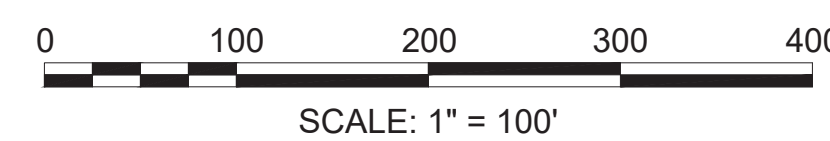
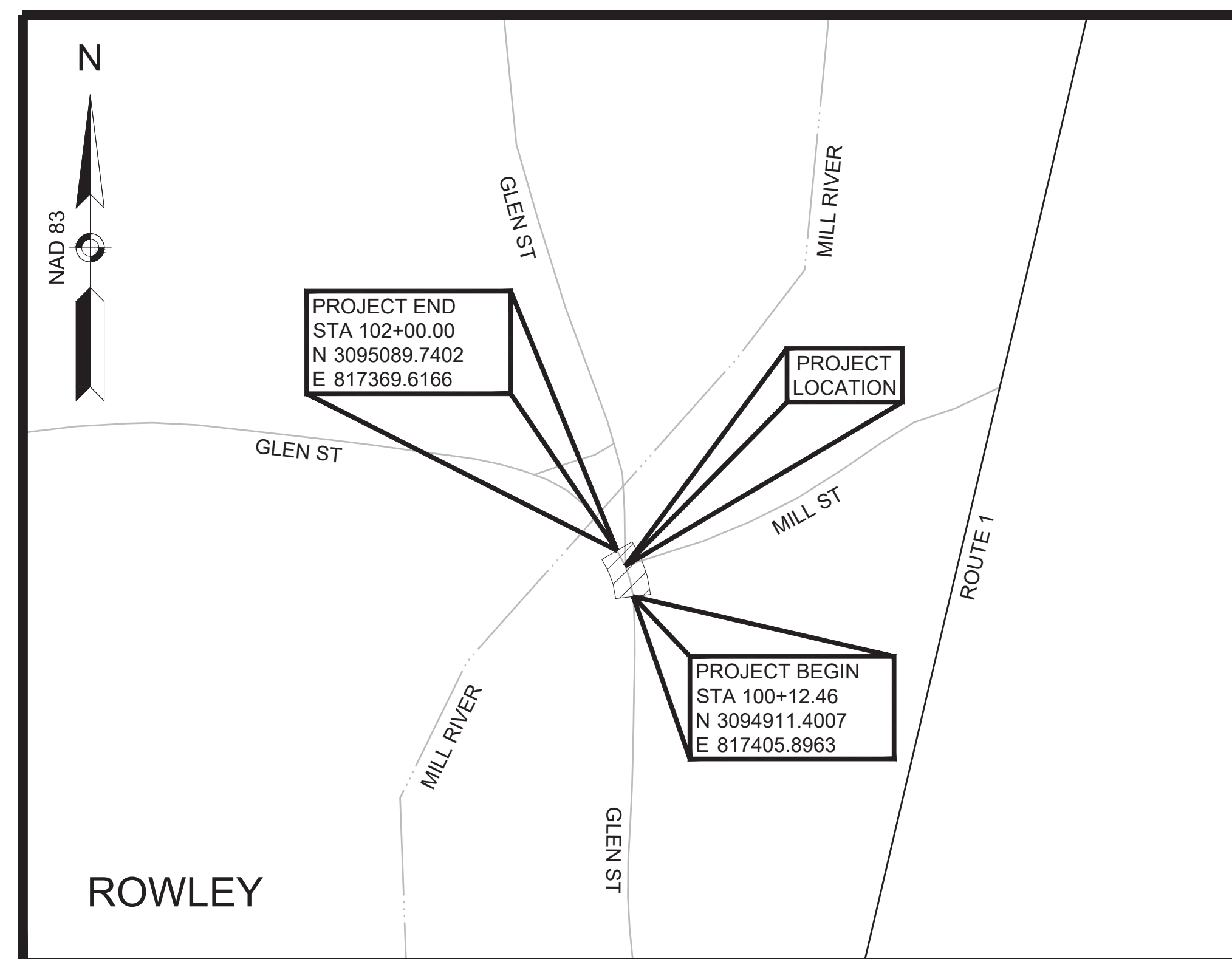


PLAN AND PROFILE OF  
**GLEN STREET**  
 IN THE TOWN OF  
**ROWLEY**  
 ESSEX COUNTY  
**NOTICE OF INTENT**

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	LEGEND ABBREVIATIONS & GENERAL NOTES
3	TYPICAL SECTIONS
4	CONSTRUCTION PLANS OVER PROFILE
5	IMPACTS SUMMARY PLAN
6	STREAM RESTORATION PLAN
7	CONSTRUCTION DETAILS
8	BRIDGE DETAILS
9	CONTROL OF WATER
10	EXISTING CONDITIONS PLAN



LENGTH OF PROJECT = 142.91 FEET = 0.027 MILES

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

DATE	DESCRIPTION	REV #



Joshua D. Trearchis, PE  
 2024.04.15 13:48:27-04'00"

ENGINEER DATE



DESIGNED BY JDT	APPROVED BY SHK	SHEET OF 1 10
DRAWN BY SQN	DFTG CHECKED BY JDT	VHB CAD FILE NAME 15884.04_HD-(COV).DWG
CHECKED BY JDT	DATE JANUARY, 2024	JOB NO. 15884.04

**GENERAL ABBREVIATIONS**

ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS / CONTINUED
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DIA	DIAMETER
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EXIST (or EX)	EXISTING
EXC	EXCAVATION
FDN.	FOUNDATION
FDP	FULL DEPTH PAVEMENT
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HWY	HIGHWAY
JCT	JUNCTION
LOAM	LOAM BORROW
LSA	LANDSCAPED AREA
LT	LEFT
MAHWL	MEAN AVERAGE HIGH WATER LINE
MAX	MAXIMUM
MB	MAILBOX
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
MOD	MODIFIED
MSE	MECHANICALLY STABILIZED EARTH
NERR	NEW ENGLAND RAILROAD
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
P.G.L.	PROFILE GRADE LINE
PREV	PREVIOUS/PREVIOUSLY
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PVMT	PAVEMENT
R&D	REMOVE AND DISCARD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RD	ROAD
RDWY	ROADWAY
REB	REBUILD
REM	REMOVE
REMOD	REMODEL
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SHLO/S.H.L.O.	STATE HIGHWAY LAYOUT LINE

**GENERAL ABBREVIATIONS**

<b>(CONT)</b>	
ST	STREET
STA	STATION
STD	STANDARD
SW	SIDEWALK
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TRANS	TRANSITION
TRM	TURF REINFORCING MAT
TYP	TYPICAL
VAR	VARIES
VERT	VERTICAL
WCR	WHEEL CHAIR RAMP
WP	WORKING POINT
X-SECT	CROSS SECTION
<b>UTILITY ABBREVIATIONS</b>	
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
DI	DROP INLET
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HDW	HEADWALL
HYD	HYDRANT
INV	INVERT
LB	LEACH BASIN
LP	LIGHT POLE
MH	MANHOLE
MW	MONITORING WELL
OHW	OVERHEAD WIRE
PVC	POLYVINYLCHLORIDE PIPE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE
SMH	SEWER MANHOLE
TSV&B	TAPPING SLEEVE VALVE & BOX
UP	UTILITY POLE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN

**ALIGNMENT & GRADING**

**ABBREVIATIONS**

CC	CENTER OF CURVE
HP	HIGH POINT
I.T.	INTERSECTION OF TANGENT
LP	LOW POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PNT	POINT
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
∠PT	ANGLE POINT
R	RADIUS OF CURVATURE
T	TANGENT DISTANCE OF CURVE
TAN	TANGENT
25.45	SPOT ELEVATION

**PROFILE ABBREVIATIONS**

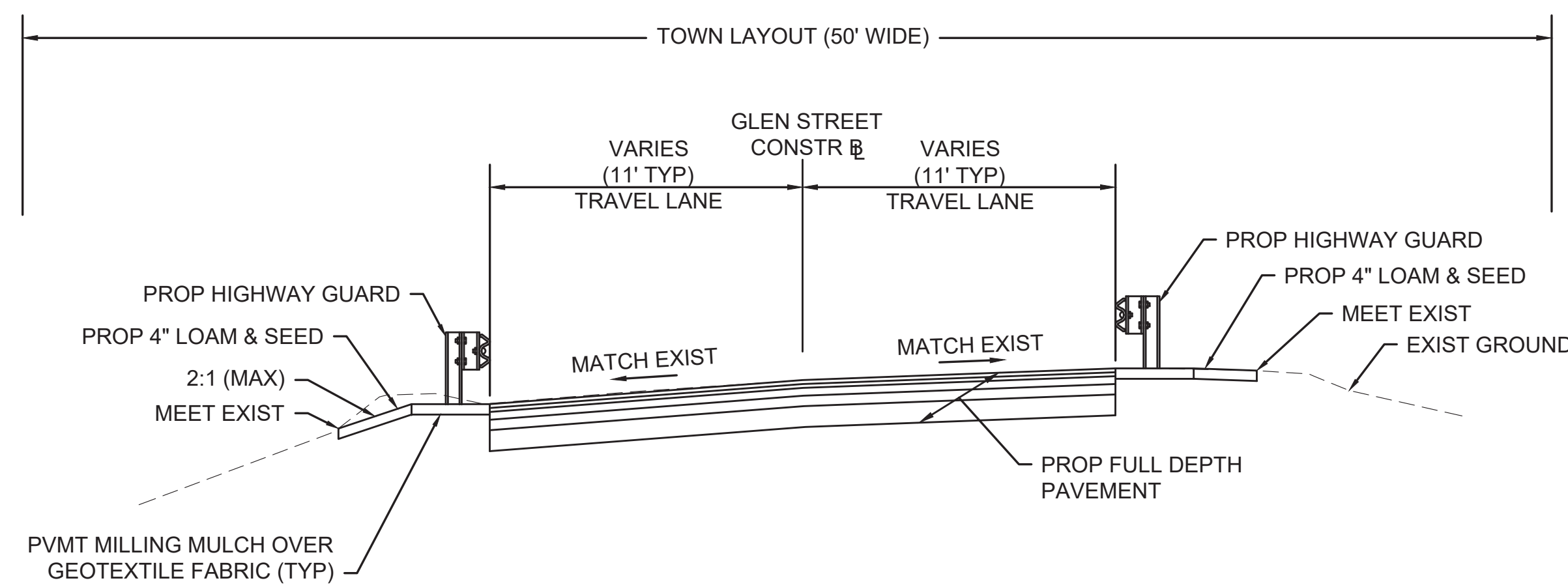
AD	ALGEBRAIC DIFFERENCE IN RATES OF GRADE
HSD	HORIZONTAL SIGHT DISTANCE
K	RATE OF VERTICAL CURVATURE
L	LENGTH OF CURVE
PVC	POINT OF VERTICAL CURVATURE
PVCC	POINT OF VERTICAL COMPOUND CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
SSD	STOPPING SIGHT DISTANCE
VC	VERTICAL CURVE

**GENERAL SYMBOLS**

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		EDGE OF PAVEMENT
		LIMIT OF MICROMILLING AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT
		CONTROL OF WATER

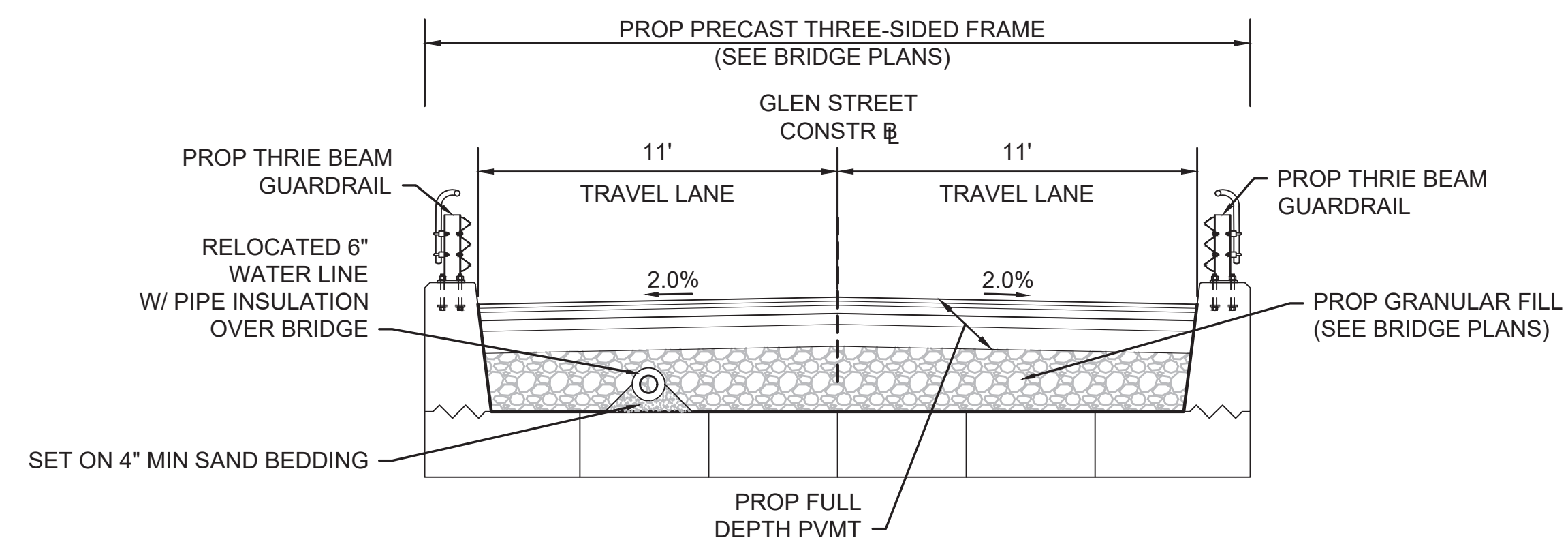
**GENERAL NOTES:**

- EXISTING CONDITIONS AND TOPOGRAPHICAL INFORMATION FROM AN ACTUAL FIELD SURVEY CONDUCTED BY VHB IN NOVEMBER OF 2022.
- THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND GRADES IN THE FIELD BEFORE COMMENCING WORK AND PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, IF REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE UTILITY COMPANIES FOR ALL WORK WITHIN THE VICINITY OF EXISTING OVERHEAD WIRES AND UTILITY POLES.
- EXISTING UTILITY POLES WILL BE RELOCATED BY OTHERS, IF REQUIRED.
- TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
- THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
- JOINTS BETWEEN NEW ASPHALT CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH HMA JOINT SEALER AND BACKSANDED.
- EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- EXISTING STATE, COUNTY, CITY, AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED.
- THE CONTRACTOR SHALL EXERCISE DUE CARE WHEN WORKING AROUND ALL PROPERTY BOUNDS WHICH ARE TO REMAIN. SHOULD ANY DAMAGE TO A BOUND RESULT FROM THE ACTIONS OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE THE BOUND REPLACED AND/OR REALIGNED BY A LICENSED PROFESSIONAL SURVEYOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
- DISPOSAL OF ALL SURPLUS MATERIAL SHALL BE AS APPROVED BY THE ENGINEER AND OWNER.



