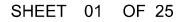


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GENERAL NOTES

1. THE PURPOSE OF THIS PROJECT IS TO IMPROVE THE CONVEYANCE AND TREATMENT OF STORMWATER THROUGH THE SITE BY IMPROVING SWALES, DITCHES, REPLACING UNDERSIZED STORM DRAINS, AND CREATING A NEW TREATMENT POND AND SEVERAL BIORETENTION AREAS.
2. THE PROJECT OWNER IS THE CITY OF SOUTH BURLINGTON. THE OWNER WILL APPOINT AN ENGINEER TO REPRESENT THE OWNER DURING CONSTRUCTION OF THE PROJECT.
3. TOPOGRAPHY SHOWN ON THE PLANS ARE BASED ON FIELD SURVEY COMPLETED BY DUBOIS & KING DEC 22, 2010 (VERTICAL DATUM: NAVD 88).
4. ENGINEERING PERFORMED BY DuBOIS & KING, INC.. CONTACT PERSON IS MATT MURAWSKI 802-728-3376
5. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION.
6. THE CONTRACTOR SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS OF THE SITE AND SURROUNDINGS PRIOR TO BIDDING ON OR PERFORMING THE WORK.
7. THE CONTRACTOR SHALL BID AND PERFORM THE WORK FROM A COMPLETE SET OF PLANS AND SPECIFICATIONS, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS WITHIN THE CONSTRUCTION DOCUMENTS.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY DUBOIS & KING, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
9. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, STANDARDS, AND DETAILS.
10. SUBMIT SHOP DRAWINGS AND PRODUCT LITERATURE (MANUFACTURERS LITERATURE, CUT SHEETS, APPLICATION PROCEDURES, ETC.) FOR ALL PRODUCTS FOR USE IN THE PROJECT, FOR APPROVAL BY THE ENGINEER.
11. NO DEVIATION OR DEPARTURE FROM THE DESIGN INTENT PRESENTED IN THE CONTRACT DOCUMENTS (PLANS AND SPECIFICATIONS) WILL BE ALLOWED UNLESS AUTHORIZED BY THE ENGINEER.
12. NO BURNING OR ON-SITE DISPOSAL OF TREES, BRUSH, STUMPS OR OTHER CONSTRUCTION DERBIES IS PERMITTED. CONTRACTOR SHALL REMOVE SUCH MATERIAL AND DISPOSE OF THEM OFF-SITE IN A LEGAL MANNER.

CONSTRUCTION NOTES

1. LOCATE STAGING AREAS AWAY FROM SENSITIVE AREAS INCLUDING WETLANDS AND STREAM BUFFERS. STAGING AREAS TO BE PLACED IN LOCATIONS AGREED UPON BY CITY OF SOUTH BURLINGTON AND STONEHEDGE HOME OWNER'S REPRESENTATIVE.
2. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING, WATER DIVERSION, AND DEWATERING REQUIREMENTS NEEDED FOR THE PROJECT.
3. ALL WORK TO BE CONDUCTED IN THE DRY. CONTRACTOR IS RESPONSIBLE FOR DIVERTING, BYPASS PUMPING OR OTHERWISE ISOLATING THE WORK AREA FROM FLOWING WATER. CONTRACTOR TO SUBMIT CONTROL OF WATER PLAN PRIOR TO CONSTRUCTION
4. THE CONTRACTOR MAY DISCHARGE TURBID WATER IN SEDIMENT FILTER BAGS, WHICH ARE TO BE PLACED ON VEGATED UPLAND AREAS. THESE FILTER BAGS SHALL BE REMOVED FROM THE SITE ONCE USED AND DISPOSED OF IN APPROVED WASTE AREAS.

MEETINGS AND SUBMITTALS

1. THE CONTRACTOR MUST PARTICIPATE IN AN ON-SITE PRE-CONSTRUCTION CONFERENCE.
2. THE CONTRACTOR MUST SUBMIT AN UPDATED ANTICIPATED WORK SCHEDULE TO THE ENGINEER EACH WEEK.
3. THE CONTRACTOR MUST SUBMIT A CONTROL OF WATER PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR MUST SUBMIT TO THE ENGINEER MATERIAL SLIPS FOR ALL MATERIALS AND ITEMS USED ON THE PROJECT PER THE SPECIFICATIONS.
5. THE CONTRACTOR MUST PROVIDE THE ENGINEER THE OPPORTUNITY TO INSPECT, WITH 48-HOUR PRIOR NOTICE.

PERMITS

1. THE FOLLOWING PERMITS ARE BEING SECURED BY THE OWNER FOR THIS PROJECT:
 - CONSTRUCTION STORMWATER PERMIT FROM VERMONT AGENCY OF NATURAL RESOURCES NPDES
 - STATE WETLAND PERMIT FROM THE VT AGENCY OF NATURAL RESOURCES
2. THE CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THE REQUIREMENTS OF THIS PERMIT PRIOR TO BIDDING, AND FOR COMPLYING WITH IT DURING CONSTRUCTION.

UTILITIES

1. ALL UTILITIES SHOWN ARE APPROXIMATE AND BASED UPON BEST AVAILABLE INFORMATION AS PROVIDED BY UTILITY PROVIDERS CITY OF SOUTH BURLINGTON AND FIELD SURVEY.
2. PRIOR TO CONSTRUCTION THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND DETERMINING THE LOCATION, SIZE AND ELEVATIONS OF ALL UTILITIES (ABOVE AND BELOW GROUND) WITHIN THE PROJECT LIMITS, AND TO TAKE THE NECESSARY PRECAUTIONS TO PROTECT UTILITIES DURING CONSTRUCTION. CONTACT DIG-SAFE AT 1-800-DIG-SAFE (WWW.DIGSAFE.COM).
3. THE OWNER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION, AND APPROPRIATE REMEDIAL ACTION BE SHALL BE DETERMINED AND AGREED UPON BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

STAGING AND STOCK PILE AREAS

1. THE FOLLOWING LOCATIONS ON CITY PROPERTY MAY BE AVAILABLE TO THE CONTRACTOR FOR STAGING OF SUPPLIES AND EQUIPMENT DURING CONSTRUCTION. THE CITY MAY BE BIDDING MULTIPLE PROJECTS AND AS SUCH THE CITY WILL CLARIFY WHICH SITE OR SITES WILL BE AVAILABLE FOR THIS PROJECT DURING THE BID PERIOD.
 - A. EAST END OF SEBRING ROAD (EAST OF LAST DRIVEWAY).
 - B. APPROXIMATELY 1/3 ACRE IN THE OPEN GRASSED AREA IN SZYMANSKI PARK SOUTHWEST OF THE BASKETBALL COURT. SAFE PEDESTRIAN ACCESS TO PARK FACILITIES INCLUDING PLAYGROUND, BASKETBALL COURT, TENNIS COURTS, AND RECREATIONAL PATHS MUST BE MAINTAINED.
 - C. UP TO HALF OF THE SZYMANSKI PARK PARKING LOT AT THE EASTERN END OF ANDREWS AVENUE. PEDESTRIAN AND EMERGENCY VEHICLE ACCESS TO SZYMANSKI PARK FROM ANDREWS AVENUE MUST BE MAINTAINED.
2. THE CONTRACTOR SHALL PROVIDE FENCING OR SUITABLE DEMARCATON TO PREVENT INADVERTENT PEDESTRIAN ACCESS TO THE STAGING AREA.
3. THE CONTRACTOR WILL BE EXPECTED TO COORDINATE WITH THE CITY TO FINALIZE LOCATIONS OF STAGING AREAS ON CITY PROPERTY PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR MAY IDENTIFY AND SECURE THE USE OF ADDITIONAL STAGING AREAS ON NON-CITY PROPERTY.

