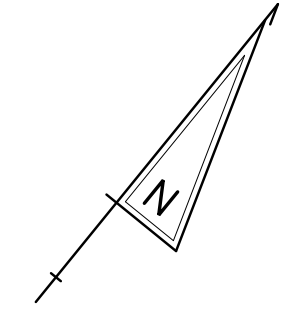


ROCK TOE PROTECTION	
FROM STATION	TO STATION
200+71, LT	201+66, LT
201+86, LT	202+11, LT

RIFFLE GRADE CONTROL	
FROM STATION	TO STATION
201+66	201+86

NOTES:
 1. LT & RT DESIGNATIONS REFER TO LEFT & RIGHT FACING DOWNSTREAM/UPSTATION.
 2. RIFFLE GRADE CONTROL STATION LIMITS REPRESENT THE "AT GRADE" PORTION OF THE RIFFLE GRADE CONTROL. ADDITIONAL RIFFLE GRADE CONTROL MATERIAL IS PLACED ALONG THE GLIDE AND RUN AREAS AS SHOWN ON THE RIFFLE GRADE CONTROL DETAILS (SHEET SR-007).



REESTABLISH EXISTING CHANNEL CONDITIONS IF TEMPORARY STREAM IMPACTS OCCUR OUTSIDE OF THE CHANNEL RELOCATION AREA DUE TO BRIDGE CONSTRUCTION

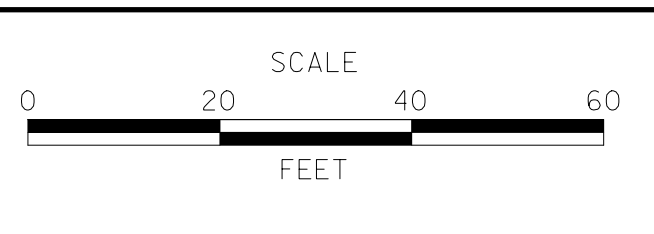
DRAFT
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AUGUST 2015

MATCH LINE STA. 104+73 (SHEET SR-002)

LEGEND

	SOIL LIFT
	RIFFLE GRADE CONTROL
	ROCK TOE PROTECTION

ADDENDUMS / REVISIONS



US 301,
SR 896 TO SR 1

CONTRACT T200911308	BRIDGE NO. BR1-460N&S
COUNTY NEW CASTLE	DESIGNED BY: MRM CHECKED BY: DJG

SCOTT RUN STREAM RESTORATION
PLAN

SR-001
SHEET NO. 605
TOTAL SHTS. 875

MATCH LINE STA. 104+73 (SHEET SR-001)

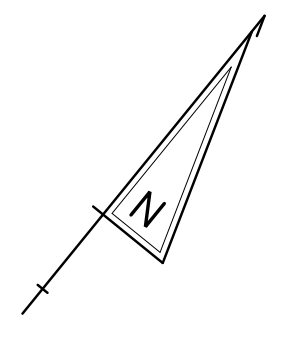
FABRIC ENCAPSULATED SOIL LIFT	
FROM STATION	TO STATION
300+35, RT	300+77.5, RT
302+00, LT	302+23, LT
302+00, RT	302+29, RT
302+60, RT	302+83, RT

ROCK TOE PROTECTION	
FROM STATION	TO STATION
300+98, LT	301+80.5, LT
302+83, RT	302+95, RT

RIFFLE GRADE CONTROL	
FROM STATION	TO STATION
300+77.5	300+98
301+80.5	302+00

NOTES:

1. LT & RT DESIGNATIONS REFER TO LEFT & RIGHT FACING DOWNSTREAM/UPSTATION.
2. RIFFLE GRADE CONTROL STATION LIMITS REPRESENT THE "AT GRADE" PORTION OF THE RIFFLE GRADE CONTROL. ADDITIONAL RIFFLE GRADE CONTROL MATERIAL IS PLACED ALONG THE GLIDE AND RUN AREAS AS SHOWN ON THE RIFFLE GRADE CONTROL DETAILS (SHEET SR-007).
3. REMOVE EXISTING GROUND AND REPLACE WITH ITEM 209512-STREAM RESTORATION BORROW, ITEM 209513-STREAM RESTORATION BORROW MIX, AND ITEM 732002-TOPSOIL, 6" DEPTH FROM STA. 301+00, LT & RT TO STA. 301+67, LT AND TO STA. 302+18, RT. REMOVE EXISTING GROUND WITHIN THE AREA THAT EXTENDS 10 FEET FROM THE PROPOSED TOP-OF-BANK. MAINTAIN A 2:1 SLOPE ALONG THE EXISTING GROUND AT THE EDGE OF THE EXCAVATION AREA. EXTEND THE EXCAVATION DEPTH TO AN ELEVATION OF 21 FEET. SEE CROSS SECTION SHEETS SR-013 AND SR-014.



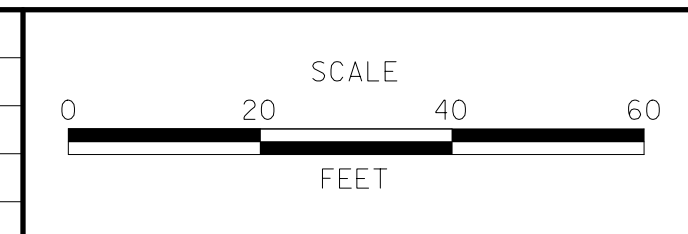
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NOT FOR BIDDING
AUGUST 2015

LEGEND

	SOIL LIFT
	RIFFLE GRADE CONTROL
	ROCK TOE PROTECTION



ADDENDUMS / REVISIONS

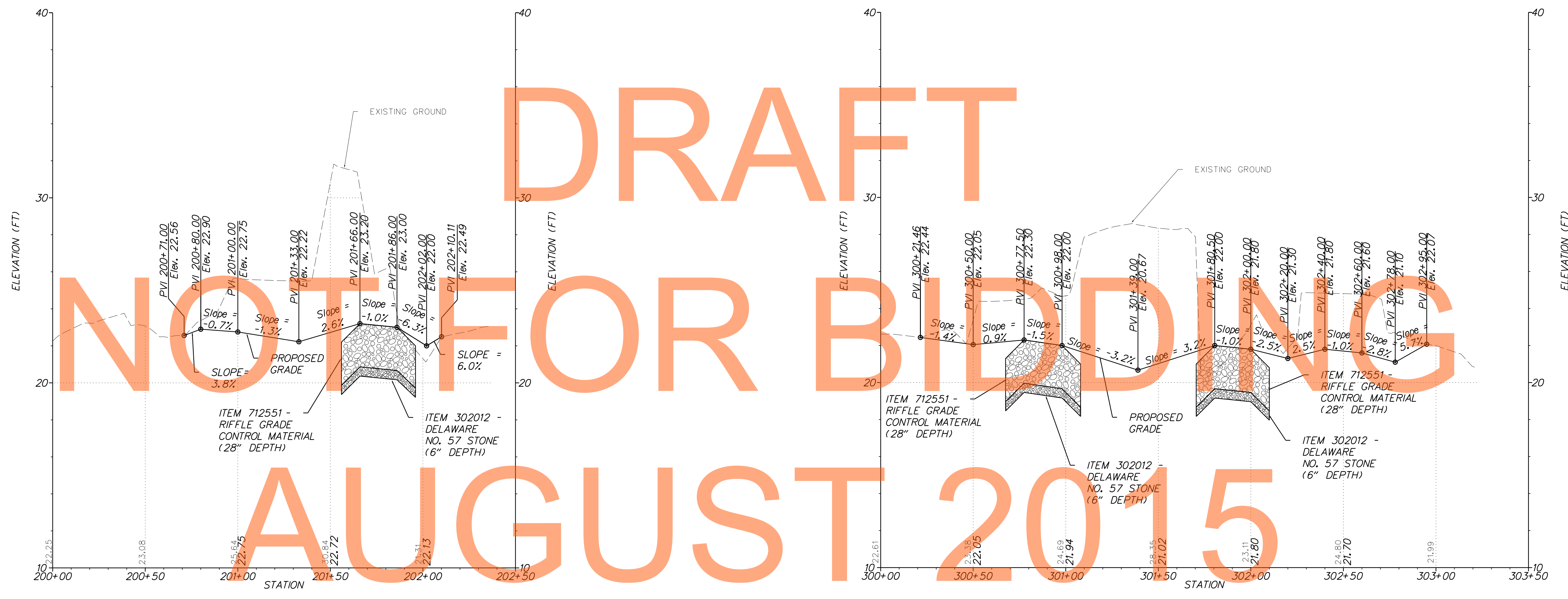


**US 301,
SR 896 TO SR 1**

CONTRACT T200911308	BRIDGE NO. BR1-458
COUNTY NEW CASTLE	DESIGNED BY: MRW CHECKED BY: DJG

**SCOTT RUN STREAM RESTORATION
PLAN**

SR-002
SHEET NO. 606
TOTAL SHTS. 875



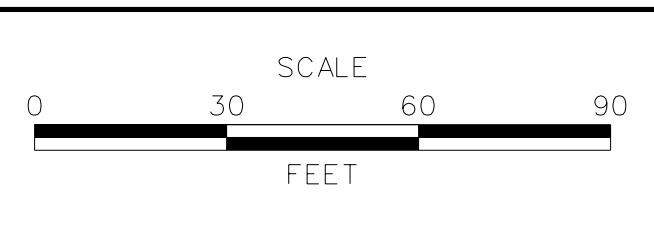
SCOTT RUN - AT BR1-460 N&S / US 301

SCOTT RUN - AT BR1-458 / HYETTS CORNER ROAD

DRAFT
NOT FOR BIDDING
AUGUST 2015



ADDENDUMS / REVISIONS	



**US 301,
SR 896 TO SR 1**

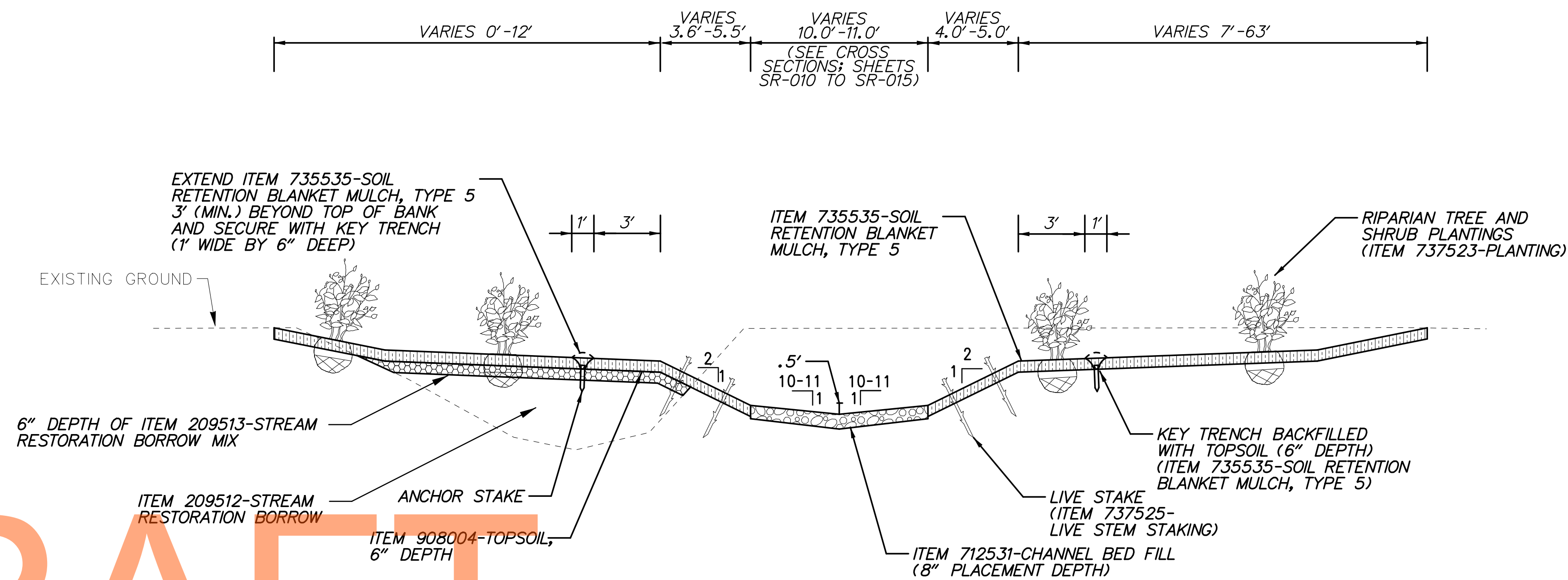
CONTRACT	BRIDGE NO.	BR1-458 & BR1-460
T200911308	DESIGNED BY:	MRM
COUNTY	CHECKED BY:	DJG
NEW CASTLE		

**SCOTT RUN STREAM RESTORATION
PROFILE**

SR-004
SHEET NO.
608
TOTAL SHTS.
875

NOTES:

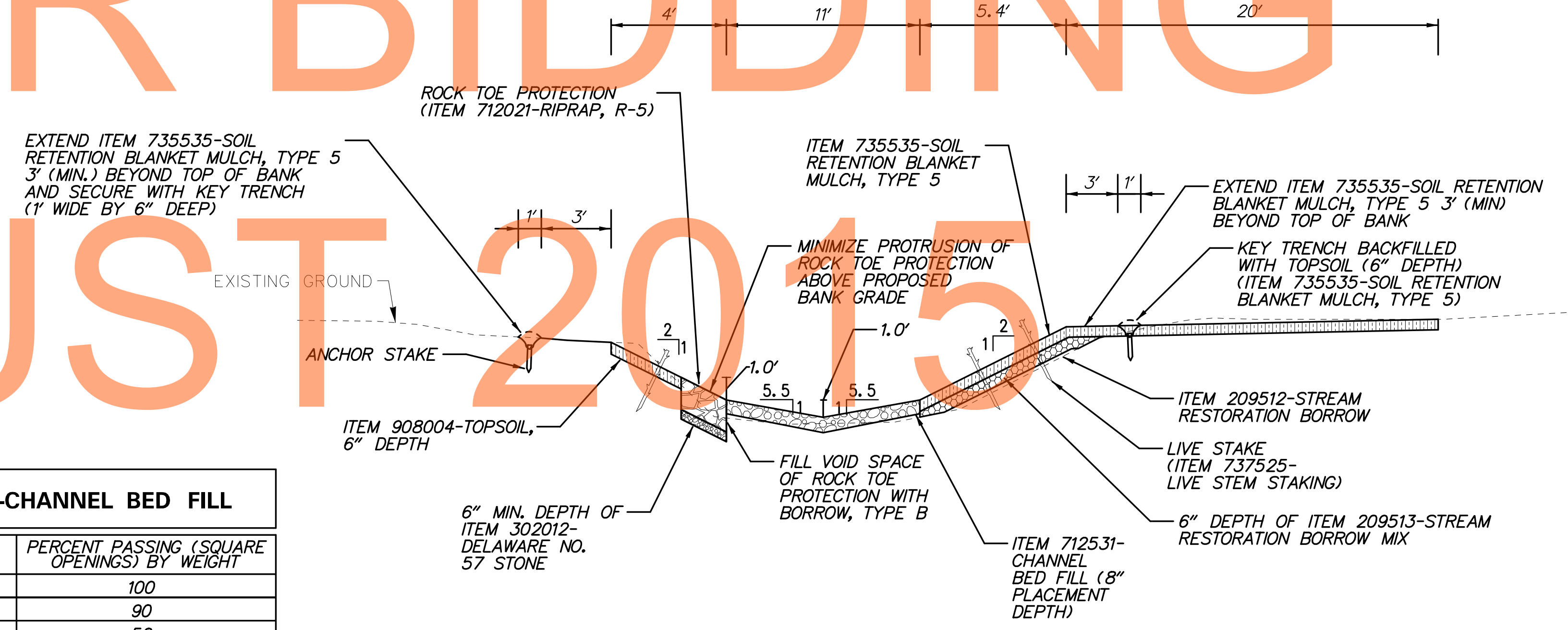
- SEE SCOTT RUN STREAM RESTORATION CROSS SECTIONS FOR DETAILED INFORMATION OF PROPOSED GRADE (SHEETS SR-010 TO SR-015).
- THE TYPICAL POOL AND RUN SECTIONS REPRESENT THE PROPOSED CHANNEL GEOMETRY TO BE CONSTRUCTED AT THE SPECIFIED STATIONS. THE PROPOSED POOL/RUN GEOMETRY TRANSITIONS INTO THE CHANNEL GEOMETRY (RIFFLES AND EXISTING) LOCATED UPSTREAM AND DOWNSTREAM OF THE PROPOSED POOL/RUN SECTION. SEE THE SCOTT RUN STREAM RESTORATION CROSS SECTIONS (SHEETS SR-010 TO SR-015) FOR DETAILED DEPICTION OF PROPOSED GRADE AND CROSS SECTIONS REPRESENTING THE CHANNEL TRANSITIONING BETWEEN POOL/RUN SECTIONS AND RIFFLES/EXISTING GEOMETRY.
- PLANT ONLY SILKY DOGWOOD (CORNUS AMOMUM) LIVE STAKES UNDERNEATH THE PROPOSED BRIDGES AND WITHIN THE CLEAR ZONES. SEE SCOTT RUN STREAM RESTORATION LANDSCAPE PLANS (SHEETS SR-016 AND SR-017) FOR PLANTING ZONE LOCATIONS.
- SEE SOIL RETENTION BLANKET MULCH AND BIOENGINEERING STABILIZATION WITH TOE ANCHOR TRENCH DETAIL (SHEET SR-008) FOR DETAILS ON HOW TO SECURE THE SOIL RETENTION BLANKET MULCH, TYPE 5 ALONG THE TOP-OF-BANK AND BOTTOM-OF-BANK AREAS.
- ROCK TOE PROTECTION IS PROPOSED FROM STA. 200+71 TO STA. 201+66, LT; FROM STA. 201+86 TO STA. 202+11, LT; FROM STA. 300+98 TO STA. 301+80.5, LT; AND FROM STA. 302+83 TO STA. 302+95, RT. SEE SHEET SR-008 FOR ELEVATIONS OF THE TOP OF ROCK TOE PROTECTION FACE.
- SEE ROCK TOE PROTECTION WITH SOIL RETENTION BLANKET MULCH AND BIOENGINEERING STABILIZATION DETAIL (SHEET SR-008) FOR DETAILS ON HOW TO SECURE THE SOIL RETENTION BLANKET MULCH, TYPE 5 ALONG THE TOP-OF-BANK AND BOTTOM-OF-BANK AREAS WHERE ROCK TOE PROTECTION IS PROPOSED.
- THE BANK TREATMENT CONSISTS OF ITEM 735542-FABRIC ENCAPSULATED SOIL LIFT FROM STA. 300+35 TO STA. 300+77.5, RT; FROM STA. 302+00 TO STA. 302+23, LT; FROM STA. 302+00 TO 302+29, RT; AND FROM STA. 302+60 TO 302+83, RT. SEE FABRIC ENCAPSULATED SOIL LIFT DETAIL (SHEET SR-009).
- DIVERT STREAM FLOW INTO THE NEWLY CONSTRUCTED CHANNEL UPON COMPLETION AND STABILIZATION OF ALL PROPOSED WORK AND FOLLOWING APPROVAL BY THE ENGINEER. IMMEDIATELY STABILIZE ANY DISTURBANCE RESULTING FROM THE REMOVAL OF TEMPORARY SEDIMENT AND EROSION CONTROL PRACTICES.
- SEED WITH ITEM 734557-RIPARIAN SEED MIX - STREAM RESTORATION UNDERNEATH AND PRIOR TO PLACING ITEM 735535-SOIL RETENTION BLANKET MULCH, TYPE 5.
- ANY TOPSOIL BEING PLACED IN ACCORDANCE WITH THE SCOTT RUN STREAM RESTORATION PLANS, INCLUDING ITEM 908004-TOPSOIL, 6" DEPTH AND THE TOPSOIL USED TO CONSTRUCT ITEM 735542-FABRIC ENCAPSULATED SOIL LIFT (SEE DETAIL ON SHEET SR-009), SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 3% IN ACCORDANCE WITH AASHTO T 194. NO ADDITIONAL PAYMENT WILL BE MADE FOR ACTIONS NECESSARY TO MEET THIS REQUIREMENT.
- ENSURE THAT ITEM 209512-STREAM RESTORATION BORROW REQUIRED ALONG THE SCOTT RUN STREAM RESTORATION AREA MEETS THE FOLLOWING REQUIREMENTS:
 - ALL MATERIAL SHALL BE FREE OF FROZEN MATERIAL, RUBBISH, ROCK GREATER THAN THREE (3) INCHES (75 MM) IN ANY DIRECTION, OR ORGANIC MATTER GREATER THAN 2 PERCENT (INCLUDING LEAVES, ROOTS, GRASS OR SEWAGE).
 - 85 TO 100 PERCENT INCLUSIVE, BY DRY WEIGHT, PASSING A 1 INCH (25 MM) SIEVE.
 - MINIMUM OF 55 PERCENT, BY DRY WEIGHT, PASSING A NO. 10 (2 MM) SIEVE.
 - MINIMUM OF 10 PERCENT, BY DRY WEIGHT, PASSING A NO. 200 (75 MICROMETER) SIEVE.
- THE CONTRACTOR SHALL VERIFY THE ELEVATION OF THE GAS LINE THAT CROSSES UNDER THE PROPOSED STREAM RESTORATION WORK AT STREAM ALIGNMENT STATION 302+26 AND COORDINATE THE FINDINGS WITH THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO BEGINNING WORK IN SCOTT RUN. THIS WORK IS INCIDENTAL TO ITEM 763501-CONSTRUCTION ENGINEERING.
- REMOVE EXISTING GROUND AND REPLACE WITH ITEM 209512-STREAM RESTORATION BORROW FROM STA. 301+00, LT & RT TO STA. 301+67, LT AND TO STA. 302+18, RT. REMOVE EXISTING GROUND WITHIN THE AREA THAT EXTENDS 10 FEET FROM THE PROPOSED TOP-OF-BANK. MAINTAIN A 2:1 SLOPE ALONG THE EXISTING GROUND AT THE EDGE OF THE EXCAVATION AREA. EXTEND THE EXCAVATION DEPTH TO AN ELEVATION OF 21 FEET. SEE CROSS SECTION SHEETS SR-013 AND SR-014.



TYPICAL RIFFLE SECTION

NOT TO SCALE
 STA. 200+80 TO STA. 201+00*
 STA. 302+40 TO STA. 302+60

* ROCK TOE PROTECTION IS LOCATED ALONG THE LEFT BANK (FACING DOWNSTREAM/UPSTATION) FROM STA. 200+80 TO 201+00



TYPICAL RUN SECTION

NOT TO SCALE

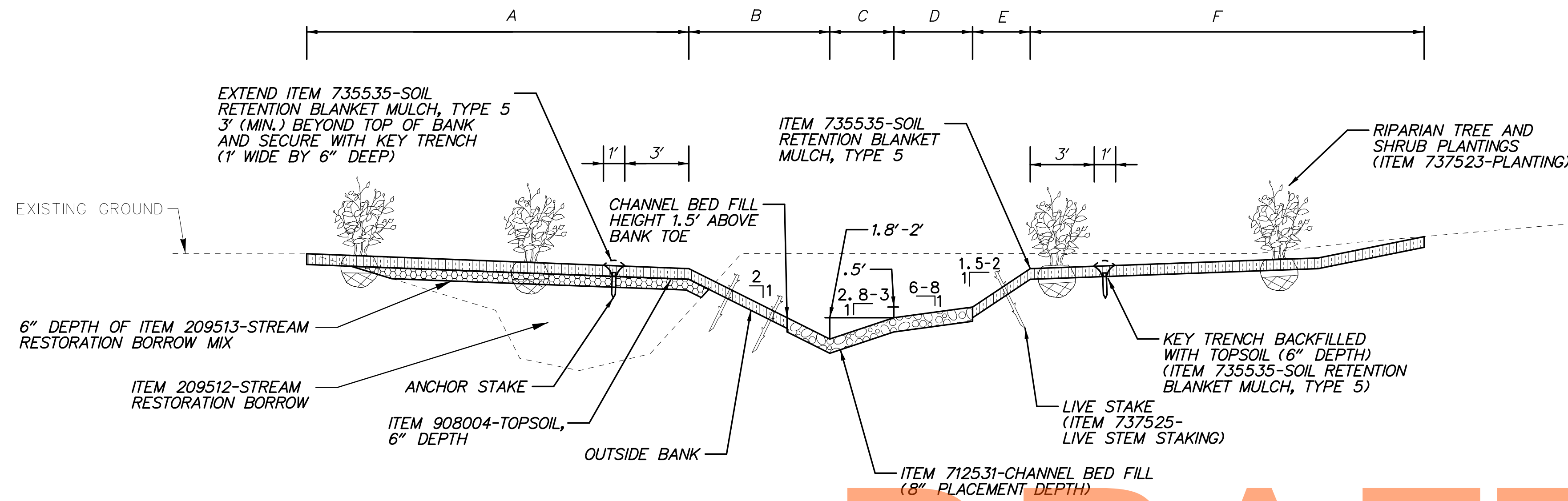
STA. 202+02*

*SEE NOTE 2 ON THIS SHEET (SR-005)

ITEM 712531-CHANNEL BED FILL	
ROCK SIZE IN INCHES (MM)	PERCENT PASSING (SQUARE OPENINGS) BY WEIGHT
6.0 (152)	100
3.5 (90)	90
1.5 (37.5)	50
1.0 (25)	30
0.5 (12.5)	15
0.05 (1.18)*	5

*ASSOCIATED SIEVE SIZE IS NO. 16

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TYPICAL POOL SECTION - 1

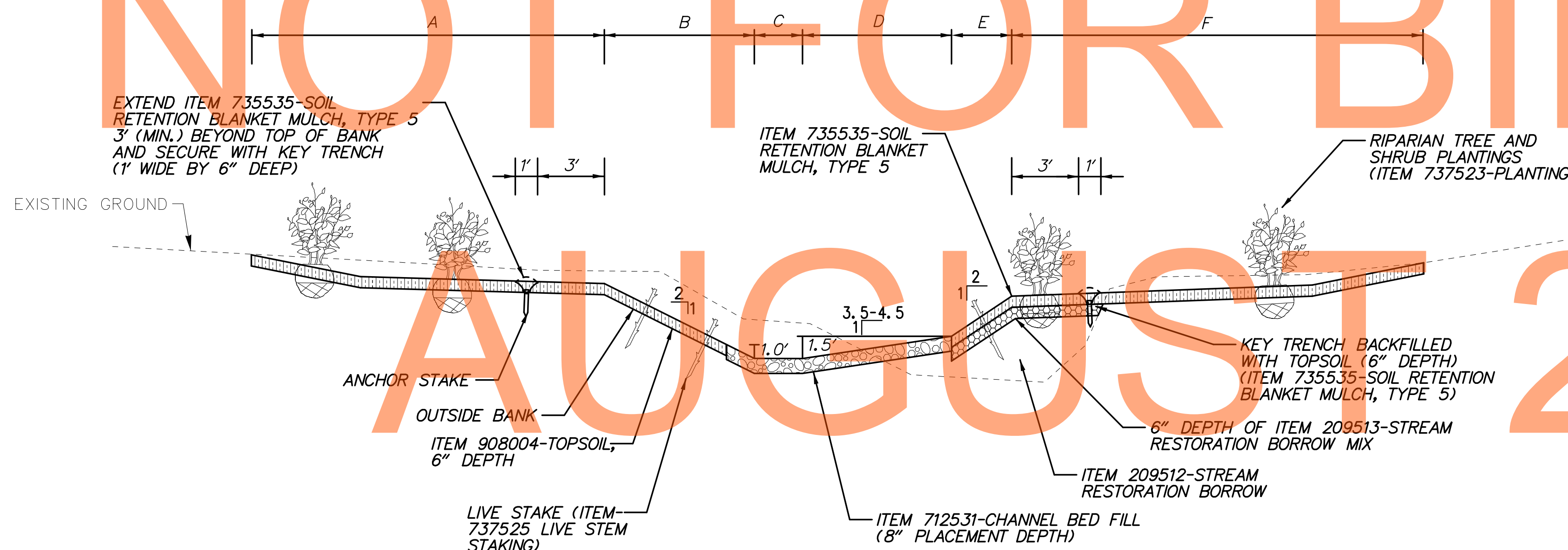
NOT TO SCALE
 STA. 201+33
 STA. 300+50
 STA. 301+39

TYPICAL POOL LOCATION	LENGTH (FT)					
	A	B	C	D	E	F
201+33	41.9	7.8	5.5	3.0	2.8	19.0
300+50	38.7	7.6	5.5	4.0	2.3	30.7
301+39	13.4	8.6	6.0	3.2	2.6	87.4

NOTES:

- SEE NOTE 2 ON SHEET SR-005
- THE LOCATION OF THE OUTSIDE BANK VARIES BETWEEN THE LEFT AND RIGHT BANK (FACING DOWNSTREAM/UPSTATION). SEE THE CROSS SECTIONS FOR THE LOCATION OF THE OUTSIDE BANK (SHEETS SR-010 TO SR-015).
- BANK TREATMENTS VARY. SEE THE PLAN SHEETS (SR-001 AND SR-002), CROSS SECTIONS SHEETS (SR-010 TO SR-015), AND LANDSCAPE SHEETS (SR-016 AND SR-017) FOR LOCATIONS OF BANK TREATMENTS.

