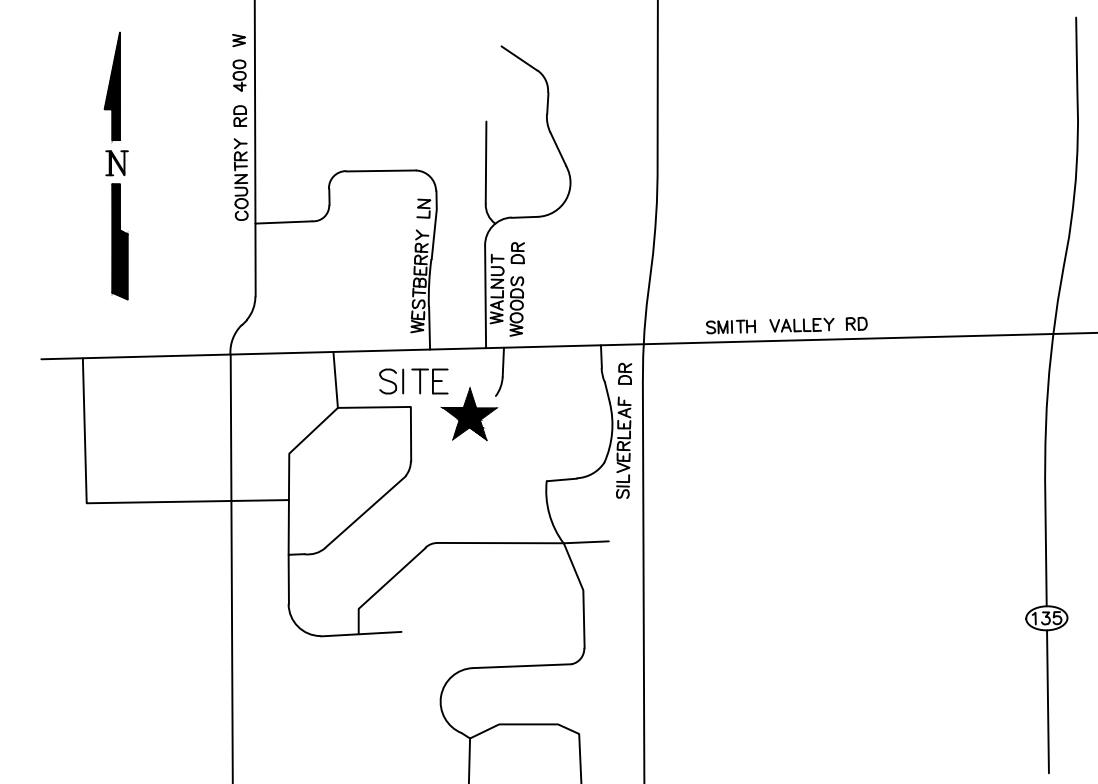


ABBREVIATIONS

- C - CENTERLINE
- E - FLOWLINE
- P - PROPERTY LINE
- EL - ELEVATION
- PC - POINT OF CURVATURE
- PI - POINT OF INTERSECTION
- PT - POINT OF TANGENCY
- PVC - POINT OF VERTICAL CURVATURE
- PVI - POINT OF VERTICAL INTERSECTION
- PVT - POINT OF VERTICAL TANGENCY
- TOS - TOP OF SLOPE
- BLM - BASELINE MARKER



VICINITY MAP
(NOT TO SCALE)
3665 W SMITH VALLEY RD,
JOHNSON COUNTY
SEC. 2, T13N, R3E, 2ND P.M.
LAT. 39° 36' 15.55" N
LONG. 86° 10' 20.96" W

GRADING NOTES:

1. BLM DENOTES BASELINE MARKERS WHICH ARE TO BE REPLACED AFTER NEW CONTOURS ARE ESTABLISHED.
2. CONTOURS SHOWN FOR STATION PAD ARE TOP OF STONE ELEVATIONS.
3. SITE AND BOUNDARY SURVEY PERFORMED BY:
SCHNEIDER GEOMATICS
2 NE 21ST ST., SUITE #1
WASHINGTON, IN 47501
TEL: (317) 826-7100
TEM: JOB NO. 13659
4. CONTRACTOR SHALL STRIP THE ENTIRE AREA TO A MIN. DEPTH OF 6" FROM THE ACTUAL GROUND ELEVATION IN ORDER TO REMOVE TOPSOIL, ROOTS, VEGETATION, OR OTHER ORGANIC MATTER. SEPARATE TOPSOIL FOR FUTURE USE, AND DISPOSE OF REMAINING MATERIAL OFF SITE. ADDITIONAL DEPTH OF STRIPPING MAY BE REQUIRED TO REMOVE ROOTS & PLOW LAYER THAT EXTEND DEEPER THAN 6" BELOW THE GROUND SURFACE.
5. THE ENTIRE AREA INCLUDED WITHIN THE SUBSTATION FENCE & 5.0' OUTSIDE THE FENCE SHALL BE EXCAVATED TO SUBGRADE DESIGN ELEVATION AND THE MATERIAL STOCKPILED WITHIN THE SITE AND REUSED TO BACKFILL EXCAVATION AS SPECIFIED BELOW.
6. FILL MATERIAL SHALL BE FREE OF VEGETATION, ASH, WOOD, FROZEN MATERIAL, ORGANIC SOILS, OR ANY MATERIAL WHICH MAY DECAY OR OTHERWISE MIGHT CAUSE UNWANTED SETTLEMENT. FILL MATERIAL SHALL ALSO BE FREE FROM ROCK, STONE, OR BROKEN CONCRETE LARGER THAN 4" IN THE LARGEST DIMENSION.
7. FILL MATERIAL SHALL BE PLACED IN MAXIMUM 8" LIFTS AND BE UNIFORMLY COMPACTED TO A MINIMUM OF 98% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-698.
8. GRANULAR MATERIAL USED FOR FILL SHALL BE COMPACTED WITH A VIBRATORY PLATE OR SMOOTH DRUM COMPACTOR.
9. COHESIVE (CLAY) MATERIAL USED FOR FILL SHALL BE UNIFORMLY COMPACTED WITH A MINIMUM 20-TON TANDEM-AXLE DUMP TRUCK, PADDED WHEEL (SHEEPPOOT) COMPACTOR, OR SIMILARLY LOADED EQUIPMENT.
10. AFTER THE EXCAVATION HAS BEEN COMPACTED, THE EXPOSED SURFACE SHALL BE PROOF ROLLED WITH A FULLY LOADED DUMP TRUCK OR HEAVY RUBBER-TIRED CONSTRUCTION VEHICLE IN ORDER TO IDENTIFY SOFT, LOOSE, OR OTHERWISE POTENTIALLY COMPRESSIBLE AREAS. SUCH AREAS SHALL BE EITHER BE REMOVED OR MODIFIED BY USING STABILIZATION TECHNIQUES. EXCESSIVELY WET OR DRY MATERIAL SHALL EITHER BE REMOVED OR MOISTURE CONDITIONED AND RECOMPACTED. ALTERNATIVELY, CHEMICAL STABILIZATION OF THE EXPOSED SUBGRADE SOIL USING LIME OR LIME KILN DUST COULD BE CONSIDERED.
11. ALL GRADED SLOPES SHALL BE THREE HORIZONTAL TO ONE VERTICAL (3:1) UNLESS OTHERWISE NOTED.
12. ALL DISTURBED AREAS OUTSIDE THE SUBSTATION FENCE NOT COVERED WITH STONE SHALL BE SEED IN ACCORDANCE WITH DUKE ENERGY SEEDING AND MULCHING SPECIFICATION 32 92 00.
13. ADDITIONAL DUKE ENERGY SPECIFICATIONS:
32 15 00 AGGREGATE SURFACING
31 00 00 EARTHWORK
14. CONTRACTOR SHALL ENDEAVOR TO PROTECT OTHER ONSITE ITEMS. DAMAGE TO ANY ITEMS NOT SPECIFICALLY CALLED OUT FOR IMPROVEMENT SHALL BE RE-ESTABLISHED TO PRE-CONSTRUCTION CONDITIONS AT THE CONTRACTOR'S EXPENSE.
15. AT LEAST 3 DAYS PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES BY CALLING INDIANA 811 OR 1-800-382-5544.
16. CONTRACTOR SHALL FOLLOW DUKE ENERGY SPECIFICATIONS FOR INDIANA SERVICE TERRITORY UNLESS OTHERWISE NOTED.
17. CRUSHED ROCK SURFACE SHALL BE PLACED AS INDICATED BELOW, REFER TO DUKE SPECIFICATION 32 15 00.
SUBSTATION YARD:
- 6" WASHED INDOT NO.5
SUBSTATION DRIVE AREA
- 10" SURFACE COURSE INDOT NO. 53 (COMPACTED)
18. IMMEDIATELY AFTER GRADING OPERATIONS HAVE BEEN COMPLETED, CONTRACTOR SHALL APPLY TOPSOIL AND SEED ALL AREAS NOT RECEIVING CRUSHED ROCK SURFACING.
19. CONTRACTOR SHALL BLEND TO GRADE BETWEEN THE PROPOSED CONTOURS AND EXISTING SUBSTATION IN ORDER TO PROVIDE POSITIVE OR NEGATIVE DRAINAGE AND TO AVOID PONDING. GRADE BOTTOM OF BASIN TOWARDS OUTLET STRUCTURE TO AN ELEVATION OF 737.50'.
20. CONTRACTOR SHALL DEMOLISH AND COMPLETELY REVOKE EXISTING PATIO ON DUKE PROPERTY. BACKFILL AND COMPACT VOID AREAS PER DUKE ENERGY SPECIFICATIONS.
21. COORDINATE ACCESS ROAD LENGTH WITH DRAWINGS 339-J-1 AND 339-K-1

LEGEND:

- 510- PROPOSED CONTOUR
- 510-- EXISTING CONTOUR
- 509- REGRADED CONTOUR
- - - - - TOP OF SLOPE
- FLOWLINE
- P - PROPERTY LINE
- - - - - LIMITS OF DISTURBANCE
- OE- OVERHEAD ELECTRIC LINE
- E- BURIED ELECTRIC LINE
- T- UNDERGROUND TELEPHONE LINE
- W- WATERLINE
- SS- SANITARY SEWER
- G- UNDERGROUND GAS
- X- EXISTING FENCE TO BE REMOVED
- X- EXISTING FENCE TO REMAIN
- OE- PROPOSED SUBSTATION FENCE
- OE- EXISTING SANITARY SEWER
- - - - - EXISTING TREE LINE
- - - - - PROPOSED TREE LINE
- - - - - EXISTING YARD STONE
- - - - - SUBSTATION YARD STONE
- - - - - SUBSTATION DRIVE PATH
- - - - - BASELINE MARKERS
- BLM#1
- BLM#1
- BLM#1
- BLM#1

FENCE COORDINATES

Point #	Northing	Easting
1	1586919.78	185398.57
2	1586999.78	185398.28
3	1587175.61	185467.05
4	1587222.52	185519.46
5	1587184.73	185648.74
6	1587161.63	185647.47
7	1587137.99	185646.17
8	1587109.67	185671.51

CONTROL & BENCHMARK COORDINATES

Description	Northing	Easting	Elevation
CP #100	1587138.26	185577.90	742.30
CP #101	1587104.78	185812.39	740.96
TBM #1	1587110.77	185843.19	743.36



"DON'T DIG BLIND"
CALL BEFORE YOU DIG
1-800-382-5544 In Indiana
1-800-428-5200 outside of Indiana

REFERENCES

- M-339-H-2 GRADING PROFILES
- D-339-H-3 GRADING DETAILS
- ERSN-CTRL-1 EROSION & SEDIMENT CONTROL PLAN
- ERSN-CTRL-2 EROSION & SEDIMENT CONTROL DETAILS

REVISION	DATE	BY	CHK	DESCRIPTION
34	12/13/12	M.L. GENTRY	E.J. KNIGHT	AS-BUILT CORRECTIONS FOR PROJ. D3423
3	12/16/11	L.G.L.	MEL BECK	REMOVED DUE TO ADDING A 69KV 3C MVAR CAP. BANK AND RELATED EQUIPMENT
2	11/7/02	RON COMBS	C.R.T.	REVISED PER POST CONSTRUCTION AS-BUILT CORRECTIONS
1	6/15/01	M.J. McDOWELL	J.A. AZZEH	NEW DRAWING - ISSUED FOR CONSTRUCTION

FILENAME: 339h1.dwg

GRADING PLAN

DATE: 08/08/2022

SCALE: 1"=20'

