

TOWN OF LONGMEADOW COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS MORNINGSIDE DRIVE CULVERT REPLACEMENT PROJECT

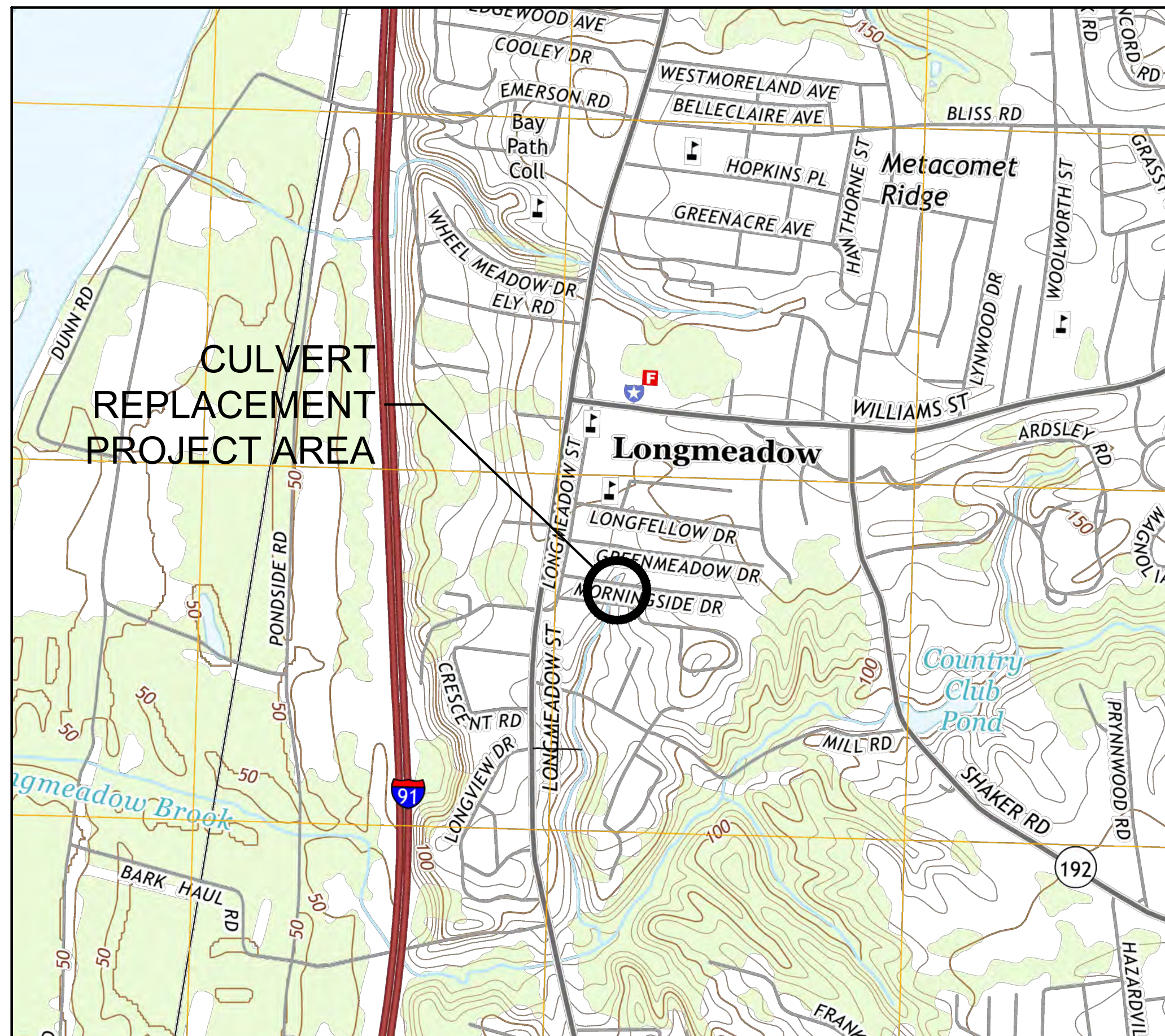
AUGUST 2019

STEPHEN J. CRANE - TOWN MANAGER

MARIO MAZZA - DIRECTOR OF PUBLIC WORKS

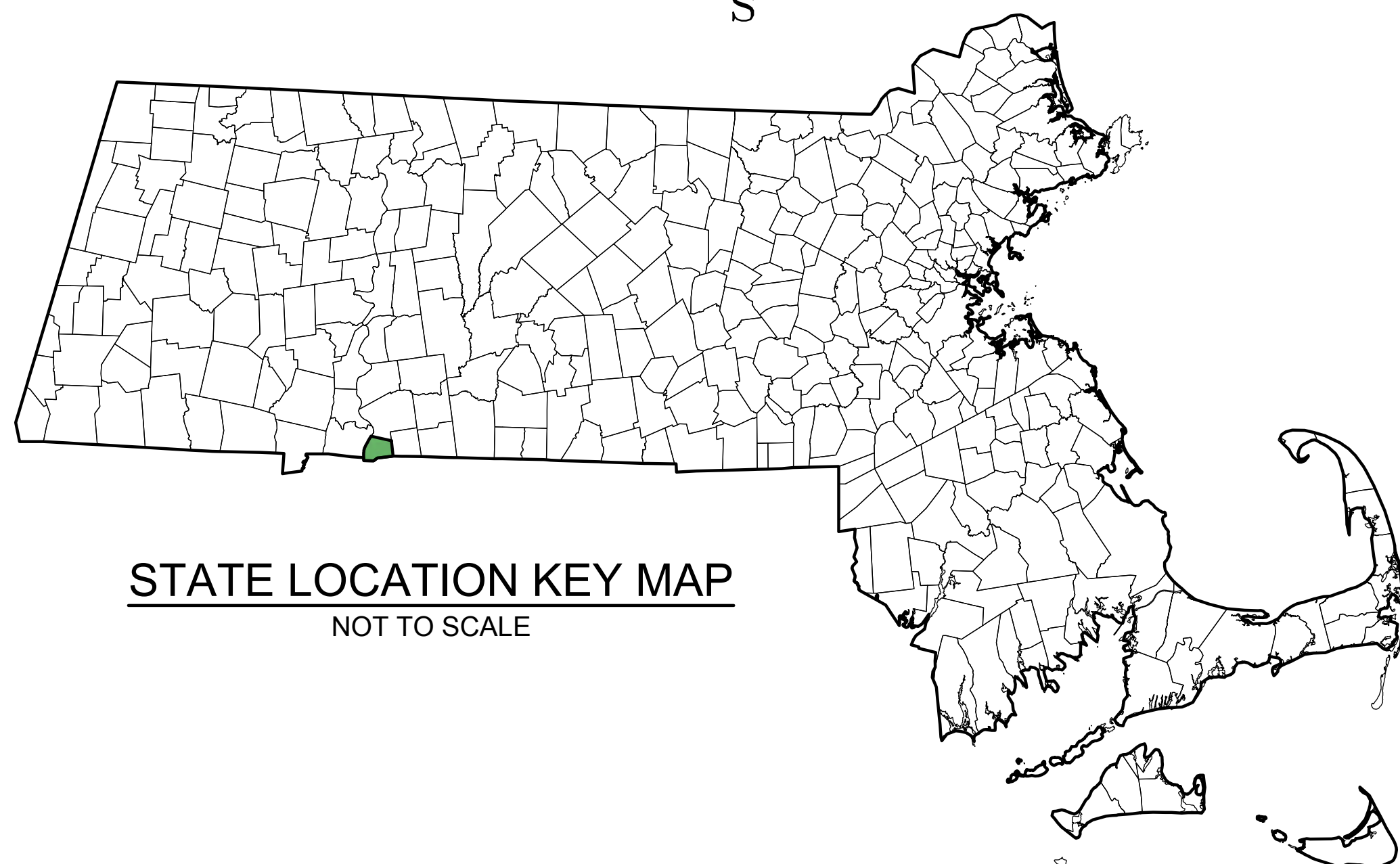
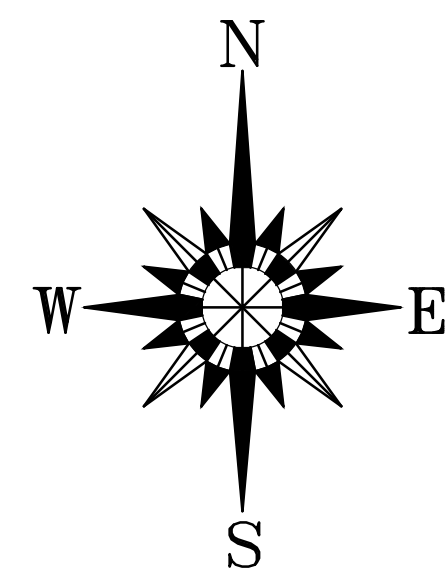
PETER THURBER - ASSIST. DIRECTOR - WATER AND WASTEWATER OPERATIONS

ANDREW KRAR - TOWN ENGINEER

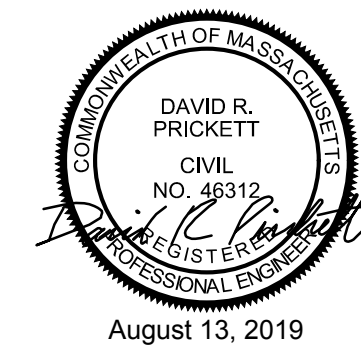
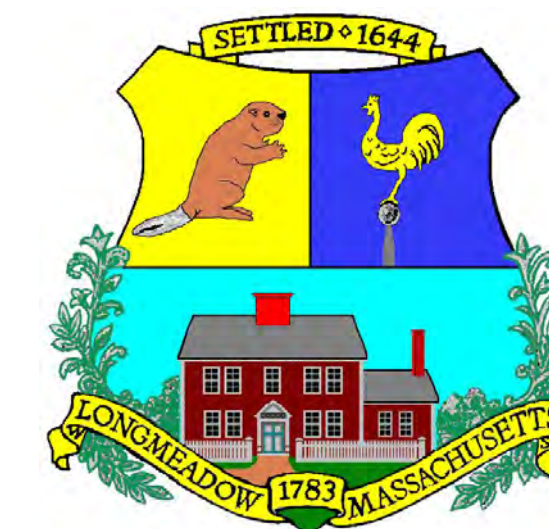


PROJECT SITE LOCATION MAP

SCALE: 1"=1000'



STATE LOCATION KEY MAP
NOT TO SCALE



DPC ENGINEERING, LLC

22 Northfield Road Longmeadow, MA 01106

ISSUED FOR BIDDING
AUGUST 2019

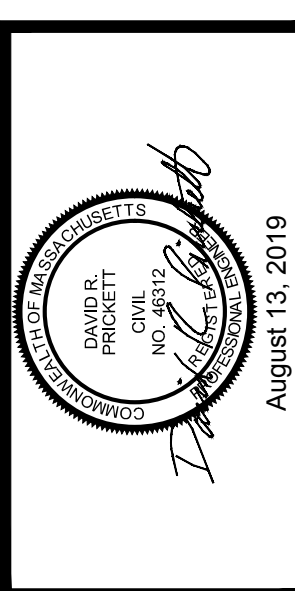
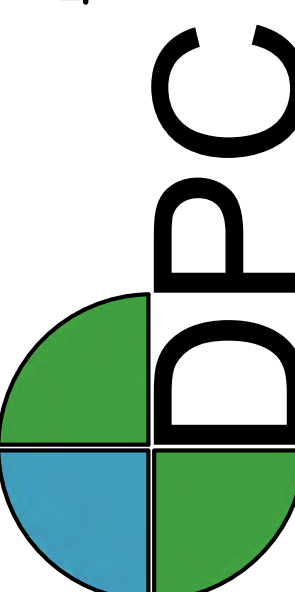
PROJECT GENERAL NOTES AND INFORMATION

SHEET NO.	DRAWING NO.	TITLE
1	--	COVER
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DRAWING INDEX

TITLE
COVER
GENERAL NOTES AND DRAWING INDEX
EXISTING CONDITIONS AND DEMOLITION SITE PLAN
EXISTING CONDITIONS, DEMOLITION AND PROPOSED CONDITIONS SITE PLAN
CHANNEL GRADING AND ESTABLISHMENT AT CRESTVIEW CULVERT
CIVIL DETAILS SHEET 1
CIVIL DETAILS SHEET 2
CIVIL DETAILS SHEET 3

DPC ENGINEERING, LLC
22 Northfield Road
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DATE:	8/2019
DESCRIPTION:	ISSUED FOR BIDDING
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DRP	3
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DRAWN BY:	
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
ISSUED FOR:	

GENERAL NOTES & DRAWING INDEX

**MORNINGSIDE DRIVE
CULVERT REPLACEMENT
PROJECT**

DEPARTMENT OF PUBLIC WORKS
LONGMEADOW, MASSACHUSETTS

SCALE: AS NOTED
SCALE SHEET SIZE: 22X34
JOB NO.:
DATE: AUGUST 2019
SHEET: 2 OF 8

G-1

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	—S—	—8" PVC—
WATER MAIN	—W—	—8" DI—
TEMPORARY WATER		—TW—
STORM DRAIN	—D—	—18" ADS—
GAS	—G—	—G—
TEMPORARY GAS		—TGAS—
ELECTRIC	—E—	—E—
TELEPHONE		—T—
SANITARY SEWER MANHOLE	⊙	● SMH
STORM DRAIN MANHOLE	⊙	● DMH
CATCH BASIN	□	■ CB
CATCH BASIN (CURB INLET)	□	
HYDRANT	⊕	⊕
CURB STOP	⊕	⊕
WATER VALVE	⊕	
UTILITY POLE	⊕	
LIGHT POST	⊕	
EDGE OF PAVEMENT	—	—
EDGE OF UNPAVED ROAD	—	—
CURB	—	—
RETAINING WALL	RET WALL	RET WALL
FENCE	—X—	
INDIVIDUAL DECIDUOUS TREE	⊙	⊙
INDIVIDUAL EVERGREEN TREE	⊙	⊙
TREE LINE	—	—
SURVEY MARKER	□	
PROPERTY LINE	—	—
EASEMENT LINE	—	—
LIMIT OF WORK	—	—
APPROX. LIMIT OF REFUSE	—	—
SPOT ELEVATIONS	× 100.2	× 101.5
CONTOUR LINES	—56—	—56—
DEPRESSION CONTOUR LINES	—	—
HOUSE NUMBER	#35	
WETLAND	—	—
WETLAND FLAGS	• 1	
RIP RAP	⊕	⊕
GUARD POST	△	▲
SIGN	⊕	
BORING	⊕B-1	⊕B-3
HAY BALES	—	—
DRAINAGE DITCH / SWALE	—	—

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

GENERAL CIVIL NOTES:

- THE CONTRACTOR SHALL CALL "DIG SAFE" AT (888) 344-7233 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE "DIG SAFE" PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
- LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
- TEST PITS TO LOCATE EXISTING UTILITIES SHALL BE CONDUCTED BY THE CONTRACTOR AS REQUIRED TO COMPLETE THE WORK OR REQUESTED BY THE ENGINEER/OWNER. IF NO TEST PIT PAYMENT ITEM IS PROVIDED WITHIN THE CONTRACT DOCUMENTS, TEST PITS TO LOCATE EXISTING UTILITIES SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
- STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
- ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL MAINTAIN SIDE SLOPES AND DRAINAGE SWALES DURING CONSTRUCTION TO PREVENT PONDING AND EROSION. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, AND EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN THE DISTANCE AS DEFINED BY THE INLAND WETLANDS COMMISSION OR 100 FEET OF WETLANDS, WHICH EVER IS GREATER.
- THE CONTRACTOR SHALL GRADE PROPOSED SLOPES TO MEET EXISTING SLOPES WHERE SHOWN ON PLANS, IN ACCORDANCE WITH THE MINIMUM AND MAXIMUM SLOPES SPECIFIED.
- THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL DEVICES BEFORE BEGINNING OTHER WORK ON SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND AS NECESSARY REPLACING ALL EROSION CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT. ALL EROSION CONTROL DEVICES SHALL BE REVIEWED AFTER EACH RAIN EVENT WITH MODIFICATIONS COMPLETED AS NECESSARY TO MAINTAIN THE EROSION CONTROL DEVICES.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL UTILITY COMPANIES A MINIMUM OF 72 HOURS PRIOR TO EXCAVATING NEAR EXISTING UTILITIES (ABOVE OR BELOW GROUND).
- CONCRETE CRADLES OR ARCHES SHALL BE CONSTRUCTED WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED BY THE ENGINEER. UNLESS OTHERWISE INDICATED, CONCRETE USED FOR PIPE ANCHOR BLOCKS, BACKING, PIPE CRADLES, ARCHES, AND FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
- CONCRETE THRUST BLOCKS, ANCHOR BLOCKS, OR APPROVED JOINT RESTRAINT METHODS SHALL BE PROVIDED FOR PRESSURE PIPE SYSTEMS (WATER MAINS, FORCE MAINS, SERVICE WATER MAINS, ETC.) WHERE ANY BENDS, TEES, PLUGS, OR WYES ARE INSTALLED. FOR THRUST BLOCK DETAILS AND MINIMUM BLOCK BEARING AREAS, SEE DETAILS.
- TRENCHES MAY BE EXCAVATED WIDER THAN THE 'LIMIT OF EXCAVATION FOR EARTH EXCAVATION' ABOVE THE 'LINE OF NARROW TRENCH LIMIT'. ANY SUCH ADDITIONAL EXCAVATION SHALL BE AT THE CONTRACTORS EXPENSE AND SHALL NOT BE MEASURED FOR PAYMENT.
- BELOW THE 'LINE OF NARROW TRENCH LIMIT' THE TRENCH SHOULD NOT BE EXCAVATED BEYOND THE TRENCH WIDTH 'W'. IF MATERIAL IS LOOSENEED OR REMOVED BEYOND THE ABOVE-MENTIONED LIMITS, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE CRUSHED STONE FOR THE FULL WIDTH OF THE TRENCH AT NO ADDITIONAL COST TO THE OWNER.
- SHEETING TO BE LEFT IN PLACE SHALL BE USED WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED BY THE ENGINEER. IT SHALL BE LEFT IN PLACE BELOW A LINE 12 INCHES ABOVE THE TOP OF THE PIPE/STRUCTURE UNLESS OTHERWISE REQUIRED BY THE ENGINEER.
- PROTECTION OF WATER SUPPLIES - WHENEVER A SEWER MUST CROSS UNDER A WATER MAIN, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS A MINIMUM OF 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THE ABOVE REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED BY THE CONTRACTOR AS REQUIRED BY THE ENGINEER TO PROVIDE THIS SEPARATION OR THE CONTRACTOR SHALL CONSTRUCT THE NEW SEWER OF CLASS 150 PRESSURE PIPE FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER MAIN. ONE FULL LENGTH OF CLASS 150 PRESSURE PIPE SEWER SHALL BE CENTERED ON THE WATER MAIN AS MUCH AS POSSIBLE. THE SEWER CONSTRUCTED OF THE PRESSURE PIPE MUST BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS AND THE INTERIOR OF THE PIPE SHALL BE COATED WITH THE SEWER PROTECTION COATING FOR DUCTILE IRON PIPES.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS AND COORDINATE ALL THE DIFFERENT CONSTRUCTION DISCIPLINES FOR LOCATION, SIZE, SERVICEABILITY, SUPPORT SYSTEMS, CONNECTIONS (PIPING, ELECTRICAL, INSTRUMENTATION, ETC.), INCIDENTALS AND ALL OTHER COMPONENTS REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM MEETING THE APPROVAL OF THE ENGINEER. IF ONE SYSTEM IS SHOWN ON ONE SET OF DISCIPLINE DRAWINGS/SPECIFICATIONS BUT THE SAME SYSTEM IS MISSING OR INCOMPLETE ON ANOTHER SET OF DISCIPLINE DRAWINGS/SPECIFICATIONS THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER, SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIALS, LABOR, SUPPORT SYSTEMS, CONNECTIONS (PIPING, ELECTRICAL, INSTRUMENTATION, ETC.), COORDINATION, INCIDENTALS AND ANY AND ALL OTHER COMPONENTS REQUIRED FOR FURNISHING AND INSTALLING THE SYSTEM COMPLETE AS WELL AS PROVIDING A COMPLETE AND FUNCTIONAL SYSTEM MEETING THE APPROVAL OF THE ENGINEER.

GENERAL SITE GRADING NOTES:

- ALL ROAD AND PARKING AREA SURFACES SHALL PITCH A MINIMUM OF 1/4" PER FOOT UNLESS OTHERWISE NOTED. REFER TO DRAWING FOR DETAILS.
- ALL AREAS THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED. AT A MINIMUM, THE TOP 6 INCHES OF SOIL SHALL BE LOAM.
- THE CONTRACTOR SHALL NOT TRACK OR SPILL EARTH, DEBRIS OR OTHER CONSTRUCTION MATERIAL ON PUBLIC OR PRIVATE STREETS. THE CONTRACTOR SHALL PROVIDE ANTI TRACKING PADS AT THE ENTRANCE TO THE CONSTRUCTION SITE AND SHALL BE RESPONSIBLE FOR THE IMMEDIATE ASSOCIATED CLEAN UP OF ANY SPILLED OR TRACKED DEBRIS.
- ALL CATCH BASINS, MANHOLES, VALVE BOXES, VALVE PITS, CONCRETE STRUCTURES AND OTHER BURIED FACILITIES WITH SURFACE ACCESS SHALL BE ADJUSTED TO MATCH FINAL GRADES, UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS AND EXCESS EXCAVATED MATERIAL FROM WITHIN THE CONSTRUCTION LIMIT OF WORK. IF THE OWNER DESIRES TO KEEP THE MATERIAL, THE CONTRACTOR SHALL RELOCATE THE MATERIAL TO A SUITABLE SITE LOCATED WITHIN THE CONFINES OF THE OWNERS JURISDICTION AT NO ADDITIONAL COST TO THE OWNER. IF THE OWNER DOES NOT DESIRE TO KEEP THE MATERIAL THE CONTRACTOR SHALL RELOCATE THE MATERIAL TO A SUITABLE SITE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE TRANSPORTATION AND RELOCATION OF THE MATERIAL SHALL BE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- WHERE EXISTING PAVEMENT IS REMOVED AND REPLACED, MATCH EXISTING GRADES. COORDINATE FINE GRADING WITH THE ENGINEER.

GENERAL SITE LAYOUT NOTES:

- REFER TO THE SITE PLANS FOR ADDITIONAL LAYOUT INFORMATION.
- THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO, THE OWNER AND ENGINEER. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THESE AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING AND RESETTING ALL EXISTING PROPERTY MONUMENTATION DISTURBED BY HIS OPERATIONS. THIS WORK SHALL BE DONE BY A LAND SURVEYOR REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS AT NO ADDITIONAL COST TO THE OWNER.
- WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.

GENERAL SITE PIPING NOTES:

- ALL BURIED CONNECTIONS TO STRUCTURES SHALL HAVE SLEEVE TYPE FLEXIBLE CONNECTIONS APPROXIMATELY 4 FEET FROM THE STRUCTURES WHETHER OR NOT SHOWN ON DRAWINGS. ALL SLEEVE TYPE COUPLINGS ON PRESSURE LINES SHALL BE RESTRAINED. NOTE: NOT ALL COUPLINGS ARE SHOWN, COUPLINGS REQUIRED FOR THE ALIGNMENT SHOWN SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT AND PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE CAST IN PLACE WALL PIPES/PIPE SLEEVES FOR ALL PIPE PENETRATIONS MADE THROUGH NEW CONCRETE FOUNDATIONS, WALLS AND SLABS. ALL WALL SLEEVES SHALL HAVE INTEGRAL WATERSTOPS. SEE PROCESS, MECHANICAL DRAWINGS FOR LOCATIONS OF PENETRATIONS. SEE DETAIL DRAWINGS.
- A MINIMUM OF 5 FEET OF COVER IS REQUIRED ON ALL LIQUID CARRYING PIPES. INSULATION SHALL BE USED WHERE DEPTH OF COVER IS LESS THAN 5 FEET.
- DMH#1 TO BE 8' SQUARE PRECAST CONCRETE MANHOLE (10 FEET DEEP) WITH A 4' DIAMETER PRECAST RISER TO GRADE PER MH DETAIL.
- COMPACTION TESTING SHALL BE PERFORMED BY THE CONTRACTOR AND ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF FINAL COMPLETION OF THE WORK SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED.
- ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED ON THE DEMOLITION PLAN OR REQUIRED BY THE ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLITION MATERIALS.
- ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO ANY TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT BECAUSE OF CONTRACTORS CONSTRUCTION ACTIVITIES ON THE PROJECT SHALL BE COORDINATED THROUGH THE OWNER AND UTILITY COMPANY.

EXISTING CONDITIONS GENERAL NOTES:

- THE LOCATIONS OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND MAY NOT BE COMPLETE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING. THE CONTRACTOR SHALL REALIGN NEW PIPE LOCATIONS AS REQUIRED TO CONFORM TO EXISTING LINES AND AS APPROVED BY THE ENGINEER.
- DISPOSAL OF ASBESTOS SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- PROPERTY LINE INFORMATION, TOPOGRAPHIC INFORMATION, EDGE OF PAVEMENT, UTILITY POLE LOCATIONS, AND LOCATIONS OF EXISTING ABOVE GROUND STRUCTURES WERE TAKEN AND INTERPOLATED FROM AVAILABLE MAPPING PROVIDED BY THE OWNER. THE INFORMATION IS PROVIDED FOR INFORMATIONAL AND COORDINATION PURPOSES, NO GUARANTEES ON THE ACCURACY OF SAID INFORMATION IS PROVIDED BY THE ENGINEER.
- EXISTING UNDERGROUND UTILITY INFORMATION, PIPE SIZES, PIPE TYPES, AND LOCATIONS WERE TAKEN AND INTERPOLATED FROM AVAILABLE MAPPING PROVIDED BY THE OWNER AND THE LOCAL UTILITY COMPANIES IN CONJUNCTION WITH DETAILED FIELD MARKINGS PROVIDED BY THE LOCAL UTILITY COMPANIES. THE INFORMATION IS PROVIDED FOR INFORMATIONAL AND COORDINATION PURPOSES, NO GUARANTEES ON THE ACCURACY OF SAID INFORMATION IS PROVIDED BY THE ENGINEER.

ABBREVIATIONS

AC ASBESTOS CEMENT	LF LINEAR FEET	VC VITRIFIED CLAY
ADS ADVANCED DRAINAGE SYSTEMS	OHE OVERHEAD ELECTRICAL SYSTEMS	W WATER
CB CATCH BASIN	OHW OVERHEAD WIRES	WL WETLAND
CPP CORRUGATED PLASTIC	PVC POLYVINYL CHLORIDE	
	RCP REINFORCED CONCRETE PIPE	
DI DUCTILE IRON PIPE	S SEWER	
D DRAIN	SD STORM DRAIN	
G GAS	SMH SEWER MANHOLE	
HYD HYDRANT	TGAS TEMPORARY GAS	
INV INVERT ELEVATION	TW TEMPORARY WATER	

- EXISTING CONDITIONS NOTES:**
- MINIMUM CLEARING AND GRUBBING LIMITS ARE SHOWN. CLEARING AND GRUBBING SHALL BE AS REQUIRED FOR CONSTRUCTION AND/OR AS REQUIRED BY THE OWNER/ENGINEER AND SHALL BE CONSIDERED INCIDENTAL TO THE WORK. NOT ALL TREES ARE SHOWN ON THIS DRAWING FOR CLARITY. TREE AND STUMP REMOVAL SHALL BE CONSIDERED AS PART OF THE CLEARING AND GRUBBING. THE CONTRACTOR SHALL HAVE OWNERSHIP RIGHTS TO ALL WOOD FROM CLEARING AND GRUBBING ACTIVITIES.
 - THE CONTRACTOR SHALL PROTECT AND RELOCATE ALL EXISTING STRUCTURES, COMPONENTS AND SIGNS WITHIN THE PROJECT AREA AS WELL AS ALL INCIDENTALS WHICH MAY OR MAY NOT BE SHOWN AS REQUIRED FOR DEMOLITION AND CONSTRUCTION ACTIVITIES.
- GENERAL DEMOLITION NOTES:**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLITION MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS.
 - THE CONTRACTOR SHALL ASSUME THAT THE WATER AND SEWER UTILITIES PIPES ARE CONSTRUCTED FROM ASBESTOS CEMENT MATERIALS. ASBESTOS CEMENT REMOVAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AND REQUIREMENTS.
 - ANY CONTAMINATED MATERIALS OTHER THAN THOSE NOTED ABOVE WHICH REQUIRES REMOVAL SHALL BE DONE SO IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AND REQUIREMENTS.
 - PRIOR TO DEMOLITION REMOVE AND DISPOSE OF ALL EQUIPMENT, PIPING AND APPURTENANCES, UNLESS OTHERWISE INSTRUCTED BY THE OWNER. CLEAN STRUCTURE INTERNALS AND DISPOSE OF ALL ACCUMULATED DEBRIS.
 - POSITION ALL BURIED ISOLATION VALVES TO BE ABANDONED/REMOVED IN THE CLOSED POSITION AND REMOVE VALVE STEMS, BOXES, AND COVERS.
 - PLUG/FILL/CAAP EXISTING SUCTION, DISCHARGE, GRAVITY, AND ALL OTHER WALL PENETRATIONS AND OR PIPING TO BE ABANDONED IN PLACE. UPON ABANDONMENT PENETRATIONS SHALL BE WATER TIGHT.

INDICATES LIMITS OF ABANDONMENT/REMOVAL/DEMOLITION

N/F ERIC P RUBENSTEIN BOOK: 15940 PAGE 169

N/F BETH L SCHMUTER BOOK: 12394 PAGE 574

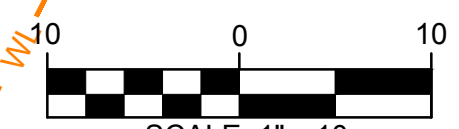
N/F ROBERT B MCTAGGART BOOK: 5986 PAGE 249

N/F MARILYNN W SMITH BOOK: 12411 PAGE 170

MORNINGSIDE DRIVE

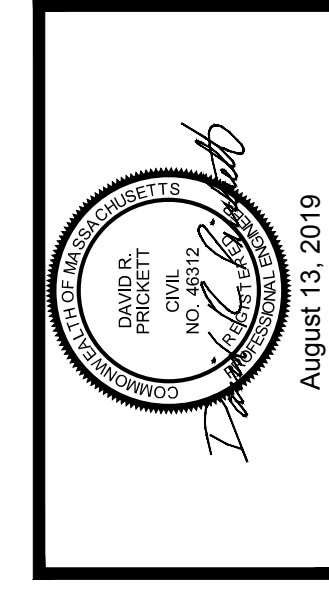
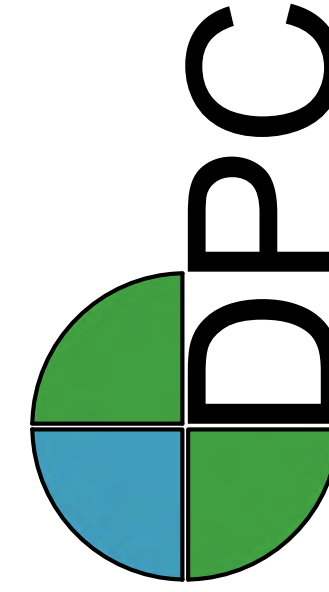
EXISTING CONDITIONS AND DEMOLITION SITE PLAN

SCALE: 1" = 10'



UTILITY INVERT TABLE	UTILITY INVERT TABLE	
SMH#1 RIM: 129.36 INV IN: 123.61(4" AC N) INV IN: 123.31(4" AC S) INV OUT: 122.96(8" AC E)	CB#4 RIM: 127.31 INV OUT: 121.98(10" VC S)	N/F IRA R THOMAS BOOK: 10387 PAGE 412
SMH#2 RIM: 127.69 INV IN: 112.89(8" AC N) INV IN: 111.89(8" AC W) INV IN: 120.49(8" AC W) INV OUT: 111.69(8" AC S) INV IN: 111.84(8" AC E) INV IN: 120.29(8" AC E)	PK1 PK NAIL IN GROUND E=1045633.28 N=941868.05 Z=130.51	
CB#1 RIM: 129.12 INV OUT: 125.26(12" D.I. S)	PK2 PK NAIL IN GROUND E=1045797.41 N=941837.51 Z=127.51	
CB#2 RIM: 128.87 INV IN: 125.04(12" D.I. N) INV OUT: 124.14(12" D.I. E)	PK3 PK NAIL IN GROUND E=1045802.47 N=941862.38 Z=128.09	
CB#3 RIM: 127.21 INV IN: 120.72(12" VC NW) INV IN: 121.00(10" VC N) INV OUT: 120.23(12" CPP SW) INV IN: 121.70(12" CPP SE)		