NOT FOR BIDDING
 AUGUST 2015

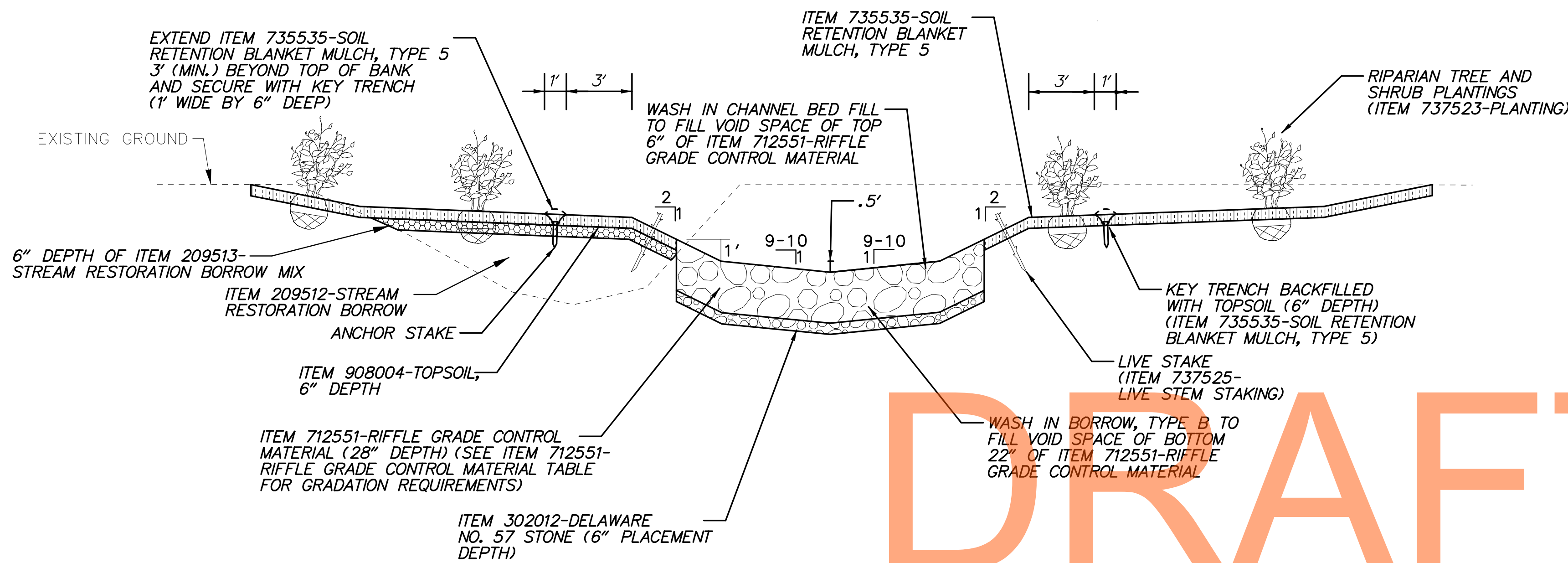


TYPICAL POOL SECTION - 2

NOT TO SCALE
 STA. 302+20
 STA. 302+78

TYPICAL POOL LOCATION	LENGTH (FT)					
	A	B	C	D	E	F
302+20	71.4	6.7	3.0	5.3	4.4	8.6
302+78	0	7.6	3.3	7.0	3.3	52.7

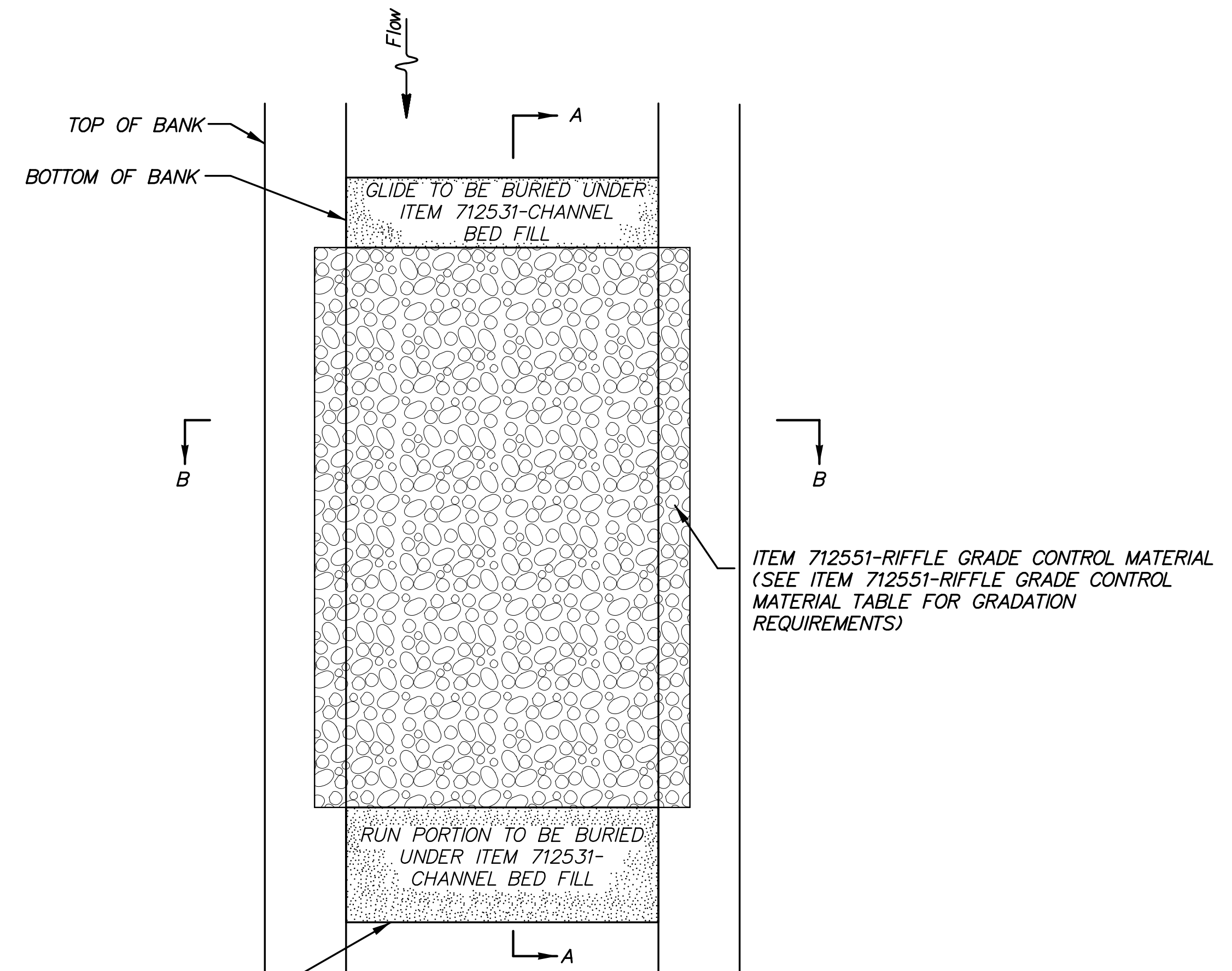
VARIABLE DIMENSIONS:
 VARIES 22'-31'
 VARIES 3.6'-5.0'
 VARIES 9.0'-10.0' (SEE CROSS SECTIONS; SHEETS SR-010 TO SR-015)
 VARIES 4.0'-4.8'
 VARIES 18'-101'



SECTION 'B-B'
RIFFLE GRADE CONTROL

STA. 201+66 TO STA. 201+86
 STA. 300+77.5 TO STA. 300+98
 STA. 301+80.5 TO STA. 302+00

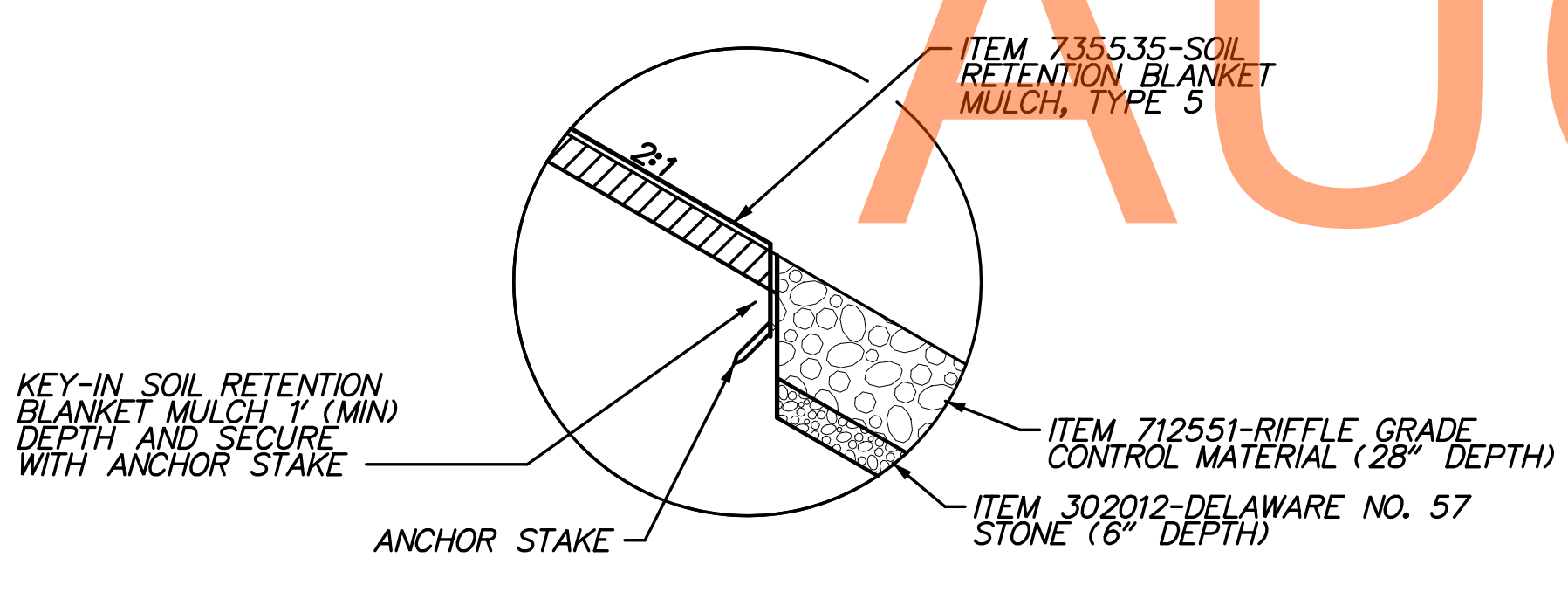
- NOTES:**
1. MINIMIZE PROTRUSION OF ITEM 712551-RIFFLE GRADE CONTROL MATERIAL ABOVE PROPOSED CHANNEL GRADE.
 2. CROSS-SECTION DIMENSIONS OF RIFFLE GRADE CONTROL ARE VARIABLE. SEE SCOTT RUN STREAM RESTORATION CROSS SECTIONS (SHEETS SR-010 TO SR-015) FOR DIMENSIONS.
 3. WASH IN BORROW, TYPE B TO FILL VOID SPACE OF BOTTOM 22" OF ITEM 712551-RIFFLE GRADE CONTROL MATERIAL. WASH IN CHANNEL BED FILL TO FILL VOID SPACE OF TOP 6" OF ITEM 712551-RIFFLE GRADE CONTROL MATERIAL. PAYMENT OF BORROW, TYPE B AND CHANNEL BED FILL WASHED INTO THE VOID SPACE IS INCIDENTAL TO PAYMENT OF ITEM 712551-RIFFLE GRADE CONTROL MATERIAL.
 4. STATION LIMITS PROVIDED WITH THE RIFFLE GRADE CONTROL DETAILS REPRESENT THE "AT GRADE" PORTION OF THE RIFFLE GRADE CONTROL. ADDITIONAL RIFFLE GRADE CONTROL MATERIAL IS PLACED ALONG THE GLIDE AND RUN AREAS AS SHOWN ON THE DETAILS.



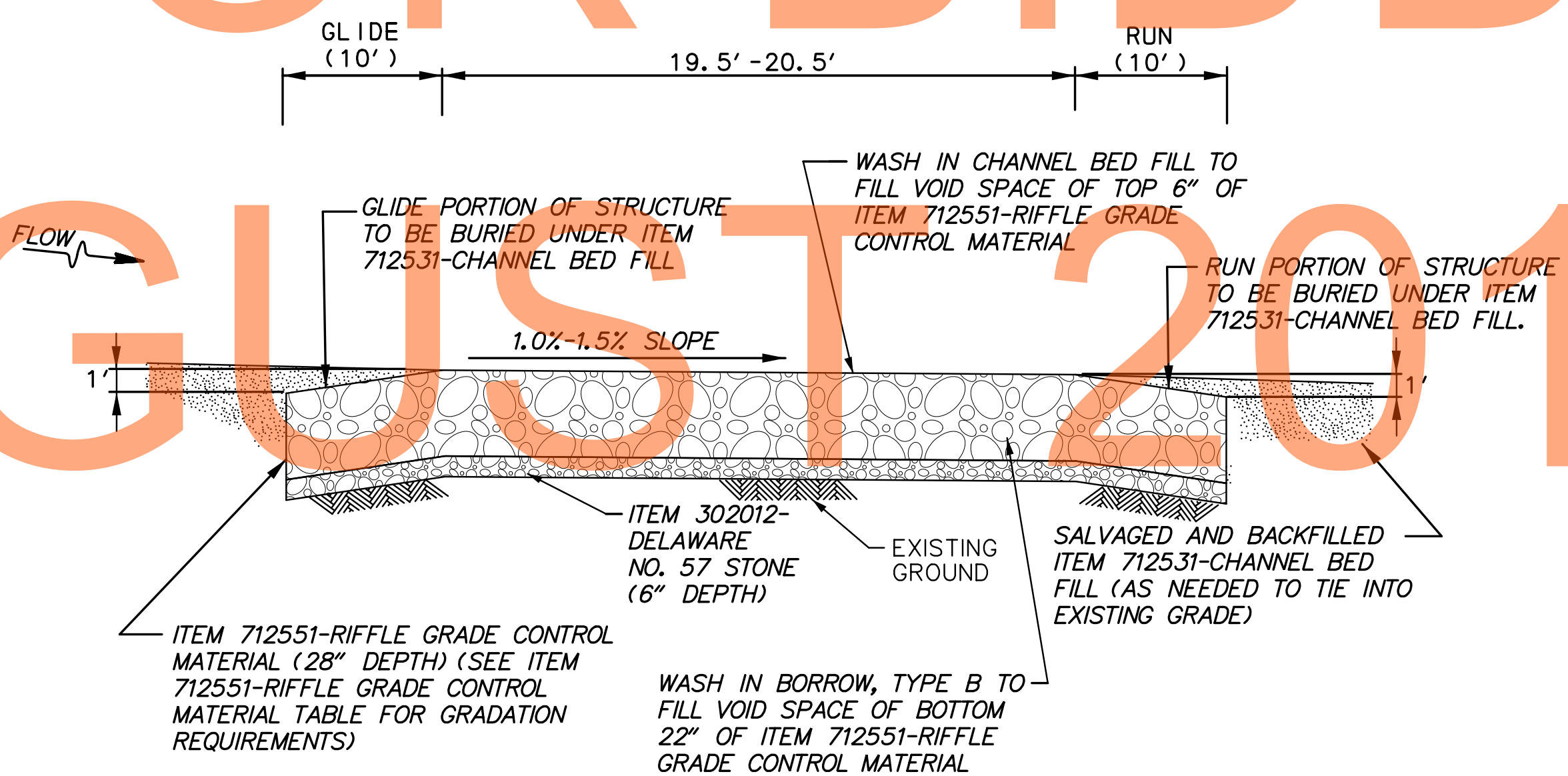
PLAN VIEW
RIFFLE GRADE CONTROL

STA. 201+66 TO STA. 201+86
 STA. 300+77.5 TO STA. 300+98
 STA. 301+80.5 TO STA. 302+00

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RIFFLE GRADE CONTROL AND SOIL RETENTION BLANKET MULCH KEY DETAIL

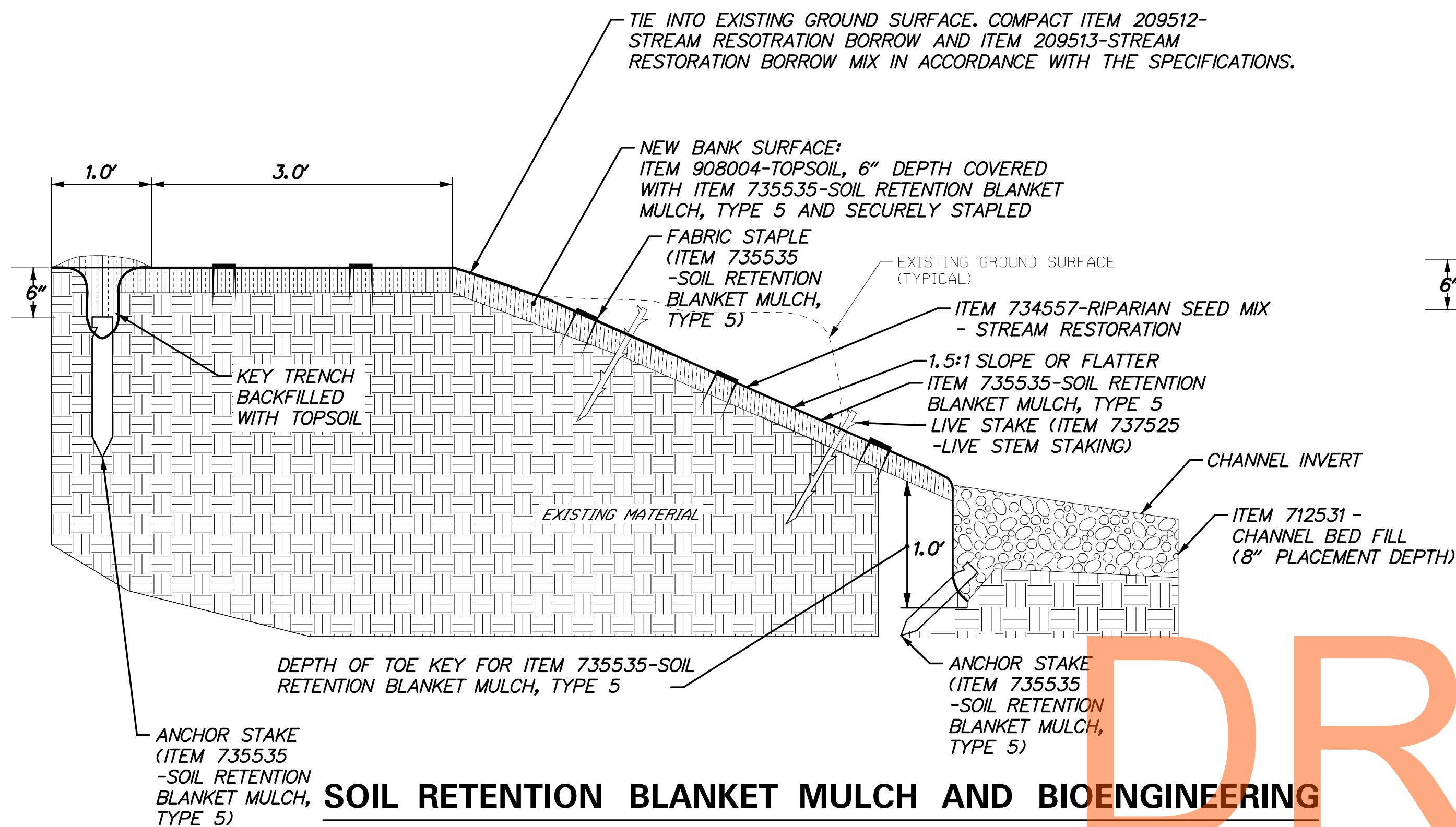


SECTION 'A-A'
RIFFLE GRADE CONTROL

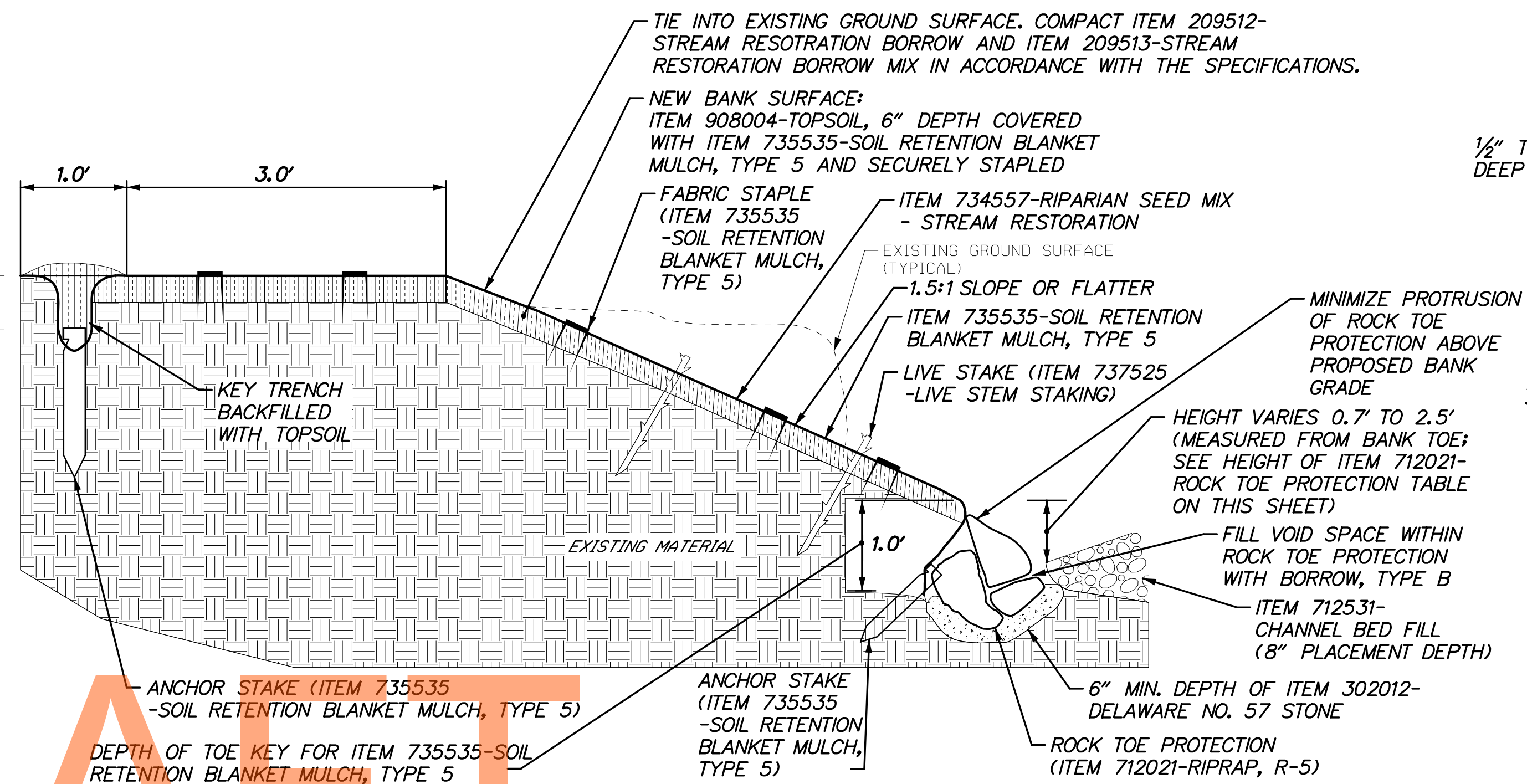
STA. 201+66 TO STA. 201+86
 STA. 300+77.5 TO STA. 300+98
 STA. 301+80.5 TO STA. 302+00

