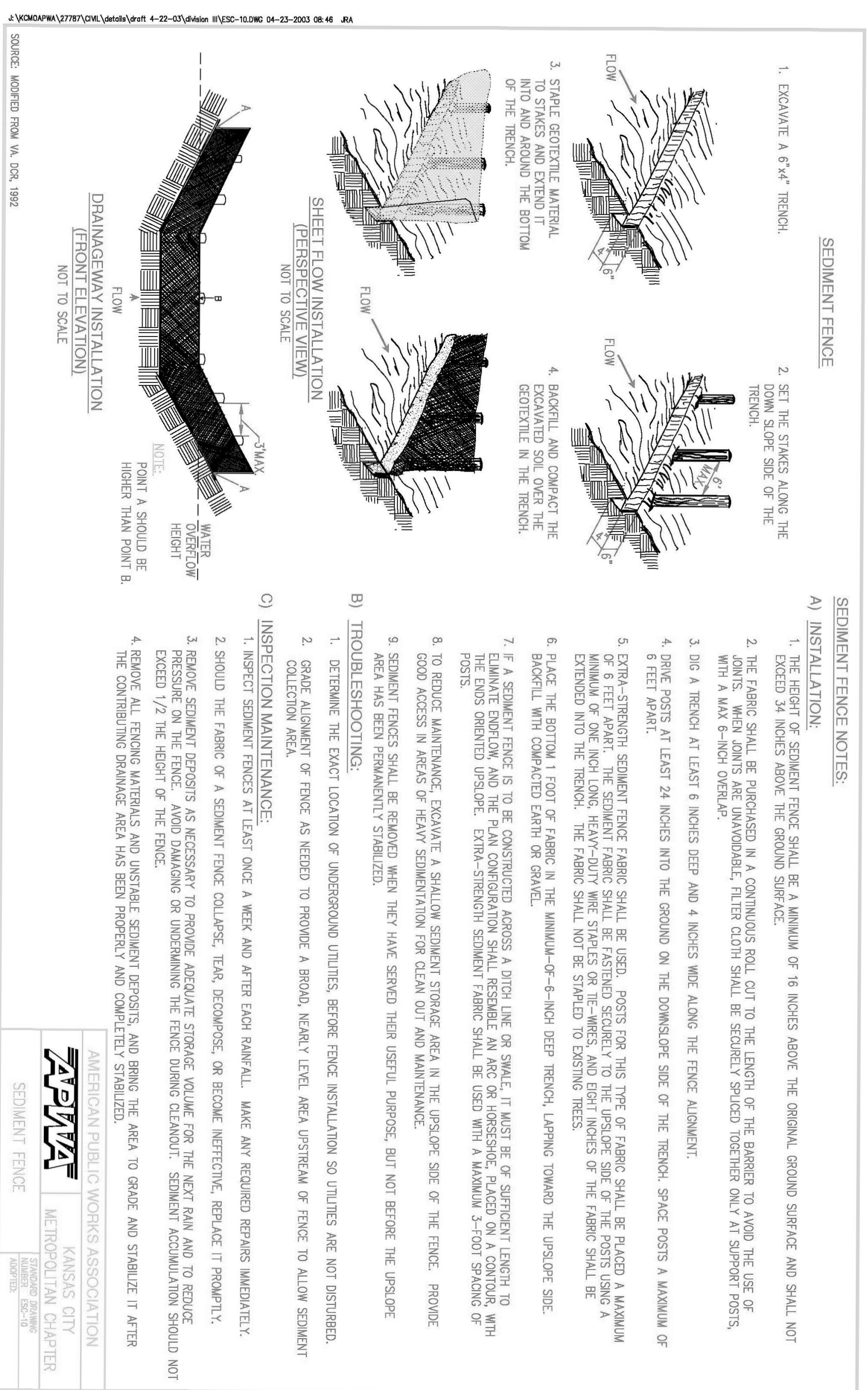
APPLY SPRAYMATT TO THE GROUND SURFACE FROM THE TOP OF THE SLOPE TO THE BOTTOM. ALLOW THE MATERIAL TO "RAIN ON" THE SURFACE. FIRST APPLY A PRIMARY COAT OVER THE SURFACE. THEN APPLY ADDITIONAL COATS OVER THE SAME AREA REPEATING THIS PROCEDURE UNTIL 100% COVERAGE IS ACHIEVED. DO NOT APPLY A THICK COAT IN A SINGLE PASS. APPLYING SPRAYMATT TO THE FLAT SURFACE AT THE TOP OF THE SLOPE WILL HELP TO ELIMINATE THE POSSIBILITY OF WATER GETTING UNDER THE MATERIAL AND CAUSING EROSION.

BOTANICAL NAME	COMMON NAME	P.L.S. RATE (LBS./ACRE)
FESCUE OVINA	SHEEP FESCUE (SANDPIPER)	32
FESCUE RUPEA	RED FESCUE (WICTOR)	32
FESTUCA ARUNDINACEA	TURF TYPE TALL FESCUE	226
POA PRATIENSIS	KENTUCKY BLUEGRASS	32
LOLIUM MULTIFLORUM	ANNUAL KICGRASS	32
TOYAL (LBS/ACRE)		360

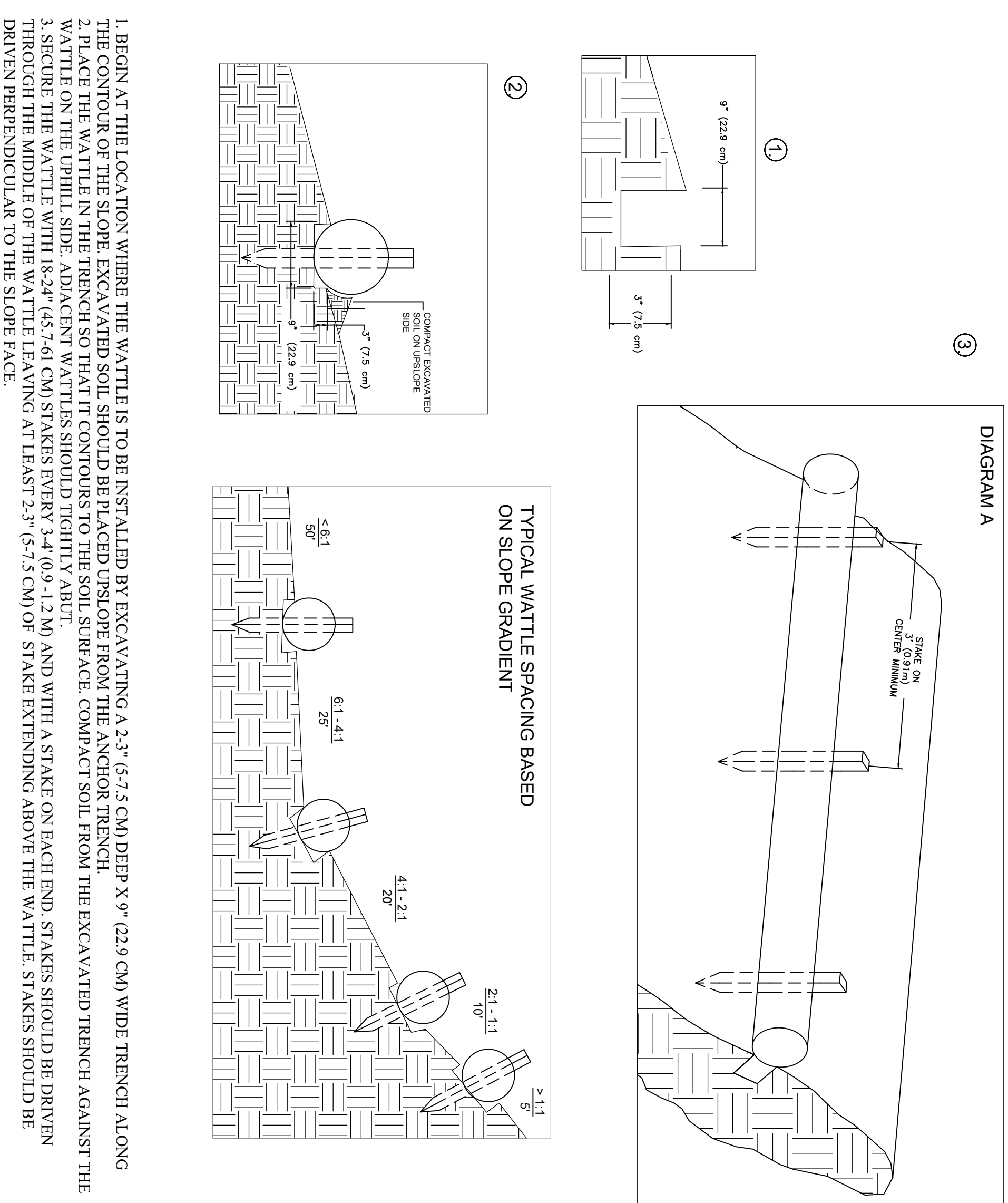
ALL AREAS DISTURBED BY NEW CONSTRUCTION OR MARKED TEMPORARY SEEDING SHALL BE SEEDED IN ACCORDANCE WITH APWA SECTION 2400 SEEDING AND SOODING. THE SEED MIX SHALL BE AS FOLLOWS WHEN USED WITH HYDROMULCH OR EROSION CONTROL FABRIC:

AMERICAN PUBLIC WORKS ASSOCIATION	
APWA	KANSAS CITY
EROSION CONTROL BLANKET	METROPOLITAN CHAPTER
	STANDARD SPECIFICATIONS FOR EROSION CONTROL
	ADOPTED

SEDIMENT FENCE



STRAW WATTLE INSTALLATION GUIDE



GENERAL NOTES:

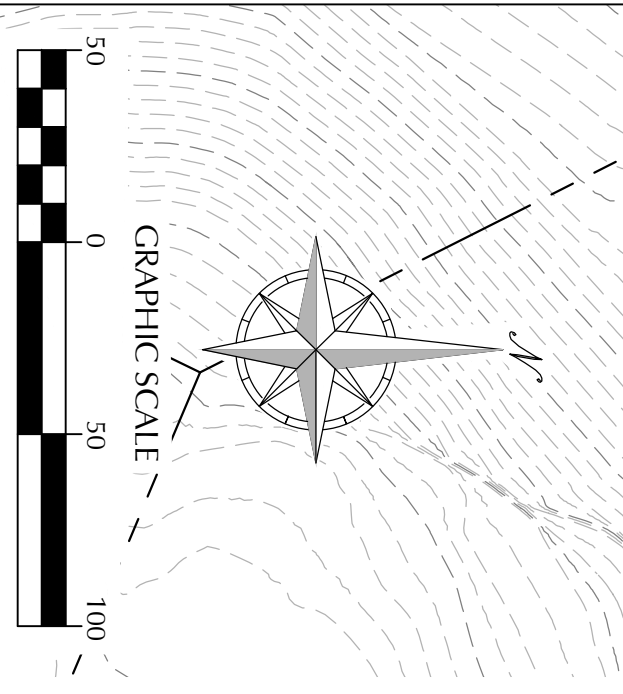
1. THE CONTRACTOR COVERED BY THESE PLANS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA).
2. THE GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITIES COMPANIES, AS NOTED ON THE COVER SHEET, 48 HOURS PRIOR TO THE START OF CONSTRUCTION AND 72 HOURS PRIOR TO ANY UTILITY WORK.
3. THE INFORMATION ON THESE PLANS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO EXISTING UTILITIES, AND SHALL BE RESPONSIBLE FOR THE COORDINATION OF UTILITY ADJUSTMENTS.
4. THE CONTRACTOR SHALL RESPECT ALL WORK AND STORAGE OF MATERIALS TO WITHIN PROPERTY LINES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF GROUNDWATER AS REQUIRED BY CONDITIONS OF CONSTRUCTION.
6. ALL AREAS DISTURBED BY NEW CONSTRUCTION SHALL BE RESEED OR SOILED IN ACCORDANCE WITH APWA.
7. PRIOR TO OERBING STRUCTURES, SHOP DRAWINGS SHOULD BE SUBMITTED TO CONTINENTAL CONSULTING ENGINEERS FOR REVIEW AND APPROVAL.
8. MATERIALS ENCOUNTERED DURING EXCAVATION SHALL BE CONSIDERED "CLASSIFIED". THESE MATERIALS SHALL BE AS DEFINED UNDER THE NATIONAL SANITARY ENGINEERING ASSOCIATION (NSPE) STANDARD FOR UNDERGROUND UTILITIES. MATERIALS SHALL BE RESEED OR SOILED IN ACCORDANCE WITH APWA.
9. PRIOR TO MOBILIZATION, THE CONTRACTOR SHALL CONDUCT PRELIMINARY REGION CONTROL MEASURES. SEE SITE DISTURBANCE PLAN FOR REGION AND SEWER CONTROL MEASURES.
10. ALL AREAS OF SITE GRADING SHALL BE STRIPPED OF TOP SOIL AND THE MATERIAL SHALL BE REDEPOSITED TO THE SAME DEPTH WITHIN THE PROJECT LIMITS. ALL SITE GRADING SHALL BE COMPLETED. THE TOPSOIL SHALL BE STRIPPED AND RESEED. A MINIMUM OF 4" TOPSOIL SHALL BE PLACED WITHIN MECHANICAL AREAS.
11. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE EXISTING TREES ON THE PROJECT.
12. PRIOR TO PLACING FILL AND EXISTING SLOPES EXCEEDING 3:1 SHALL BE RESEED. THE RESEED SHALL BE MORE SUITABLE TO ACCOMMODATE CONSTRUCTION EQUIPMENT. RESEED SHALL BE PLACED WITHIN STRUCTURES AND BELOW PAVEMENTS SHALL BE COMPACTED TO A DENSITY OF AT LEAST 95% OF THE MAXIMUM DRY DENSITY PER ASTM D-698. VERY OPTIMUM MOISTURE RANGE WITH GEOTECHNICAL ENGINEER.
13. THE CONTRACTOR SHALL PROVIDE AT LEAST ONE (1) 400' CHEMICALLY TREATED PORTABLE TOILET UNIT. SALETTE CORROSION OR EQUAL, FOR EVERY 20 WORKERS ON THE JOB SITE (IN NO CASE SHALL LESS THAN 1 BE PROVIDED). THE UNITS SHALL REMAIN ON SITE DURING ALL ACTIVE PHASES OF THE CONSTRUCTION.
14. WHEN THE LIMITS OF EXCAVATION REACH INTO THE PIPE LINE OF A TREE BY THE RADII OR GREATER, THE ROOT SYSTEM SHALL BE SAVED BY MEANS OF A SMALL BRANCHER OR OTHER APPROVED METHOD TO A DEPTH OF 36" WITHIN THE DRAIN LINE PRIOR TO EXCAVATION BY A BACKHOE OR DOZER. ROOTS BELOW 36" SHALL BE SAVED AND NOT REPT BY A BACKHOE BRACKET.

15. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE GEOTECHNICAL ENGINEER DURING ALL STAGES OF EXCAVATION. CONSTRUCTION TO VERIFY PROPER MATERIAL AND COMPACTION. GEOTECHNICAL REPRESENTATION SHALL BE ON SITE FOR FILL-TYPE INSPECTION DURING MAJOR CONSTRUCTION PROCESSES.
16. NO WORK SHALL COMMENCE UNTIL ALL PERMITS ARE OBTAINED. THESE MAY INCLUDE, BUT ARE NOT LIMITED TO: SITE DISTURBANCE PERMIT, GRADING PERMIT, AND PERMITS FROM THE STATE AND COUNTY.
17. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL STORM SEWER CONNECTIONS/CROSSINGS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
18. THE CONTRACTOR SHALL PROTECT ALL UTILITIES AT PRE CONSTRUCTION TO DETERMINE CORRECT PLACEMENT OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE FOR TEMPORARY SHORING AND SUPPORT OF ALL UTILITIES ENCOUNTERED WHILE CONSTRUCTING THE PROJECT.
19. WHILE THE STORM SEWER SYSTEM HAS BEEN DESIGNED TO CLEAR MAJOR UTILITIES, UNKNOWN CONDITIONS MAY EXIST, AND THE ENGINEER RESERVES THE RIGHT TO ADJUST THE STORM SEWER PIPE ELEVATIONS AS REQUIRED TO CLEAR CONDITIONS. WHERE THESE ADJUSTMENTS RESULT IN ROWS BEING RAISED OR LOWERED 1' MAXIMUM, THERE SHALL BE NO ADDITIONAL PAYMENT MADE FOR REWORKING OR RECONSTRUCTION WORKS REQUIRED.
20. FOR STORM SEWERS BEING PLACED UNDERNEATH PAVEMENT BACK FILL SHALL BE MODOT TYPE 5 AND COMPACTED IN LITS MONITORED BY GEOTECH.
21. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT ELEVATIONS ARE GRADED IN CONFORMANCE WITH THE APPROVED GRADING PLANS. ALSO, IF THE CONTRACTOR HAS ANY DRAINAGE PROBLEMS WITH THE APPROVED GRADING PLANS, HE MUST CONTACT THE ENGINEER FOR REVISION AND TO VERIFY THE DRAINAGE PROBLEMS.
22. ALL CAST-IN-PLACE CONCRETE SHALL USE GRANITE CALCITE CEMENTED SANDSTONE QUARTZITE BASALT DRASE RHINOITE OR EQUIVALENT FOR DESIGN AND STRENGTH. THE CONTRACTOR SHALL PROVIDE PROTECTIVE MEASURES TO PREVENT DAMAGE TO EXISTING UTILITIES AND STRUCTURES.