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DATE:	8/2019
DESCRIPTION:	ISSUED FOR BIDDING
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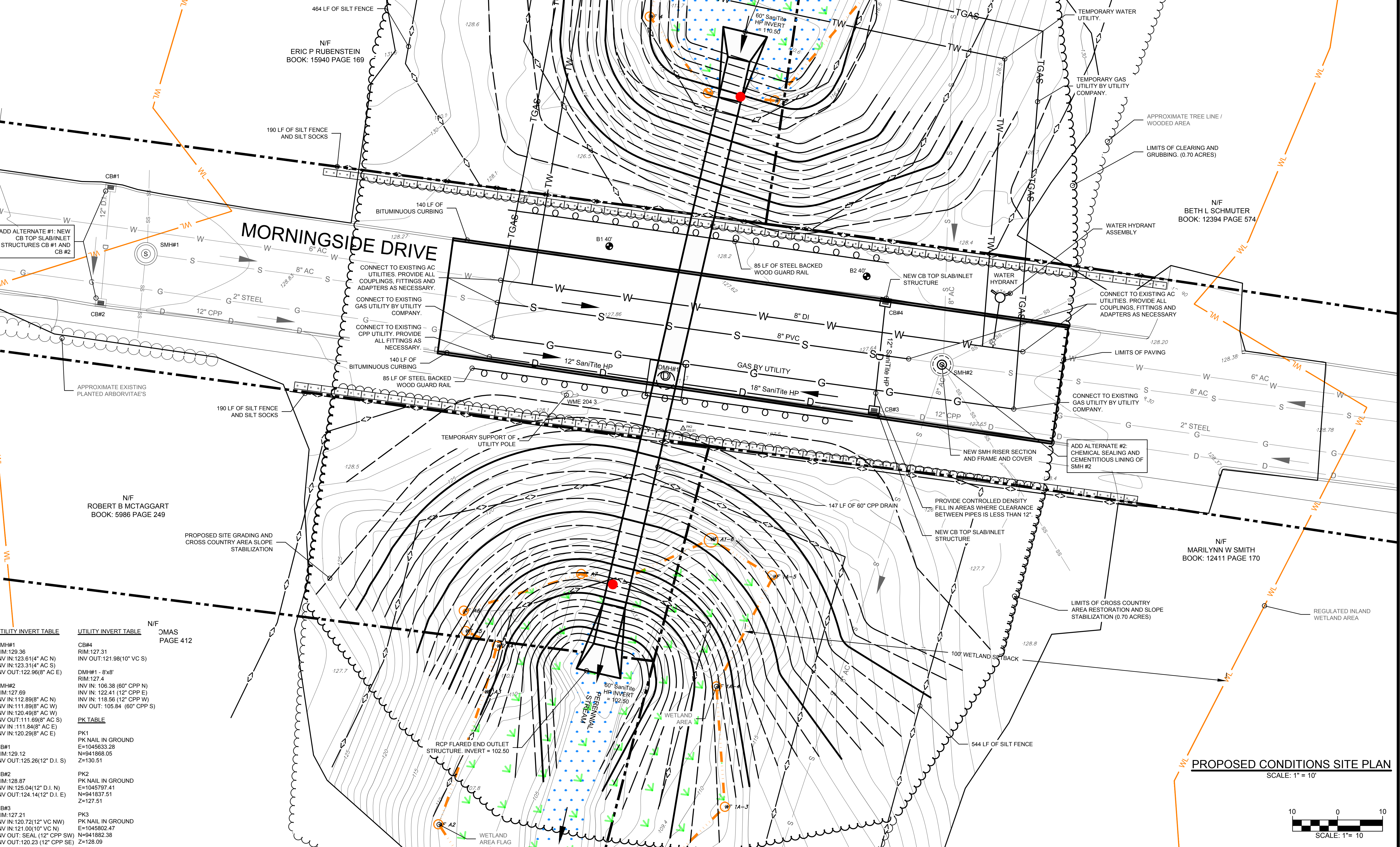
EXISTING CONDITIONS AND DEMOLITION SITE PLAN

MORNINGSIDE DRIVE
CULVERT REPLACEMENT
PROJECT
DEPARTMENT OF PUBLIC WORKS
LONGMEADOW, MASSACHUSETTS

SCALE: AS NOTED
SCALE SHEET SIZE: 22X34
JOB NO.:
DATE: AUGUST 2019
SHEET: 3 OF 8

C-1

- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL PROVIDE CLEARING AND GRUBBING, STUMP REMOVAL, AND DEBRIS REMOVAL WITHIN THE PROJECT LIMITS SHOWN. NOTE TREES, BRUSH AND AND DEBRIS ARE NOT SHOWN.
 - CONTRACTOR SHALL PROVIDE CONTINUAL ACCESS TO THE PROJECT SITE AND PROTECT ALL SITE AND PROPERTY COMPONENTS FROM DAMAGE. THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING SITE IS AN ACTIVE RESIDENTIAL NEIGHBORHOOD WHICH REQUIRES ROUTINE ACCESS BY THE OWNER FOR OPERATIONS AND MAINTENANCE PURPOSES AND LOCAL RESIDENCES FOR EGRESS.
 - CONTRACTOR SHALL PROVIDE CONTINUAL FLOW CONVEYANCE FOR THE "DINGLE" AND THE PERENNIAL STREAM. THE PERENNIAL STREAM FLOWS CONTINUOUSLY THROUGHOUT THE YEAR THROUGH THE PROJECT SITE.
 - CONTRACTOR SHALL ADJUST PROPOSED GRADING AS NECESSARY TO PROVIDE SHEET FLOW ACROSS PAVED AND CROSS COUNTRY AREAS AS INDICATED.
 - CONTRACTOR SHALL PROVIDE TEMPORARY SITE FENCING AND ROAD/SITE BARRICADES AS NECESSARY.
 - REPAIR ALL AREAS OF DISTURBED PAVEMENT/DRIVEWAYS/CURBING IN ACCORDANCE WITH THE DETAILS AND CONTRACT DOCUMENTS.
 - REPAIR ALL DISTURBED CROSS COUNTRY AREAS IN ACCORDANCE WITH THE DETAILS AND CONTRACT DOCUMENTS.
 - BURIED UTILITIES AND UTILITY SERVICES ARE SHOWN TO THE EXTENT AVAILABLE AND ARE APPROXIMATE. CONTRACTOR SHALL CONDUCT TEST PITS AS REQUIRED TO LOCATE ALL UTILITIES AND UTILITY SERVICES. TEST PITS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
 - CONTRACTOR TO RE-USE EXISTING SOIL MATERIALS TO BACKFILL AND GRADE THE PROJECT AREA. FILL MATERIALS AND LOAM TO BE PROVIDED BY THE CONTRACTOR. EXCESS SOIL MATERIALS TO BE DISPOSED OF BY THE CONTRACTOR.



UTILITY INVERT TABLE

SMH#1 RIM: 129.36 INV IN: 123.61 (4\"/>
SMH#2 RIM: 127.69 INV IN: 112.89 (8\"/>
CB#1 RIM: 129.12 INV OUT: 125.26 (12\"/>
CB#2 RIM: 128.87 INV IN: 125.04 (12\"/>
CB#3 RIM: 127.21 INV IN: 120.72 (12\"/>

UTILITY INVERT TABLE

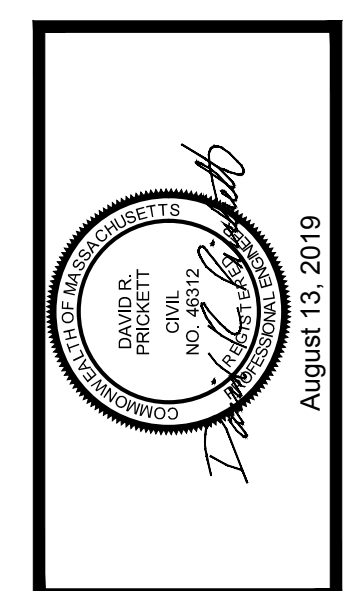
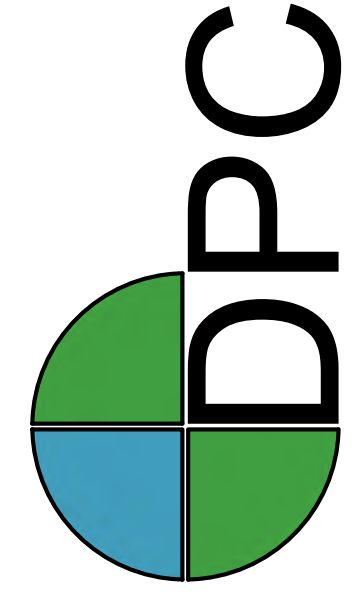
CB#4 RIM: 127.31 INV OUT: 121.98 (10\"/>
DMH#1 - 8\"/>
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PK2 PK NAIL IN GROUND E=1045797.41 N=941837.51 Z=127.51
PK3 PK NAIL IN GROUND E=1045802.47 N=941882.38 Z=128.09

N/F OMAS PAGE 412

PK TABLE

PK1 PK NAIL IN GROUND E=1045633.28 N=941868.05 Z=130.51
PK2 PK NAIL IN GROUND E=1045797.41 N=941837.51 Z=127.51
PK3 PK NAIL IN GROUND E=1045802.47 N=941882.38 Z=128.09

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(413) 567-6310
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DATE:	8/2019
DESCRIPTION:	ISSUED FOR BIDDING
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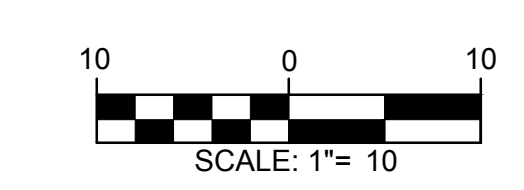
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EXISTING CONDITIONS, DEMOLITION AND PROPOSED CONDITIONS SITE PLAN

MORNINGSIDE DRIVE CULVERT REPLACEMENT PROJECT
DEPARTMENT OF PUBLIC WORKS
LONGMEADOW, MASSACHUSETTS

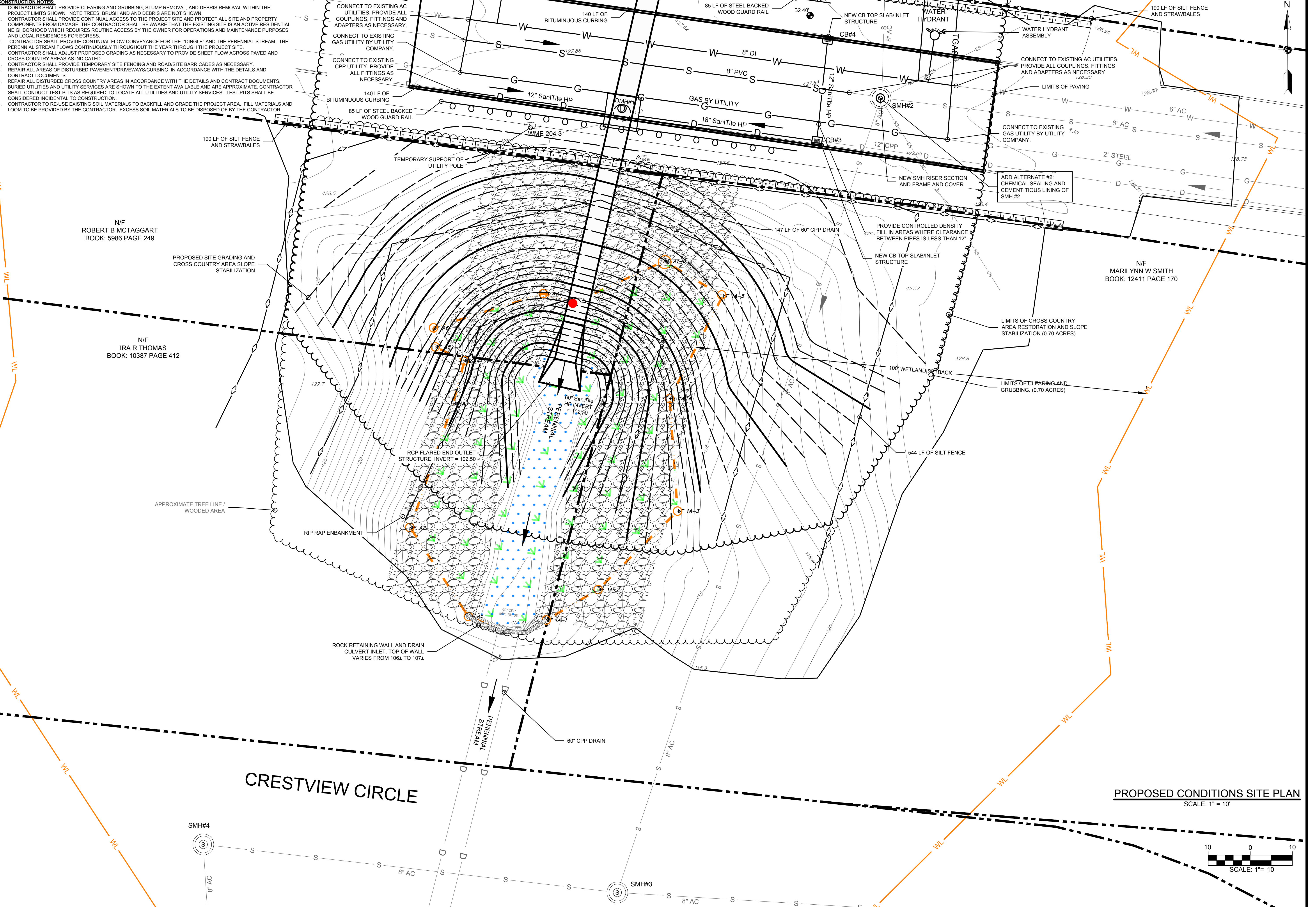
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DATE:	AUGUST 2019
SHEET:	4 OF 8

C-2



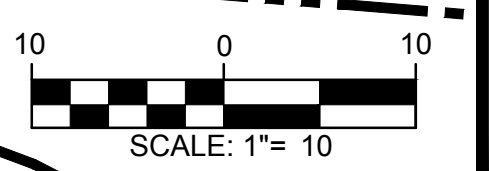
PROPOSED CONDITIONS SITE PLAN
SCALE: 1" = 10'

- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL PROVIDE CLEARING AND GRUBBING, STUMP REMOVAL, AND DEBRIS REMOVAL WITHIN THE PROJECT LIMITS SHOWN. NOTE TREES, BRUSH AND AND DEBRIS ARE NOT SHOWN.
 - CONTRACTOR SHALL PROVIDE CONTINUAL ACCESS TO THE PROJECT SITE AND PROTECT ALL SITE AND PROPERTY COMPONENTS FROM DAMAGE. THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING SITE IS AN ACTIVE RESIDENTIAL NEIGHBORHOOD WHICH REQUIRES ROUTINE ACCESS BY THE OWNER FOR OPERATIONS AND MAINTENANCE PURPOSES AND LOCAL RESIDENCES FOR EGRESS.
 - CONTRACTOR SHALL PROVIDE CONTINUAL FLOW CONVEYANCE FOR THE "DINGLE" AND THE PERENNIAL STREAM. THE CONTRACTOR SHALL PROVIDE CONTINUAL FLOW THROUGHOUT THE YEAR THROUGH THE PROJECT SITE.
 - CONTRACTOR SHALL ADJUST PROPOSED GRADING AS NECESSARY TO PROVIDE SHEET FLOW ACROSS PAVED AND CROSS COUNTRY AREAS AS INDICATED.
 - CONTRACTOR SHALL PROVIDE TEMPORARY SITE FENCING AND ROAD/SITE BARRICADES AS NECESSARY.
 - REPAIR ALL AREAS OF DISTURBED PAVEMENT/DRIVEWAYS/CURBING IN ACCORDANCE WITH THE DETAILS AND CONTRACT DOCUMENTS.
 - REPAIR ALL DISTURBED CROSS COUNTRY AREAS IN ACCORDANCE WITH THE DETAILS AND CONTRACT DOCUMENTS.
 - BURIED UTILITIES AND UTILITY SERVICES ARE SHOWN TO THE EXTENT AVAILABLE AND ARE APPROXIMATE. CONTRACTOR SHALL CONDUCT TEST PITS AS REQUIRED TO LOCATE ALL UTILITIES AND UTILITY SERVICES. TEST PITS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
 - CONTRACTOR TO RE-USE EXISTING SOIL MATERIALS TO BACKFILL AND GRADE THE PROJECT AREA. FILL MATERIALS AND LOOM TO BE PROVIDED BY THE CONTRACTOR. EXCESS SOIL MATERIALS TO BE DISPOSED OF BY THE CONTRACTOR.