**TYPICAL MILL & OVERLAY SECTION**

STA 100+39± TO STA 100+85±  
 STA 101+24± TO STA 101+37±  
 NTS



**TYPICAL THREE-SIDED FRAME SECTION**

STA 100+90± TO STA 101+19±  
 NTS

**PAVEMENT NOTES**

**PROPOSED FULL DEPTH PAVEMENT**

- SURFACE: 1.5" SUPERPAVE SURFACE COURSE - 12.5 POLYMER (SSC-12.5-P) OVER
- INTERMEDIATE: 1.5" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER
- BASE: 3" SUPERPAVE BASE COURSE - 37.5 (SBC-37.5) OVER
- \*\* SUBBASE: 4" DENSE GRADED CRUSHED STONE FOR SUB-BASE OVER 8" GRAVEL BORROW, TYPE b

\*\* WHERE EXISTING GRAVEL IS FOUND TO BE SUITABLE, THE EXISTING GRAVEL MAY BE USED IN PROPOSED SUBBASE, AFTER APPROVAL BY THE ENGINEER

**NOTES:**

1. ALL HOT MIX ASPHALT PAVEMENTS SHALL BE CONSTRUCTUED IN ACCORDANCE WITH SECTION 450 QUALITY ASSURANCE FOR HMA.
2. ASPHALT EMULSION FOR TACK COAT (ITEM 452.) SHALL BE SPRAY APPLIED FOR DOUBLE OVERLAP COVERAGE AT 0.08 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES AND 0.09 GALLONS PER SQUARE YARD OVER MILLED SURFACES.

**HIGHWAY GUARD DETAILS**

**DESCRIPTION:**  
 PROP TRAILING ANCHORAGE  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRANSITION TO THRIE BEAM  
 PROP THRIE BEAM (BRIDGE)  
 PROP TRANSITION TO THRIE BEAM  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRAILING ANCHORAGE

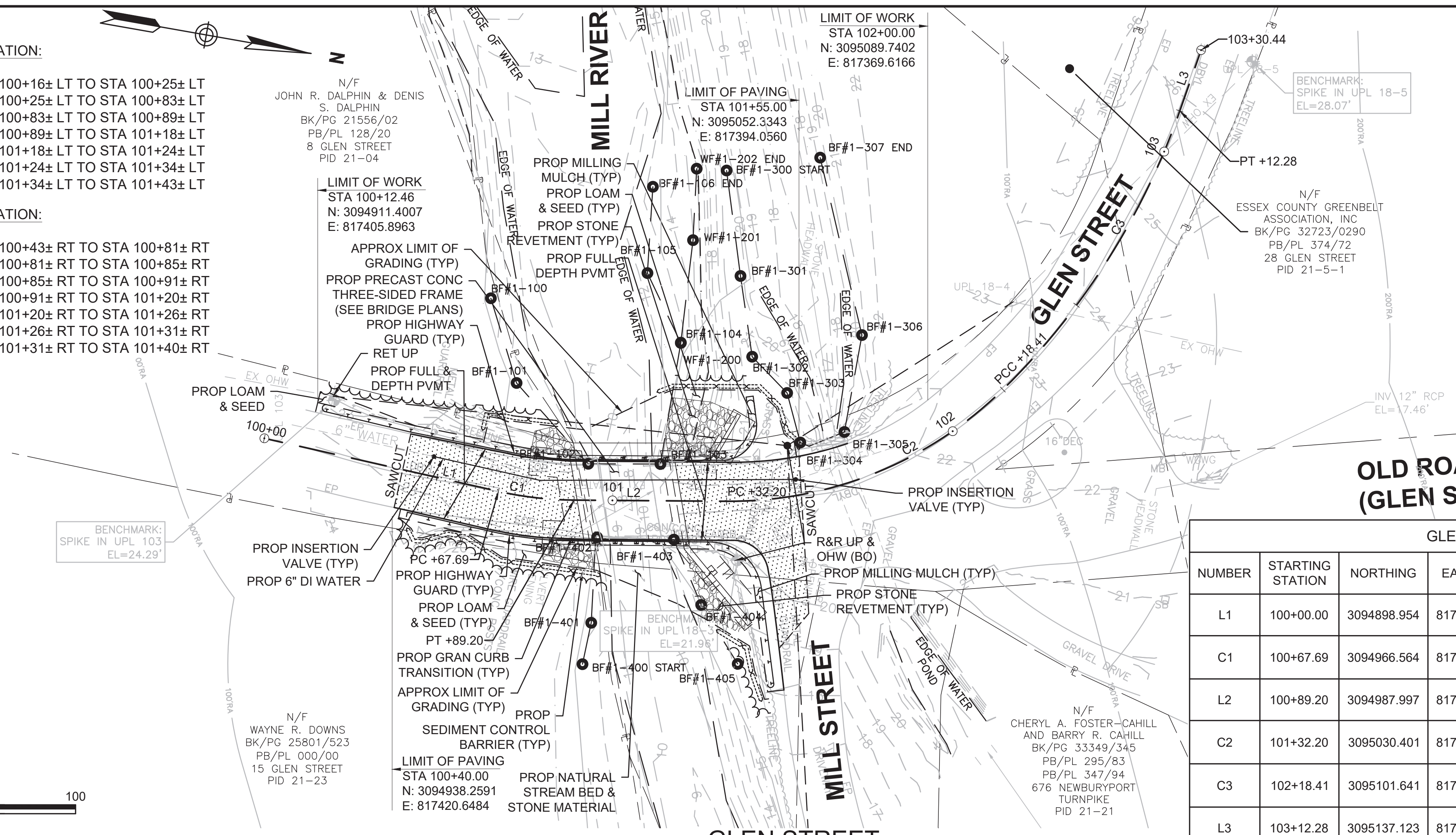
**LOCATION:**  
 STA 100+16± LT TO STA 100+25± LT  
 STA 100+25± LT TO STA 100+83± LT  
 STA 100+83± LT TO STA 100+89± LT  
 STA 100+89± LT TO STA 101+18± LT  
 STA 101+18± LT TO STA 101+24± LT  
 STA 101+24± LT TO STA 101+34± LT  
 STA 101+34± LT TO STA 101+43± LT

**DESCRIPTION:**  
 PROP TANGENT END TREATMENT  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRANSITION TO THRIE BEAM  
 PROP THRIE BEAM (BRIDGE)  
 PROP TRANSITION TO THRIE BEAM  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRAILING ANCHORAGE

**LOCATION:**  
 STA 100+43± RT TO STA 100+81± RT  
 STA 100+81± RT TO STA 100+85± RT  
 STA 100+85± RT TO STA 100+91± RT  
 STA 100+91± RT TO STA 101+20± RT  
 STA 101+20± RT TO STA 101+26± RT  
 STA 101+26± RT TO STA 101+31± RT  
 STA 101+31± RT TO STA 101+40± RT

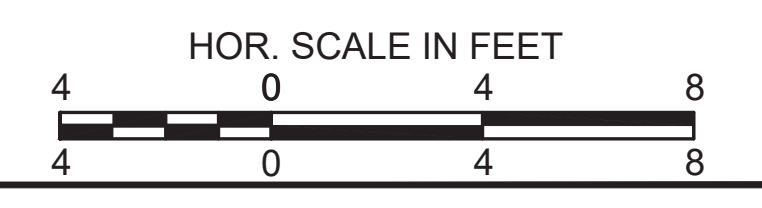
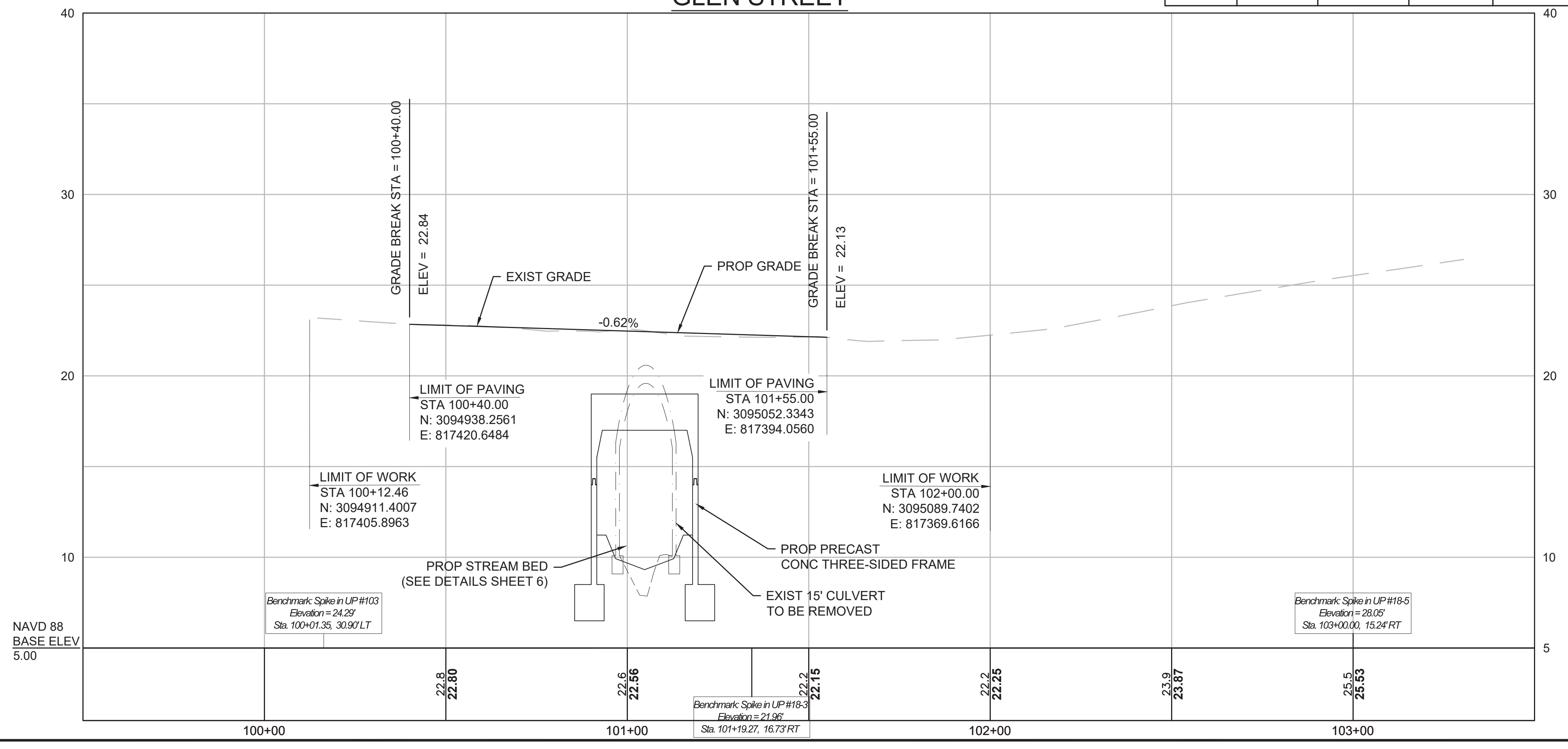
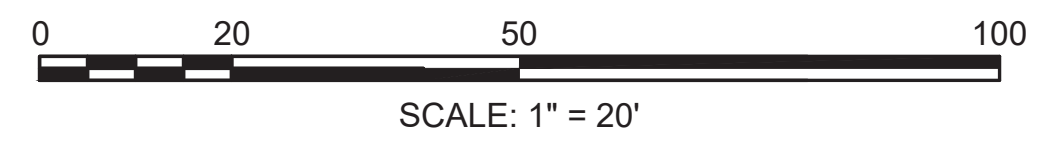
**ROWLEY  
 GLEN STREET  
 CONSTRUCTION PLANS  
 SHEET 4 OF 10**

N/F  
 RICHARD SMITH AND  
 JOY SMITH  
 BK/PG 35602/349  
 PB/PL 274/1959  
 27 GLEN STREET  
 PID 21-20



**OLD ROAD TO NEWBURYPORT  
 (GLEN STREET)**

GLEN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	3094898.954	817405.296		N2°45'43"E 67.69'	100+67.69	3094966.564	817408.557
C1	100+67.69	3094966.564	817408.557	R= 100.00' Δ= 12°19'32" L=21.51' T=10.80'		100+89.20	3094987.997	817407.284
L2	100+89.20	3094987.997	817407.284		N9°33'49"W 43.00'	101+32.20	3095030.401	817400.139
C2	101+32.20	3095030.401	817400.139	R= 110.00' Δ= 44°54'11" L=86.21' T=45.45'		102+18.41	3095101.641	817355.598
C3	102+18.41	3095101.641	817355.598	R= 205.00' Δ= 26°14'08" L=93.87' T=47.77'		103+12.28	3095137.123	817269.577
L3	103+12.28	3095137.123	817269.577		N80°42'08"W 18.16'	103+30.44	3095140.058	817251.654



NOTE: THE CONTROL OF WATER WILL BE ESTABLISHED WITHIN THE MILL RIVER DURING THE CONSTRUCTION PERIOD USING METHODS DETERMINED BY THE CONTRACTOR. SEE SHEET 9 FOR ADDITIONAL DETAILS.