BIORETENTION AREAS

- PLANTING SOIL
- THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHOULD BE FREE OF NOXIOUS WEEDS.
2. THE PLANTING SOIL SHOULD BE TESTED AND SHOULD MEET THE FOLLOWING CRITERIA:
- | | |
|-----------------|-----------------------|
| PH RANGE | 5.2 - 7.0 |
| ORGANIC MATTER | 1.5 - 4% |
| MAGNESIUM | 35 LB./AC |
| PHOSPHORUS P2O5 | 75 LB./AC |
| POTASSIUM K2O | 85 LB./AC |
| SOLUBLE SALTS | NOT TO EXCEED 500 PPM |
3. ALL BIORETENTION AREAS SHOULD HAVE A MINIMUM OF ONE TEST. EACH TEST SHOULD CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE'S STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHOULD BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.
4. ALL TESTING RESULTS SHOULD COME FROM THE SAME TESTING FACILITY.
5. SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR.
6. COMPACTION
- IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREA IS EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND STORAGE VOLUMES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
7. COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGH THE 12-INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
8. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACK FILLING THE REQUIRED SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
9. WHEN BACK FILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
10. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" OR GREATER. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
11. PLANT INSTALLATION
- MULCH AROUND INDIVIDUAL PLANTS ONLY. SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
12. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. ROOT STOCK OF THE PLANT MATERIAL SHOULD BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
13. TREES SHOULD BE BRACED USING 2" X 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
14. GRASSES AND LEGUME SEED SHOULD BE TILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHOULD BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
15. THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY, ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH IS USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1,000 SQUARE FEET.
16. UNDERDRAINS
- UNDERDRAINS SHOULD BE PLACED ON A 3'-0" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHOULD BE CAPPED.
17. THE MAIN COLLECTION PIPE FOR UNDERDRAIN SYSTEMS SHOULD BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1,000 SQUARE FEET OF SURFACE AREA).
18. THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.

EARTHWORK

1. EMBANKMENT MATERIAL SHALL BE COMPACTED EARTH FILL FROM EXCAVATED POND SITE WITH NO SIGNIFICANT POCKETS OF GRAVELS OR GRANULAR MATERIALS, TOPSOIL, COBBLES LARGER THAN 6 INCHES, OR ORGANICS. ALL EMBANKMENT MATERIAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF THE EMBANKMENT. MATERIAL SHALL BE PLACED AND COMPACTED AT OPTIMUM MOISTURE CONTENT. THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE EMBANKMENT MATERIAL TO A SOIL TESTING LABORATORY AND OBTAIN A PROCTOR CURVE (MOISTURE VS. DENSITY) AND A GRAIN SIZE DISTRIBUTION CURVE PRIOR TO CONSTRUCTION.
2. THE EXISTING GRADE UNDER ALL EMBANKMENT FILL AREAS SHALL BE STRIPPED OF ALL ORGANICS AND OTHER UNSUITABLE MATERIALS AND EXCAVATED TO A SUITABLE FOUNDATION. THE CONTRACTOR AND ENGINEER SHALL REVIEW THE FOUNDATION PRIOR TO PLACEMENT OF EMBANKMENT FILL.
3. EMBANKMENT MATERIAL SHALL BE PLACED AND COMPACTED IN 9-INCH LIFTS.

EROSION PREVENTION AND SEDIMENT CONTROL NOTES

1. STANDARDS IN "LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL" BY VT DEPARTMENT OF ENVIRONMENTAL CONSERVATION, SERVE AS THE REQUIRED EROSION PREVENTION AND SEDIMENT CONTROL PLAN FOR THE SITE. THE CONTRACTOR SHALL BE FAMILIAR WITH THE STANDARDS AND SPECIFICATIONS IN THIS PUBLICATION AND SHALL IMPLEMENT THE APPLICABLE MEASURES SPECIFIED IN THE HANDBOOK.
2. THE CONTRACTOR SHALL MINIMIZE THE AMOUNT OF DISTURBED SOIL EXPOSED TO EROSION FROM WIND OR STORMWATER AT ANY TIME BY USING VEGETATIVE AND STRUCTURAL CONTROLS AND PROPER TIMING AND SEQUENCING OF CONSTRUCTION ACTIVITIES. CLEAR ONLY WHAT IS REQUIRED FOR THE IMMEDIATE CONSTRUCTION ACTIVITY, AND INSTALL PERMANENT EROSION CONTROL / LAND TREATMENT AS SOON AS POSSIBLE.
3. INSTALL DOWN GRADIENT SILT FENCE PRIOR TO CLEARING AND GRUBBING AND INSTALL NECESSARY EROSION AND SEDIMENT CONTROL PRACTICES AS WORK TAKES PLACE.
4. THE CONTRACTOR SHALL DESIGNATE THE RESPONSIBILITIES FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN TO ONE INDIVIDUAL. THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS UNDERSTAND THE MAJOR PROVISIONS OF THE EROSION AND SEDIMENT CONTROL PLAN.
5. APPLY TEMPORARY OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETED.
6. ALL EARTH STOCKPILES SHALL BE PROTECTED BY A SILT FENCE AT THE PERIMETER AND COVERED WITH A BLANKET OF HAY MULCH.
7. EROSION CHECKS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND AS NECESSARY TO PREVENT EROSION.
8. EROSION CHECKS SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED AND APPROVED BY THE OWNER.
9. EROSION CHECKS SHALL BE PERIODICALLY INSPECTED TO INSURE THEY ARE IN GOOD CONDITION AND THAT AN EXCESSIVE BUILDUP OF SILT AND DEBRIS HAS NOT OCCURRED. NOTWITHSTANDING PERIODIC INSPECTIONS, EROSION CHECKS SHALL BE INSPECTED BEFORE AND AFTER RAINFALL EVENTS TO INSURE THEY ARE IN GOOD CONDITION BEFORE RAINFALL AND TO REMOVE EXCESSIVE BUILDUP OF SILT AND DEBRIS AFTER THE STORM EVENT.
10. SLOPED SURFACES SHALL BE ROUGHENED BY DRIVING TRACKED EQUIPMENT UP AND DOWN THE SLOPE AFTER SEEDING AND MULCHING IS COMPLETED. THE GROOVES CREATED BY THE TRACKED CONSTRUCTION EQUIPMENT SHALL RUN ACROSS THE SLOPE HORIZONTALLY AND NOT UP AND DOWN THE SLOPE.
11. ALL DISTURBED SOIL AREAS SHALL BE PERMANENTLY SEEDED AND MULCHED WITHIN 24 HR. OF FINAL GRADING.
12. EROSION BLANKETS SHALL BE USED ON ALL SEEDED AREAS WITH SLOPES IN EXCESS OF 20%, AND FOR ALL AREAS IF SEEDED AFTER SEPTEMBER 15, PRIOR TO SEPTEMBER 15 AND SLOPE LESS THAN 20% TO BE GRASSED SHALL BE SEEDED AND MULCHED.
13. CONTRACTOR SHALL REMOVE ALL TEMPORARY MEASURES ONCE PERMANENT MEASURES HAVE BEEN ADEQUATELY ESTABLISHED.