ITEM 712551-RIFFLE GRADE CONTROL MATERIAL	
ROCK SIZE IN INCHES (MM)	PERCENT PASSING (SQUARE OPENINGS) BY WEIGHT
24.0 (610)	100
18.0 (457)	90
12.0 (305)	50
3.0 (76)	30
2.5 (63)	15
0.75 (19)	5

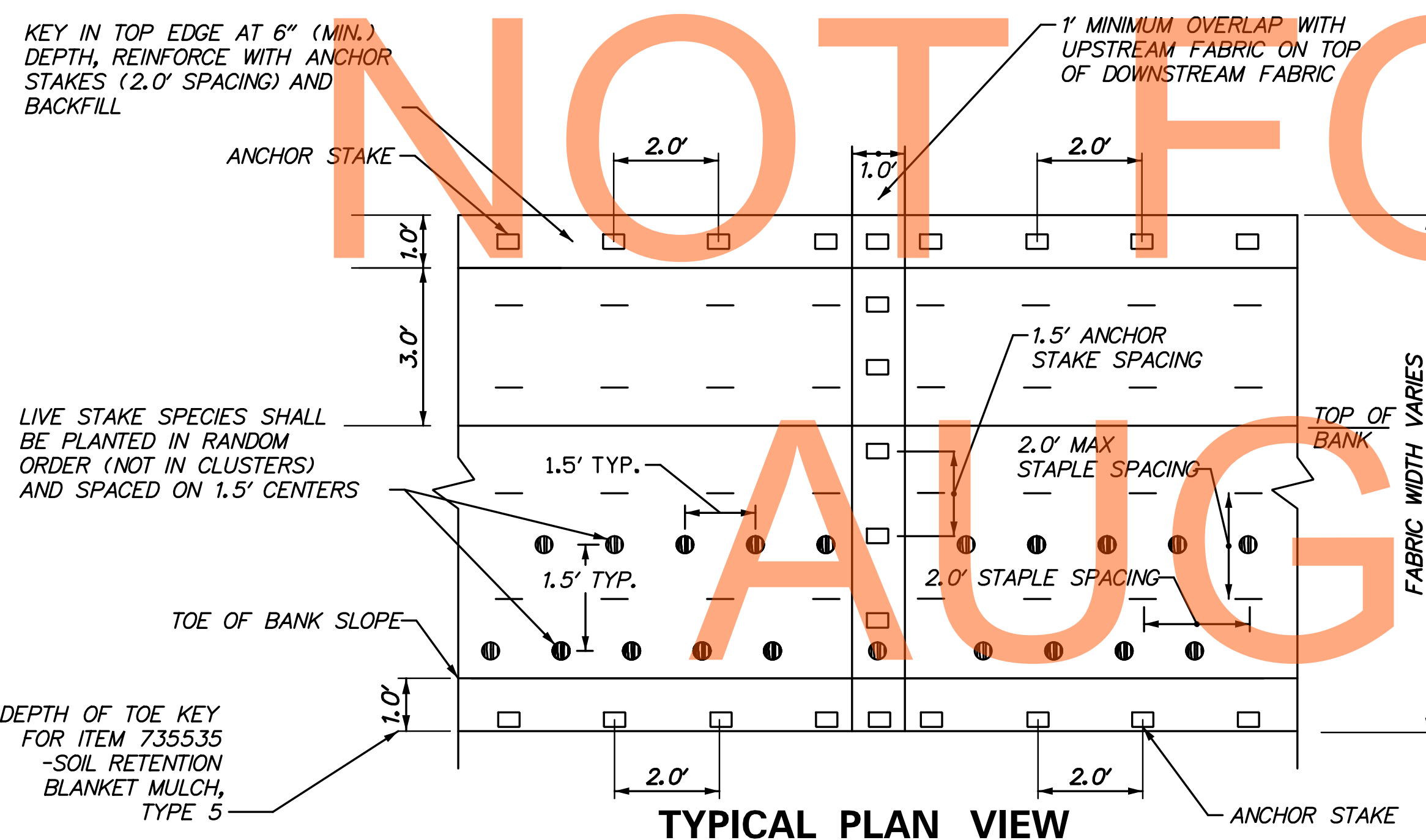
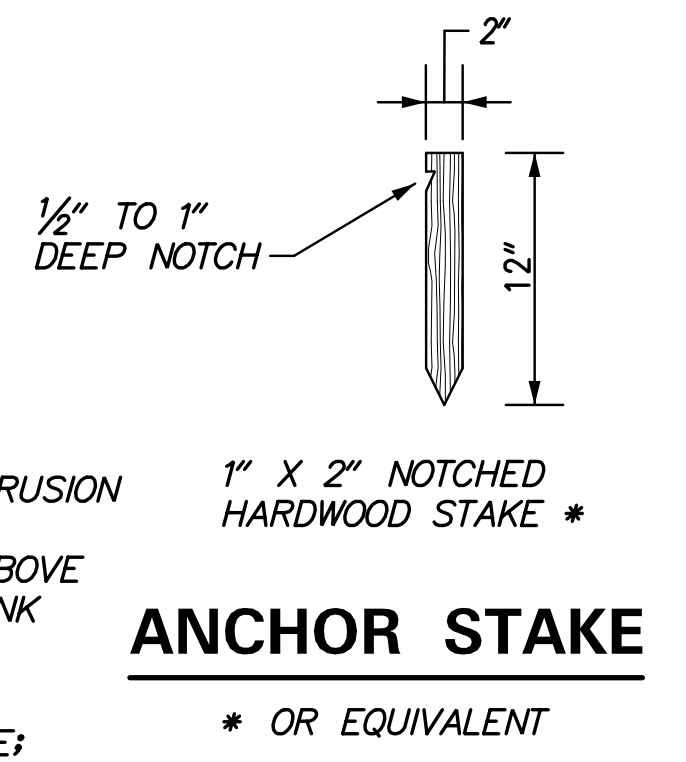
MEETING THE REQUIREMENTS OF ITEM 712551-RIFFLE GRADE CONTROL MATERIAL CAN BE ACCOMPLISHED BY A UNIFORMLY GRADED MIX CONSISTING OF 20% RIPRAP, R-6, 70% RIPRAP, R-5, AND 10% DELAWARE NO. 1 STONE. RIPRAP, R-6, RIPRAP, R-5 AND DELAWARE NO. 1 STONE SHALL CONFORM TO REQUIREMENTS IN SECTIONS 712.04 AND 813.



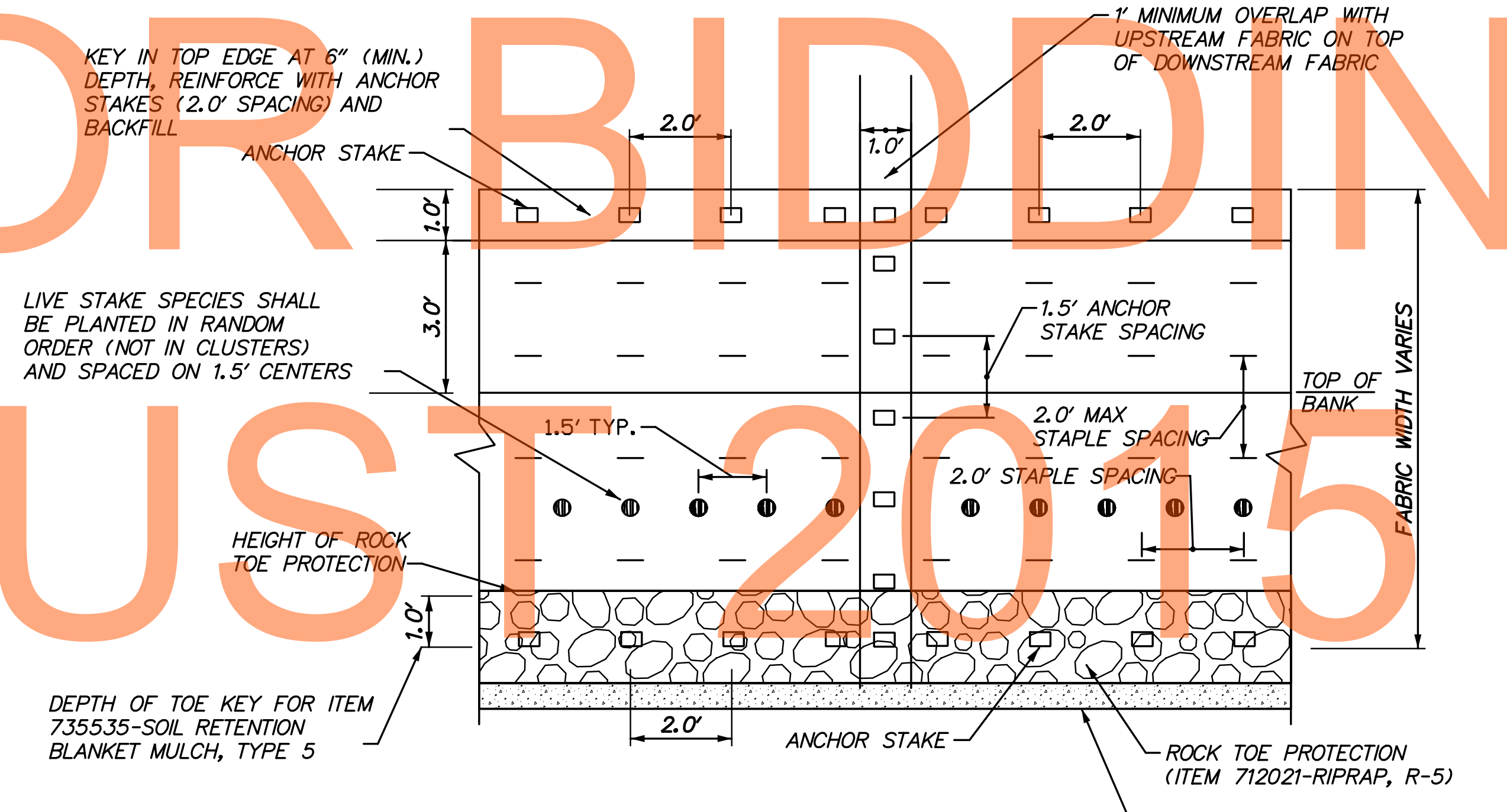
SOIL RETENTION BLANKET MULCH AND BIOENGINEERING STABILIZATION WITH TOE ANCHOR TRENCH



ROCK TOE PROTECTION WITH SOIL RETENTION BLANKET MULCH AND BIOENGINEERING STABILIZATION



PLAN VIEW OF SOIL RETENTION BLANKET MULCH AND BIOENGINEERING STABILIZATION WITH TOE ANCHOR TRENCH

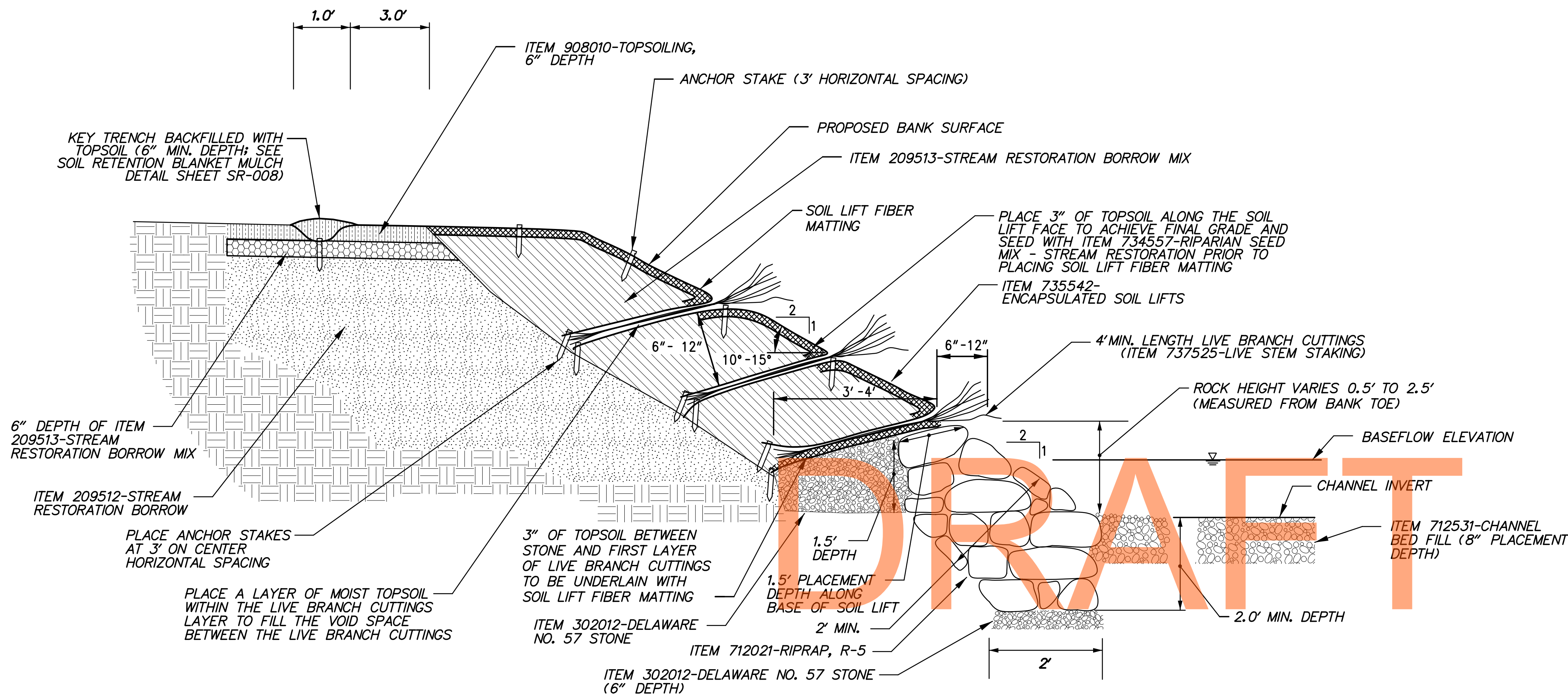


PLAN VIEW OF ROCK TOE PROTECTION WITH SOIL RETENTION BLANKET MULCH AND BIOENGINEERING STABILIZATION

HEIGHT OF ITEM 712021-RIPRAP, R-5 FOR ROCK TOE PROTECTION		
STATION*	HEIGHT ABOVE BANK TOE (FEET)	ELEVATION (FEET)
200+71, LT	1.1	24.4
200+80, LT	1.0	24.4
201+00, LT	1.0	24.25
201+15, LT	1.7	24.2
201+25, LT	2.0	24.1
201+33, LT	2.3	24.0
201+50, LT	1.7	24.4
201+66, LT	1.0	24.7
201+86, LT	1.0	24.5
202+02, LT	1.0	24.0
202+11, LT	1.9	23.7
300+98, LT	1.0	23.5
301+20, LT	1.8	23.2
301+39, LT	2.5	23.0
301+60, LT	1.7	23.2
301+80.5, LT	1.0	23.5
302+83, RT	0.7	23.0
302+95, RT	1.5	23.0

* LT & RT DESIGNATIONS REFER TO LEFT & RIGHT FACING DOWNSTREAM/UPSTATION

NOTE:
BLANKET MULCH TO BE ROLLED LENGTHWISE ALONG STREAMBANK EXTENDING BELOW THE TOE ANCHOR TRENCH AND A MINIMUM OF 3.0' OVER TOP OF BANK. IF MORE THAN ONE ROLL IS REQUIRED, MID-BANK OVERLAP SHOULD BE A MINIMUM OF 1.0' AND SECURELY FASTENED WITH ANCHOR STAKES. TOP EDGE OF BLANKET MULCH SHALL BE KEYED INTO EXISTING GROUND SURFACE AT A MINIMUM DEPTH OF 6" AND FASTENED W/ANCHOR STAKES SPACED EVERY 2.0'.



