

0' 100' 200'

0 1/2" 1"

SCALE 1" = 200'

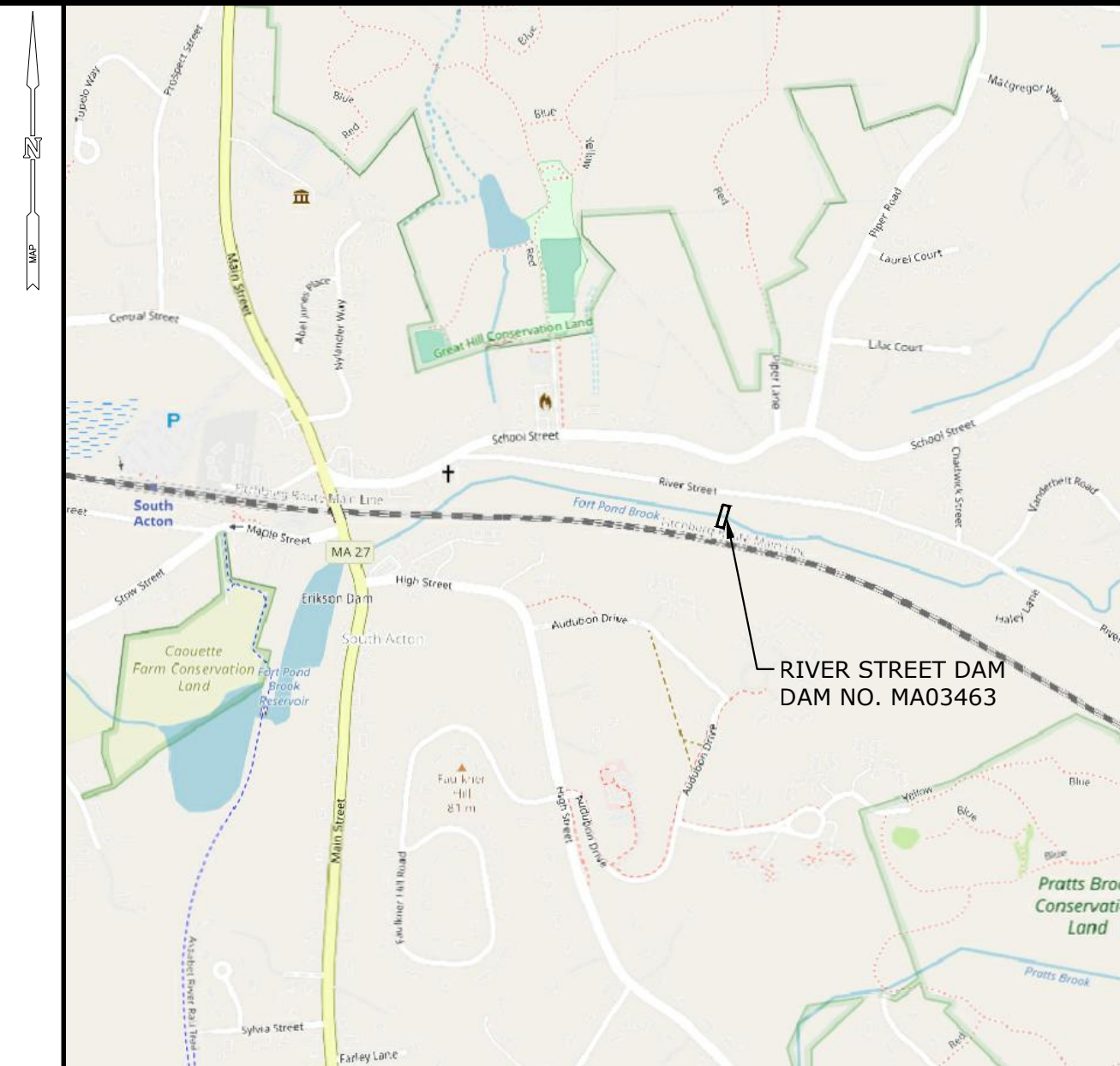


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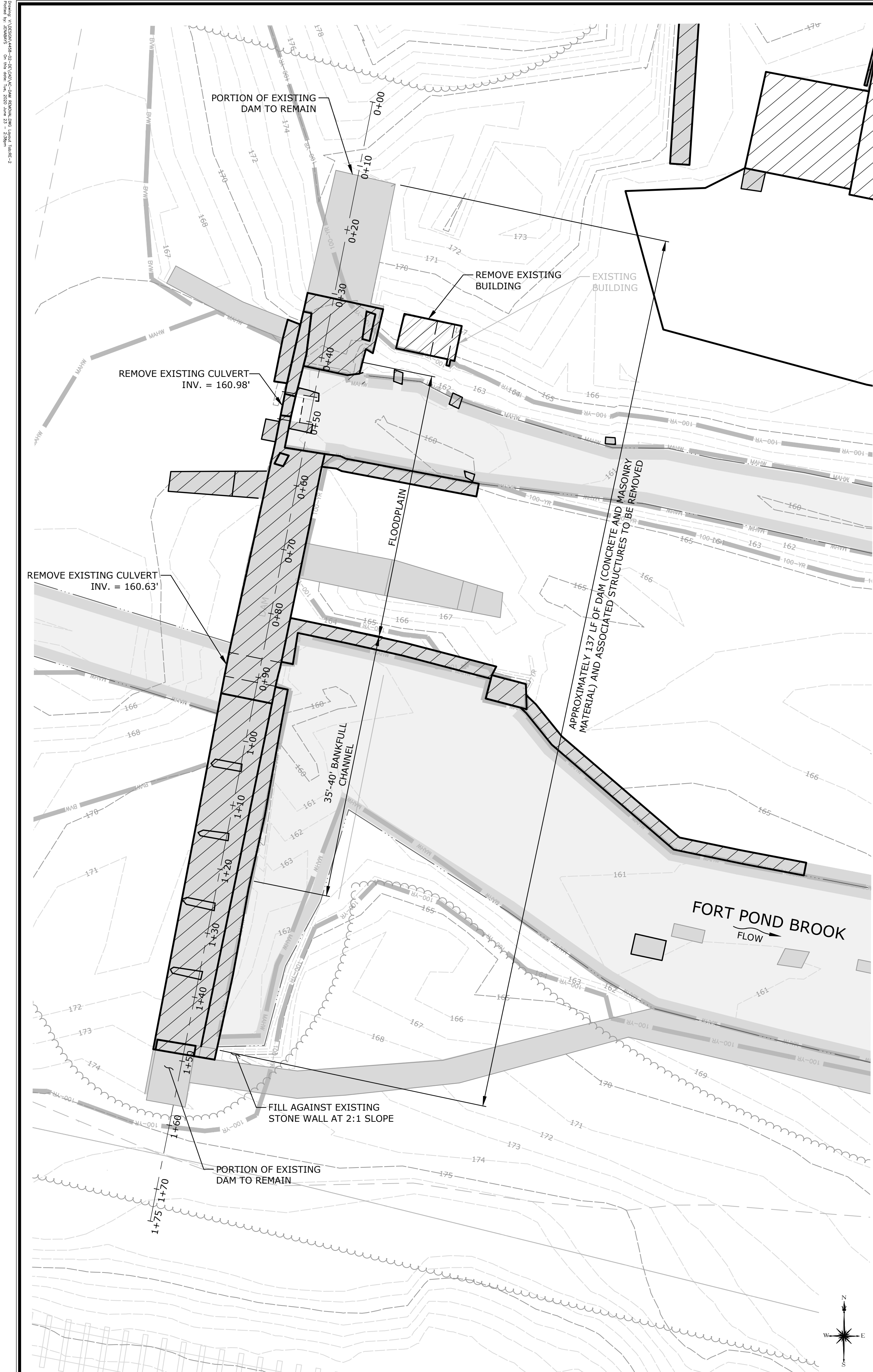
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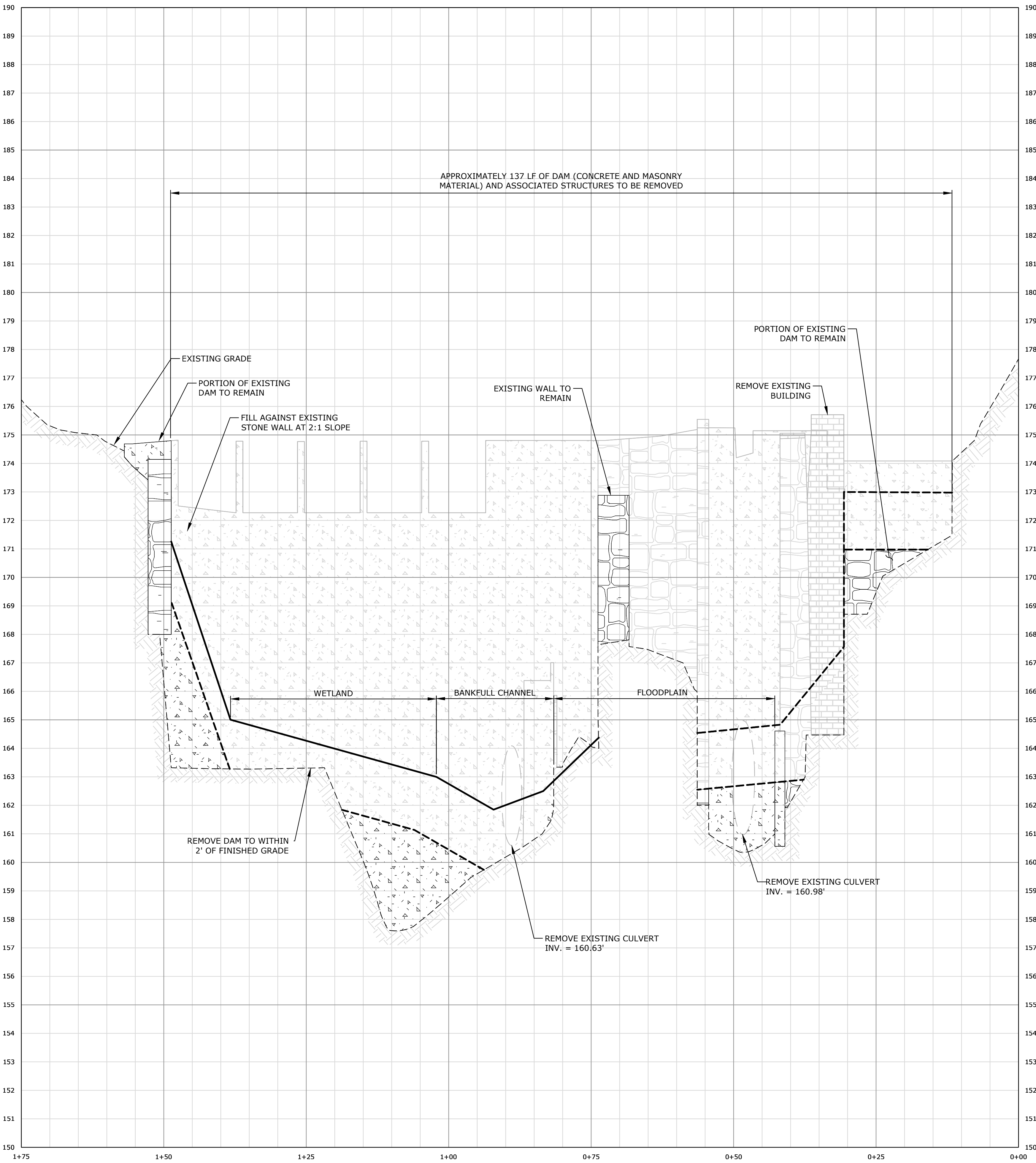
Profile view showing elevations: 0', 400', 800'. Horizontal scale: 0, 1/2", 1". Vertical scale: 0, 1/2", 1". SCALE 1" = 800'.

THE TOWN OF ACTON, MASSACHUSETTS
LAND USE DEPARTMENT
472 MAIN STREET
ACTON, MA 01720

NO.	NAME	TITLE
01	--	TITLE SHEET
02	IN	INDEX
03	EX-1	EXISTING CONDITIONS OF DAM NO. MA03463
04	REM-1	DAM REMOVAL
05	REM-2	DAM REMOVAL - RIVER STREET DAM ELEVATION
06	REM-3	DAM REMOVAL - RIVER PROFILE
07	SP-1	SITE PLAN - LAYOUT AND GRADING
08	SP-2	SITE PLAN - PLANTING AND RESTORATION
09	SP-3	SITE PLAN - RAILROAD BRIDGE SCOUR PROTECTION
10	PR-1	PROFILE - FORT POND BROOK RESTORATION
11-13	CS-1 - CS-3	CROSS SECTIONS - FORT POND BROOK RESTORATION
14-15	CP-1-CP-2	CONSTRUCTION PLAN - ACCESS AND PHASING
16-18	DE-1 - DE-3	DETAILS



EXISTING RIVER STREET DAM - DAM NO. MA03463
SCALE: 1"=10'



EXISTING RIVER STREET DAM - ELEVATION - FACING UPSTREAM
SCALE: 1"=10' H, 1"=2' V



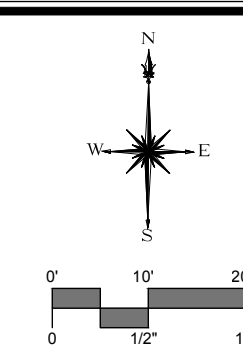
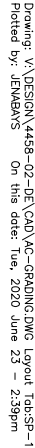
DESCRIPTION	DATE	BY

REMOVALS - RIVER STREET DAM ELEVATION
RIVER STREET DAM REMOVAL
(DAM NO. MA03463)
53 RIVER STREET, AT FORT POND BROOK
TOWN OF ACTON, MASSACHUSETTS

JCM DESIGNED	FRM DRAWN	JCM CHECKED
AS NOTED		
MAY 18, 2020		
DATE		
4458-02		
PROJECT NO.		
05 OF 18		
SHEET NO.		
RE-2		
SHEET NAME		

Drawing: V:\DESIGN\4488-02-02\CAD\AC-02.dwg Date Layout: 10/25/2020
 Plotted by: JDEWANS On this date: Tue, 23 Jun 2020 2:39pm

- Drawing: V:\DESIGN\4488-02-02\CAD\AC-02.dwg Date Layout: 10/25/2020
 Plotted by: JDEWANS On this date: Tue, 23 Jun 2020 2:39pm



LEGEND

-
- Diagram illustrating various contour lines and their corresponding labels:
- EXISTING EDGE OF WATER
 - APPROXIMATE EXISTING TREELINE
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - PROPOSED MAJOR CONTOUR
 - PROPOSED MINOR CONTOUR
 - 100-YR FLOODPLAIN
 - PROPOSED TREELINE

-
- Diagram illustrating four cross-sections of erosion control measures:
- 1 SEED MIX (MEADOW GRASS)**: Shows a cross-section of soil with small grass plants growing from the surface.
 - 2 PROPOSED WETLAND**: Shows a cross-section of soil with larger, more developed plants and a water table line indicated below the surface.
 - 3 BOULDER REVETMENT**: Shows a cross-section of soil with large boulders placed along the edge of the bank.
 - 4 RIPRAP**: Shows a cross-section of soil with smaller, more uniform stones or riprap placed along the edge of the bank.

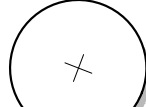
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- COIR LOG WITH WILLOW STAKES
- 
- RANDOM BOULDER CLUSTER
- 
- CHANNEL ROUGHNESS

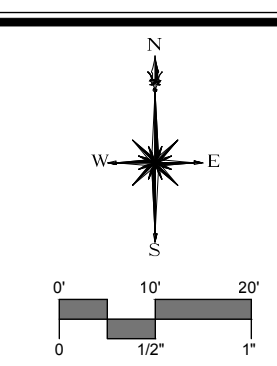
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- ROOTWAD AND LOG WITH BOULDERS
- PROPOSED CHANNEL RELOCATION
- LOW FLOW CHANNEL
- BANKFULL CHANNEL

- ### PROPOSED RIFFLE FEATURE

- POOL

PLANT RESTORATION LIST

TREES	QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
	8	AS	Acer saccharum 'Green Mountain'	Sugar Maple	2-1/2' CAL. MIN.	B & B, FULL & DENSE
	18	BA	Betula alleghaniensis	Yellow Birch	2-1/2' CAL. MIN. 10' HT.	B & B, SINGLE STEM
	7	WF	Abies concolor	White Fir	7'-8' HT. MIN.	B & B, FULL & DENSE
	6	PP	Picea pungens	Colorado Blue Spruce	7'-8' HT. MIN.	B & B, FULL & DENSE
	7	CA	Cornus alternifolia	Pagoda Dogwood	2' CAL. MIN.	B & B, FULL & DENSE
	12	CF	Cornus florida	White Flowering Dogwood	2' CAL. MIN.	B & B, SINGLE STEM
	9	BN	Betula nigra	River Birch	10'-12' HT. MIN.	B & B MULTI-STEM
	10	AC	Amelanchier canadensis	Shadblow	8' HT. MIN.	B & B, MULTI-STEM
	6	HV	Hamamelis virginiana	Witch Hazel	7'-8' HT. MIN.	B & B, FULL & DENSE
	6	JV	Juniperus virginiana	Eastern Red Cedar	7'-8' HT. MIN.	B & B, FULL & DENSE
SHRUBS	QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
	9	IVF	Ilex verticillata 'Winter Red'	Winter Red Winterberry (female)	30-36" HT. MIN.	FULL & DENSE
	3	IVM	Ilex verticillata 'Southern Gentleman'	Southern Gentlemen Winterberry (male)	30-36" HT. MIN.	FULL & DENSE
	12	VD	Arrowwood dentatum	Arrowwood Viburnum	24-36" HT. MIN.	FULL & DENSE
	17	VC	Vaccinium angustifolium	Highbush Blueberry	30-36" HT. MIN.	FULL & DENSE
	18	VCL	Vaccinium corymbosum	Lowbush Blueberry	18-24" SPREAD	FULL & DENSE
	1	LB	Lindera benzoin	Spicebush	30-36" HT. MIN.	FULL & DENSE



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SITE PLAN - PLANTING AND RESTORATION

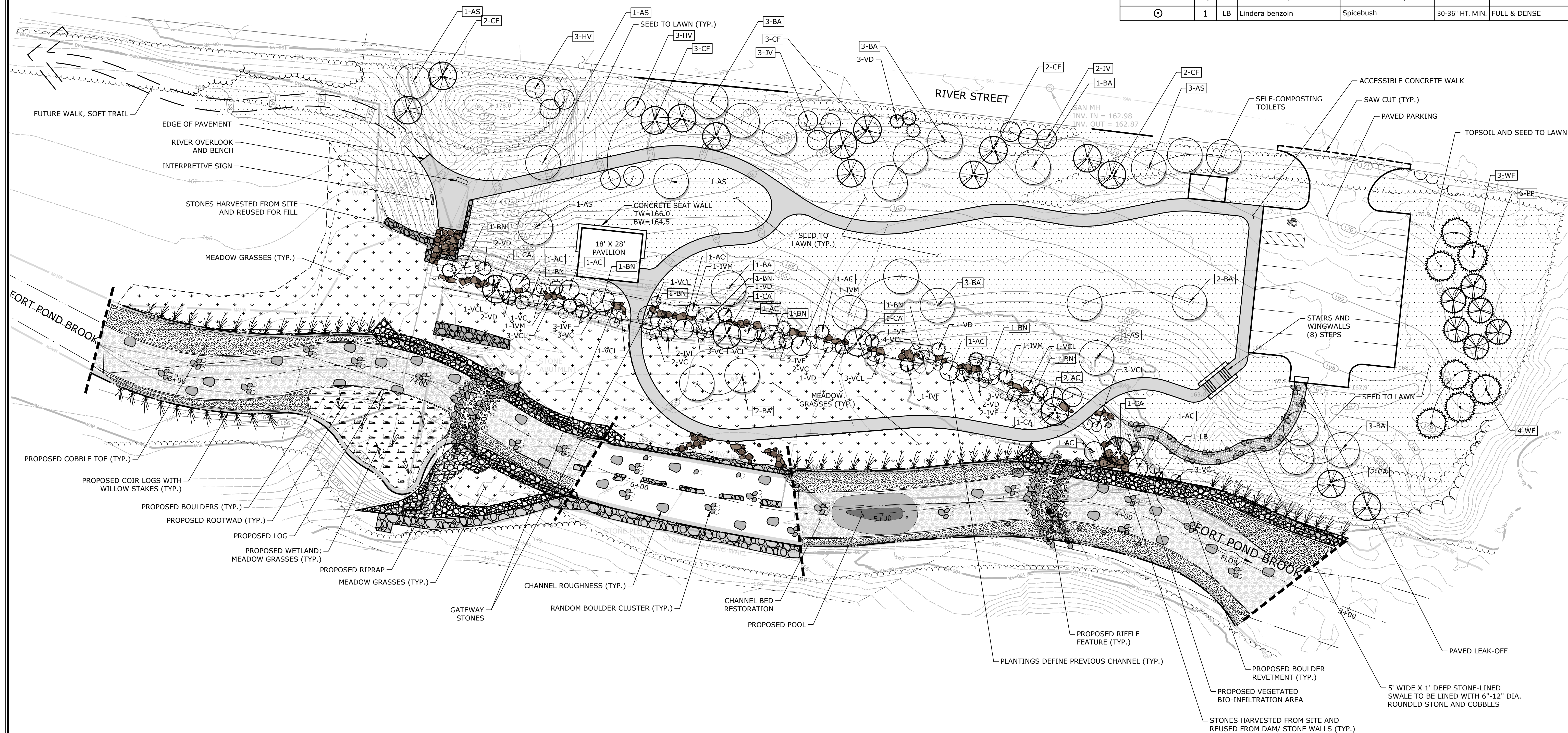
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(DAM NO. MA03463)**

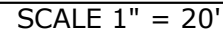
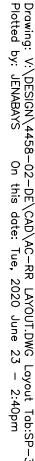
53 RIVER STREET, AT FORT POND BROOK
TOWN OF ACTON. MASSACHUSETTS

TS	GB	JCM
DESIGNED	DRAWN	CHECKED
1"=20'		
SCALE		
MAY 18, 2020		
DATE		
4458-02		
PROJECT NO.		
08 OF 18		

SP-2

SHEET NAME





STONE PLACEMENT NOTES:

1. STONE IS TO BE MIXED WITH SAND AND COBBLES FROM EXISTING RIVERBED TO FILL VOIDS.
2. EXCAVATE TO 5' DEPTH AND PLACE ONE LAYER OF STONE. FILL VOIDS BETWEEN INDIVIDUAL STONES BY HAND WITH NATIVE BED MATERIAL BEFORE PLACING ANOTHER LAYER OF STONE.
3. FOOTING DEPTH IS UNKNOWN. ALL EXCAVATION OPERATIONS SHALL BE PERFORMED CAREFULLY AS TO NOT DAMAGE ANY UNKNOWN FOOTINGS OR STRUCTURES THAT MAY BE ENCOUNTERED.