N/F  
JOHN R. DALPHIN & DENIS  
S. DALPHIN  
BK/PG 21556/02  
PB/PL 128/20  
8 GLEN STREET  
PID 21-04

PROP 100 YR FLOODPLAIN (BLSF)  
ELEV = 16.1'

N/F  
ESSEX COUNTY GREENBELT  
ASSOCIATION, INC  
BK/PG 32723/0290  
PB/PL 374/72  
28 GLEN STREET  
PID 21-5-1

100 YR FLOODPLAIN (BLSF)  
ELEV = 17.5'

LIMIT OF WORK  
STA 102+00.00  
N: 3095089.7402  
E: 817369.6166

LIMIT OF PAVING  
STA 101+55.00  
N: 3095052.3343  
E: 817394.0560

BENCHMARK  
SPIKE IN UPL 18-5  
EL=28.07'

PROP 100 YR FLOODPLAIN (BLSF)  
ELEV = 16.1'  
REGULATORY FLOODWAY

LIMIT OF WORK  
STA 100+12.46  
N: 3094911.4007  
E: 817405.8963

APPROX LIMIT OF  
GRADING (TYP)  
PROP PRECAST CONC  
THREE-SIDED FRAME  
(SEE BRIDGE PLANS)  
PROP HIGHWAY  
GUARD (TYP)  
RET UP

PROP LOAM  
& SEED

BENCHMARK  
SPIKE IN UPL 103  
EL=24.29'

PROP INSERTION  
VALVE (TYP)  
PROP 6" DI WATER

PROP HIGHWAY  
GUARD (TYP)  
PROP LOAM  
& SEED (TYP)  
PT +89.20

PROP GRAN CURB  
TRANSITION (TYP)  
APPROX LIMIT OF  
GRADING (TYP)

PROP  
SEDIMENT CONTROL  
BARRIER (TYP)

LIMIT OF PAVING  
STA 100+40.00  
N: 3094938.2591  
E: 817420.6484

PROP NATURAL  
STREAM BED &  
STONE MATERIAL

R&R UP &  
OHV (BO)  
PROP MILLING MULCH (TYP)  
PROP STONE  
REVETMENT (TYP)

PROP INSERTION  
VALVE (TYP)

PROP MILLING MULCH (TYP)  
PROP STONE  
REVETMENT (TYP)

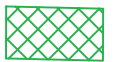
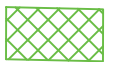

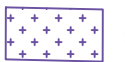






100 YR FLOODPLAIN (BLSF)  
ELEV = 14.8'

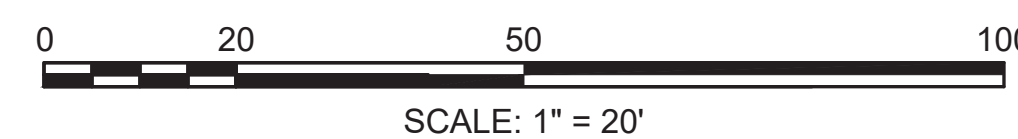
N/F  
CHERYL A. FOSTER-CAHILL  
AND BARRY R. CAHILL  
BK/PG 33349/345  
PB/PL 295/83  
PB/PL 347/94  
676 NEWBURYPORT  
TURNPIKE  
PID 21-21

N/F  
WAYNE R. DOWNS  
BK/PG 25801/523  
PB/PL 000/00  
15 GLEN STREET  
PID 21-23

N/F  
RICHARD SMITH AND  
JOY SMITH  
BK/PG 35602/349  
PB/PL 274/1959  
27 GLEN STREET  
PID 21-20

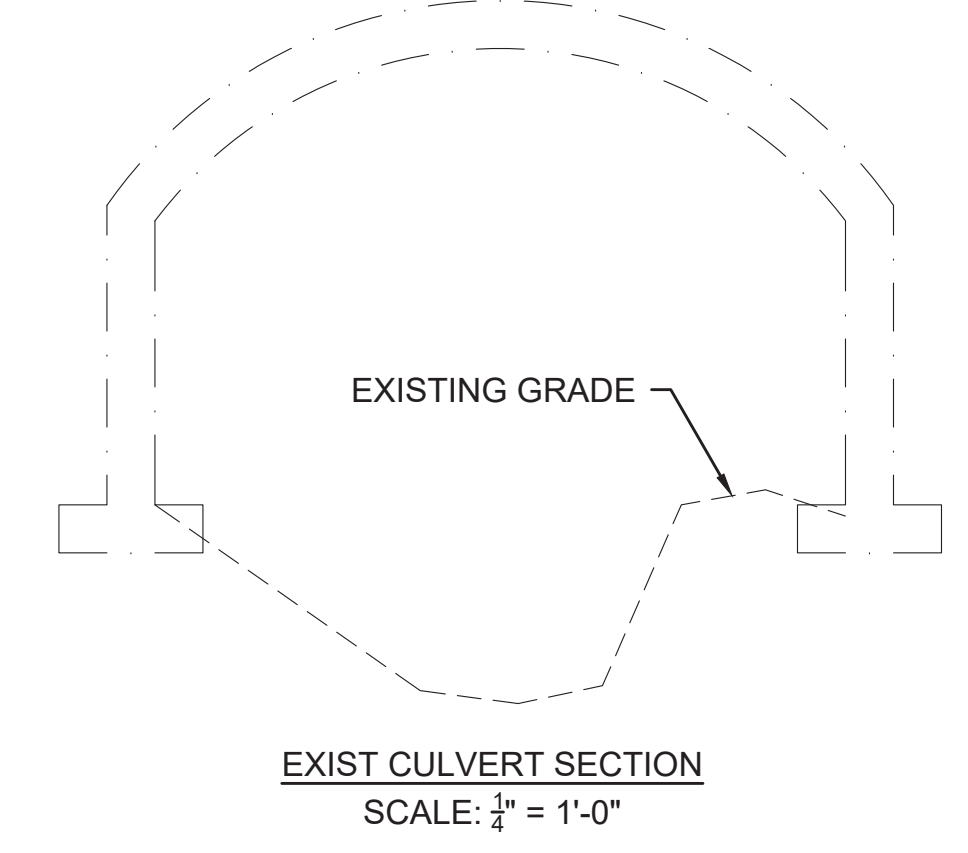
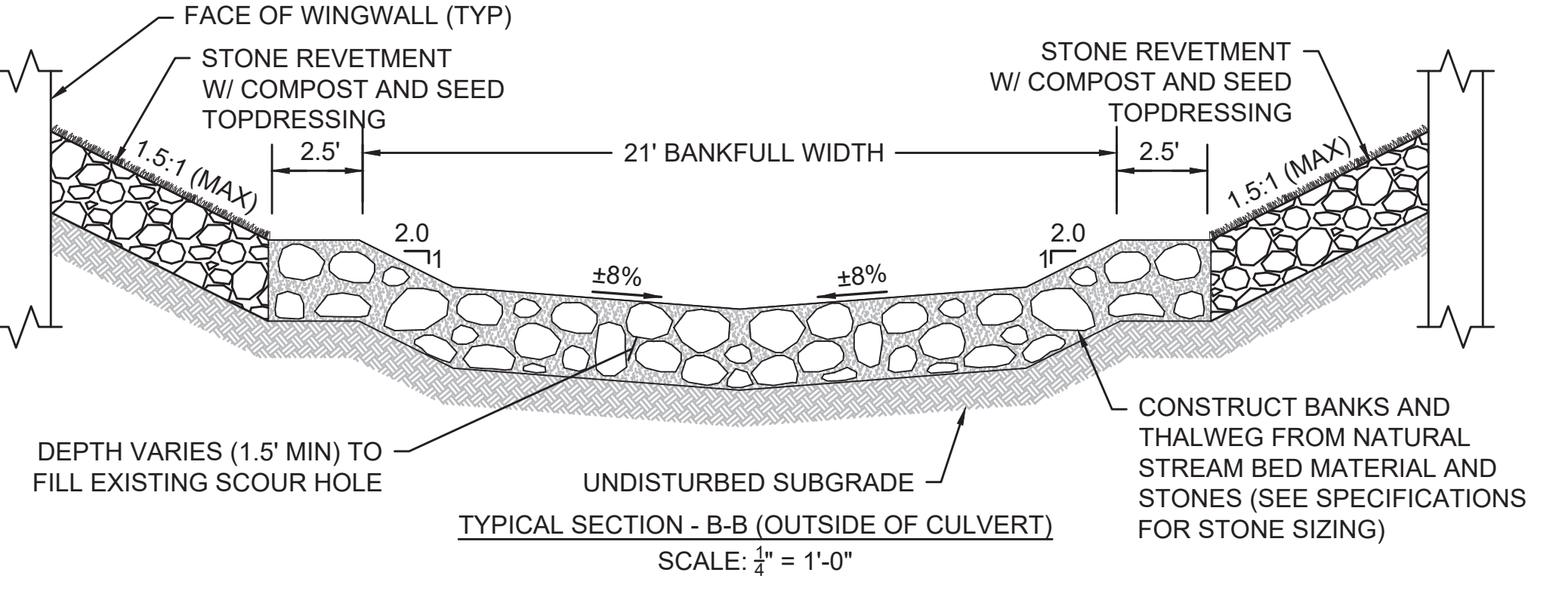
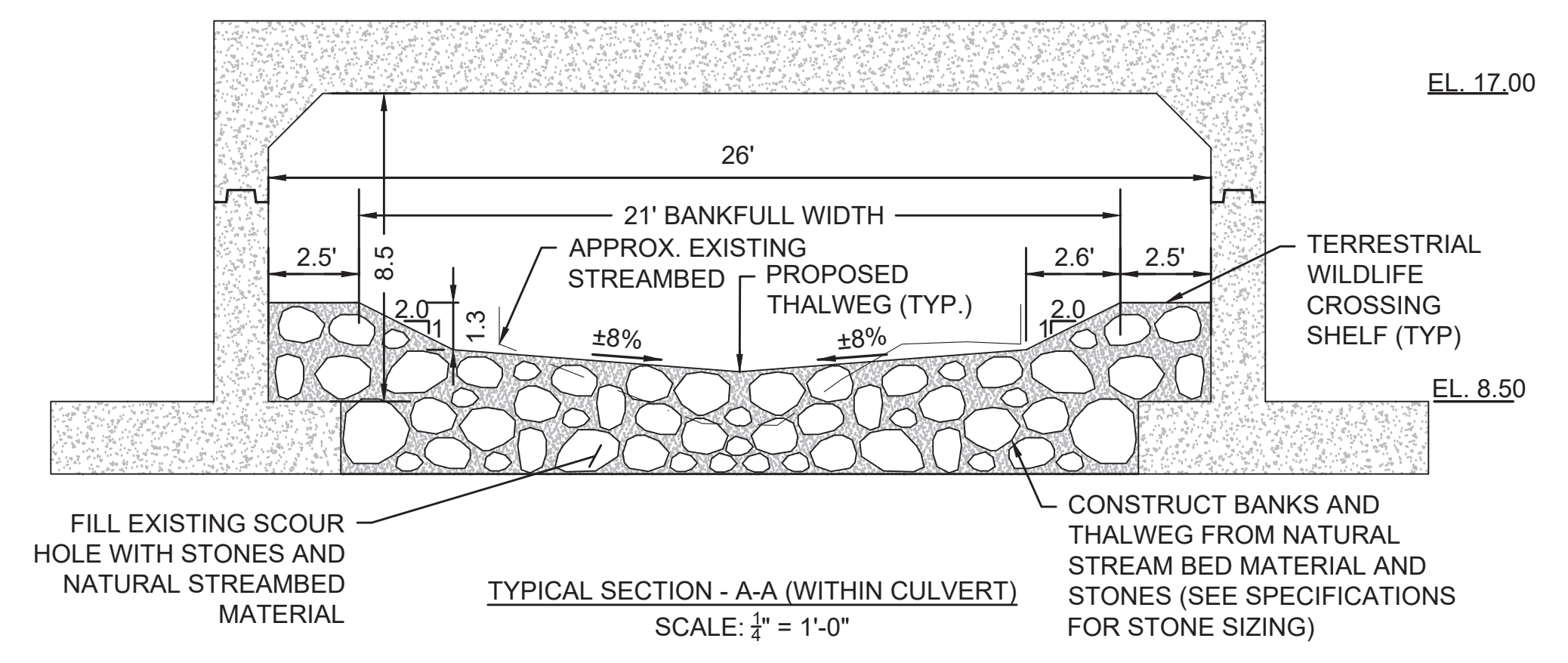
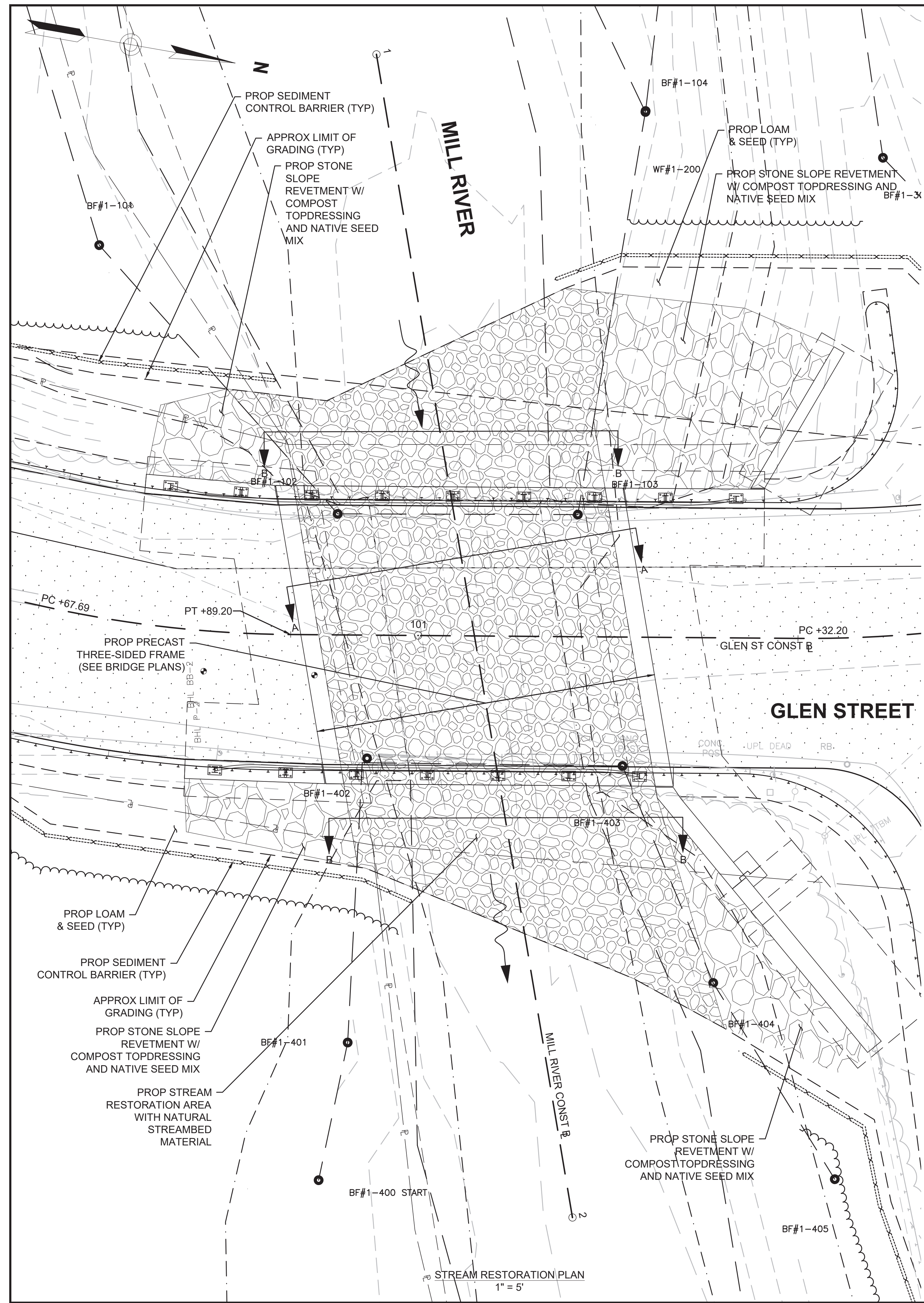
**LEGEND**