ITEM 734557-RIPARIAN SEED MIX - STREAM RESTORATION			
BOTANICAL NAME	COMMON NAME	FREQUENCY (%)	SEEDING RATE (LBS./AC)
AGROSTIS ALBA / GIGANTEA	REDTOP	16.5	20
DICHANTHELIUM CLANDESTINUM	DEER TONGUE GRASS	25	30
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	16.5	20
PANICUM VIRGATUM	SWITCHGRASS	21	25
SCIRPUS CYPERINUS	WOOL GRASS	21	25
TOTAL RATE			120

NOTE: LIVE STAKE, SOIL LIFT, RIPARIAN, AND RIPARIAN SEED MIX ZONES TO BE SEEDED WITH ITEM 734557-RIPARIAN SEED MIX - STREAM RESTORATION AT THE RATE INDICATED IN THE TABLE ABOVE.

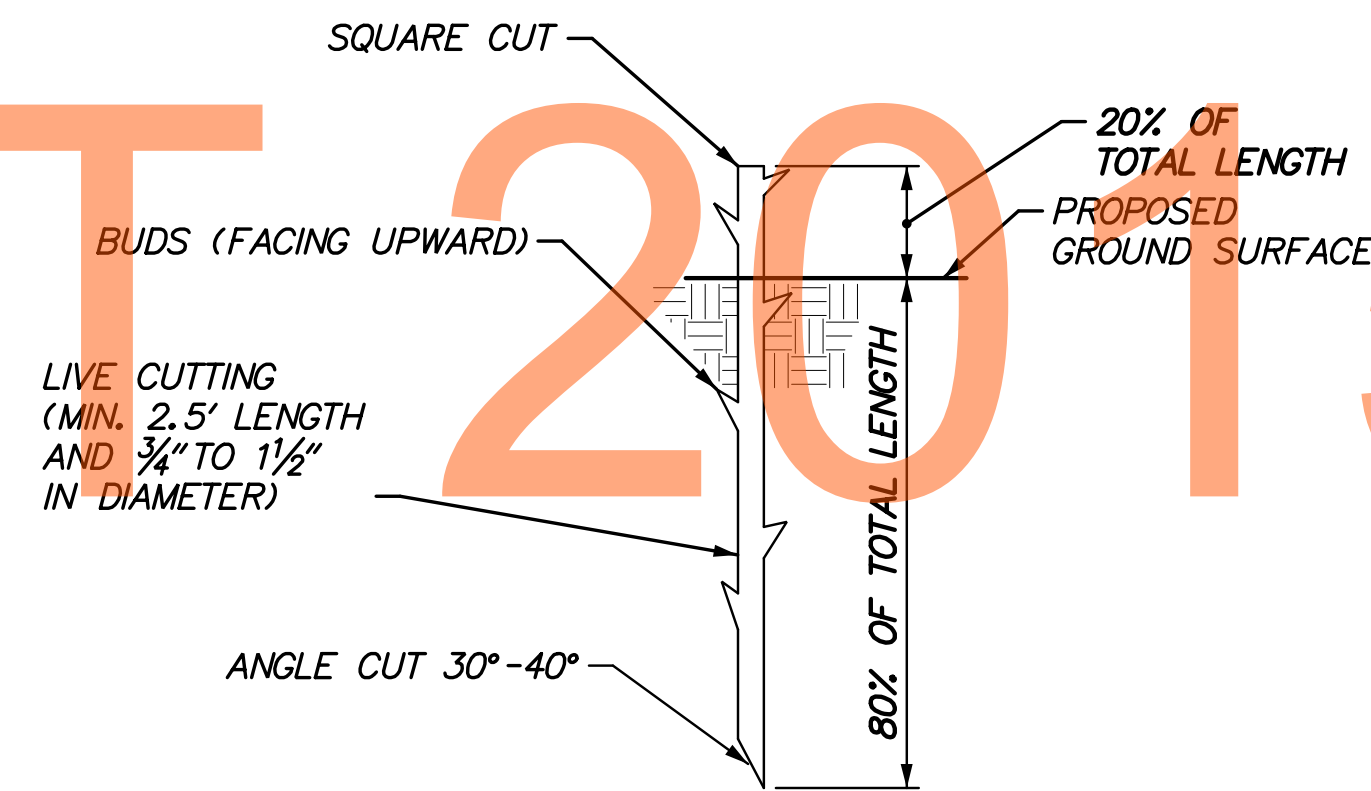
LIVE STAKE NOTES

- HARVESTING AND INSTALLATION OF LIVE STAKE MATERIALS SHALL TAKE PLACE DURING THE DORMANT PERIOD OF THE YEAR; GENERALLY NOVEMBER 15 THROUGH MARCH 1. IF COMPLETION OF GRADING DOES NOT OCCUR WITHIN THIS WINDOW; THAT IS, IF THE CONTRACTOR HAS NOT COMPLETED HARVESTING AND INSTALLATION ON OR BEFORE MARCH 1, THE CONTRACTOR SHALL WAIT UNTIL THE DORMANT PERIOD THAT BEGINS ON THE FOLLOWING NOVEMBER 15 TO HARVEST AND INSTALL THE REMAINING LIVE STAKES.
- LIVE STAKE MATERIALS SHALL BE PURCHASED FROM A NURSERY SPECIALIZING IN THE PRODUCTION OF SIMILAR MATERIALS AND SHALL INCLUDE CONFIRMATION OF SPECIES. EACH LIVE STAKE SHALL CONFORM TO THE RANGE OF DIMENSIONS SPECIFIED IN THE DETAIL.
- LIVE STAKES SHALL BE TRANSPORTED IN CLIMATE-CONTROLLED CONDITIONS TO INSURE AGAINST TEMPERATURES GREATER THAN 50 DEGREES FAHRENHEIT. LIVE STAKES STORED ON SITE SHALL BE KEPT MOIST, SHADED, AND PROTECTED AGAINST DESICCATION. MATERIALS STORED OFFSITE SHALL BE REFRIGERATED AND KEPT MOIST. IN NO CASE SHALL NON-REFRIGERATED MATERIALS BE STORED LONGER THAN FIVE (5) CALENDAR DAYS.
- DURING INSTALLATION, LIVE STAKES SHALL BE KEPT DAMP BY EITHER COVERING WITH WET BURLAP OR HEELING INTO MOIST MULCH UNTIL READY FOR USE. STAKES SHALL BE INSPECTED FOR SIGNS OF DESICCATION, INCLUDING BUT NOT LIMITED TO BLACKENING OF CUT ENDS AND LENGTHWISE WRINKLING OF BARK, AND ALL UNSUITABLE MATERIALS SHALL BE APPROPRIATELY DISCARDED.
- THE CONTRACTOR SHALL REMOVE ALL SIDE BRANCHES FROM ALL LIVE STAKES, CLEANLY AND WITHOUT CAUSING DAMAGE TO BARK. BUDS SHALL BE ORIENTED TOWARD THE TOP OF EACH STAKE. WITHIN TWO (2) HOURS PRIOR TO INSTALLATION, USING PRUNING SHEARS OR A POWER SAW, THE CONTRACTOR SHALL CUT EACH STAKE AT AN ANGLE ON THE BOTTOM END AS INDICATED IN THE DETAIL.
- LIVE STAKES SHALL BE INSTALLED AT APPROXIMATE EIGHTEEN (18)-INCH SPACING THROUGHOUT THE PLANTING ZONE. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL ACHIEVE SUCH SPACING BY PREPARING HOLES USING A POINTED DIGGING BAR, REBAR, OR OTHER SIMILAR IMPLEMENTS TO ACHIEVE BOTH THE DEPTH AND THE DIAMETER REQUIRED FOR EACH STAKE. LIVE STAKES SHALL BE DRIVEN INTO THE PREPARED HOLE USING A DEAD BLOW HAMMER UNTIL THE STAKE HAS BEEN FIRMLY PLACED AS APPROVED BY THE ENGINEER. DO NOT SPLIT THE LIVE STAKES DURING INSTALLATION. DISCARD AND REPLACE ANY LIVE STAKES THAT SHATTER DURING INSTALLATION.
- THE CONTRACTOR SHALL FIRMLY BACKFILL ALL VOIDS SURROUNDING EACH LIVE STAKE BY HAND TAMPING THE SOIL TIGHTLY AGAINST EACH STAKE WITHOUT SCARRING THE STAKE.
- PLANT LIVE STAKES AT 18 INCHES ON CENTER SPACING WHICH CORRESPONDS TO ONE (1) LIVE STAKE PER 2.25 SQUARE FEET AND FOUR (4) LIVE STAKES PER 9 SQUARE FEET.

ITEM 735542 - FABRIC ENCAPSULATED SOIL LIFT

HEIGHT OF RIPRAP, R-5 FOR ITEM 735542- FABRIC ENCAPSULATED SOIL LIFT		
STATION*	HEIGHT ABOVE BANK TOE (FEET)	ELEVATION (FEET)
300+35, RT	1.1	23.5
300+50, RT	2.5	23.5
300+65, RT	1.5	23.5
300+77.5, RT	1.0	23.8
302+00, LT	1.0	23.3
302+20, LT	1.7	23.3
302+23, LT	1.6	23.3
302+00, RT	1.0	23.3
302+20, RT	1.7	23.0
302+29, RT	1.3	23.0
302+60, RT	1.0	23.1
302+78, RT	0.5	23.1
302+83, RT	0.7	23.0

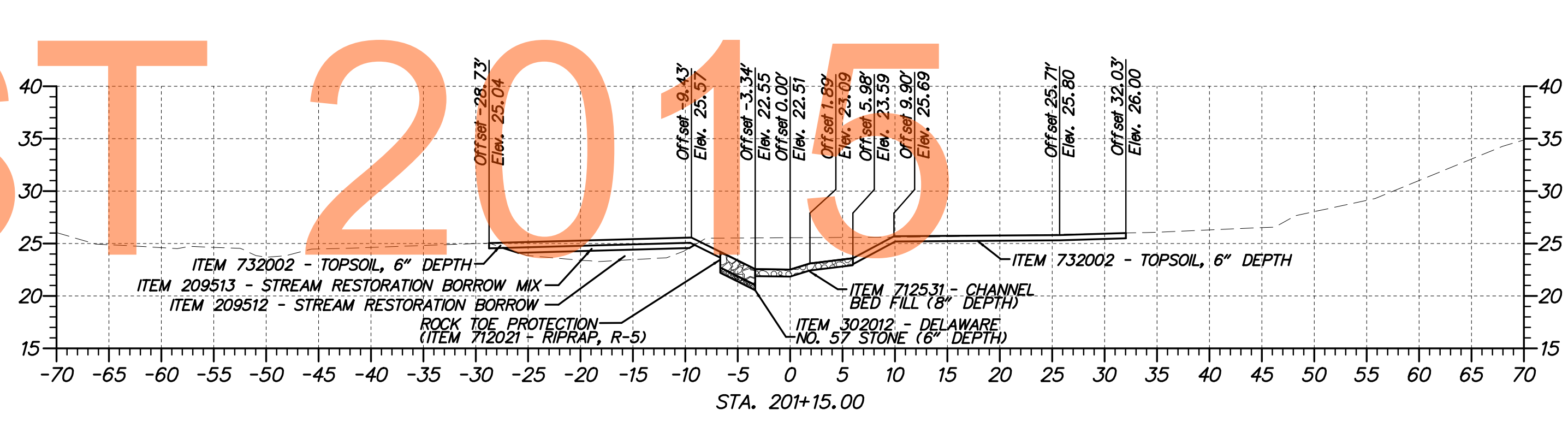
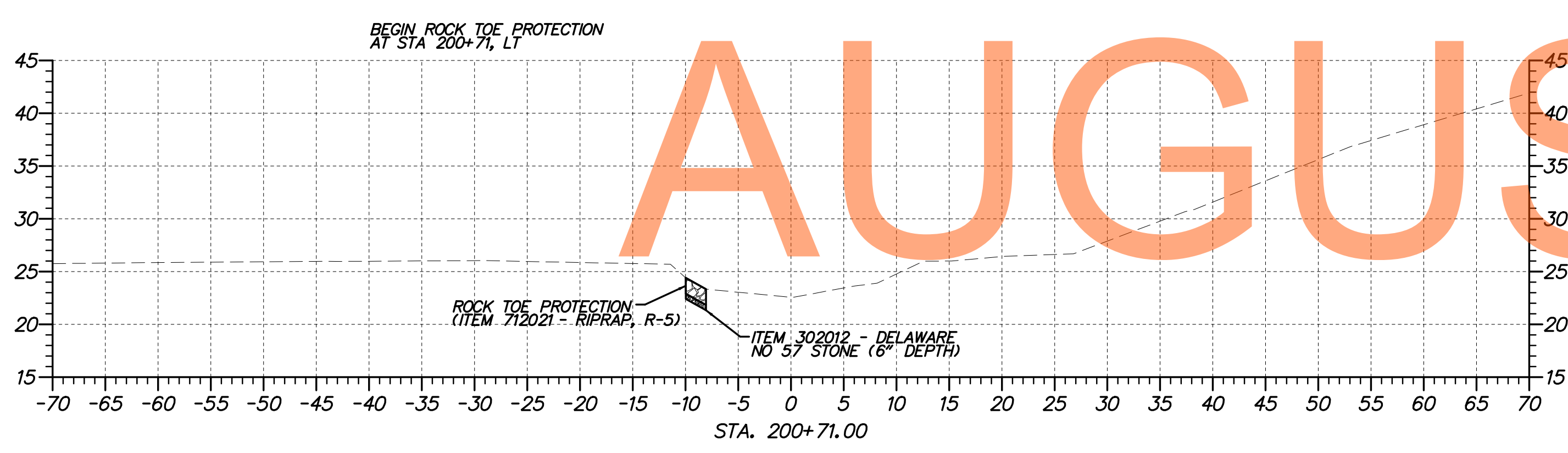
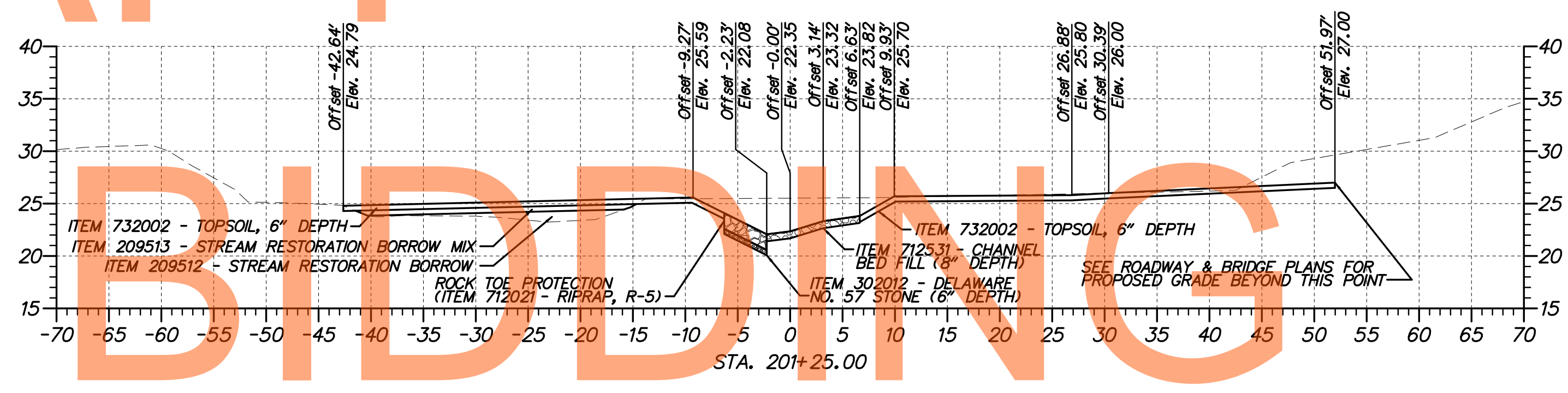
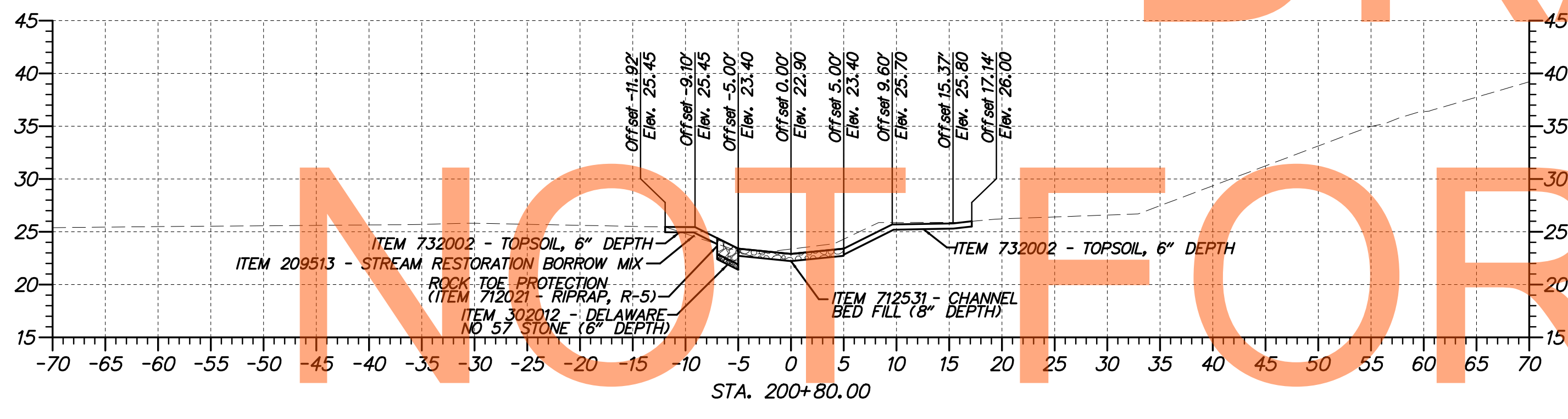
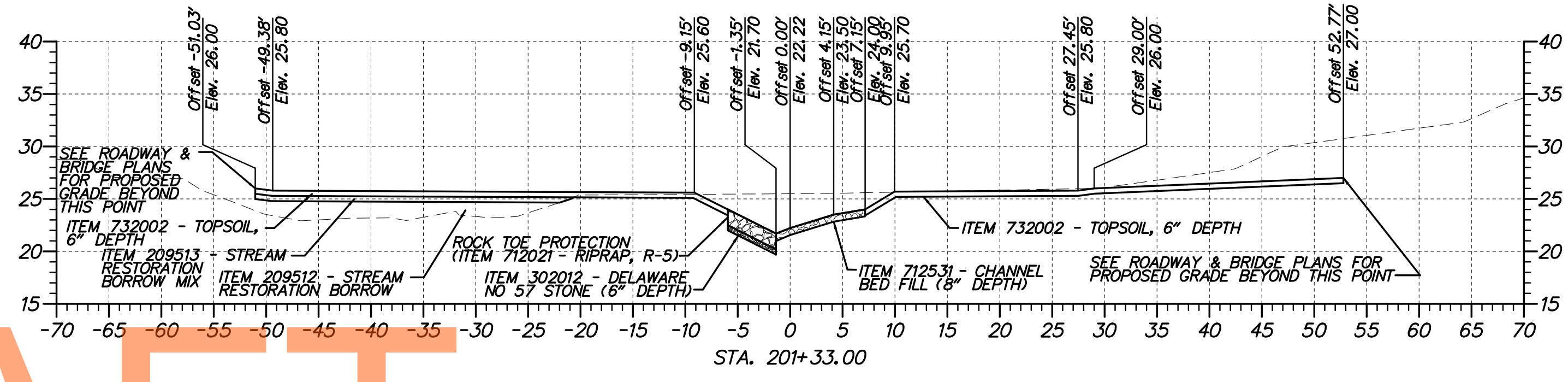
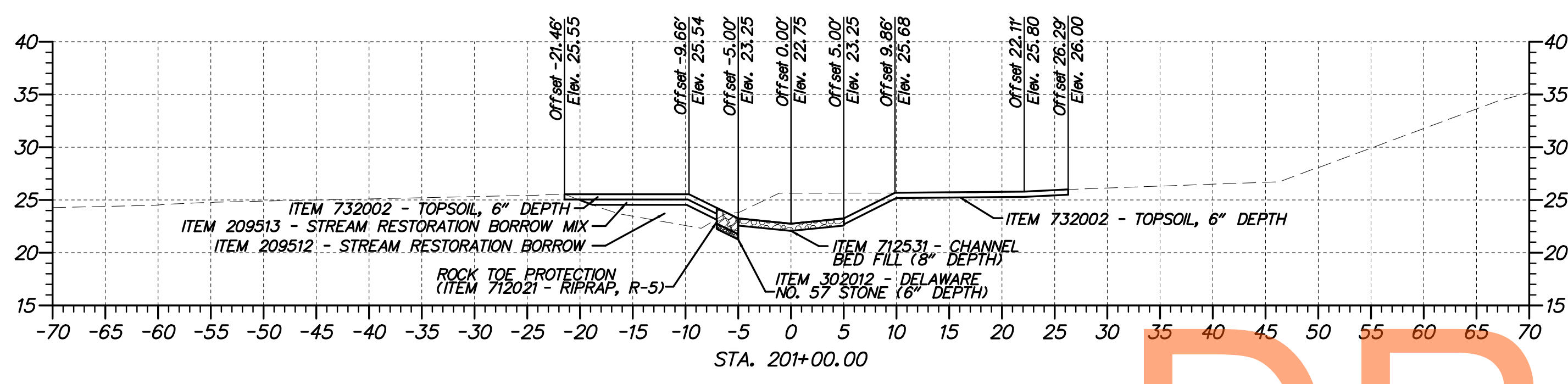
* LT & RT DESIGNATIONS REFER TO LEFT & RIGHT FACING DOWNSTREAM/UPSTATION