23. AREAS TO RECEIVE FILL AND BACKFILL SHALL BE STRIPPED OF SURFACE VEGETATION, TOPSOIL (UNCOMPACTED DEPTH OF 4" TO 15"), SOIL SOIL, AND OTHER DESTRUCTIVE MATERIALS. THE EXPOSED SUBGRADE SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF FILL. THE SUBGRADE SHALL BE PROTECTED WITH A MANDRA XCEL DRAIN ROCK (LOADED TO APPROXIMATELY 2000 LBS/SQ YD) TO PREVENT FILL FROM COMPRESSING THE SUBGRADE. THE SUBGRADE SHALL BE PROTECTED WITH A MANDRA XCEL DRAIN ROCK (LOADED TO APPROXIMATELY 2000 LBS/SQ YD) TO PREVENT FILL FROM COMPRESSING THE SUBGRADE. THE SUBGRADE SHALL BE PROTECTED WITH A MANDRA XCEL DRAIN ROCK (LOADED TO APPROXIMATELY 2000 LBS/SQ YD) TO PREVENT FILL FROM COMPRESSING THE SUBGRADE.
24. SURFACE FILL MATERIAL SHALL CONSIST OF LOW PLASTICITY CLAYEY SILT OR SILT CLAY WITH A LIQUID LIMIT LESS THAN 40% AND UNCOMPACTED DENSITY OF 120 PCF. SOILS WITH LIQUID LIMITS EXCEEDING 40% SHALL BE REJECTED. SOILS WITH UNDESIRABLE CHARACTERISTICS SHALL BE REJECTED. SOILS WITH UNDESIRABLE CHARACTERISTICS SHALL BE REJECTED. SOILS WITH UNDESIRABLE CHARACTERISTICS SHALL BE REJECTED.
25. SOIL FILL SHALL BE PLACED IN MAXIMUM LOOSE LIFT THICKNESS AND COMPACTED TO A MINIMUM DENSITY OF 95% OF MAXIMUM DRY DENSITY ACCORDING TO ASTM D-998. SOIL FILL MATERIAL SHALL BE COMPACTED PER GEOTECHNICAL ENGINEER RECOMMENDATION. EXCAVATION ON THE SOIL CONTRACTOR SHALL BE THE SAME AS CONSTRUCTION. EXCAVATION OR REMOVAL OF SOIL SHALL BE APPROVED BY THE ENGINEER. EXCAVATION SHALL BE APPROVED BY THE ENGINEER. EXCAVATION SHALL BE APPROVED BY THE ENGINEER.
26. ROCK FILL MATERIAL MAY BE UTILIZED IN FILL UP TO 48 INCHES BELOW THE TOP OF SUBGRADE OR FINISH GRADE OF GRADED AREAS. ROCK FILL SHALL CONSIST OF ROCK HAVING A MAXIMUM DIMENSION OF 4" IN ANY DIRECTION. ROCK FILL SHALL BE PLACED IN A MINIMUM OF 30% ROCK IN THE MATERIAL TO 30% SOIL MATERIAL. VERY OPTIMUM MOISTURE RANGE WITH GEOTECHNICAL ENGINEER. ROCK FILL SHALL BE PLACED IN A MINIMUM OF 30% ROCK IN THE MATERIAL TO 30% SOIL MATERIAL. VERY OPTIMUM MOISTURE RANGE WITH GEOTECHNICAL ENGINEER.
27. CLAY SOILS WITHIN 24" FLOOR SLAB SUBGRADES, AND 18" OF PAVEMENT SUBGRADES WITH A LIQUID LIMIT GREATER THAN 45 SHALL BE REMOVED AND REPLACED TO THE DESIGNER AND CONTRACTOR'S SATISFACTION.
28. SOIL MODIFICATION WITH FLY ASH OR CEMENT IS SELECTED, THEN FLY ASH AND SOIL SHALL BE THOROUGHLY MIXED WITHIN 1/2 COMPACTION OF THE FLY ASH SOIL. SHALL BE COMPLETED WITHIN TWO HOURS AFTER MIXING.

LEGEND:

	PROPOSED UNDERGROUND POWER
	PROPOSED STORM SEWER
	EXISTING STORM SEWER
	PROPOSED WATER MAIN
	EXISTING WATER MAIN
	PROPOSED SANITARY FORCE MAIN
	EXISTING SANITARY FORCE MAIN
	PROPOSED COMMUNICATIONS
	EXISTING COMMUNICATIONS
	EXISTING IRRIGATION MAIN
	EXISTING GAS MAIN
	EXISTING LIMITS OF DISTURBANCE



PROJECT NO. LOCH LLOYD
DESIGNED BY J. M. BIRD
CHECKED BY B.H.
DATE 2/23/26
REVISIONS:
 1. 2/23/26 VSD/COMMENTS
 2. 2/23/26 VSD/COMMENTS
 3. 2/23/26 BIRD SET

SHEET TITLE & NUMBER
 SECHRST
 3rd Plat
 GENERAL
 LAYOUT
 SHEET C130

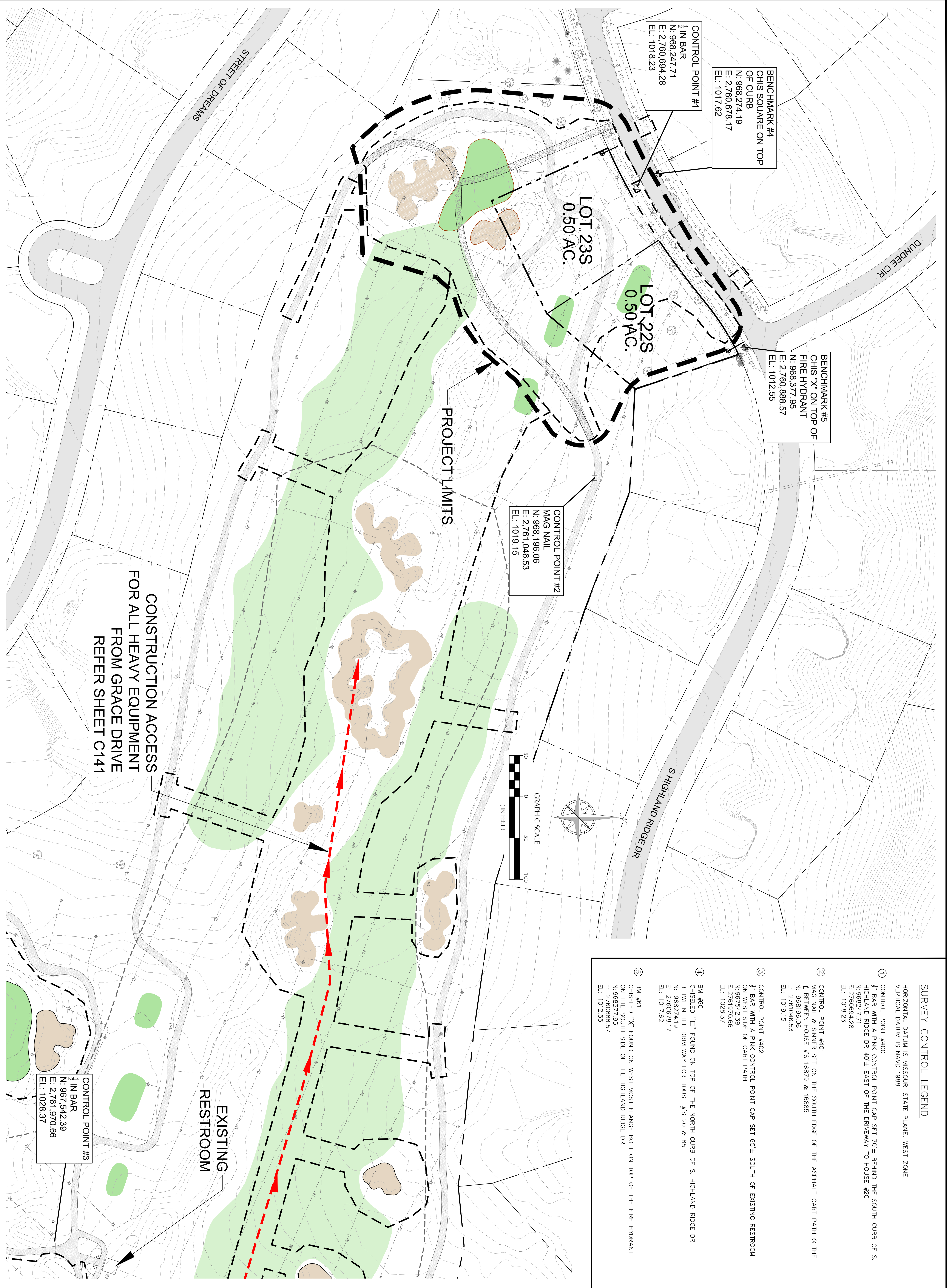
LOCH LLOYD

PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

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SINCE 1976



CONTROL POINT #1
 1" IN BAR
 N: 968,247.71
 E: 2,760,694.28
 EL: 1018.23

BENCHMARK #4
 CHIS SQUARE ON TOP
 OF CURB
 N: 968,274.19
 E: 2,760,678.17
 EL: 1017.62

BENCHMARK #5
 CHIS "X" ON TOP OF
 FIRE HYDRANT
 N: 968,377.95
 E: 2,760,888.57
 EL: 1012.55

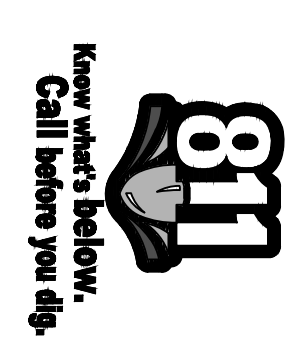
CONTROL POINT #2
 MAG NAIL
 N: 968,196.06
 E: 2,761,046.53
 EL: 1019.15

CONTROL POINT #3
 1" IN BAR
 N: 967,542.39
 E: 2,761,970.66
 EL: 1028.37

- SURVEY CONTROL LEGEND**
- HORIZONTAL DATUM IS MISSOURI STATE PLANE, WEST ZONE
 VERTICAL DATUM IS NAVD 1988.
- ① CONTROL POINT #400
 1" BAR WITH A PINK CONTROL POINT CAP SET 70± BEHIND THE SOUTH CURB OF S. HIGHLAND RIDGE DR 40± EAST OF THE DRIVEWAY TO HOUSE #20
 N: 968,927.71
 E: 2,760,944.28
 EL: 1018.23
 - ② CONTROL POINT #401
 MAG NAIL & SINNER SET ON THE SOUTH EDGE OF THE ASPHALT CART PATH @ THE R. BETWEEN HOUSE #'S 16879 & 16885
 N: 968196.06
 E: 2761046.53
 EL: 1019.15
 - ③ CONTROL POINT #402
 1" BAR WITH A PINK CONTROL POINT CAP SET 65± SOUTH OF EXISTING RESTROOM ON WEST SIDE OF CART PATH
 N: 967542.39
 E: 2761970.66
 EL: 1028.37
 - ④ BM #50
 CHISELED "C" FOUND ON TOP OF THE NORTH CURB OF S. HIGHLAND RIDGE DR BETWEEN THE DRIVEWAY FOR HOUSE #'S 20 & 85
 N: 968274.19
 E: 2760678.17
 EL: 1017.62
 - ⑤ BM #61
 CHISELED "X" FOUND ON WEST MOST FLANGE BOLT ON TOP OF THE FIRE HYDRANT ON THE SOUTH SIDE OF THE HIGHLAND RIDGE DR.
 N: 968377.95
 E: 2760888.57
 EL: 1012.55

PROJECT NO. LOCH LLOYD
 DRAWN BY: J. B. BIRDSEY
 CHECKED BY: J. B. BIRDSEY
 SHEET TITLE & NUMBER: SECHREST 3rd PLAT CONSTRUCTION ACCESS AND CONTROL
 SHEET NO. C131

LOCH LLOYD
 PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI



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 ST. LOUIS, MO 63165
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 FAX (931) 642-6941
 WWW.CENTRALENGINEERS.COM



PHASE 1 LEGEND

- SPERMET FENCE (KC APWA DETAIL ESC-10) OR MULCH BERM
- VEHICLE TRACKING CONTROL (KC APWA DETAIL ESC-01)
- DIRECTIONAL FLOW ARROW
- TOPSOIL STOCKPILE, MATERIAL STORAGE AND PARKING AREA (COORDINATE TOPSOIL OWNERS REP. & ENGINEER)
- LIMITS OF DISTURBANCE
- CONCRETE PATH REMOVAL

GRAPHIC SCALE (IN FEET): 0, 60, 120

PROPERTY LINE

RIGHT OF WAY

ROCK CHECK DAM

EXISTING VEGETATION TO REMAIN

EXISTING VEGETATION TO BE REMOVED

EXISTING TREE TO BE REMOVED

PERIMETER CONTROL

MAINTENANCE

ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED THROUGHOUT THE ENTIRE CONSTRUCTION PHASE AND LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. ALL CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EACH WEEK AND WITHIN 24 HOURS FOLLOWING ANY STORM EVENT OF 0.5 INCHES OR GREATER.
2. INLET PROTECTION DEVICES AND BARRIERS SHALL BE INSPECTED OR REPLACED PERIODICALLY TO SHOW SIGNS OF WEAR OR DAMAGE.
3. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEED AS NEEDED.
4. SEDIMENT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT FENCES WHEN IT IS OBSERVED THAT THE FENCE IS NOT MAINTAINING THE PROPER FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.

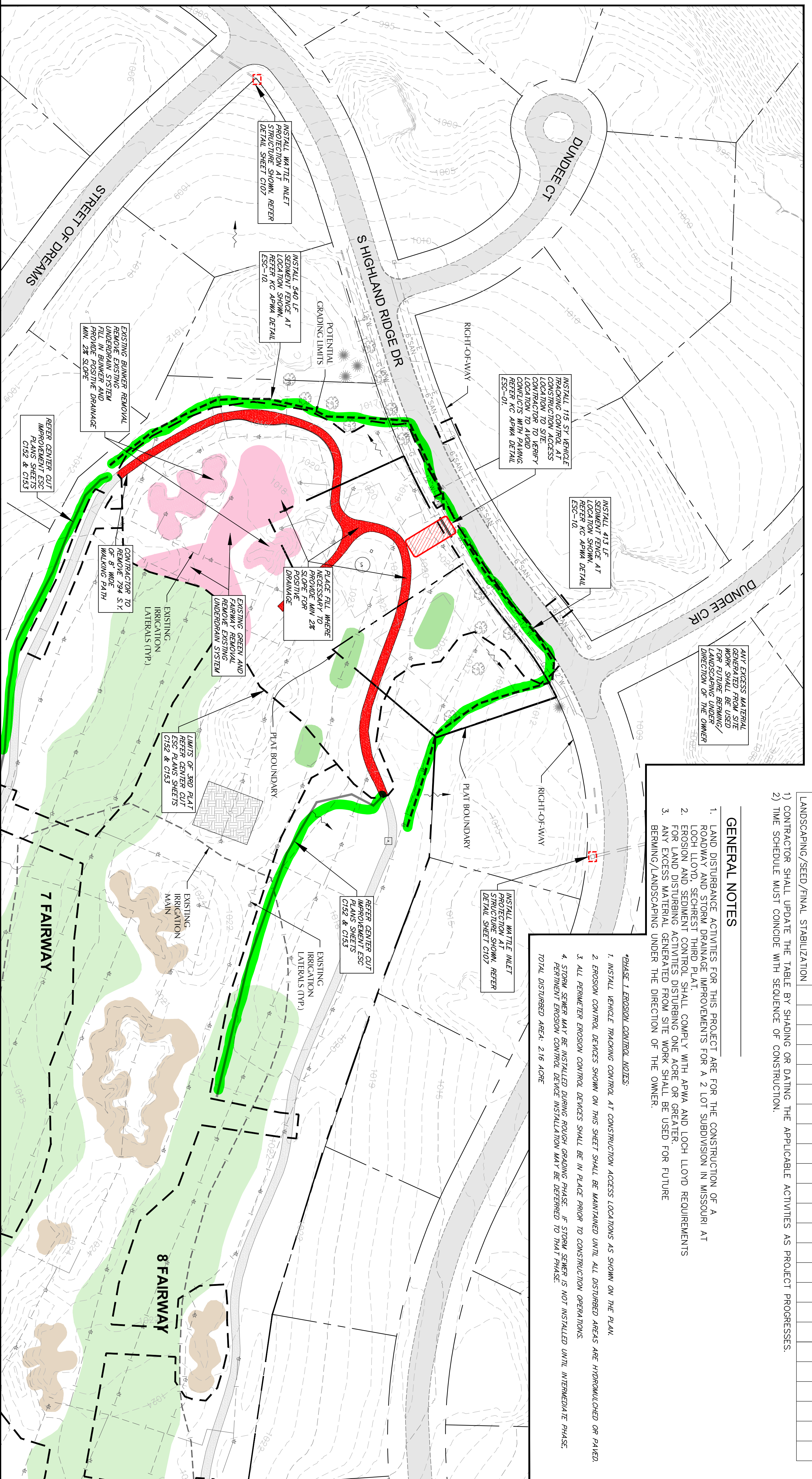
SEQUENCE OF CONSTRUCTION

NOTE: UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, MASON'S AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY CHANGE IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. CONTRACTOR TO PHASE EROSION CONTROL IN CONJUNCTION WITH PHASING OF CONSTRUCTION.

NOTE: AT A MINIMUM, APWA SECTION 2150 SHALL BE USED FOR GOOD HOUSEKEEPING AND SPILL MEASURES.

GENERAL EROSION CONTROL NOTES

- A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING ("SITE MAP"), THE STANDARD DETAILS, ATTACHMENTS INCLUDED IN SPECIFICATIONS ("SWPPP"), PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
- B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORMWATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
- C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- D. BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL, OR PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- E. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL, OR AS REQUIRED BY THE GENERAL PERMIT.
- F. GENERAL CONTRACTOR SHALL DEMOTE OR 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.
- G. CONTRACTOR SHALL DEMOTE OR 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.
- H. SUFFICIENT ON-SITE STORAGE OF MATERIALS AND LOGGING BOOKS SHALL BE MAINTAINED ON-SITE OR READILY AVAILABLE TO CONTRACTOR AND CLEAN-UP FUEL, OR CHEMICAL SPILLS AND LEAKS.
- I. 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.
- J. 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 STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- K. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED IMMEDIATELY AND AS PRACTICABLE.
- L. SHOULD CONSTRUCTION TEMPORARILY CEASE AND WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS, STABILIZATION SHALL BE INITIATED IMMEDIATELY AND COMPLETED WITHIN 14 DAYS.
- M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE STABILIZED. THESE AREAS SHALL BE STABILIZED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. STABILIZATION MAY CONSIST OF SEED AND STRAW MULCH, SOO, ROCK, PAVEMENT, STRUCTURE OR OTHER NON-ERODIBLE COVER.
- N. THE CONTRACTOR SHALL INSPECT EROSION CONTROL DEVICES EVERY 7 DAYS AND WITHIN 24 HOURS OF A STORM OF 0.5 INCHES OR MORE. THE CONTRACTOR SHALL REPAIR DAMAGE, CLEAN OUT SEDIMENT, AND ADD ADDITIONAL EROSION CONTROL DEVICES AS NEEDED, OR AS SOON AS PRACTICABLE AFTER INSPECTION.
- O. IF THE ACTIONS REQUIRED ARE NOT COMPLETED IMMEDIATELY, THE GRADUAL 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.
- P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- Q. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
- R. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES, STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- S. SLOPES CONSISTING OF TOPSOIL, CLAY, OR SILT SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- T. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.
- U. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL DEVICES AND REMOVING SEDIMENT UNTIL A MINIMUM OF 70% OF PERMANENT VEGETATION HAS BECOME STABILIZED AND ESTABLISHED. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE 70% ESTABLISHED VEGETATION IS MET, OR THE DURATION OF THE PROJECT, WHICHEVER IS THE LATER DATE.



SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
TEMPORARY CONSTRUCTION EXITS												
TEMPORARY CONTROL MEASURES												
SEDIMENT CONTROL BASINS												
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADE												
STORM FACILITIES												
SITE CONSTRUCTION												
FOUNDATION / BUILDING CONSTRUCTION												
FINISH GRADING												
LANDSCAPING/SEED/FINAL STABILIZATION												

GENERAL NOTES

1. LAND DISTURBANCE ACTIVITIES FOR THIS PROJECT ARE FOR THE CONSTRUCTION OF A ROADWAY AND STORM DRAINAGE IMPROVEMENTS FOR A 2 LOT SUBDIVISION IN MISSOURI AT LOCH LOYD, SECHREST THIRD PLAT.
2. EROSION AND SEDIMENT CONTROL SHALL COMPLY WITH APWA AND LOCH LOYD REQUIREMENTS.
3. ANY EXCESS MATERIAL GENERATED FROM SITE WORK SHALL BE USED FOR FUTURE BRIMING/LANDSCAPING UNDER THE DIRECTION OF THE OWNER.