[illegible]

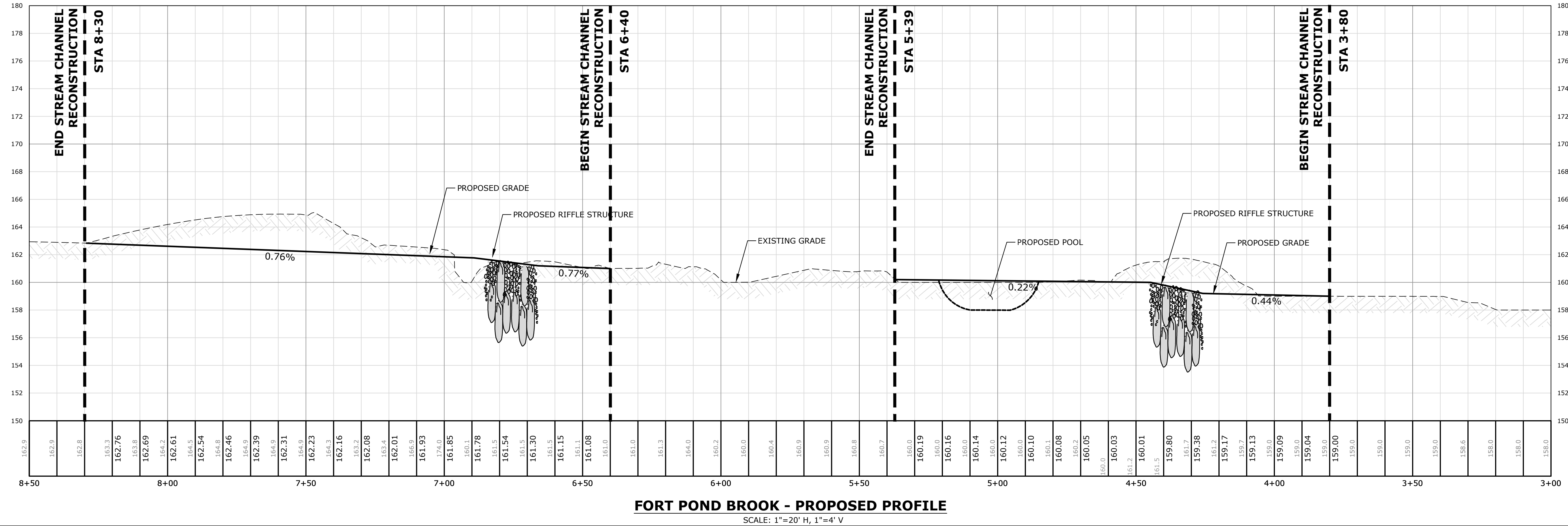
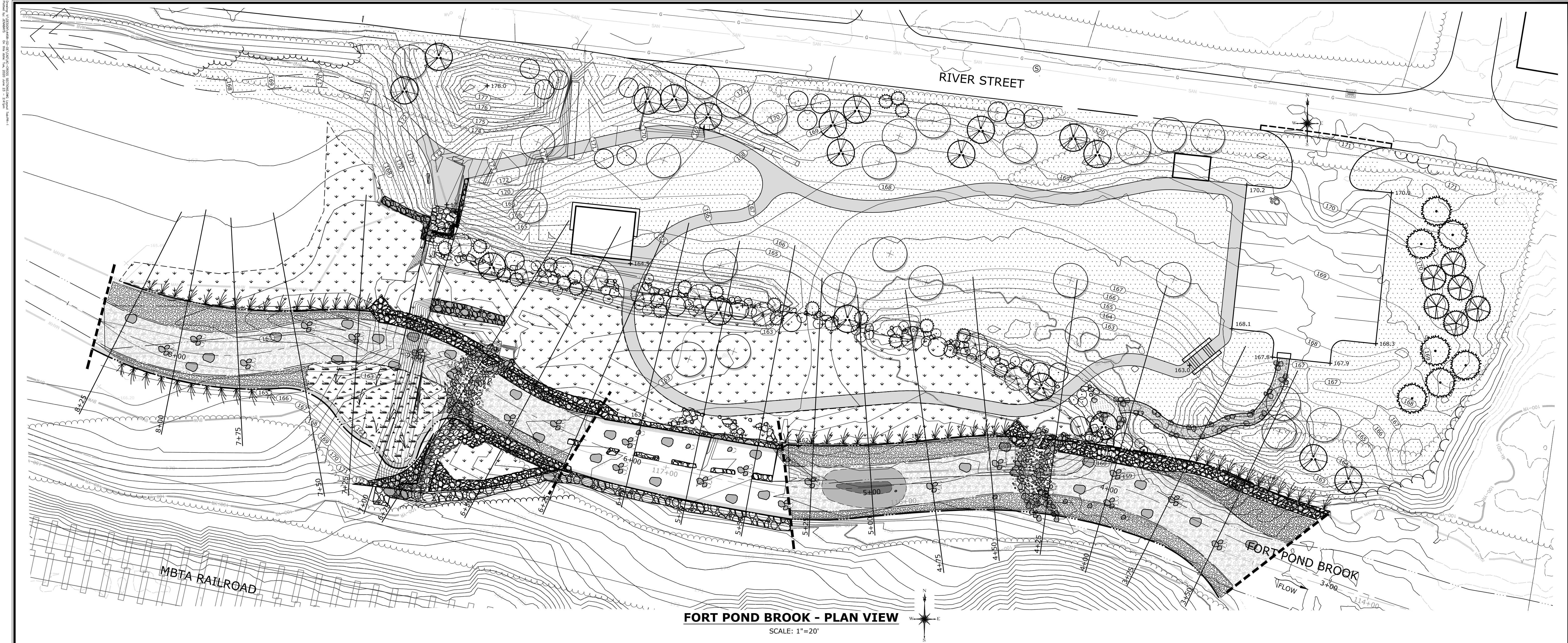
SITE PLAN - RAILROAD BRIDGE SCOUR PROTECTION

**RIVER STREET DAM REMOVAL
(DAM NO. MA03463)**

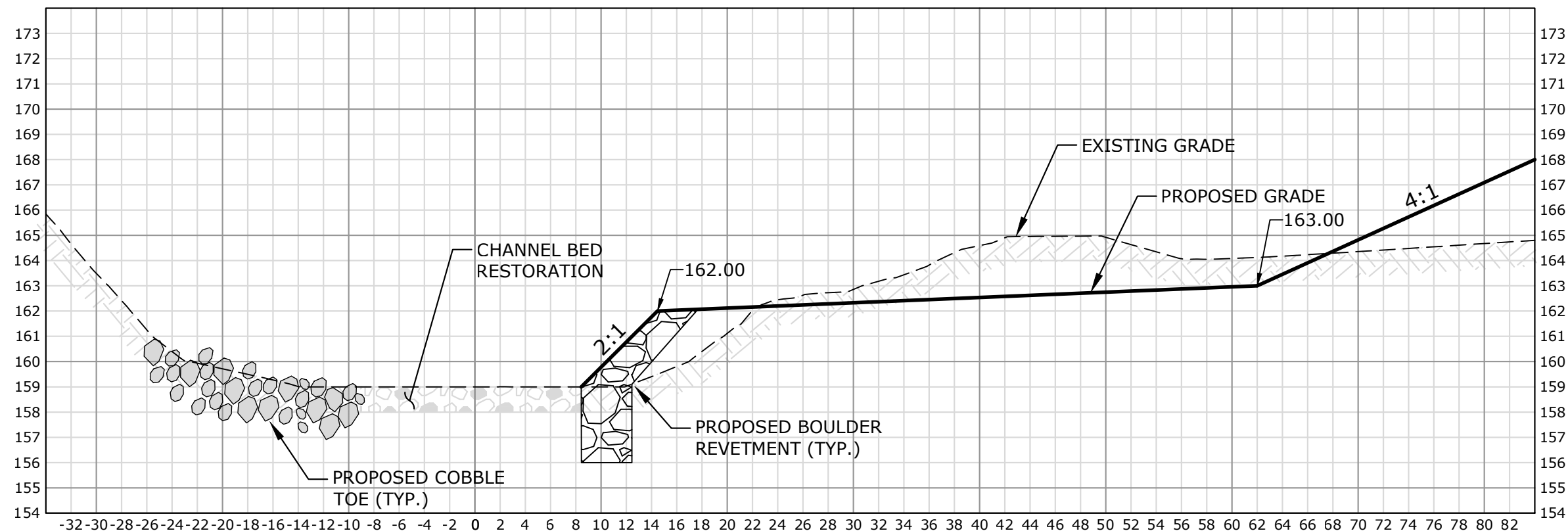
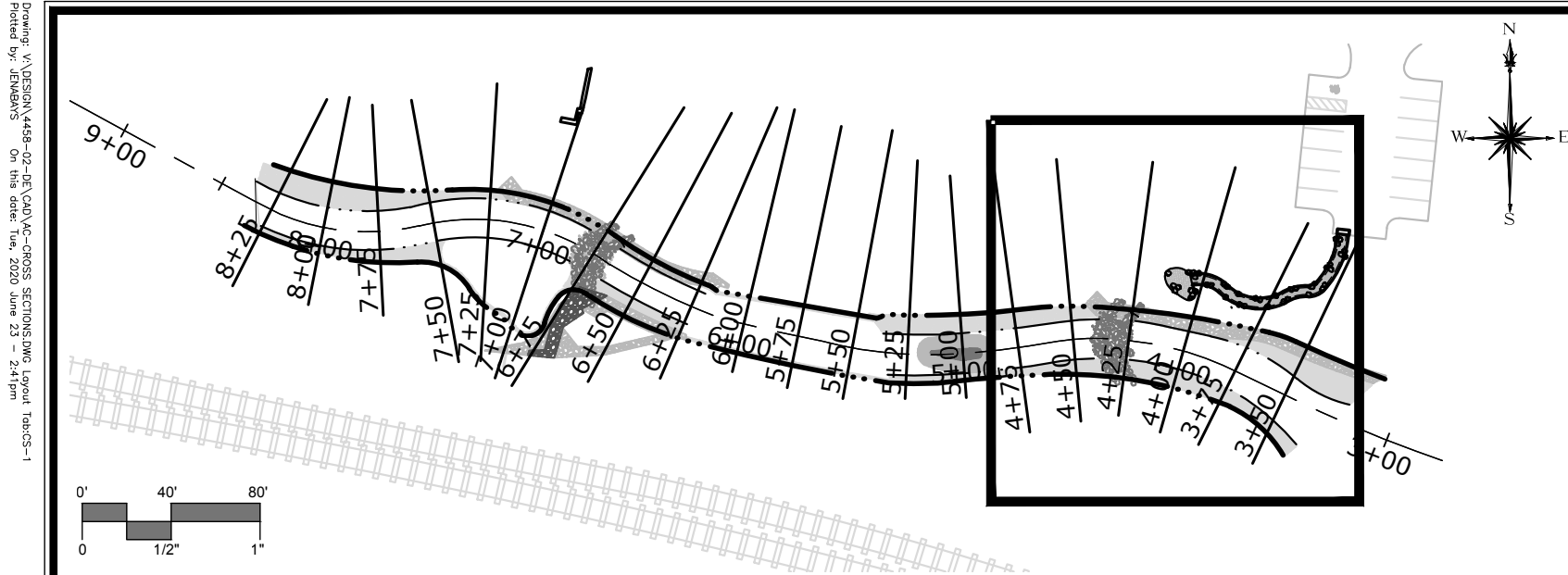
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DATE		
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PROJECT NO.		
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SP-3

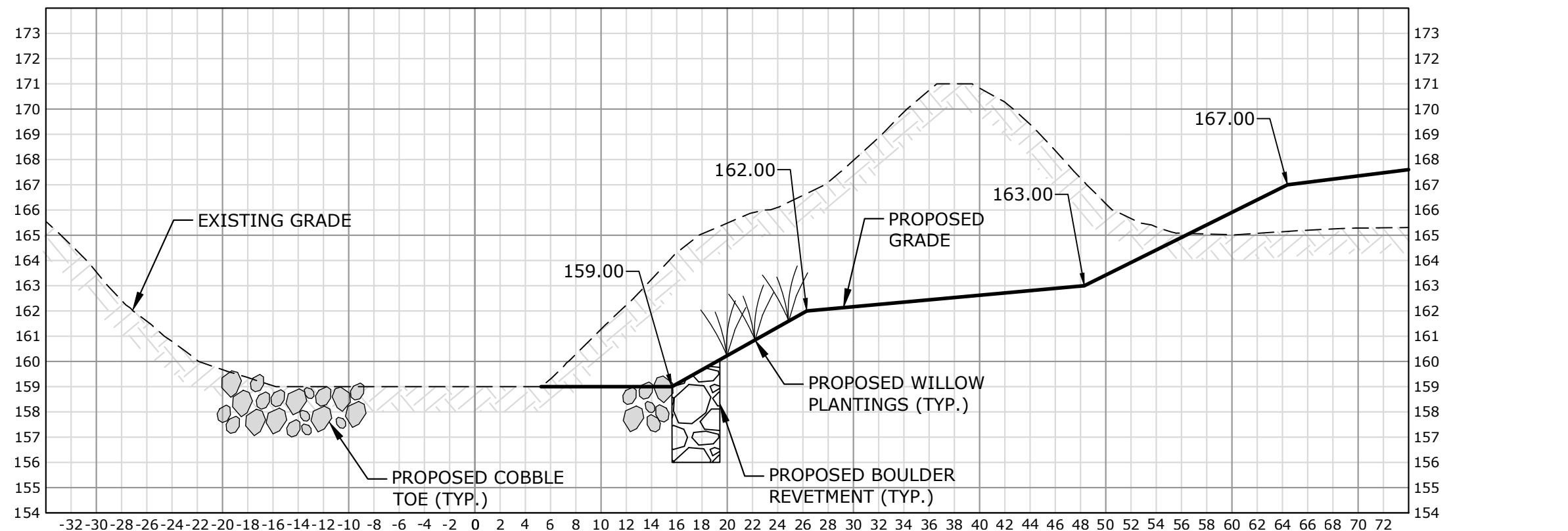
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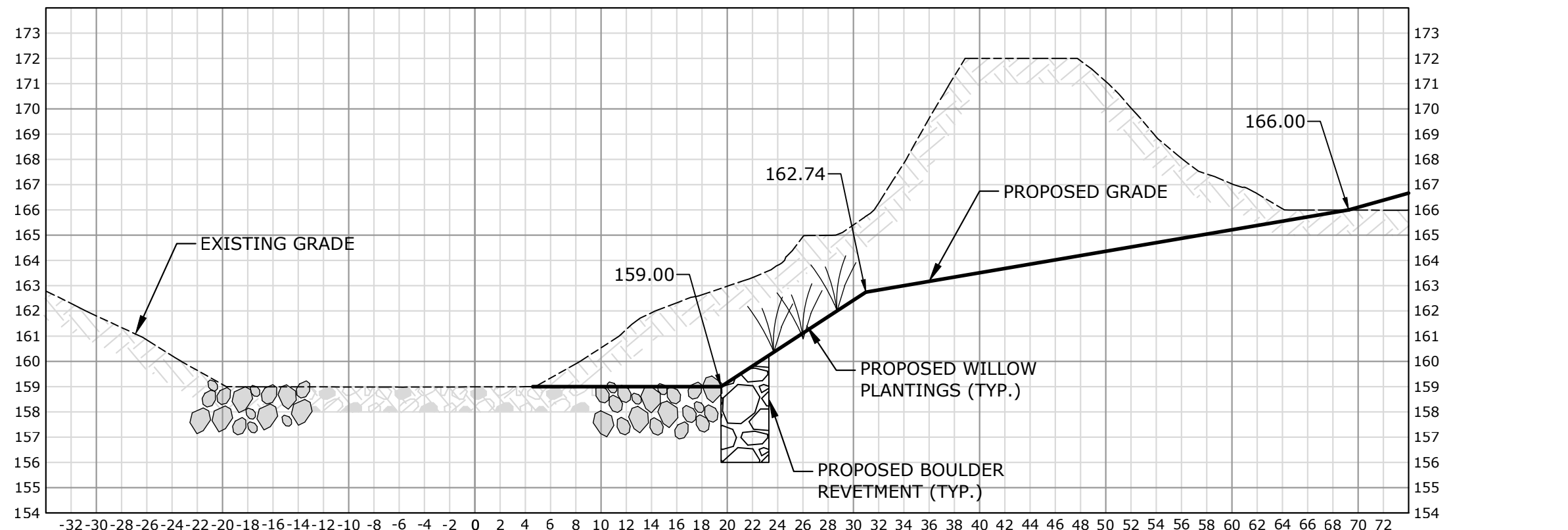
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DESCRIPTION	DATE	BY
60% PRELIMINARY DESIGN		
PROFILE - FORT POND BROOK RESTORATION RIVER STREET DAM REMOVAL (DAM NO. MA03463) 53 RIVER STREET, AT FORT POND BROOK TOWN OF ACTON, MASSACHUSETTS		
JCM DESIGNED	FRM DRAWN	JCM CHECKED
AS NOTED		
MAY 18, 2020		
PROJECT NO. 4458-02		
SHEET NO. 10 OF 18		
PR-1		