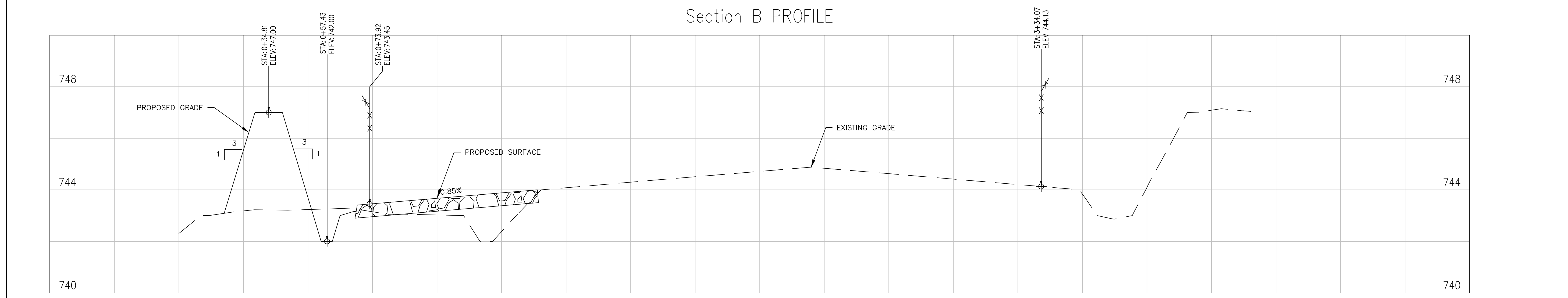
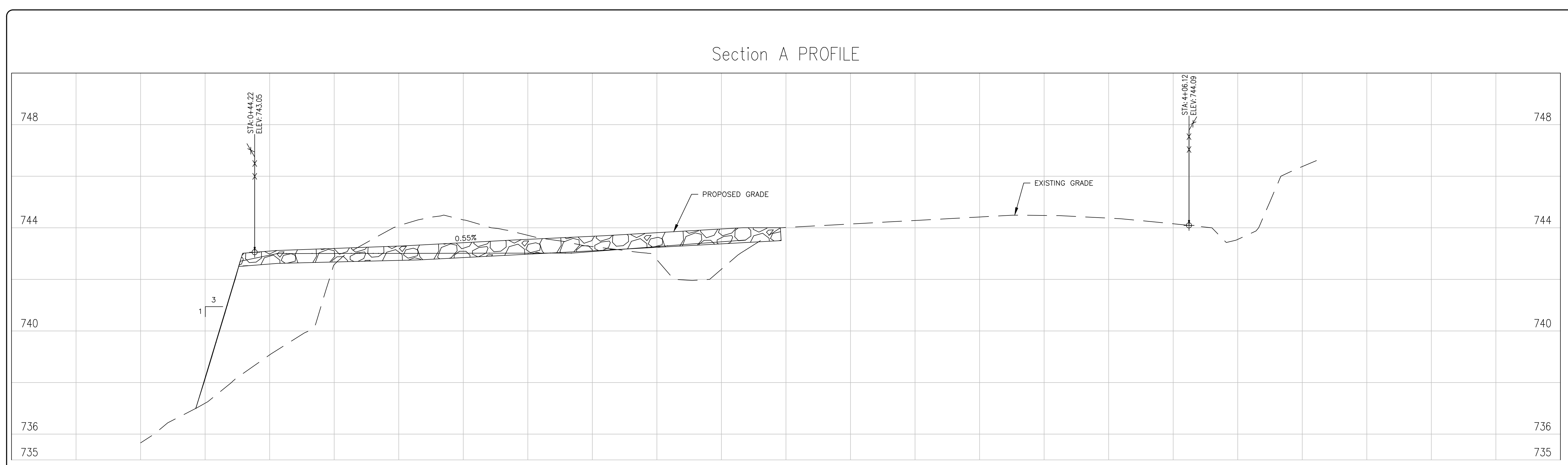
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REV: 33934

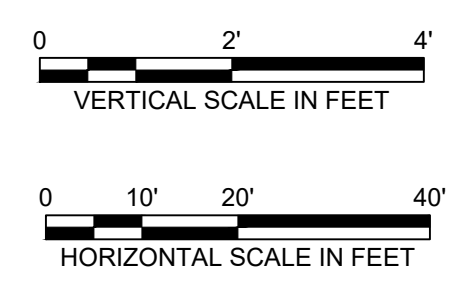
DWG NO: M-339-H-1

LOCATION: FRANCES CREEK

DUKE ENERGY



NOTES:
 1. BASIN LINER SHOULD BE BTL LINERS AQUAARMOR BTL - 20 OR EQUIVALENT. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS.



LEGEND:
 — PROPOSED GROUND
 - - - EXISTING GROUND
 [Hatched Box] PROPOSED SUBSTATION YARD STONE

JOHNSON CO.
 WHITE RIVER TWP.
 SEC. 2, TWP. 13N, R.3E.

REVISION 2A DFT: M.L. GENTRY ENG: R.M. BRAMON DES/CHK: E.J. KNIGHT IM: M180004 M18000401/V/S/E: EXPND YARD, INSTALL (1) 345/69KV LTC TRANSFORMER, (1) 345KV CB & (2) 345KV DISC SW'S. M18000402/V/S/E: RELOCATE LINE 6999 & 6981-99 CB. REMOVE 6999 LINE SW, CCVT'S, LA'S LEAVE STR'S IN PLACE. INSTALL (1) 6999 A-FRAME TAKEOFF FOR NEW RING W/ (6) 69KV SW'S, (3) LA'S, (1) 69KV CB, (1) SSVT & (6) CCVT'S. DATE ISSUED: XX/XX/XX ISSUE TYPE: NEW WORK	REVISION 2 DFT: LGL ENG: MEL BECK DES/CHK: LGL IM: N/A AS-BUILTS CORRECTIONS FOR PROJ. D3423 DATE ISSUED: 12/3/12 ISSUE TYPE: AS-BUILT	REVISION 1 DFT: Mel Beck ENG: Michael Weber DES/CHK: Mel Beck IM: 60213049 REVISED DUE TO ADDING A 69KV 36 MVAR CAP. BANK AND RELATED EQUIPMENT. DATE ISSUED: 12/16/11 ISSUE TYPE: NEW WORK	REVISION 0 DFT: M.J. McDOWELL ENG: J.R. WATSON DES/CHK: J.A. AZZEH IM: 28166 NEW DRAWING - ISSUED FOR CONSTRUCTION DATE ISSUED: 6/15/01 ISSUE TYPE: FOR CONSTRUCTION
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GR/A FILENAME: 339h2.dwg

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DRAFTED BY: [] PRELIMINARY [] APPROVAL [] AS BUILT []
 DESIGNED/CHECKED BY: []
 ENGINEER: [] DATE: []
 DETAIL PROJECT NO./OPERATING UNIT: []
 DW/FUNDING PROJECT: []
 DATE ISSUED: []

DUKE ENERGY

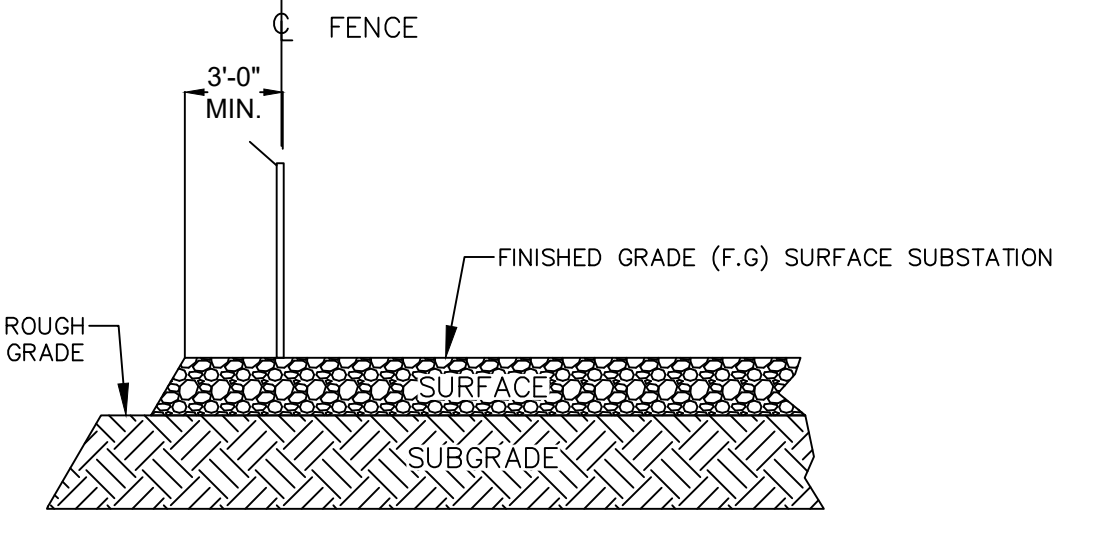
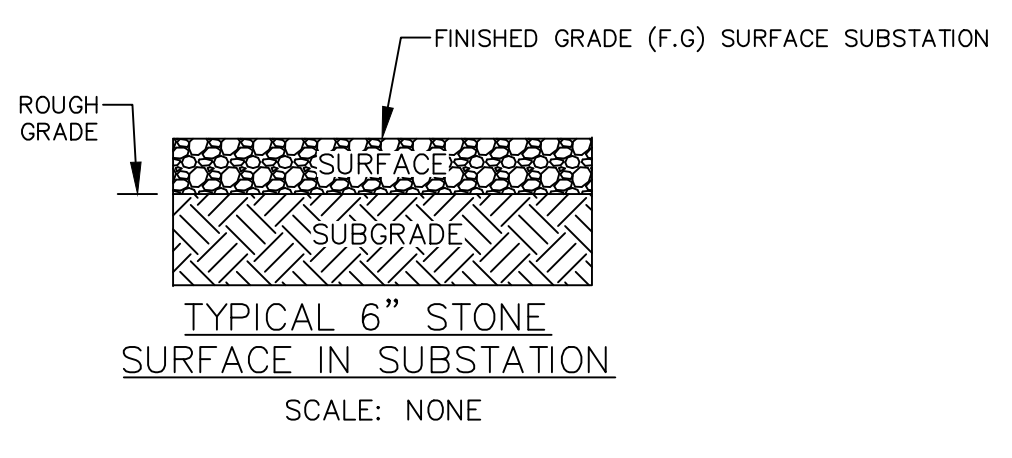
FRANCES CREEK

SCALE: AS SHOWN SCALE FACTOR: 1 STA NO: 33924 REV: M DWG NO: 339-H-2

08/08/2022



05/31/22 08:57:14 BMD-TET



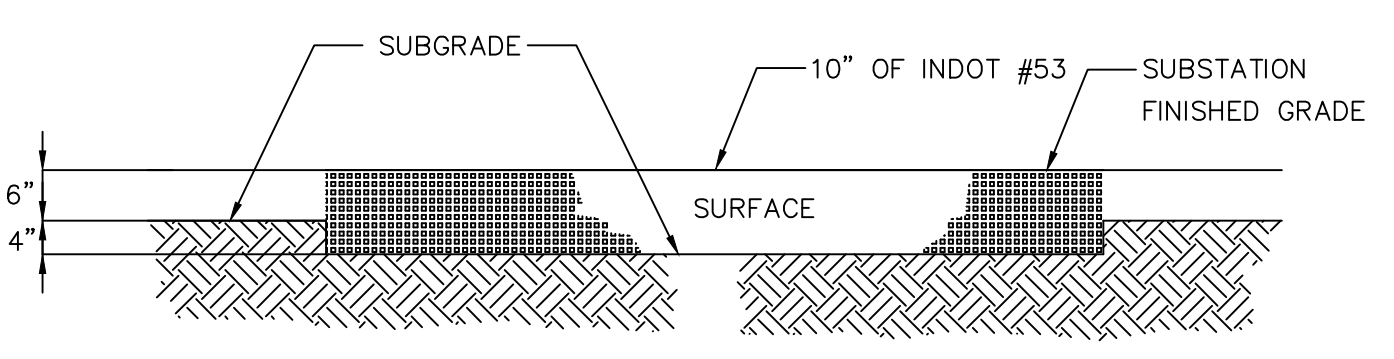
ALL COURSES SHALL BE INSTALLED IN ACCORDANCE WITH LATEST ADDITION OF "INDIANA DEPARTMENT OF HIGHWAYS-STANDARD SPECIFICATIONS"

ALL COURSES SHALL BE COMPACTED TO AT LEAST 98 PERCENT MODIFIED PROCTOR VALUE USING CRUSHED STONE MATERIAL.