PHASE 1 EROSION CONTROL NOTES

1. INSTALL VEHICLE TRACKING CONTROL AT CONSTRUCTION ACCESS LOCATIONS AS SHOWN ON THE PLAN.
2. EROSION CONTROL DEVICES SHOWN ON THIS SHEET SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS ARE HOMOCULCHED OR PAVED.
3. ALL PERIMETER EROSION CONTROL DEVICES SHALL BE IN PLACE PRIOR TO CONSTRUCTION OPERATIONS.
4. STORM SEWER MAY BE INSTALLED DURING ROUGH GRADING PHASE. IF STORM SEWER IS NOT INSTALLED UNTIL INTERMEDIATE PHASE, PERMITTING EROSION CONTROL DEVICE INSTALLATION MAY BE DETERMINED TO THAT PHASE. TOTAL DISTURBED AREA: 2.16 ACRE

LOCH LLOYD
 PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

PROJECT NO. LOCHLLOYD
 DRAWN BY: J. ZINZEL
 CHECKED BY: J. ZINZEL
 DATE: 07/16/25

REVISIONS:

1	2	3
1-2	1-2	1-2
1-2	1-2	1-2

SHEET TITLE & NUMBER
 SECHREST
 3rd PLAT
 EROSION CONTROL PERIMETER CONTROL

SHEET
C132

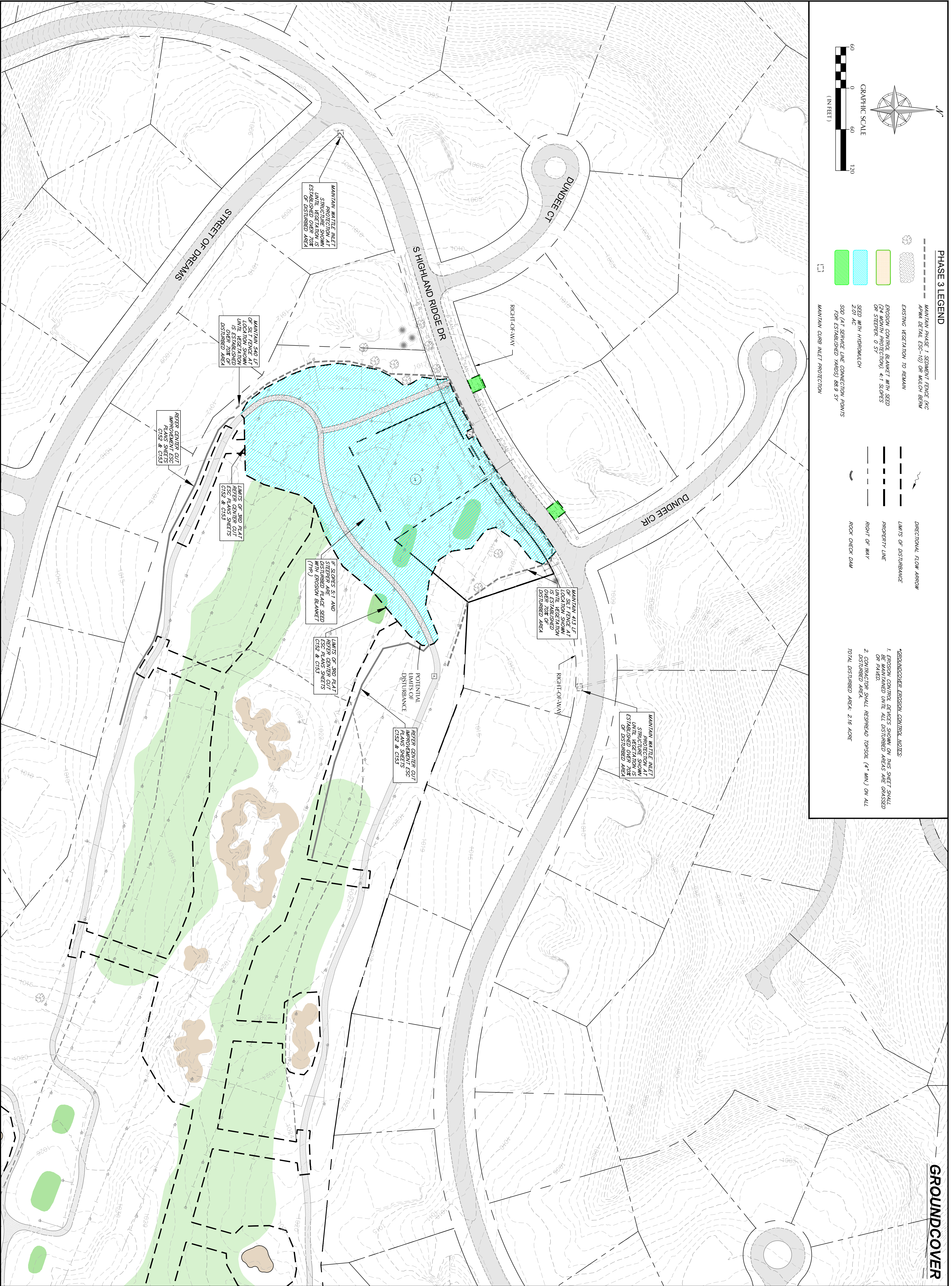
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 ce@continentalengineers.com

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PHASE 3 LEGEND

- MAINTAIN PHASE 1 SEDIMENT FENCE (KC APWA DETAIL ESC-10) OR MULCH BERM
- EXISTING VEGETATION TO REMAIN
- EROSION CONTROL BLANKET WITH SEED (24 MONTH PROTECTION) 4:1 SLOPES OR STEEPER: 0.5'
- SEED WITH HYDROMULCH 2:01 H:V
- SOD (1" SERVICE LINE CONNECTION POINTS FOR ESTABLISHED PAVES) 88.9 5'x
- MAINTAIN CURB INLET PROTECTION

PHASE 3 LEGEND (continued)

- DIRECTIONAL FLOW ARROW
- LIMITS OF DISTURBANCE
- PROPERTY LINE
- RIGHT OF WAY
- ROCK CHECK DAM

***REGULATORY EROSION CONTROL NOTES:**

- EROSION CONTROL DEVICES SHOWN ON THIS SHEET SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS ARE GRASSED
- CONTRACTOR SHALL RESURFACE TOPSOIL (4" MIN) ON ALL TOTAL DISTURBED AREA: 216 ACRE

GRAPHIC SCALE
 0 60 120
 (IN FEET)

GROUND COVER

PROJECT NO. LOCHLLOYD
DRAWN BY OF NINE, INC.
CHECKED BY BIL
REVISIONS
 1. EROSION CONTROL
 2. 7/17/25 BIL SET

SHEET TITLE & NUMBER
 SECHRST
 3rd PLAT
 EROSION CONTROL
 GROUND COVER

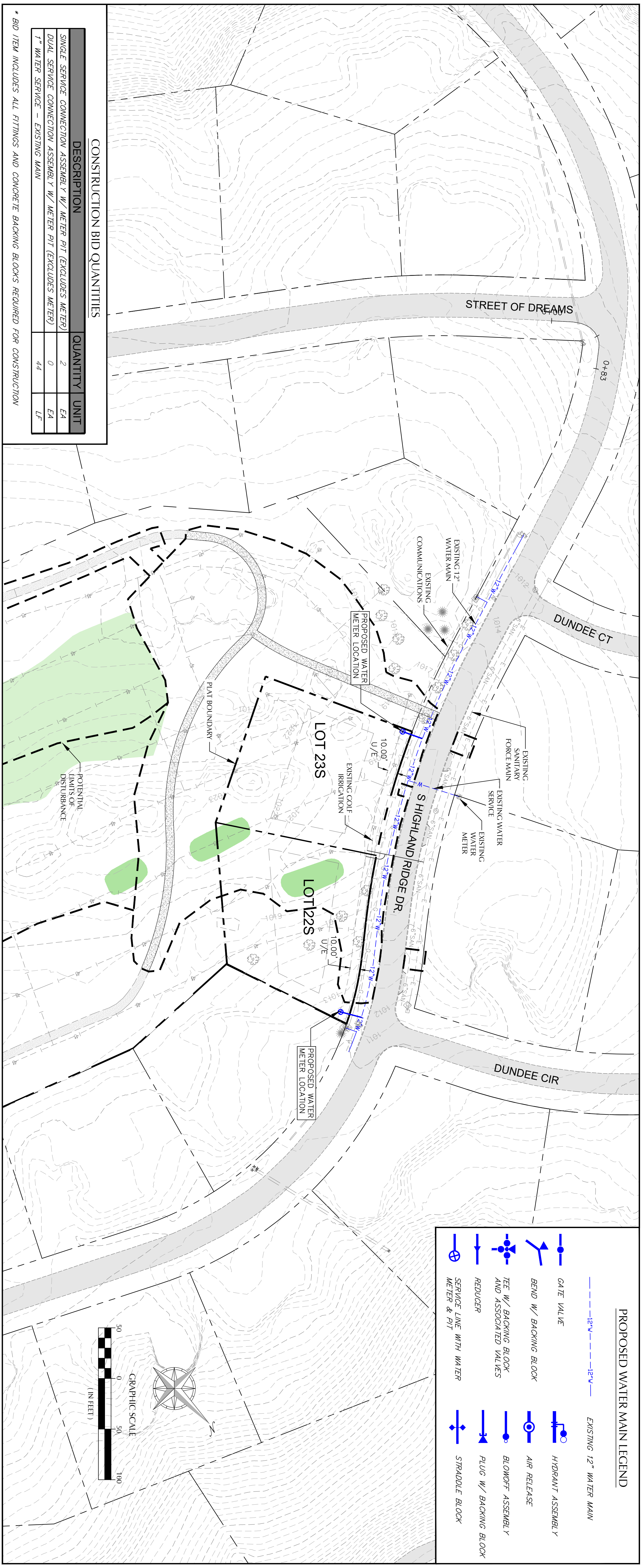
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 cec@continentalengineers.com



*** BID ITEM INCLUDES ALL FITTINGS AND CONCRETE BACKING BLOCKS REQUIRED FOR CONSTRUCTION**

DESCRIPTION	QUANTITY	UNIT
SINGLE SERVICE CONNECTION ASSEMBLY W/ METER PIT (EXCLUDES METER)	2	EA
DUAL SERVICE CONNECTION ASSEMBLY W/ METER PIT (EXCLUDES METER)	0	EA
1" WATER SERVICE - EXISTING MAIN	44	LF

GENERAL NOTES

- The Contractor shall restrict all work and storage of materials to within property lines.
- The Contractor shall be responsible for removal of groundwater as required by conditions of construction.
- Materials encountered during excavation shall be considered "classified". Payment for rock removal shall be based on trench rock unit prices.
- The Contractor shall expose all utilities at pipe crossings to determine conflicts prior to setting structures or laying pipe. Contractor shall provide for temporary shoring and support of all utilities encountered while constructing this project.
- The Contractor shall furnish and install all fittings required to provide proper horizontal and vertical alignment for new water mains, connections to existing water mains and installation of fire hydrants at the proper location and elevation, whether or not the proper fittings, location or elevations are called out on these drawings, including modification of existing infrastructure required to make all the work conform to current Northwest Cass County Sewer and Water District Standards.
- The Contractor shall furnish and install all temporary blow-off assemblies, fittings, thrust blocking, and restraining devices required for flushing, pressure testing, chlorination, and de-chlorination of the new water mains. Prior to placing new mains in service, the Contractor shall remove any corporation cocks used for testing or chlorination and replace them with tapered brass plugs.
- The Contractor shall install polyethylene encasement on all ductile iron water mains, valves, fittings, and other appurtenances for the full length of ductile iron pipe on the project.
- Scheduling of water main shutoffs and connection to existing mains shall be at the discretion of Northwest Cass County Water Resource District.
- All fire hydrant branches shall be restrained using approved restraining devices. Hydrants shall be installed so that the centerline of the pump nozzle is a minimum of eighteen (18)-inches above finish grade, or as recommended by the manufacturer.
- Sections of water main requiring multiple bends, such as cut-decks, should be restrained with approved joint restraining devices and straddle blocks in lieu of backing blocks.
- The locations of existing utilities, as shown, are approximate. It shall be the responsibility of the Contractor to verify the locations and elevations of all existing utilities.
- The Contractor shall notify all utility companies 48 hours prior to the start of construction and verify any utilities that may be encountered.
- Streets and parking areas are to be graded and curbs in place prior to construction of water mains. Water mains shall be installed with a minimum ground cover of 42 inches below finished grade. Sixteen (16)-inch and larger water mains shall be installed with a minimum ground cover of 48 inches below finished grade.
- Water mains shall be laid at least 10 feet, horizontally, from any sewer including storm sewer. When local conditions prevent a horizontal separation of 10 feet, a water main may be laid closer than 10 feet to a sewer, provided that the water main is laid in a separate trench, or on an undisturbed earth shelf located on one side of the sewer, at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer. When possible, water mains shall be laid such that there is a minimum of 10 feet clearance between the pipe wall and the exterior of any manhole and/or inlet on the sewer line.
- Whenever a water main must cross above a sewer including storm sewer, a vertical separation of 18 inches between the bottom of the water main and the top of the sewer shall be maintained. Whenever a water main must cross under a sewer including storm sewer, a vertical separation of 18 inches between the bottom of the sewer and the top of the water main shall be maintained. A full length of water main pipe shall be centered on the sewer to be crossed so that the joints will be equally distant from the sewer and as far away as possible. The 18 inch vertical separation shall be maintained for that portion of the water main located within 10 feet, horizontally, of any sewer it crosses.
- The Contractor shall verify the outside diameter (O.D.) of the existing water main prior to scheduling connection. Provide transition couplings as required.
- The Contractor shall provide locations of valves, manholes, blow offs, meter pits, all appurtenances to engineer for as-built drawings.
- The Contractor shall install marking posts at all valve boxes, manholes, clean outs, blow off, meter pits, all appurtenances to eliminate the risk of damage during home construction.
- All Bends shall be Restrainted joints with C900 (DR-18) PVC PIPE with CERTA-LOK Fittings or C900 (DR-14) PVC PIPE with integral restrained bell.
- The operation of existing valves shall be performed or approved by the District.
- When Restrainted Joint Pipe is required contractor shall use CERTA-LOK Fittings or C900 (DR-14) with integral Restrainted bell.

TAP LOCATION	SERVICE LINE AND WATER METER PIT INFORMATION		LOTS SERVICED	SERVICE LINE BORE LENGTH	SERVICE LINE SIZE
	N	E			
N. 968376.39	N. 968396.91	E. 2760892.72	22S	22.0 LF	1"
	N. 968376.41	N. 968357.90			
	E. 2760892.18	E. 2760892.96			
E. 2760645.43	N. 968224.37	N. 968204.27	23S	22.0 LF	1"
	N. 968223.94	N. 968205.49			
	E. 2760645.20	E. 2760653.90			

SHEET
C330

WATER SERVICE PLAN
AS-BUILT

PROJECT NO. LOCHLLOYD
 DRAWN BY ZIBBE, JH
 CHECKED BY
 REVISIONS

SHEET TITLE & NUMBER
LOCH LLOYD
SECHREST
3RD PLAT
WATER SERVICE PLAN
AS-BUILT

LOCH LLOYD
 PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

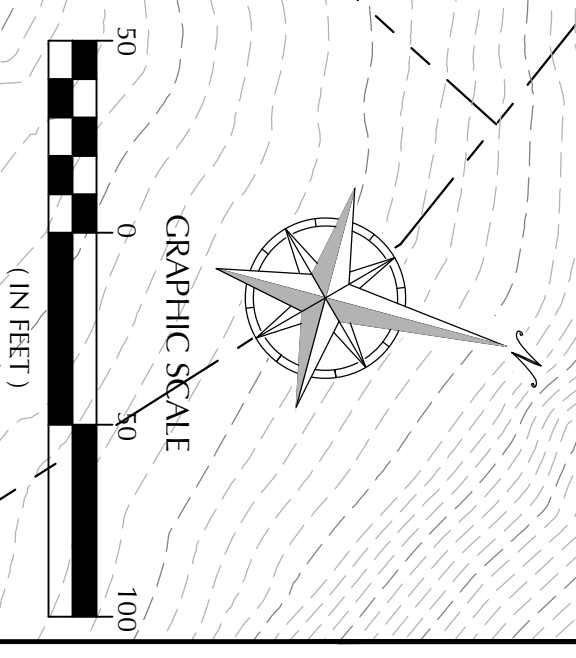
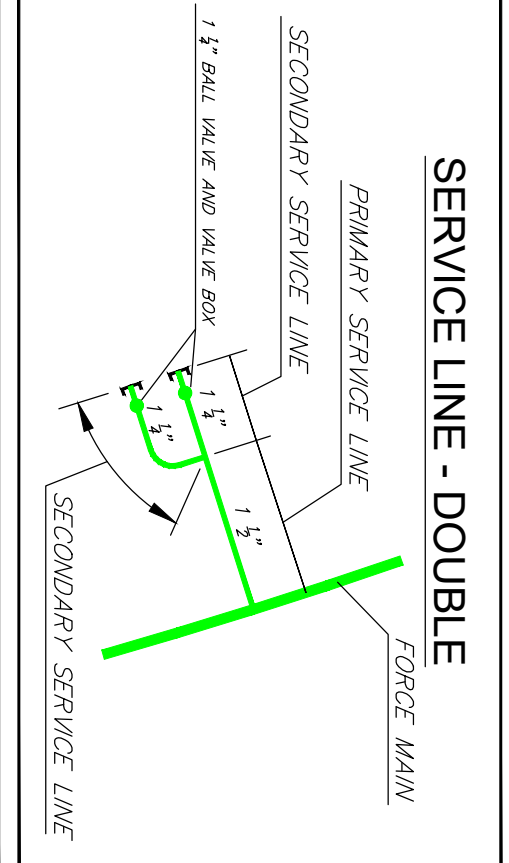


9000 STATE LINE ROAD
 LEAWOOD, KANSAS 66206
 7068 PARALLEL PARKWAY
 KANSAS CITY, KANSAS 64119
 TEL (913) 642-6642
 FAX (913) 642-6941
 cee@ceeengineers.com





NOTE: END ALL SANITARY
 SEWER SERVICE LINES WITHIN
 3'-5' OF PROPERTY LINE
 FIELD VERIFY
 UNLESS OTHERWISE NOTED



SERVICE LINE INFORMATION FOR EXISTING MAIN

TAP LOCATION	PRIMARY SERVICE LINE	SECONDARY SERVICE LINE	VALVE BOX LOCATION	LOT SERVED			
NORTHING	EASTING	LENGTH	SIZE OF PIPE	LENGTH	SIZE OF PIPE	NORTHING	EASTING
968344.47	2760248.17	39'-0"	1 1/2" DR11 HDPE	18 LF	1 1/4" DR11 HDPE	968266.76	2760297.78
968309.36	2760732.32	37 LF	1 1/2" DR11 HDPE	37 LF	1 1/4" DR11 HDPE	968282.97	2760782.92
968278.52	2760752.66	N/A	N/A	22'-0"	1 1/4" DR11 HDPE	968266.76	2760786.76
				21 LF	1 1/4" DR11 HDPE	968266.15	2760786.93

CONSTRUCTION BID QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
1.01	1 1/2" IPS DR 11 PE4710 BUTT FUSED HDPE PIPE *	40	LF
1.02	1 1/4" IPS DR 11 PE4710 BUTT FUSED HDPE PIPE *	39	LF
1.03	BALL VALVE W/ HOPE STUB AND CAP (SERVICE CONNECTION)	3	EA