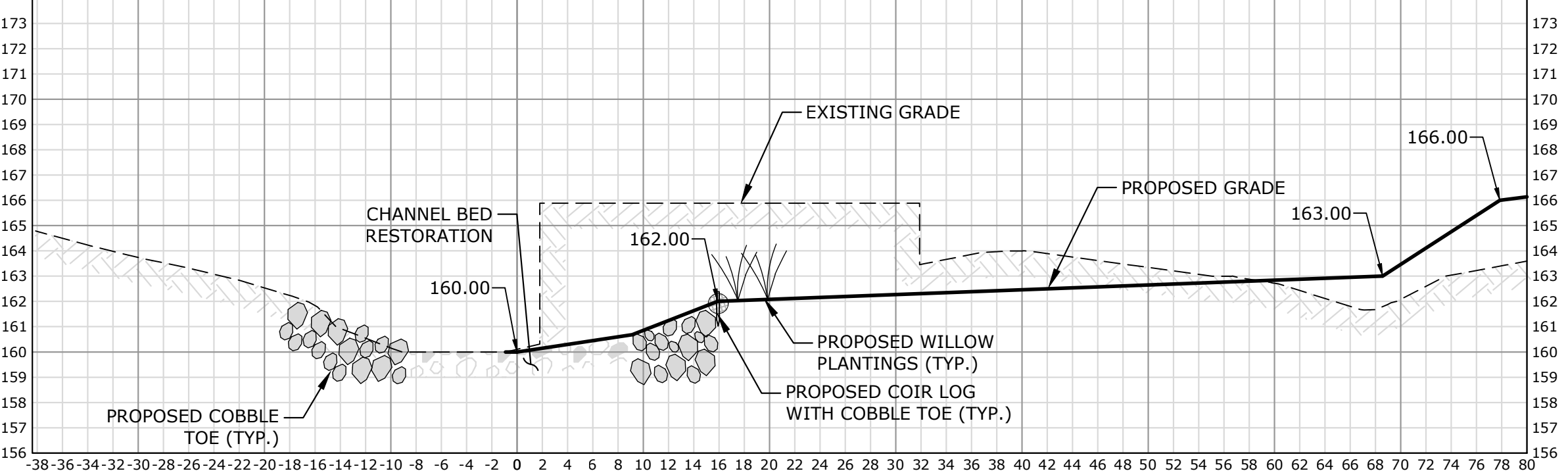
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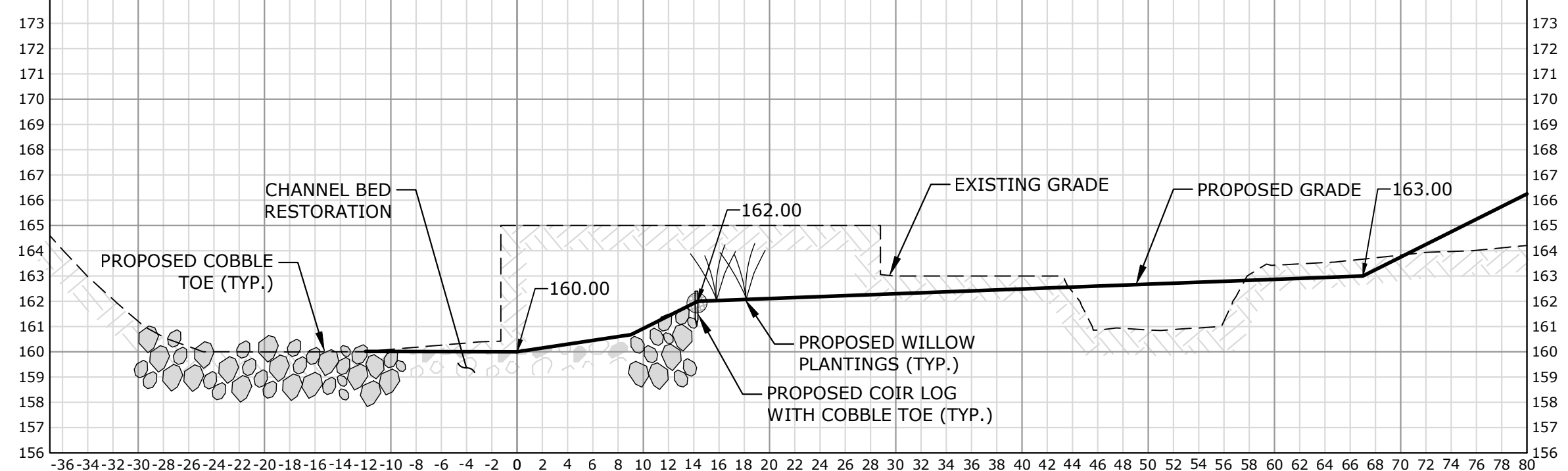
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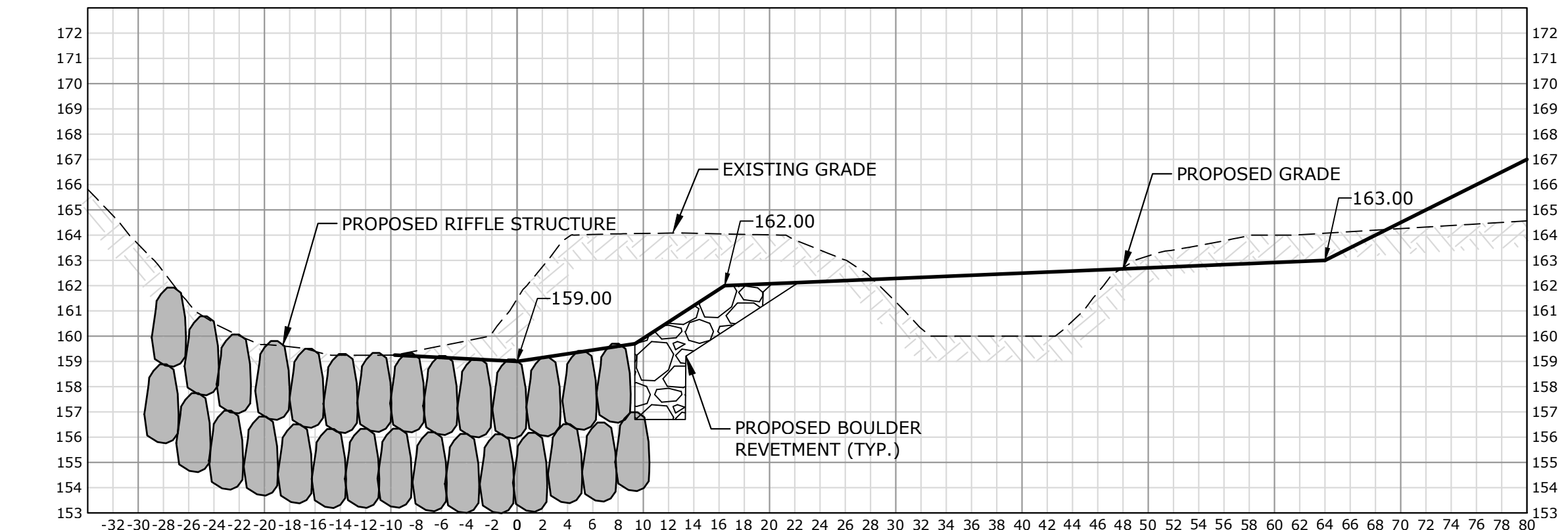
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4+50



4+25

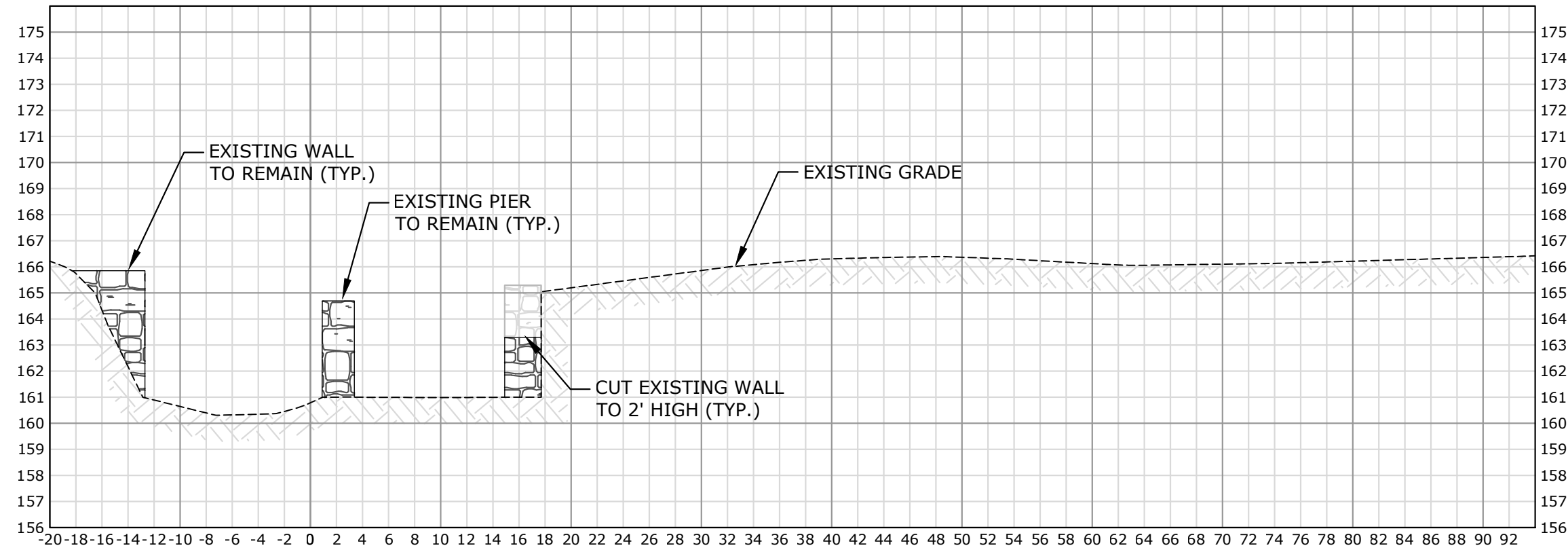
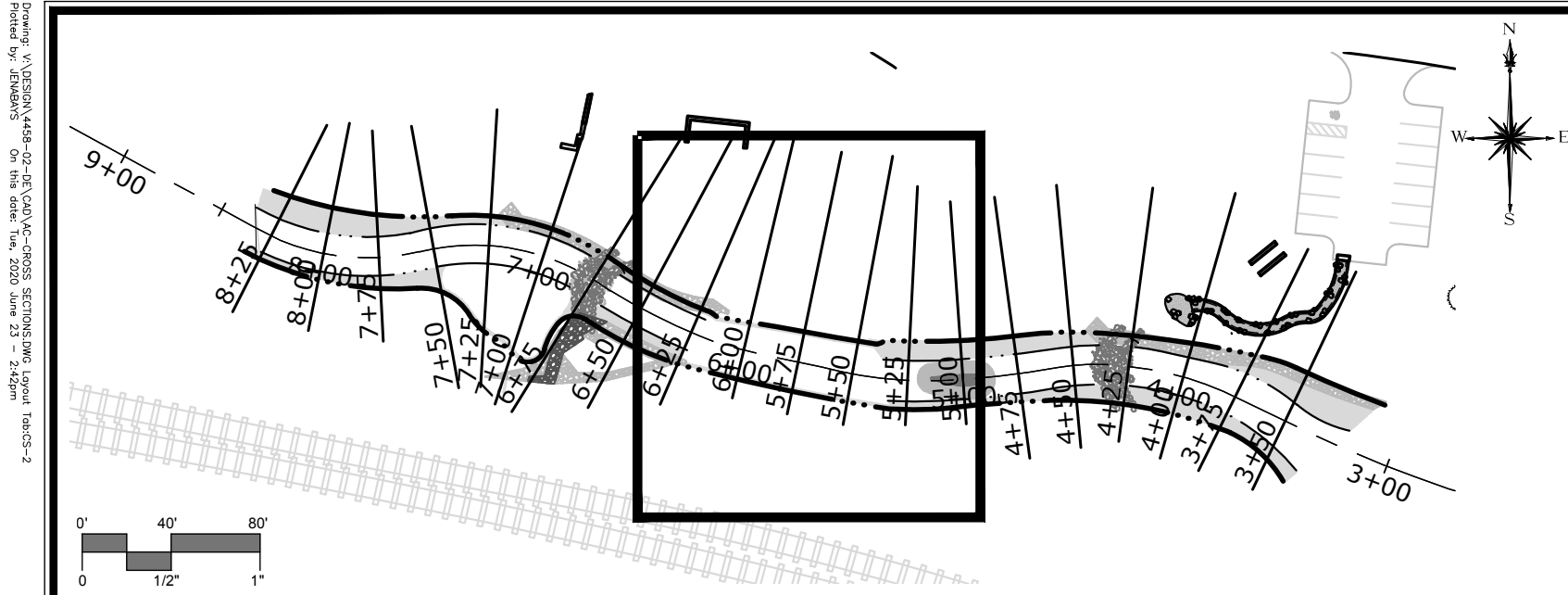
FORT POND BROOK - CROSS SECTIONS
(LOOKING UPSTREAM)
SCALE: 1"=10' H, 1"=5' V

DESCRIPTION	DATE	BY

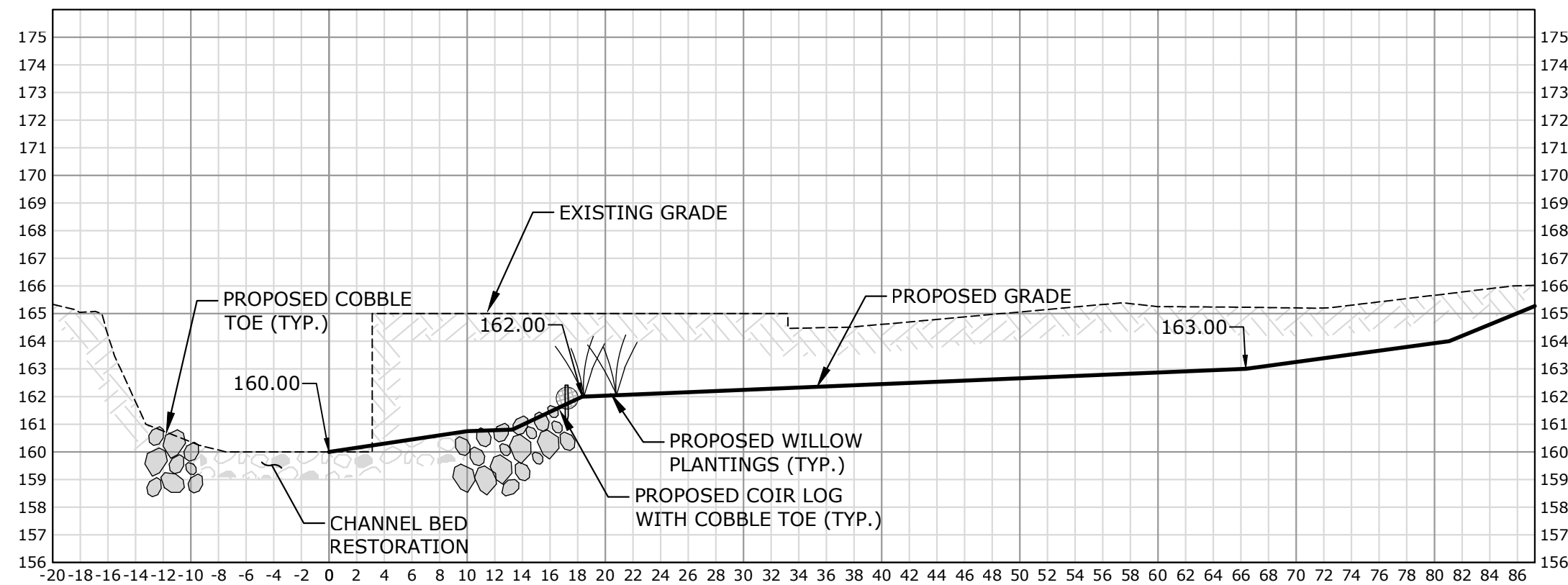
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RIVER STREET DAM REMOVAL
(DAM NO. MA03463)
53 RIVER STREET, AT FORT POND BROOK
TOWN OF ACTON, MASSACHUSETTS

FRM DESIGNED	FRM DRAWN	JCM CHECKED
AS NOTED		
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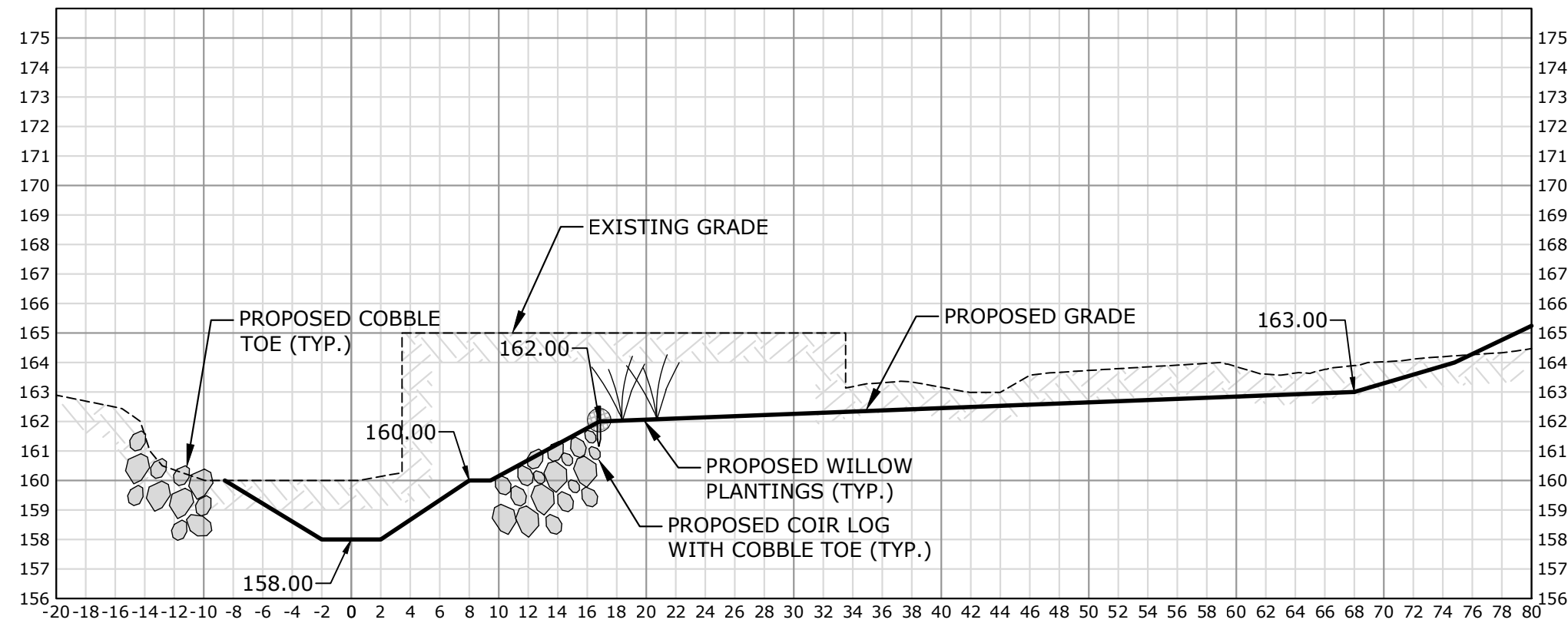
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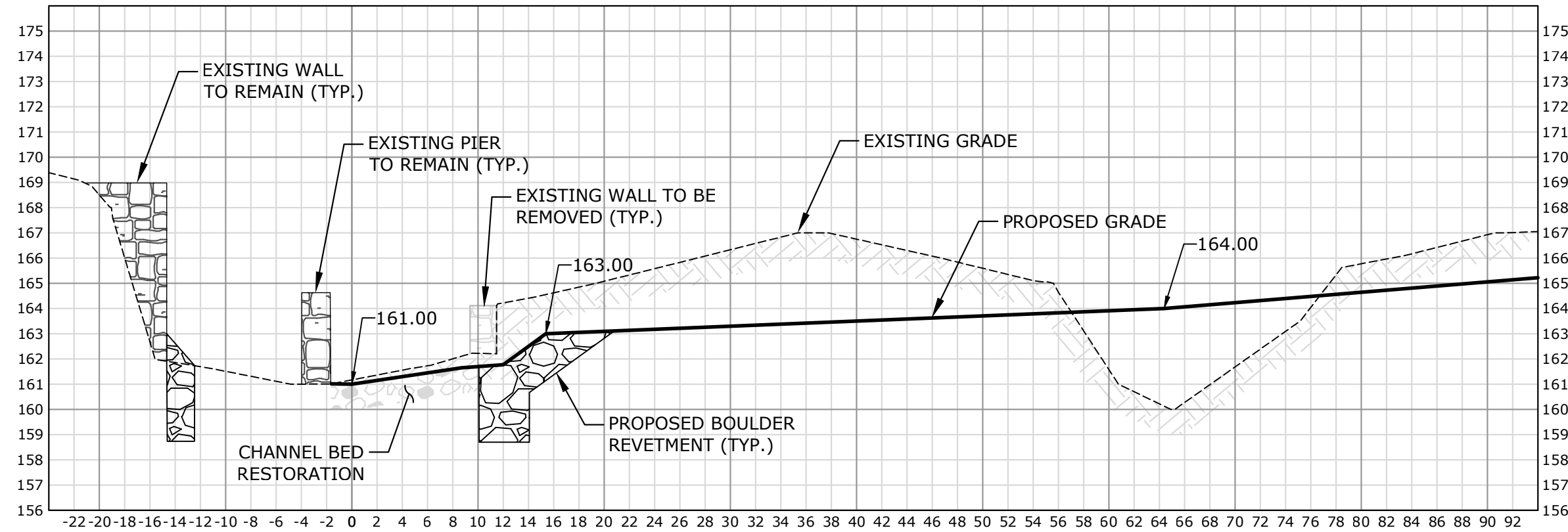
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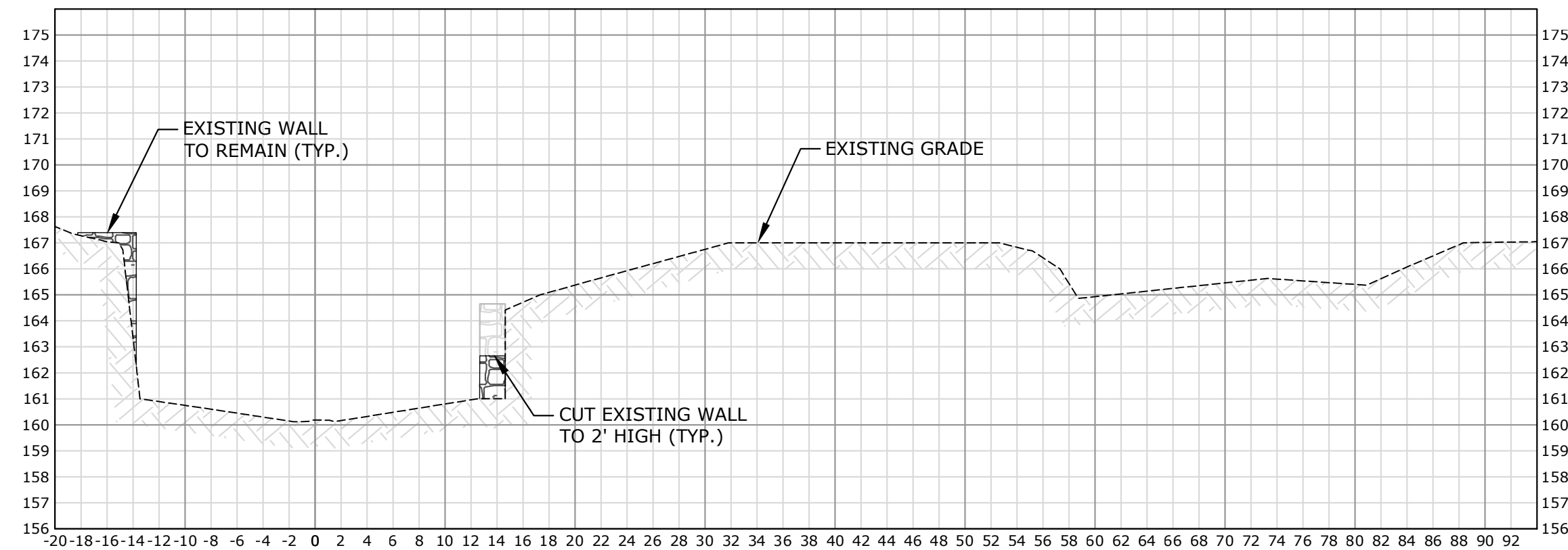
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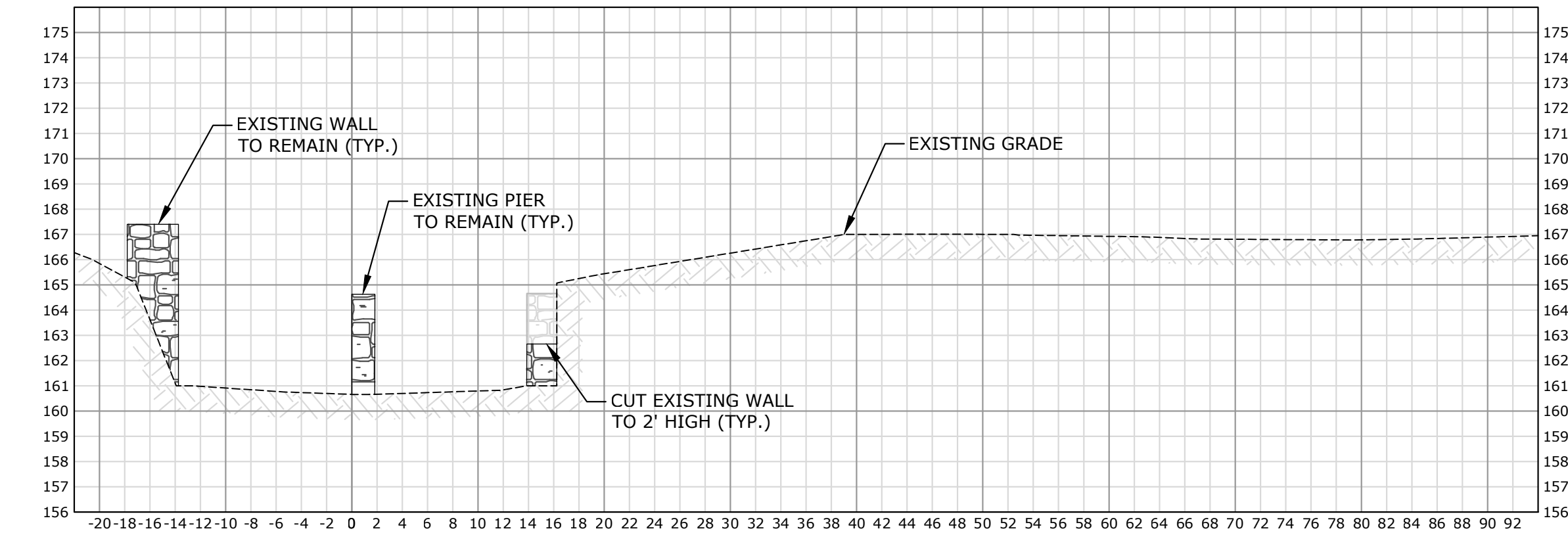
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6+25