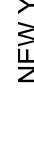
RESTORATION OF SURFACES

1. THE CONTRACTOR SHALL APPLY A COURSE BED OF CRUSHED GRAVEL TO THE CONSTRUCTION ACCESS DRIVES AND NON PAVED STAGING AREAS AS DIRECTED BY THE ENGINEER TO PREVENT RUTTING, EROSION, AND TRACKING OF MATERIAL OFFSITE.
2. AT THE COMPLETION OF WORK, THE CONTRACTOR MUST RESTORE ACCESS, STAGING, AND WORK AREAS TO PRE-CONSTRUCTION CONDITION. RESTORATION MAY INCLUDE PLACEMENT OF PAVEMENT ON EXISTING DRIVES AND / OR APPLICATION OF TOPSOIL, GRASS SEED, FERTILIZER, AND MULCH TO AFFECTED LAWN AREAS.



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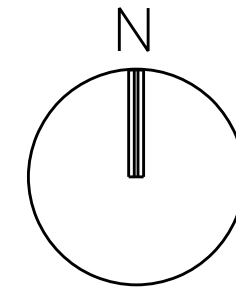
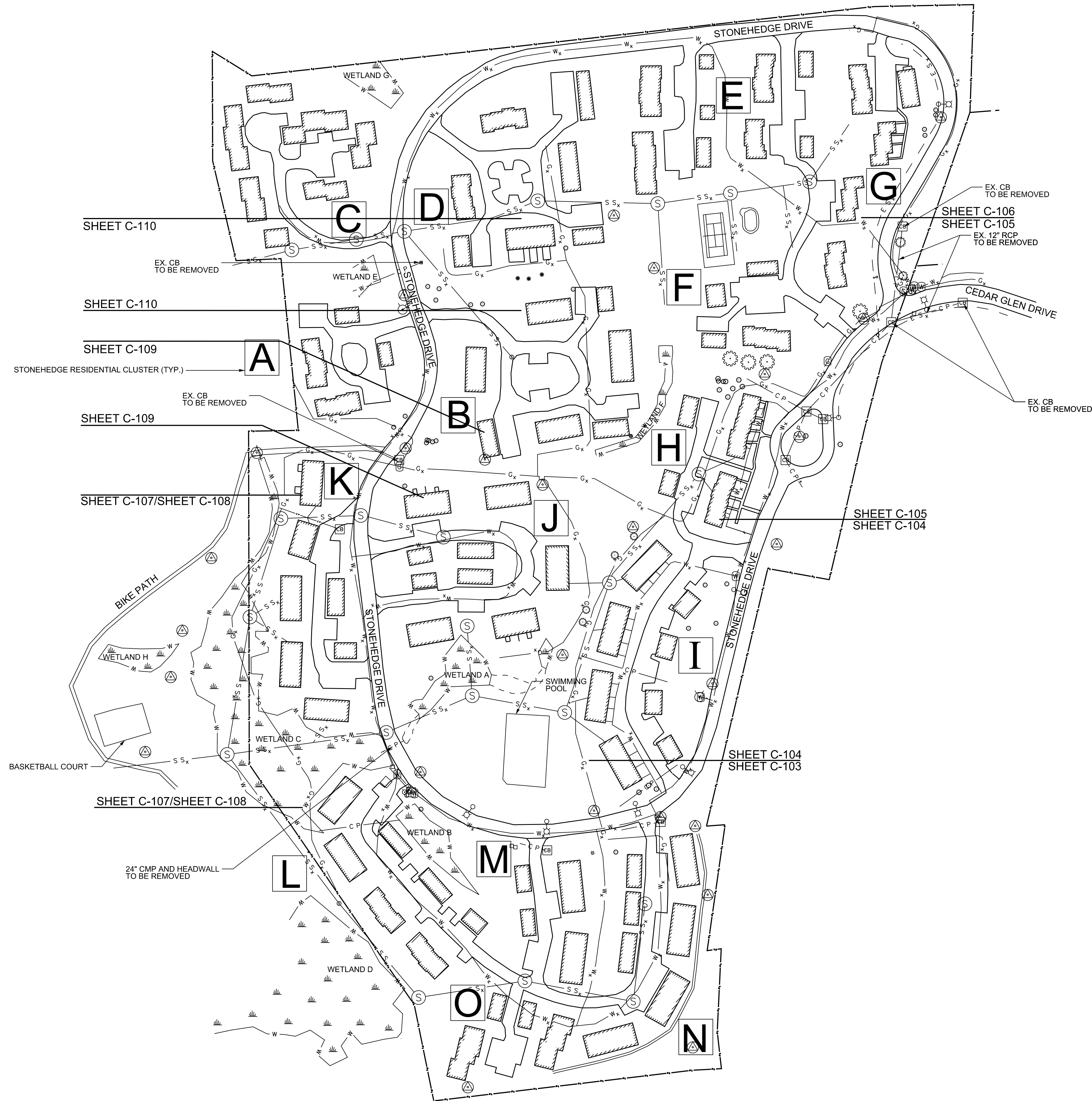
STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT























GENERAL NOTES

SHEET
REFERENCE
NUMBER
G-002

SHEET 02 OF 25


SHEET 03 OF 25



<u>LEGEND</u> <u>(EXISTING)</u>	
	WETLANDS
 6" APPLE	TREES
 20" PINE	
	LIGHT POLE
	SEWER MANHOLE
	CATCH BASIN
	WATER SHUT OFF
	GAS SHUT OFF
	ELECTRICAL BOX
	HORIZONTAL VERTICAL CONTROL
	EDGE OF PAVEMENT
	SEWER MAIN
	STORM DRAIN
	WATER MAIN
	UNDERGROUND COMMUNICATIONS
	OVERHEAD ELECTRICAL
	BURIED ELECTRICAL
	UNDERGROUND NATURAL GAS
	FENCE
	WETLAND BOUNDARY
	PROPERTY LINE
<u>LEGEND</u> <u>(NEW)</u>	
	LIMITS OF DISTURBANCE

EXISTING CONDITIONS SITE PLAN

100' 50' 0 100'




SCALE: 1"= 100'-0"



US Army Corps
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New York District