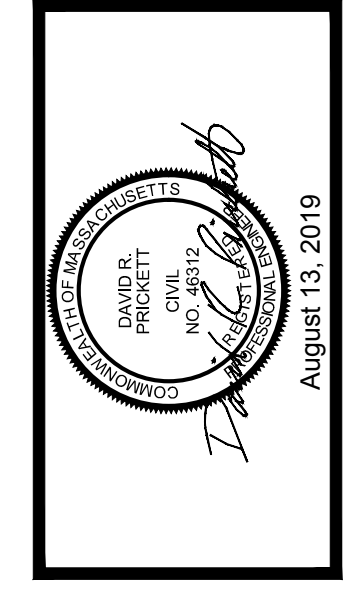
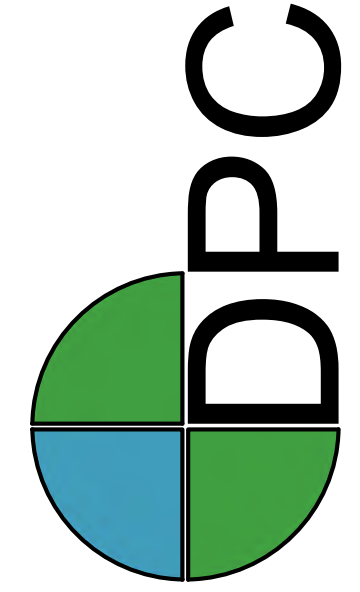


CRESTVIEW CIRCLE

PROPOSED CONDITIONS SITE PLAN
SCALE: 1" = 10'



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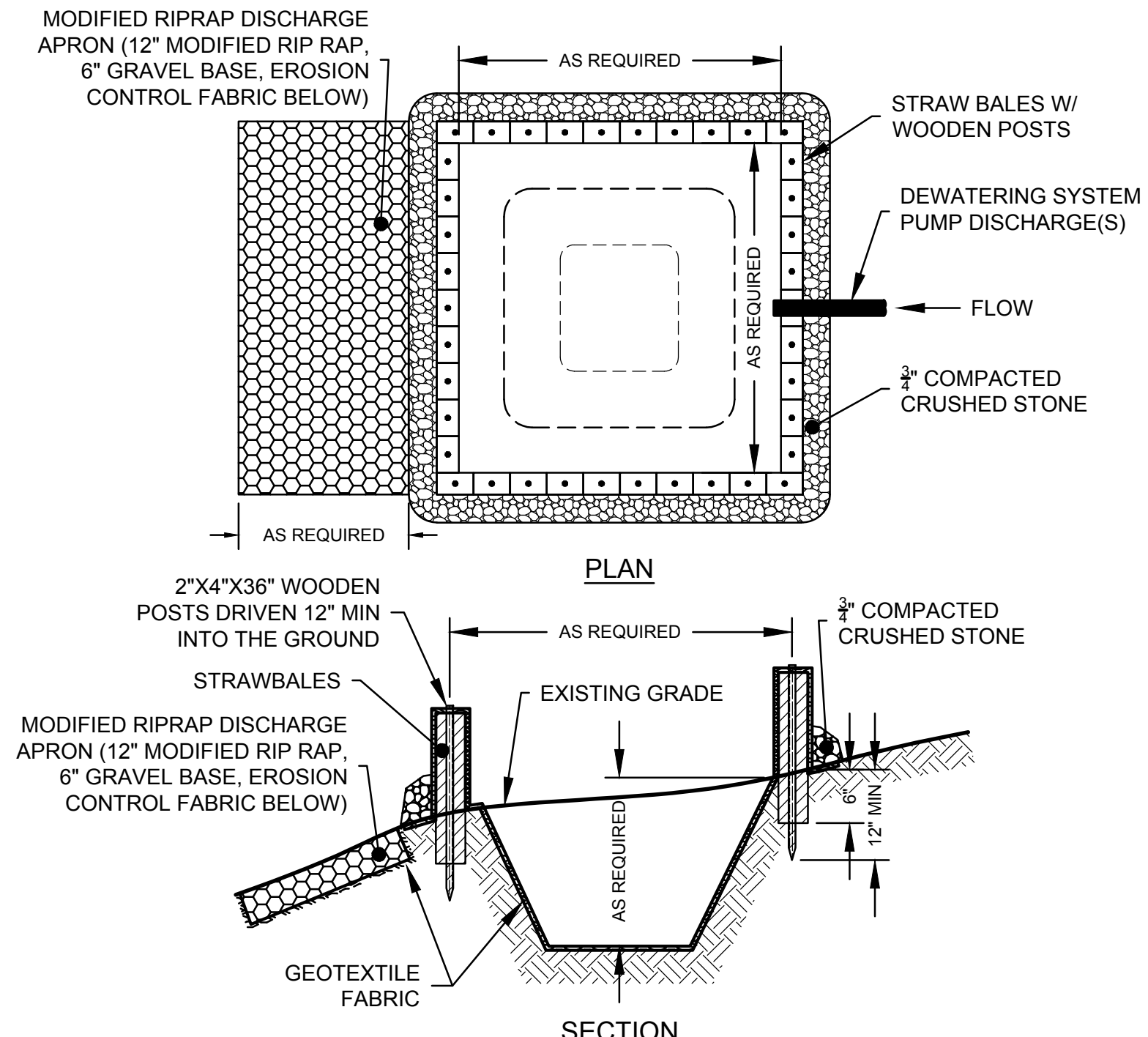
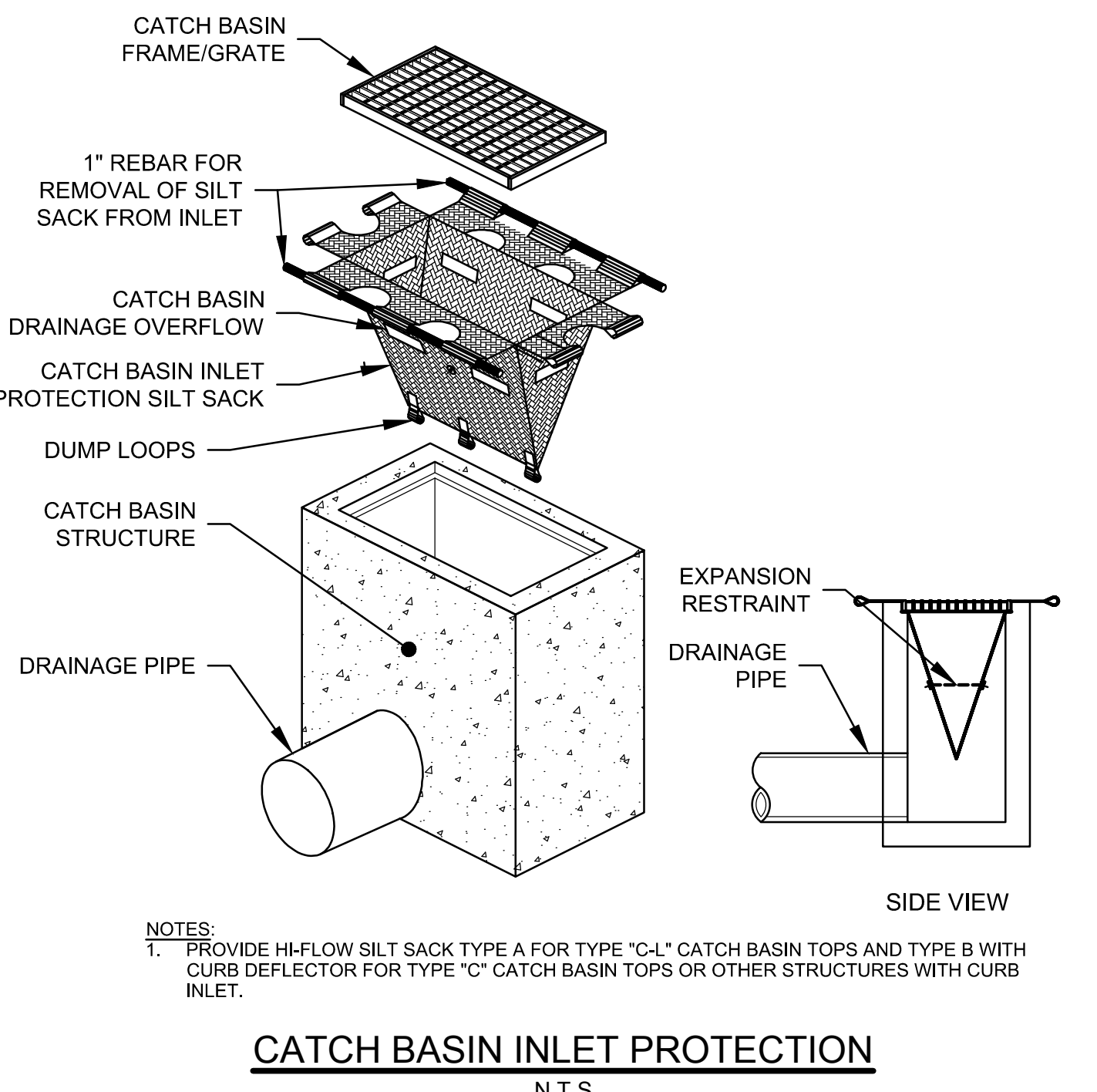
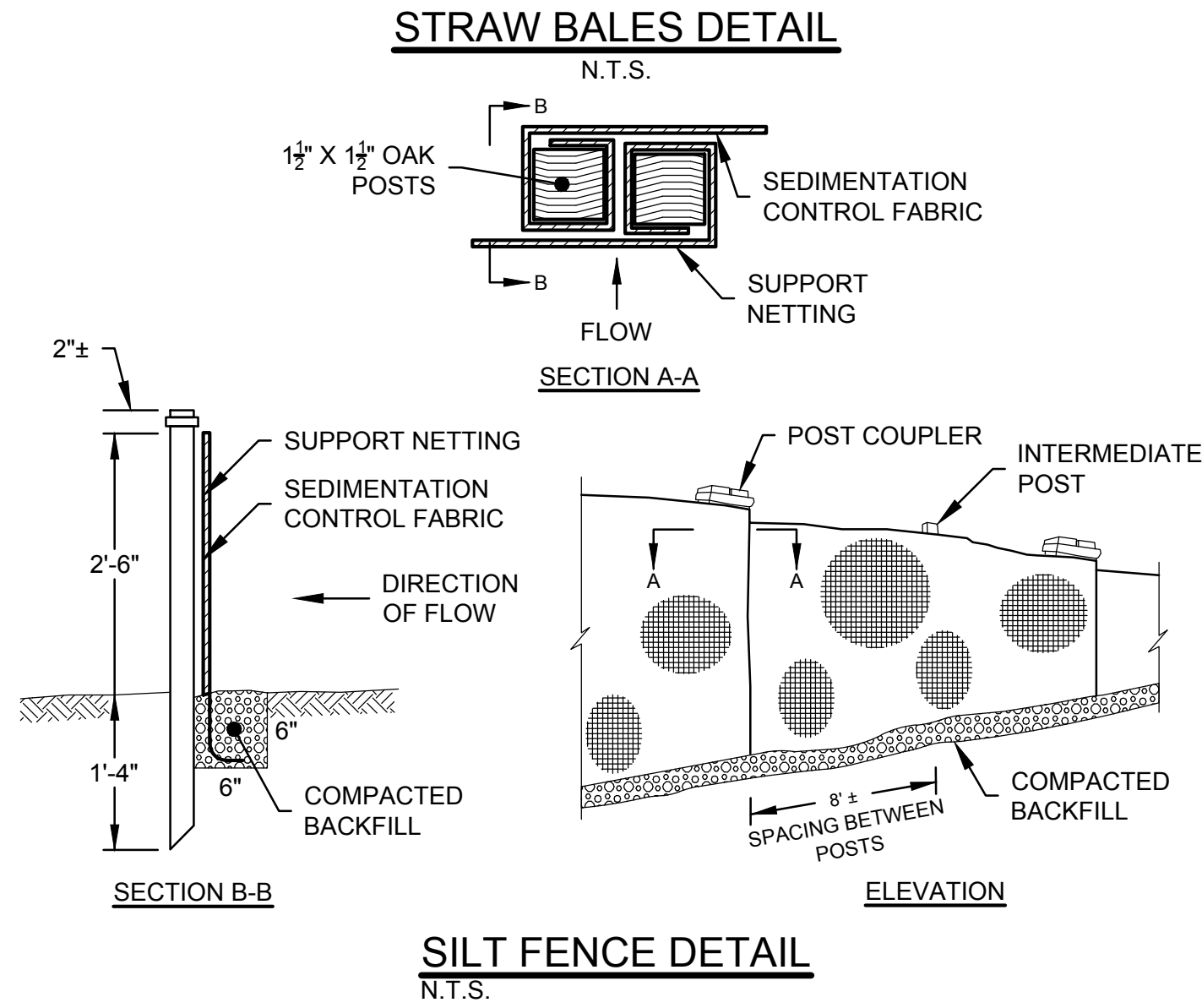
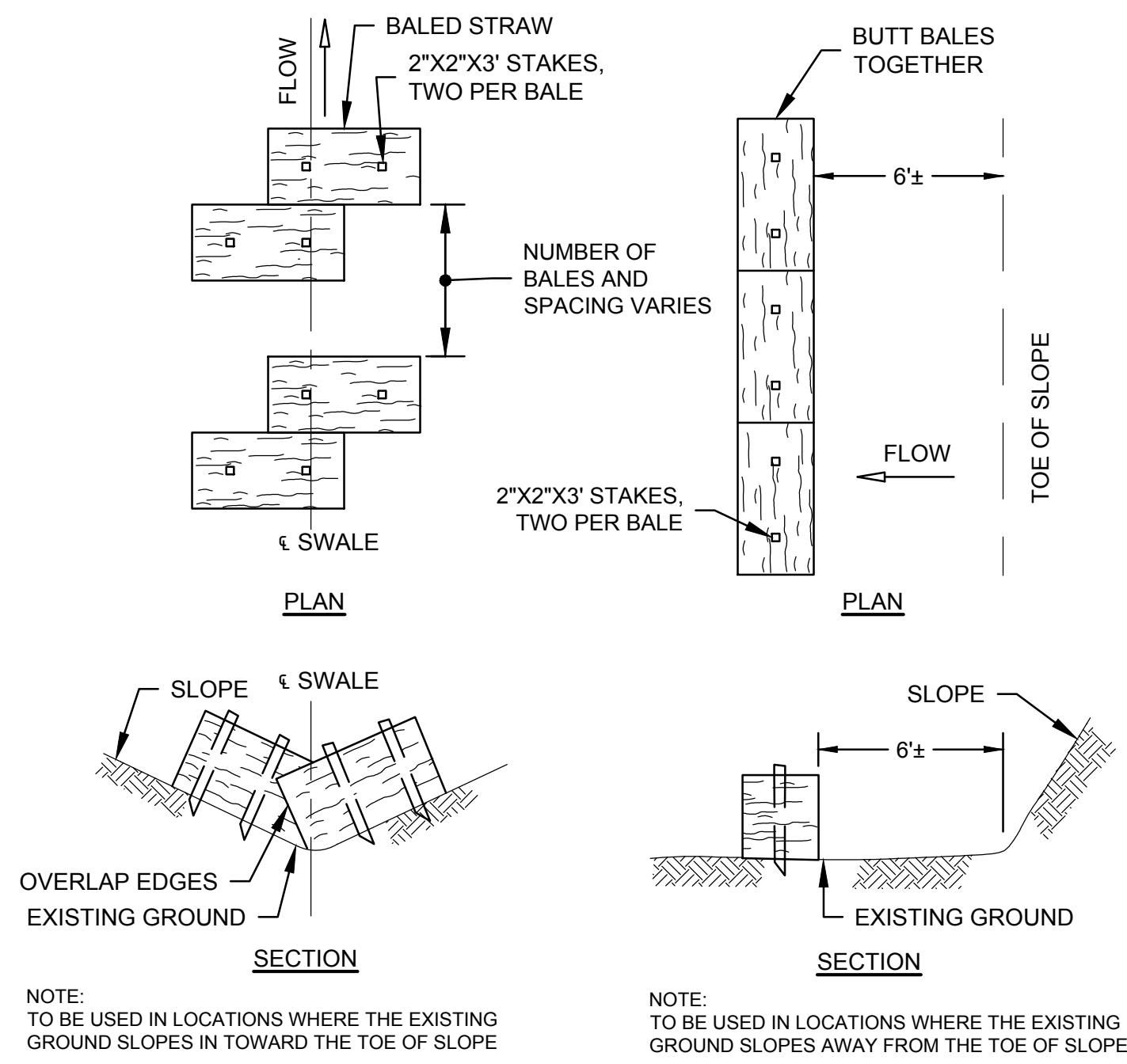