* BID ITEM INCLUDES ALL FITTINGS AND CONCRETE BACKING BLOCKS REQUIRED FOR CONSTRUCTION

LOCH LLOYD
 PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

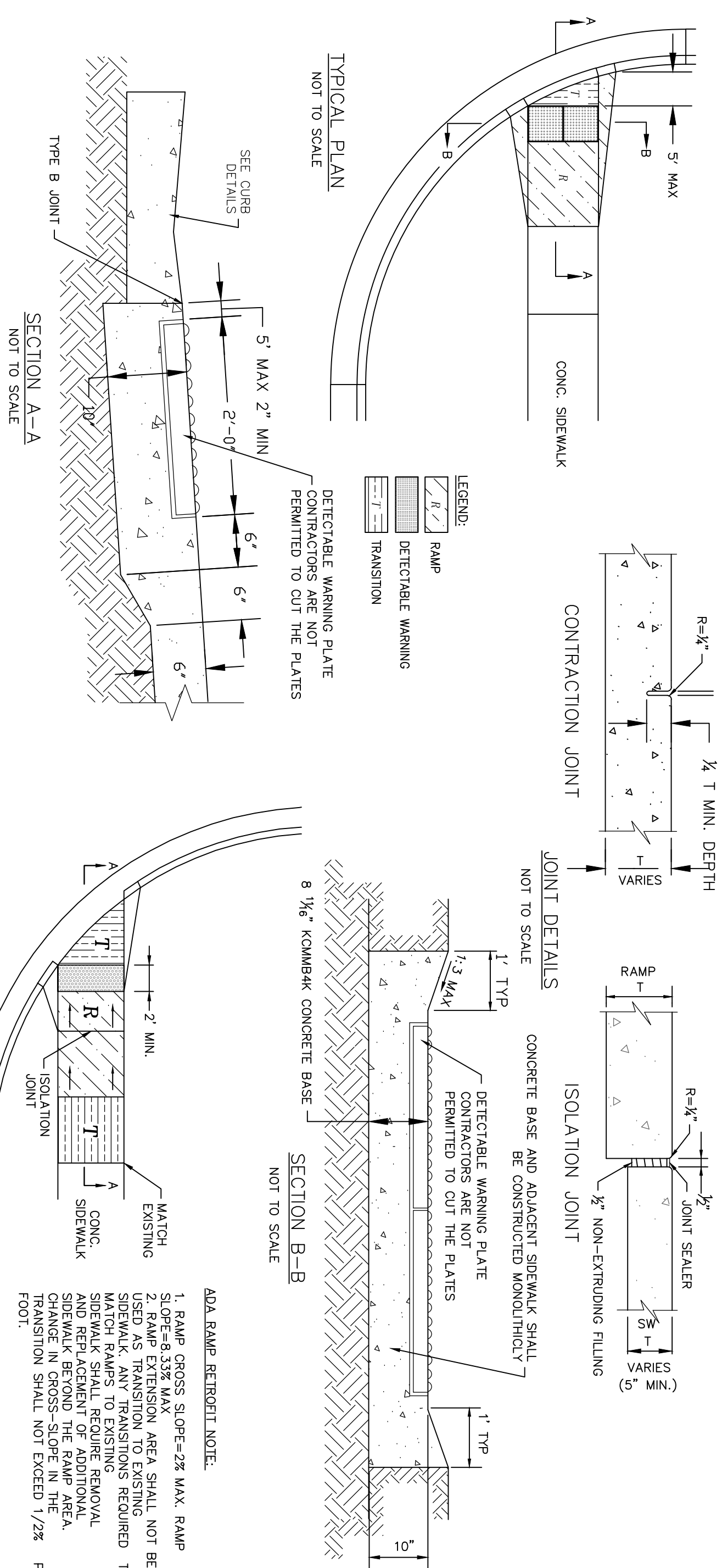


9000 STATE LINE ROAD
 LEAWOOD, KANSAS 66206
 7008 PARALLEL PARKWAY
 KANSAS CITY, KANSAS 64109
 TEL (913) 642-6642
 FAX (913) 642-6941
 ce@ceengineers.com



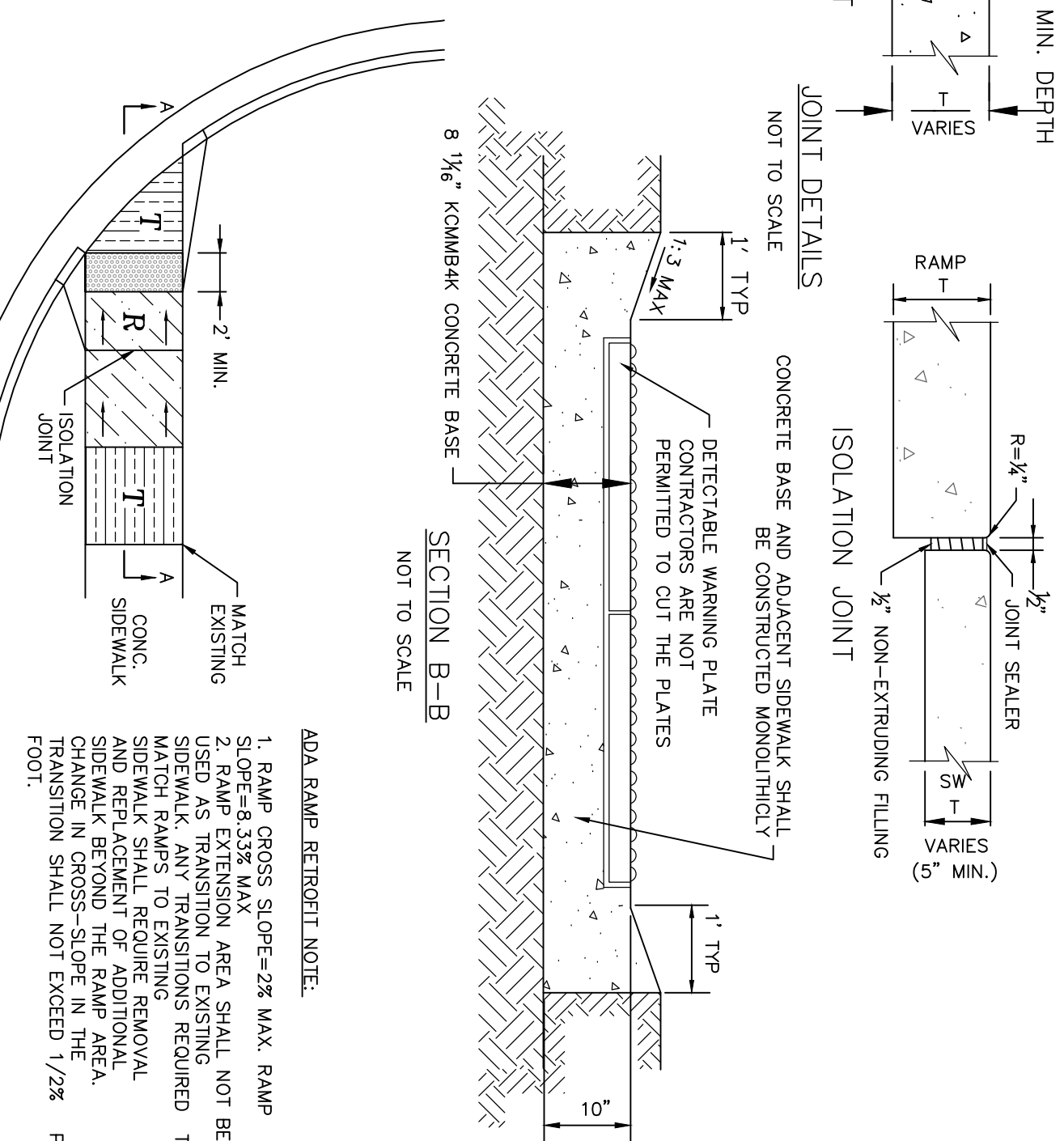
SHEET C430

PROJECT NO. LOCHLLOYD
 DRAWN BY: ZIBBY WILSON
 CHECKED BY: BH
 REVISIONS:
 SHEET TITLE & NUMBER
 LOCH LLOYD
 SECHRST
 3RD PLAT
 SANITARY PLAN
 AS-BUILTS



SIDEWALK RAMP NOTES:

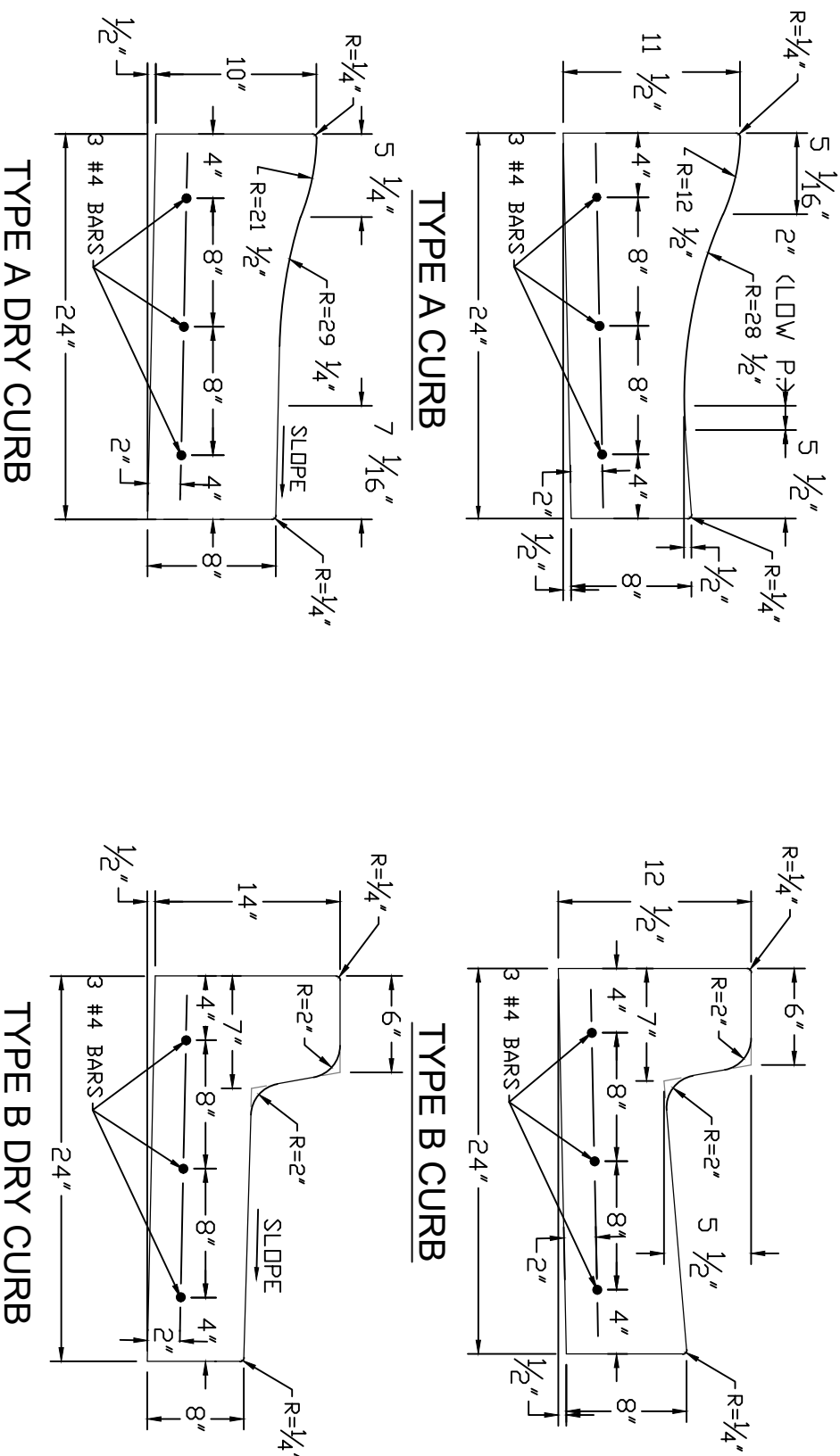
1. SIDEWALK RAMP LOCATION DETERMINED FROM THE INTERSECTION OF THE BACK OF CURB AND GUTTER.
2. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
3. ISOLATION JOINTS SHALL BE PLACED WHERE WALK AHEADS DRIVEWAYS AND SIMILAR STRUCTURES.
4. SIDEWALK RAMP SHALL BE LENGTHENED TO PROVIDE ADA COMPLIANCE SLOPE BUT NEED NOT EXCEED 15' MIN.
5. ADA MAXIMUM RAMP SLOPE = 8.3%. DESIGN ADA MAXIMUM GROSS SLOPE = 1.5%.
6. DETECTABLE WARNING PLATES SHALL BE DURALAST CAST IRON (NATURAL FINISH).
7. DETECTABLE WARNING PLATES SHALL BE DURALAST CAST IRON (NATURAL FINISH).



ADA RAMP RETROFIT

- ADA RAMP RETROFIT NOTE:**
1. RAMP GROSS SLOPE=2% MAX RAMP SLOPE=4.33% MAX.
 2. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. TRANSITION REQUIRED TO SIDEWALK SHALL REQUIRE REMOVAL OF EXISTING SIDEWALK BEYOND THE RAMP AREA. CHANGE IN CROSS-SLOPE IN THE TRANSITION SHALL NOT EXCEED 1/2% PER FOOT.

SIDEWALK RAMP DETAIL



CURB NOTES

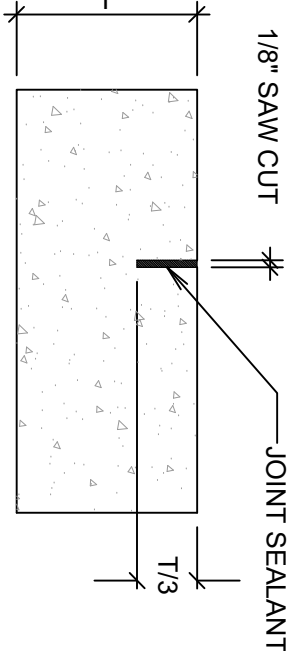
1. 1/2" PREMOULDED EXPANSION JOINTS SHALL BE PLACED AT POINTS OF CURVATURE, CURB RETURNS, CURB INLETS, AND AT 250' CENTERS.
2. CONTRACTION JOINTS SHALL BE 2" DEEP, AND PLACED AT 15' INTERVALS EQUALLY SPACED BETWEEN EXPANSION JOINTS.
3. ALL CURB TRANSITIONS SHALL OCCUR OVER A MINIMUM DISTANCE OF 2 FT.
4. ALL CURB SHALL HAVE A LIGHT BROOM FINISH PERPENDICULAR TO THE RUNNING LENGTH OF THE CURB.
5. CONCRETE CURB AND GUTTER SHALL BE CONSTRUCTED USING KOMAB 4K GRANITE MIX.

CONCRETE CURB & GUTTER

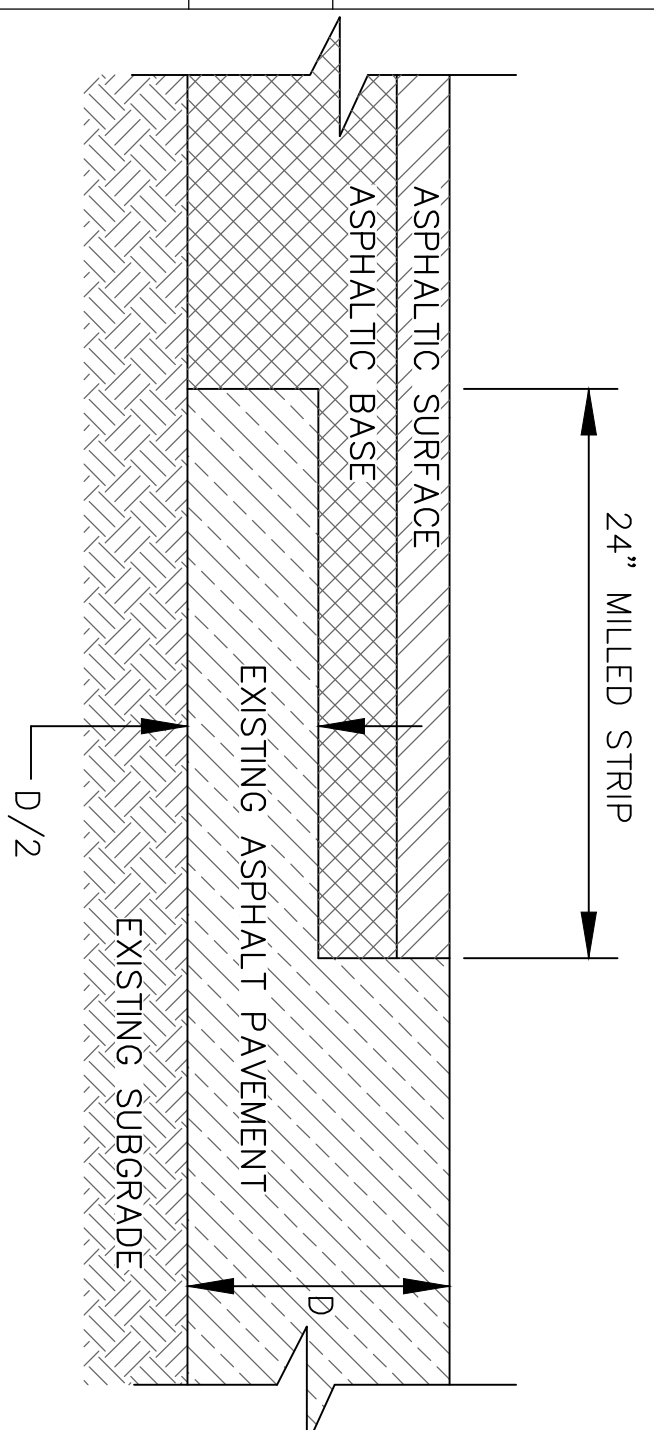
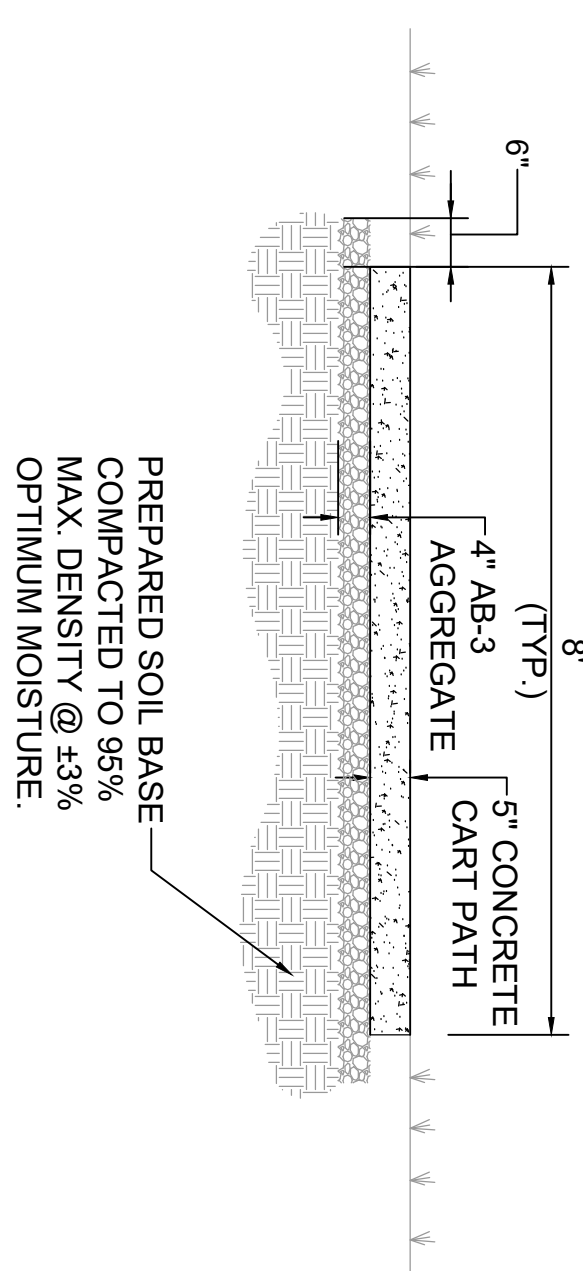
GENERAL NOTES

1. CONTRACTOR TO INSTALL CONTRACTION JOINTS AS REQUIRED PER THE PLANS.
2. ALL CURB TRANSITIONS SHALL OCCUR OVER A MINIMUM DISTANCE OF 2 FT.
3. ALL CURB AND SIDEWALK SHALL HAVE A LIGHT BROOM FINISH PERPENDICULAR TO THE RUNNING LENGTH OF THE CURB OR ANGLED TO DIRECTION OF TRAFFIC TO DIRECT FLOW OF WATER PER GOLF SUPERINTENDENT.
4. CONCRETE MIX DESIGN SHALL BE KOMAB WITH 6-8% AIR, MIN 4,000 PSI.
5. ACCESS ROUTES FOR DELIVERY AND REMOVAL OF CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH GOLF SUPERINTENDENT.