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U.S. ARMY ENGINEER DISTRICT NEW YORK http://www.nan.usace.army.mil	DESIGNED BY: HLW DWG BY: JDC JOB NO: 200 SUBMITTED BY: D & K	DATE: MAY 2015 SOLICITATION NO.: CONTRACT NO.:
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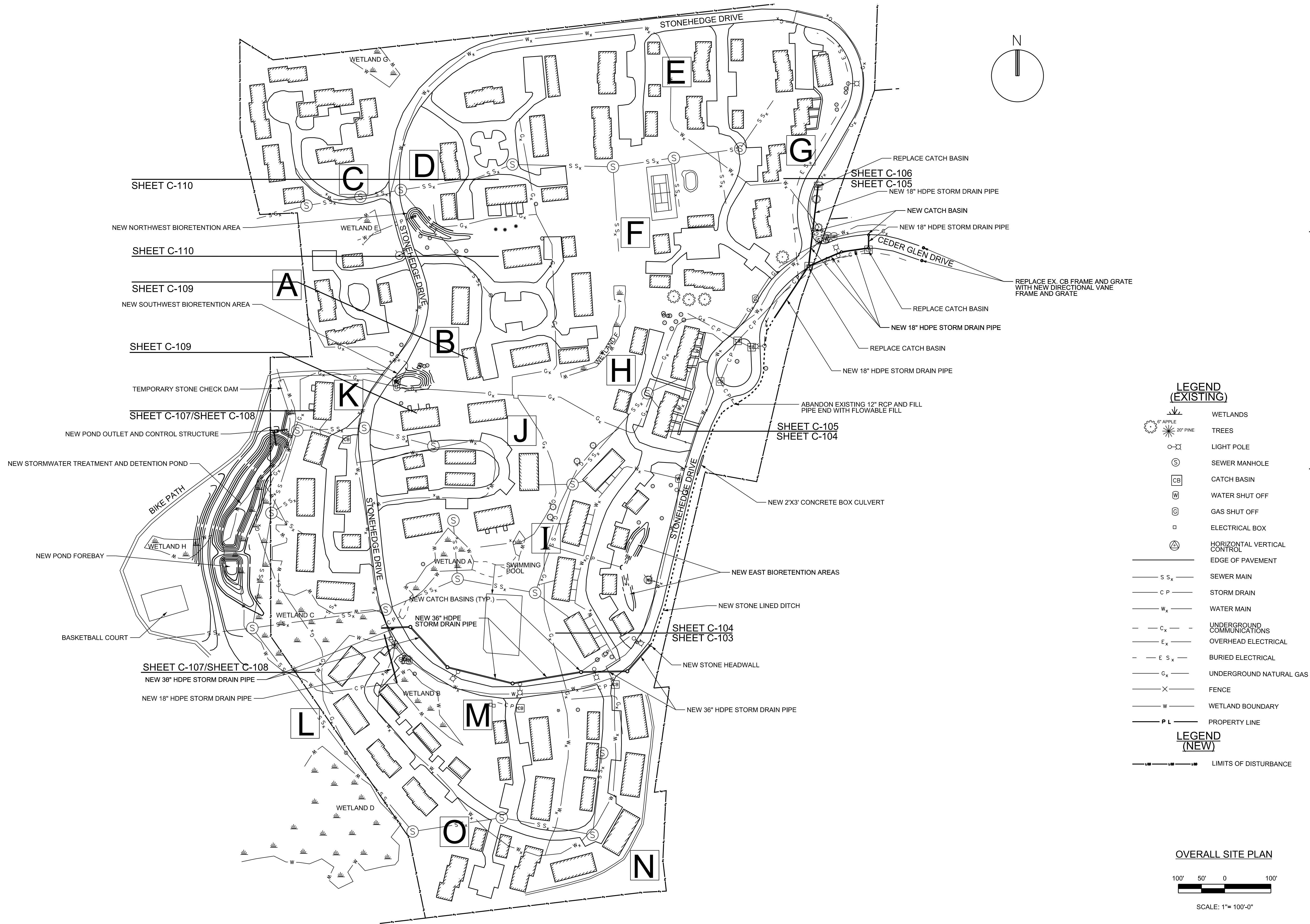


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STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

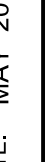
EXISTING CONDITIONS &
DEMOLITION SITE PLAN

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REFERENCE
NUMBER
C-101
SHEET 04 OF 25



US Army Corps
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New York District