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AND REV:	1
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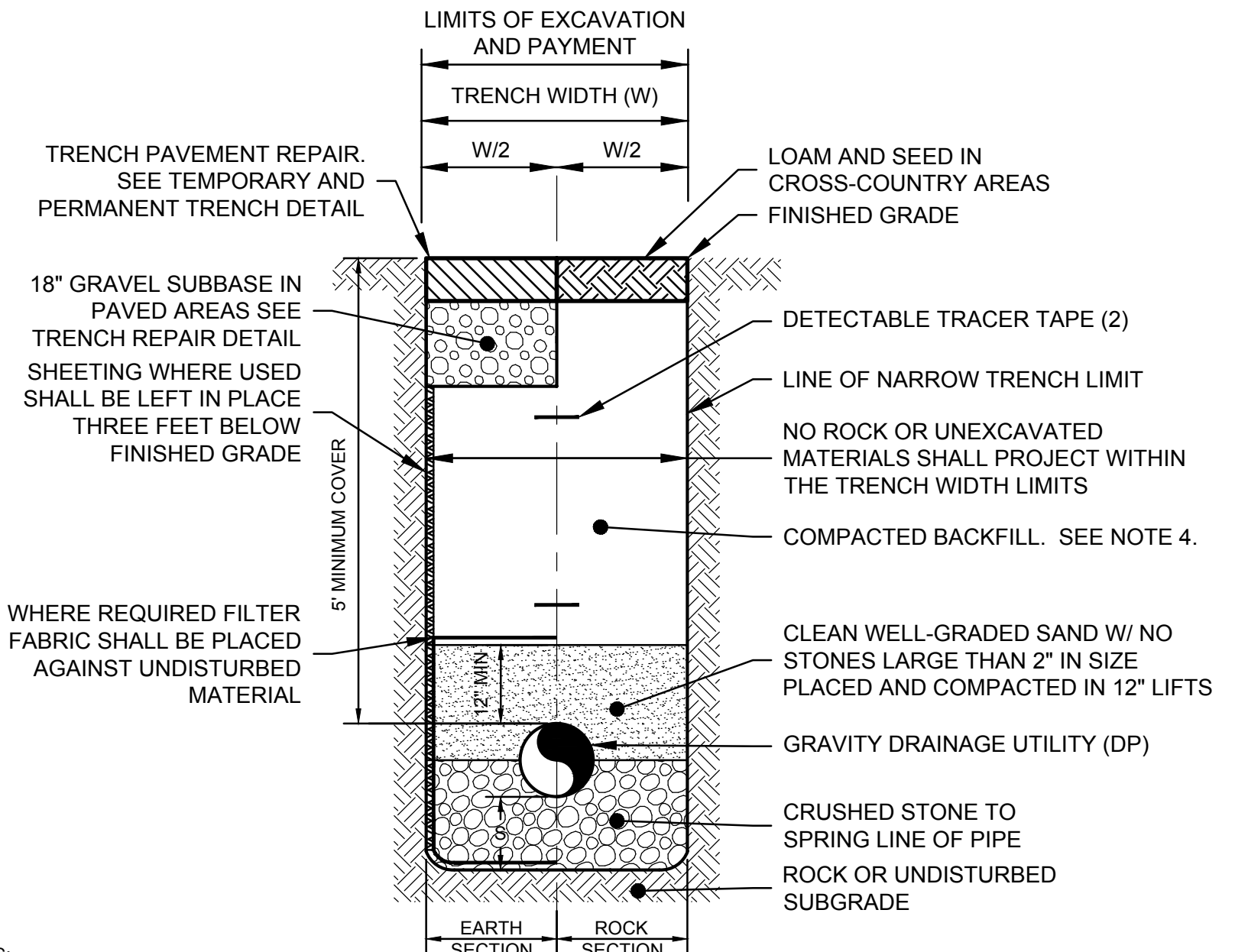
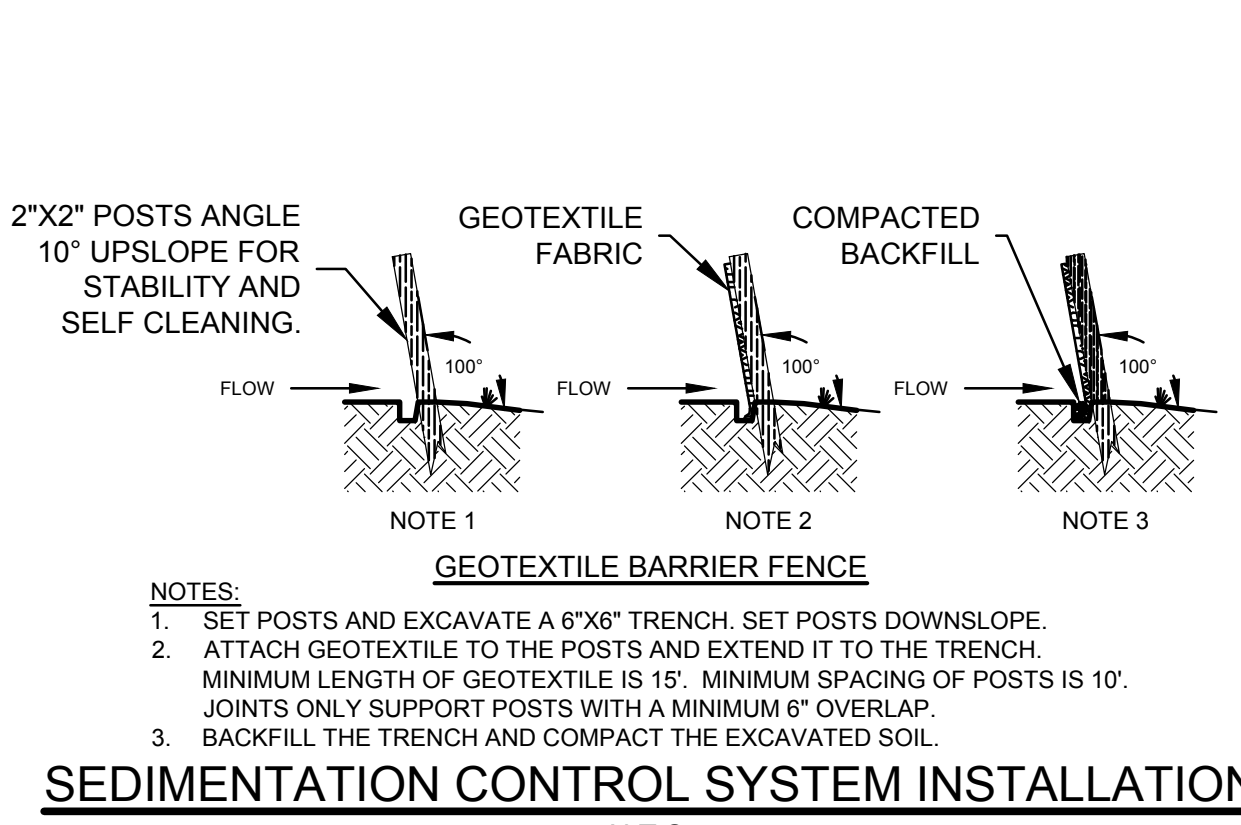
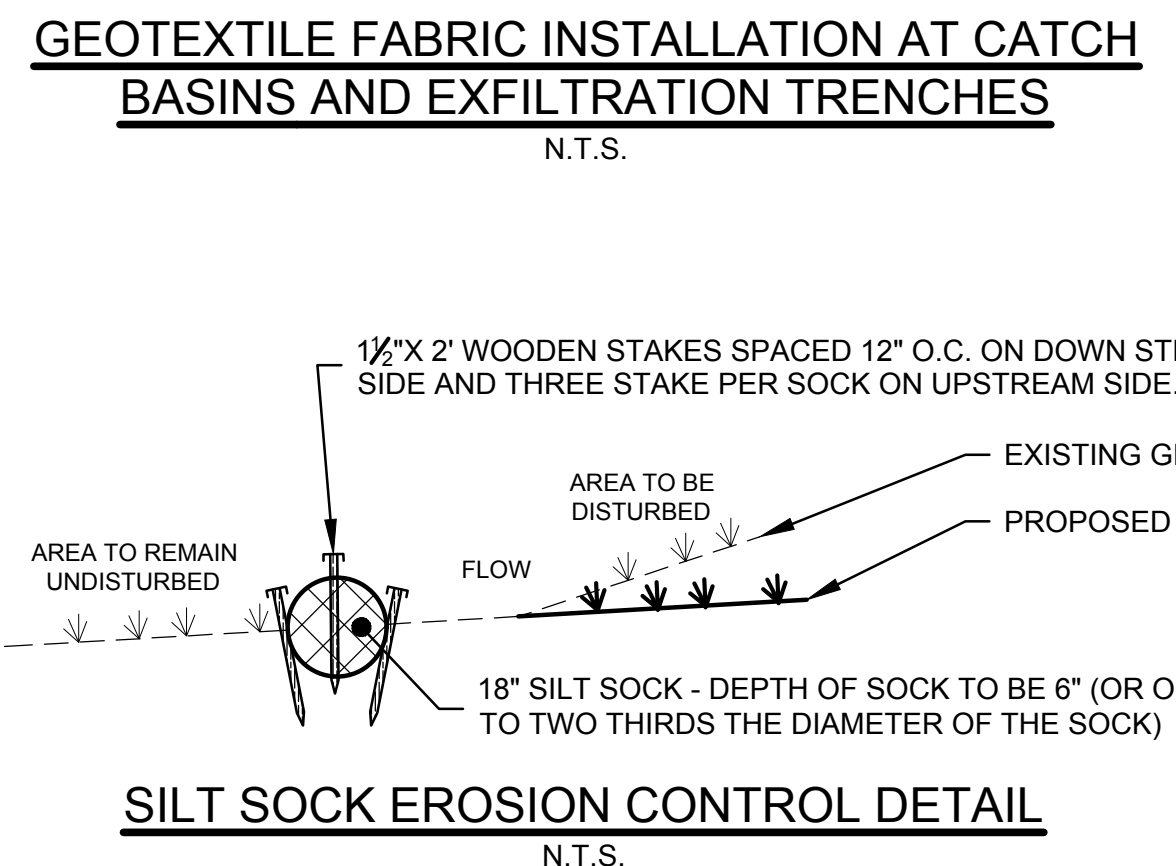
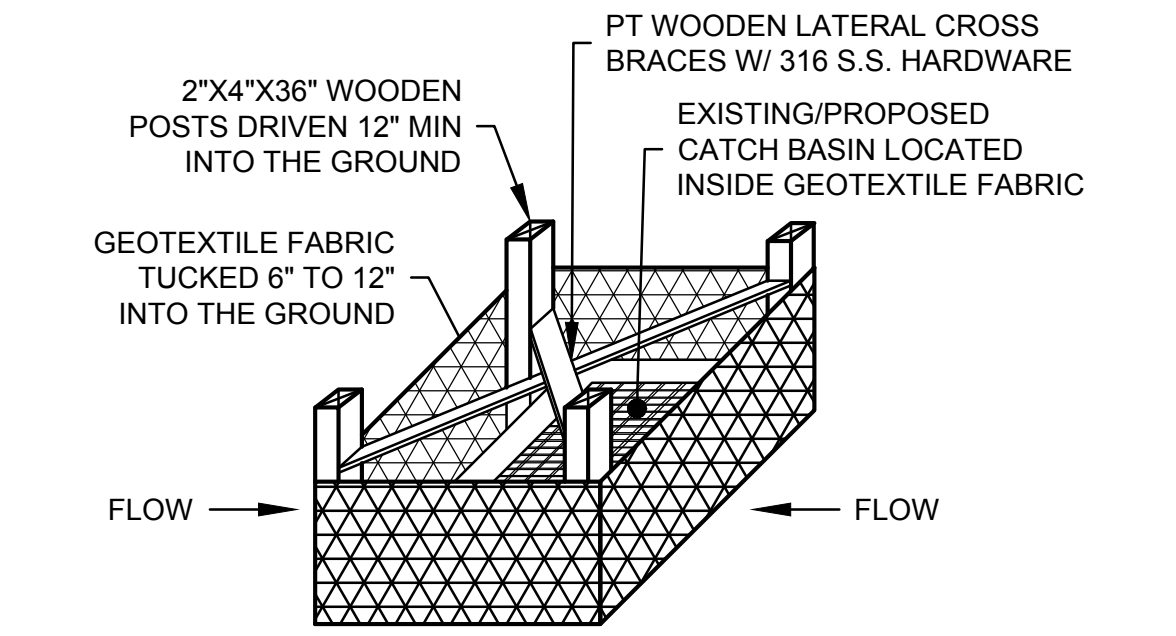
CHANNEL GRADING AND ESTABLISHMENT AT CRESTVIEW CULVERT

MORNINGSIDE DRIVE
CULVERT REPLACEMENT PROJECT
DEPARTMENT OF PUBLIC WORKS
LONGMEADOW, MASSACHUSETTS

SCALE: AS NOTED
SCALE SHEET SIZE: 22X34
JOB NO.:
DATE: AUGUST 2019
SHEET: 5 OF 8
C-3



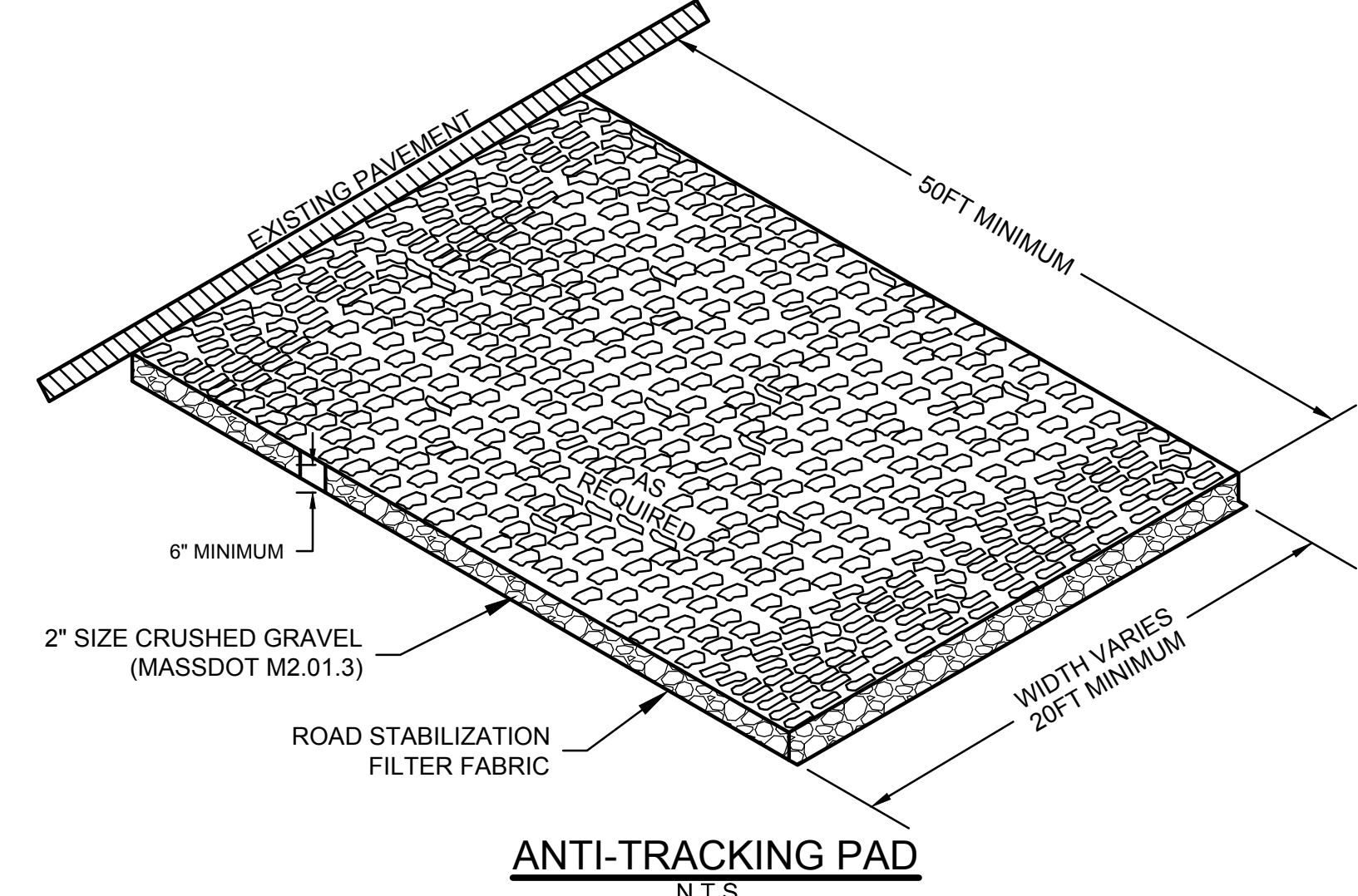
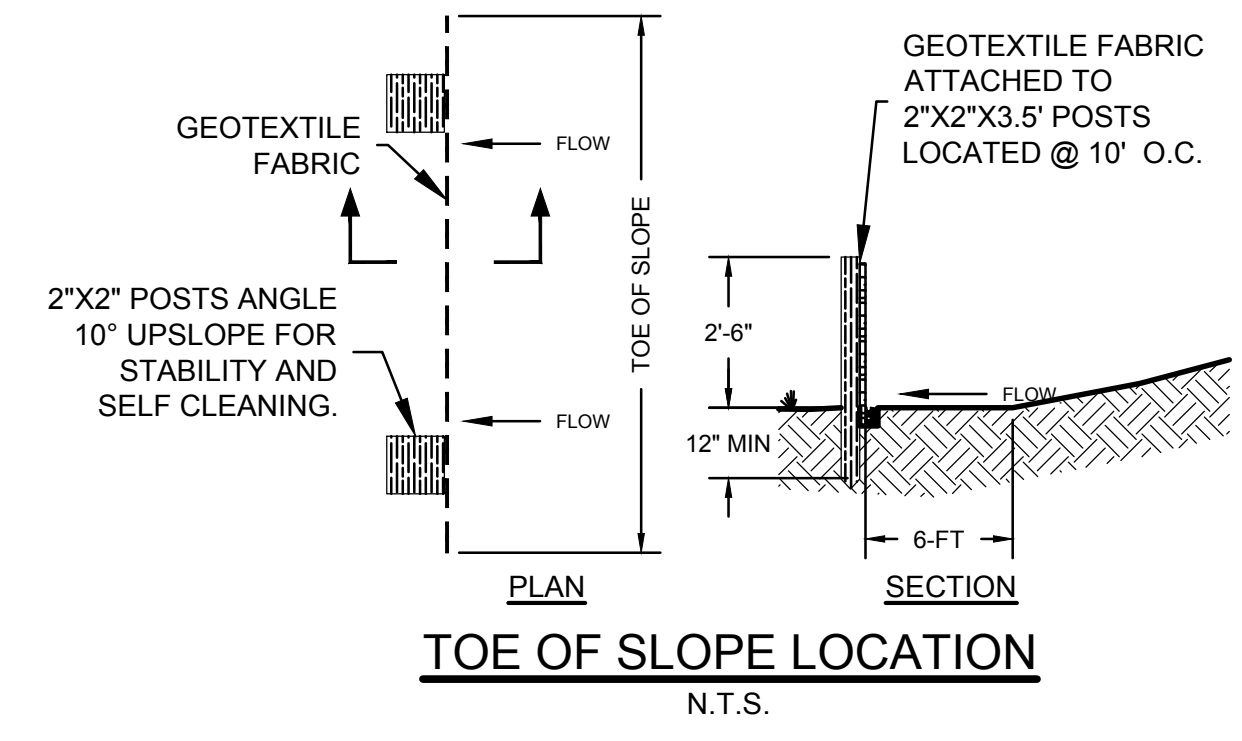
NOTES:
1. THE CONTRACTOR SHALL SIZE BASIN BASED ON THE SELECTED PUMP DISCHARGE FLOWS, AND ENLARGE AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER, TO ALLOW FOR PROPER FUNCTION OF THE BASIN.
2. ALTERNATE SEDIMENTATION BASINS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.
3. BASIN LOCATION(S) SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.