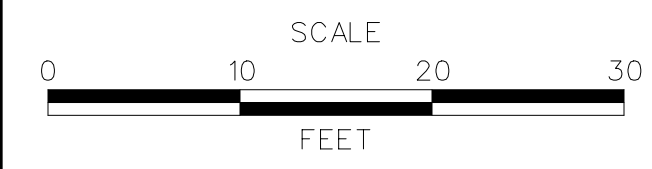
NOTE: LIVE STAKES SHALL BE INSTALLED WHILE DORMANT (LATE FALL TO EARLY SPRING).

LIVE STAKE

- NOTES:
- THE NUMBER OF LIFTS CONSTRUCTED IS DEPENDENT ON BANK HEIGHT AND INDIVIDUAL LIFT HEIGHT. LIFT HEIGHT RANGES FROM 6 TO 12 INCHES.
 - INSTALL LIVE BRANCH CUTTINGS IN A CRISSCROSS FASHION AT A RATE OF 10 CUTTINGS PER LINEAR FEET.
 - TOPSOIL SHALL HAVE A MINIMUM ORGANIC CONTENT OF 3%. SEE NOTE 10 ON SHEET SR-005.
 - FILL VOID SPACE OF RIPRAP, R-5 WITH BORROW, TYPE B. PAYMENT OF BORROW, TYPE B, IS INCIDENTAL TO PAYMENT OF ITEM 735542-FABRIC ENCAPSULATED SOIL LIFT.
 - HEIGHT OF RIPRAP, R-5 ROCK VARIES. SEE THE HEIGHT OF RIPRAP R-5 FOR ITEM 735542-FABRIC ENCAPSULATED SOIL LIFT TABLE AND THE CROSS SECTIONS (SHEETS SR-010 TO SR-015).
 - ENSURE A SMOOTH AND STABLE TRANSITION WHERE THE FABRIC ENCAPSULATED SOIL LIFT TIES INTO EXISTING GROUND. SOME OVER-EXCAVATION MAY BE NECESSARY TO ALLOW ENOUGH HORIZONTAL DEPTH (3 TO 4 FEET AS INDICATED ON THE DETAIL) TO COMPLETE CONSTRUCTION OF THE FABRIC ENCAPSULATED SOIL LIFTS WITHIN THE TRANSITION ZONES. EXTEND THE SOIL LIFT FIBER MATTING A MINIMUM OF 3 FEET TO OVERLAP EXISTING GROUND AT THE TIE-IN POINT. THE CONTRACTOR SHALL COORDINATE THE ANTICIPATED TRANSITION APPROACH WITH THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTING THE FABRIC ENCAPSULATED SOIL LIFTS.



ADDENDUMS / REVISIONS



**US 301,
SR 896 TO SR 1**

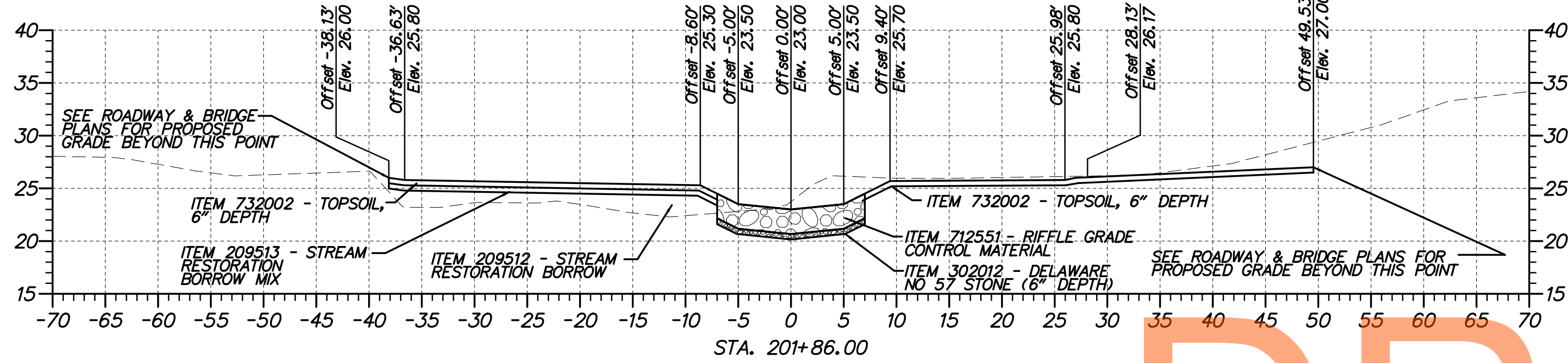
CONTRACT T200911308	BRIDGE NO. BR1-460 N&S
COUNTY NEW CASTLE	DESIGNED BY: MRM CHECKED BY: DJG

**SCOTT RUN STREAM RESTORATION
CROSS SECTIONS**

SR-010
SHEET NO. 614
TOTAL SHTS. 875

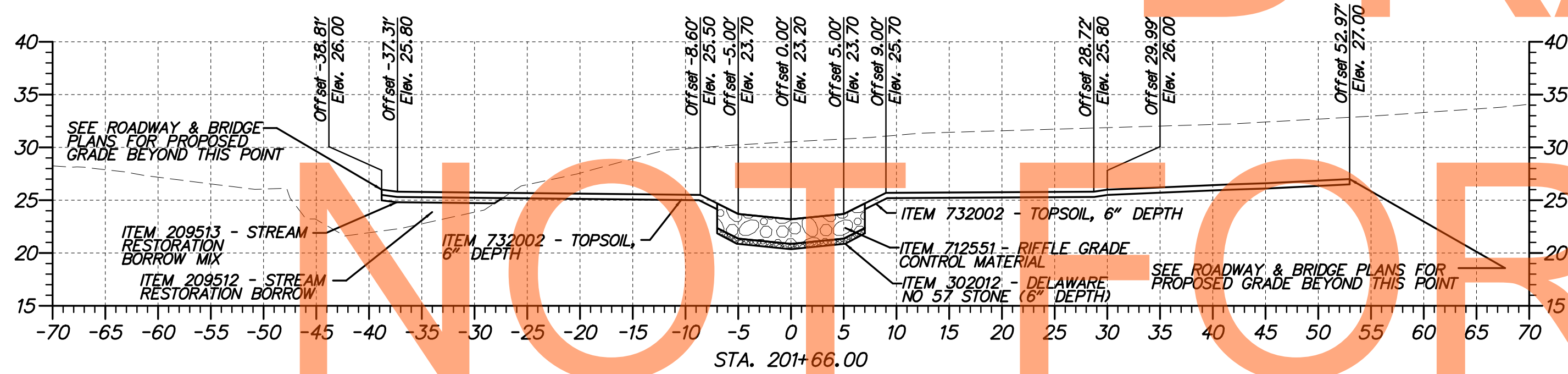
BEGIN ROCK TOE PROTECTION
AT STA 201+86, LT

END RIFFLE GRADE CONTROL
AT STA 201+86

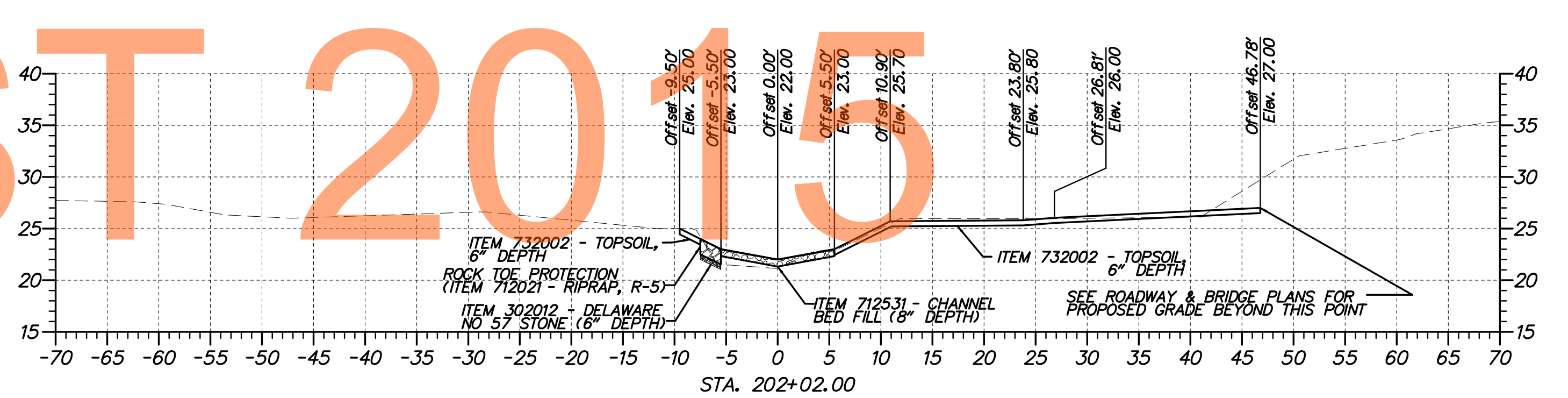
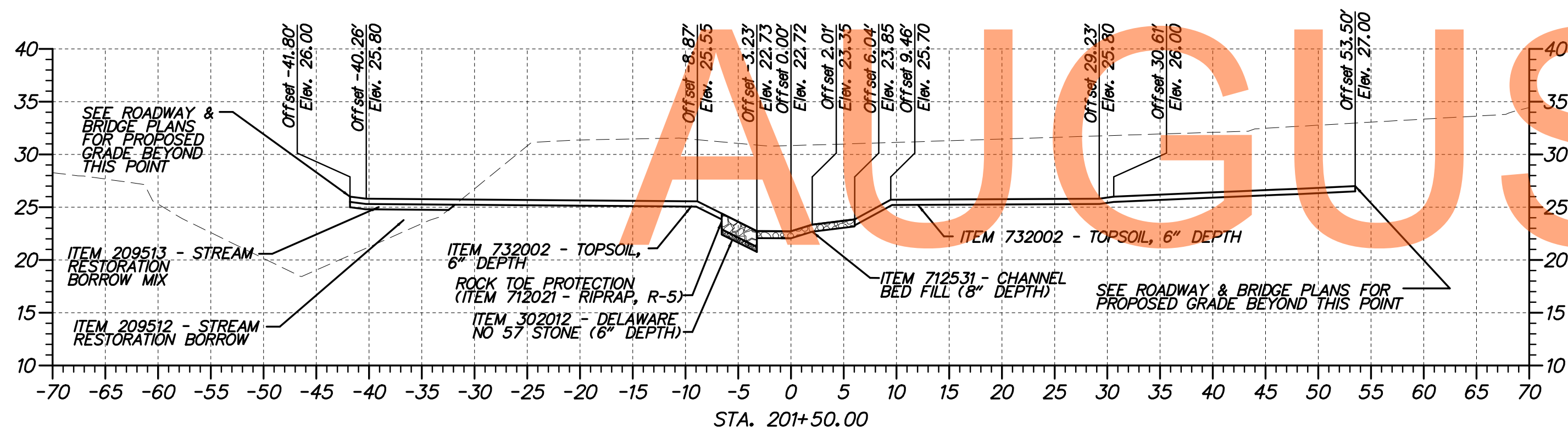
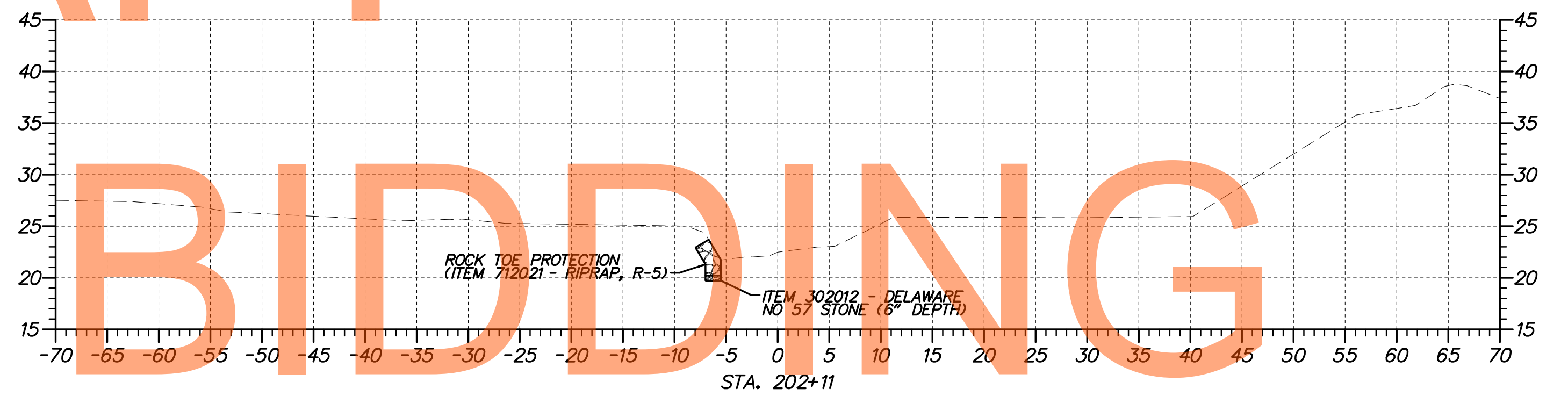