6+00

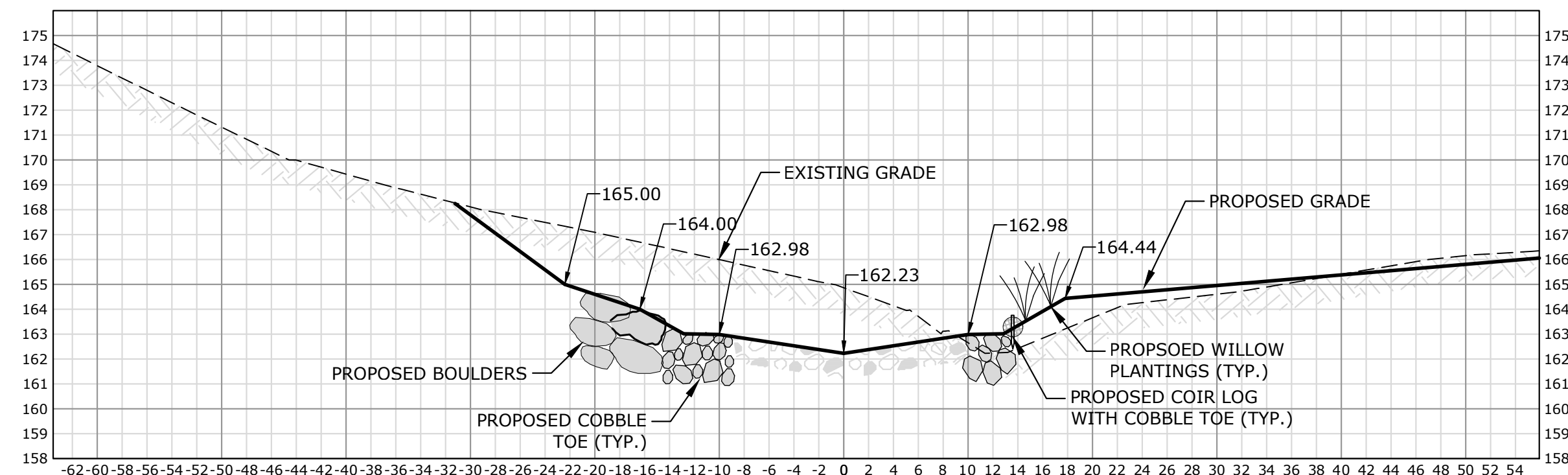
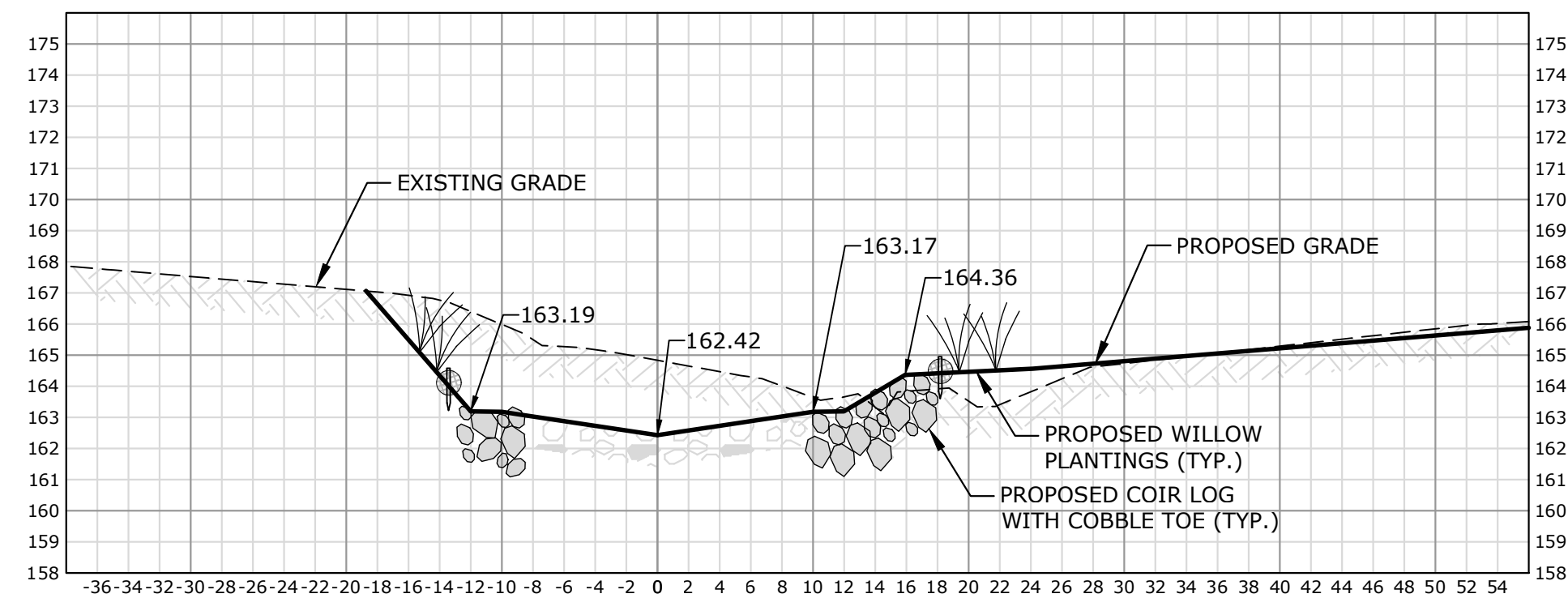
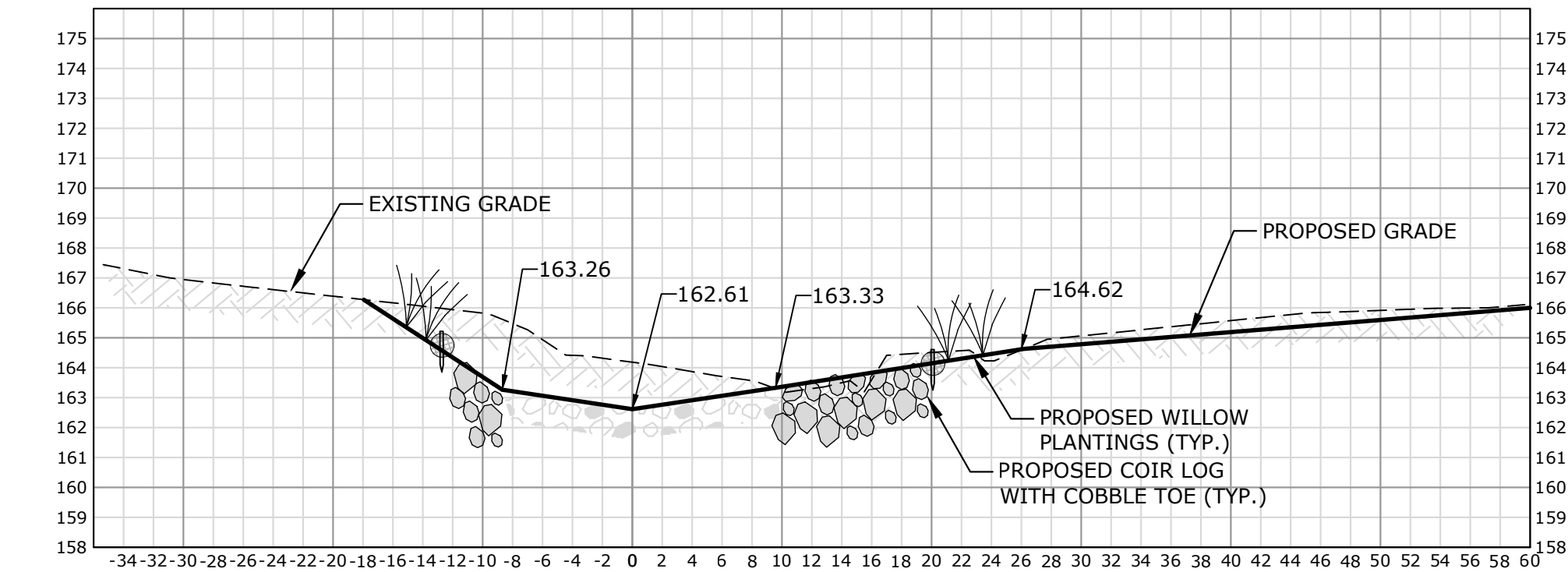
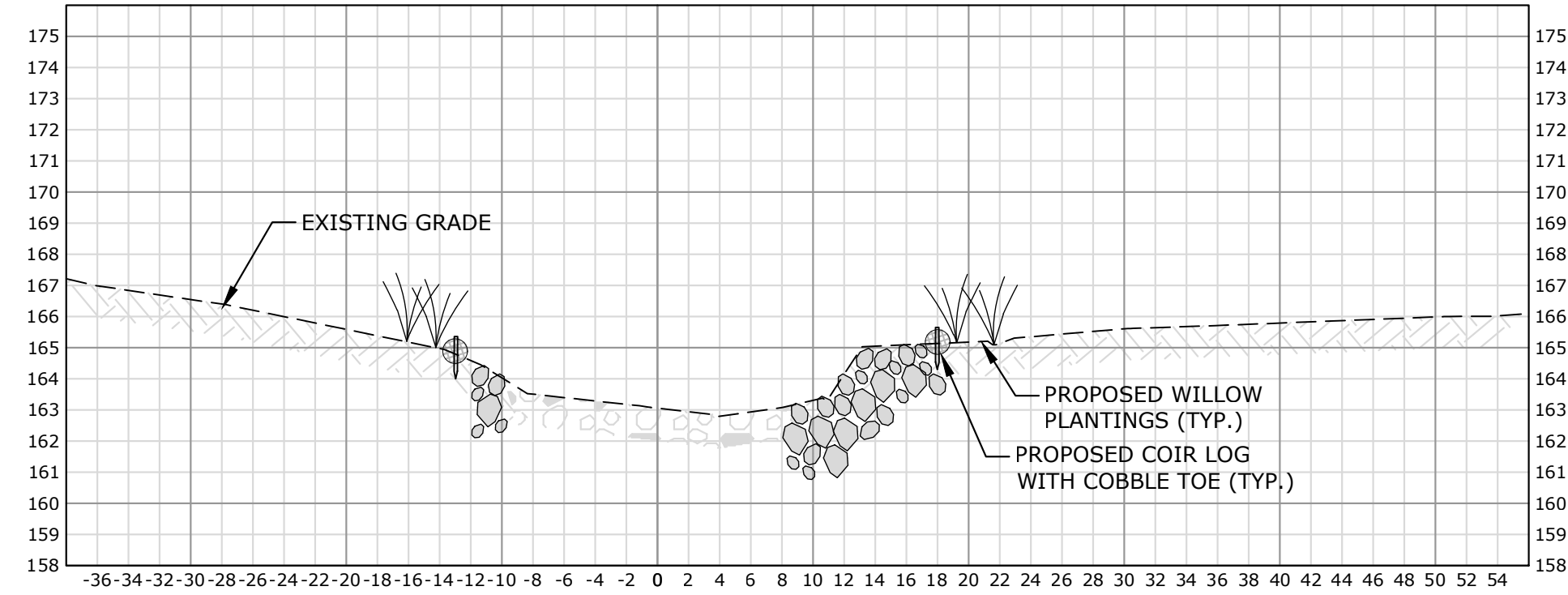
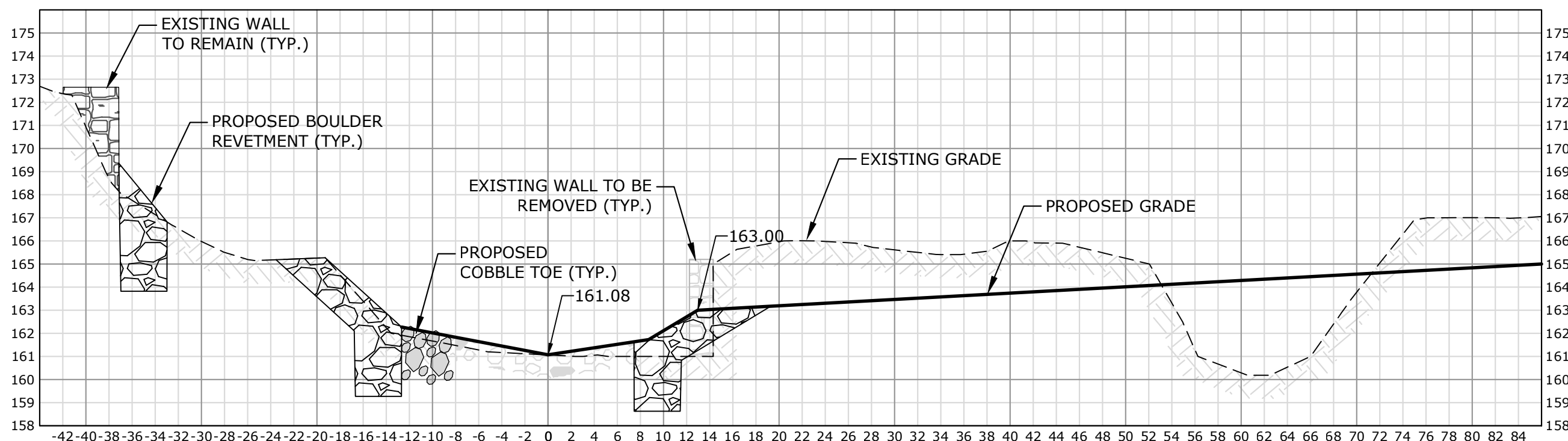
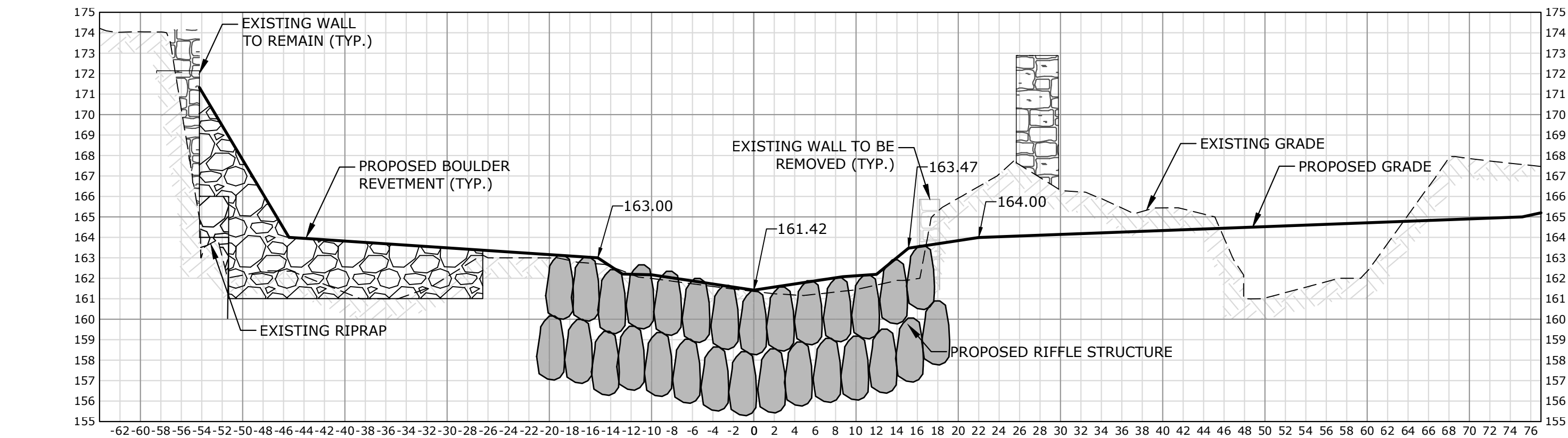
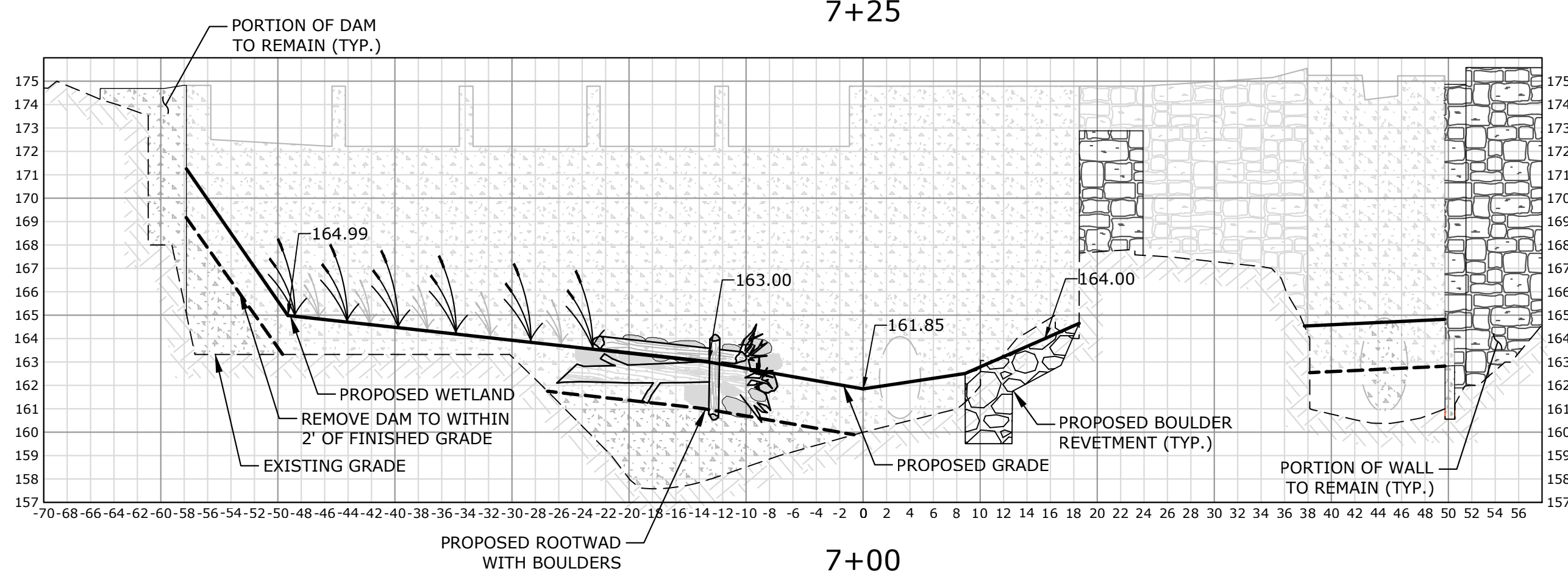
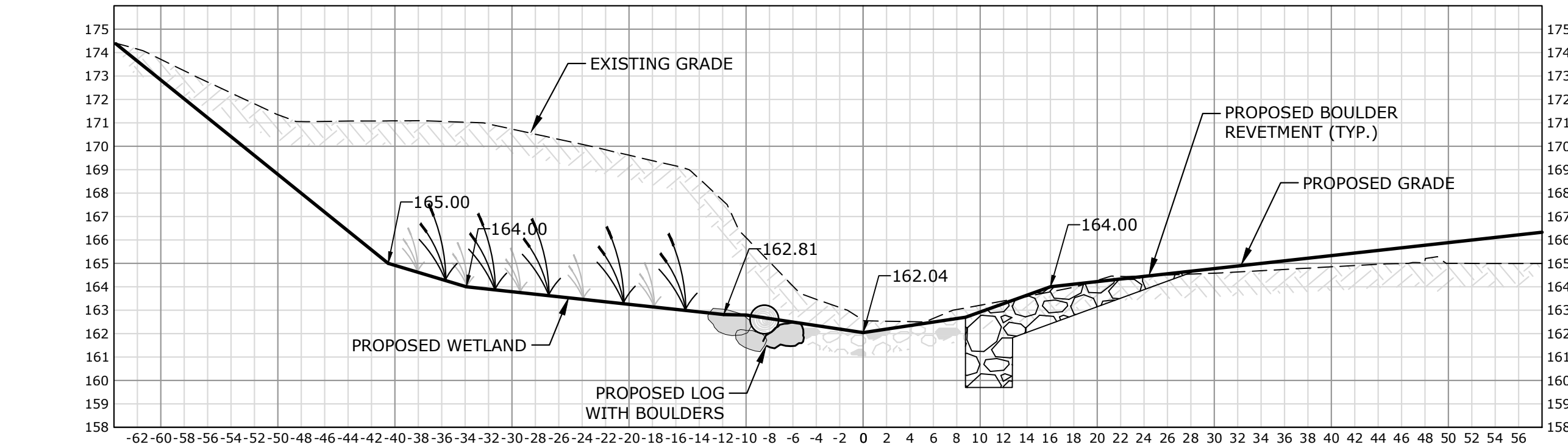
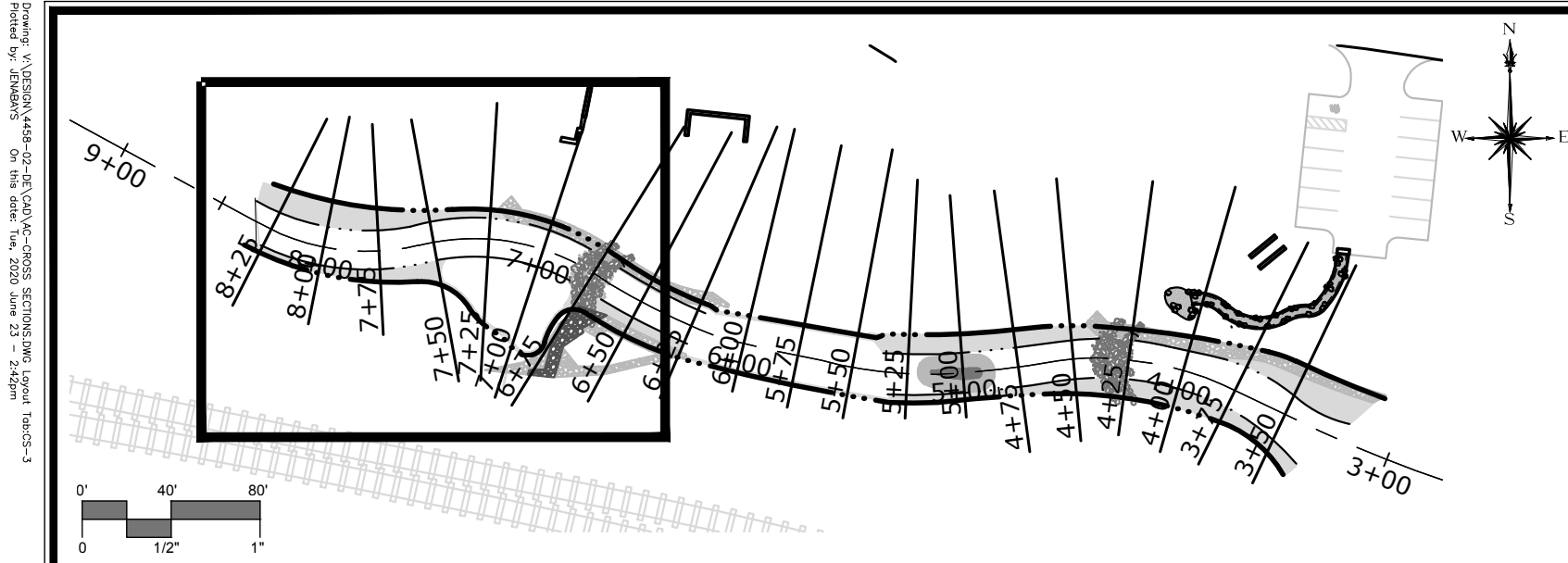