-  = TEMPORARY FLOODPLAIN (BLSF) IMPACTS = 276 SF
-  = PERMANENT FLOODPLAIN (BLSF) IMPACTS = 140 SF
-  = TEMPORARY LAND UNDER WATERWAYS IMPACT AREA = 374 SF
-  = PERMANENT LAND UNDER WATERWAYS IMPACT AREA = 601 SF
-  = LAND UNDER WATERWAYS ESTABLISHED AREA = 378 SF
-  = TEMPORARY RIVERFRONT AREA IMPACT = 728 SF
-  = PERMANENT RIVERFRONT AREA IMPACT = 1981 SF
-  = TEMPORARY BANK IMPACTS = 134 LF
-  = 100 YR FLOODPLAIN (BLSF)
-  = REGULATORY FLOODWAY



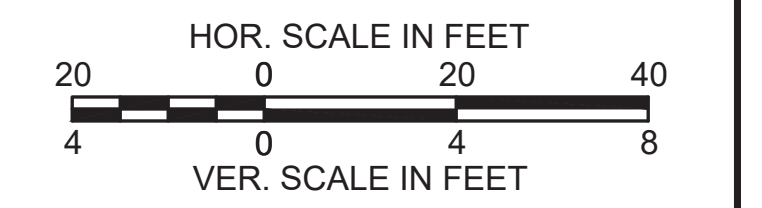
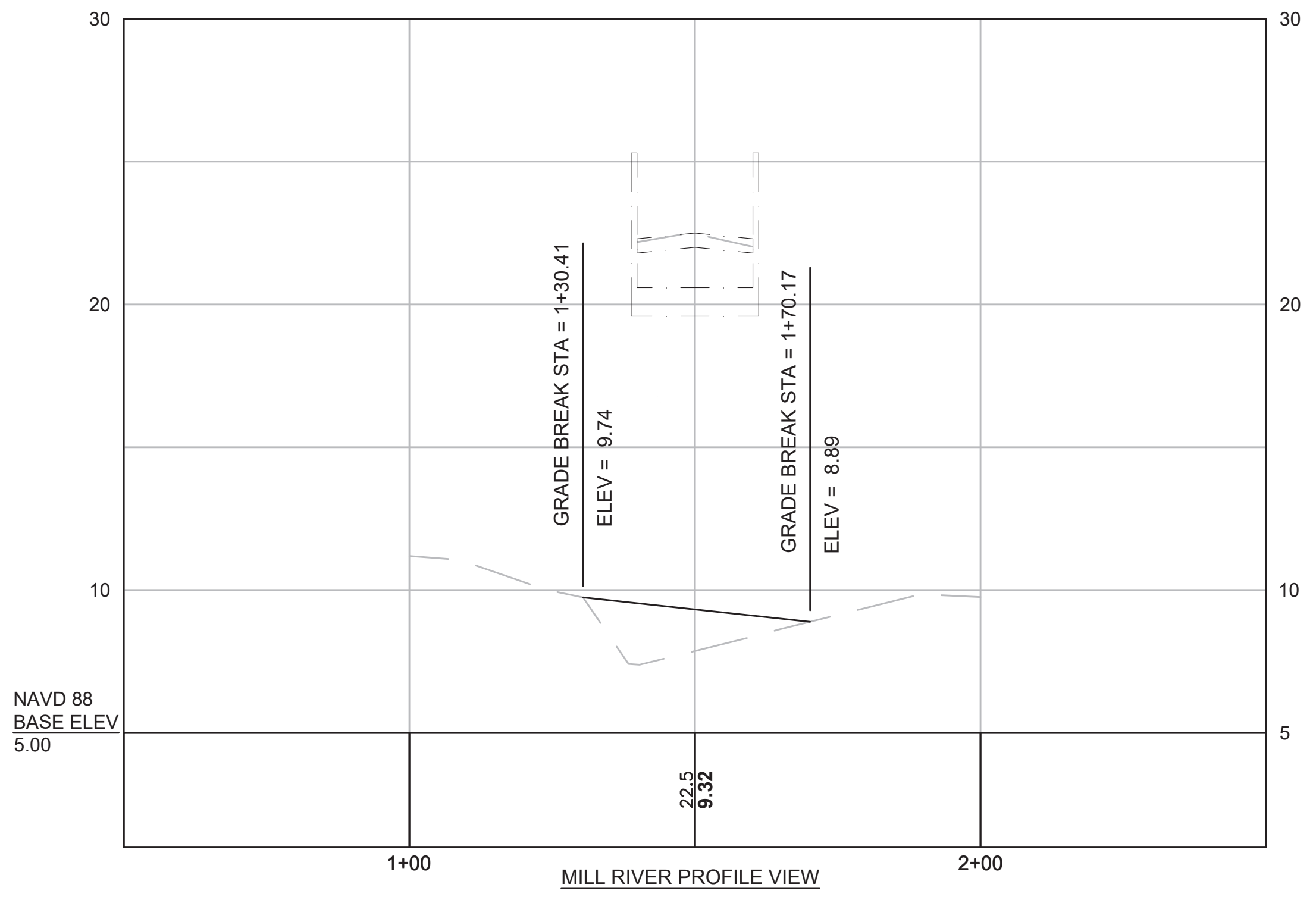
**ROWLEY  
GLEN STREET  
STREAM RESTORATION PLAN  
SHEET 6 OF 10**

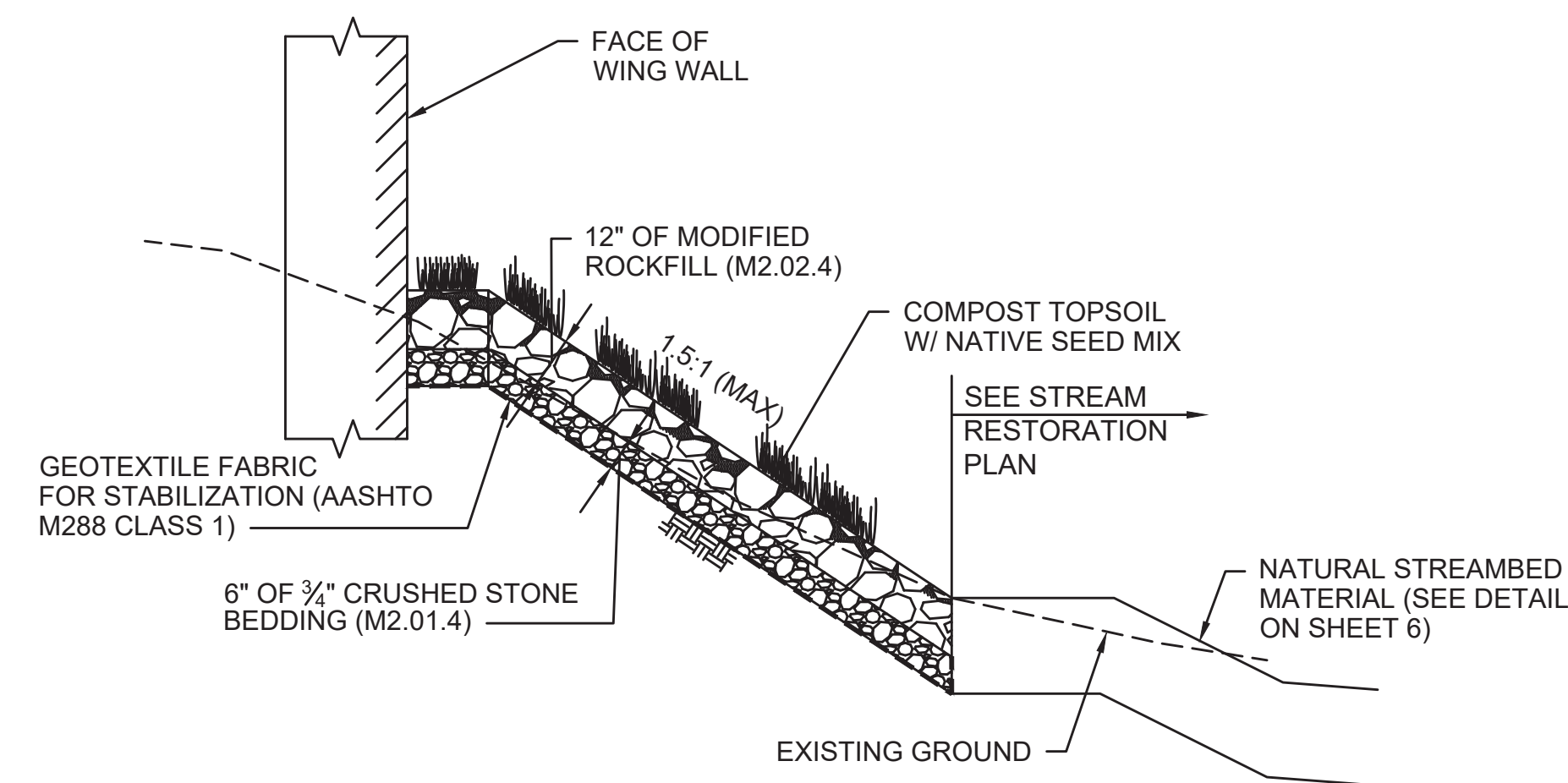
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**STREAM RESTORATION PLAN NOTES**