NOTES:
1. SEE PLANS FOR SEWER AND OR DRAIN SIZE AND TYPE.
2. SEE PLANS AND SPECIFICATION FOR RESTORATION LOCATIONS AND DETAILS.
3. DRAIN TRENCHES MAY BE EXCAVATED WIDER THAN THE 'LIMIT OF EXCAVATION AND PAYMENT' ABOVE THE 'LINE OF NARROW TRENCH LIMIT'. ANY SUCH ADDITIONAL EXCAVATION SHALL BE AT THE CONTRACTOR'S EXPENSE AND SHALL NOT BE MEASURED FOR PAYMENT.
4. BACKFILL W/ SUITABLE EXCAVATED MATERIAL OR SUBSTITUTE SUITABLE HAULED BACKFILL. REMOVE ALL STONES GREATER THAN 6" IN SIZE. USE PLATE COMPACTOR FOR COMPACTION IN LIFTS NO GREATER THAN 24". COMPACTED BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% MAX DENSITY.
5. SEE TABLE A FOR W, DP AND S DIMENSIONS.

TYPICAL UTILITY TRENCH INFORMATION
TABLE A

DEPTH TO PIPE INVERT	DIAMETER OF PIPE (DP)	MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)	MINIMUM CLEARANCE (S)
0-12'	TO 18"	5'	6"
0-12'	21"-24"	5'	12"
OVER 12'	TO 18"	7'	12"
OVER 12'	21"-24"	7'	18"



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PROFESSIONAL ENGINEER
CIVIL
NO. 1000000000
COMMONWEALTH OF MASSACHUSETTS
August 13, 2019

DATE: 8/2019

DESCRIPTION: ISSUED FOR BIDDING

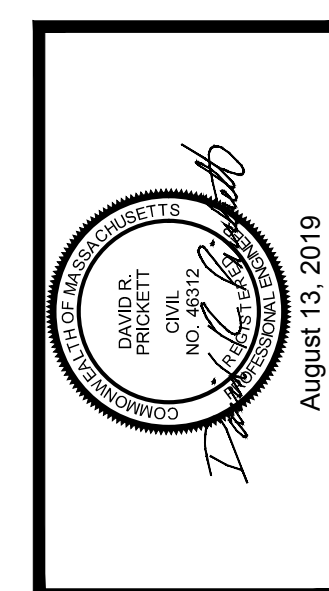
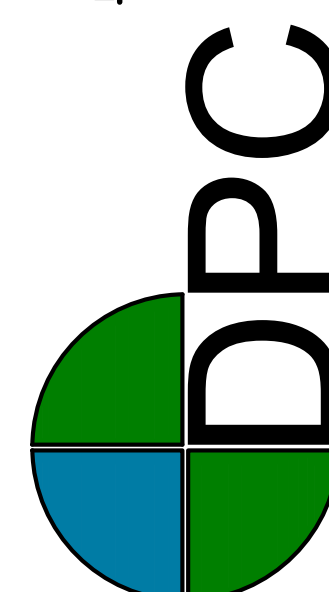
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DRAWN BY: AND 1
DESIGNED BY: AND 1
CHECKED BY: DRP 2
APPROVED BY: DRP 3
ISSUED FOR: DRP 4, DRP 5, DRP 6, DRP 7