SURFACE: 6" COURSE - #5 OR #8 CRUSHED STONE
SUBGRADE: COHESIVE BORROW OR PIT RUN

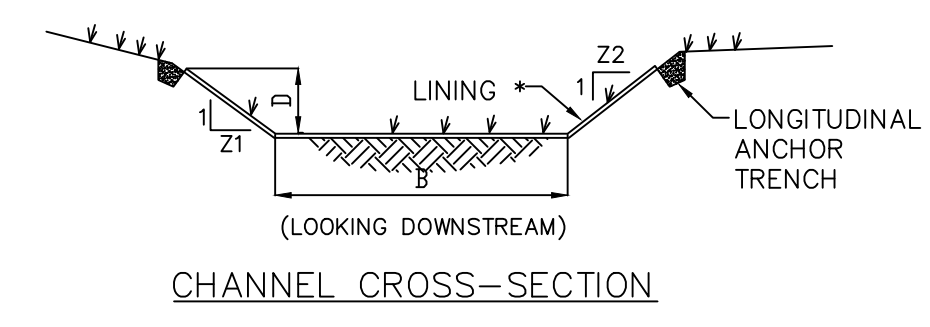
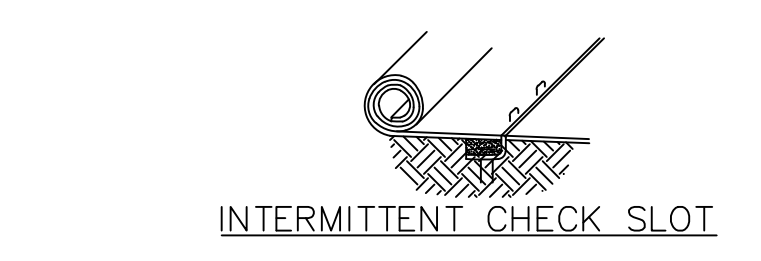
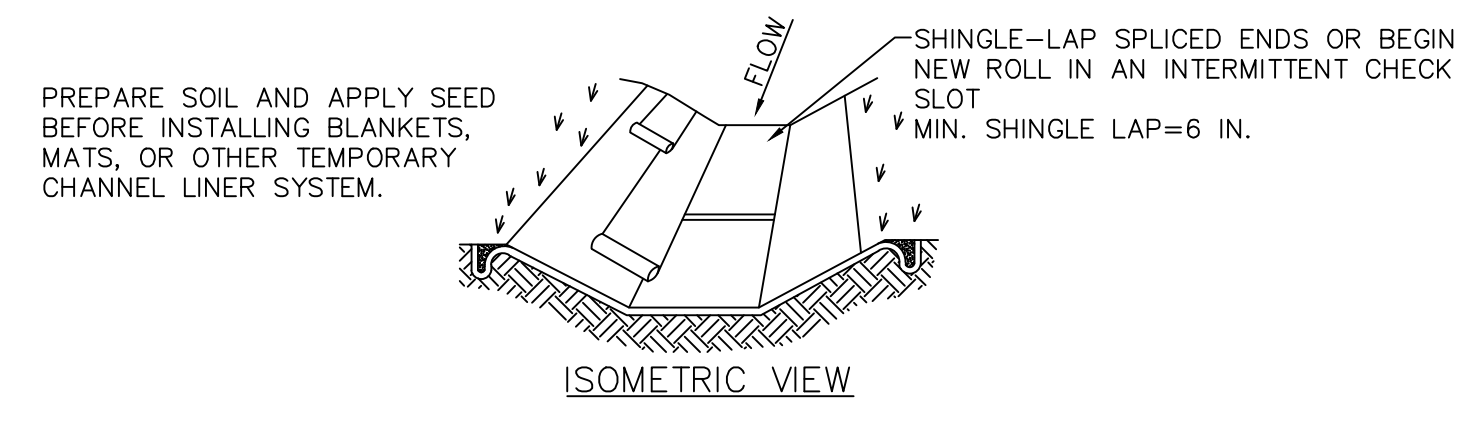
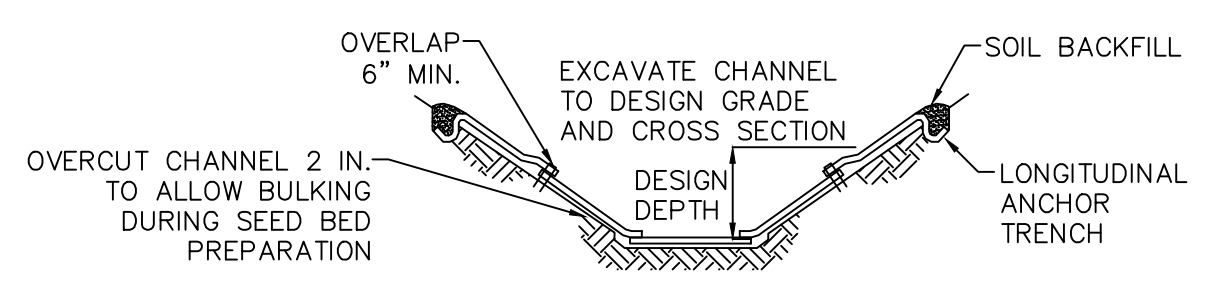
SUBGRADE MATERIAL MUST BE OF SUITABLE QUALITY AND COMPACTED TO 90 PERCENT MODIFIED PROCTOR VALUE. IF MATERIAL CANNOT BE COMPACTED AS SPECIFIED, IT MUST BE REMOVED AND BACKFILLED WITH COHESIVE BORROW, PIT RUN, OR CRUSHED STONE MATERIAL.

TYPICAL CROSS-SECTION AT 6" STONE SURFACE
NOT TO SCALE



SUBGRADE DIRECTLY BELOW THE DRIVEWAY SHALL BE CUT DOWN APPROXIMATELY FOUR (4) INCHES PRIOR TO PLACING 10" OF INDOT #53 SURFACING.

SUBSTATION DRIVE AREA TYPICAL SECTION
NOT TO SCALE



- NOTES:
- ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
 - CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
 - SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
 - NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

CHANNEL SCHEDULE						
NAME	BOTTOM WIDTH (B) (FT)	DEPTH (D) (FT)	TOP WIDTH (W) (FT)	Z1 (FT)	Z2 (FT)	LINING
C-1	3	VARIABLES	VARIABLES	2	2	NAG-SC150
C-2	3	VARIABLES	VARIABLES	4	4	NAG-SC150

EROSION CONTROL BLANKET
NOT TO SCALE

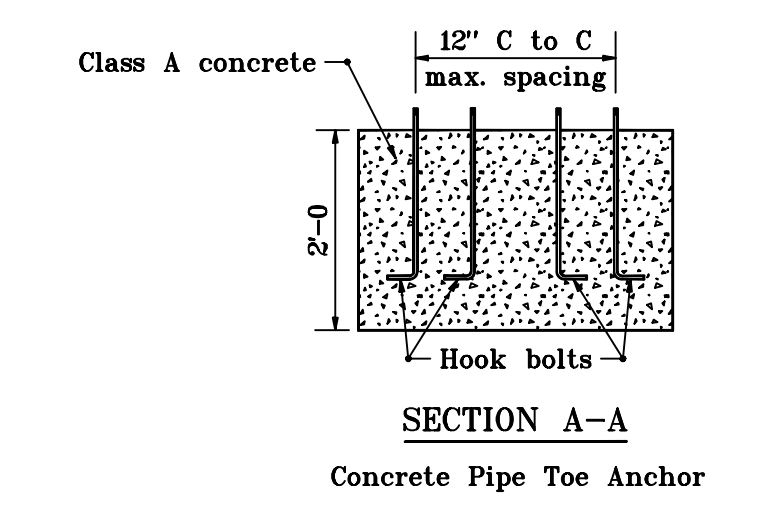
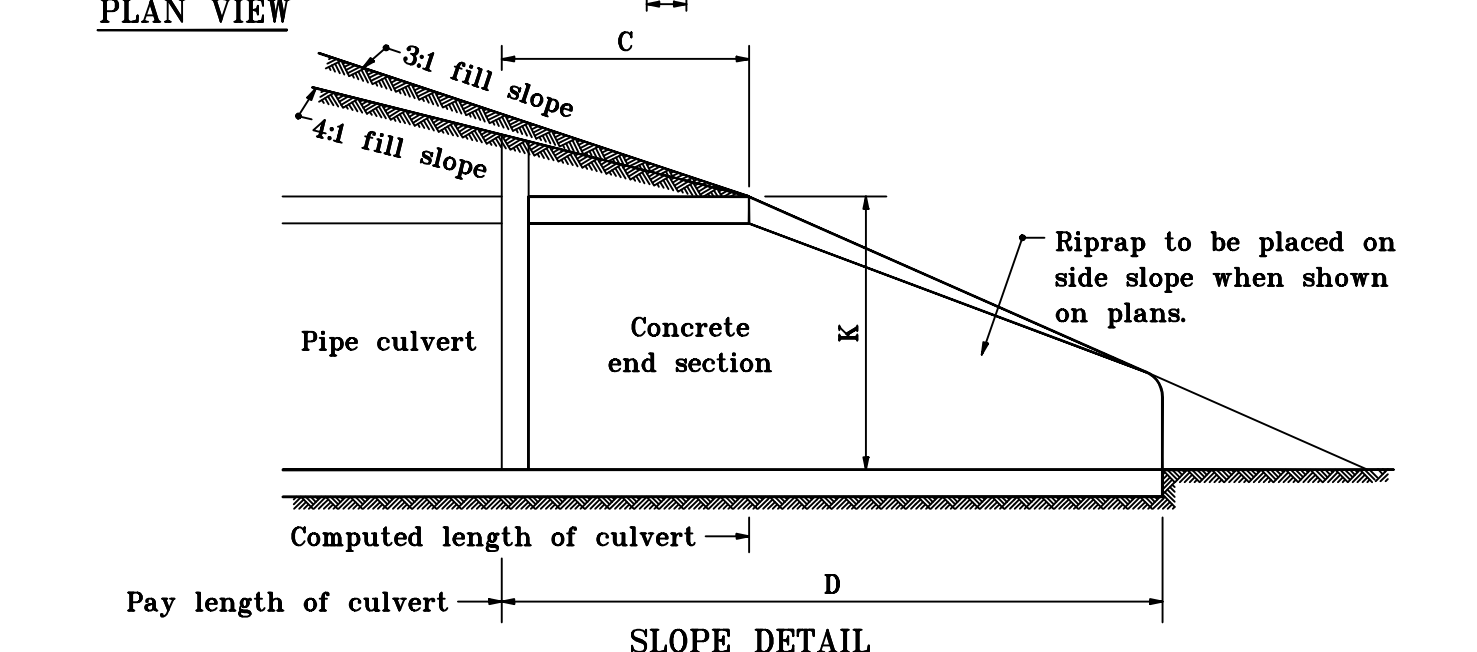
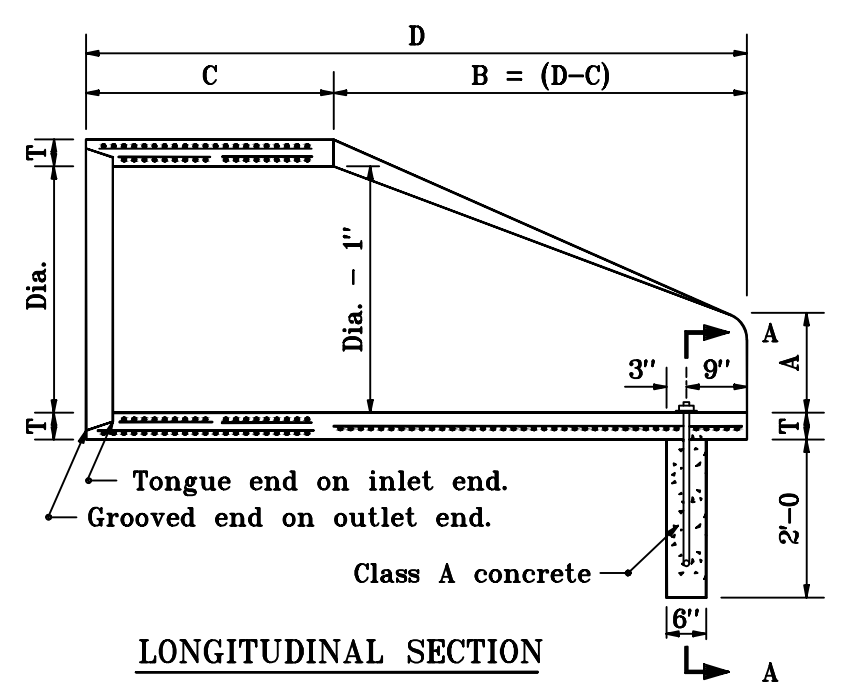
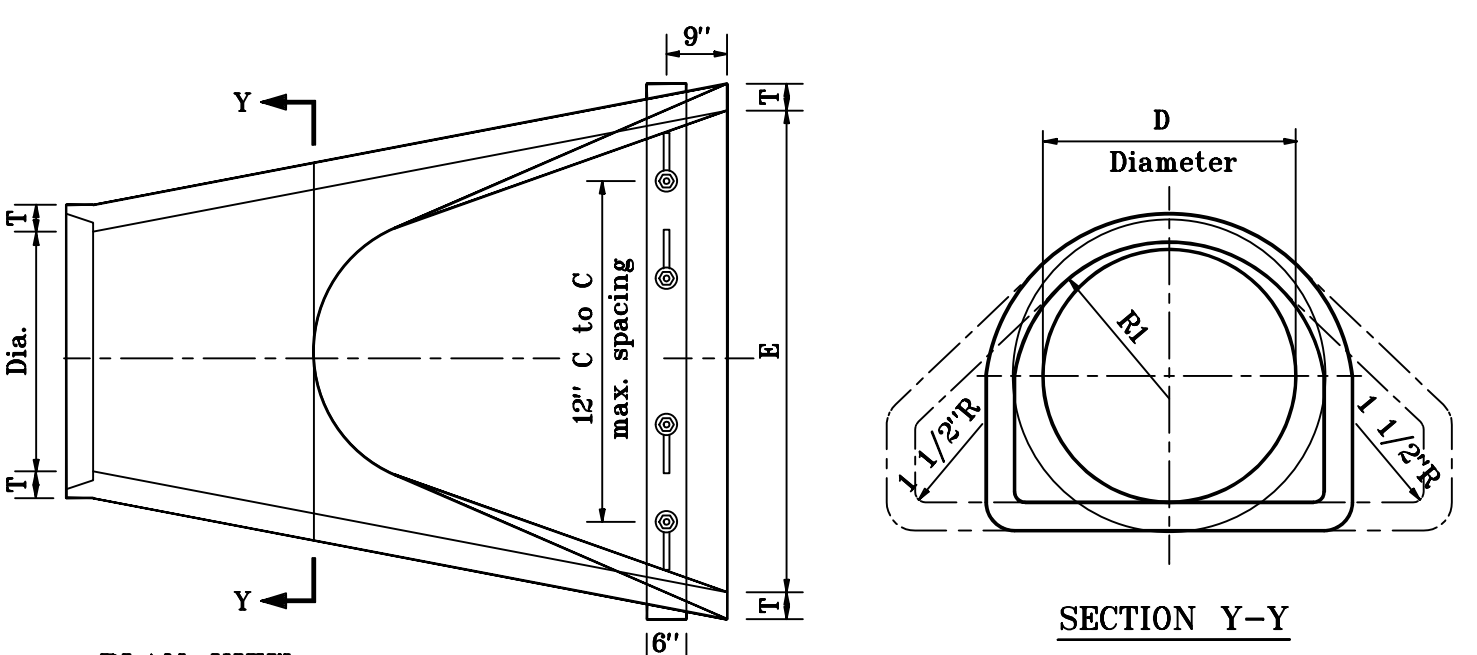
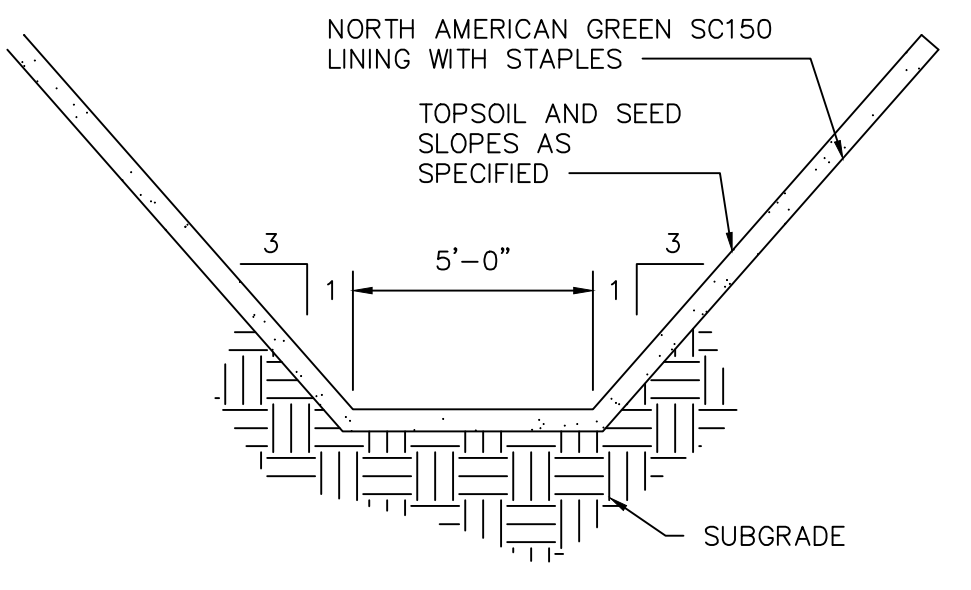