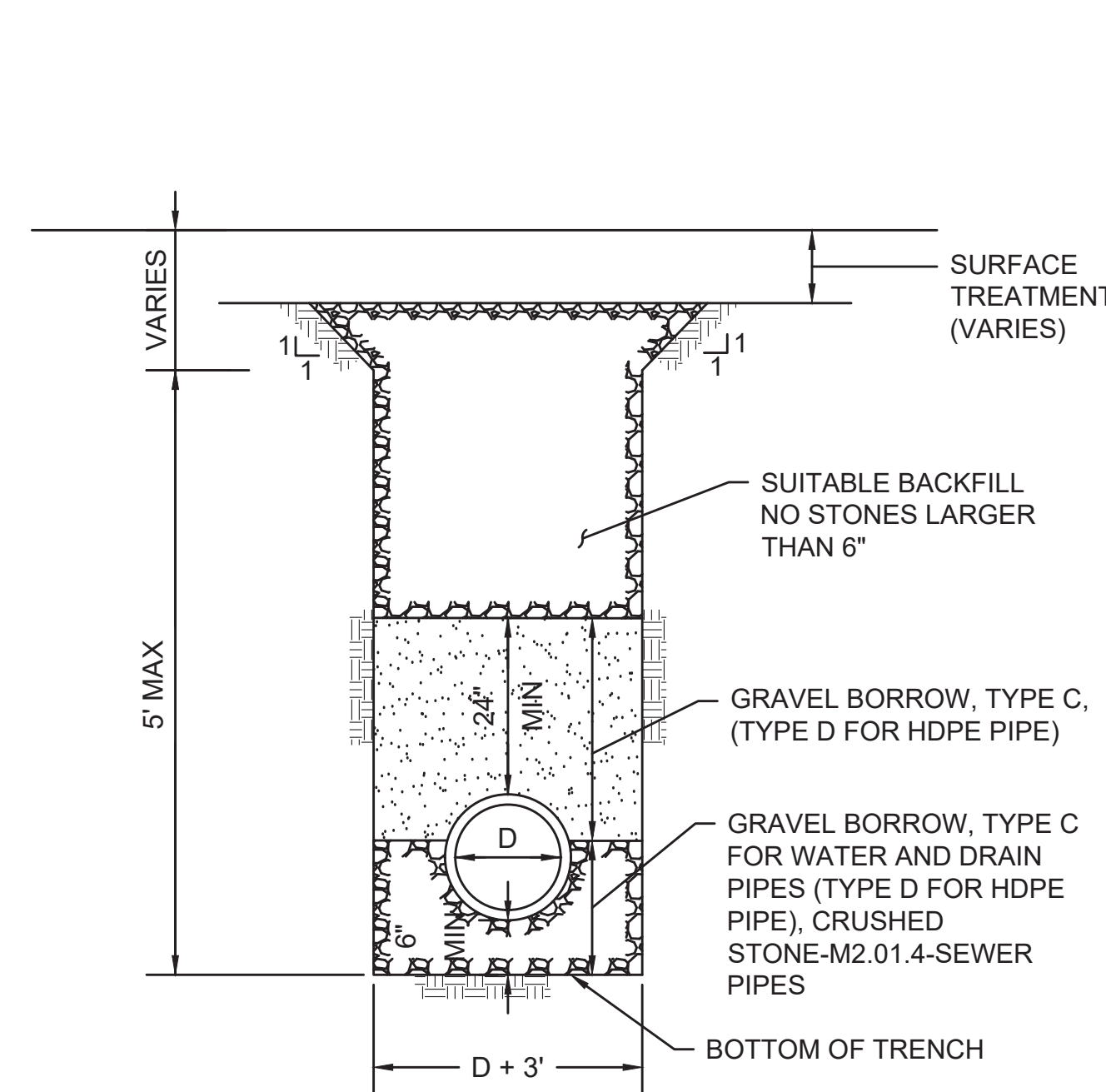
1. MATERIAL EXCAVATED FROM EXISTING STREAM CHANNEL SHALL BE STOCKPILED AND RE-USED AS NATURAL STREAMBED MATERIAL.
2. THE STREAM RESTORATION AREA FOR MILL RIVER SHALL CONSIST OF NATURAL STREAMBED MATERIAL AND STONES TO CONSTRUCTION OF THE STREAM BANK SIDE SLOPES. THE NATURAL STREAMBED MATERIAL AND STONES SHALL BE USED TO CREATE A THALWEG DOWN THE CENTER OF THE BRIDGE. THE NATURAL STREAMBED MATERIAL SHALL CONSIST OF A MIX OF STONES AND EXISTING NATURAL STREAMBED MATERIAL THAT WAS EXCAVATED WITHIN THE DEMOLITION LIMITS. THE STONES SHALL MEET THE GRADATION REQUIREMENTS AS SHOWN IN THE PROJECT SPECIFICATIONS. THE NATURAL STREAMBED MATERIAL SHALL BE NATURAL MATERIAL CONSISTING OF MUCK, SOIL, STONES AND/OR SILTS THAT IS MATERIAL EXCAVATED UNDER BRIDGE EXCAVATION. THE STONES SHALL COMPOSE APPROXIMATELY 75% OF THE VOLUME OF THE TOTAL CUBIC YARDS OF NATURAL STREAMBED MATERIAL. THE REMAINING VOLUME SHALL BE COMPOSED OF THE NATURAL STREAMBED MATERIAL OF MUCK, SOIL, AND SILT FROM THE PROJECT SITE.





**STONE SLOPE REVETMENT (WITH COMPOST TOPDRESSING AND NATIVE SEED MIX)**

SCALE: NTS

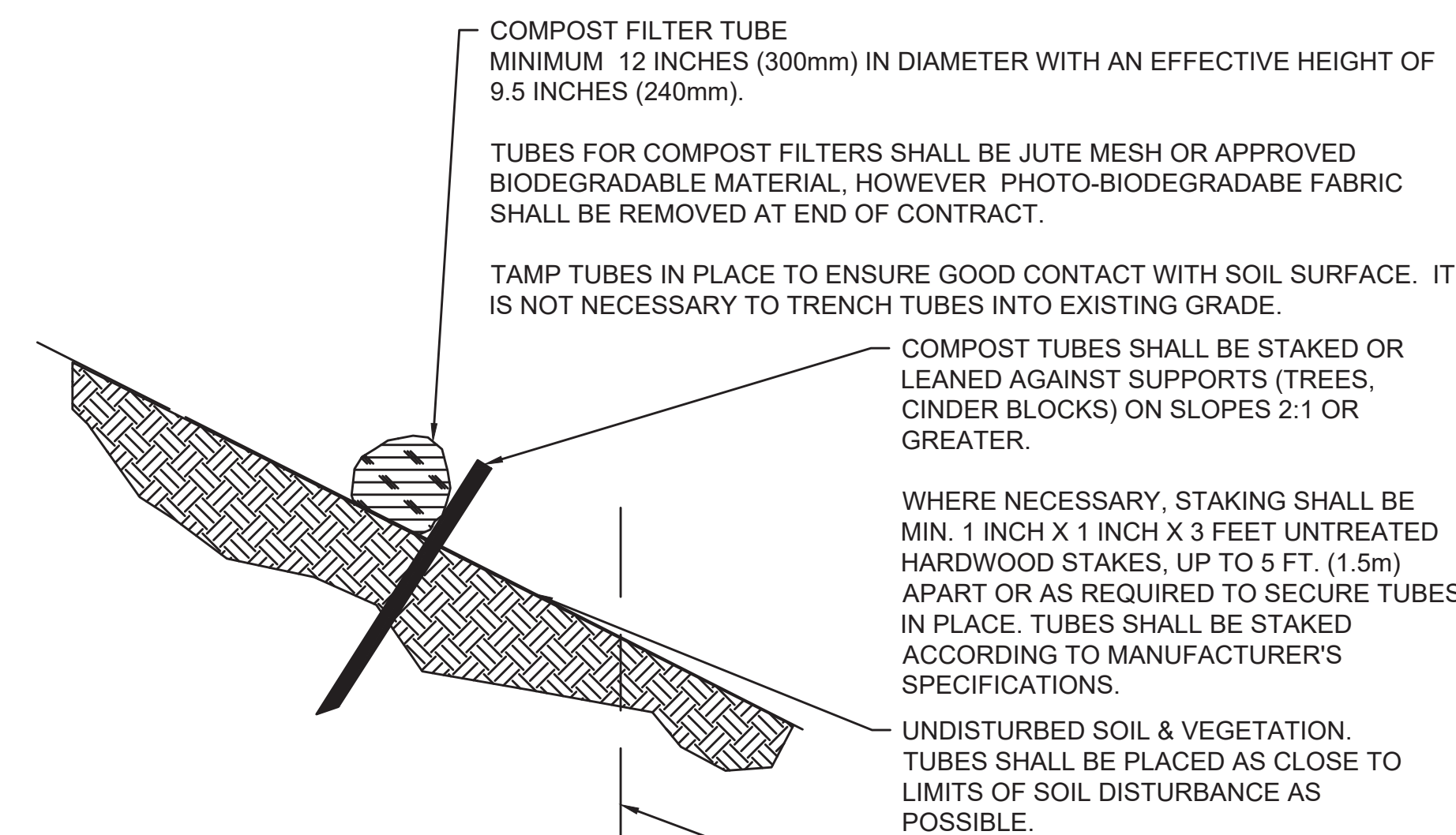


**NOTES:**

1. PIPE INSULATION SHALL BE INSTALLED IN LOCATIONS INDICATED ON THE PLANS AND WHEN WATER MAIN CANNOT BE INSTALLED WITH AT LEAST 5 FEET OF COVER OR 5 FEET OF SEPARATION FROM CULVERT STRUCTURE.
2. WHERE PIPE CROSSES ON TOP OF CULVERT STRUCTURE A 3" (MIN) BEDDING OF SAND BORROW (M1.04.0 TYPE B) SHALL BE USED.