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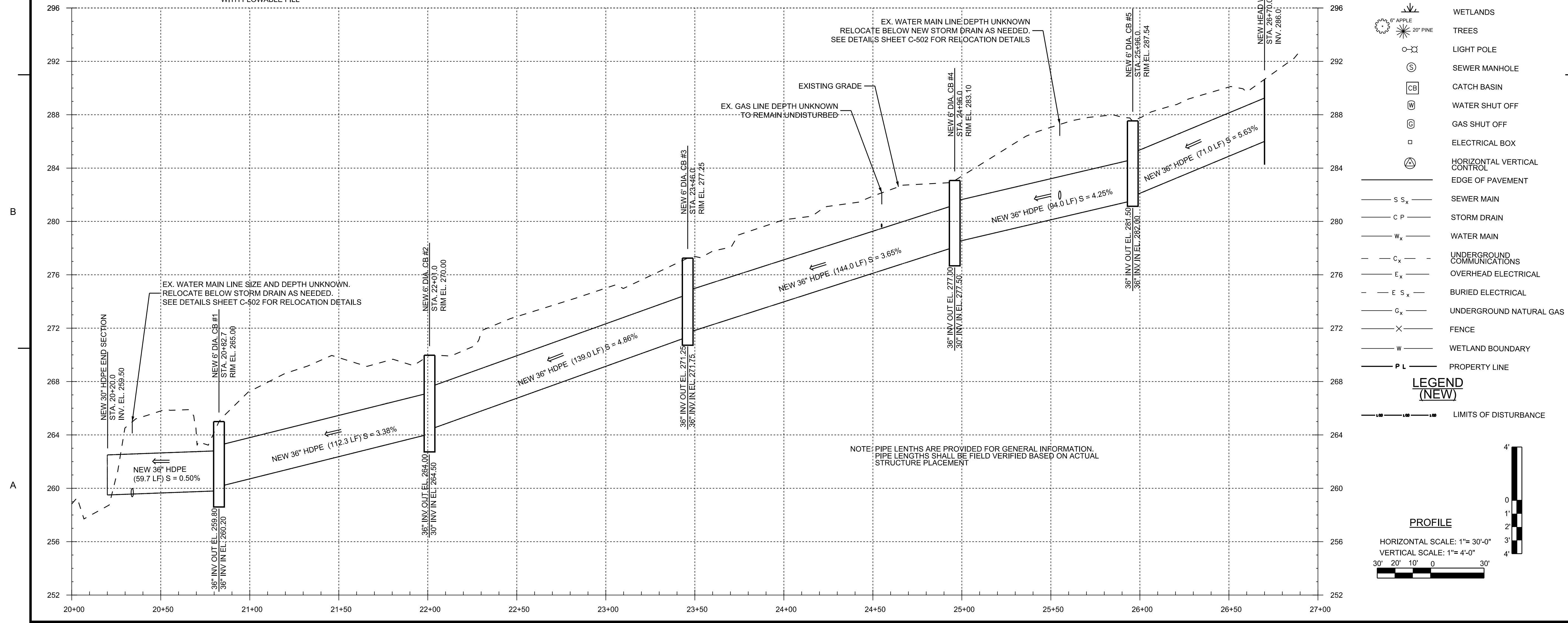
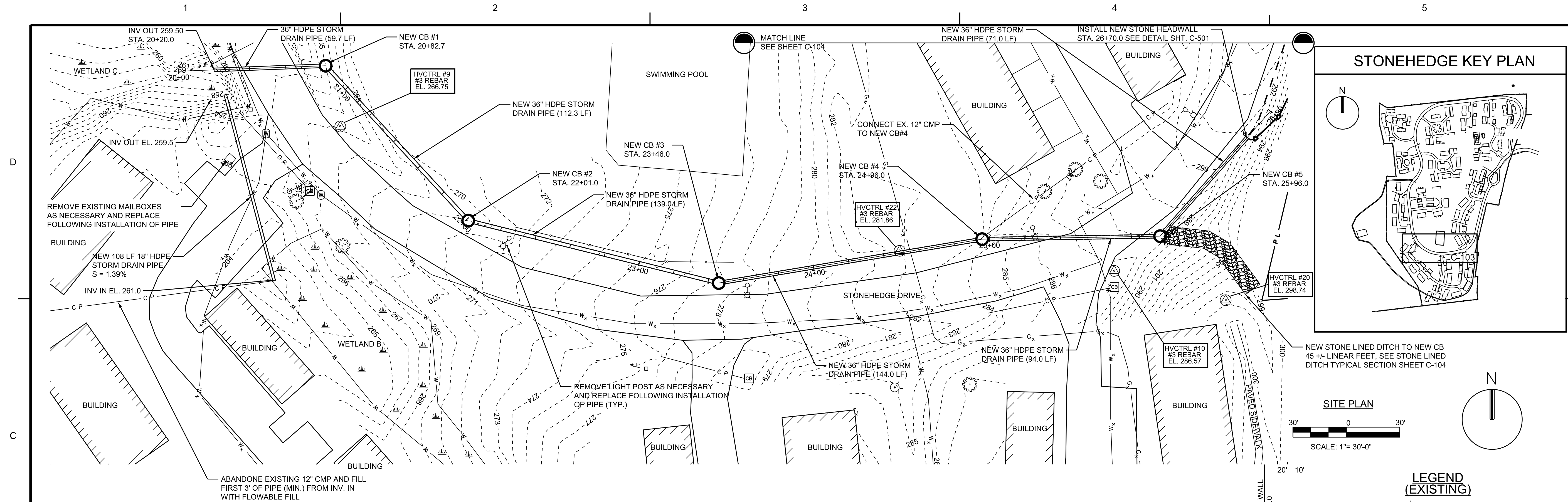
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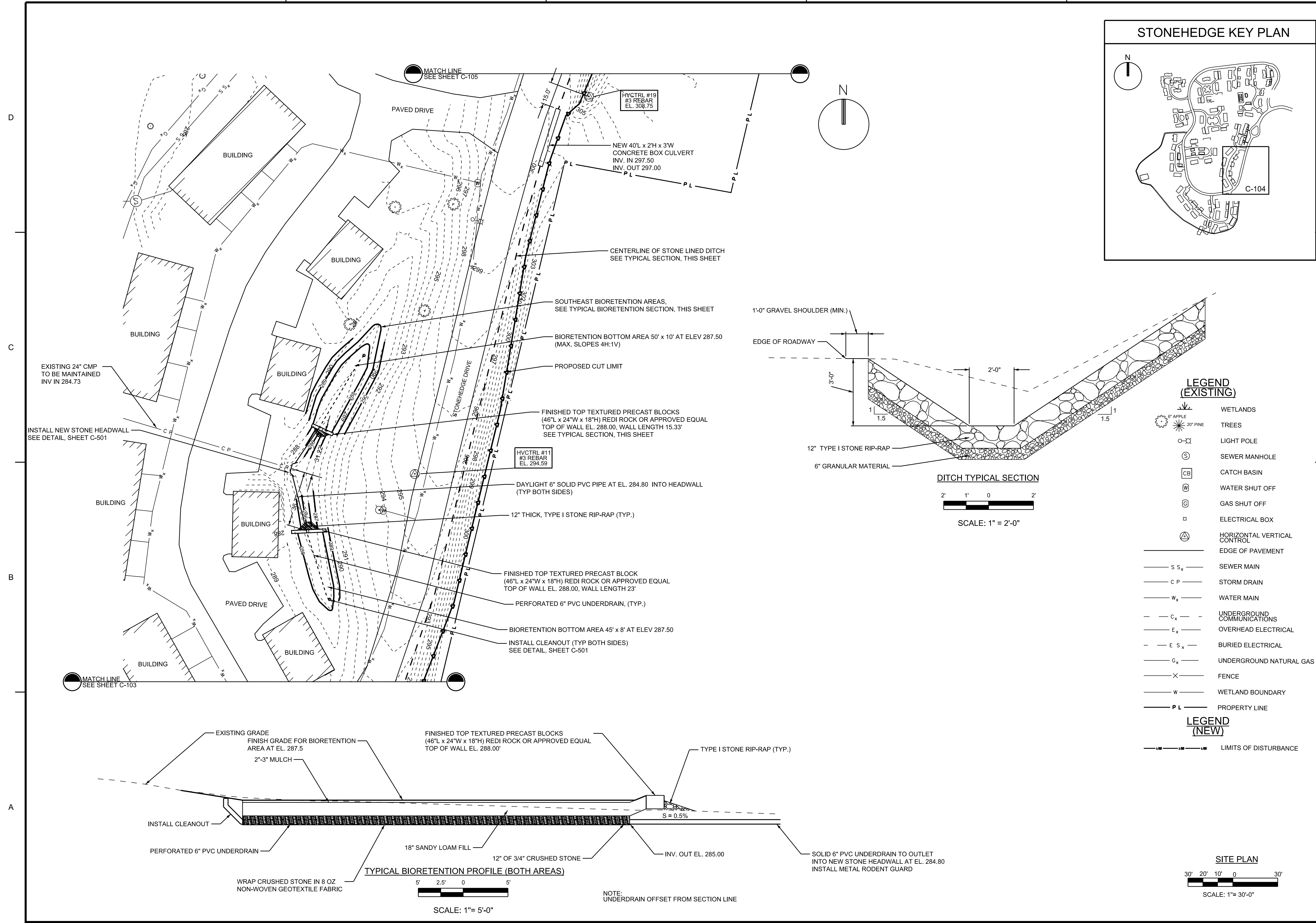
DuBois & King^{INC.}


STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT
OVERALL SITE PLAN

SHEET
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C-102

SHEET 05 OF 2

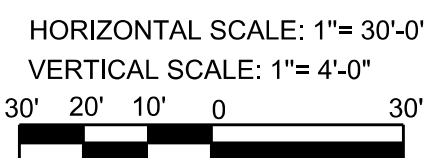
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 <p>U.S. Army Corps of Engineers New York District</p>		<p>DESIGNED BY: HLW</p> <p>DATE: MAY 2015</p>	
<p>DRAWN BY: KRG BY: ZDC</p>		<p>SOLICITATION NO.:</p>	
<p>SUBMITTED BY: D & K</p>		<p>CONTRACT NO.:</p>	
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<p>STONEHEDGE STORMWATER IMPROVEMENTS SOUTH BURLINGTON, VERMONT</p>		<p>SOUTHEAST BIORETENTION AREA SITE PLAN</p>	
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<p>SHEET REFERENCE NUMBER C-104</p>	
<p>SHEET 07 OF 25</p>	



**STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT**

**EAST
SITE PLAN AND PROFILE**

**U. S. ARMY ENGINEER DISTRICT
NEW YORK**
<http://www.nan.usace.army.mil>

DuBois & King Inc.

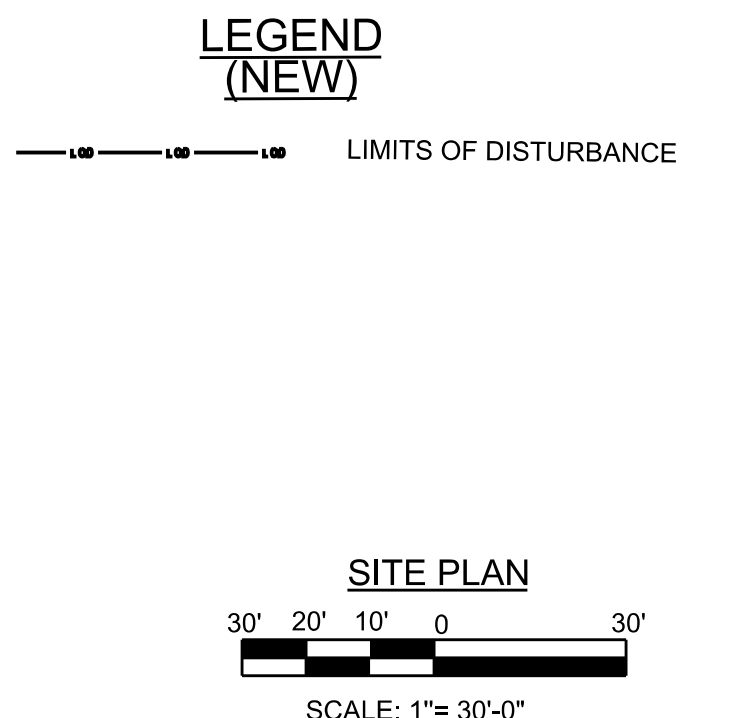
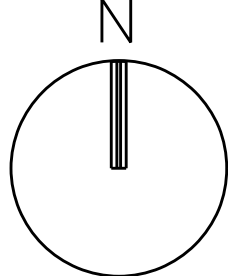
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SUBMITTED BY: D & K

DATE: MAY 2015
SOLICITATION NO.:
CONTRACT NO.:

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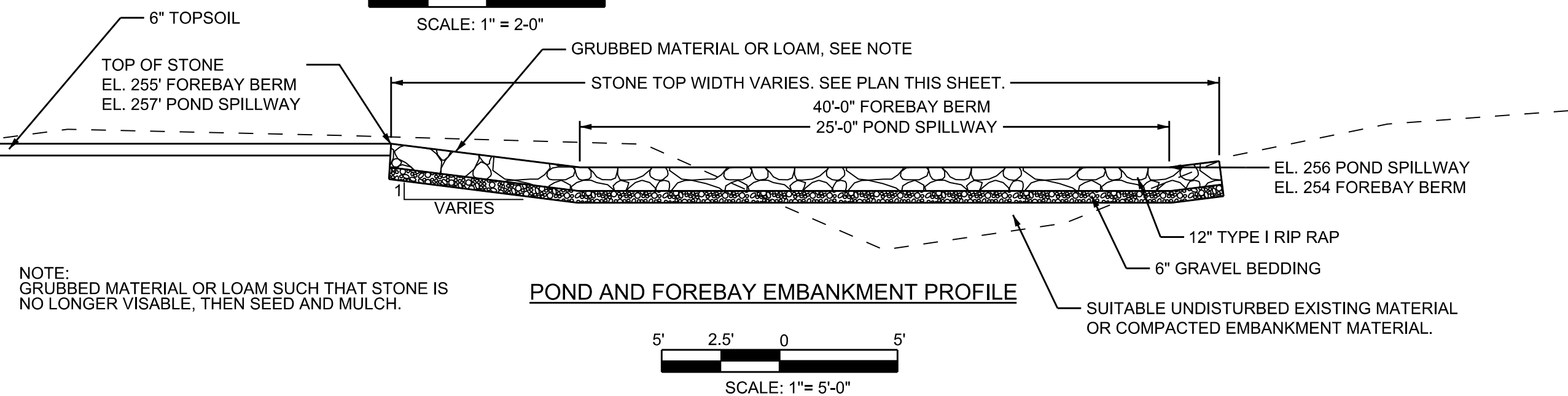
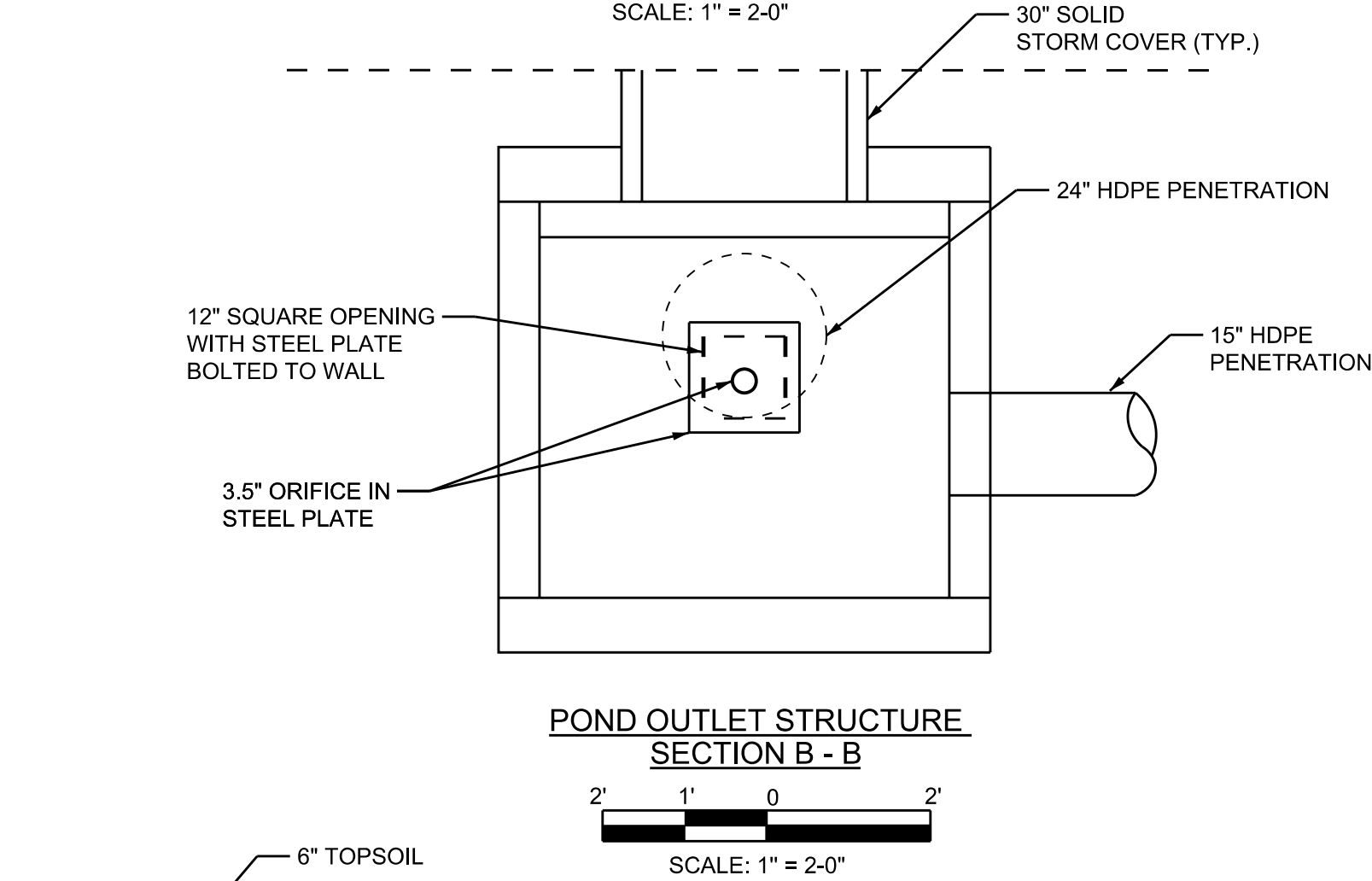
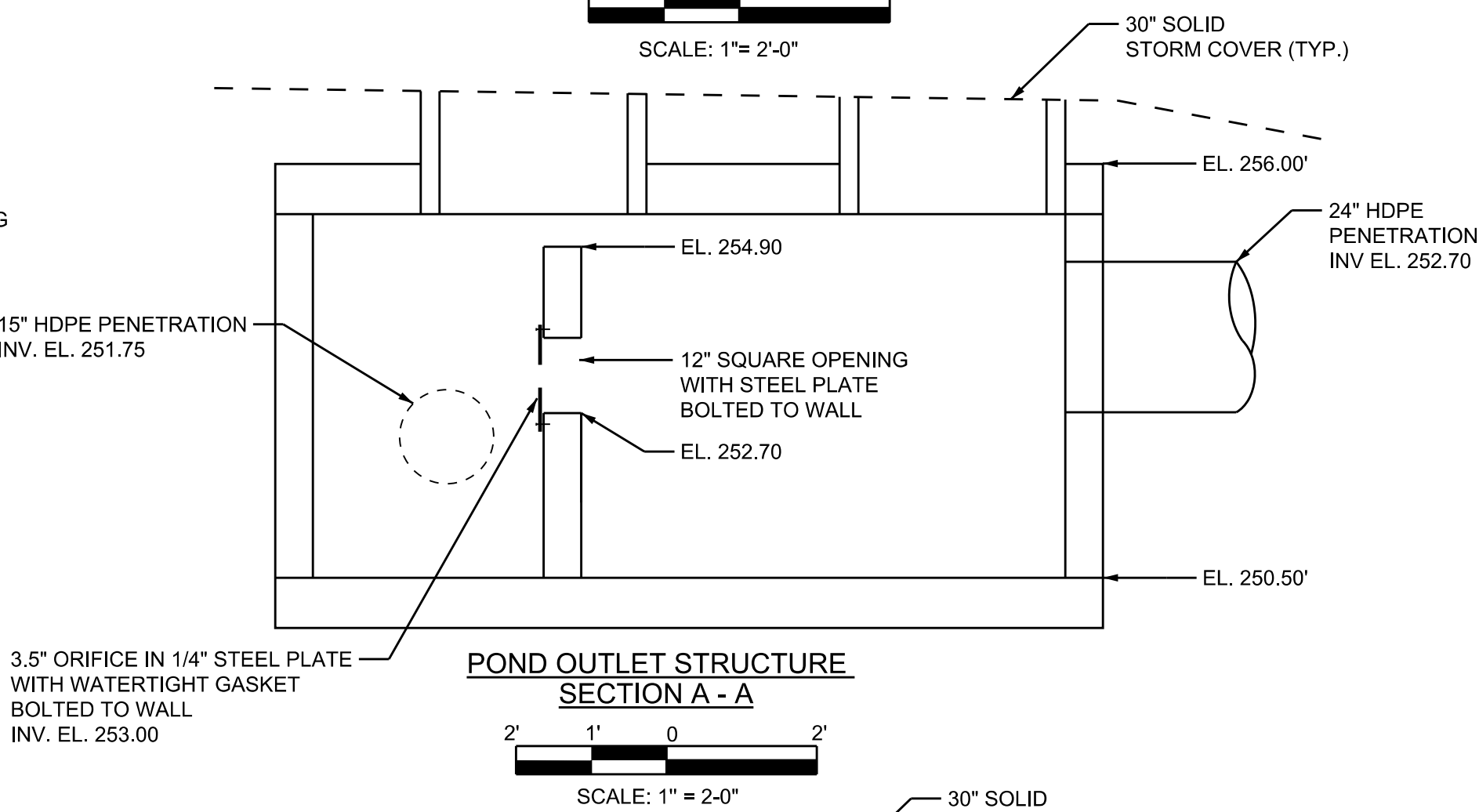