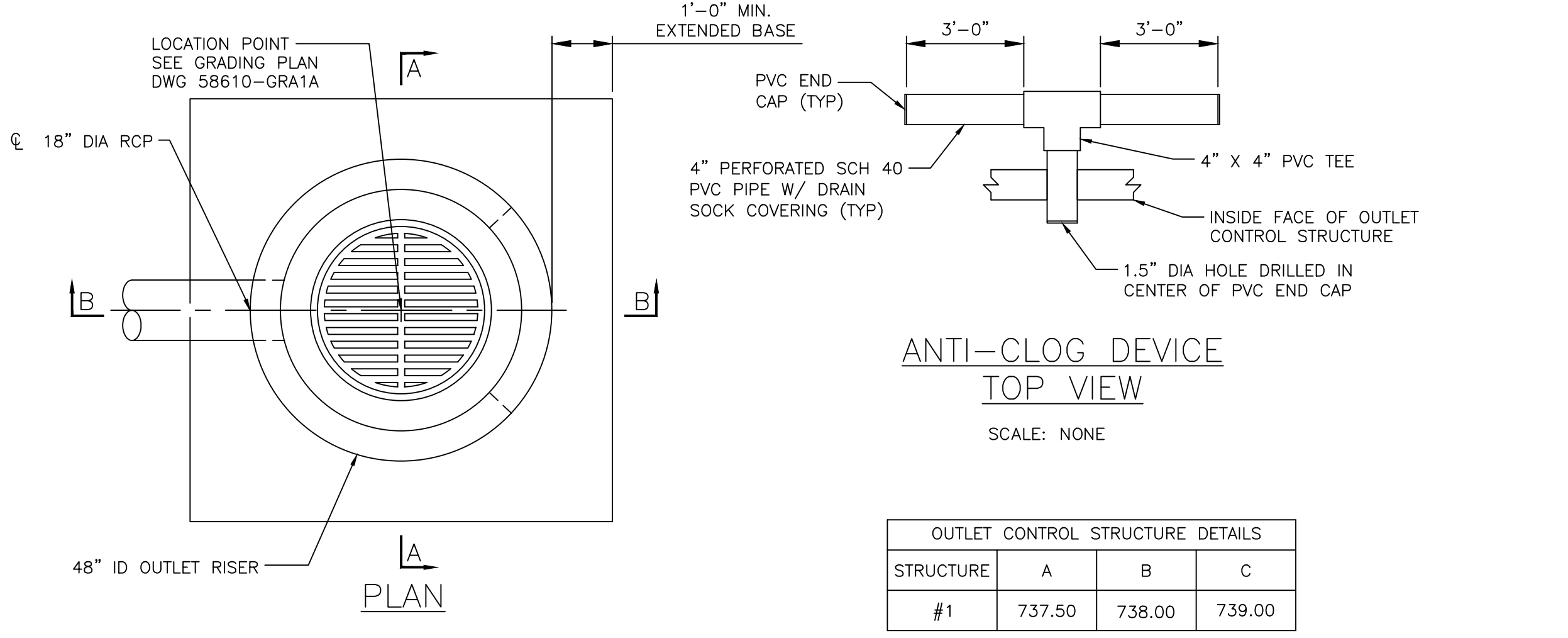
TABLE OF DIMENSIONS									
DIA.	T (min.)	A (±1')	C (±1')	D (±1')	E (±1')	K	R1	R2	APPROX. WEIGHT, lb.
12"	2"	5"	4'-3"	6'-2"	2'-0"	1.3	10 1/2"	9"	800
15"	2 1/2"	7"	4'-0"	6'-3"	2'-6"	1.5	12 1/2"	11"	1100
18"	2 3/4"	11"	4'-1"	6'-2"	3'-0"	1.8	15 1/2"	12"	1300
21"	2 3/4"	11"	3'-6"	6'-3"	3'-6"	2.1	16 1/2"	13"	1500
24"	3"	1'-0"	2'-8"	6'-3"	4'-0"	2.3	16 3/4"	14"	1800
27"	3 1/4"	1'-1"	2'-5"	6'-3"	4'-6"	2.6	18 3/4"	14 1/2"	2100
30"	3 1/2"	1'-2"	1'-10"	6'-3"	5'-0"	2.9	18 3/4"	15"	2400
33"	3 3/4"	1'-3"	3'-6"	6'-3"	5'-6"	3.1	23 3/4"	17 1/2"	4100
36"	4"	1'-5"	3'-1"	6'-3"	6'-0"	3.4	24 3/4"	20"	4200

PRECAST CONCRETE END SECTION
NOT TO SCALE

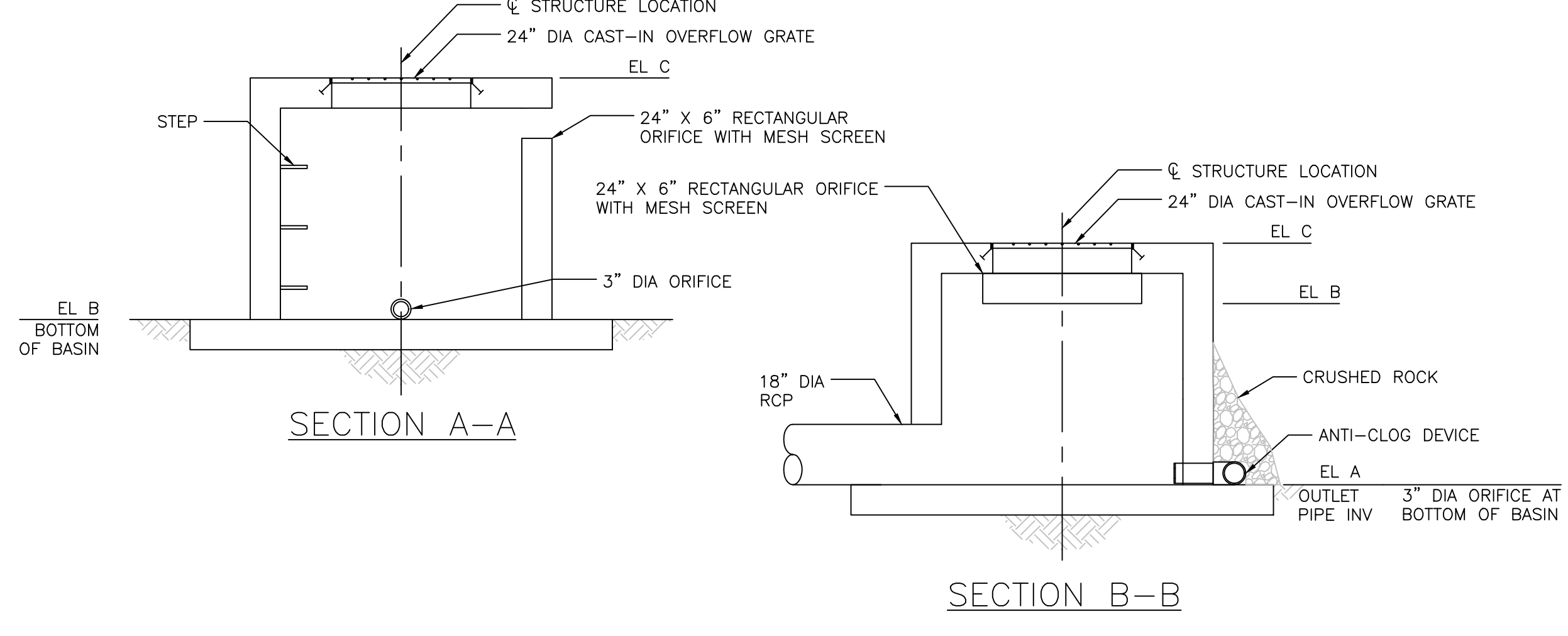
- NOTES:
- CONTRACTOR TO PROCURE PRECAST CONCRETE END SECTION THAT IS COMPATIBLE WITH CLASS IV 11"x18" ARCH RCP.
 - 11"x18" ARCH RCP PIPE IS EQUIVALENT TO STANDARD 15" CIRCULAR PIPE.
 - ARCH RCP IS CLASS IV AND SHALL ADHERE TO ASTM C506.



- NOTES:
- ALL DISTURBED AREA SHALL BE VEGETATED AS SOON AS POSSIBLE.
 - EMBANKMENT PROTECTION SHALL BE NORTH AMERICAN GREEN (NAG) PRODUCTS OR APPROVED EQUAL. SEE AS SPECIFIED.
 - SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS. SEE SPECIFICATIONS FOR SOILS AMENDMENTS, SEED MIXTURES, AND MULCHING INFORMATION.
- TYPICAL VEGETATED FLAT BOTTOM DITCH CROSS SECTION
NOT TO SCALE



OUTLET CONTROL STRUCTURE DETAILS			
STRUCTURE	A	B	C
#1	737.50	738.00	739.00



OUTLET CONTROL STRUCTURE
NOT TO SCALE

DRAWING REFERENCE:
359-H-1 GRADING PLAN
359-H-2 GRADING PROFILES

"0A"