**TRENCH DETAIL**

SCALE: N.T.S. DWG: TRENCH-05 DATE: AUGUST 2018

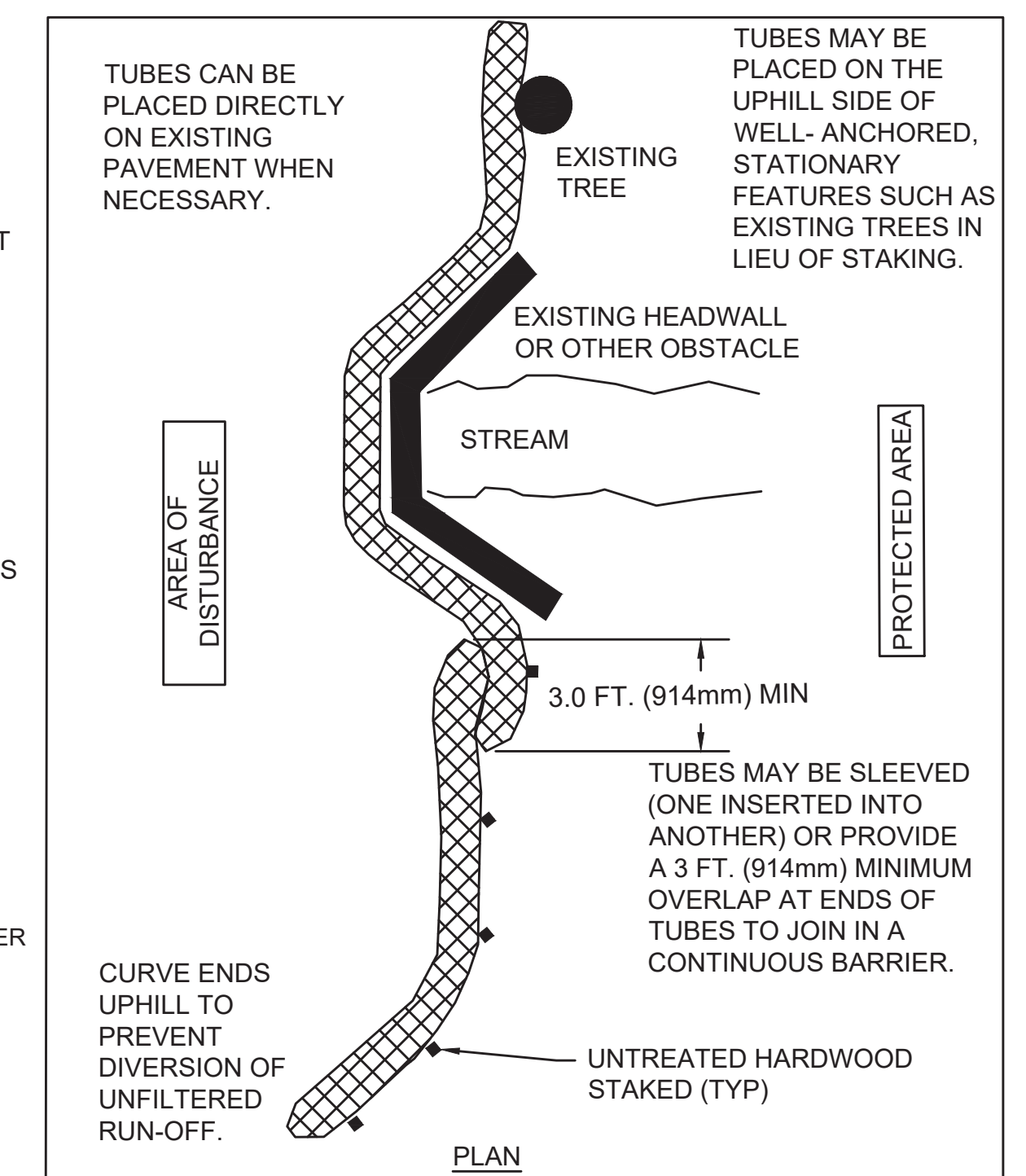


**NOTES:**

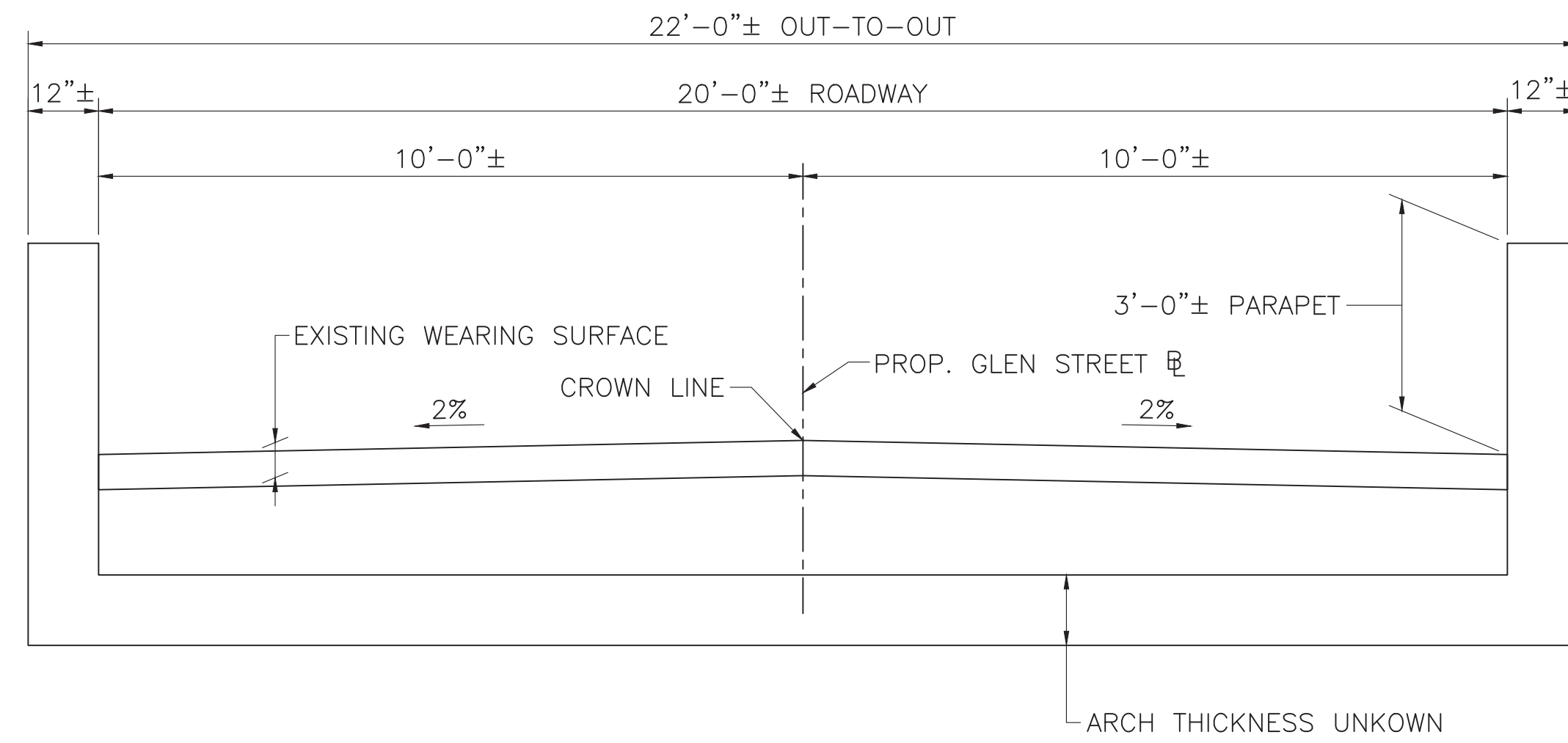
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12 INCHES (300mm) FOR SLOPES UP TO 50 FEET (15.24m) IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATIONS WITH LONGER OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. TUBE LOCATION MAY BE SHIFTED TO ADJUST TO LANDSCAPE FEATURES, BUT SHALL PROTECT UNDISTURBED AREA AND VEGETATION TO MAXIMUM EXTENT POSSIBLE.
4. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
5. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. ADDITIONAL STAKING SHALL BE USED AT THE DIRECTION OF THE ENGINEER.

**SEDIMENT CONTROL BARRIER**

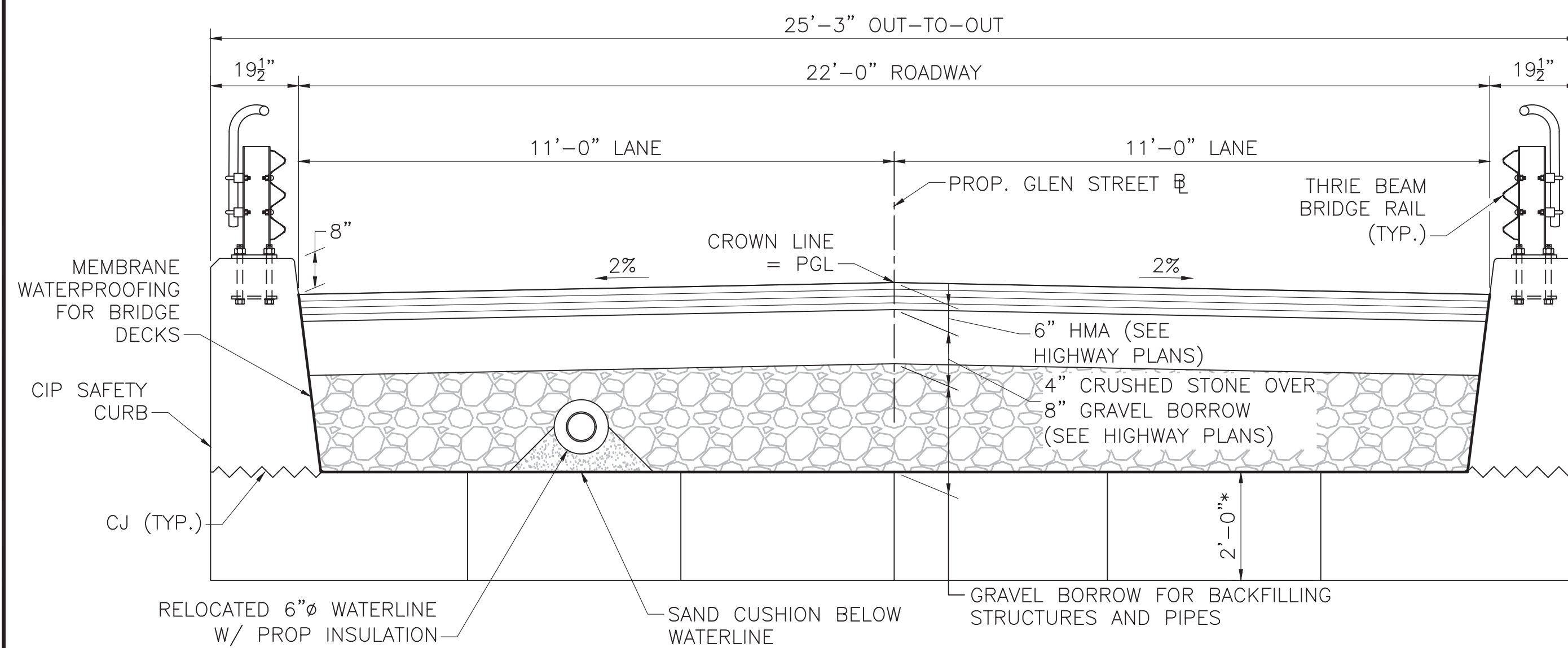
SCALE: N.T.S.