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FORT POND BROOK - CROSS SECTIONS
(LOOKING UPSTREAM)
SCALE: 1"=10' H, 1"=5' V

DESCRIPTION	DATE	BY

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AS NOTED		
MAY 18, 2020		
4458-02		
12 OF 18		
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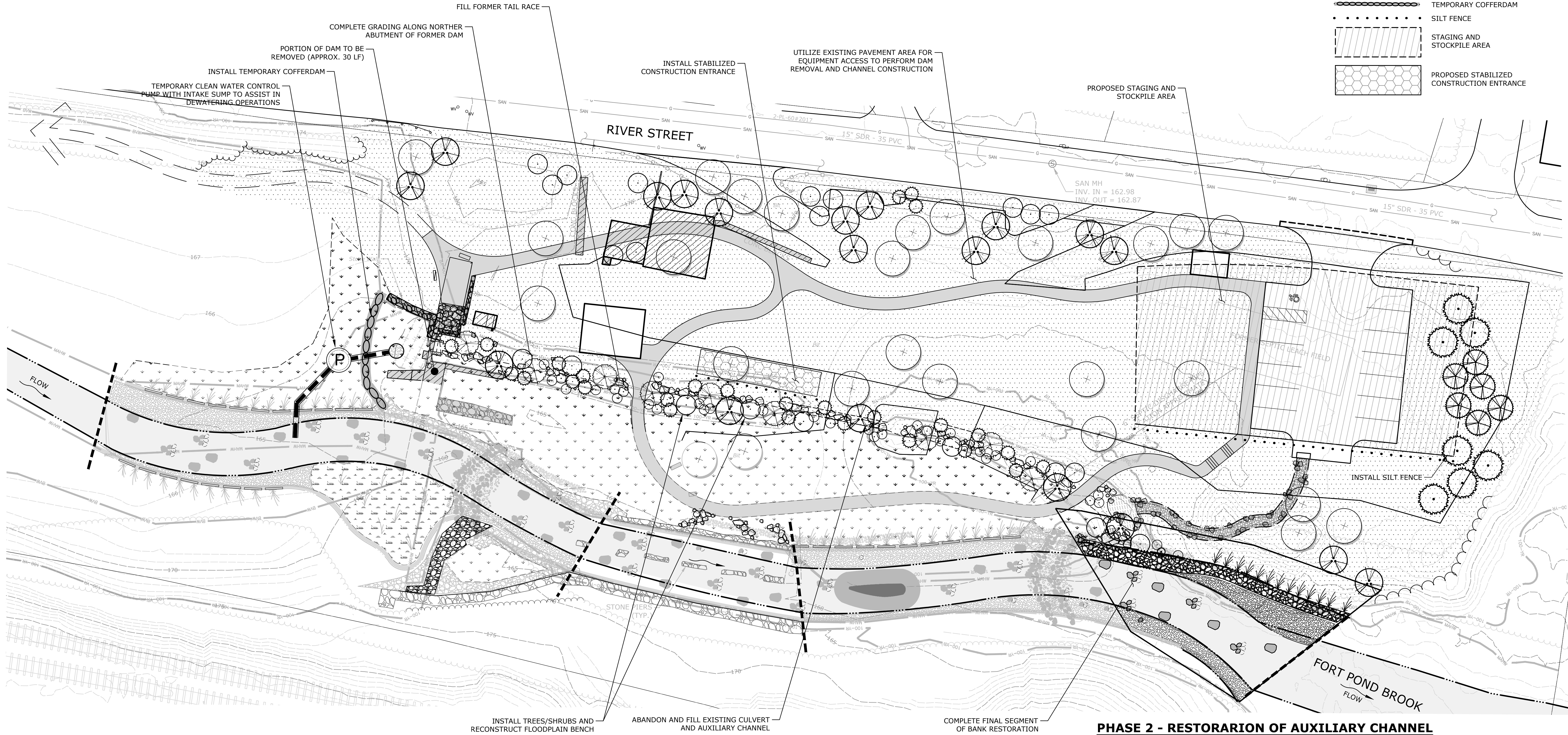


FORT POND BROOK - CROSS SECTIONS
(LOOKING UPSTREAM)
SCALE: 1"=10' H, 1"=5' V

DESCRIPTION	DATE	BY

FRM DESIGNED	FRM DRAWN	JCM CHECKED
AS NOTED		
MAY 18, 2020		
PROJECT NO.		
4458-02		
SHEET NO.		
13 OF 18		
CS-3		

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LEGEND

- PROPOSED CHANNEL EXTENTS
- APPROXIMATE EXISTING TREELINE
- MAJOR CONTOUR
- MINOR CONTOUR
- 100 YEAR FLOODPLAIN
- TEMPORARY COFFERDAM
- SILT FENCE
- STAGING AND STOCKPILE AREA
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE

PHASE 2 - RESTORATION OF AUXILIARY CHANNEL

WATER CONTROL / CONSTRUCTION SEQUENCE CONSTRUCTION ACCESS NOTES:

PHASE 2:

1. COMPLETE FINAL SEGMENT OF BANK LIMITS RESTORATION AT DOWNSTREAM END OF PROJECT.
2. REMOVE REMAINING 40 LINEAR FEET OF EXISTING DAM AS SHOWN ON THE PLAN. THE PAVEMENT AREA SHALL BE USED FOR SITE ACCESS THROUGHOUT THE CONSTRUCTION.
3. ABANDON AND FILL CULVERT AND FORMER TAIL RACE, RECONSTRUCT FLOODPLAIN BENCH, SEED AND PLANT TREES/SHRUBS ON FLOODPLAIN.
4. REMOVE ALL TEMPORARY STABILIZED CONSTRUCTION ENTRANCE, WATER CONTROL PUMP/PIPING, AND RESTORE DISTURBED AREAS TO EXISTING CONDITIONS, TOP SOIL AND SEED.

1. STOCKPILE AREA TO BE FLAGGED PRIOR TO CONSTRUCTION AND APPROVED BY ENGINEER. ALL STORAGE AND ACCESS ROUTES, PEDESTRIAN FENCES/BARRIERS/WORKING HOURS, AND LIMITS OF CLEARING SHALL BE APPROVED BY THE TOWN OF ACTON, LANDOWNERS, AND THE PROJECT ENGINEER.
2. STOCKPILE AREAS TO BE ENCLOSED BY FILTER FABRIC AND HAYBALES. SEE DETAILS.
3. ALL DEWATERING PUMPS ARE TO DISCHARGE TO A TEMPORARY DEWATERING SEDIMENT BASIN. ALL SEDIMENT BASINS PROPOSED BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER.
4. TEMPORARY SEDIMENTATION BASINS TO BE CONSTRUCTED WITH SANDBAGS OR CONCRETE BARRIERS AND LINED WITH POLYETHYLENE. COLLECTED SEDIMENT TO BE DISPOSED OF OFFSITE AT A REGULATED AND PERMITTED AREA AT THE CONTRACTOR'S EXPENSE.
5. TEMPORARY HAUL ROADS TO BE RESTORED UPON PROJECT COMPLETION.
6. ALL FEATURES SUCH AS PAVEMENT, SIGNAGE, OR WALKWAYS, ETC. DAMAGED DURING CONSTRUCTION SHALL BE RESTORED OR REPAIRED AT PROJECT COMPLETION AT THE DIRECTION OF THE OWNER/ENGINEER.
7. UNDERGROUND UTILITIES SHALL BE LOCATED AND AVOIDED WHEN PLANNING THE CONSTRUCTION ACCESS ROUTE. ANY DISRUPTION OR DAMAGE TO EXISTING UTILITIES, SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

CONSTRUCTION PLAN - ACCESS AND PHASING

RIVER STREET DAM REMOVAL
(DAM NO. MA03463)
53 RIVER STREET, AT FORT POND BROOK
TOWN OF ACTON, MASSACHUSETTS

FRM DESIGNED	FRM DRAWN	-- CHECKED
1"=20'		
MAY 18, 2020		
4458-02		
15 OF 18		
CP-2		

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SEDIMENT & EROSION CONTROL SPECIFICATIONS

GENERAL:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION, AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

SEDIMENTATION AND EROSION CONTROLS AS INSTALLED ON THE SITE SHALL CONFORM TO THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.

ALL CONSTRUCTION ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY, AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INsofar AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES, AND WATERBODIES, AND TO PREVENT, INsofar AS POSSIBLE, EROSION ON THE SITE.

LAND GRADING

GENERAL:

1. THE RESHAPING OF THE GROUND SURFACE BY EXCAVATION AND FILLING OR A COMBINATION OF BOTH, TO OBTAIN PLANNED GRADES, SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

a. THE CUT FACE OF EARTH EXCAVATION SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).

b. THE PERMANENT EXPOSED FACES OF FILLS SHALL NOT BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).

c. THE CUT FACE OF ROCK EXCAVATION SHALL NOT BE STEEPER THAN ONE HORIZONTAL TO FOUR VERTICAL (1:4).

d. PROVISION SHOULD BE MADE TO CONDUCT SURFACE WATER SAFELY TO STORM DRAINS TO PREVENT SURFACE RUNOFF FROM DAMAGING CUT FACES AND FILL SLOPES.

e. EXCAVATIONS SHOULD NOT BE MADE SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTY WITHOUT PROTECTING SUCH PROPERTY FROM EROSION, SLIDING, SETTling, OR CRACKING.

f. NO FILL SHOULD BE PLACED WHERE IT WILL SLIDE OR WASH UPON THE PREMISES OF ANOTHER OWNER OR UPON ADJACENT WETLANDS, WATERCOURSES, OR WATERBODIES.

g. PRIOR TO ANY REGRADING, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT THE ENTRANCE TO THE WORK AREA IN ORDER TO REDUCE MUD AND OTHER SEDIMENTS FROM LEAVING THE SITE.

TOPSOILING

GENERAL:

1. TOPSOIL SHALL BE SPREAD OVER ALL EXPOSED AREAS IN ORDER TO PROVIDE A SOIL MEDIUM HAVING FAVORABLE CHARACTERISTICS FOR THE ESTABLISHMENT, GROWTH, AND MAINTENANCE OF VEGETATION.

2. UPON ATTAINING FINAL SUBGRADES, SCARIFY SURFACE TO PROVIDE A GOOD BOND WITH TOPSOIL.

3. REMOVE ALL LARGE STONES, TREE LIMBS, ROOTS AND CONSTRUCTION DEBRIS.

4. APPLY LIME ACCORDING TO SOIL TEST OR AT THE RATE OF TWO (2) TONS PER ACRE.

MATERIAL:

1. TOPSOIL SHOULD HAVE PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS FAVORABLE TO THE GROWTH OF PLANTS.

2. TOPSOIL SHOULD HAVE A SANDY OR LOAMY TEXTURE.

3. TOPSOIL SHOULD BE RELATIVELY FREE OF SUBSOIL MATERIAL AND MUST BE FREE OF STONES (OVER 1" IN DIAMETER), LUMPS OF SOIL, ROOTS, TREE LIMBS, TRASH, OR CONSTRUCTION DEBRIS. IT SHOULD BE FREE OF ROOTS OR RHIZOMES SUCH AS THISTLE, NUTGRASS, AND QUACKGRASS.

4. AN ORGANIC MATTER CONTENT OF SIX PERCENT (6%) IS REQUIRED. AVOID LIGHT COLORED SUBSOIL MATERIAL.

5. SOLUBLE SALT CONTENT OF OVER 500 PARTS PER MILLION (PPM) IS LESS SUITABLE. AVOID TIDAL MARSH SOILS BECAUSE OF HIGH SALT CONTENT AND SULFUR ACIDITY.

6. THE pH SHOULD BE MORE THAN 6.0. IF LESS, ADD LIME TO INCREASE pH TO AN ACCEPTABLE LEVEL.

APPLICATION

1. AVOID SPREADING WHEN TOPSOIL IS WET OR FROZEN.

2. SPREAD TOPSOIL UNIFORMLY TO A DEPTH OF AT LEAST SIX INCHES (6"), OR TO THE DEPTH SHOWN ON THE LANDSCAPING PLANS.

TEMPORARY VEGETATIVE COVER

GENERAL:

1. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL UNPROTECTED AREAS THAT PRODUCE SEDIMENT. AREAS WHERE FINAL GRADING HAS BEEN COMPLETED, AND AREAS WHERE THE ESTIMATED PERIOD OF BARE SOIL EXPOSURE IS LESS THAN 12 MONTHS. TEMPORARY VEGETATIVE COVER SHALL BE APPLIED IF AREAS WILL NOT BE PERMANENTLY SEEDED BY SEPTEMBER 1.

SITE PREPARATION:

1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.

2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.

3. APPLY LIME ACCORDING TO SOIL TEST OR AT A RATE OF ONE (1) TON OF GROUND DOLOMITIC LIMESTONE PER ACRE (5 LBS. PER 100 SQ. FT.).

4. APPLY FERTILIZER ACCORDING TO SOIL TEST OR AT THE RATE OF 300 LBS. OF 10-10-10 PER ACRE (7 LBS. PER 1,000 SQ. FT.) AND SECOND APPLICATION OF 200 LBS. OF 10-10-10 (5 LBS. PER 1,000 SQ. FT.) WHEN GRASS IS FOUR INCHES (4") TO SIX INCHES (6") HIGH. APPLY ONLY WHEN GRASS IS DRY.

5. UNLESS HYDROSEEDING, COVER RYEGRASS SEEDS WITH NOT MORE THAN 1/4 INCH OF SOIL USING A DISK OR ANY SUITABLE FERTILIZER.

6. TILLAGE SHOULD ACHIEVE A REASONABLY UNIFORM LOOSE SEEDBED. WORK ON CONTOUR IF SITE IS SLOPING.

ESTABLISHMENT:

1. SELECT APPROPRIATE SPECIES FOR THE SITUATION. NOTE RATES AND SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).

2. APPLY SEED UNIFORMLY ACCORDING TO THE RATE INDICATED BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.

3. UNLESS HYDROSEEDING, COVER RYEGRASS SEEDS WITH NOT MORE THAN 1/4 INCH OF SOIL USING SUITABLE EQUIPMENT.

4. MULCH IMMEDIATELY AFTER SEEDING IF REQUIRED. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW.) APPLY STRAW OR HAY MULCH AND ANCHOR TO SLOPES GREATER THAN 3% OR WHERE CONCENTRATED FLOW WILL OCCUR.

PERMANENT VEGETATIVE COVER

GENERAL:

1. PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED AS VARIOUS SECTIONS OF THE PROJECT ARE COMPLETED IN ORDER TO STABILIZE THE SOIL, REDUCE DOWNSTREAM DAMAGE FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE AESTHETIC NATURE OF THE SITE. IT WILL BE APPLIED TO ALL CONSTRUCTION AREAS SUBJECT TO EROSION WHERE FINAL GRADING HAS BEEN COMPLETED AND A PERMANENT COVER IS NEEDED.