TYPE B CONTROL JOINT IN CONCRETE PATH PAVING

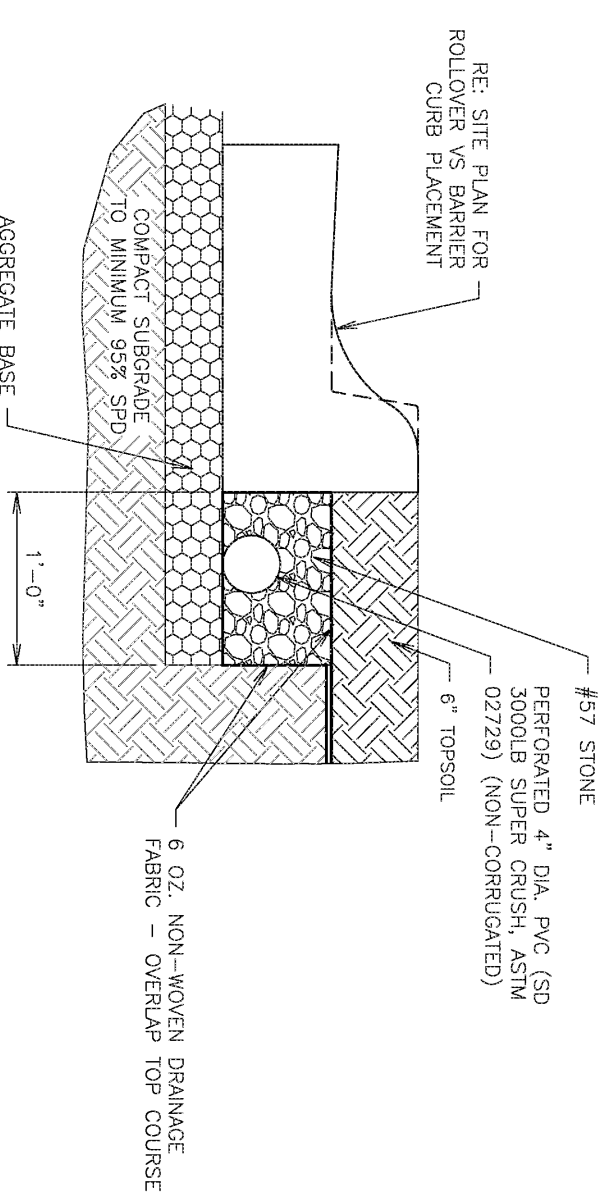


CART PATH DETAIL



MILL 24" STRIP OF EXISTING ASPHALT PAVEMENT FULL WIDTH OF ROADWAY TO A DEPTH EQUAL TO ONE-HALF OF THE FULL EXISTING PAVEMENT DEPTH.

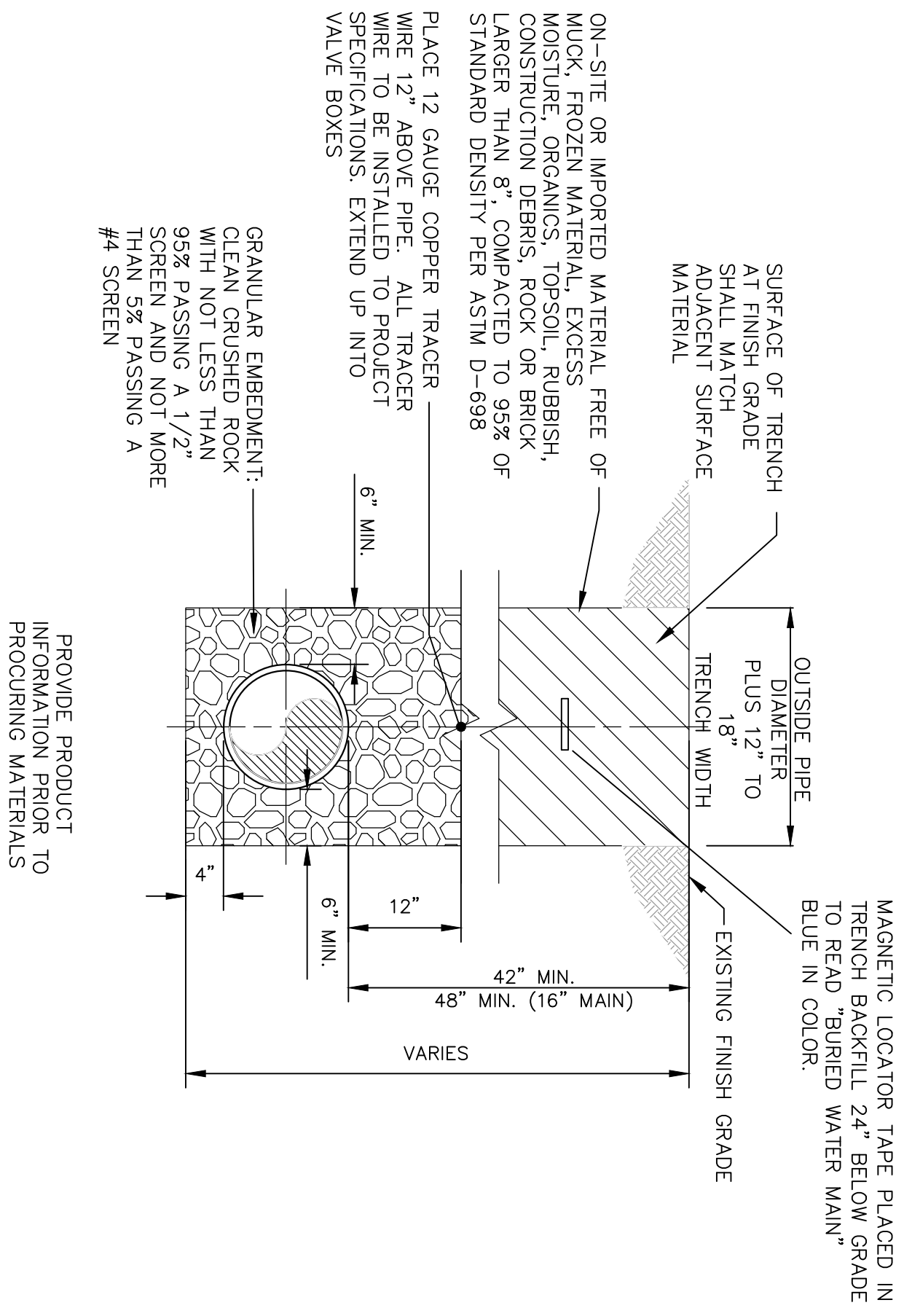
NOT TO SCALE



NOT TO SCALE

ASPHALT MILLING DETAIL

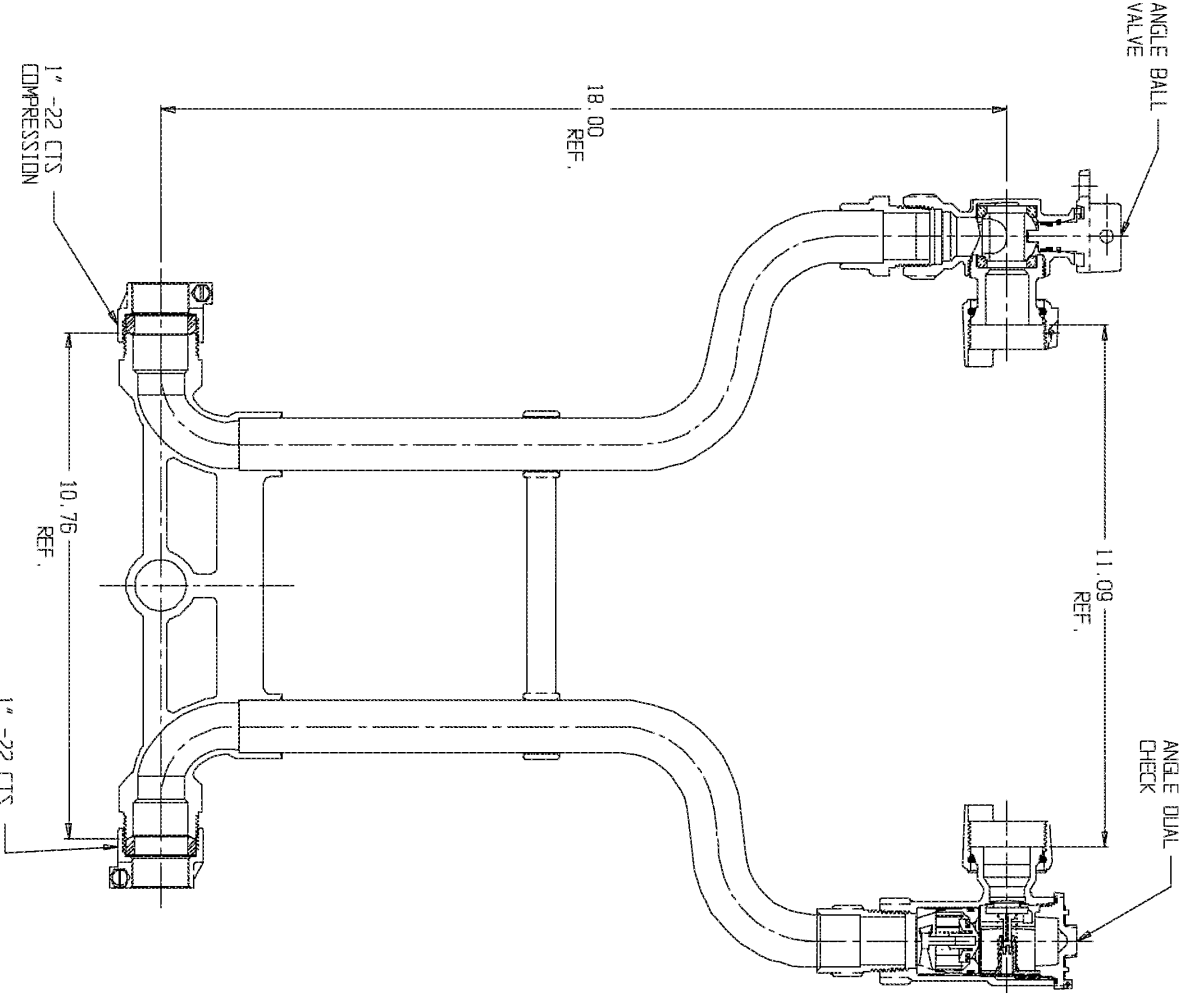
CURB UNDERDRAIN DETAIL



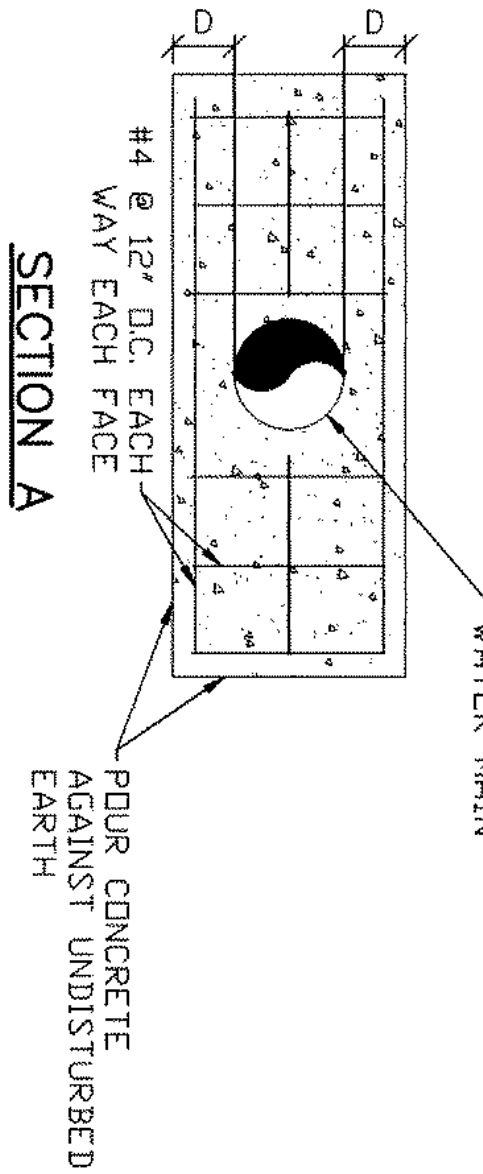
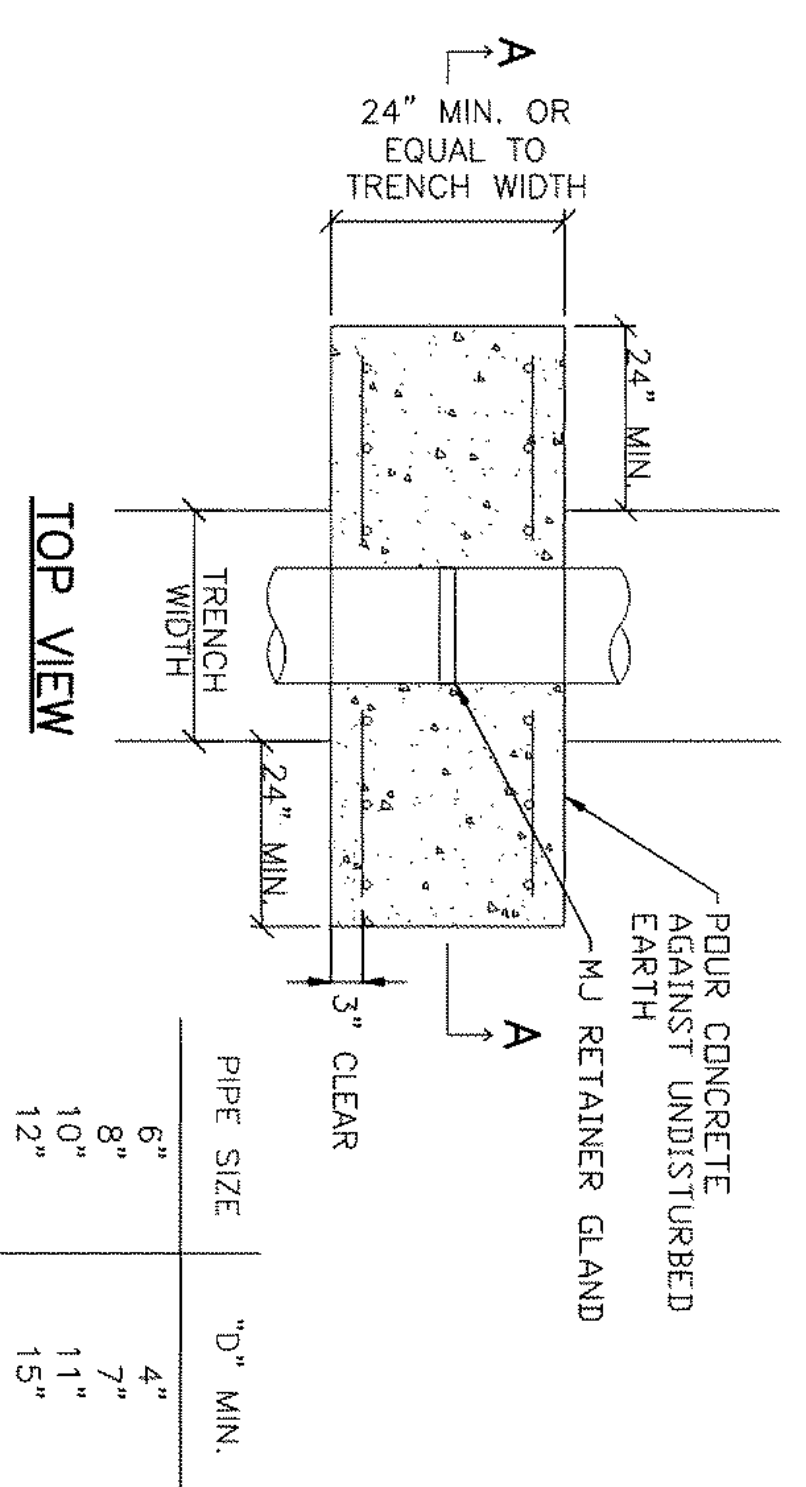
- * INSTALL PLASTIC PLUGS ON INLETS AND OUTLETS OF WETTER SETTERS
- Manufactured in compliance with ANSI/AWWA C800 (latest revision)
 - Brass components in contact with potable water conform to ASTM B584, UNS C899833 (latest revision) and identified with "NL"
 - Certified to NSF/ANSI 61 (reference height restrictions) and NSF/ANSI 372
 - Brass components not in contact with potable water conform to ASTM B62 and ASTM B584, UNS C83600 -85-5-5 (latest revision)
 - Copper tubing made in compliance with ASTM B75 or B88, UNS C12200 (latest revision)
 - Lead free solder joints
 - Designed to provide proper meter spacing for ease of installation
 - Padlock wings standard on all valves
 - Insert stiffeners required on all flexible plastic connections

SUBMITTAL INFORMATION

AYMDONALD 1-METER SETTER, COMPRESSION FITTINGS, 18" TALL, DUAL CHECK, WITH LOCKING EARS MODEL #722-418WD22 44 OR APPROVED EQUAL.