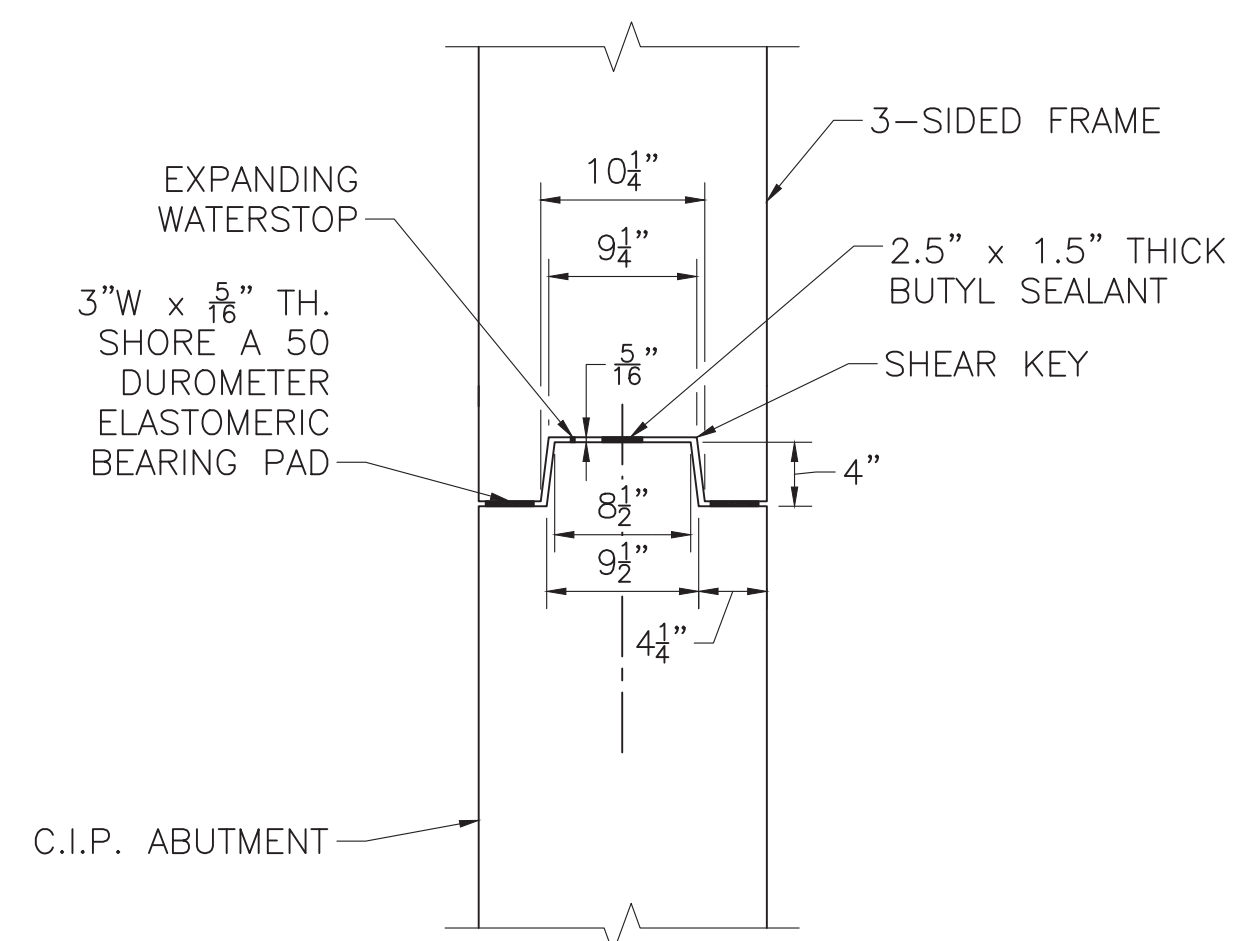
**PLAN**



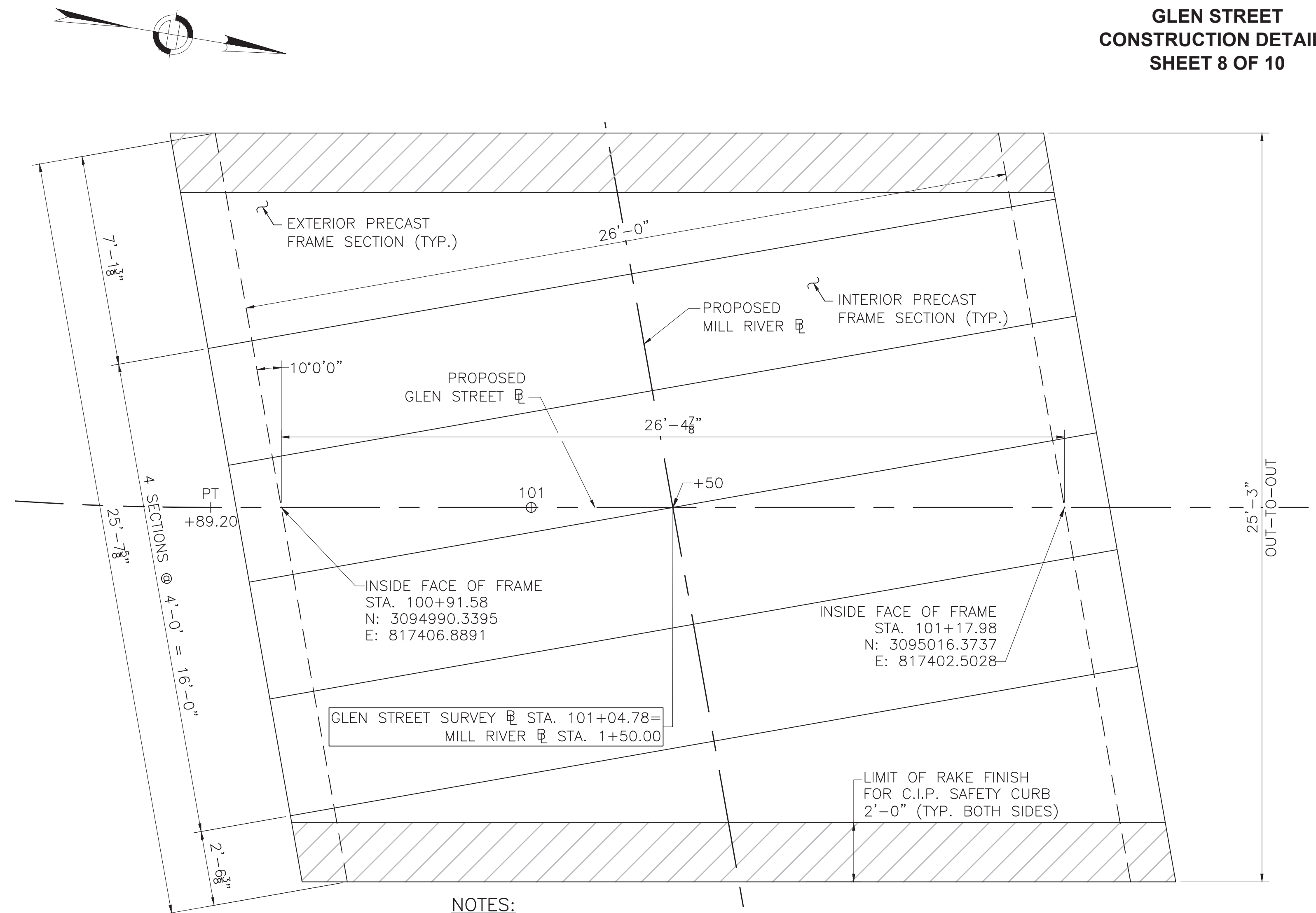
EXISTING 6"Ø WATERLINE WITH 18"Ø O.D. CAST IRON PIPE & INSULATION  
**EXISTING ROADWAY SECTION**  
SCALE: 1/2" = 1'-0"



**PROPOSED ROADWAY SECTION**  
SCALE: 1/2" = 1'-0"

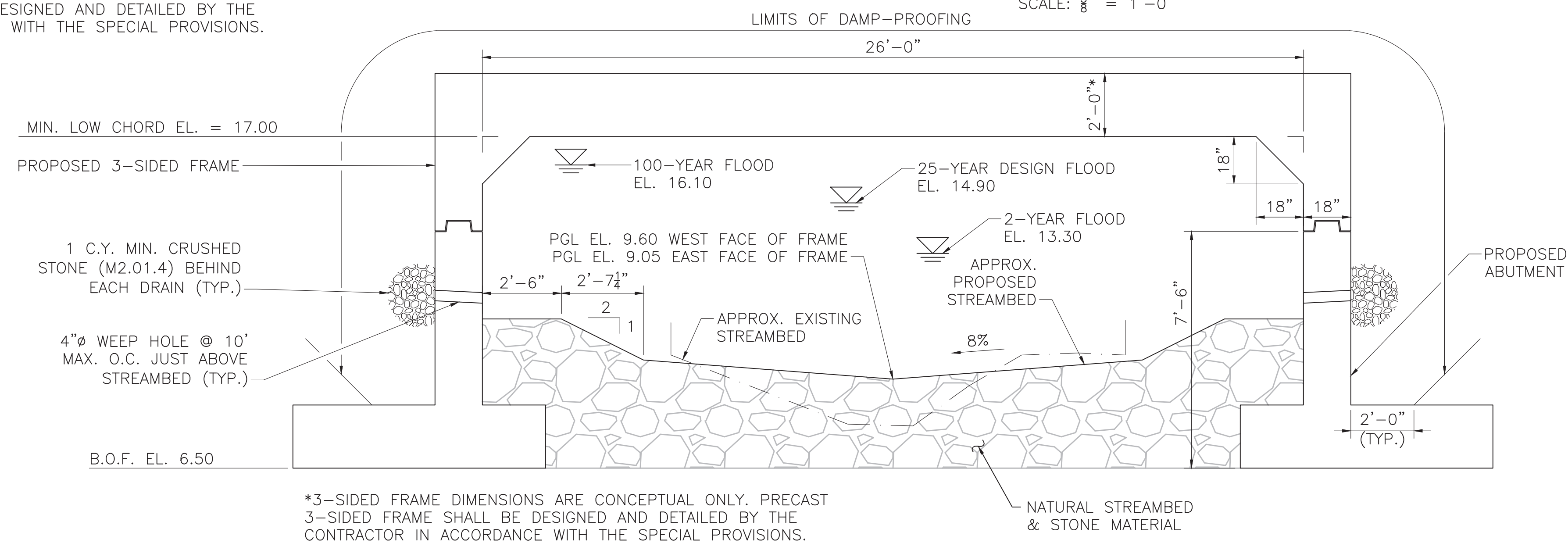


**3-SIDED FRAME TO ABUTMENT JOINT DETAIL**  
SCALE: 1" = 1'-0"



- NOTES:**
- LAYOUT OF PROPOSED BOX CULVERT JOINTS IS SCHEMATIC, THE CONTRACTOR SHALL SUBMIT JOINT LAYOUT FOR APPROVAL TO THE ENGINEER AS PART OF THE FABRICATION DRAWING PROCESS.
  - CONTRACTOR TO DETERMINE FINAL DIMENSIONS.

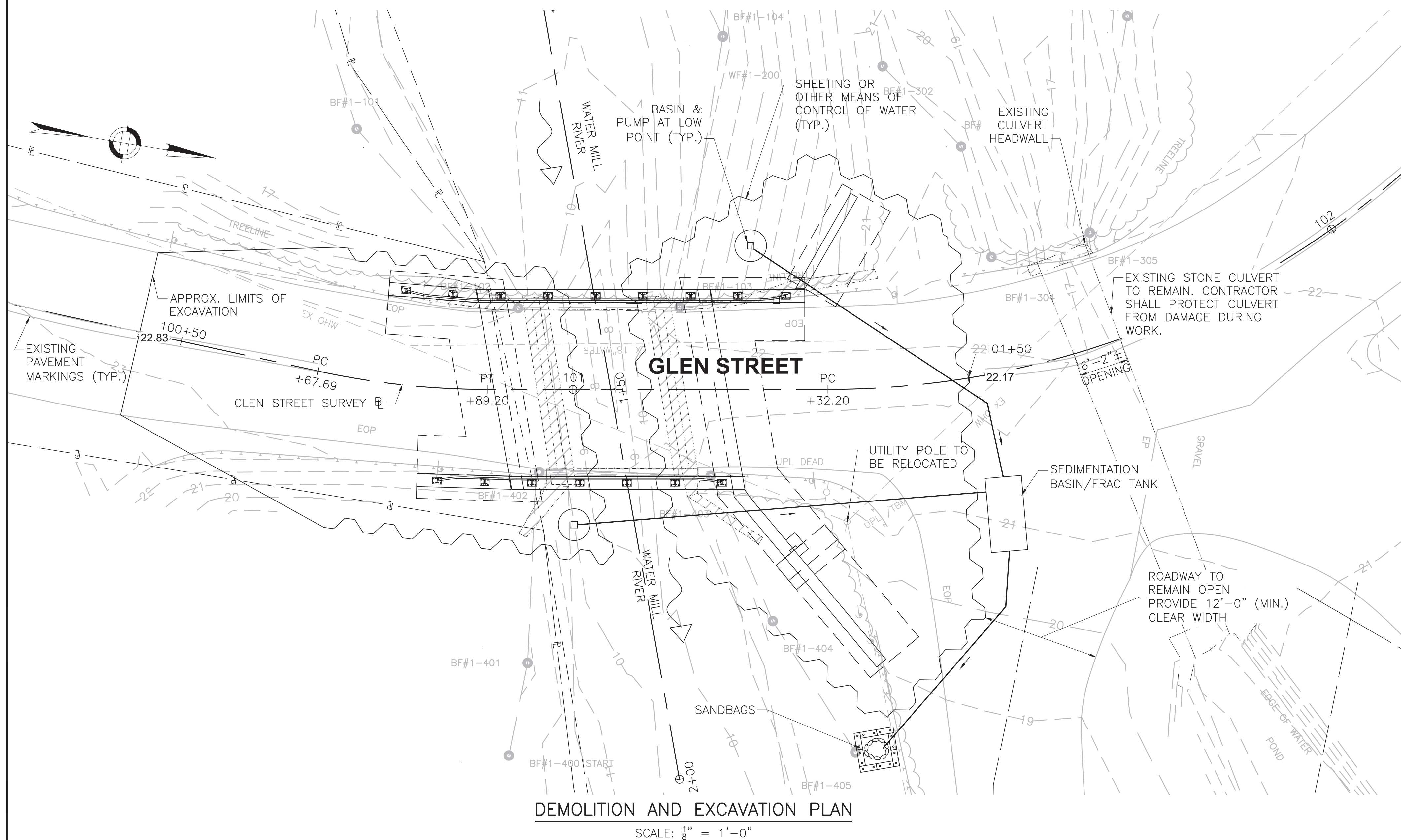
**FRAMING PLAN**  
SCALE: 3/8" = 1'-0"



\*3-SIDED FRAME DIMENSIONS ARE CONCEPTUAL ONLY. PRECAST 3-SIDED FRAME SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

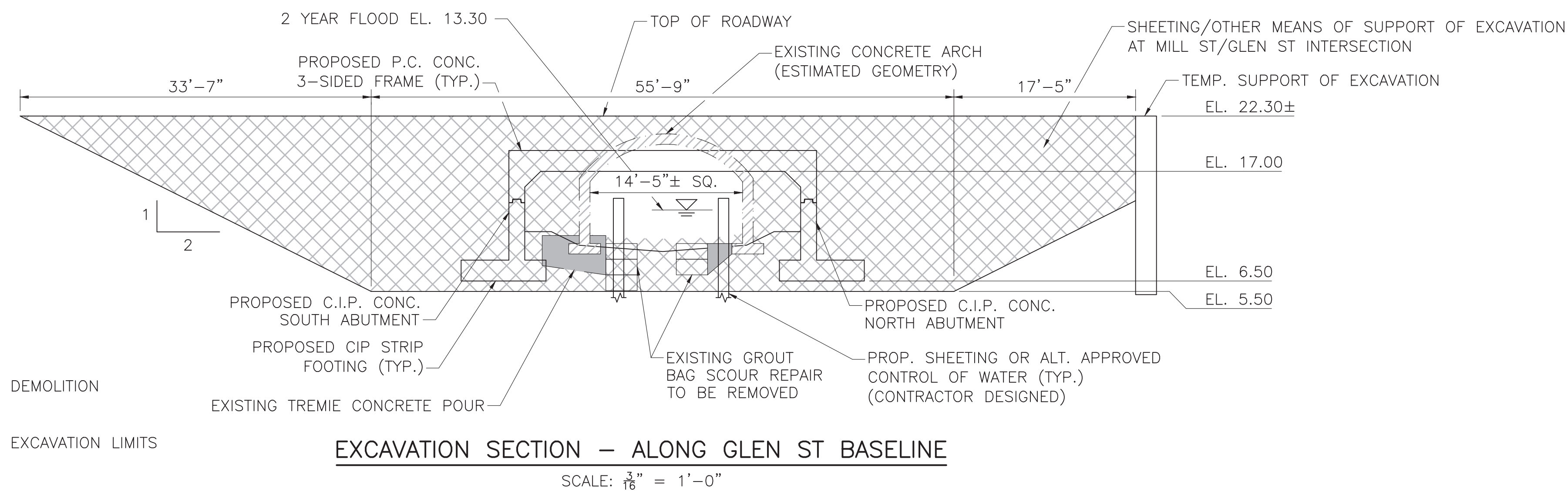
**FRAME SQUARE SECTION**  
SCALE: 3/8" = 1'-0"







**CONSTRUCTION NOTES:**

1. THE CONTROL OF WATER SHOWN IS CONCEPTUAL. FINAL CONTROL OF WATER METHODS WILL BE PROPOSED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER DURING CONSTRUCTION PHASE.
2. CONTRACTOR SHALL PERFORM ALL PROPOSED WORK IN COMPLIANCE WITH THE ORDER OF CONDITIONS ISSUED BY THE ROWLEY CONSERVATION COMMISSION.
3. CONTRACTOR SHALL DISPOSE OF ANY SUITABLE OR EXCESS EARTH MATERIAL. EXCAVATE FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A WATER CONTROL PLAN TO THE ENGINEER FOR APPROVAL. THE WATER CONTROL PLAN SHALL DEFINE AND DETAIL THE METHODS FOR CONTROL OF WATER AND TYPE OF INSTALLATION TO BE USED.
5. CONSTRUCTION SHALL BE COMPLETED DURING THE DRY SEASON. SEE SPECIFICATIONS FOR CONTROL OF WATER REQUIREMENTS.