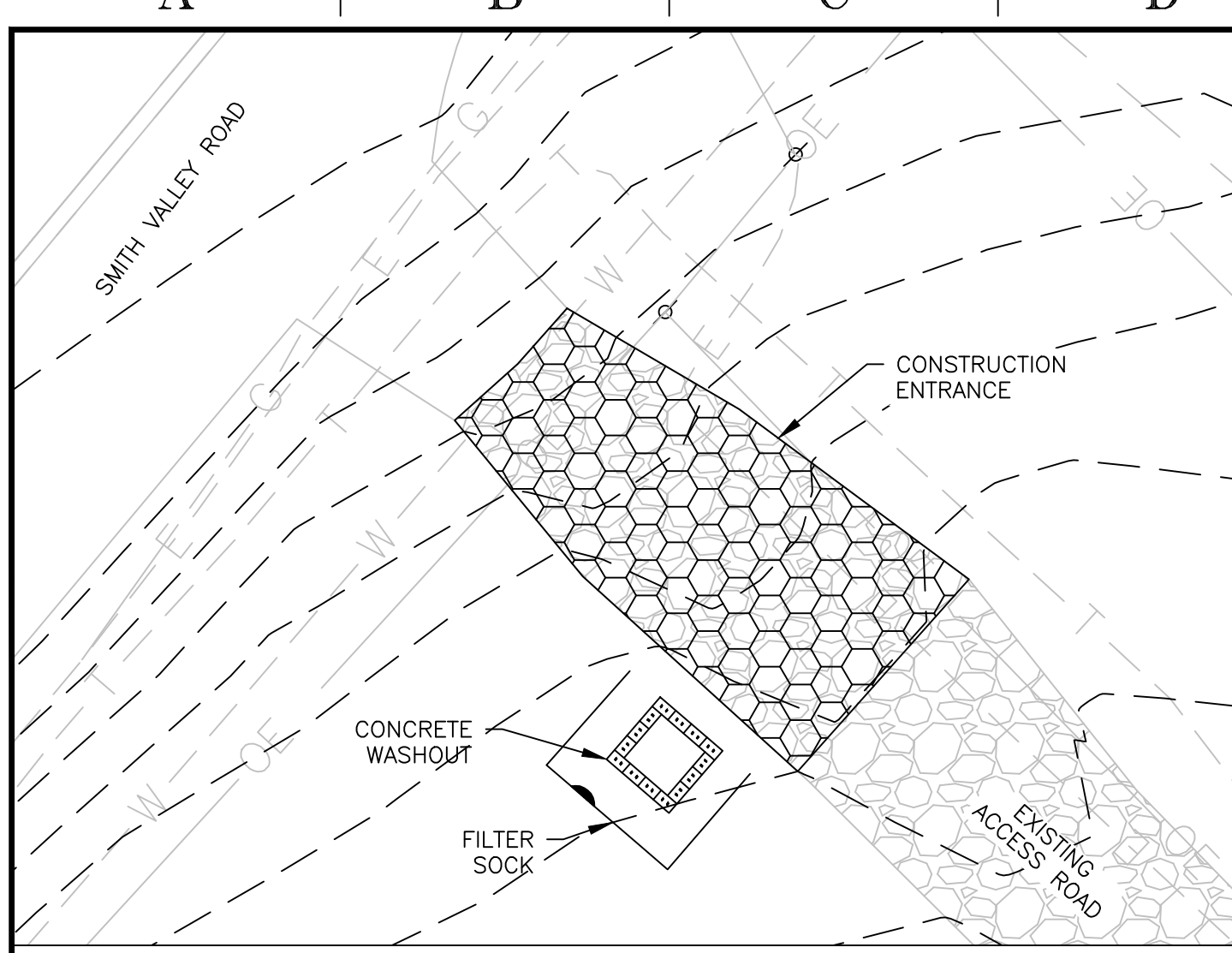
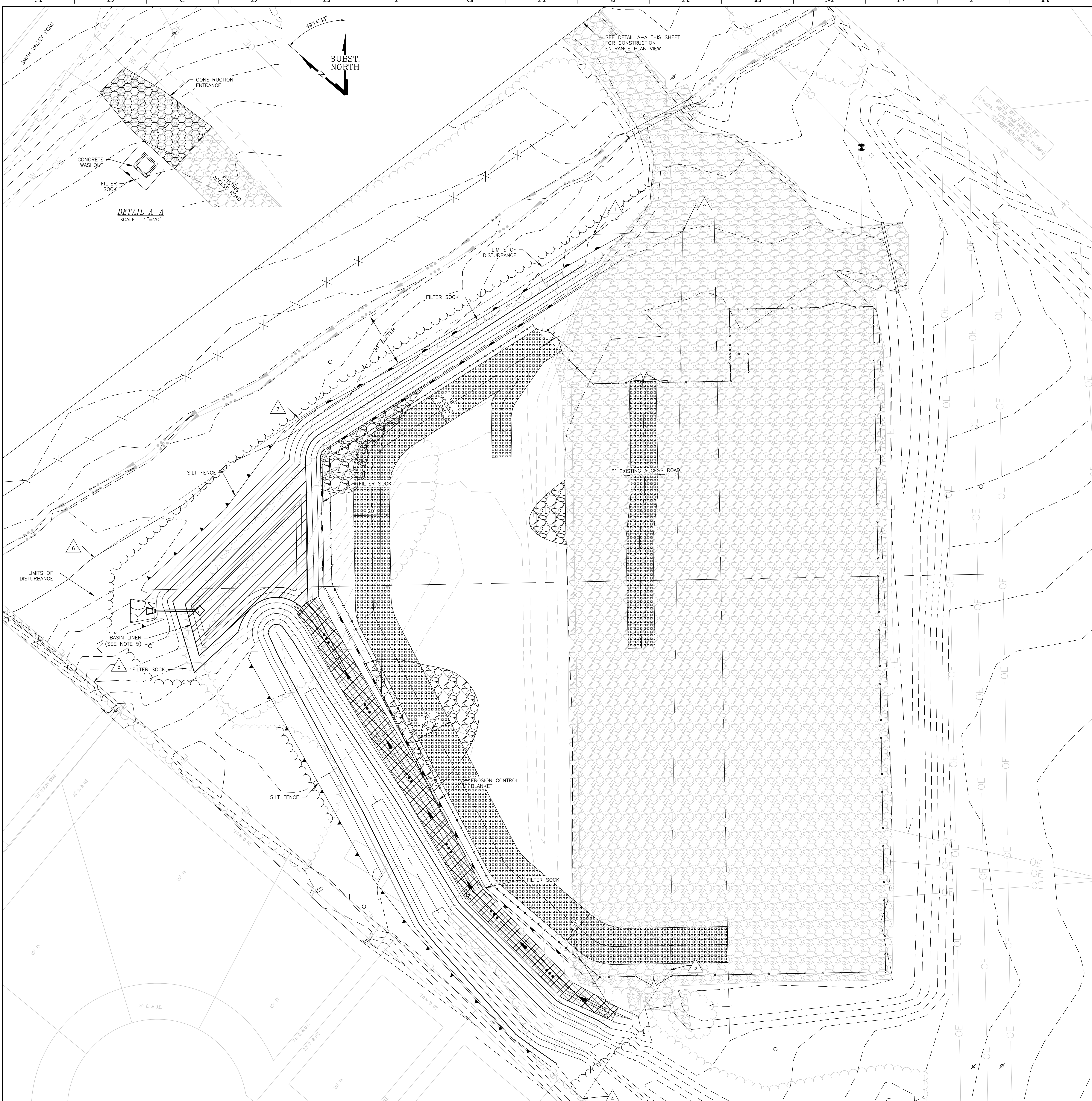
REVISION: 0A
DFT: M.L. GENTRY
ENG: R.M. BRAMON
DES/CHK: E.J. KNIGHT
DATE: 08/08/2022

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DRAFTED BY: []
DESIGNED/CHECKED BY: []
DATE: []
DW/FUNDING PROJECT: []
DATE ISSUED: []

FILENAME: 339h3.dwg
TITLE: GRADING DETAILS "0A"
LOCATION: FRANCES CREEK
SCALE: NONE
SCALE FACTOR: 240
STA NO: 3390A
REV: 0A
DWG NO: D-339-H-3





- LEGEND:**
- 510— PROPOSED CONTOUR
 - - -510- - - EXISTING CONTOUR
 - - -509- - - REGRADED CONTOUR
 - P — PROPERTY LINE
 - - - TOP /TOE OF SLOPE (TOS)
 - - - LIMITS OF DISTURBANCE
 - X — X — EXISTING FENCE TO BE REMOVED
 - X — X — EXISTING FENCE TO REMAIN
 - S — S — PROPOSED SUBSTATION FENCE
 - T — T — EXISTING TREELINE
 - T — T — PROPOSED TREELINE
 - F — F — FLOW LINE (F.L.)
 - F — F — FLAT BOTTOM DITCH (FBD)
 - R — R — PROPOSED RIPRAP
 - CR — CR — PROPOSED CRUSHED ROCK
 - AR — AR — PROPOSED ACCESS ROAD
 - TF — TF — TEMPORARY SILT FENCE
 - FS — FS — TEMPORARY FILTER SOCK
 - EOC — EOC — TEMPORARY EROSION CONTROL BLANKETS
 - EC — EC — TEMPORARY CONSTRUCTION ENTRANCE
 - OE — OE — OVERHEAD ELECTRIC WIRES
 - UP — UP — EXISTING UTILITY POLE
 - BL — BL — SOIL BORING LOCATION
 - BM — BM — BASELINE MARKERS (BLM)
 - B — B — BENCHMARK
 - G — G — GUY WIRES
 - RI — RI — EXISTING RIPRAP
 - CR — CR — EXISTING CRUSHED ROCK
 - BL — BL — BASIN LINER

- NOTES:**
- LAND SURVEY PERFORMED BY:
SCHNEIDER GEOMATICS
2 NE 21ST ST., SUITE #1
WASHINGTON, IN 47501
TEL: (317) 826-7100
JOB NO. 13659
 - ALL INDIANA STATE PLANE, EAST ZONE, US FOOT (NAD 83) NORTHINGS AND EASTINGS (NAD 83) AND ELEVATIONS (NAVD 88) PROVIDED ON THIS DRAWING ARE DETERMINED USING THE SITE SURVEY AUTOCAD FILE PROVIDED BY DUKE ENERGY & SCHNEIDER GEOMATICS.
 - AT LEAST 3 WORKING DAYS PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES BY CALLING INDIANA 811 OR 1-800-382-5544.
 - CONTRACTOR SHALL FOLLOW DUKE ENERGY SPECIFICATIONS FOR INDIANA SERVICE TERRITORY UNLESS OTHERWISE NOTED.
 - BASIN LINER SHOULD BE BTL LINERS AQUAARMOR BTL - 20 OR EQUIVALENT. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS.

GENERAL MAINTENANCE AND INSPECTION DURING CONSTRUCTION:

- INSTALL EROSION AND SEDIMENT CONTROL (E&S) DEVICES IN ACCORDANCE WITH THE PLAN DRAWINGS AND THE E&S PLAN NARRATIVE.
- INSPECT E&S DEVICES AT A MINIMUM OF ONCE EVERY 7 DAYS AND AFTER EACH MEASURABLE RAINFALL EVENT. E&S DEVICES INCLUDE, BUT ARE NOT LIMITED TO, SILT FENCE, FILTER SOCK, EROSION CONTROL MATS, AND CONSTRUCTION ENTRANCE.
- REPAIR OR REPLACE INEFFECTIVE E&S MEASURES IMMEDIATELY AFTER IDENTIFICATION OR AS SOON AS WEATHER CONDITIONS ALLOW.
- CONTRACTOR SHALL VERIFY THAT INSTALLATION OF ADDITIONAL TEMPORARY E&S DEVICES OCCURS IN AREAS DEEMED IN NEED OF PROTECTION.
- CONTRACTOR SHALL MAINTAIN WRITTEN INSPECTION AND REPAIR OR REPLACEMENT FORMS FOR E&S MEASURES ON SITE AT ALL TIMES.

SEEDING:

- SOIL MUST BE PREPARED PRIOR TO PLACEMENT OF SEEDING. SOIL MUST BE SMOOTH AND UNIFORM, LOOSENED TO A MINIMUM DEPTH OF 3" AND COVERED WITH TOP SOIL IF REQUIRED.
- HYDRO-SEEDING IS PREFERRED. IF HYDRO-SEEDING IS UNAVAILABLE, SEEDS MUST BE APPLIED UNIFORMLY COVERED BY SOIL TO A MAXIMUM DEPTH OF 1/2".
- INDOT SEED MIXTURE "U" SHALL BE APPLIED AT A RATE OF 200 LB/AC AT ALL LOCATIONS NOT STEEPER THAN 3:1 SLOPE. SEED MIXTURE "U" CONSISTS OF:
(1) 100 LB/AC 4-WAY BLEND TURF TYPE TALL FESCUE;
(2) 50 LB/AC CREEPING RED FESCUE;
(3) 45 LB/AC PERENNIAL RYEGRASS;
(4) 5 LB/AC WHITE DUTCH CLOVER.
- MULCH MUST BE PLACED WITHIN 24 HOURS AFTER SEEDING. THE PERCENT MOISTURE OF MULCH SHALL BE DETERMINED BY INDOT 621.14(c).
- MULCHING SHALL BE PUNCHED INTO THE SOIL AS OUTLINED IN INDOT 621.05(c). ON SLOPES STEEPER THAN 3:1, MULCHING METHODS "D" OR "E" SHALL BE USED.