SITE PREPARATION:

1. INSTALL REQUIRED SURFACE WATER CONTROL MEASURES.

2. REMOVE LOOSE ROCK, STONE, AND CONSTRUCTION DEBRIS FROM AREA.

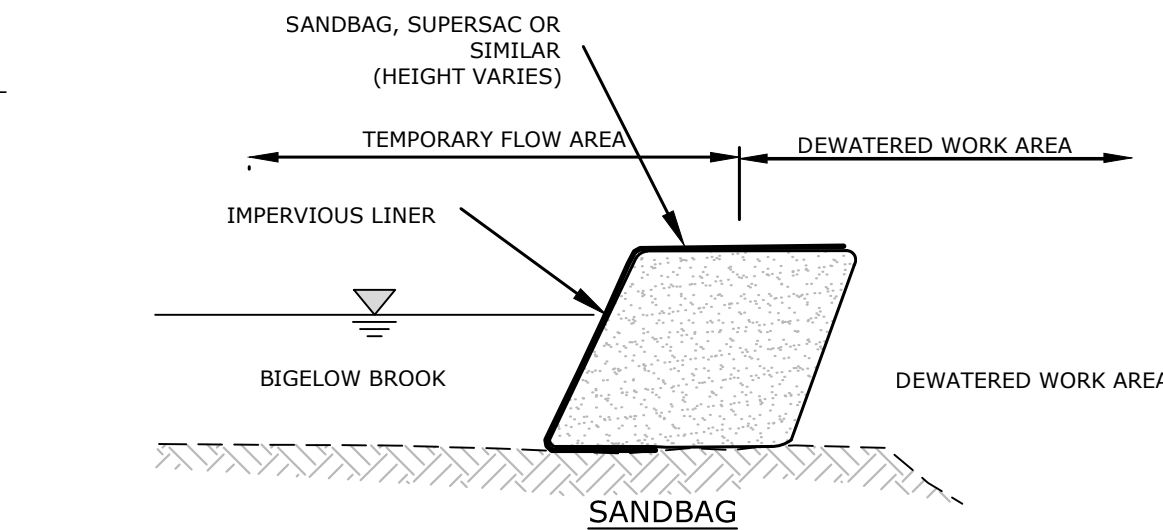
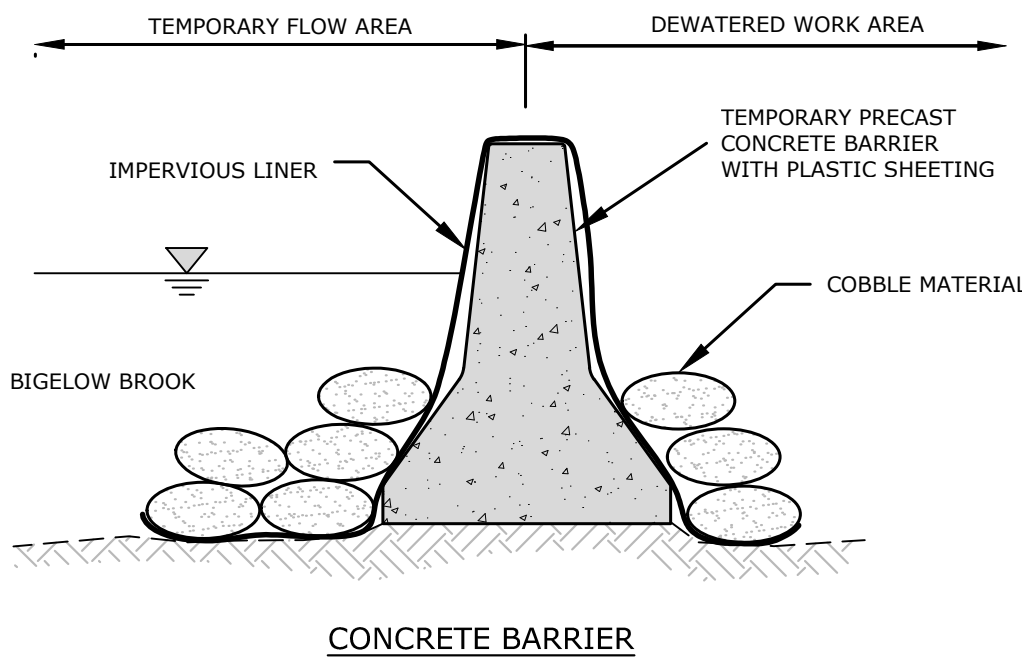
3. PERFORM ALL PLANTING OPERATIONS PARALLEL TO THE CONTOURS OF THE SLOPE.

4. APPLY TOPSOIL AS INDICATED ELSEWHERE HEREIN.

5. APPLY FERTILIZER ACCORDING TO SOIL TEST OR:

• SPREAD SEEDING: WORK DEEPLY IN SOIL, BEFORE SEEDING, 300 LBS.

• FALL SEEDING: WORK DEEPLY IN SOIL, BEFORE SEEDING, 600 LBS. OF 10-10-10 FERTILIZER PER ACRE (14 LBS. PER 1,000 SQ. FT.).

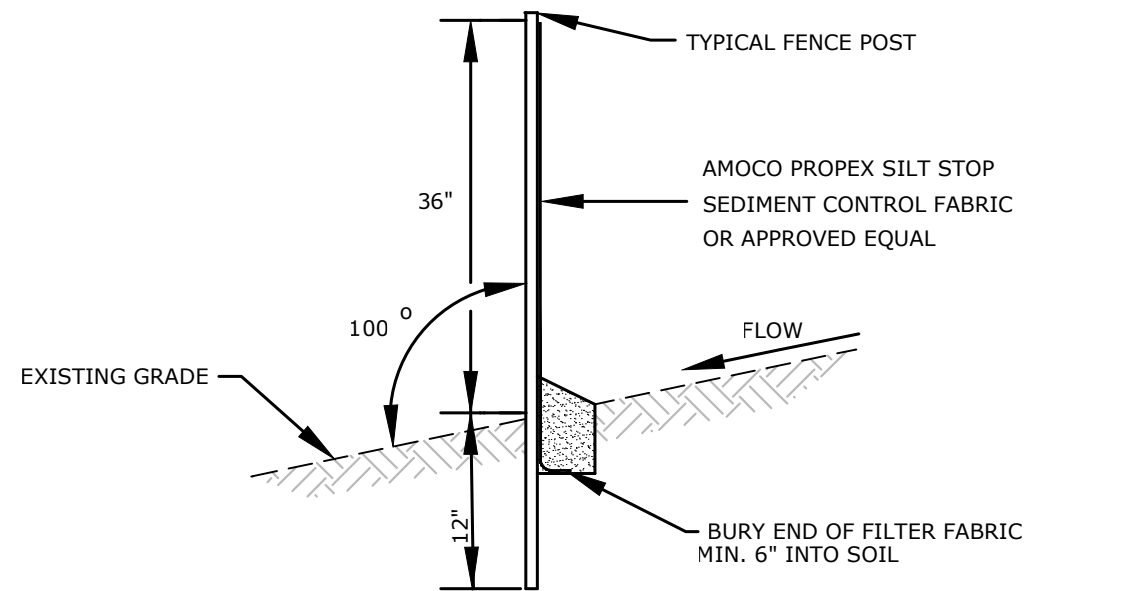


TEMPORARY COFFERDAM DETAIL

NOT TO SCALE

NOTES:

1. COFFERDAM AND TO BE SIZED FOR NORMAL FLOW CONDITIONS. TOP ELEVATION OF COFFERDAM TO ISOLATE LAGOON FROM TIDAL INFLUENCE AND STREAM FLOWS.
2. COFFERDAM TO BE CONSTRUCTED OF SUPERSAC OR SIMILAR PRODUCT.



NOTE:

1. CONTRACTOR SHALL HAVE AVAILABLE ON-SITE A MIN. OF 300 LINEAR FEET OF SILT FENCE FOR USE IF REQUIRED BY FIELD CONDITIONS.

SEDIMENT FILTER FENCE

NOT TO SCALE

EROSION CHECKS

GENERAL:

1. TEMPORARY PERVIOUS BARRIERS USING BALES OF HAY OR STRAW, HELD IN PLACE WITH STAKES DRIVEN THROUGH THE BALES AND INTO THE GROUND OR GEOTEXTILE FABRIC FASTENED TO A FENCE POST AND BURIED INTO THE GROUND, SHALL BE INSTALLED AND MAINTAINED AS REQUIRED TO CHECK EROSION AND REDUCE SEDIMENTATION.

CONSTRUCTION:

1. BALES SHOULD BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

2. EACH BALE SHALL BE EMBEDDED INTO THE SOIL A MINIMUM OF FOUR (4") INCHES.

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY WOOD STAKES OR REINFORCEMENT BARS DRIVEN THROUGH THE BALES AND INTO THE GROUND. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD THE PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.

4. GEOTEXTILE FABRIC SHALL BE SECURELY ANCHORED AT THE TOP OF A THREE FOOT (3') HIGH FENCE AND BURIED A MINIMUM OF FOUR INCHES (4") TO THE SOIL. SEAMS BETWEEN SECTIONS OF FILTER FABRIC SHALL OVERLAP A MINIMUM OF TWO FEET (2').

VEGETATIVE COVER SELECTION & MULCHING

TEMPORARY VEGETATIVE COVER:

PERENNIAL RYEGRASS 3 LBS./1,000 SQ.FT.
(10LULUM PERENNE)

UPLAND RESTORATION AREA

GENERAL SEEDING AND RESTORATION OF DISTURBED AREAS

LESCO, INC. - "CONSERVATION MIX" (OR APPROVED EQUAL)	
CREeping RED FESCUE	40% SEEDING RATE: 7 LBS./1000 S.F. (OR PER MANUF., CHOOSE DENSER RATE)
TURF-TYPE PERENNIAL RYEGRASS	25%
SHAMROCK KENTUCKY BLUEGRASS	20%
ANNUAL RYEGRASS	10% SPRING SEEDING: 4/1 to 5/31
WHITE CLOVER	5% FALL SEEDING: 8/16 to 10/15

TEMPORARY MULCHING:

STRAW 70-90 LBS./1,000 SQ.FT.
(TEMPORARY VEGETATIVE AREAS)

WOOD FIBER IN HYDROMULCH SLURRY 25-50 LBS./1,000 SQ. FT.

ESTABLISHMENT:

1. SMOOTH AND FIRM SEEDBED WITH CULTIPACKER OR OTHER SIMILAR EQUIPMENT PRIOR TO SEEDING (EXCEPT WHEN HYDROSEEDING).

2. SELECT ADAPTED SEED MIXTURE FOR THE SPECIFIC SITUATION. NOTE RATES AND THE SEEDING DATES (SEE VEGETATIVE COVER SELECTION & MULCHING SPEC. BELOW).

3. APPLY SEED UNIFORMLY ACCORDING TO RATE INDICATED, BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATION.

4. COVER GRASS AND LEGUME SEED WITH NOT MORE THAN 1/4 INCH OF SOIL WITH SUITABLE EQUIPMENT (EXCEPT WHEN HYDROSEEDING).

5. MULCH IMMEDIATELY AFTER SEEDING, IF REQUIRED, ACCORDING TO TEMPORARY MULCHING SPECIFICATIONS. (SEE VEGETATIVE COVER SELECTION & MULCHING SPECIFICATION BELOW).

6. USE PROPER INOCULANT ON ALL LEGUME SEEDINGS, USE FOUR (4) TIMES NORMAL RATES WHEN HYDROSEEDING.

7. USE SOD WHERE THERE IS A HEAVY CONCENTRATION OF WATER AND IN CRITICAL AREAS WHERE IT IS IMPORTANT TO GET A QUICK VEGETATIVE COVER TO PREVENT EROSION.

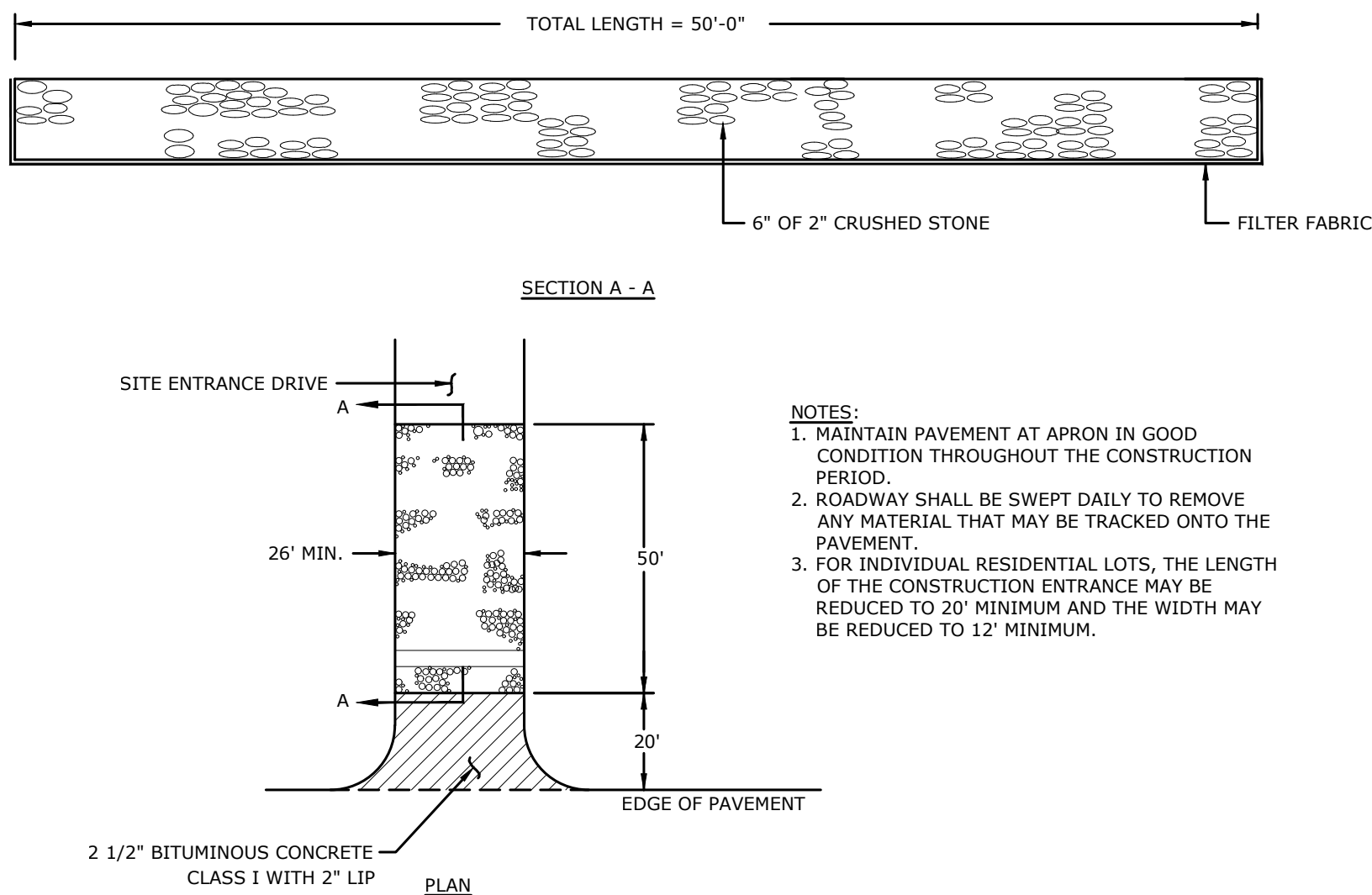
MAINTENANCE:

1. TEST FOR SOIL ACIDITY EVERY THREE (3) YEARS AND LIME AS REQUIRED.

2. ON SITES WHERE GRASSES PREDOMINATE, BROADCAST ANNUALLY 500 POUNDS OF 10-10-10 FERTILIZER PER ACRE (12 LBS. PER 1,000 SQ. FT.) OR AS NEEDED ACCORDING TO ANNUAL SOIL TESTS.

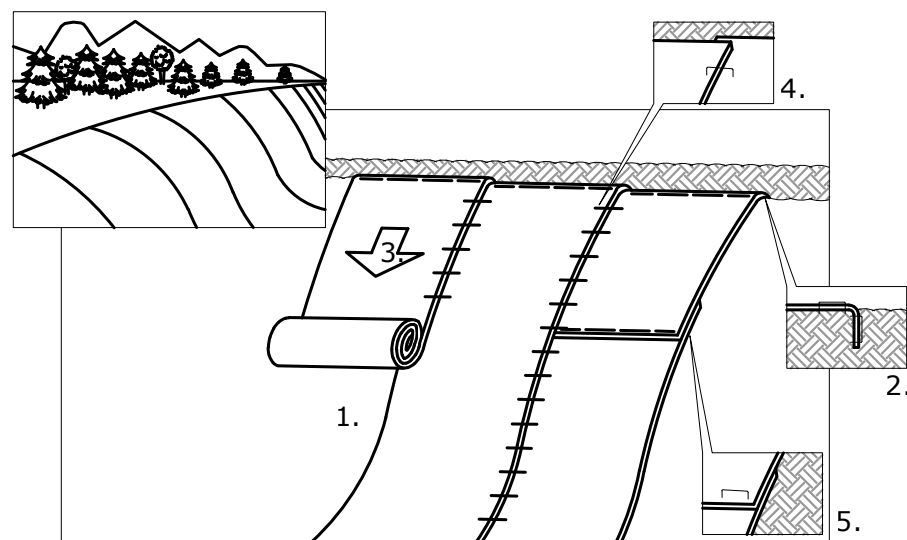
EROSION CONTROL MAINTENANCE INTERVALS

EROSION CONTROL MEASURE	CONTROL OBJECTIVE	INSPECTION/MAINTENANCE	FAILURE INDICATORS	REMOVAL
SILT FENCE	- INTERCEPT, AND REDIRECT/DETAIN SMALL AMOUNTS OF SEDIMENT FROM SMALL DISTURBED AREAS. - DECREASE VELOCITY OF SHEET FLOW. - PROTECT SENSITIVE SLOPES OR SOILS FROM EXCESSIVE WATER FLOW.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. ACCUMULATED SEDIMENT MUST BE REMOVED ONCE ITS DEPTH IS EQUAL TO 1/2 THE TRENCH HEIGHT. INSPECT FREQUENTLY DURING PUMPING OPERATIONS IF USED FOR DEWATERING OPERATIONS.	- PHYSICAL DAMAGE OR DECOMPOSITION - EVIDENCE OF OVERTOPPED OR UNDERCUT FENCE - EVIDENCE OF SIGNIFICANT FLOWS EVADING CAPTURE - REPETITIVE FAILURE	SILT FENCE MAY BE REMOVED AFTER UPHILL AND SENSITIVE AREAS HAVE BEEN PERMANENTLY STABILIZED.
HAY BALES	- INTERCEPT, AND REDIRECT/DETAIN SMALL AMOUNTS OF SEDIMENT FROM SMALL DISTURBED AREAS. - DECREASE VELOCITY OF SHEET FLOW. - PROTECT SENSITIVE SLOPES OR SOILS FROM EXCESSIVE WATER FLOW.	INSPECT AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL OF 0.5 INCHES OR MORE. ACCUMULATED SEDIMENT MUST BE REMOVED ONCE THE DEPTH OF SEDIMENT IS EQUAL TO 1/2 THE HEIGHT OF THE BARRIER. INSPECT FREQUENTLY DURING PUMPING OPERATIONS IF USED FOR DEWATERING OPERATIONS.	- PHYSICAL DAMAGE OR DECOMPOSITION - EVIDENCE OF OVERTOPPED OR UNDERCUT FENCE - EVIDENCE OF SIGNIFICANT FLOWS EVADING CAPTURE - REPETITIVE FAILURE	HAY BALES MAY BE REMOVED AFTER UPHILL AREAS HAVE BEEN PERMANENTLY STABILIZED.
CONSTRUCTION ENTRANCE	- REDUCE THE TRACKING OF SEDIMENT OFF-SITE ONTO PAVED SURFACES.	INSPECT AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. PERIODIC ADDITION OF STONE, OR LENGTHENING OF ENTRANCE MAY BE REQUIRED AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED SURFACES AS A RESULT OF INEFFICIENCY OF CONSTRUCTION ENTRANCE SHALL BE IMMEDIATELY REMOVED.	- SEDIMENT IN ROADWAY ADJACENT TO SITE	CONSTRUCTION ENTRANCE MAY BE REMOVED ONCE THE SITE HAS BEEN PERMANENTLY STABILIZED, AND ALL OTHER SECTIONS OF ROADWAY HAVE BEEN PERMANENTLY PAVED.
STOCKPILE PROTECTION	- RETAIN SOIL STOCKPILE IN LOCATIONS SPECIFIED, AND REDUCE ATER-TRANSPORT.	INSPECT SILT FENCE AT THE END OF EACH WORK DAY AND IMMEDIATELY REPAIR DAMAGES. PERIODIC REINFORCEMENT OF SILT FENCE, OR ADDITION OF HAY BALES MAY BE NECESSARY.	- EVIDENCE OF STOCK PILE DIMINISHING DUE TO RAIN EVENTS - FAILURE OF SILT FENCE	STOCKPILE PROTECTION MAY BE REMOVED ONCE THE STOCKPILE IS USED OR REMOVED.
EROSION CONTROL BLANKET	- TO PROVIDE TEMPORARY SURFACE PROTECTION TO NEWLY SEEDED AND/OR DISTURBED SOILS.	INSPECT BLANKET AT LEAST ONCE A WEEK, AND AFTER A RAINFALL EVENT OF 0.5" OR GREATER. ASSESS FOR GOOD SOIL-TO-BLANKET CONTACT. REPAIR, ANCHOR, AND ENSURE PROPERLY SECURED TO SLOPE.	- SEED/SOIL WASHOUT FROM BELOW BLANKET - BLANKET DISPLACEMENT, TEARS, OR DISLODGING FROM ANCHOR POINTS, EXPOSING SOIL	BLANKET SHALL BIODEGRADE OVER A PERIOD OF NOT MORE THAN 2 YEAR, AND SHALL BE LEFT IN PLACE.



CONSTRUCTION ENTRANCE

NOT TO SCALE

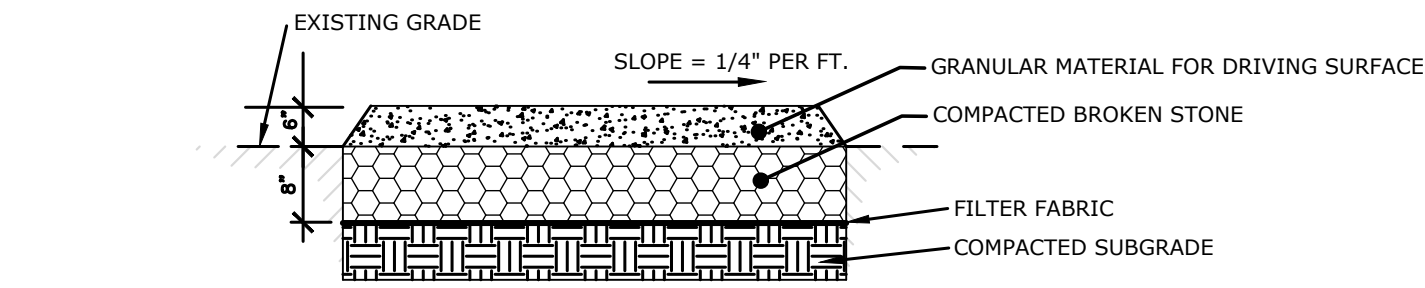


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: BLANKETS SHALL BE TENSAR BioNet S150BN OR APPROVED EQUAL, SEE: WWW.TENSARGREEN.COM/SYSTEMS-AND-PRODUCTS/ROLLMAX.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS DOWN THE SLOPE IN THE DIRECTION OF THE WATER FLOW.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAP AREA, APPROXIMATELY 12" APART.