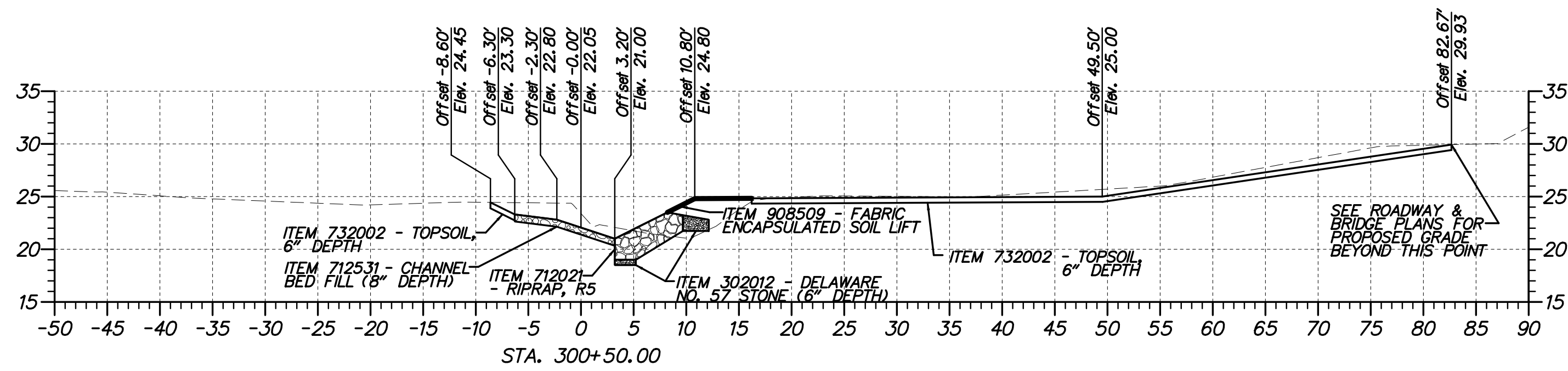
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AT STA 201+66, LT

BEGIN RIFFLE GRADE CONTROL
AT STA 201+66



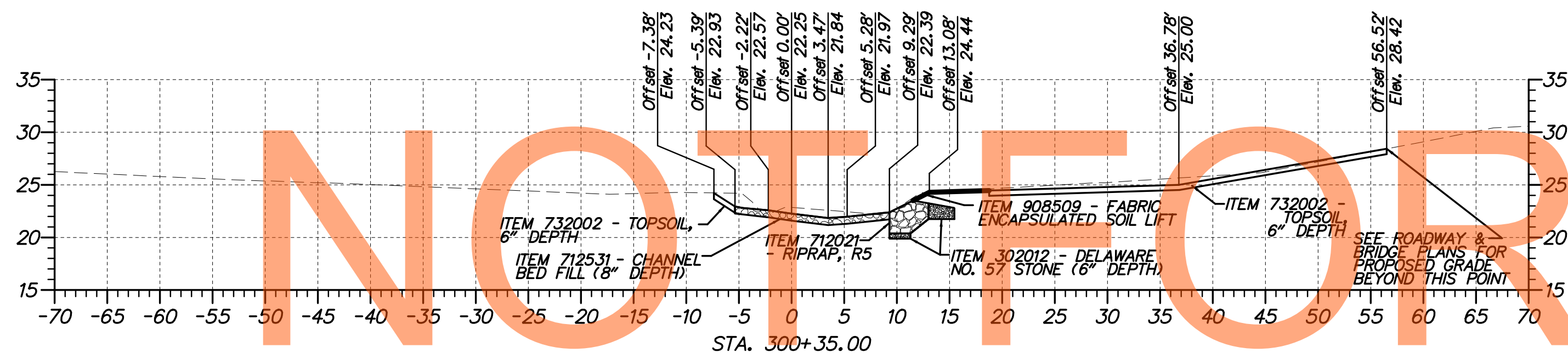
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AT STA 202+11, LT





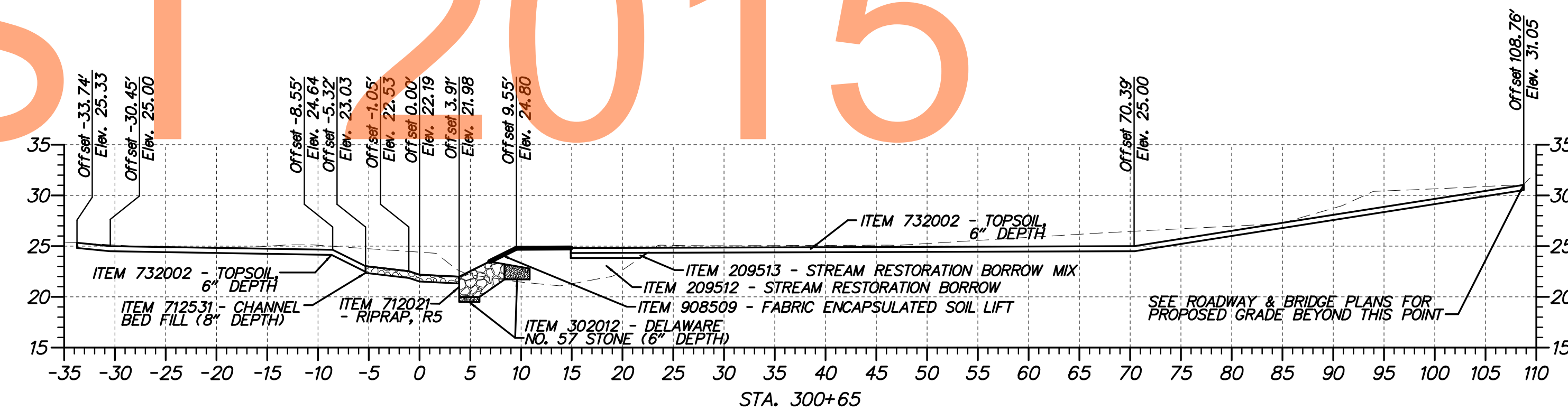
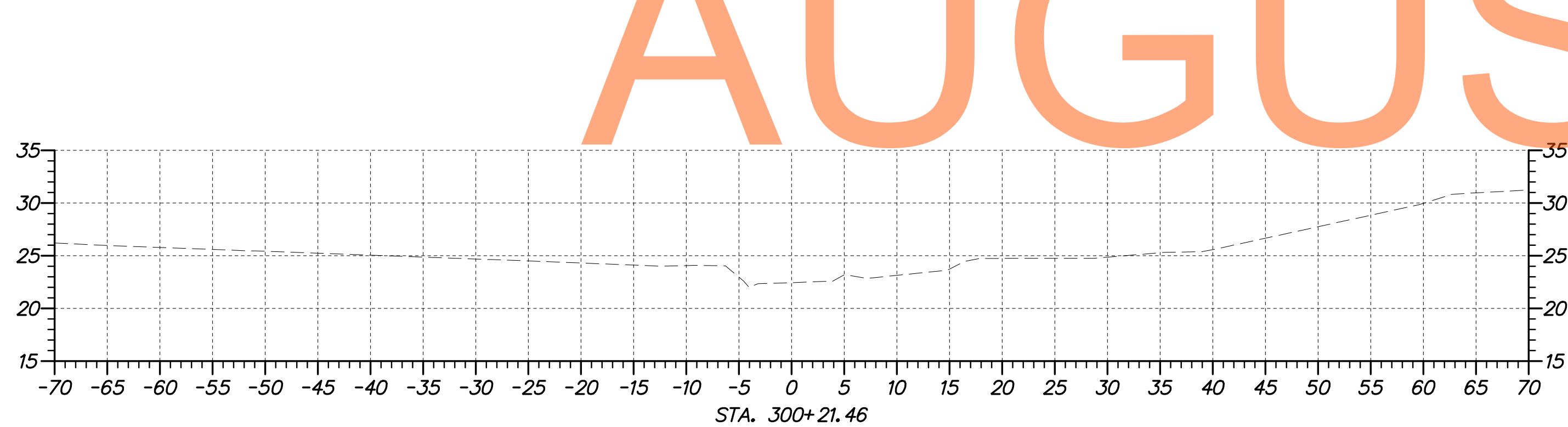
DRAFT

BEGIN FABRIC ENCAPSULATED SOIL LIFT AT STA 300+35, RT



NOT FOR BIDDING

AUGUST 2015



ADDENDUMS / REVISIONS	

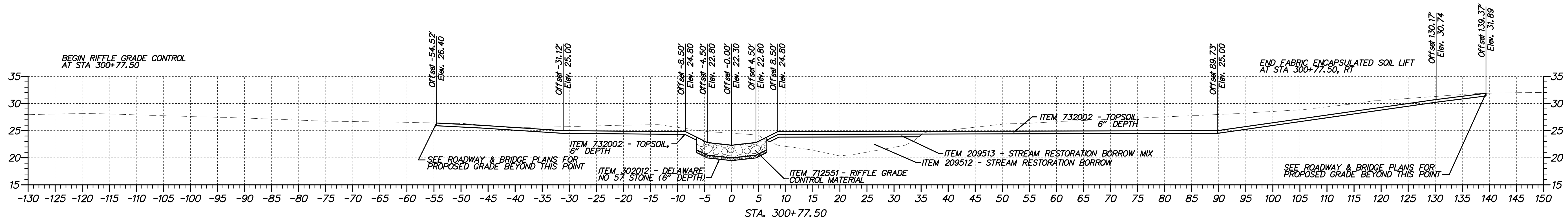
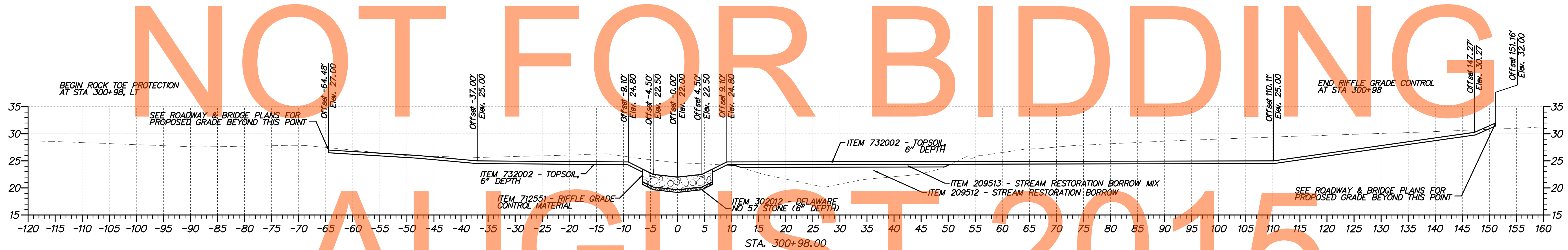
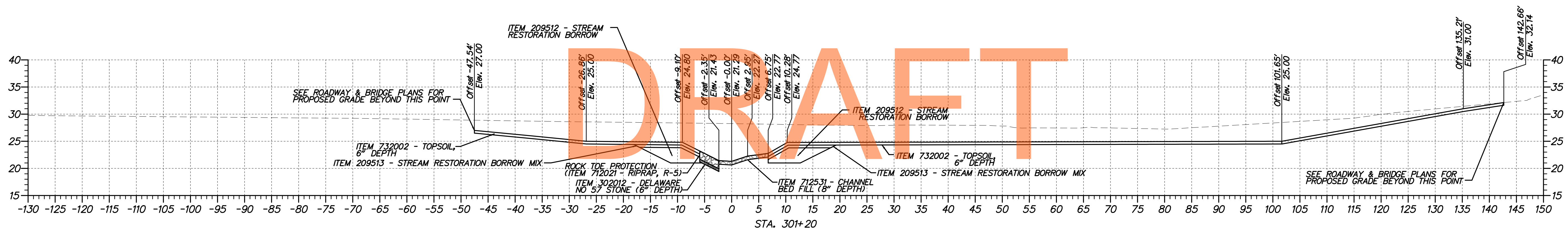
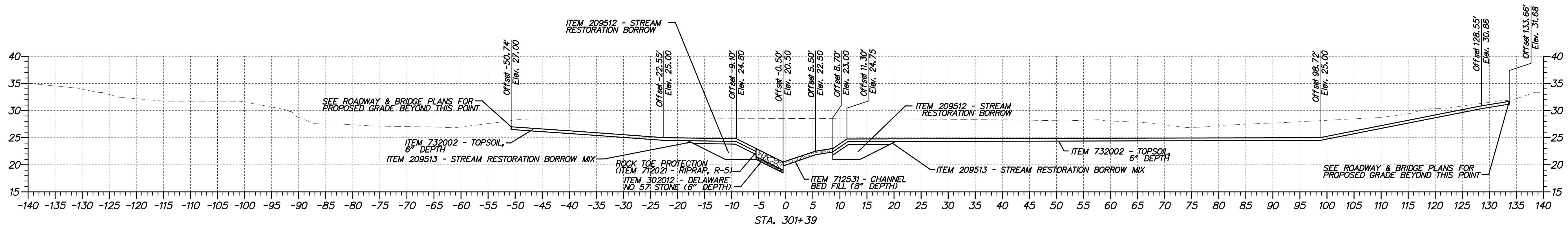


US 301,
SR 896 TO SR 1

CONTRACT T200911308	BRIDGE NO. BR1-458
COUNTY NEW CASTLE	DESIGNED BY: MRM CHECKED BY: DJG

SCOTT RUN STREAM RESTORATION
CROSS SECTIONS

SR-012
SHEET NO. 616
TOTAL SHTS. 875

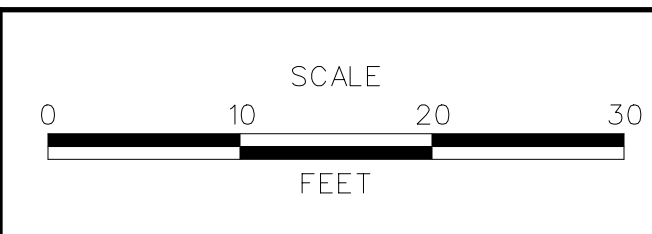


DRAFT

NOT FOR BIDDING

AUGUST 2015

ADDENDUMS / REVISIONS



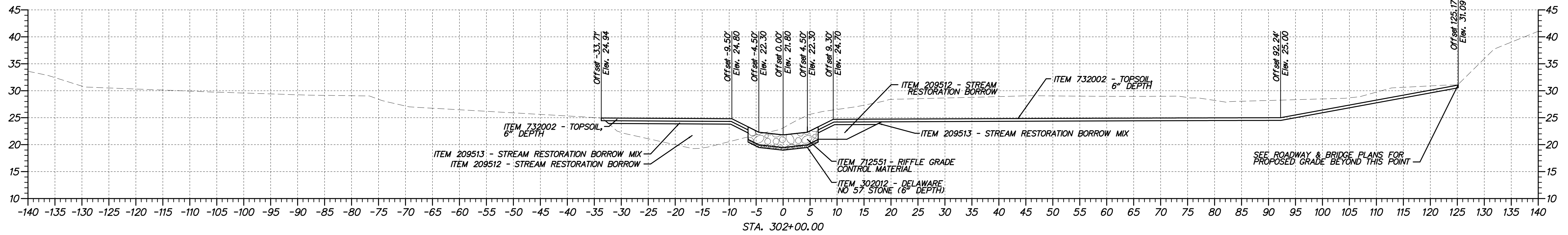
CONTRACT T200911308	BRIDGE NO. BR1-458
COUNTY NEW CASTLE	DESIGNED BY: MRM CHECKED BY: DJG