SOIL CLASSIFICATIONS:

- Yc1a CROSBY SILT LOAM, FINE LOAMY SUBSOIL
URBAN LAND COMPLEX
0-2 PERCENT SLOPES
HYDROLOGIC SOIL GROUP C/D
- YmsB2 MIAMI SILT LOAM-URBAN LAND COMPLETE
2-6 PERCENT SLOPES, ERODED
HYDROLOGIC SOIL GROUP C
- YobB2 OCKLEY LOAM-URBAN LAND COMPLEX
2-6 PERCENT SLOPES,
ERODED HYDROLOGIC SOIL GROUP B
- YreA RENSELEAER SILTY CLAY LOAM-URBAN LAND COMPLEX
0-2 PERCENT SLOPES
HYDROLOGIC SOIL GROUP B/D

LIMITS OF DISTURBANCE:

LIMITS OF DISTURBANCE/NPDES BOUNDARY AREA 2.22 ACRE
ORIGINAL SUBSTATION FENCED AREA 1.35 ACRE
TOTAL SUBSTATION FENCED AREA 2.08 ACRE

E&S CONSTRUCTION SEQUENCE:

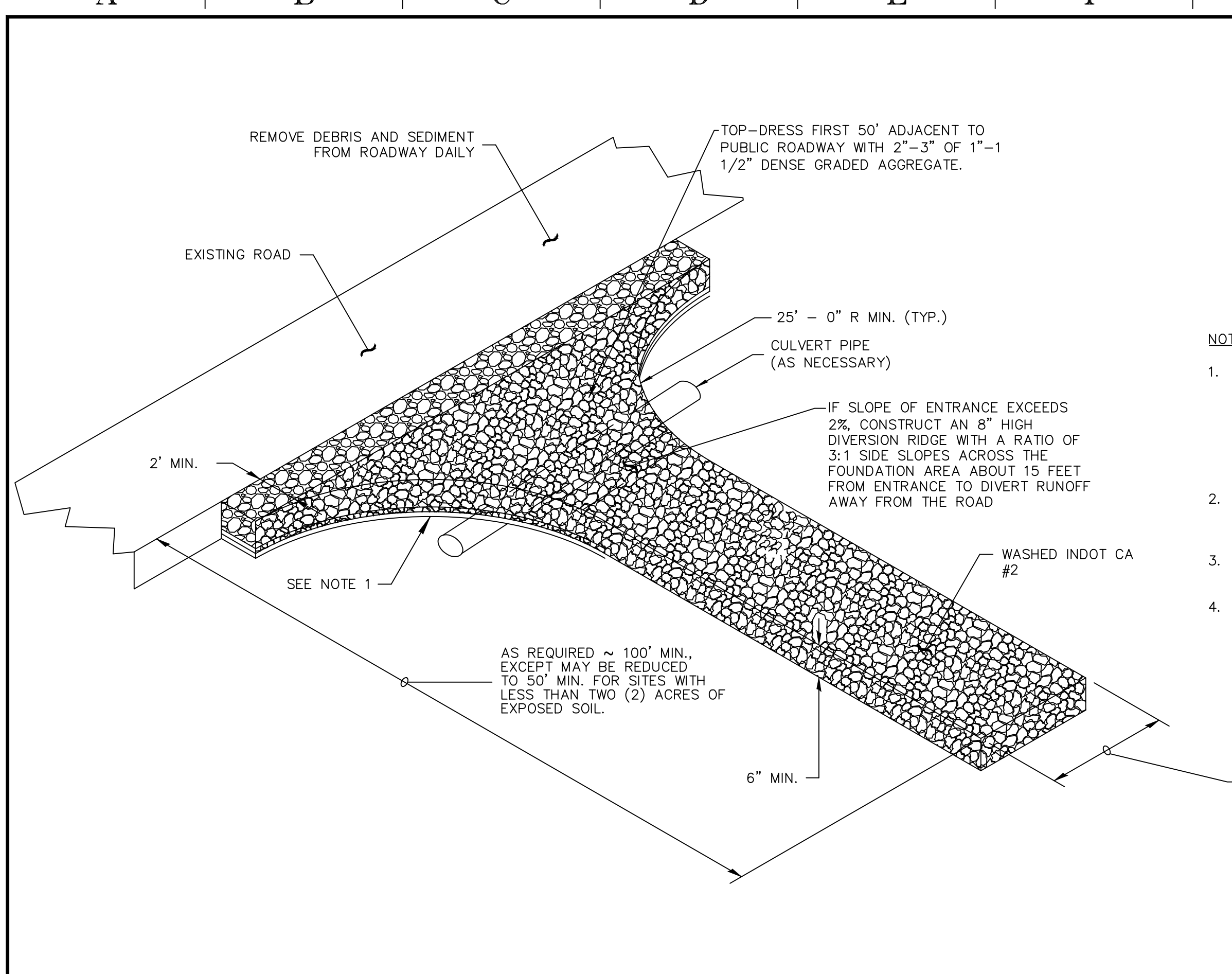
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THIS DRAWING.
- SURVEY AND STAKE LIMITS OF DISTURBANCE AND ENVIRONMENTALLY SENSITIVE AREAS.
- ENSURE ALL INLET PROTECTION IS IN PLACE AND FUNCTIONING.
- INSTALL PERIMETER SILT FENCE AT CONSTRUCTION LIMITS. POSITION THE SILT FENCE TO INTERCEPT RUNOFF PRIOR TO LEAVING THE SITE OR ENTERING DRAINAGE SWALES.
- INSTALL GRAVEL CONSTRUCTION ENTRANCE AT THE SUBSTATION ENTRANCE FROM THE PUBLIC ROAD. A STOCKPILE OF ROCK SHALL BE KEPT NEAR EACH CONSTRUCTION ENTRANCE TO MAINTAIN THE ROCK SURFACING.
- STRIP AND STOCKPILE A MINIMUM OF 6" OF TOPSOIL FROM ALL GRADED AREAS FOR USE IN FINAL SITE STABILIZATION. SOIL STOCKPILE SHALL BE CONTAINED WITH FILTER SOCK AROUND THE BASE.
- GRADE SUBSTATION PAD EXPANSION AREA TO ACHIEVE FINAL ELEVATIONS AND APPLY TEMPORARY WORKING SURFACE FOR STABILIZATION.
- INSTALL CONCRETE WASHOUT AND CONSTRUCTION DEBRIS DUMPSTER AT AREAS INDICATED ON THIS DRAWING.
- INSTALL ALL SUBSTATION EQUIPMENT FOUNDATIONS, GROUND GRID, CONDUIT, AND ELECTRICAL EQUIPMENT AS REQUIRED.
- COMPLETE FINAL GRADING, CLEAN-UP, AND APPLY PERMANENT ROCK SURFACING TO THE SUBSTATION FENCED AREA AND 4 FEET OUTSIDE OF THE FENCE LINE UNLESS OTHERWISE INDICATED. INSTALL ABOVE-GRADE SUBSTATION STRUCTURES AND EQUIPMENT AFTER APPLYING PERMANENT ROCK SURFACING TO SUBSTATION PAD.
- RE-SEED ANY AREAS DISTURBED BY CONSTRUCTION AND UTILITIES INSTALLATION WITHIN 3 DAYS OF COMPLETION OF DISTURBANCE.
- GRADE THE SITE TO FINAL ELEVATIONS AND STABILIZE. ADD TOPSOIL AS NEEDED TO MINIMIZE EROSION OF UNDERLYING SOIL AND TO QUICKLY ESTABLISH GRASS. PERIMETER PROTECTION MAY BE TEMPORARILY REMOVED IN ORDER TO COMPLETE FINAL GRADING BUT MUST BE REPLACED OR RE-INSTALLED EACH EVENING OR UNTIL THE SITE IS STABILIZED. THE LOT IS CONSIDERED STABILIZED WHEN IT HAS REACHED 75% COVER THROUGH MATURE GROWTH.

Point #	Northing	Eastng
1	1587285.21	185391.70
2	1587240.59	185351.86
3	1586883.06	185349.87
4	1586892.78	185427.12
5	1587155.57	185742.75
6	1587192.06	185709.14
7	1587249.56	185524.62

<p>REVISION: 0A</p> <p>DATE ISSUED: 08/22/22</p>	<p>OFF: M.L. GENTRY ENG: R.M. BRAMON</p> <p>DES/CHK: E.J. KNIGHT</p>	<p>DATE ISSUED: 08/22/22</p> <p>ISSUE TYPE: NEW WORK</p>	<p>THIS DRAWING OR BILL OF MATERIAL IS CONFIDENTIAL AND MAY NOT BE LOANED, REPRODUCED OR COPIED, EITHER WHOLLY OR IN PART, OR MADE PUBLIC IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF DUKE ENERGY CORPORATION.</p>	<p>DATE ISSUED: 08/22/22</p> <p>ISSUE TYPE: NEW WORK</p>	<p>FILENAME: e&sc plan.dwg</p> <p>TITLE: EROSION & SEDIMENT CONTROL PLAN</p> <p>LOCATION: FRANCES CREEK</p>	<p>SCALE: 1"=20'</p> <p>SCALE FACTOR: 240</p> <p>STA NO: 33904</p> <p>REV: 04</p> <p>DWG NO: ERSN-CTRL-1</p>
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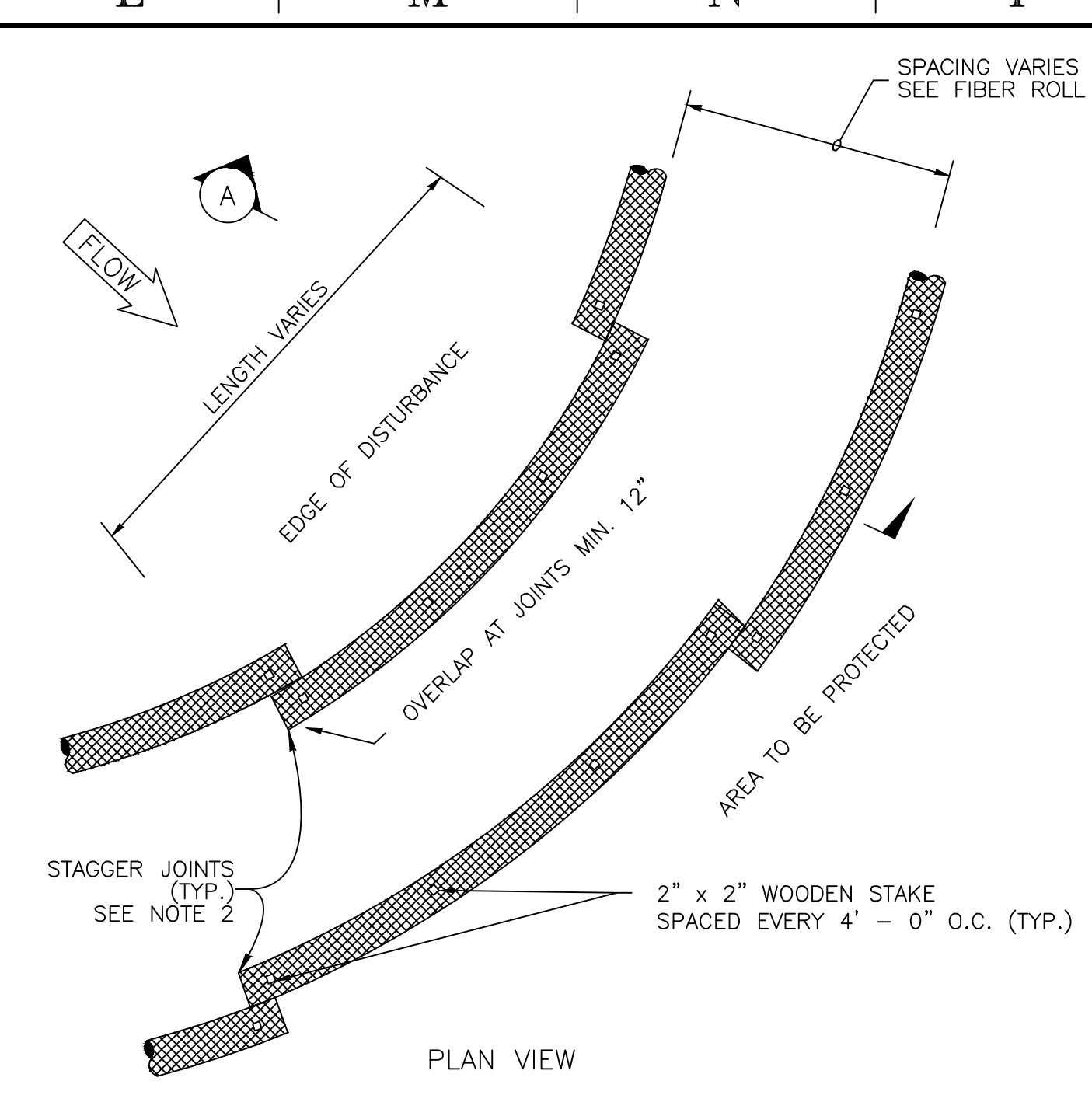


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- NOTES:
1. PLACE 8 OZ/SY NON-WOVEN GEOTEXTILE FABRIC UNDERLIER TO STABILIZE FOUNDATION (ESPECIALLY WHEN WET CONDITIONS ARE EXPECTED) TO EXTEND 2' FROM OUTSIDE EDGE. GEORIG CAN ALSO BE ADDED FOR INCREASED STABILITY.
 2. COUNTY OR STATE HIGHWAY ACCESS PERMITTING MAY BE REQUIRED FOR PLACEMENT OF ENTRANCE.
 3. CULVERT PLACEMENT MAY BE REQUIRED TO MAINTAIN FLOW.
 4. TEMPORARY CONSTRUCTION MATTING MAY BE SUBSTITUTED WITH FIELD VERIFICATION AND APPROVAL (SEE DETAIL 030).