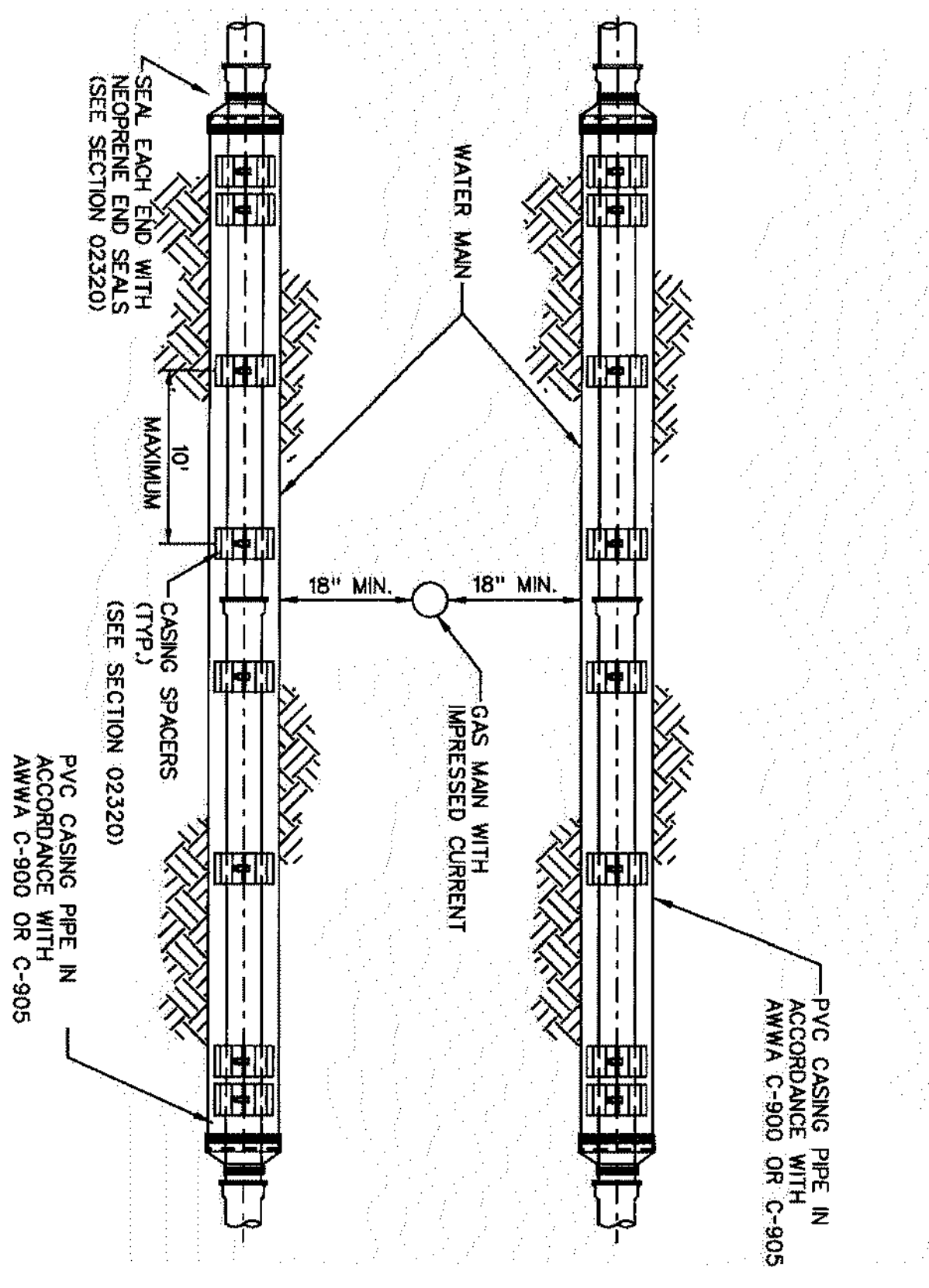


1-INCH METER SETTER



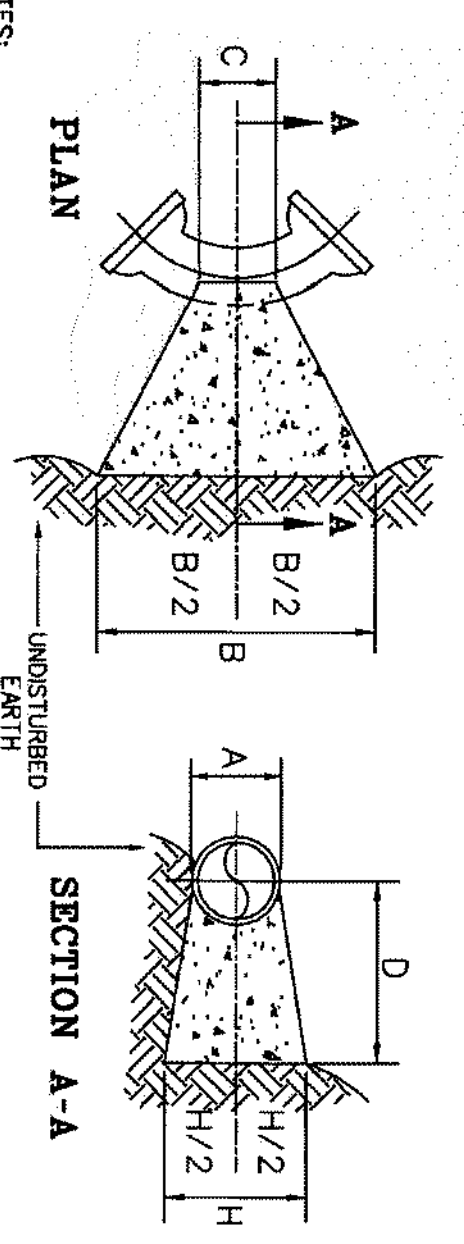
- NOTES:
- THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12".

TYPICAL STRADDLE BLOCK FOR 6 & 8 INCH PIPE (FOR REFERENCE)



- NOTES:
- INSTALL DOUBLE THICKNESS OF PVC CASING PIPE ON WATER MAIN MINIMUM .25" EACH SIDE.
 - INSTALL CASING PIPE LENGTH REQUIRED TO EXTEND TO EACH SIDE OF GAS MAIN.
 - MINIMUM DIAMETER OF CASING PIPE AS SHOWN IN TABLE, SECTION 02320 PART 2.

GAS/WATER MAIN CROSSING DETAIL (FOR REFERENCE)



- NOTES:
- BACKING BLOCKS FOR BEND SIZES UP THROUGH 12-INCH ARE BASED ON WORKING PRESSURE OF 175 P.S.I. PLUS SURGE.
 - BACKING BLOCKS FOR BEND SIZES 16-INCH THROUGH 24-INCH ARE BASED ON A WORKING PRESSURE OF 150 P.S.I. PLUS SURGE.
 - THE PROJECT DESIGN PROFESSIONAL IS RESPONSIBLE FOR THE DESIGN OF TRUNTS IN BLOCKS. THE BLOCK SIZES SPECIFIED HEREIN ARE MINIMUM SIZES BASED ON SOIL RESISTANCE OF 2,000 POUNDS PER SQUARE FOOT, WHERE SOFTER SOILS MAY BE ENCOUNTERED. THE PROJECT DESIGN PROFESSIONAL MUST PROVIDE A DESIGN FOR REVIEW BY THE DEPARTMENT.
 - SEE SECTION 03001 FOR CONCRETE SPECIFICATIONS.
 - CONSTRUCT FORMS IN ACCORDANCE WITH SECTION 03100.

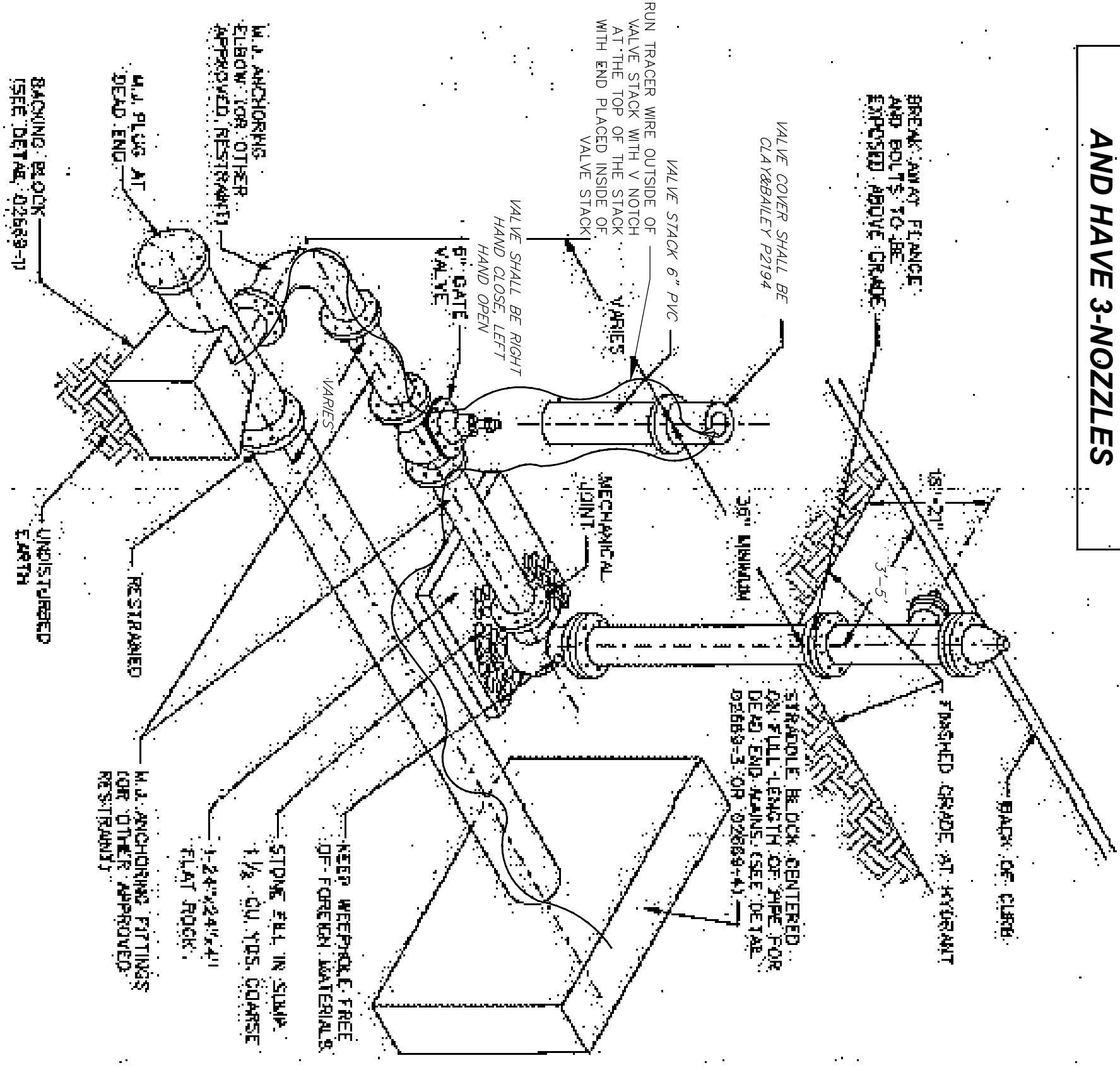
PIPE SIZE (in.)	1 1/4 DEGREE BENDS				2 1/2 DEGREE BENDS			
	A	B	C	D	A	B	C	D
6"	18	6	12	12	6	28	6	12
8"	28	8	17	14	28	8	12	16
10"	38	12	15	22	58	12	22	30
12"	50	16	17	26	8.9	0.28	17.7	0.85
16"	64	20	22	32	13.9	0.58	27.6	1.54
20"	76	24	26	38	20.0	0.97	39.7	2.77
30"	95	30	33	48	31.2	1.90	53	6.21

PIPE SIZE (in.)	45 DEGREE BENDS				90 DEGREE BENDS			
	A	B	C	D	A	B	C	D
6"	39	6	16	22	5.7	0.15	6.0	6
8"	54	8	23	28	10.1	0.19	8.4	8
10"	62	12	35	40	22.7	1.28	12	12
12"	82	16	42	50	34.6	2.32	16.0	16
16"	100	20	52	60	47.3	3.37	20	20
20"	152	24	64	74	71.9	5.10	24	24
30"	196	30	83	90	121.7	16.49	30	30

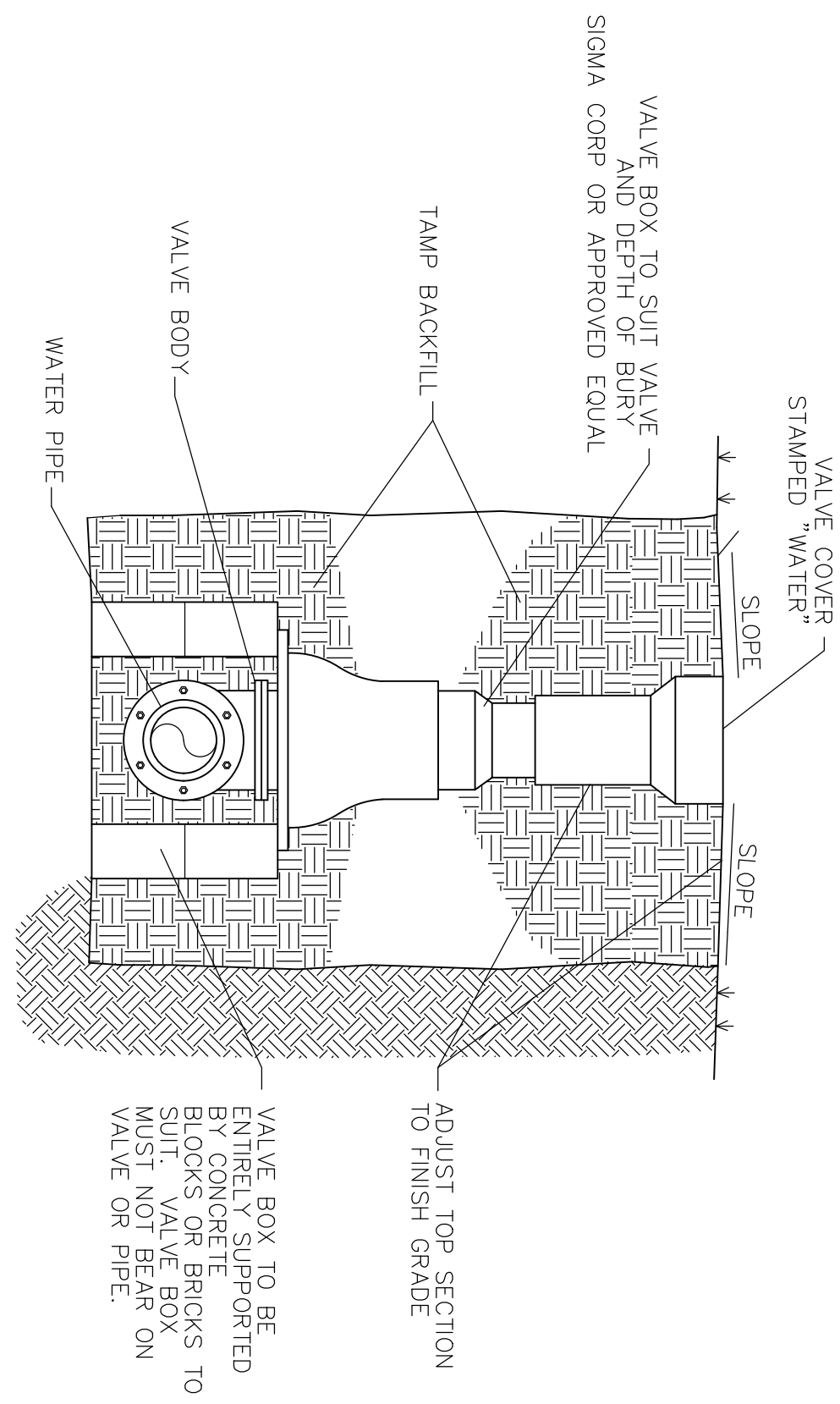
TYPICAL BACKING BLOCKS FOR HORIZONTAL BENDS
 2,000 POUNDS PER SQUARE FOOT SOIL RESISTANCE

TYPICAL BACKING BLOCKS FOR HORIZONTAL BENDS

HYDRANTS SHALL BE MUELLER AND HAVE 3-NOZZLES



TYPICAL HYDRANT INSTALLATION WITH 90 DEGREE BEND (FOR REFERENCE)



LEGEND

NO.	DESCRIPTION
1	WATER MAIN - C900
2	SADDLE
3	CORPORATION STOP - MUELLER B-25000 W/ CC THREADS OR APPROVED EQUAL
4	GOOSENECK
5	1" TYPE K SOFT COPPER TUBING OR POLYETHYLENE
6	24" DIA. ADS HOBE PIT FOR WATER METERS / WHITE
7	SINGLE METER SETTER WITH TRPL LID
8	SENSOR 1" IBERL METER OR APPROVED EQUAL - LIDS SHALL ONLY HAVE 1 HOLE
9	METER COVER - CAB #2209 OR APPROVED EQUAL - EXTEND MIN. 36" BEYOND METER PIT AND CAP
10	1" TYPE K COPPER OR POLYETHYLENE - EXTEND MIN. 36" BEYOND METER PIT AND CAP
11	HOMEOWNER'S SERVICE LINE

- NOTES**
- A. THE METER PIT IS NOT TO BE LOCATED IN AREA SUBJECT TO VEHICULAR OR PEDESTRIAN TRAFFIC, OR IN CONCRETE PAVEMENT.
 - B. BRANCH PIECE SHALL BE CENTERED IN PIT.
 - C. A.Y MCDONALD 1-INCH METER SETTER, COMPRESSION FITTINGS, 18-INCHES TALL, DUAL CHECK, WITH LOCKING EARS MODEL #72418W022 44 OR APPROVED EQUAL.