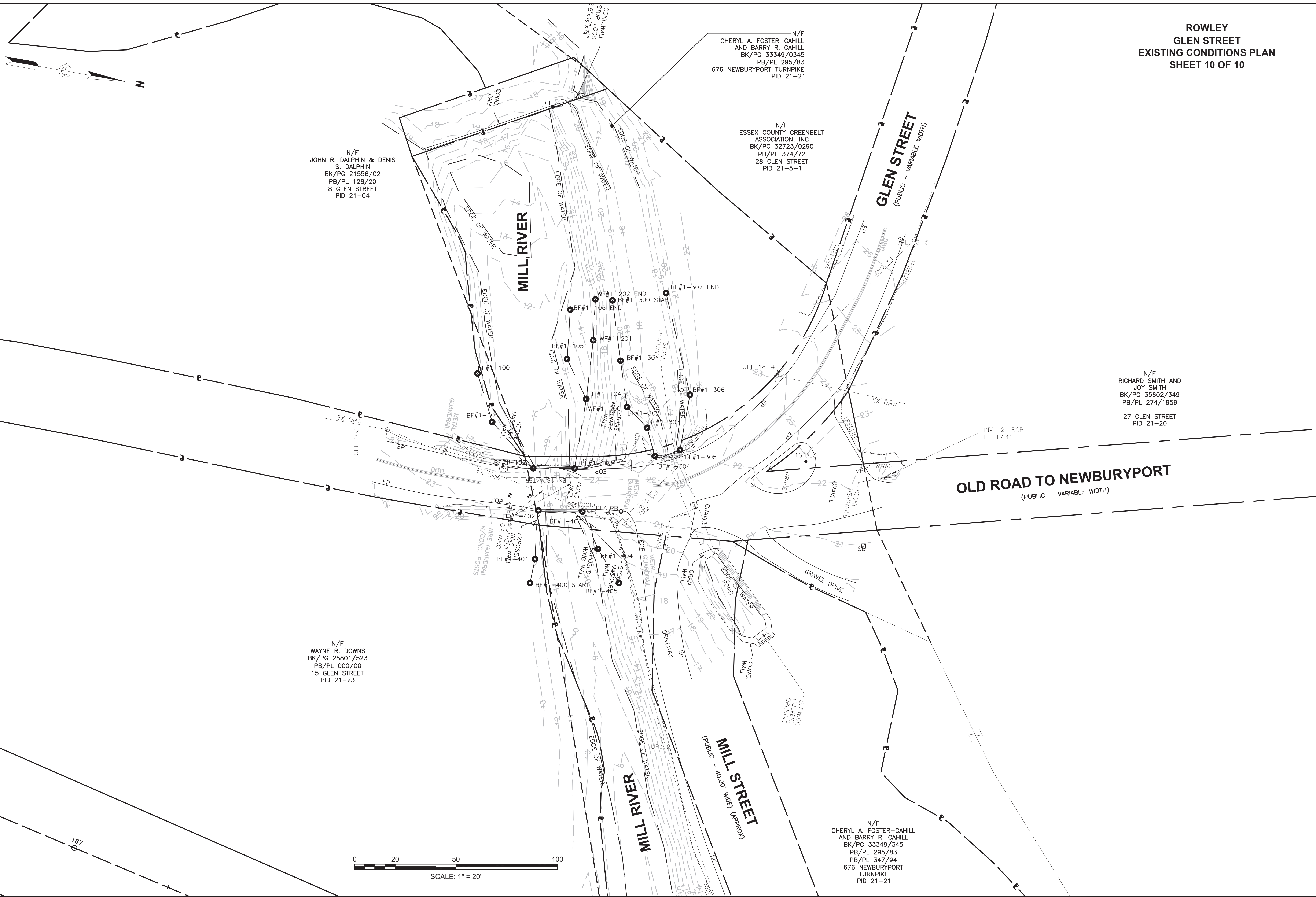


**LEGEND**

-  BRIDGE DEMOLITION
-  BRIDGE EXCAVATION LIMITS

**ROWLEY  
GLEN STREET  
EXISTING CONDITIONS PLAN  
SHEET 10 OF 10**

15884.04 A4\_HD(EXISTING CONDITIONS)DWG Plotted on 12-Apr-2024 4:13 PM



N/F  
JOHN R. DALPHIN & DENIS  
S. DALPHIN  
BK/PG 21556/02  
PB/PL 128/20  
8 GLEN STREET  
PID 21-04

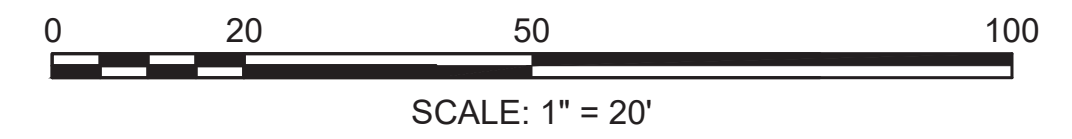
N/F  
CHERYL A. FOSTER-CAHILL  
AND BARRY R. CAHILL  
BK/PG 33349/0345  
PB/PL 295/83  
676 NEWBURYPORT TURNPIKE  
PID 21-21

N/F  
ESSEX COUNTY GREENBELT  
ASSOCIATION, INC  
BK/PG 32723/0290  
PB/PL 374/72  
28 GLEN STREET  
PID 21-5-1

N/F  
RICHARD SMITH AND  
JOY SMITH  
BK/PG 35602/349  
PB/PL 274/1959  
27 GLEN STREET  
PID 21-20

N/F  
WAYNE R. DOWNS  
BK/PG 25801/523  
PB/PL 000/00  
15 GLEN STREET  
PID 21-23

N/F  
CHERYL A. FOSTER-CAHILL  
AND BARRY R. CAHILL  
BK/PG 33349/345  
PB/PL 295/83  
PB/PL 347/94  
676 NEWBURYPORT  
TURNPIKE  
PID 21-21



167

**MILL RIVER**  
(PUBLIC - 40.00' WIDE) (APPROX)

**GLEN STREET**  
(PUBLIC - VARIABLE WIDTH)

**OLD ROAD TO NEWBURYPORT**  
(PUBLIC - VARIABLE WIDTH)

**MILL STREET**  
(PUBLIC - 40.00' WIDE) (APPROX)

HIGHWAY GUARD DETAILS

DESCRIPTION:  
 PROP TRAILING ANCHORAGE  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRANSITION TO THRIE BEAM  
 PROP THRIE BEAM (BRIDGE)  
 PROP TRANSITION TO THRIE BEAM  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRAILING ANCHORAGE

LOCATION:  
 STA 100+16± LT TO STA 100+25± LT  
 STA 100+25± LT TO STA 100+83± LT  
 STA 100+83± LT TO STA 100+89± LT  
 STA 100+89± LT TO STA 101+18± LT  
 STA 101+18± LT TO STA 101+24± LT  
 STA 101+24± LT TO STA 101+34± LT  
 STA 101+34± LT TO STA 101+43± LT

DESCRIPTION:  
 PROP TANGENT END TREATMENT  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRANSITION TO THRIE BEAM  
 PROP THRIE BEAM (BRIDGE)  
 PROP TRANSITION TO THRIE BEAM  
 PROP TL-2 HIGHWAY GUARD  
 PROP TRAILING ANCHORAGE

LOCATION:  
 STA 100+43± RT TO STA 100+81± RT  
 STA 100+81± RT TO STA 100+85± RT  
 STA 100+85± RT TO STA 100+91± RT  
 STA 100+91± RT TO STA 101+20± RT  
 STA 101+20± RT TO STA 101+26± RT  
 STA 101+26± RT TO STA 101+31± RT  
 STA 101+31± RT TO STA 101+40± RT

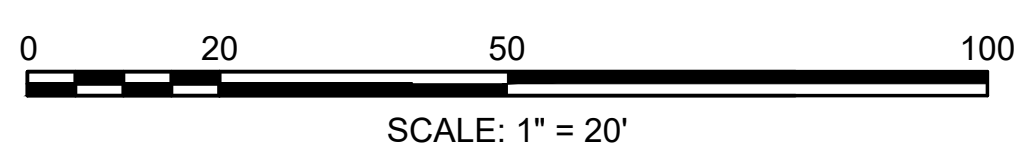
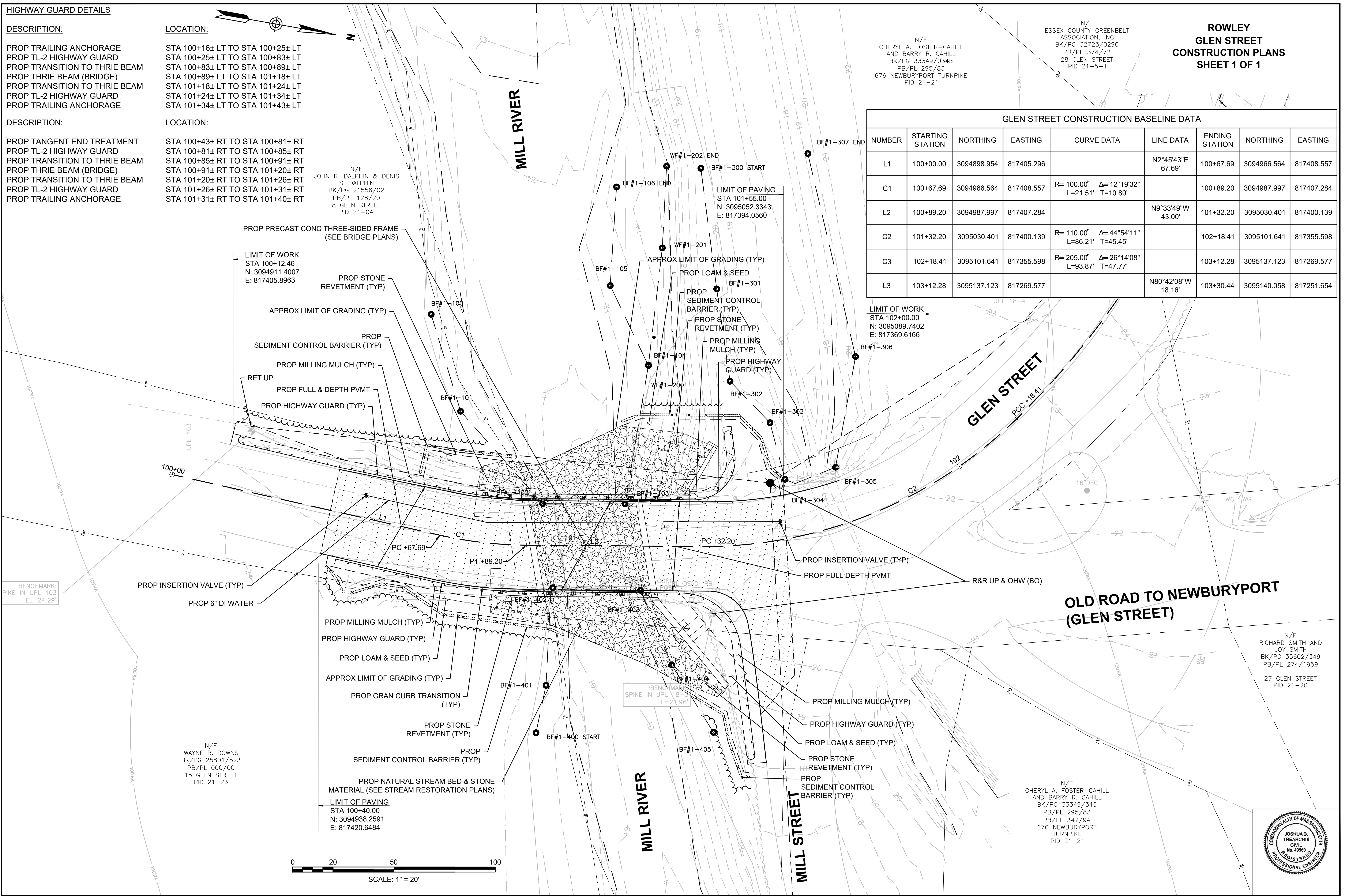
N/F  
 JOHN R. DALPHIN & DENIS  
 S. DALPHIN  
 BK/PG 21556/02  
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 8 GLEN STREET  
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 AND BARRY R. CAHILL  
 BK/PG 33349/0345  
 PB/PL 295/83  
 676 NEWBURYPORT TURNPIKE  
 PID 21-21

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 ESSEX COUNTY GREENBELT  
 ASSOCIATION, INC  
 BK/PG 32723/0290  
 PB/PL 374/72  
 28 GLEN STREET  
 PID 21-5-1

**ROWLEY  
 GLEN STREET  
 CONSTRUCTION PLANS  
 SHEET 1 OF 1**

GLEN STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	3094898.954	817405.296		N2°45'43"E 67.69'	100+67.69	3094966.564	817408.557
C1	100+67.69	3094966.564	817408.557	R= 100.00' Δ= 12°19'32" L=21.51' T=10.80'		100+89.20	3094987.997	817407.284
L2	100+89.20	3094987.997	817407.284		N9°33'49"W 43.00'	101+32.20	3095030.401	817400.139
C2	101+32.20	3095030.401	817400.139	R= 110.00' Δ= 44°54'11" L=86.21' T=45.45'		102+18.41	3095101.641	817355.598
C3	102+18.41	3095101.641	817355.598	R= 205.00' Δ= 26°14'08" L=93.87' T=47.77'		103+12.28	3095137.123	817269.577
L3	103+12.28	3095137.123	817269.577		N80°42'08"W 18.16'	103+30.44	3095140.058	817251.654



N/F  
 RICHARD SMITH AND  
 JOY SMITH  
 BK/PG 35602/349  
 PB/PL 274/1959  
 27 GLEN STREET  
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