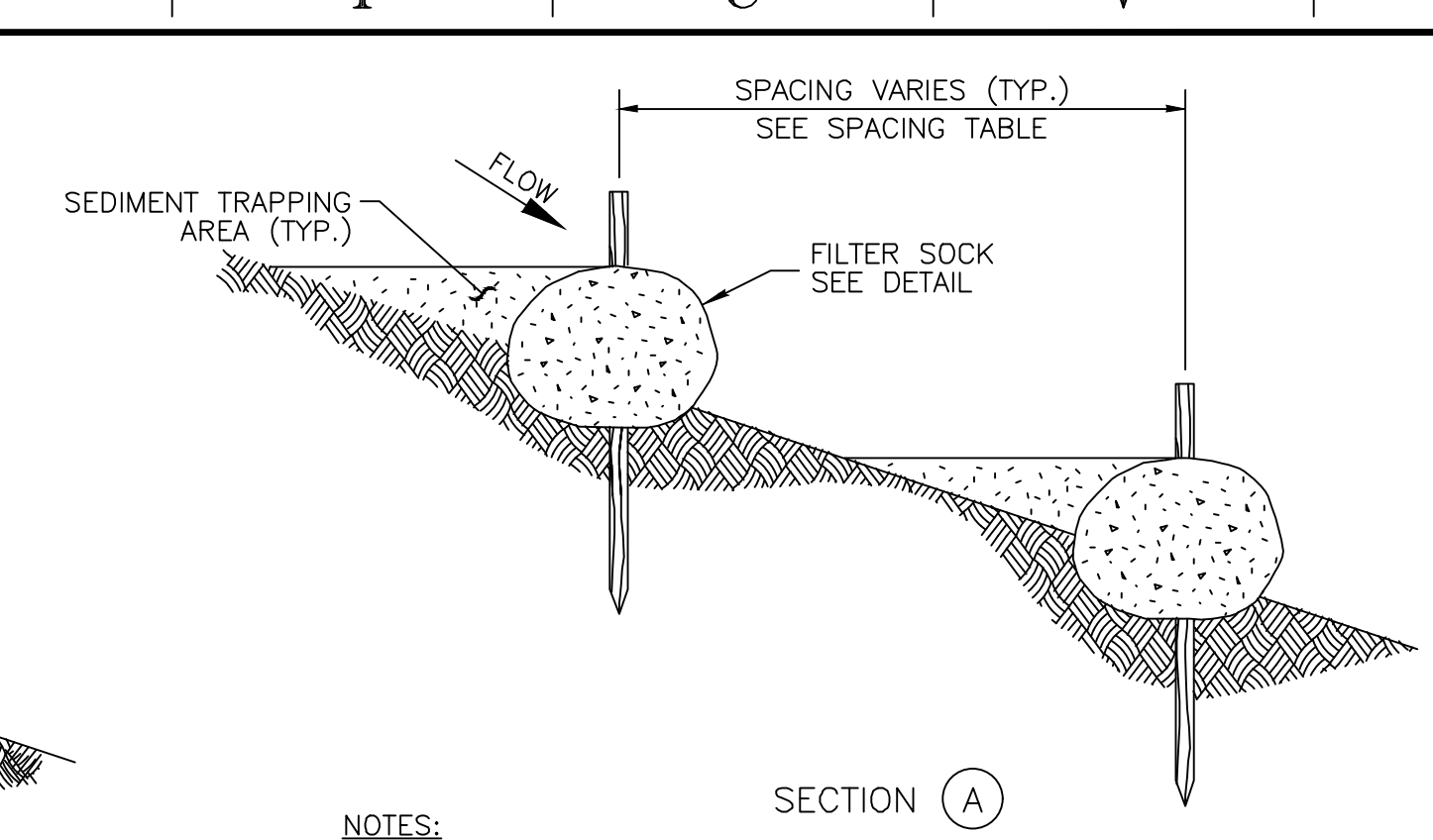
TEMPORARY CONSTRUCTION ENTRANCE
NOT TO SCALE



SPACING TABLE

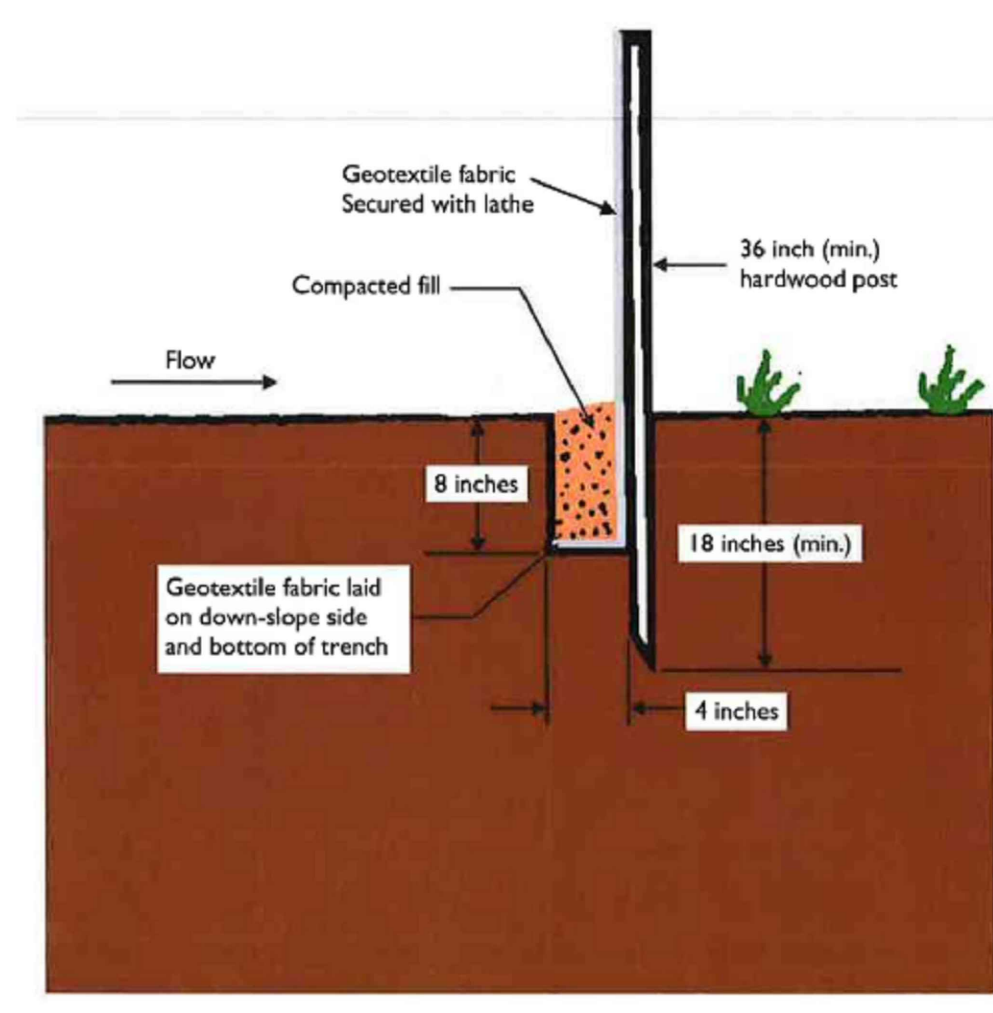
SLOPE	MAXIMUM SPACING
1:1	10' - 0"
2:1	20' - 0"
3:1	30' - 0"
4:1	40' - 0"

* INSTALL FIRST ROW AT TOP OF BANK.
* INSTALL LAST ROW 10' FROM TOE OF SLOPE.



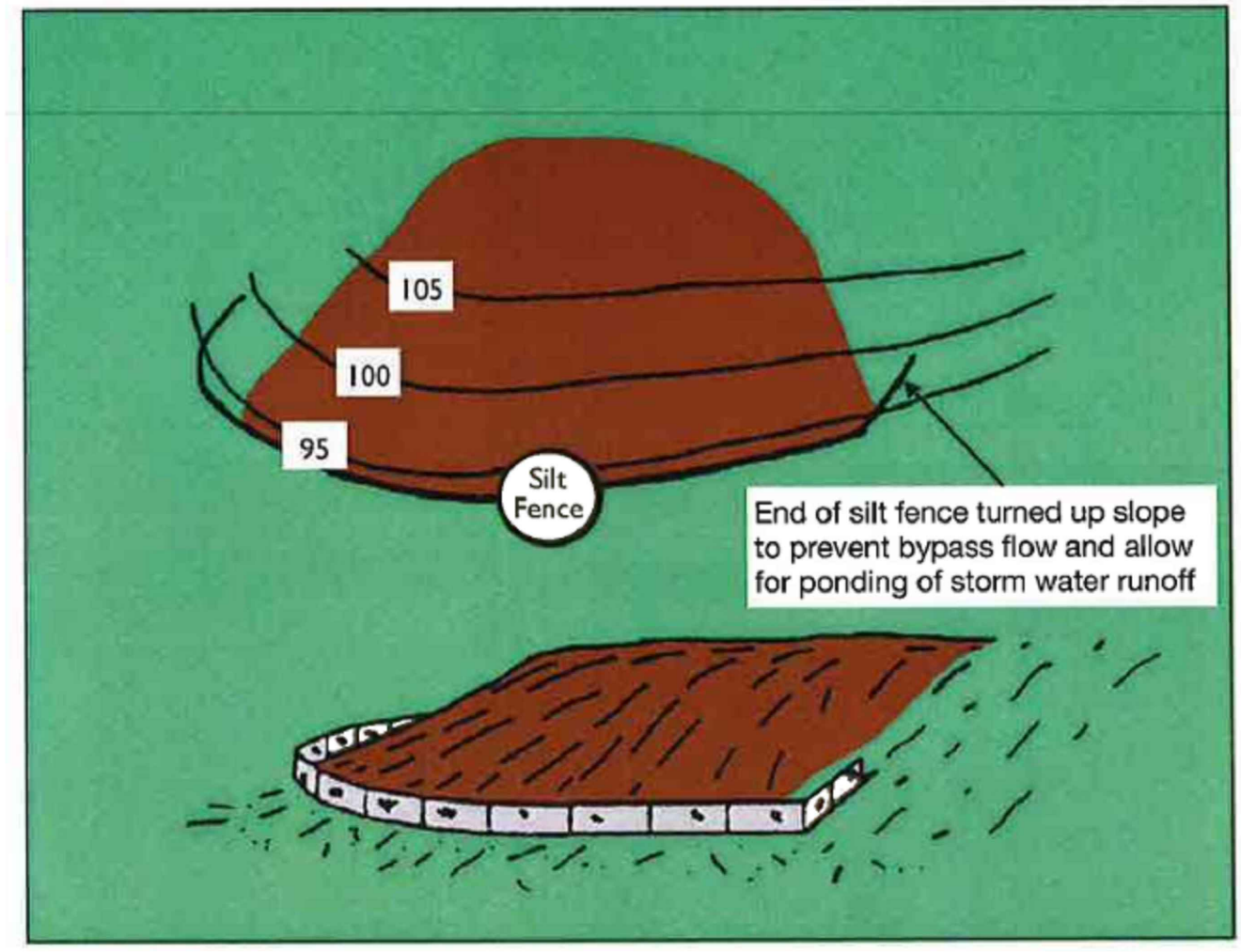
- NOTES:
1. INSTALL FILTER SOCK ALONG CONTOURS PRIOR TO ANY LAND DISTURBING ACTIVITIES, AND DURING FINAL RESTORATION TO CHECK FLOW TO ALLOW ADEQUATE RE-VEGETATION.
 2. ABUT ADJACENT FILTER SOCKS TIGHTLY WHILE OVERLAPPING THE ENDS. STAGGER JOINTS WITH THE NEXT PARALLEL ROW.
 3. PILOT HOLES MAY BE DRIVEN THROUGH THE FILTER SOCKS AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE.
 4. FILTER SOCKS SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
 5. A SINGLE ROW MAY BE INSTALLED ON FLAT SLOPES.
 6. STRAW WATTLE MAY BE A SUITABLE SUBSTITUTE FOR FILTER SOCK ON FLATTER SLOPES OR AWAY FROM GRADING ACTIVITIES. CONTACT DUKE ENERGY ENVIRONMENTAL FOR APPROVAL.
 7. TRIPLE STACKING OF SMALLER DIAMETER FILTER SOCKS IS ACCEPTABLE IF MEETING TOTAL SPECIFIED DIAMETER OR CONTROL HEIGHT.