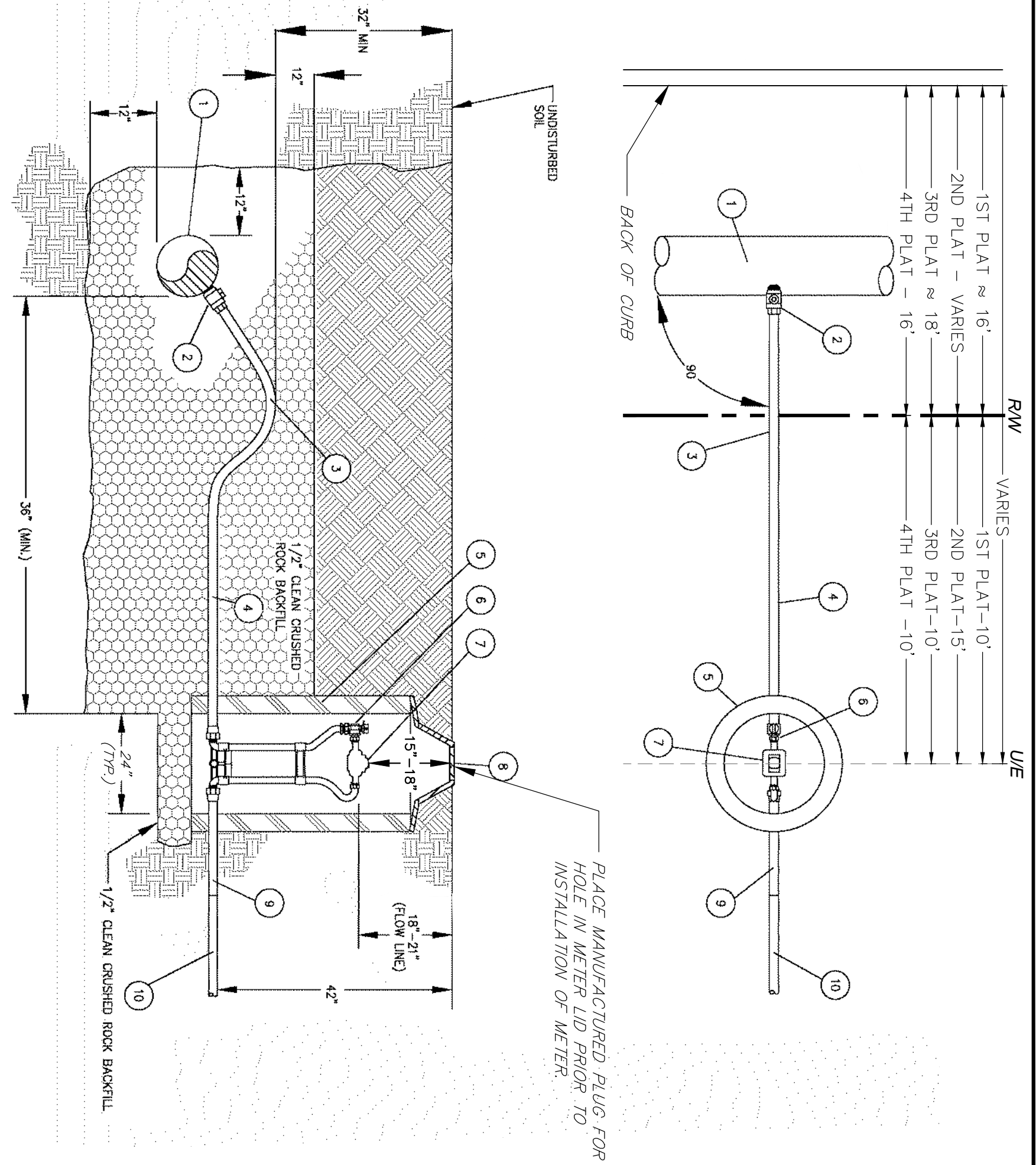
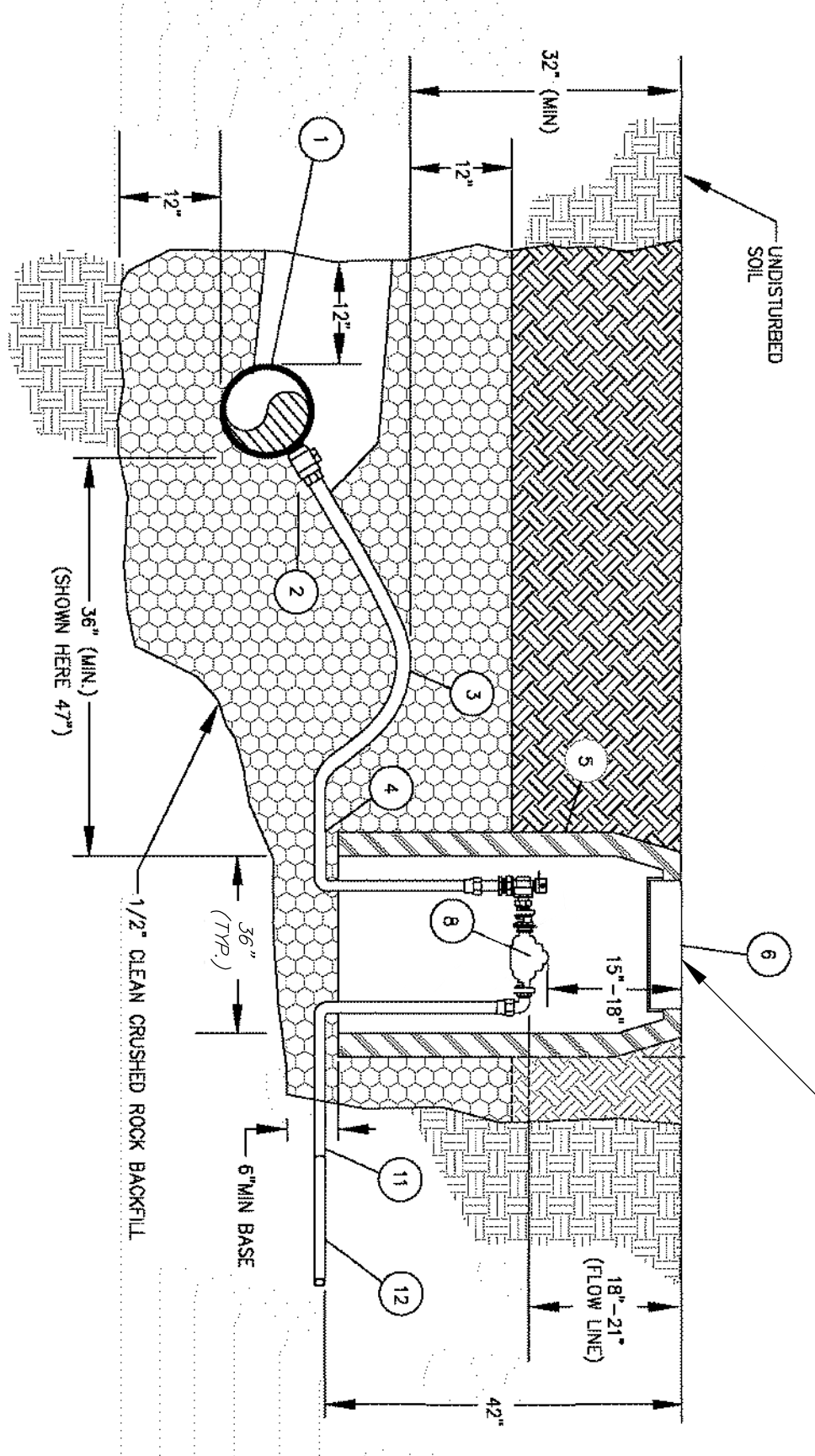
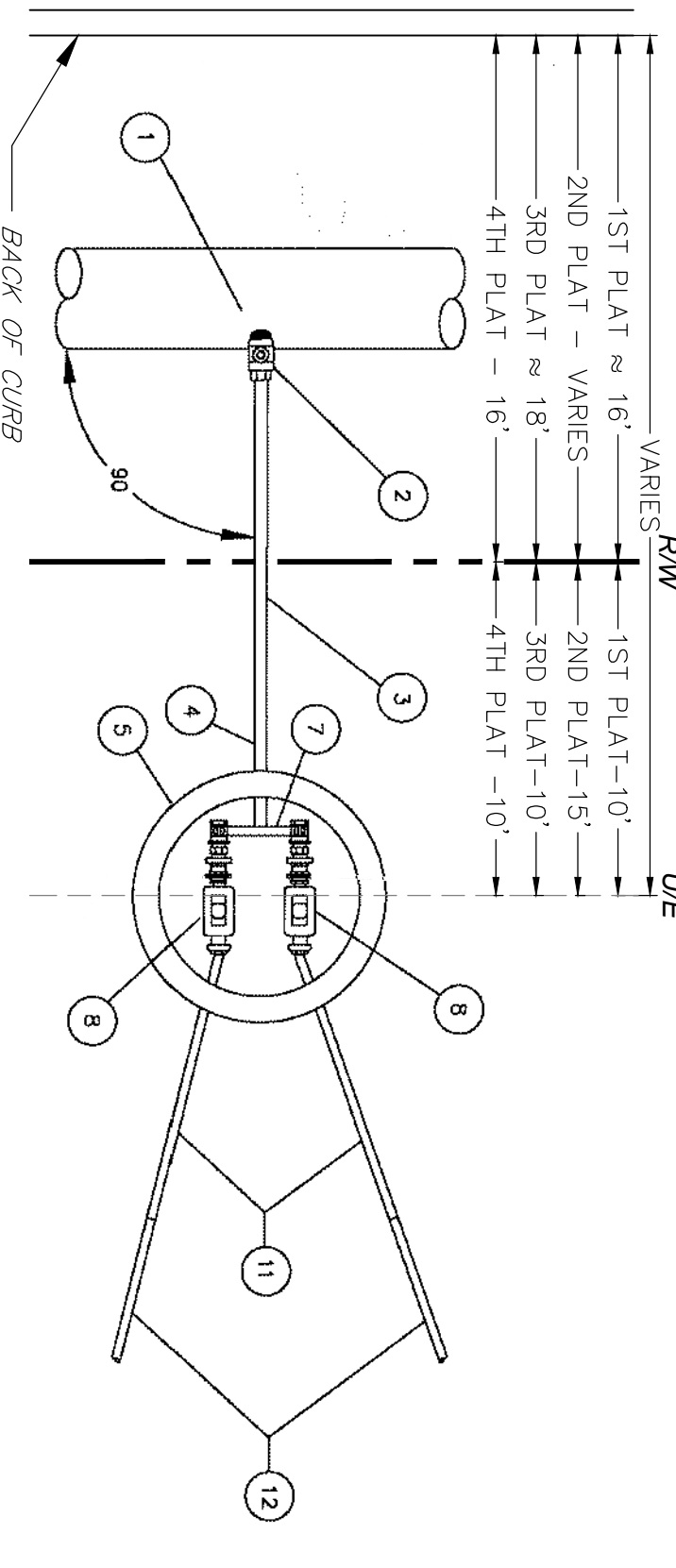
GATE VALVE DETAIL

TYPICAL SERVICE CONNECTION WITH SINGLE METER PIT

LEGEND

NO.	DESCRIPTION
1	WATER MAIN - C900
2	SADDLE
3	CORPORATION STOP - MUELLER B-25000 W/ CC THREADS OR APPROVED EQUAL
4	GOOSENECK
5	1 1/2" TYPE K SOFT COPPER TUBING OR POLYETHYLENE
6	36" DIA. ADS HOBE PIT FOR WATER METERS / WHITE
7	METER COVER - CAB #2209 WITH 36" PIT ADAPTER OR APPROVED EQUAL - LIDS SHALL ONLY HAVE 1 HOLE
8	DUAL METER SETTER - A.Y. MCDONALD 1" INLET - 2 OUTLETS 1" METER ASSEMBLY OR APPROVED EQUAL
9	(2) SENSOR 1" IBERL METERS WITH TRPL LID
10	1" TYPE K COPPER TUBING OR POLYETHYLENE - EXTEND MIN. 36" BEYOND METER PIT AND CAP
11	HOMEOWNER'S SERVICE LINE
12	

- NOTES**
- A. THE METER PIT IS NOT TO BE LOCATED IN AREA SUBJECT TO VEHICULAR OR PEDESTRIAN TRAFFIC, OR IN CONCRETE PAVEMENT.
 - B. BRANCH PIECE SHALL BE CENTERED IN PIT.
 - C. A.Y MCDONALD 1-INCH METER SETTER, COMPRESSION FITTINGS, 18-INCHES TALL, DUAL CHECK, WITH LOCKING EARS MODEL #72418W022 44 OR APPROVED EQUAL.



TYPICAL SERVICE CONNECTION WITH DUAL METER PIT

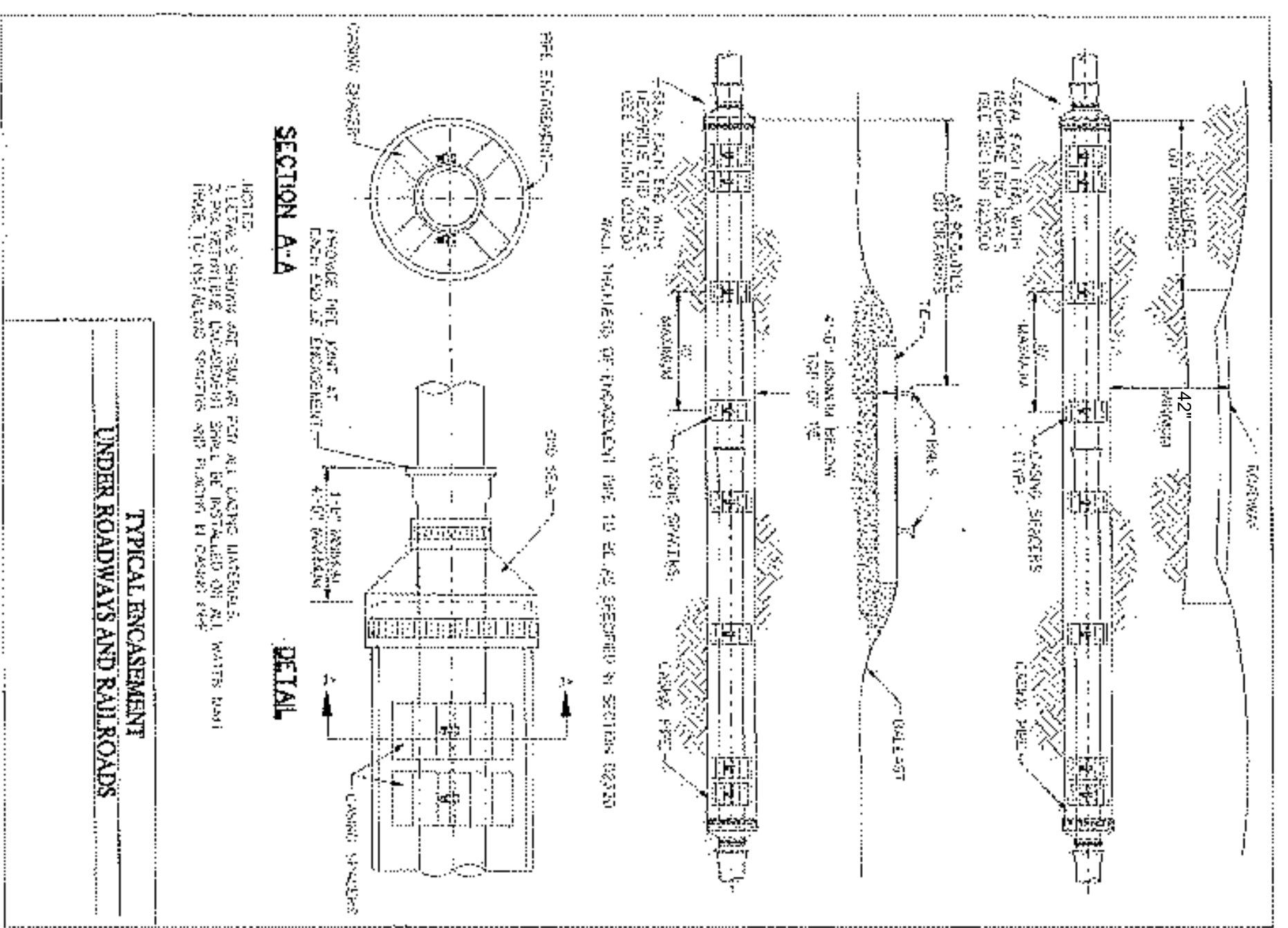


9000 STATE LINE ROAD
 LEAWOOD, KANSAS 66208
 1005 PARALLEL PARKWAY
 KANSAS CITY, KANSAS 64109
 TEL (913) 542-6642
 FAX (913) 542-6641
 cc@scengineers.com

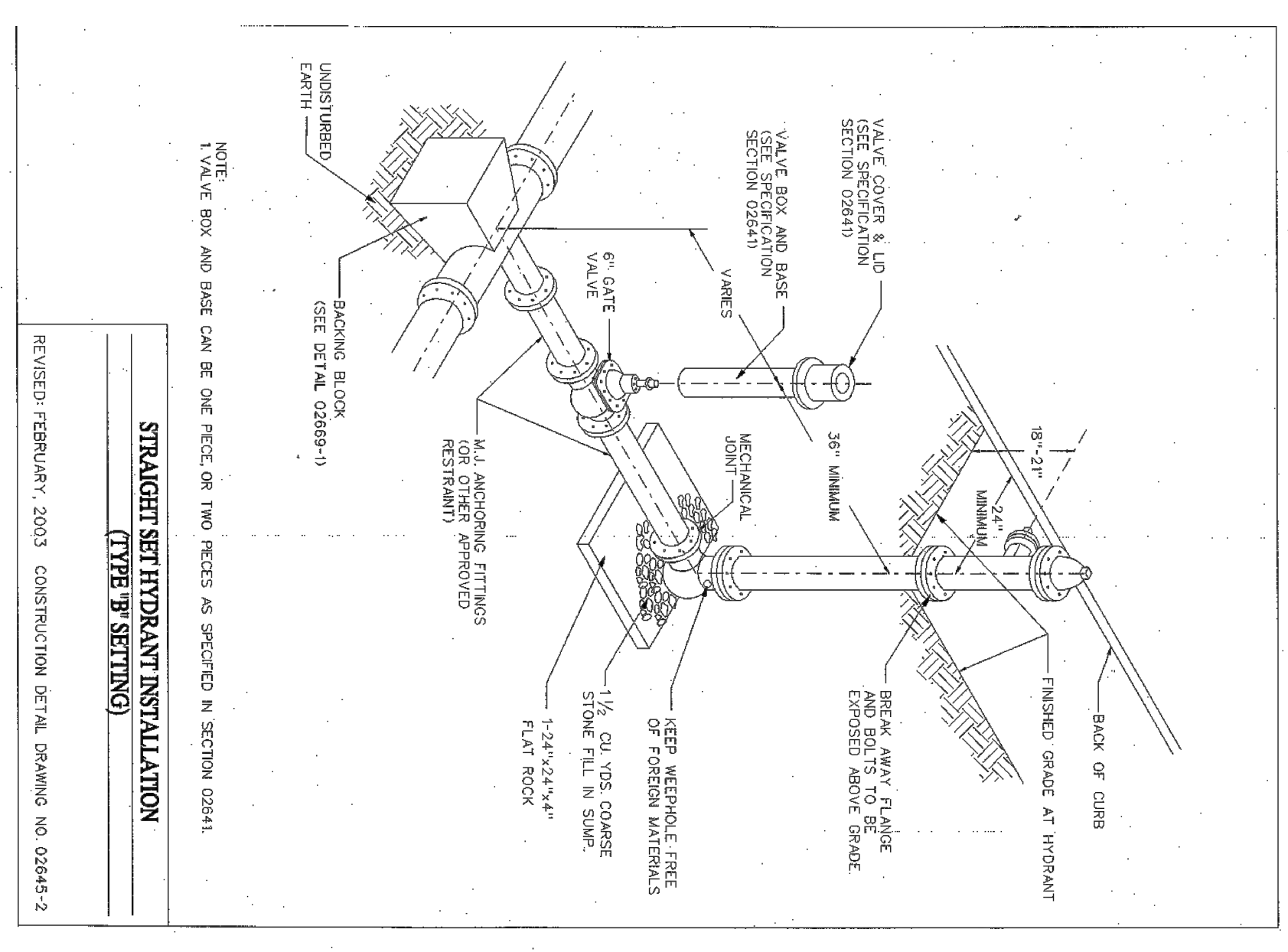


PROJECT NO. LOCH LLOYD
 DRAWN BY: J. H. BIL
 CHECKED BY: J. H. BIL
 REVISIONS:
 1. 2/15/25 WEST COMMENTS
 2. 2/15/25 BIL SET
 SHEET TITLE & NUMBER
 LOCH LLOYD
 SECHRIST
 WATERLINE DETAILS