CIVIL DETAILS SHEET 1

MORNINGSIDE DRIVE
CULVERT REPLACEMENT
PROJECT
DEPARTMENT OF PUBLIC WORKS
LONGMEADOW, MASSACHUSETTS

SCALE: AS NOTED
SCALE SHEET SIZE: 22X34
JOB NO.:
DATE: AUGUST 2019
SHEET: 6 OF 8
CD-01



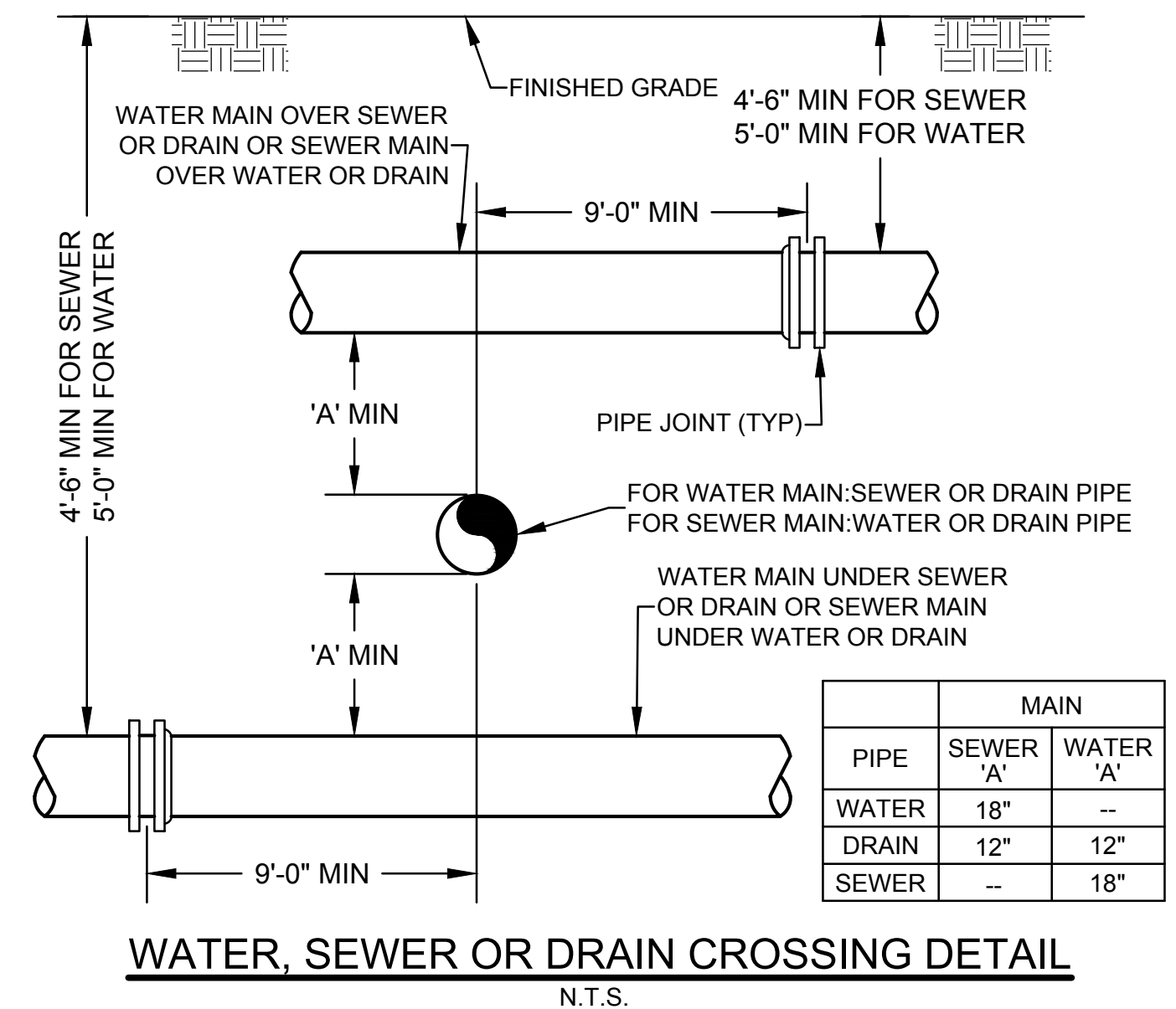
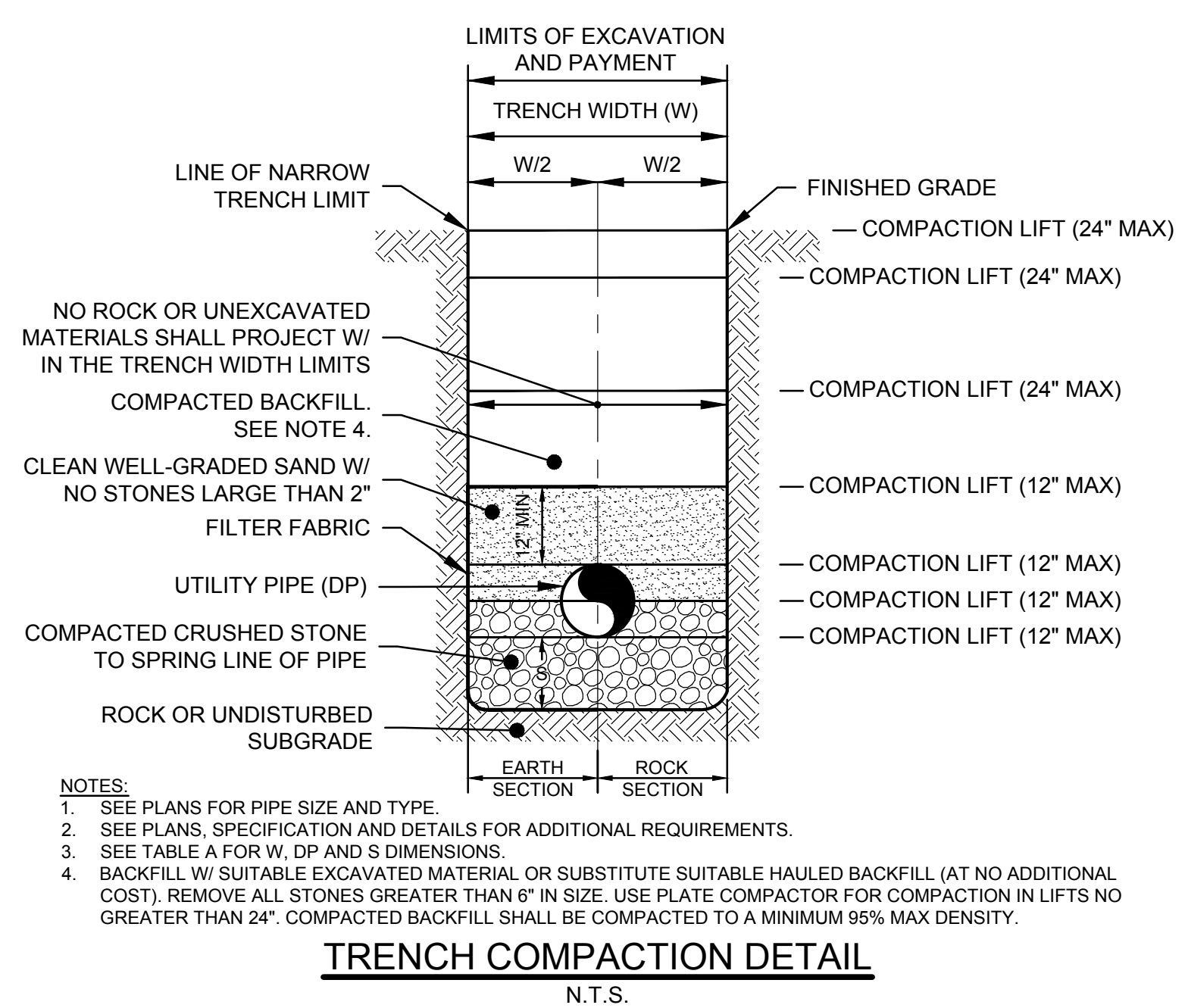
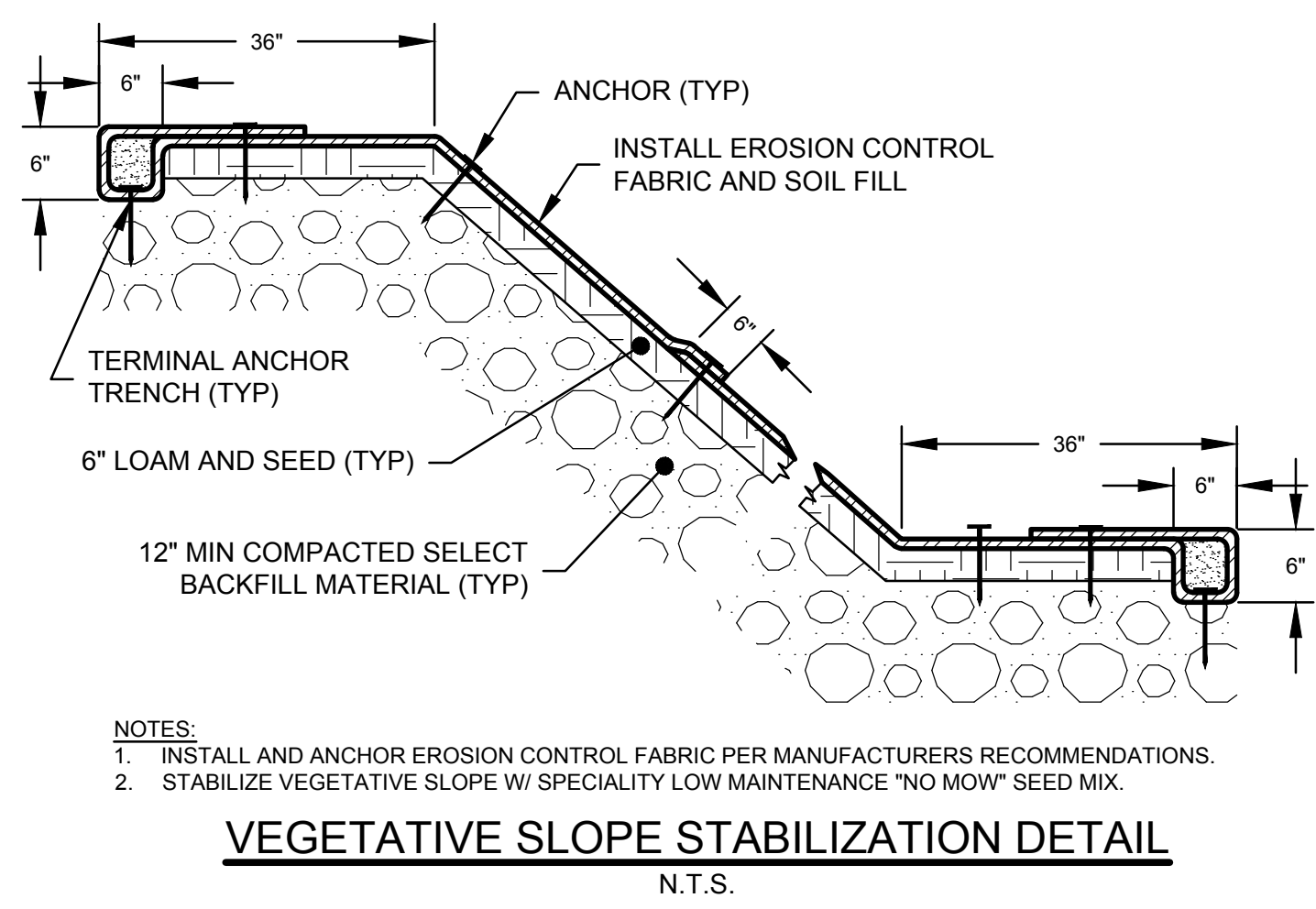
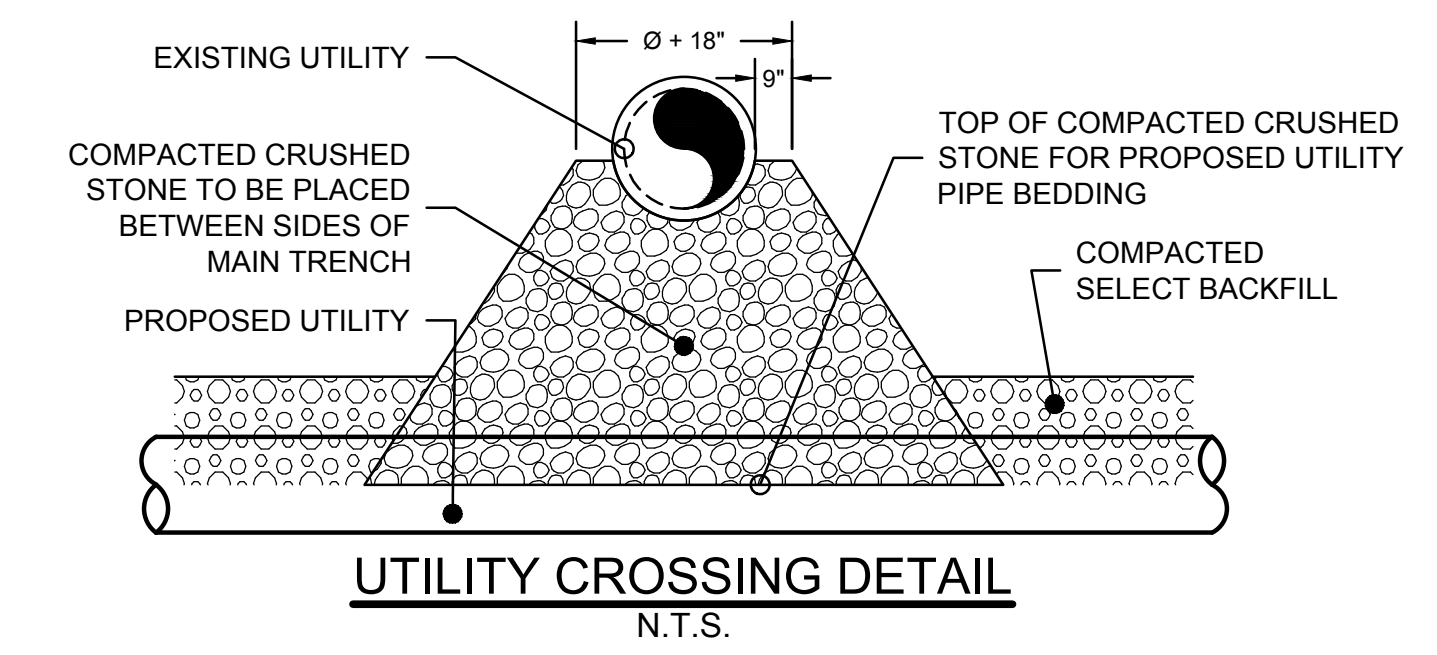
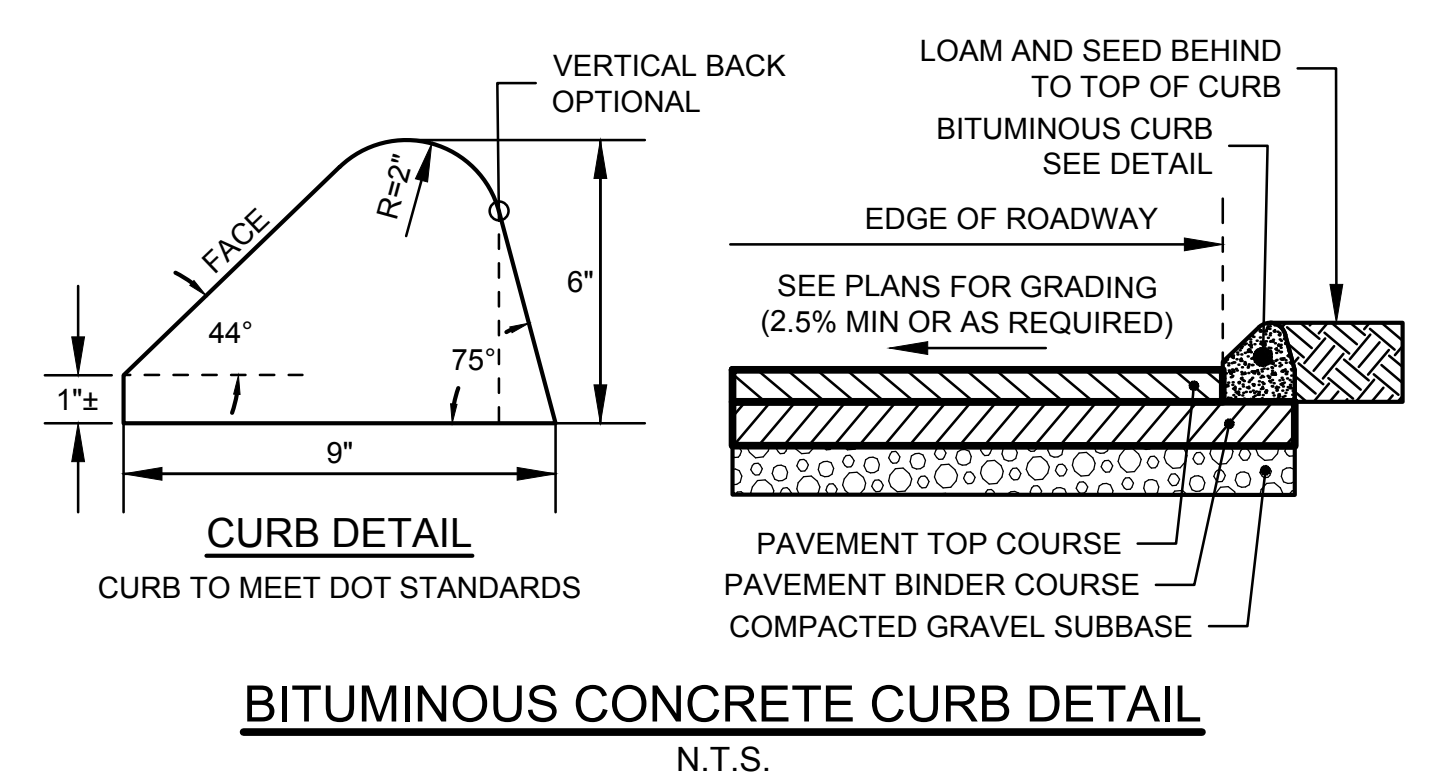
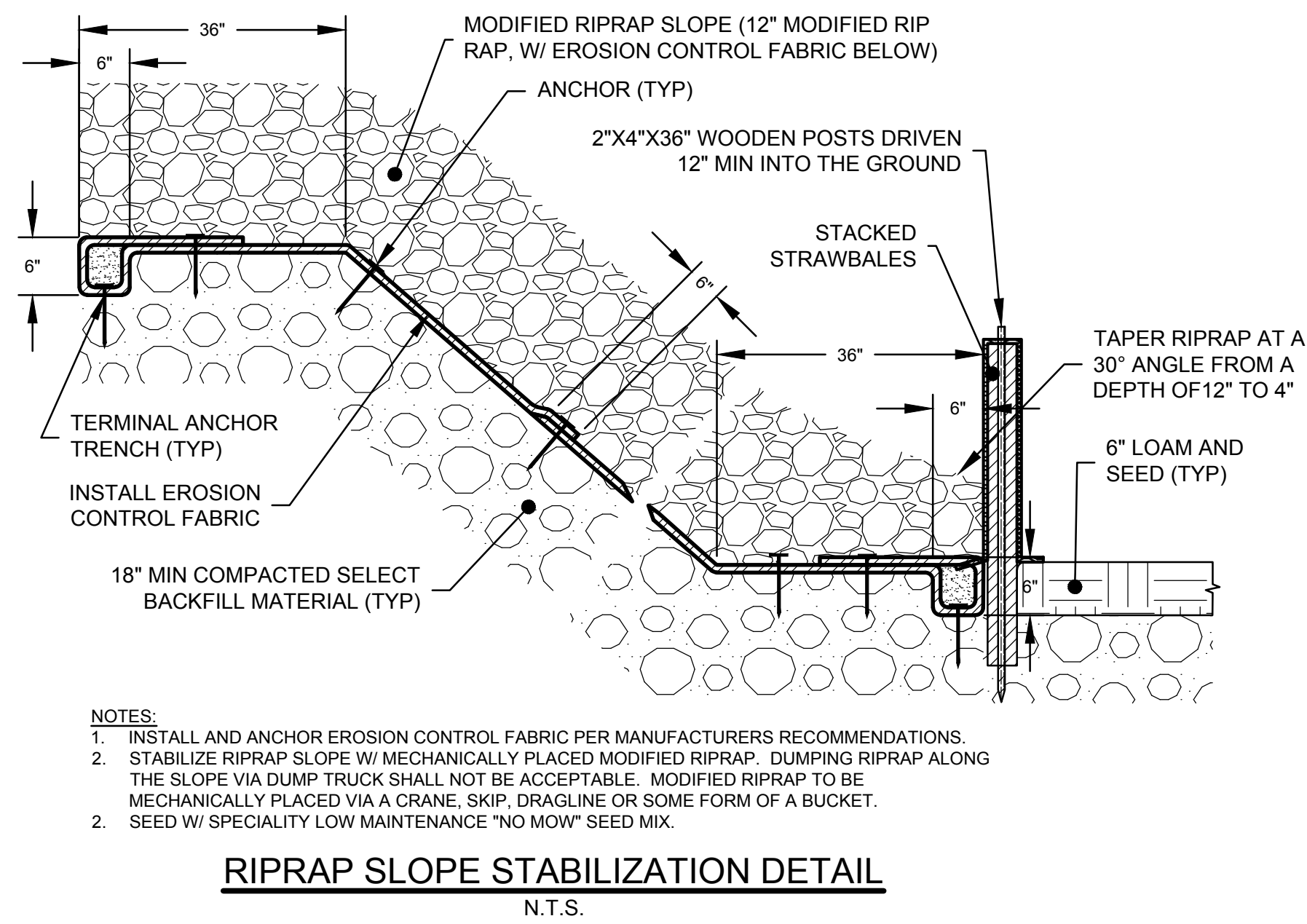
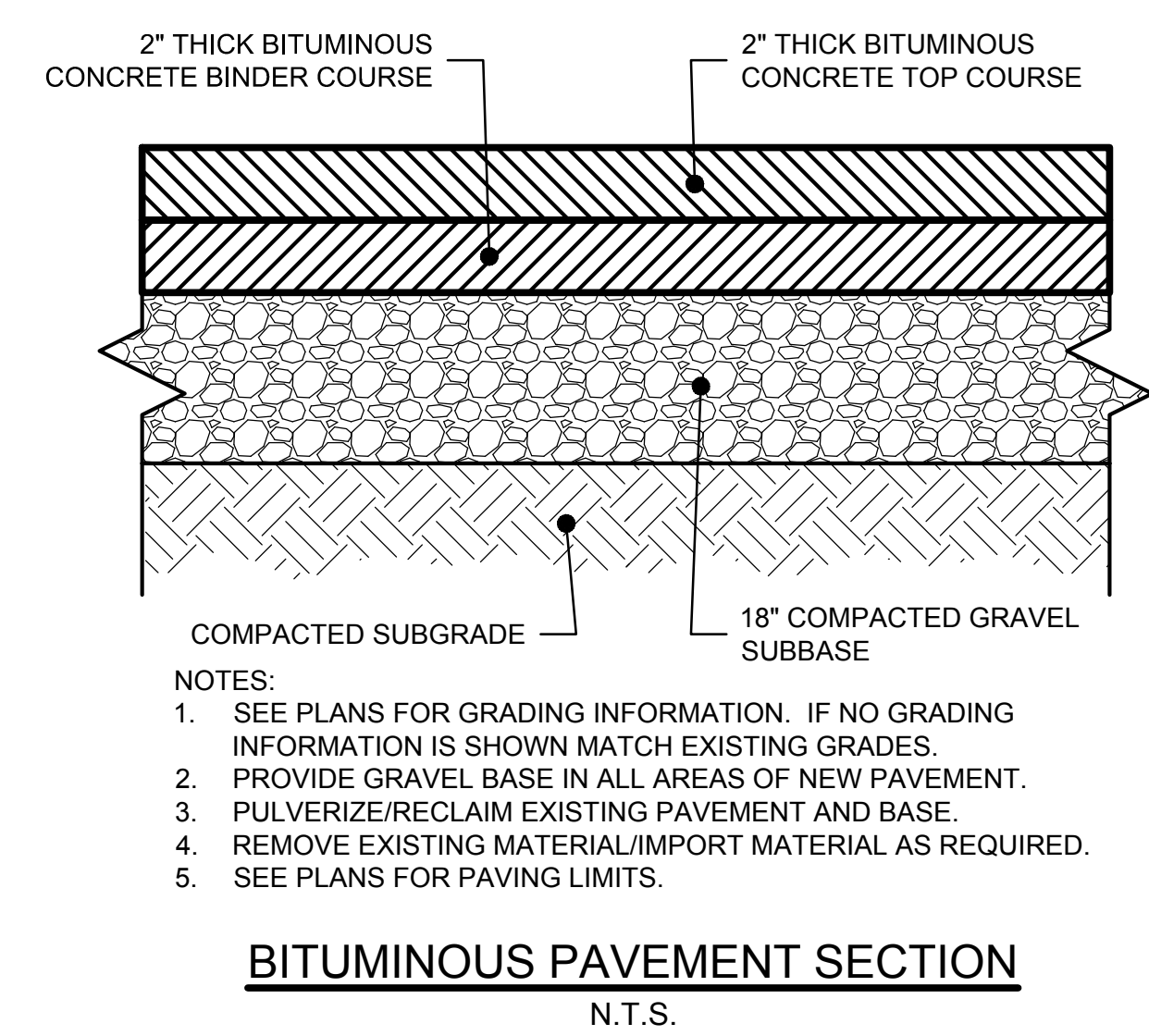
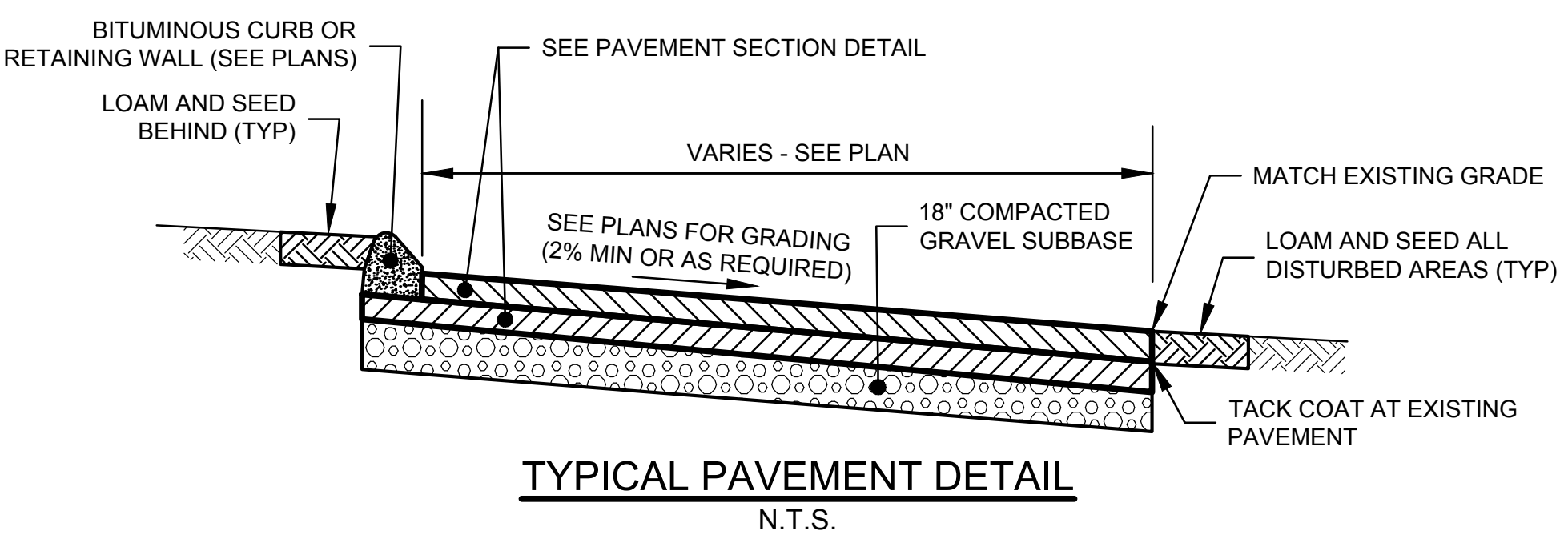
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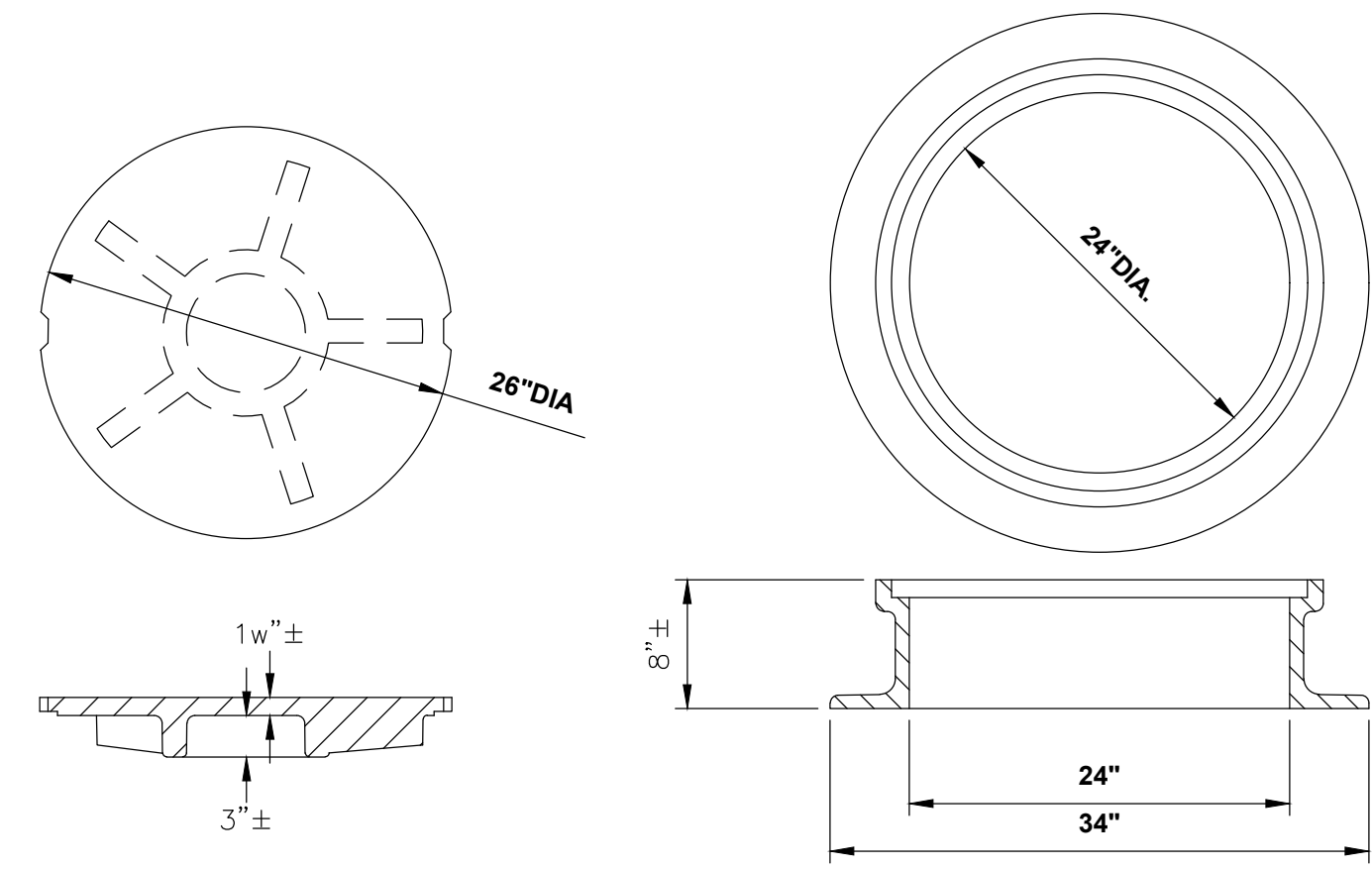
CIVIL DETAILS SHEET 2