FILTER SOCK
NOT TO SCALE

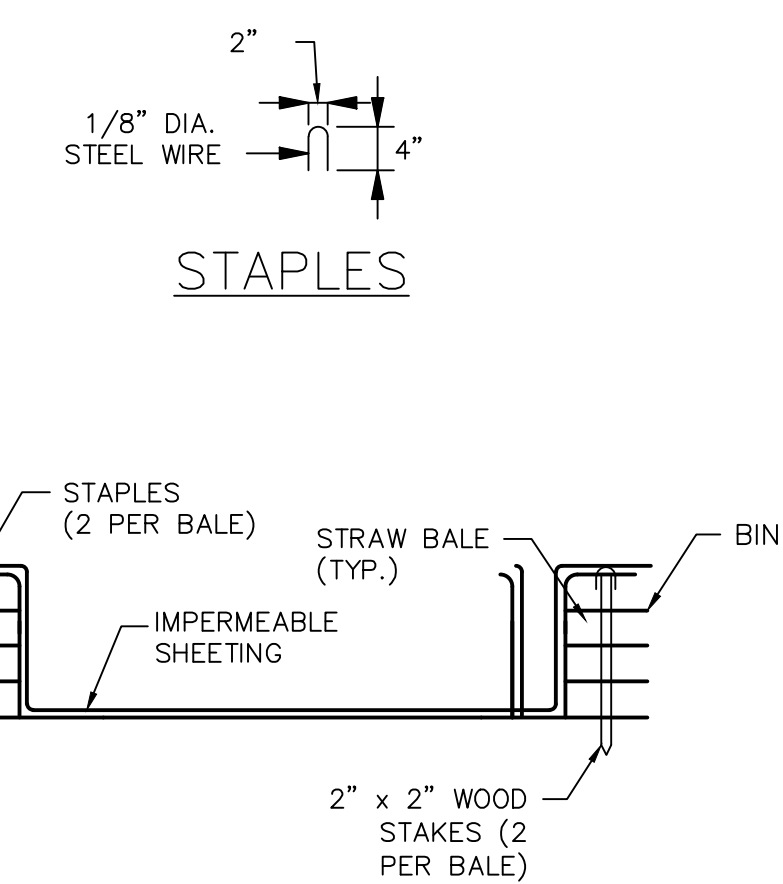
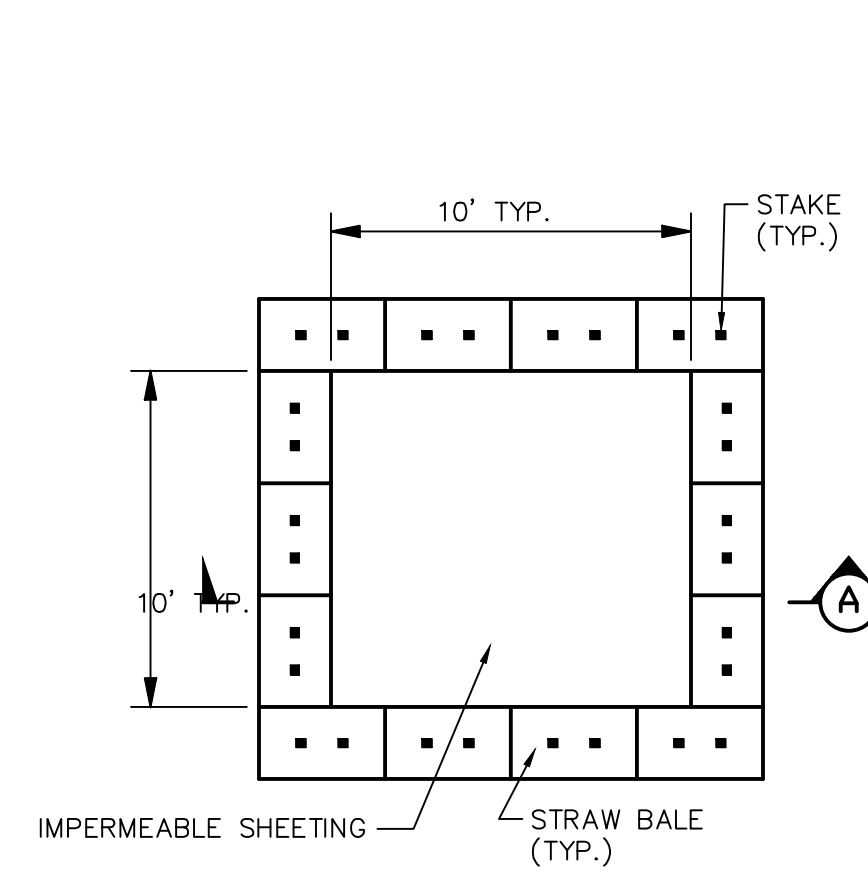


SILT FENCE MUST BE NWSF-6 NON-WOVEN FABRIC OR APPROVED EQUAL

Physical Property	Non-Woven Geotextile Fabric
Filtering efficiency	85%
Textile strength at 20% elongation	50 lbs. per linear inch
Standard strength	70 lbs. per linear inch
Extra strength	50 lbs. per linear inch
Slurry flow rate	4.5 gal./min./square feet
Water flow rate	220 gal./min./square feet
UV resistance	85%
Post spacing	5 feet



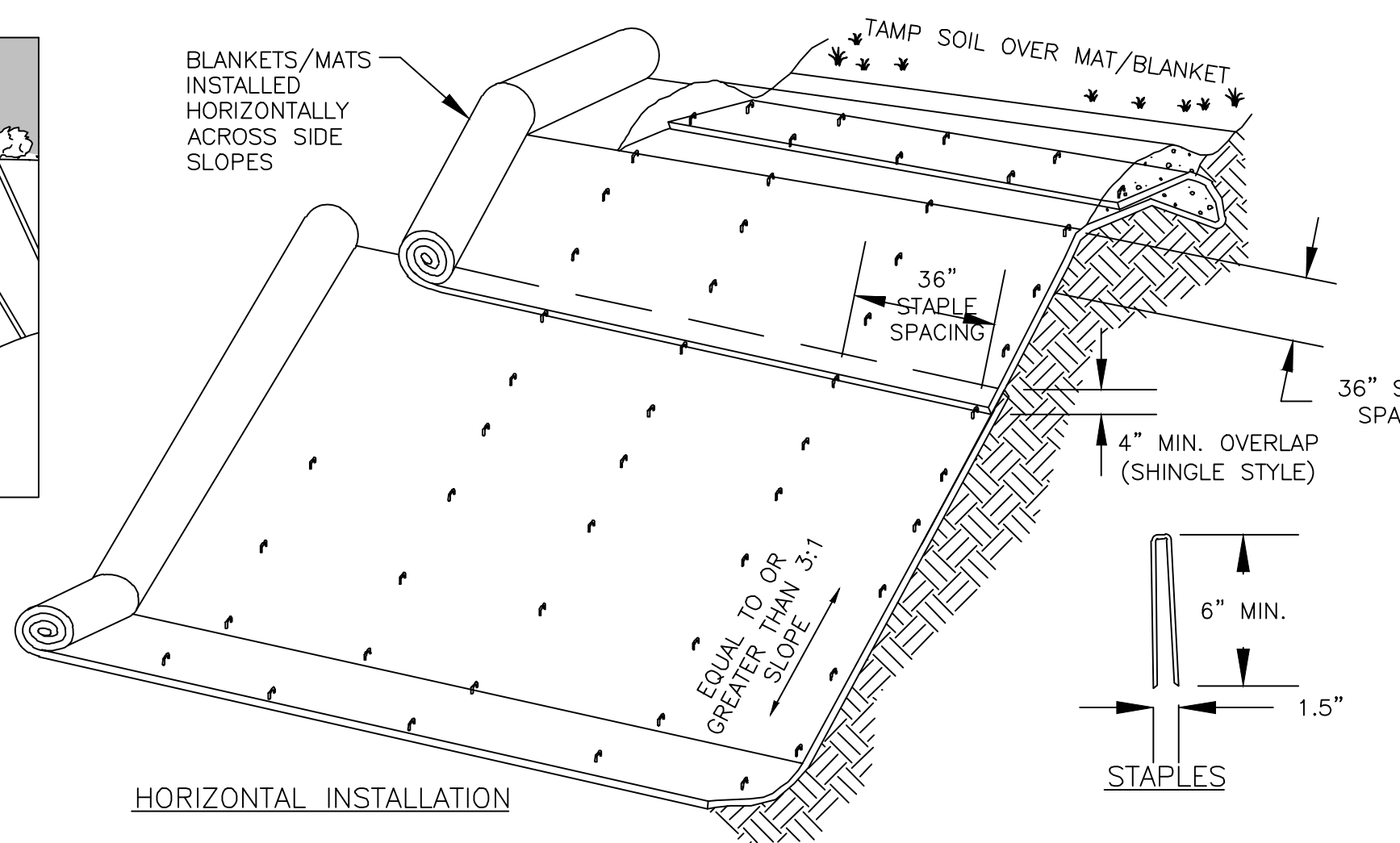
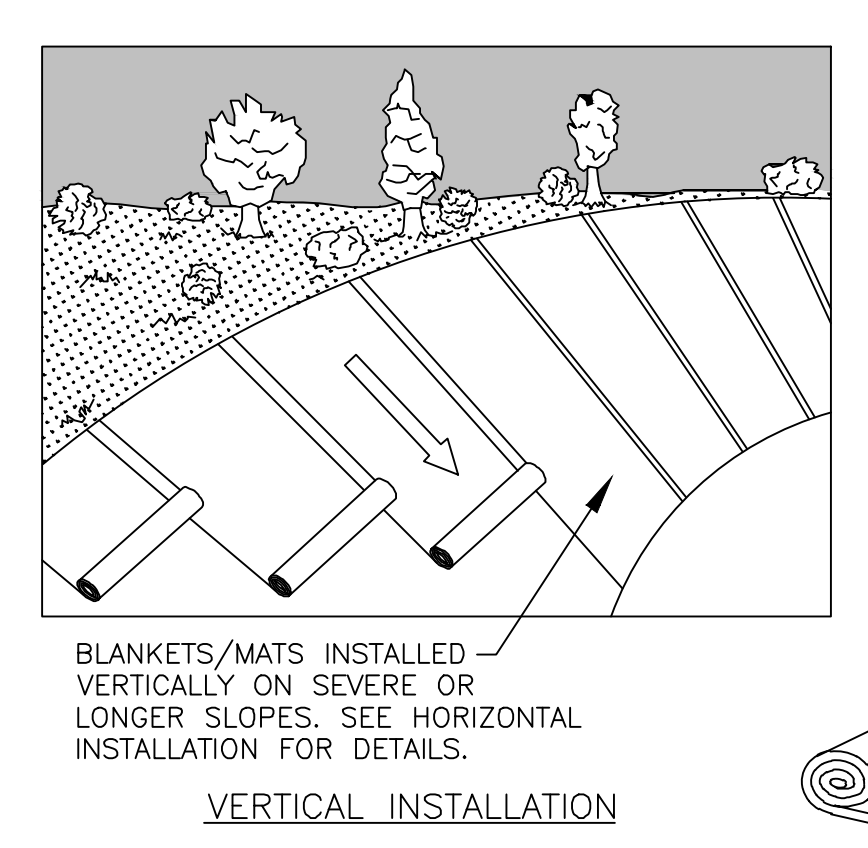
SILT FENCE
NOT TO SCALE



CONCRETE WASHOUT
NOT TO SCALE

- NOTES:
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 125 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
 2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
 3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
 4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
 5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VAPORATED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION UNLESS EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.
 6. BALES CAN BE TWO STACKED OR PARTIALLY EXCAVATED TO REACH 3FT DEPTH (MIN.).
 7. PREFABRICATED UNITS MAY BE USED WITH APPROVAL.
 8. USE IMPERMEABLE PLASTIC LINED DUMPSTER/CONTAINER WASHOUT. USE ONE CONTINUOUS 10 MIL SHEET OF PLASTIC - DO NOT OVERLAP TWO OR MORE SHEETS.

CONCRETE WASHOUT
NOT TO SCALE



- NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
 3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
 4. USE ON SIDE SLOPES EXCEEDING A 3:1 SLOPE AND DISTURBED STREAMBANKS.
 5. THE FOLLOWING BLANKET TYPES SHALL BE UTILIZED:
 - A. LONG-TERM BIODEGRADABLE DOUBLE-NET COCONUT BLANKET ON STREAMBANKS.
 - B. SHORT-TERM BIODEGRADABLE DOUBLE-NET STRAW BLANKET ON 3:1 SLOPES OR GREATER.
 - C. SHORT-TERM BIODEGRADABLE SINGLE-NET STRAW ON LESSER SLOPES, FLAT FLOODPLAIN, AND WORKSPACE AREAS.
 6. FOR STREAMBANK STABILIZATION:
 - A. TUCK/UNDERLAP BASE OF BLANKET TO PREVENT HIGH WATER FROM REMOVING BLANKET AND SEED.
 - B. STAPLE SPACING MAY NEED TO BE DECREASED.
 - C. PREPARE SUBGRADE PRIOR TO INSTALLING BLANKET BY REMOVING DISPLACED ROCKS AND WOODY DEBRIS.

EROSION CONTROL BLANKET
NOT TO SCALE

DRAWING REFERENCE:

339-H-1 GRADING PLAN
ERSN-CTRL-1 EROSION & SEDIMENT CONTROL PLAN

REVISION	DATE	BY	DESCRIPTION
0A	08/08/2022	M.L. GENTRY	DESIGN

DESIGNED BY: M.L. GENTRY	APPROVAL: []
CHECKED BY: E.J. KNIGHT	AS BUILT: []
DATE: _____	NAME: _____
ENGINEER: M.L. BRAMON	DETAIL PROJECT NO/OPERATING UNIT: M18000401.2/V/SIE
DATE ISSUED: XX/XX/XX	ISSUE TYPE: NEW WORK

FILENAME: e83c details.dwg	TITLE: EROSION & SEDIMENT CONTROL DETAILS
LOCATION: FRANCES CREEK	SCALE: 1"=20'
STA NO: 240	DWG NO: 3390A
REV: 01	ERSN-CTRL-2



08/08/22 15:10:06 ERN-TET