REFER TO GENERAL STAPLE PATTERN GUIDE IN NORTH AMERICAN GREEN CATALOG FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

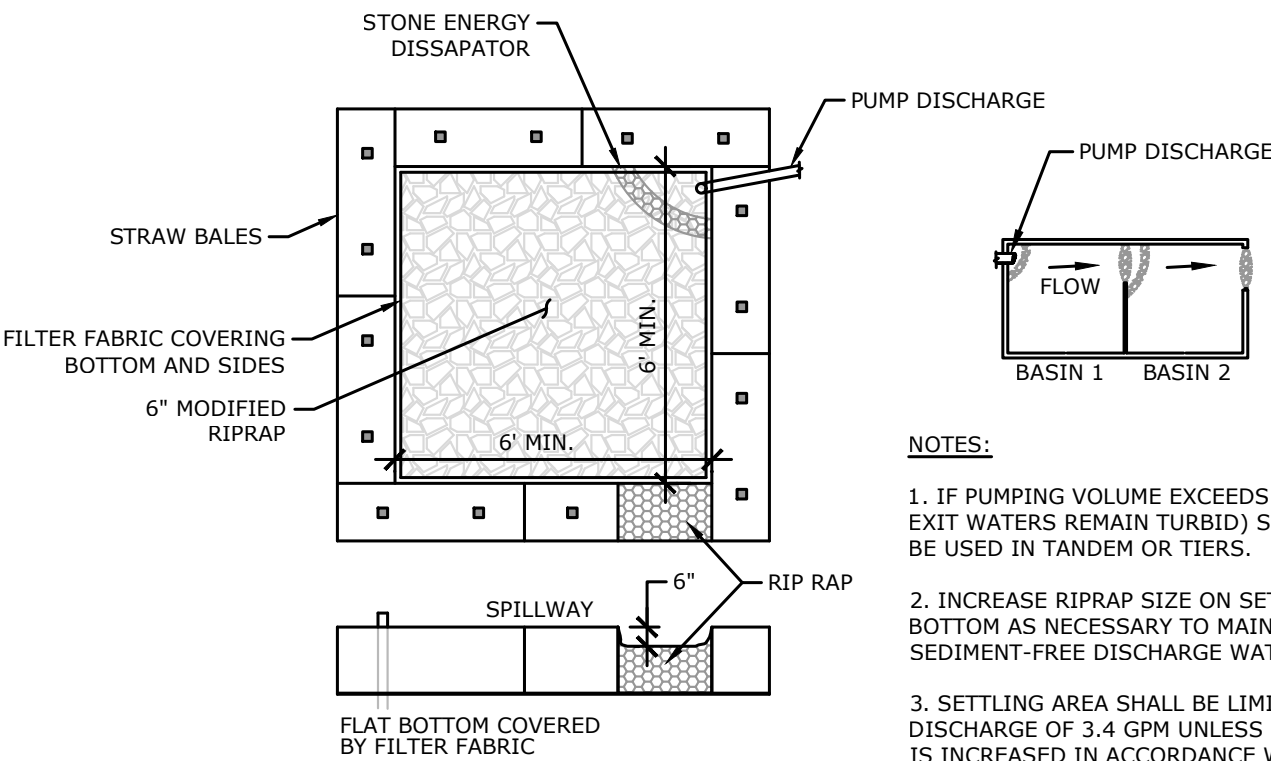
EROSION CONTROL BLANKET

NOT TO SCALE



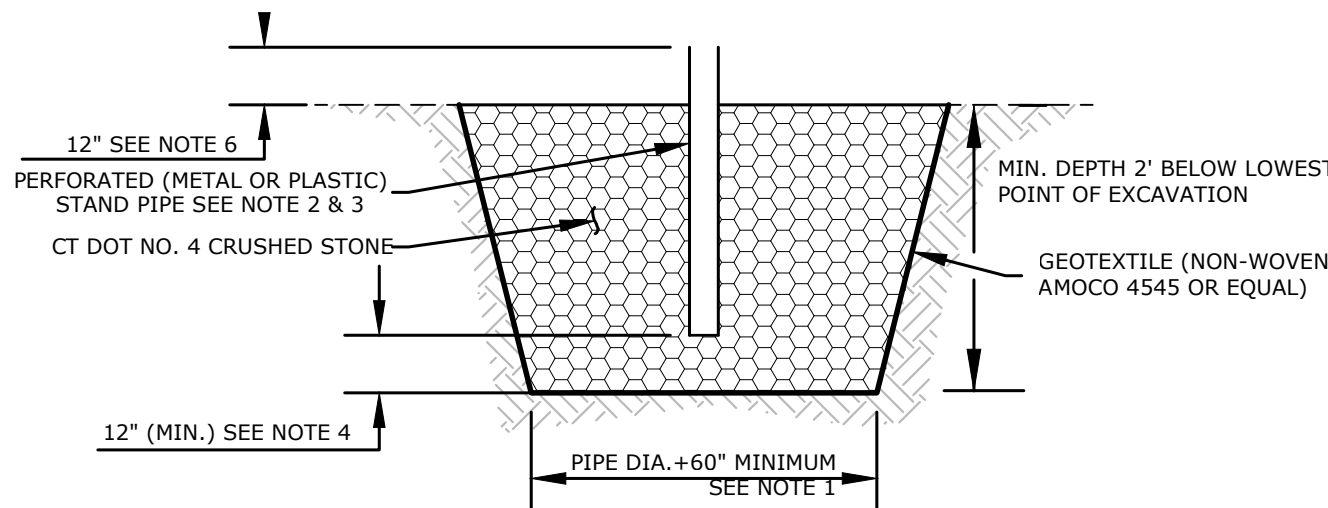
TEMPORARY CONSTRUCTION ACCESS ROAD DETAIL

NOT TO SCALE



PUMP DISCHARGE SETTLING AREA

NOT TO SCALE



NOTES:

1. OVERALL SUMP PIT DIMENSIONS TO BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP TO BE USED.
2. THE STAND PIPE DIAMETER AND NUMBER OF PERFORATIONS TO BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
3. PERFORATIONS IN THE STANDPIPE TO BE EITHER CIRCULAR OR SLOTS, PERFORATION SIZE SHALL NOT EXCEED 1/2" DIAMETER.
4. NO. 4 CRUSHED STONE CONFORMING TO CT DOT FORM 816, M.01.01. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
5. A PROPERLY DESIGNED GEOTEXTILE TO BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE BACKFILL.
6. THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

CONSTRUCTION RUNOFF DEWATERING SUMP

NOT TO SCALE

BY

DATE

DESCRIPTION

DETAILS- SEDIMENT & EROSION CONTROL

RIVER STREET DAM REMOVAL
(DAM NO. MA03463)

53 RIVER STREET, AT FORT POND BROOK
TOWN OF ACTON, MASSACHUSETTS

DESIGNED

DRAWN

CHECKED

SCALE

1"=20'

DATE

MAY 18, 2020

PROJECT NO.

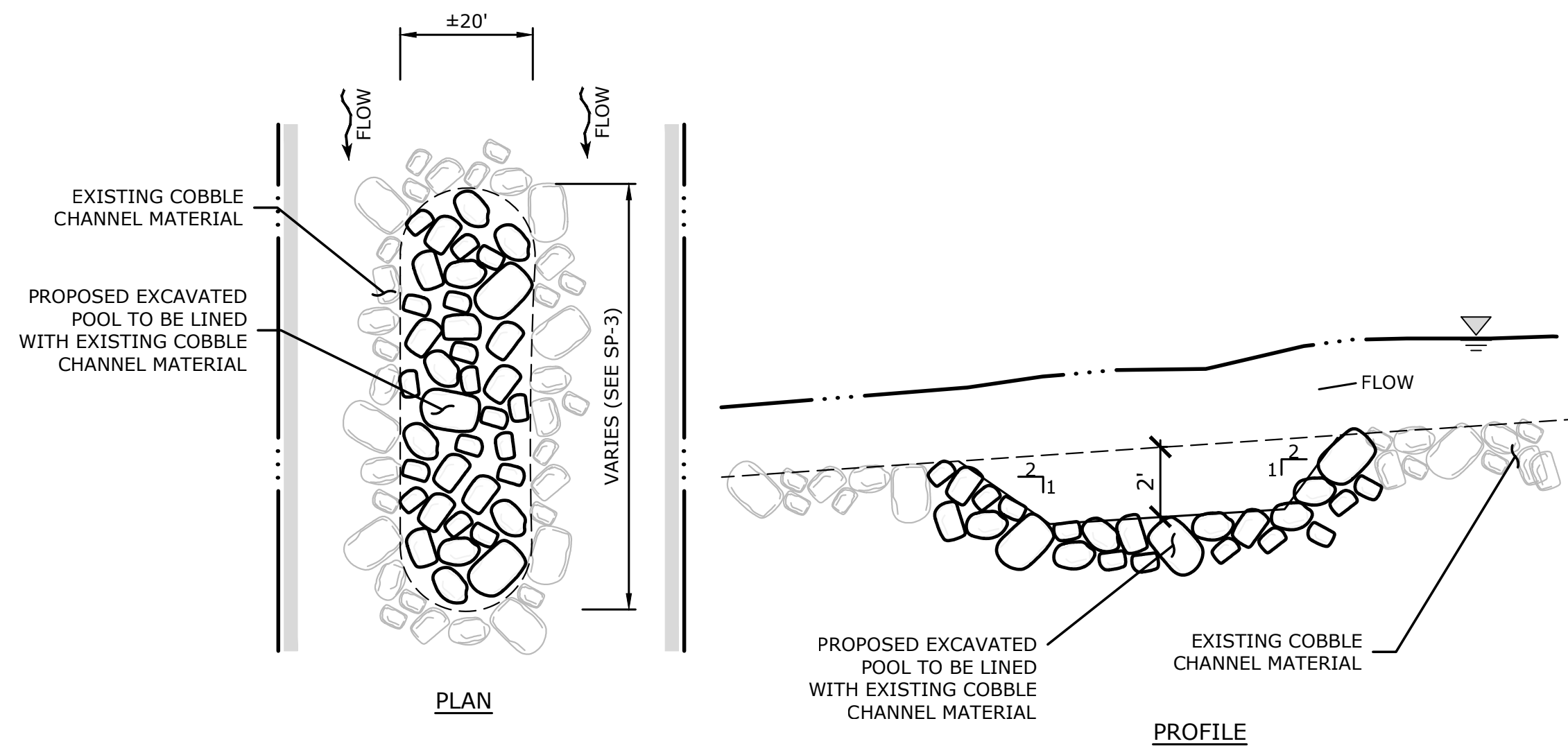
4458-02

SHEET NO.

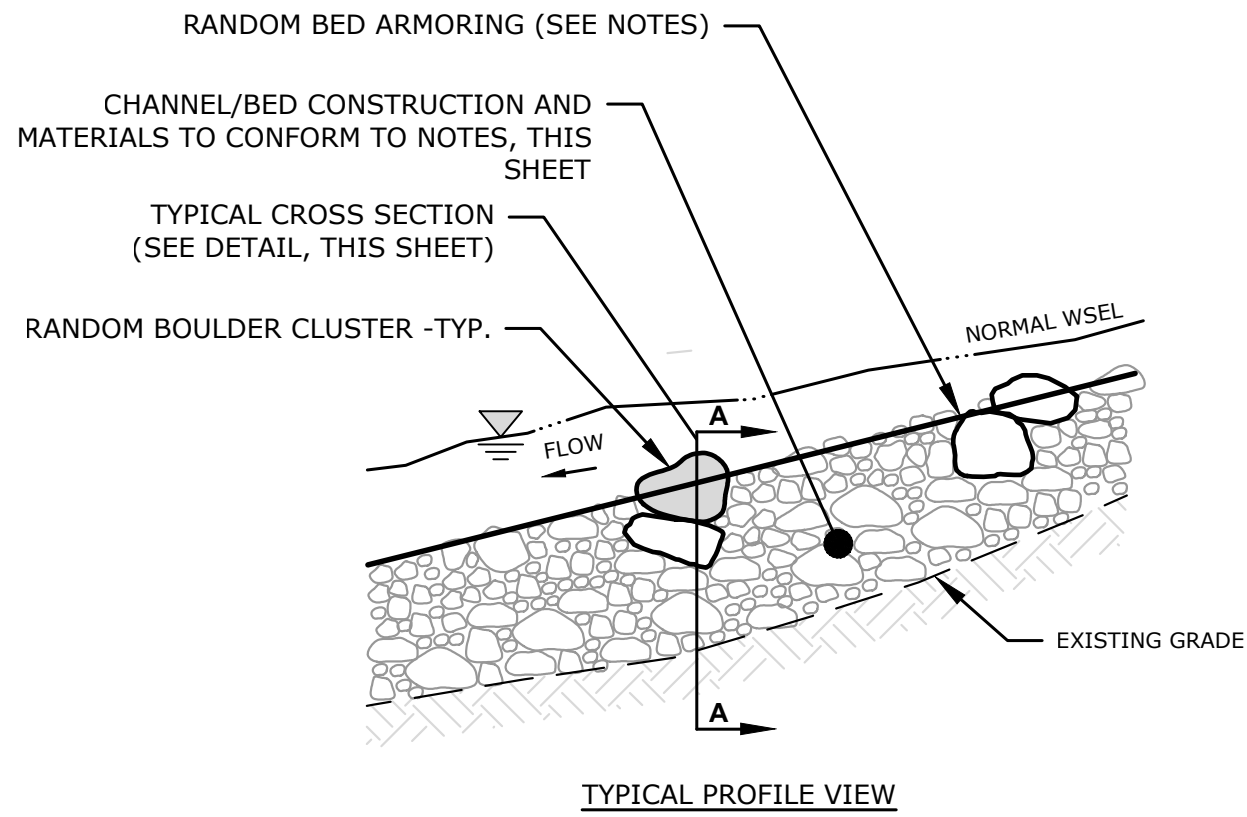
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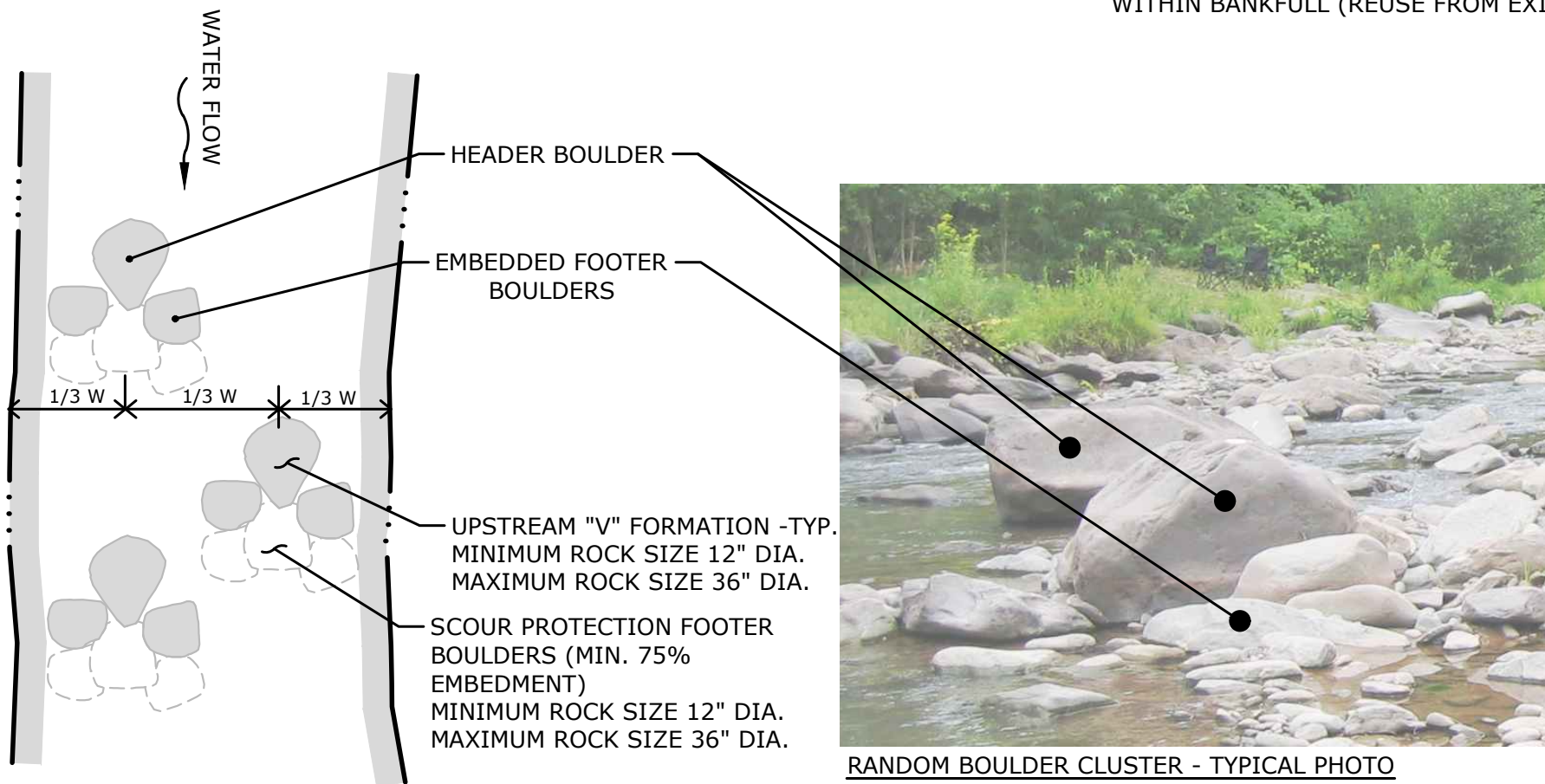
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10/24/21 - 12:00 PM (GMT-04:00) - 10/24/21 - 12:00 PM (GMT-04:00) - 10/24/21 - 12:00 PM (GMT-04:00)



CHANNEL BED RESTORATION - PROFILE
NOT TO SCALE



PLAN VIEW

RANDOM BOULDER CLUSTER

NOT TO SCALE

NOTES:

- 3 BOULDERS PER RANDOM BOULDER CLUSTER, PLUS 3 SCOUR PROTECTION FOOTER BOULDERS.
- PLACE BOULDERS IN THE MIDDLE THIRD OF THE STREAM WITHIN DEEPEST PORTION OF CHANNEL.
- POSITION BOULDER GROUPS IN A UPSTREAM "V" FORMATION.
- INDIVIDUAL BOULDERS PLACED IN THE STREAM SHOULD BE 12" TO 36" IN DIAMETER.
- POSITION BOULDERS WITH THEIR LONG AXIS PARALLEL TO THE STREAM FLOW.
- INSTALL FOOTER BOULDER TO WEDGE HEADER BOULDER IN PLACE FROM DOWNSTREAM.
- INSTALL HEADER BOULDERS AT A LOW PROFILE SUCH THAT THEY ARE PARTIALLY SUBMERGED DURING NORMAL LOW FLOW. INSTALL SUCH THAT 1/2 OF ROCK DIAMETER IS BURIED IN STREAM CHANNEL.
- FINISHED ELEVATION OF THE BOULDERS WILL BE DETERMINED IN THE FIELD.

CHANNEL/BED CONSTRUCTION AND MATERIALS:

1. REMOVAL OF EXISTING BED ARMORING:

- 1.1. REMOVE AND STOCKPILE ALL EXISTING SAND, GRAVEL, COBBLE, AND BOULDER TO MINIMUM 12" DEPTH WITHIN EXISTING BANKFULL CHANNEL. REUSE MATERIAL ON TOP 12" OF FINAL CHANNEL BED.