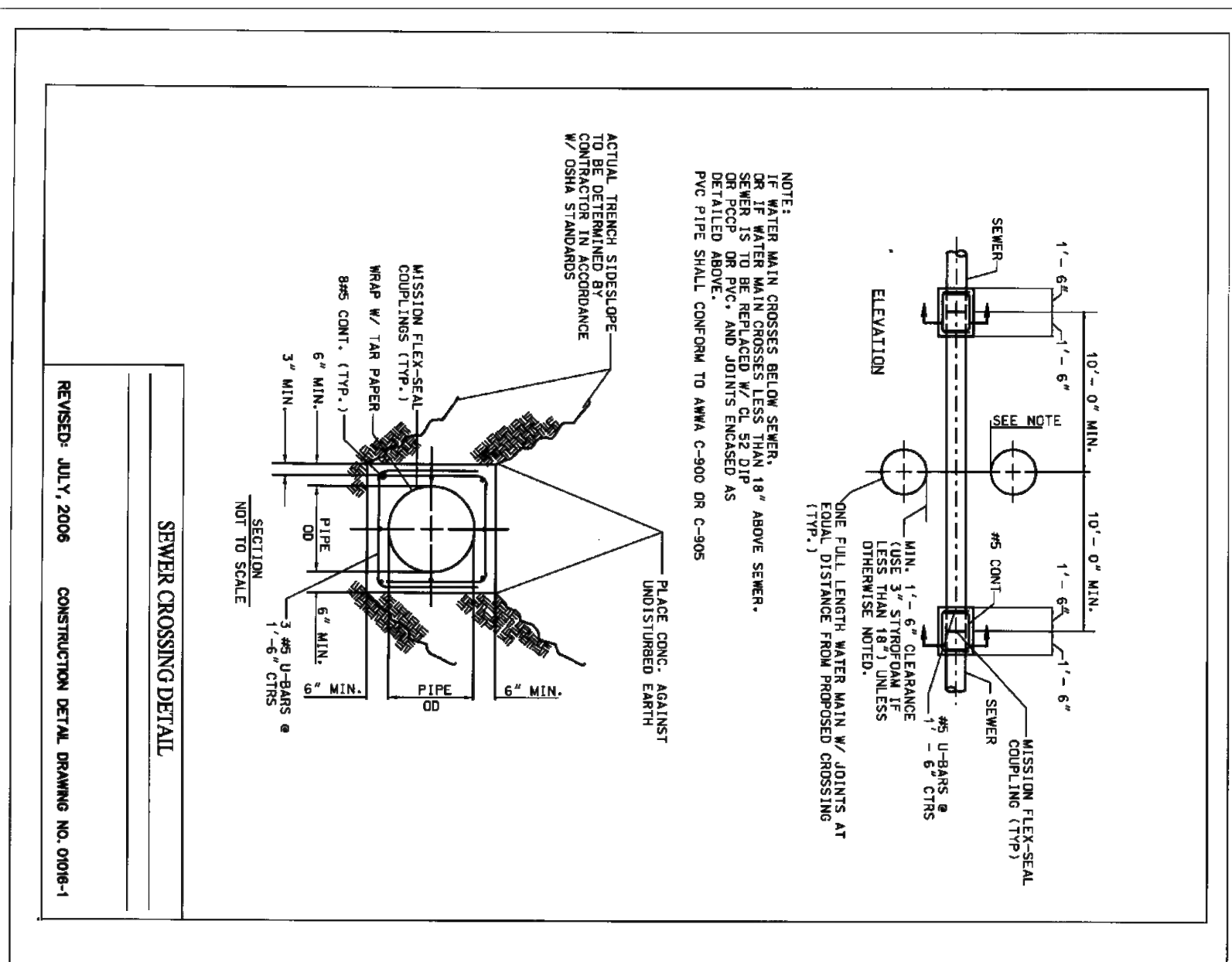
SHEET
C511



TYPICAL BORING ENCASEMENT DETAIL



STRAIGHT SET HYDRANT INSTALLATION 1ST PLAT



CONCRETE ENCASEMENT DETAIL



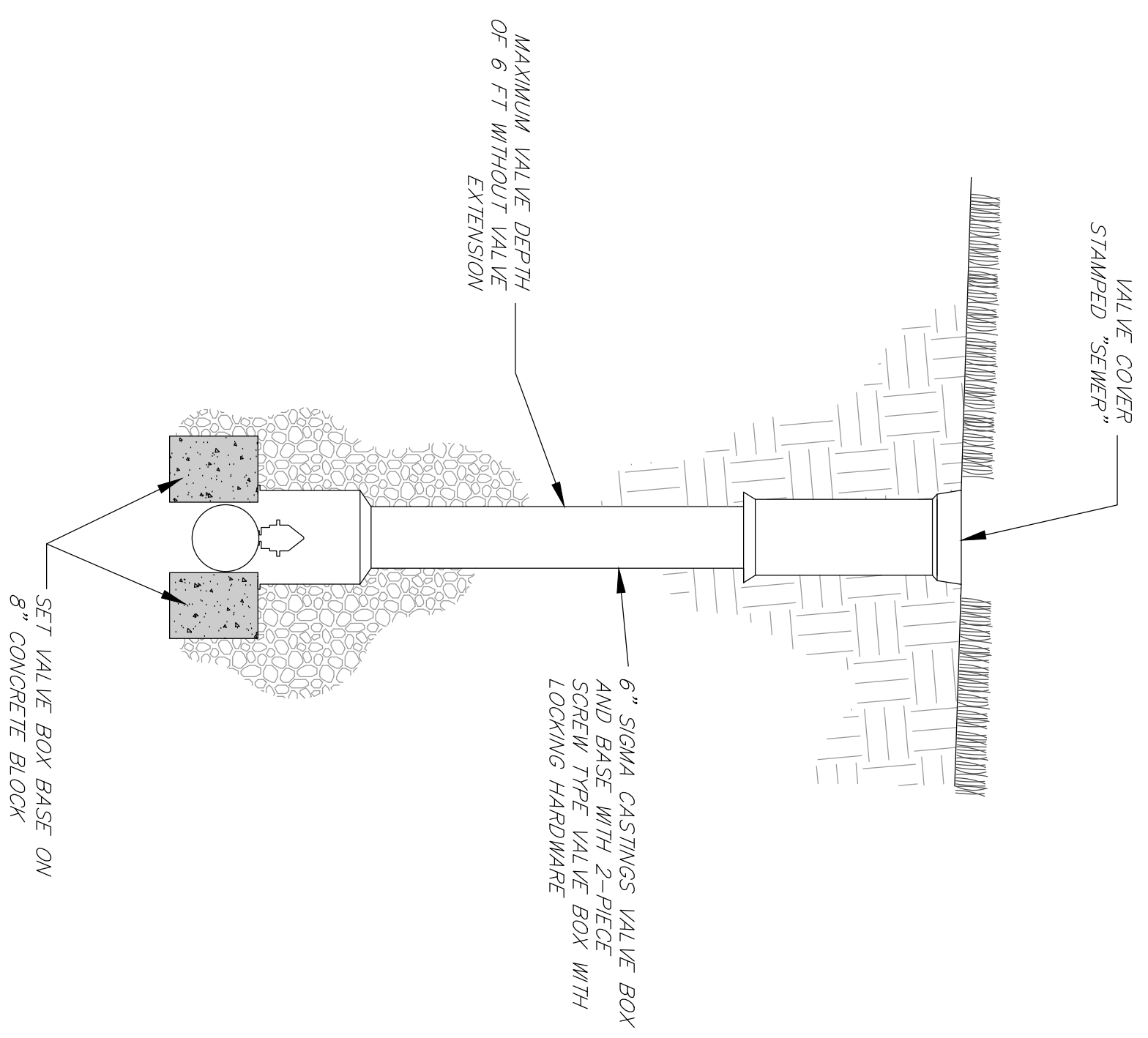
9000 STATE LINE ROAD
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 1005 PARALLEL PARKWAY
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 TEL: (913) 542-6642
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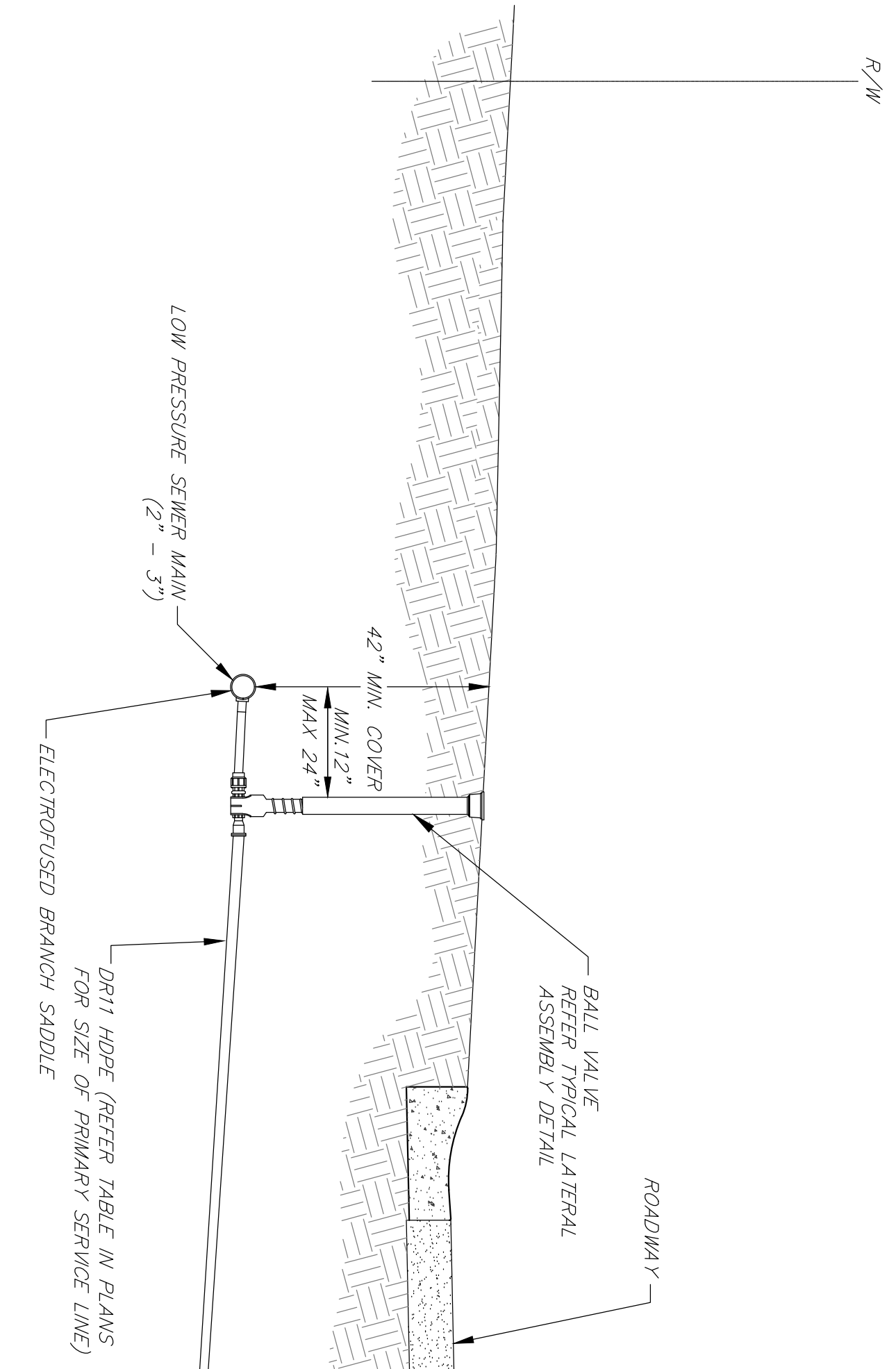
LOCH LLOYD
 PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

PROJECT NO. LOCH LLOYD
 DRAWN BY: 07/15/25
 CHECKED BY: BH
 REVISIONS:
 1. 2/15/25: VESTIGIOUS COMMENTS
 2. 2/15/25: BH SET
 SHEET TITLE & NUMBER
 LOCH LLOYD
 SECHRIST
 WATERLINE DETAILS

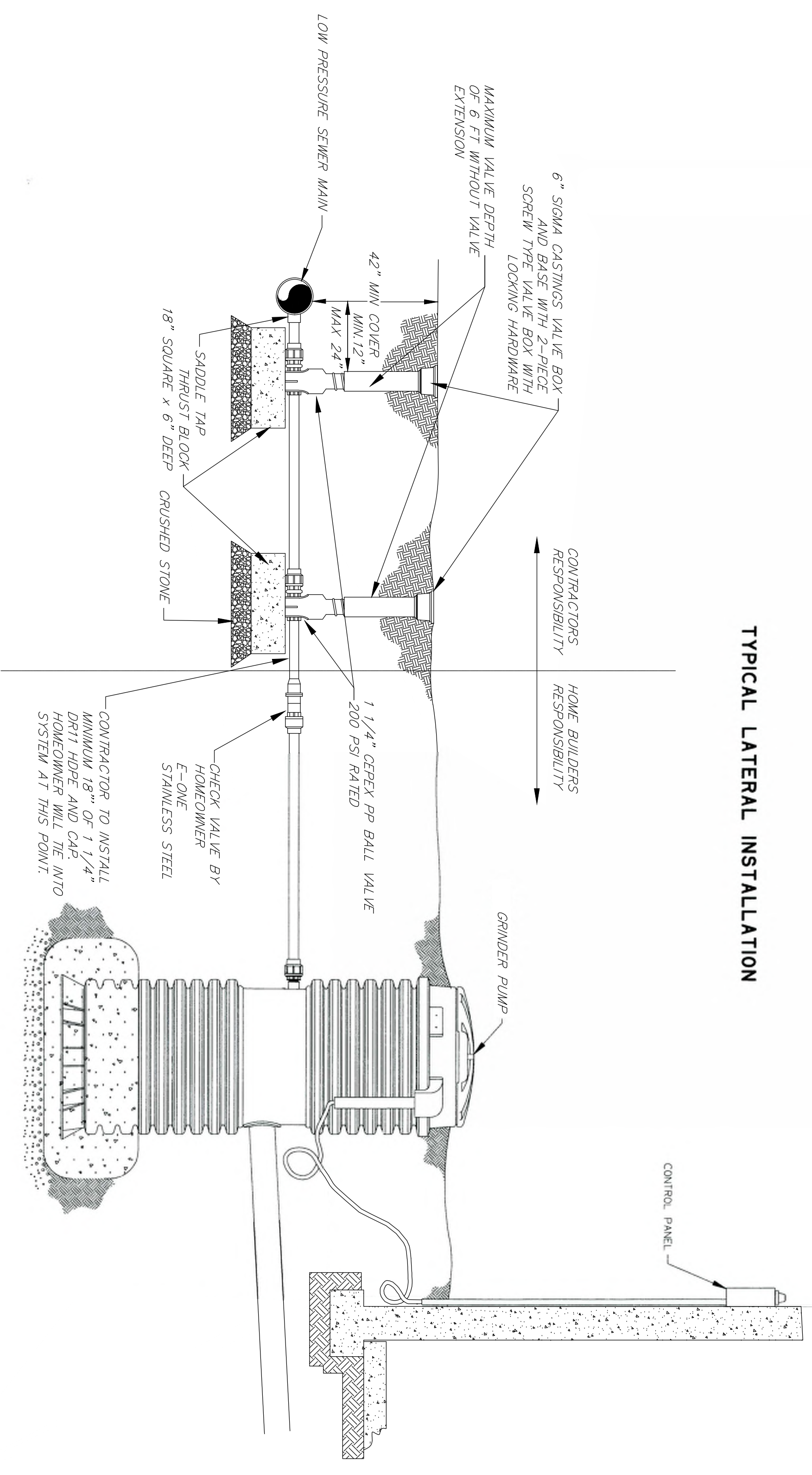
SHEET
C512



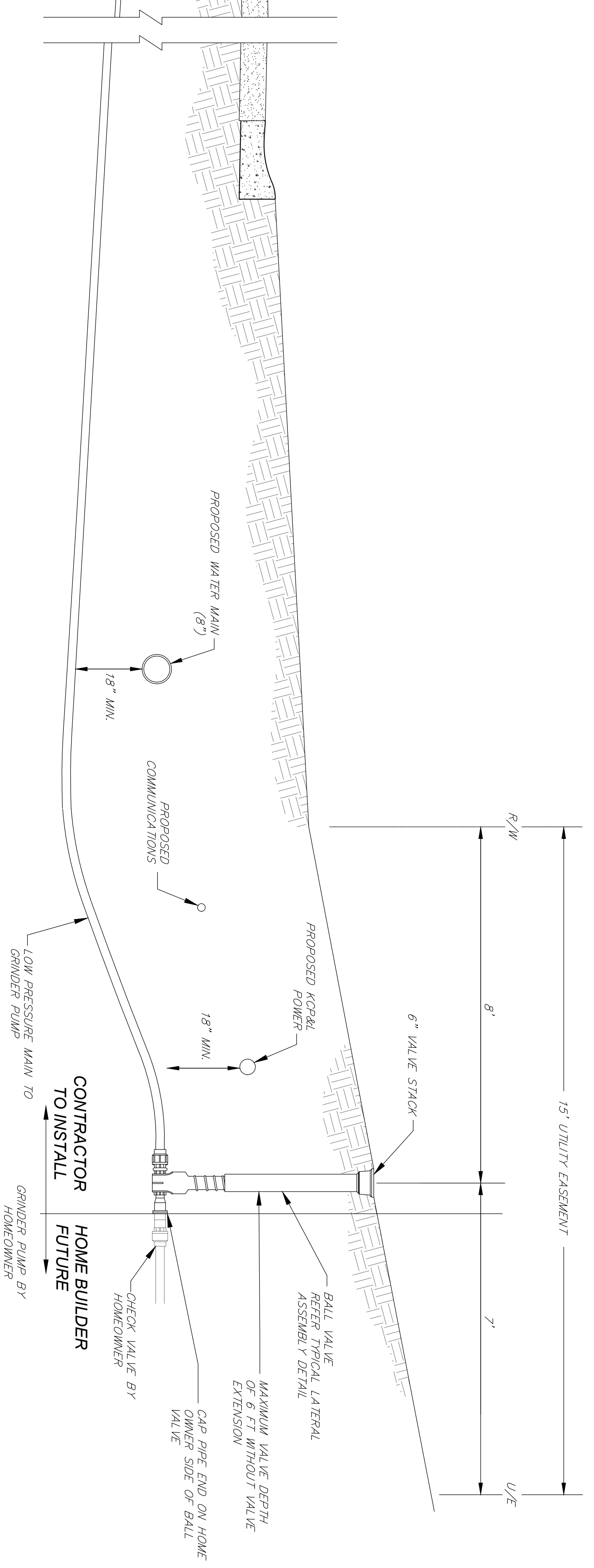
VALVE BOX BASE DETAIL (ON SERVICE LINE)
 SCALE: NTS



TYPICAL SECTION LPS SERVICE LINE



TYPICAL LATERAL ASSEMBLY
 SCALE: NTS



ALL FITTINGS FOR HDPE SERVICE LINE SHALL BE ELECTROFUSED OR BUTT WELDED JOINTS

SCALE: NTS



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 1006 PARALLEL PARKWAY
 KANSAS CITY, KANSAS 66109
 TEL: (913) 842-6642
 FAX: (913) 842-6641
 ce@continentalengineers.com



LOCH LLOYD
 PLANNED RESIDENTIAL COMMUNITY
 VILLAGE OF LOCH LLOYD, CASS COUNTY, MISSOURI

PROJECT NO. LOCHLLOYD
 DRAWN BY: 07/15/25
 CHECKED BY: BH
 REVISIONS:
 1. 11/23/25 (S) COMPENS
 2. 7/15/25 (BH) SET
 SHEET TITLE & NUMBER

SECHREST
 SANITARY SEWER
 DETAILS

SHEET
C521