MORNINGSIDE DRIVE
 CULVERT REPLACEMENT
 PROJECT
 DEPARTMENT OF PUBLIC WORKS
 LONGMEADOW, MASSACHUSETTS

SCALE: AS NOTED
 SCALE SHEET SIZE: 22X34
 JOB NO.:
 DATE: AUGUST 2019
 SHEET: 7 OF 8

CD-02



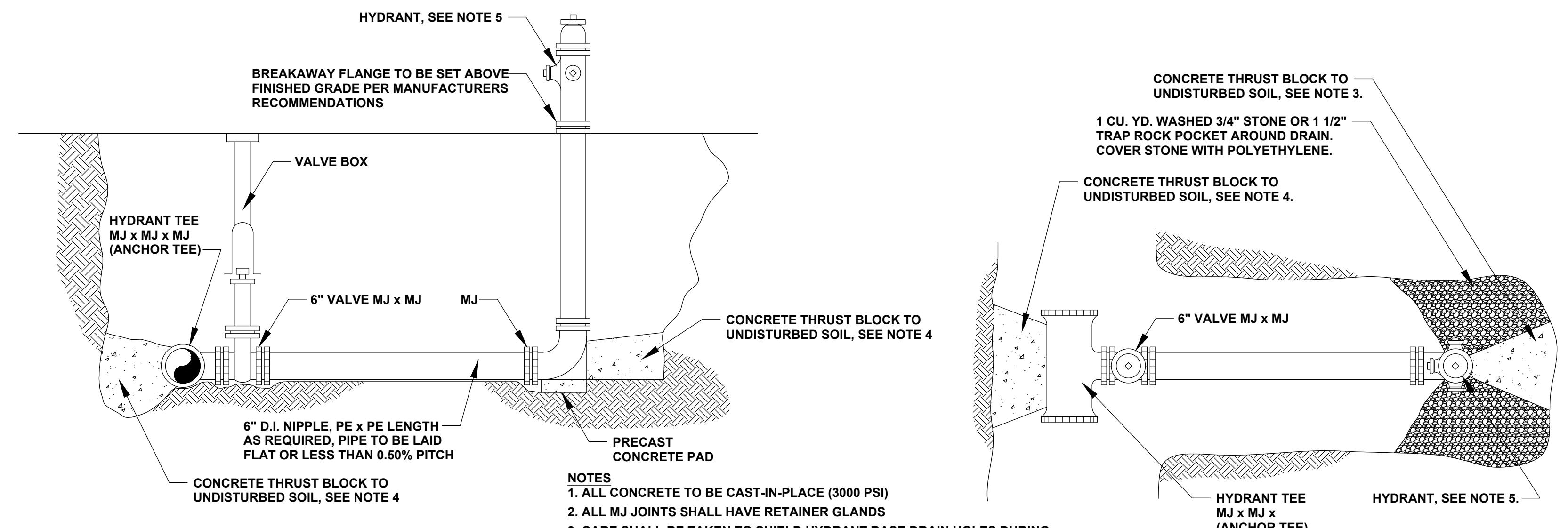


STANDARD MANHOLE COVER
MINIMUM WEIGHT: 200 LBS.

STANDARD MANHOLE FRAME
MINIMUM WEIGHT: 240 LBS.

- NOTES:**
1. FRAME AND COVER SHALL BE PROVIDED FROM THE SAME MANUFACTURER.
 2. LETTERING SHALL BE CAST INTO COVERS AS SPECIFIED.

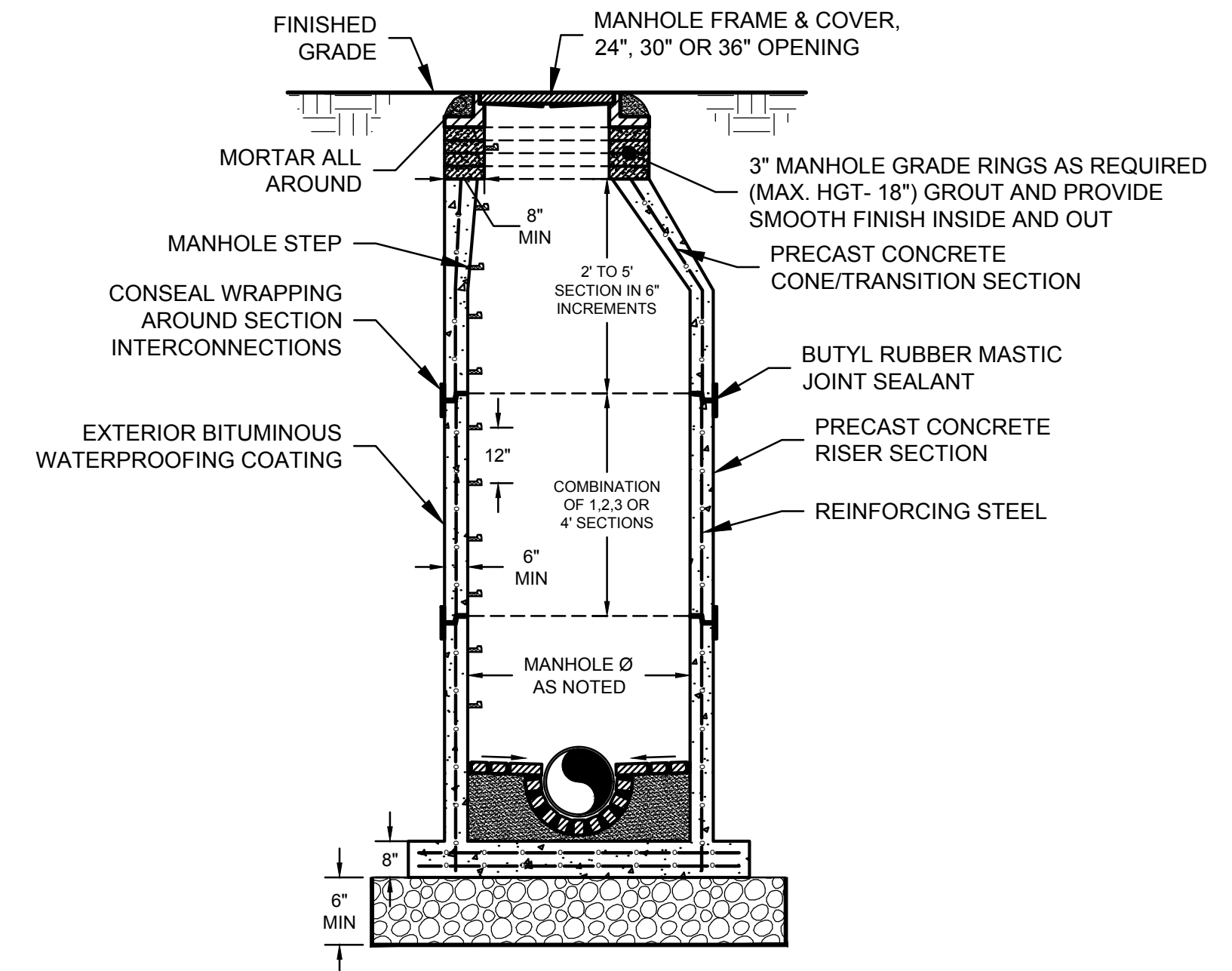
MANHOLE FRAME & COVER
N.T.S



ELEVATION

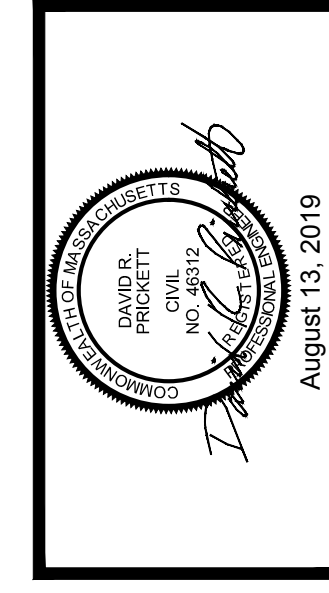
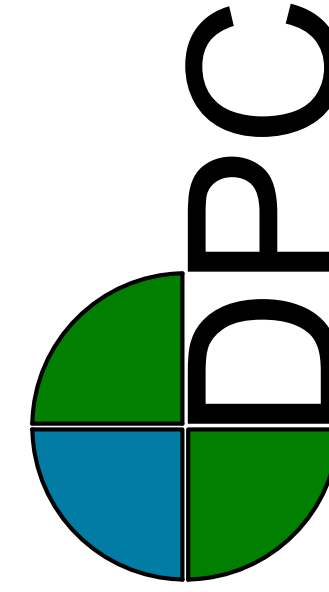
- NOTES**
1. ALL CONCRETE TO BE CAST-IN-PLACE (3000 PSI)
 2. ALL MJ JOINTS SHALL HAVE RETAINER GLANDS
 3. CARE SHALL BE TAKEN TO SHIELD HYDRANT BASE DRAIN HOLES DURING PLACEMENT OF THE CONCRETE THRUST BLOCK. DRAIN HOLES SHALL BE VERIFIED AS OPEN AND FREE OF OBSTRUCTIONS PRIOR TO BACKFILLING.
 4. CARE SHALL BE TAKEN TO SHIELD ALL MECHANICAL JOINT GLANDS AND BOLTS DURING PLACEMENT OF CONCRETE THRUST BLOCK. ALL BOLTS AND GLANDS SHALL BE FREE AND UNOBSTRUCTED BEFORE BACKFILLING.
 5. HYDRANT SHALL BE SET PLUMB. VERTICAL HYDRANT EXTENSIONS SHALL BE USED AS NECESSARY TO PROPERLY LOCATE THE BREAKAWAY FLANGE PER MANUFACTURERS RECOMMENDATIONS.
 6. POLYETHYLENE SHEETING SHALL BE PLACED OVER THE FITTING AND/OR HYDRANT BASE TO PREVENT DIRECT CONTACT OF CONCRETE WITH THE FITTING.
 7. HYDRANTS TO BE DARLING B-84-B OR MUELLER CENTURION.

HYDRANT INSTALLATION
N.T.S



- NOTES:**
1. MINIMUM MANHOLE DIAMETER IS 4FT. DETAIL APPLIES TO 4' AND 5'Ø MANHOLES.
 2. MANHOLE SHALL CONFORM TO LATEST ASTM DESIGNATION C478. CONCRETE COMPRESSIVE STRENGTH-5,000 PSI MINIMUM AT 28 DAYS.
 3. ALL PIPE CONNECTIONS TO MH WALLS SHALL BE CAST-IN FLEXIBLE WATERTIGHT CONNECTORS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL.
 4. MANHOLE STEPS SHALL MEET LATEST OSHA REGULATION 29 CFR 1910.27, SECTION 16 OF ASTM SPECIFICATION C478 AND SECTION 10 ASTM SPECIFICATION C497.
 5. MH BRICK (ASTM C32) SHALL BE GRADE MS OR MM.
 6. ADJUST MANHOLE FRAME AND COVER TO REQUIRED GRADE WITH A MIN OF ONE COURSE AND A MAX OF FIVE COURSES OF REINFORCED CONC. GRADING RINGS.
 7. REINFORCING STEEL WELDED WIRE FABRIC CONFORMS TO LATEST ASTM SPECIFICATION A185.
 8. REINFORCING STEEL DEFORMED BARS CONFORM TO LATEST ASTM SPECIFICATION A615.
 9. DISTANCE FROM TOP OF MANHOLE COVER TO FIRST STEP SHALL BE BETWEEN 12 AND 16".

PRECAST MANHOLE DETAIL
N.T.S.



DATE:	8/2019
DESCRIPTION:	ISSUED FOR BIDDING
DRAWN BY:	AMJ 1
DESIGNED BY:	DRP 2
CHECKED BY:	DRP 3
APPROVED BY:	DRP 4
ISSUED FOR:	5
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CIVIL DETAILS SHEET 3

MORNINGSIDE DRIVE
CULVERT REPLACEMENT
PROJECT

DEPARTMENT OF PUBLIC WORKS
LONGMEADOW, MASSACHUSETTS

SCALE:	AS NOTED
SCALE SHEET SIZE:	22X34
JOB NO.:	
DATE:	AUGUST 2019
SHEET:	8 OF 8