2. CHANNEL RESTORATION:

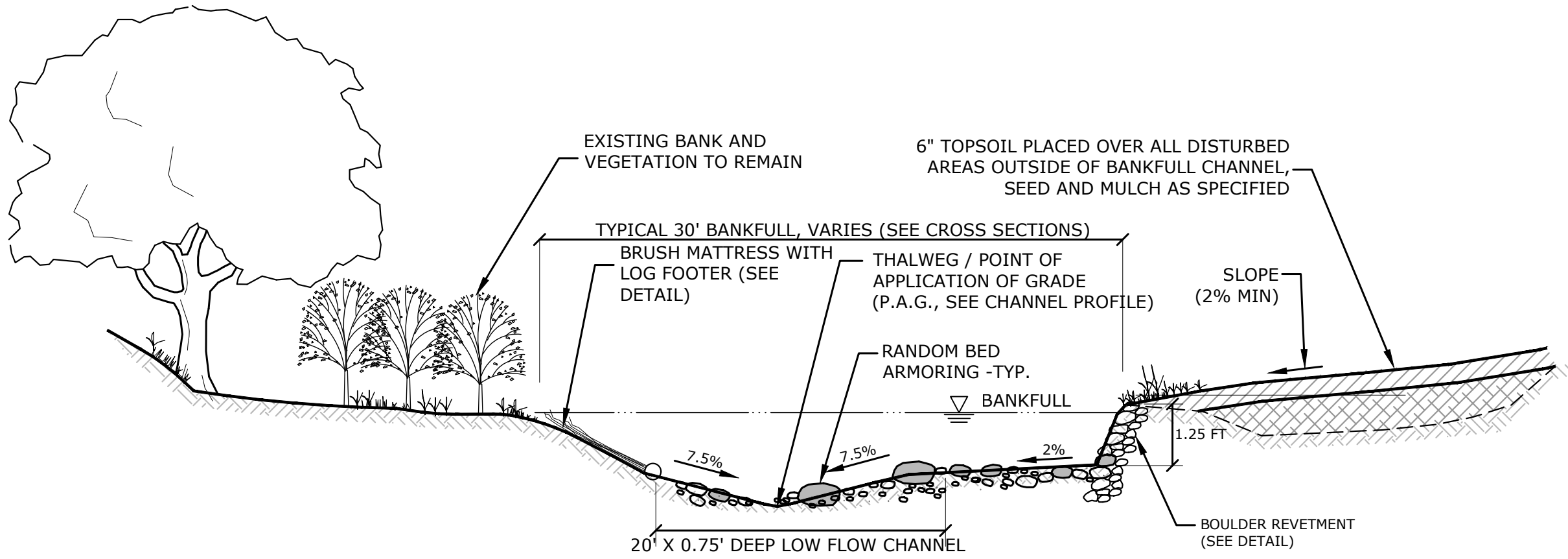
- 2.1. PERFORM ROUGH GRADING OF CHANNEL.
- 2.2. DO NOT REUSE FINE-GRAINED SILTS, CLAYS, OR ORGANIC MATERIAL WITHIN THE BANKFULL CHANNEL.
- 2.3. TO ESTABLISH NEW CHANNEL IN FILL SITUATION: FILL TO WITHIN 12" OF FINAL GRADE WITH NATURAL SAND & GRAVEL/COBBLE/BOULDER RE-USED FROM ON-SITE EXCAVATION. DO NOT USE SILTS, CLAYS, OR ORGANICS. DO NOT USE STOCKPILED BED ARMORING AS GENERAL FILL TO RAISE BED. PLACE FINAL 12" OF MATERIAL FROM STOCKPILED MATERIAL, AND SUPPLEMENT WITH BED ARMORING AS DESCRIBED BELOW.
- 2.4. TO ESTABLISH NEW CHANNEL IN CUT SITUATION, IN SUITABLE SOIL: PLACE FINAL 12" OF MATERIAL FROM STOCKPILED MATERIAL, AND SUPPLEMENT WITH BED ARMORING AS DESCRIBED BELOW.
- 2.5. TO ESTABLISH NEW CHANNEL IN CUT SITUATION, IN UNSUITABLE SOIL: REMOVE MATERIAL TO 24" BELOW FINAL GRADE. PLACE 12" OF SUITABLE SAND/GRAVEL FILL. PLACE FINAL 12" OF MATERIAL FROM STOCKPILED MATERIAL, AND SUPPLEMENT WITH BED ARMORING AS DESCRIBED BELOW.

3. LOW-FLOW CHANNEL:

- 3.1. SHALL BE A V-SHAPED CHANNEL WITH 7.5% SLOPE FROM DEEPEST POINT TO BANKS, 17' WIDE AND 0.75' DEEP.

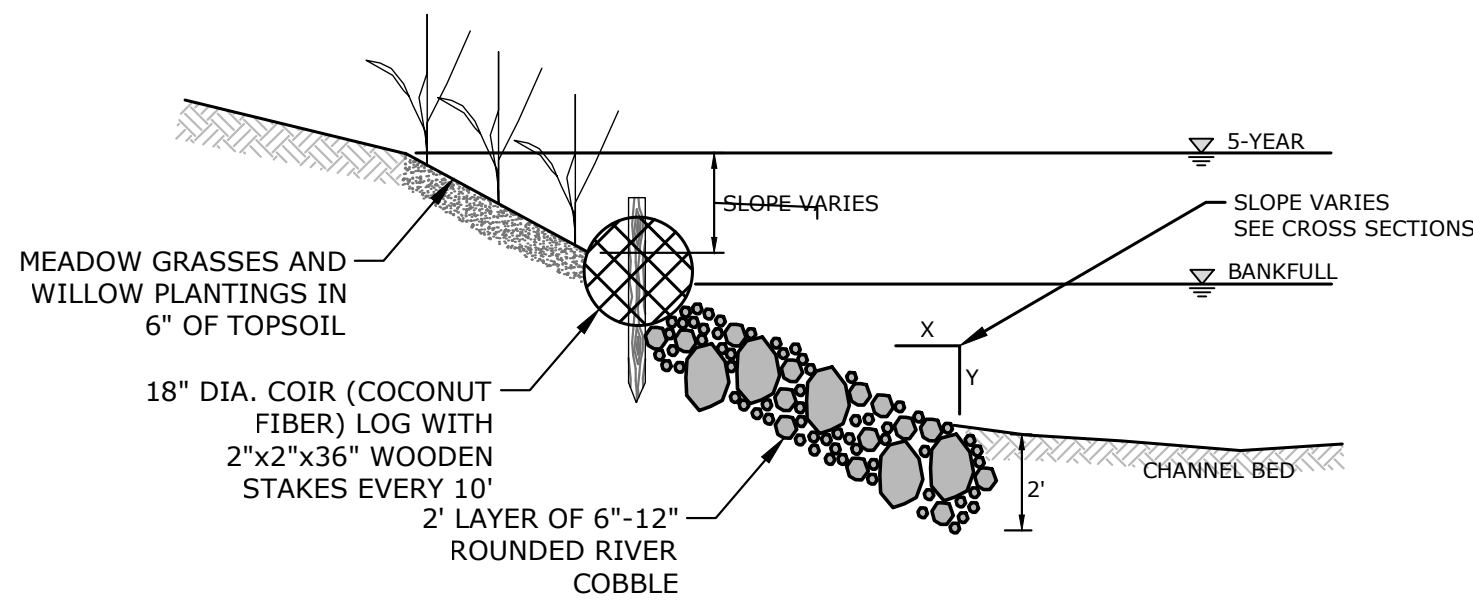
4. RANDOM BED ARMORING:

- 4.1. PLACE 3"-12" WEATHERED/ROUNDED BOULDER, AT A RANDOM APPLICATION RATE OF 9 ROCKS PER TEN LINEAR FEET OF STREAM CHANNEL, 3 WITHIN LOW FLOW, 6 WITHIN BANKFULL (REUSE FROM EXISTING CHANNEL OR IMPORT IF NECESSARY)



CHANNEL BED RESTORATION - TYPICAL SECTION A-A

NOT TO SCALE

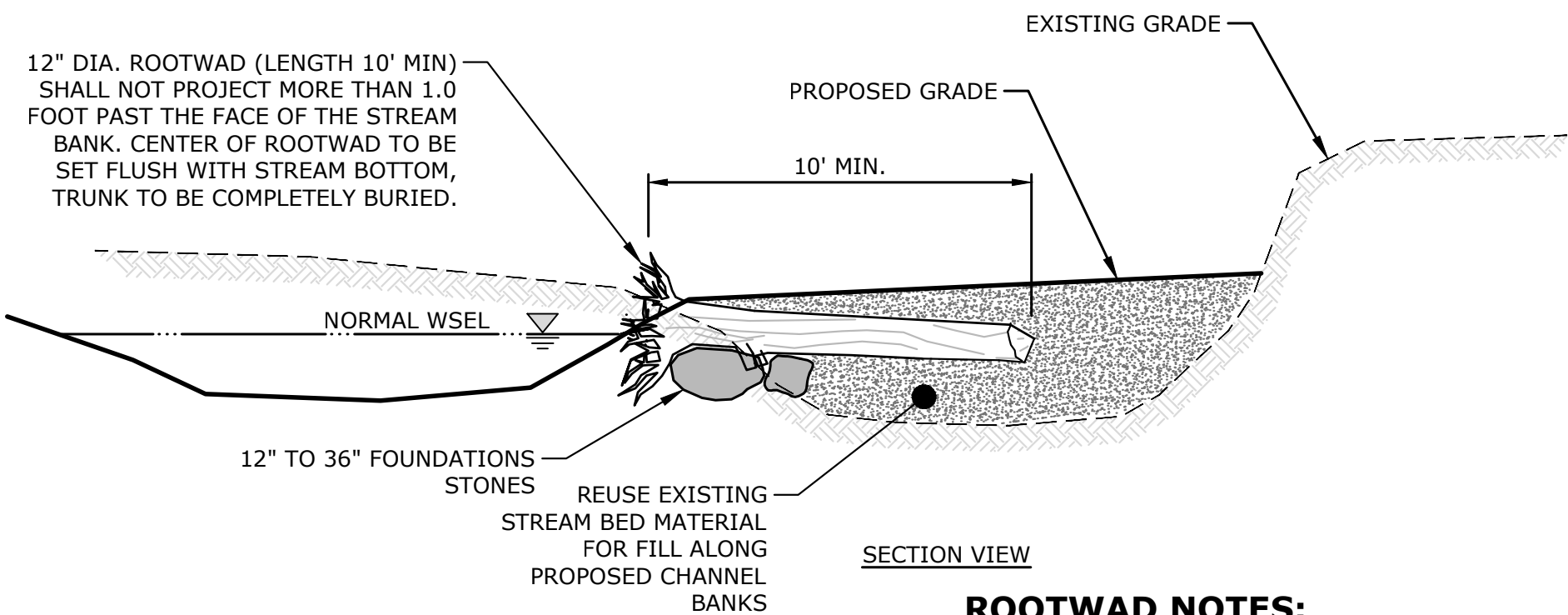


COIR LOG WITH COBBLE TOE

NOT TO SCALE

NOTES:

- 6"-12" RIVER COBBLES SHALL EXTEND UP TO BANKFULL FLOOD ELEVATION. COIR (COCONUT FIBER) LOGS SHALL BE PLACED AT THE BANKFULL FLOOD ELEVATION. ABOVE BANKFULL FLOOD ELEVATION TO THE 5-YEAR FLOOD ELEVATION SHALL BE MEADOW GRASSES AND SHRUB PLANTINGS.
- 6" OF TOPSOIL IS TO BE PLACED ABOVE COIR LOGS UP TO THE 5-YEAR FLOOD ELEVATION.
- COIR LOGS ARE TO BE BURIED TO 1/2 OF LOG DIAMETER.
- DRIVE STAKES DOWN ALONG THE CENTER OF THE LOG. DRIVE STAKES FLUSH WITH THE TOP OF THE COIR LOG.
- WEAVE COIR OR NYLON TWINE BETWEEN AND AROUND THE STAKES.
- DRIVE STAKED IN FIRMLY, SECURING THE LOG TO THE STREAMBANK.

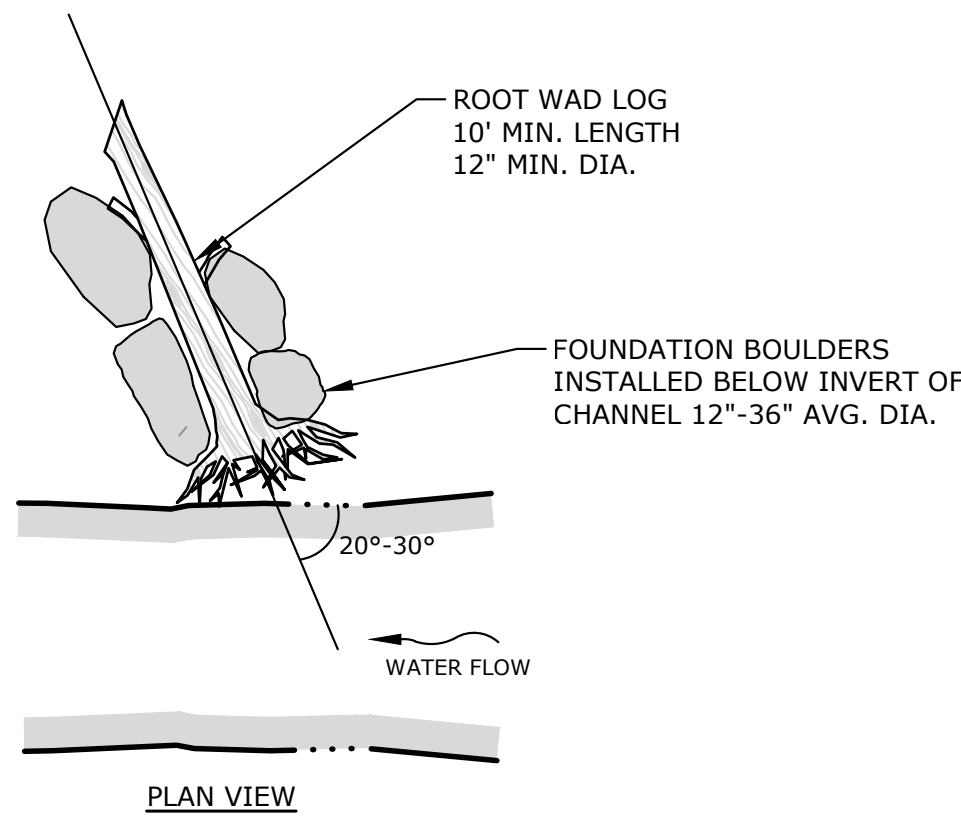


ROOTWAD NOTES:

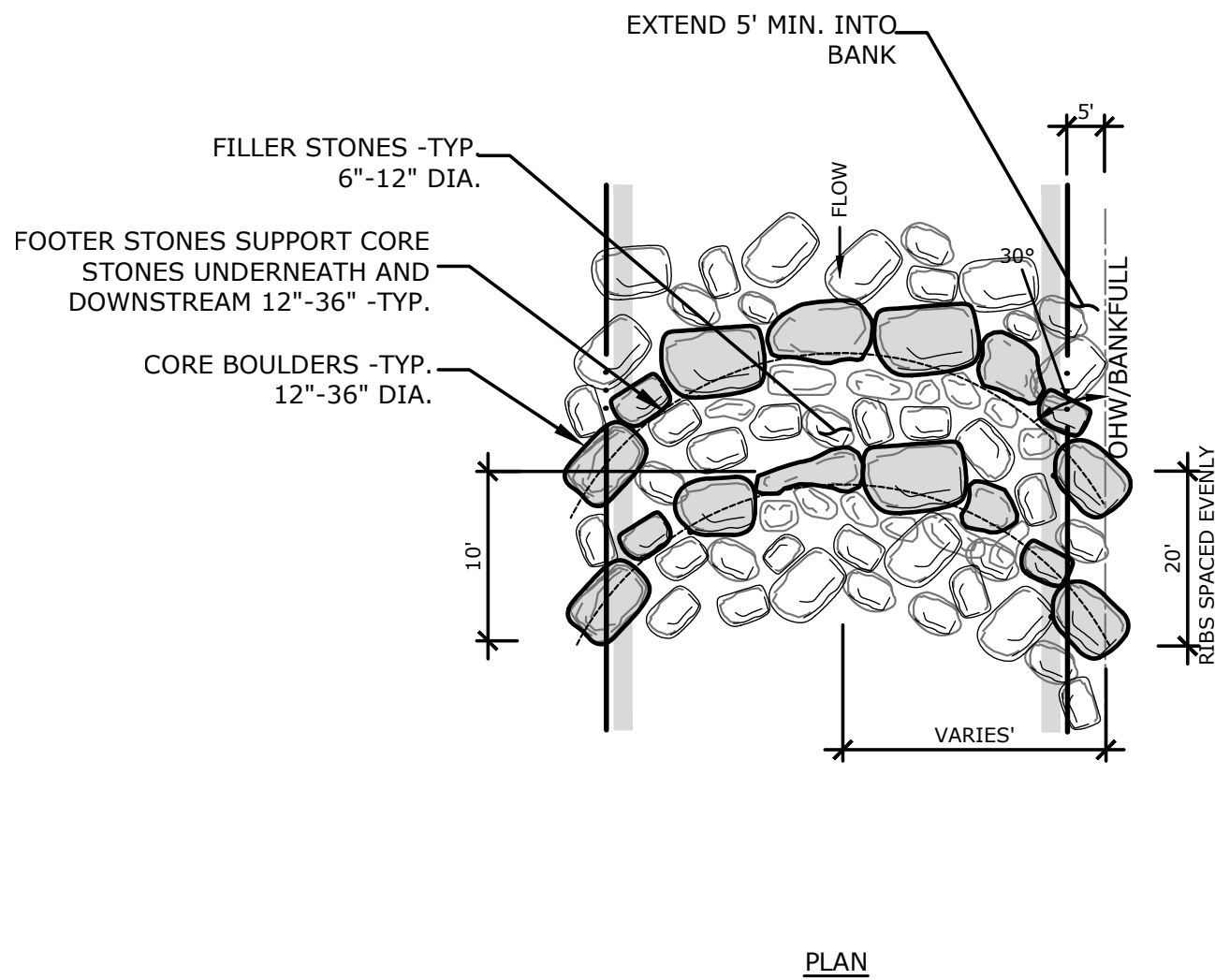
- ROOTWAD TREES TO BE 12" TO 24" IN DIAMETER FROM REUSED ON SITE MATERIAL.
- INSTALL ROOTWAD ACROSS THE BANK BOTTOM AT 20-30 DEGREES FROM THE STREAM BANK.
- ANCHOR THE LOG WITH ROOTWAD AT LEAST 10-12 FEET INTO THE STREAM BANK.
- ALL EFFORTS WILL BE MADE TO GATHER LOGS WITH ROOTWADS ON SITE.
- ROOTWADS SHALL NOT PROJECT MORE THAN 1.0 FOOT PAST THE FACE OF THE STREAM BANK.
- THE FINAL ELEVATION OF THE ROOTWAD WILL BE SUBJECT TO ADJUSTMENT BASED UPON CHANGING FIELD CONDITIONS.

BURIED ROOTWAD WITH BOULDER TOE

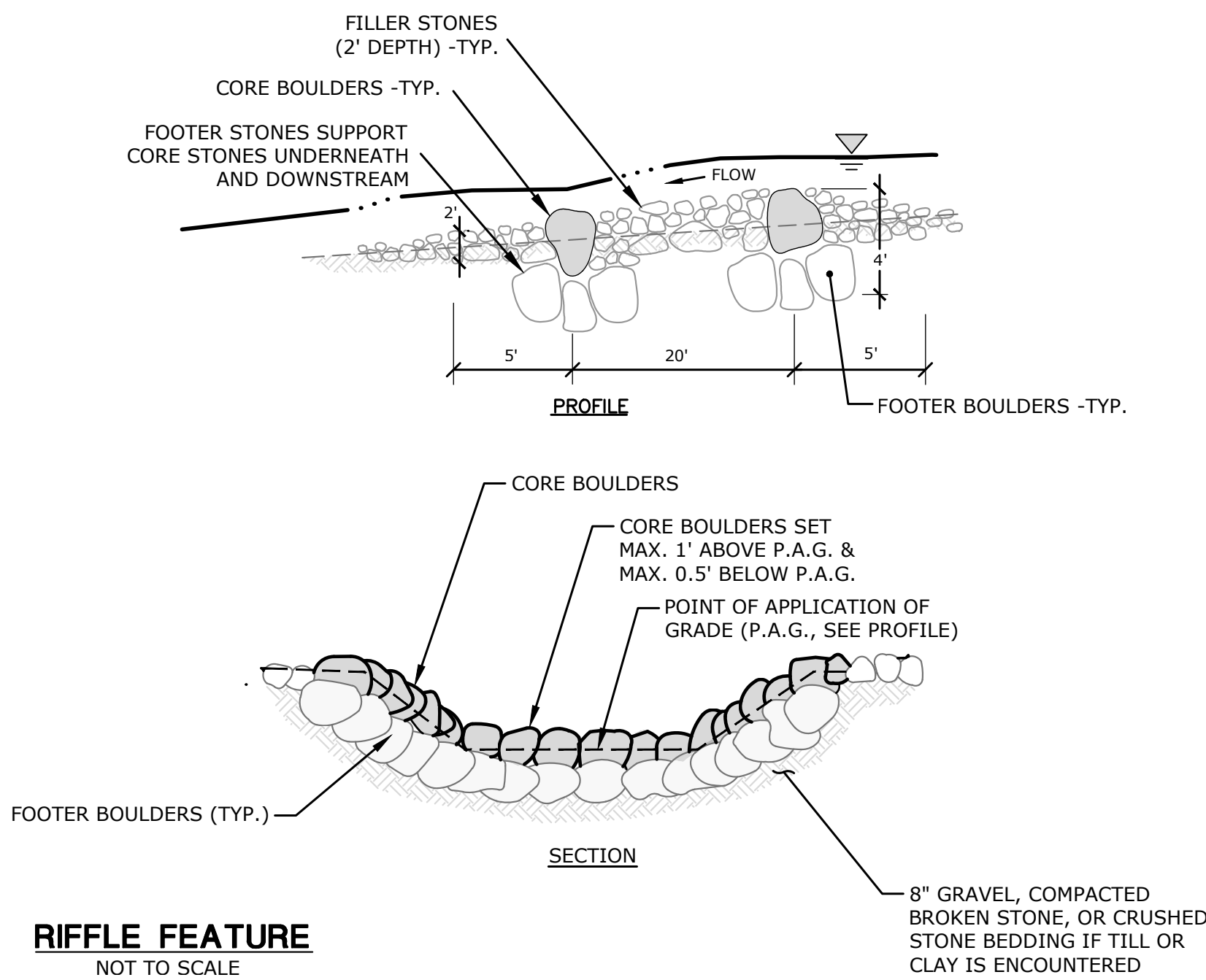
NOT TO SCALE



PLAN VIEW



PLAN



RIFFLE FEATURE

NOT TO SCALE

DESCRIPTION	DATE	BY

DETAILS
RIVER STREET DAM REMOVAL
(DAM NO. MA03463)
53 RIVER STREET, AT FORT POND BROOK
TOWN OF ACTON, MASSACHUSETTS

DESIGNED	DRAWN	CHECKED
SCALE	N.T.S	
DATE	MAY 18, 2020	
PROJECT NO.	4458-02	
SHEET NO.	18 OF 18	
SHEET NAME	DE-3	