SR-013
SHEET NO. 617
TOTAL SHTS. 875

BEGIN FABRIC ENCAPSULATED SOIL LIFT
AT STA 302+00, LT

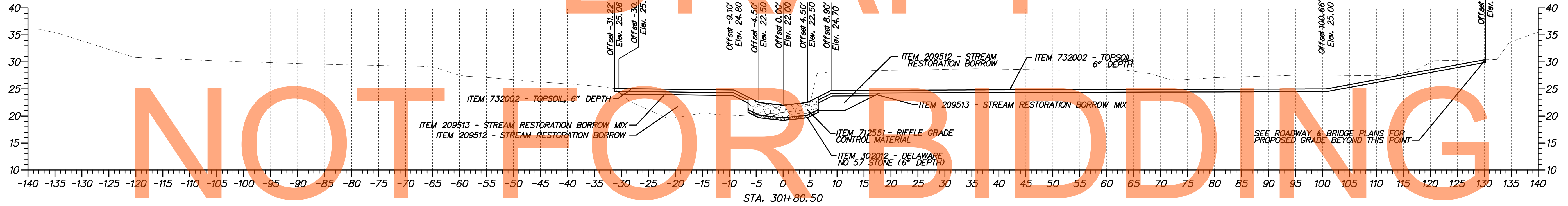
END RIFFLE GRADE CONTROL
AT STA 302+00, 00

BEGIN FABRIC ENCAPSULATED SOIL LIFT
AT STA 302+00, RT

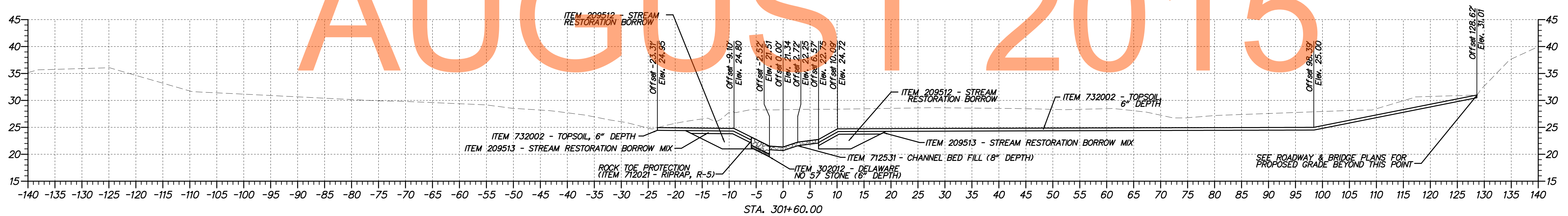


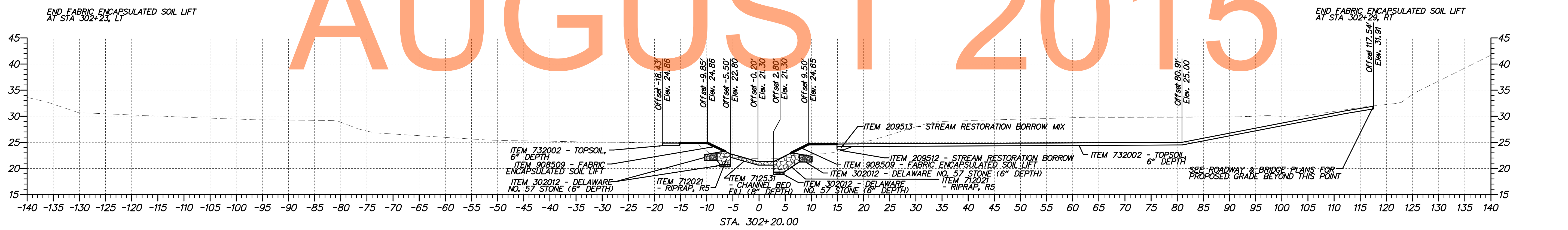
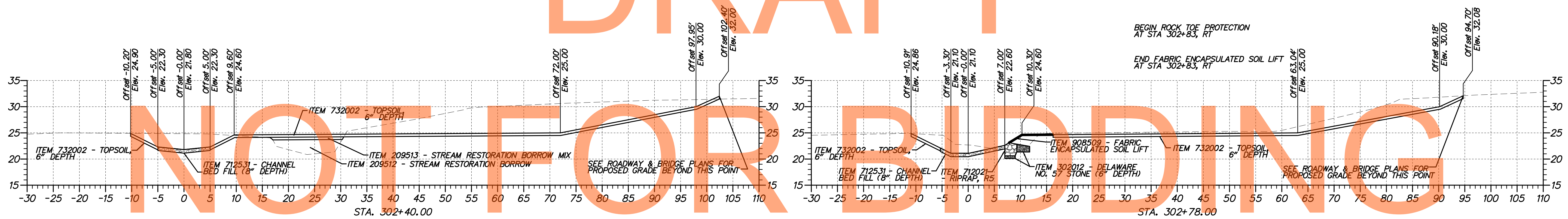
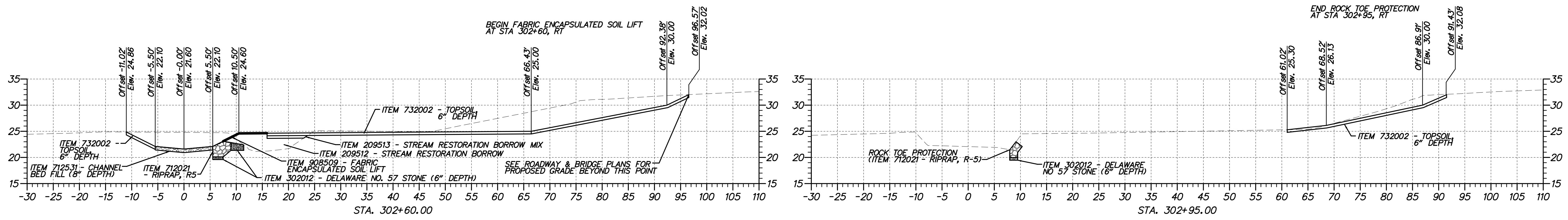
END ROCK TOE PROTECTION
AT STA 301+80.50, LT

BEGIN RIFFLE GRADE CONTROL
AT STA 301+80.50



AUGUST 2015





DRAFT

NOT FOR BIDDING

AUGUST 2015

RIPARIAN PLANTING SCHEDULE (ITEM 737523-PLANTING)

ZONE	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
RIPARIAN	9	QUERCUS PALUSTRIS	PIN OAK	5' - 6' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	9	PLATANUS OCCIDENTALIS	SYCAMORE	6' - 8' HT	BB	PLANT 10' O. C.
RIPARIAN	9	QUERCUS PHELLOS	WILLOW OAK	5' - 6' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	18	ALNUS SERRULATA	SMOOTH ALDER	6' - 8' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	18	CORNUS AMOMUM	SILKY DOGWOOD	3' - 4' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	18	ILEX VERTICILLATA	WINTERBERRY	4' - 5' HT	BB/CONT.	PLANT 10' O. C.

NOTES:
 1. LIVE STAKE ZONE, SOIL LIFT ZONE, RIPARIAN ZONE, AND RIPARIAN SEED MIX ZONE TO BE SEEDED WITH ITEM 734557 - RIPARIAN SEED MIX - STREAM RESTORATION AT A RATE OF 120 LBS/ACRE. RIPARIAN SEED MIX - STREAM RESTORATION QUANTITY IS 3,662 SY (0.76 AC). RIPARIAN ZONE IS 8,207 SF (0.19 AC) AND LIVE STAKE ZONE IS 815 SF (0.02 AC).
 2. TREES COMPRISE ONE-THIRD (1/3) AND SHRUBS COMPRISE TWO-THIRDS (2/3) OF THE RIPARIAN ZONE.

DRAFT
NOT FOR BIDDING
AUGUST 2015

LIVE STAKE SCHEDULE (ITEM 737525-LIVE STEM STAKING)

ZONE	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
LIVE STAKE	300	CORNUS AMOMUM	SILKY DOGWOOD	2.5' MIN. LENGTH	LIVE STAKE	PLANT 18" O. C.
LIVE STAKE	63	SALIX NIGRA	BLACK WILLOW	2.5' MIN. LENGTH	LIVE STAKE	PLANT 18" O. C.

NOTES:
 1. PLANT ONLY SILKY DOGWOOD (CORNUS AMOMUM) WHERE THE LIVE STAKE ZONE IS WITHIN THE CLEAR ZONE AND UNDERNEATH THE BRIDGE.

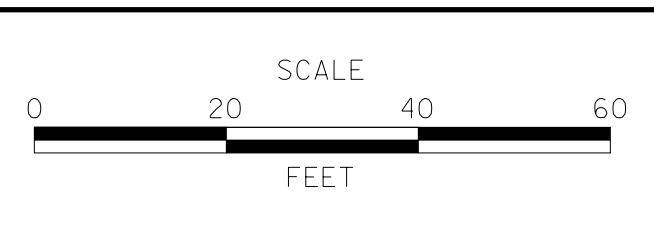
LEGEND

- LIVE STAKE ZONE
- SOIL LIFT ZONE
- RIPARIAN ZONE
- RIPARIAN SEED MIX ZONE

MATCH LINE STA. 104+73 (SHEET SR-017)



ADDENDUMS / REVISIONS



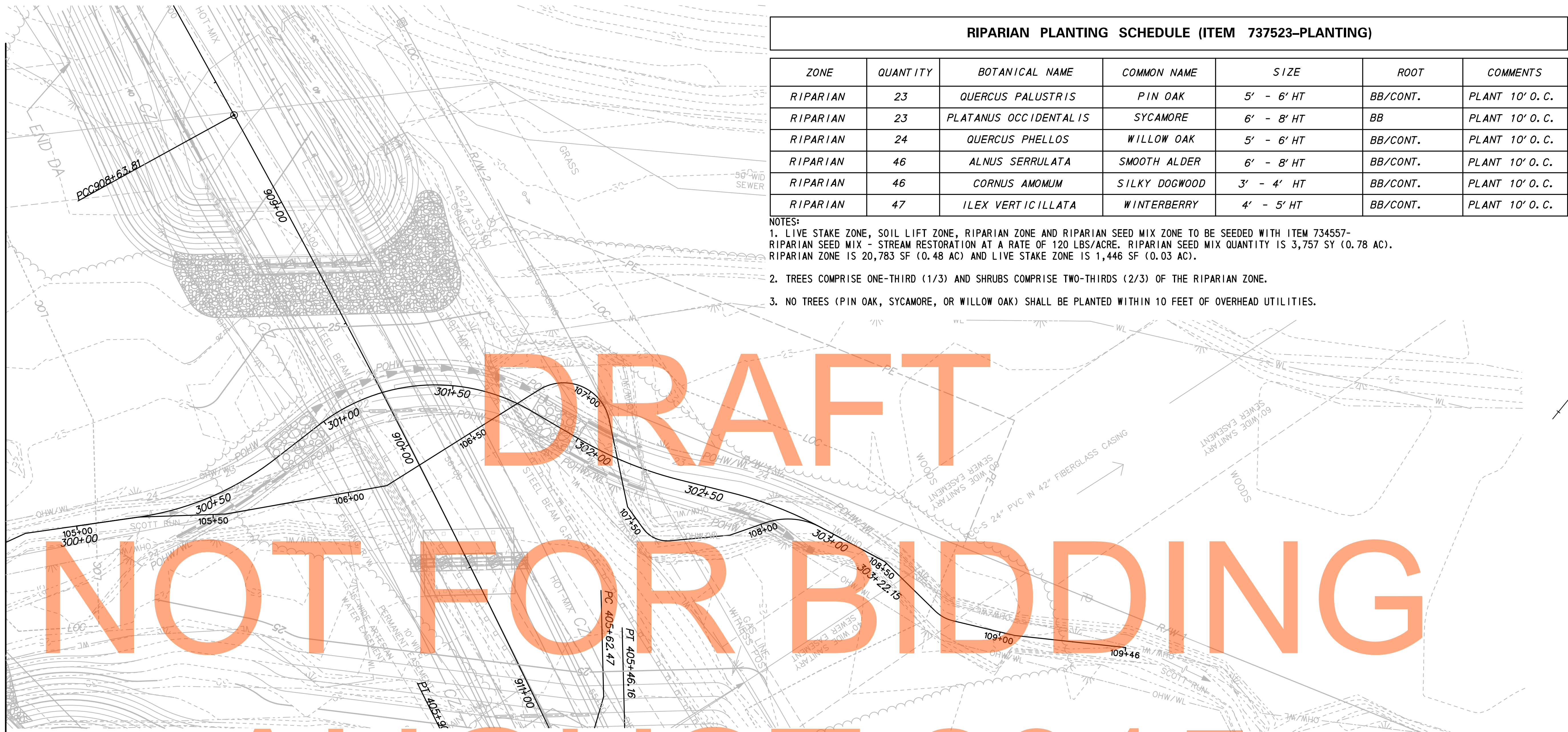
**US 301,
SR 896 TO SR 1**

CONTRACT T200911308	BRIDGE NO. BR1-460 N&S
COUNTY NEW CASTLE	DESIGNED BY: MRM
	CHECKED BY: DJG

**SCOTT RUN STREAM RESTORATION
LANDSCAPE PLAN**

SR-016
SHEET NO. 620
TOTAL SHTS. 875

MATCH LINE STA. 104+73 (SHEET SR-016)



RIPARIAN PLANTING SCHEDULE (ITEM 737523-PLANTING)

ZONE	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
RIPARIAN	23	QUERCUS PALUSTRIS	PIN OAK	5' - 6' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	23	PLATANUS OCCIDENTALIS	SYCAMORE	6' - 8' HT	BB	PLANT 10' O. C.
RIPARIAN	24	QUERCUS PHELLOS	WILLOW OAK	5' - 6' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	46	ALNUS SERRULATA	SMOOTH ALDER	6' - 8' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	46	CORNUS AMOMUM	SILKY DOGWOOD	3' - 4' HT	BB/CONT.	PLANT 10' O. C.
RIPARIAN	47	ILEX VERTICILLATA	WINTERBERRY	4' - 5' HT	BB/CONT.	PLANT 10' O. C.

NOTES:

- LIVE STAKE ZONE, SOIL LIFT ZONE, RIPARIAN ZONE AND RIPARIAN SEED MIX ZONE TO BE SEEDED WITH ITEM 734557- RIPARIAN SEED MIX - STREAM RESTORATION AT A RATE OF 120 LBS/ACRE. RIPARIAN SEED MIX QUANTITY IS 3,757 SY (0.78 AC). RIPARIAN ZONE IS 20,783 SF (0.48 AC) AND LIVE STAKE ZONE IS 1,446 SF (0.03 AC).
- TREES COMPRISE ONE-THIRD (1/3) AND SHRUBS COMPRISE TWO-THIRDS (2/3) OF THE RIPARIAN ZONE.
- NO TREES (PIN OAK, SYCAMORE, OR WILLOW OAK) SHALL BE PLANTED WITHIN 10 FEET OF OVERHEAD UTILITIES.

DRAFT
NOT FOR BIDDING

LIVE STAKE SCHEDULE (ITEM 737525-LIVE STEM STAKING)

ZONE	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
LIVE STAKE	401	CORNUS AMOMUM	SILKY DOGWOOD	2.5' MIN. LENGTH	LIVE STAKE	PLANT 18" O. C.
LIVE STAKE	242	SALIX NIGRA	BLACK WILLOW	2.5' MIN. LENGTH	LIVE STAKE	PLANT 18" O. C.

LIVE BRANCH CUTTINGS (ITEM 908509-FABRIC ENCAPSULATED SOIL LIFT)

ZONE	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
SOIL LIFT	962	CORNUS AMOMUM	SILKY DOGWOOD	4' MIN. LENGTH	LIVE CUTTING	SEE DETAIL
SOIL LIFT	963	SALIX NIGRA	BLACK WILLOW	4' MIN. LENGTH	LIVE CUTTING	SEE DETAIL

NOTES:

1. SOIL LIFT QUANTITIES ARE THE ESTIMATED NUMBER OF LIVE CUTTINGS BASED ON TEN (10) LIVE BRANCH CUTTINGS PER LINEAR FOOT OF SOIL LIFT. ONE (1) ROW OF LIVE BRANCH CUTTINGS WAS ASSUMED FROM STA. 300+35, RT TO STA. 300+77.50, RT; TWO ROWS OF LIVE BRANCH CUTTINGS FROM STA. 302+00, LT TO 302+23, LT; TWO ROWS OF LIVE BRANCH CUTTINGS WAS ASSUMED FROM STA. 302+00, RT TO 302+29, RT; AND TWO ROWS OF LIVE BRANCH CUTTINGS WAS ASSUMED FROM STA. 302+60, RT TO 302+83, RT. SOIL LIFT ZONE IS 364 SF (0.01 AC).

2. PLANT ONLY SILKY DOGWOOD (CORNUS AMOMUM) WHERE THE LIVE STAKE ZONE IS WITHIN THE CLEAR ZONE AND UNDERNEATH THE BRIDGE.

LEGEND

- LIVE STAKE ZONE
- SOIL LIFT ZONE
- RIPARIAN ZONE
- RIPARIAN SEED MIX ZONE