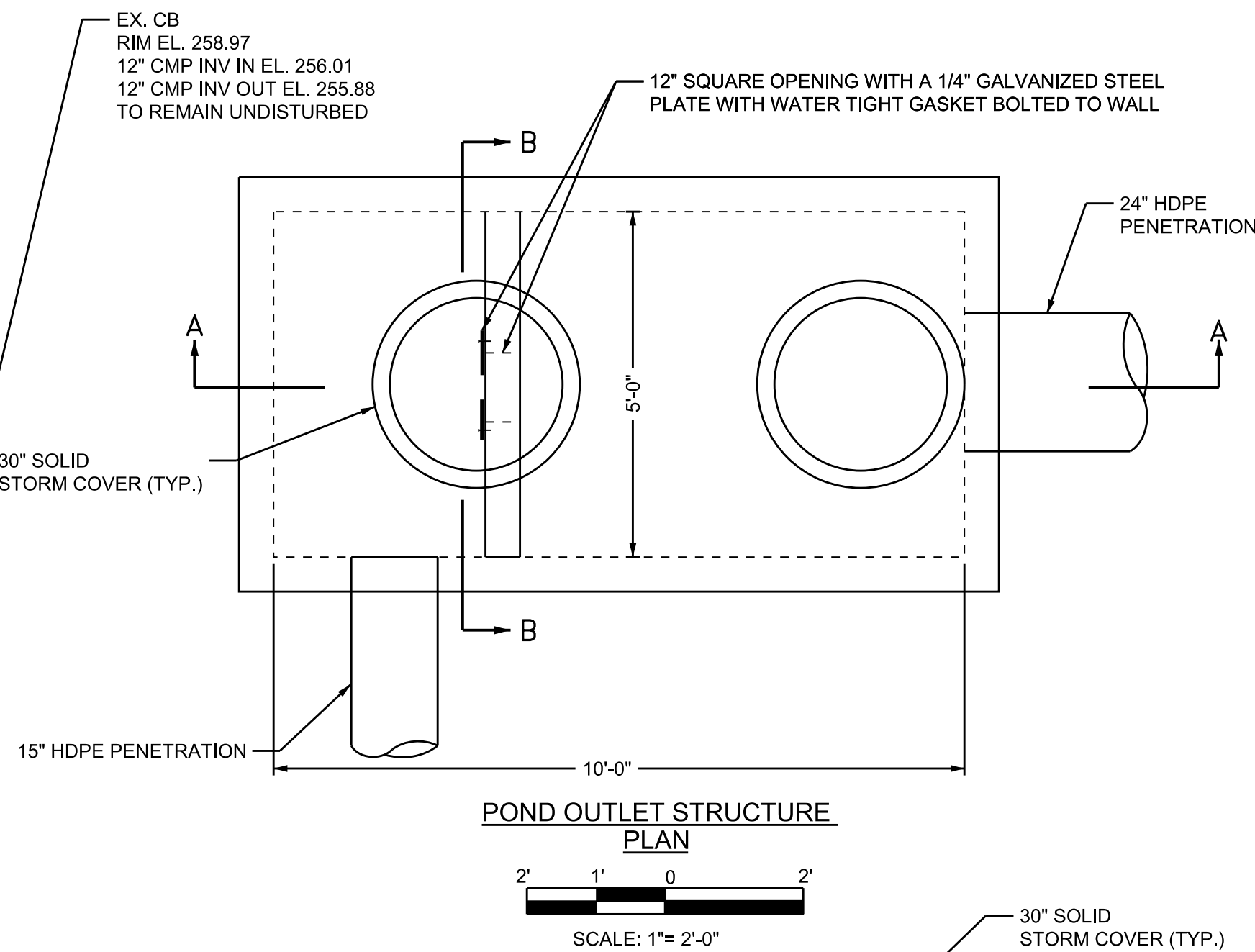
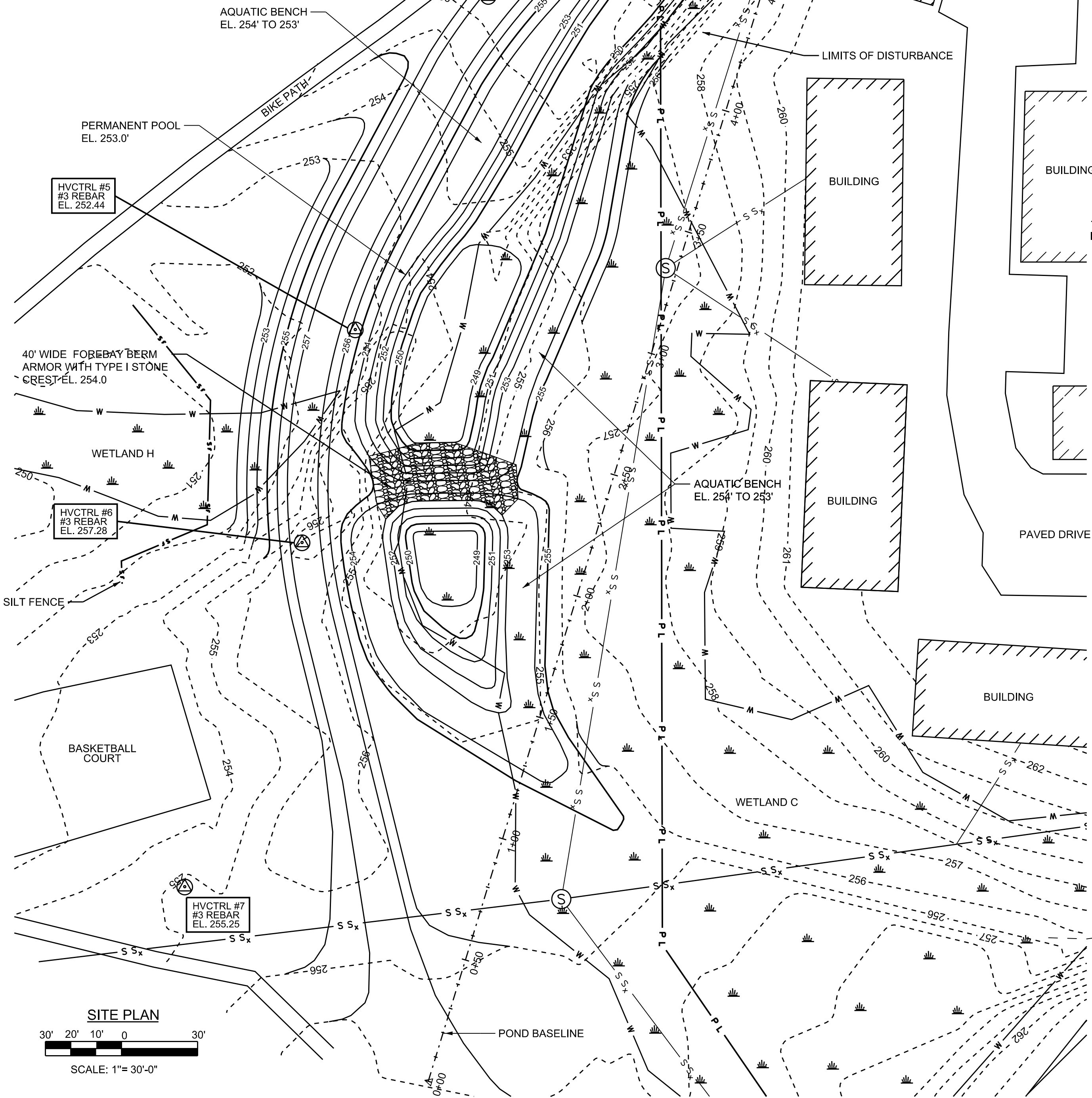
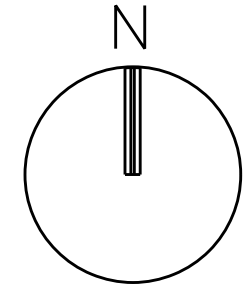
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PLOT DATE: 5/12/2015

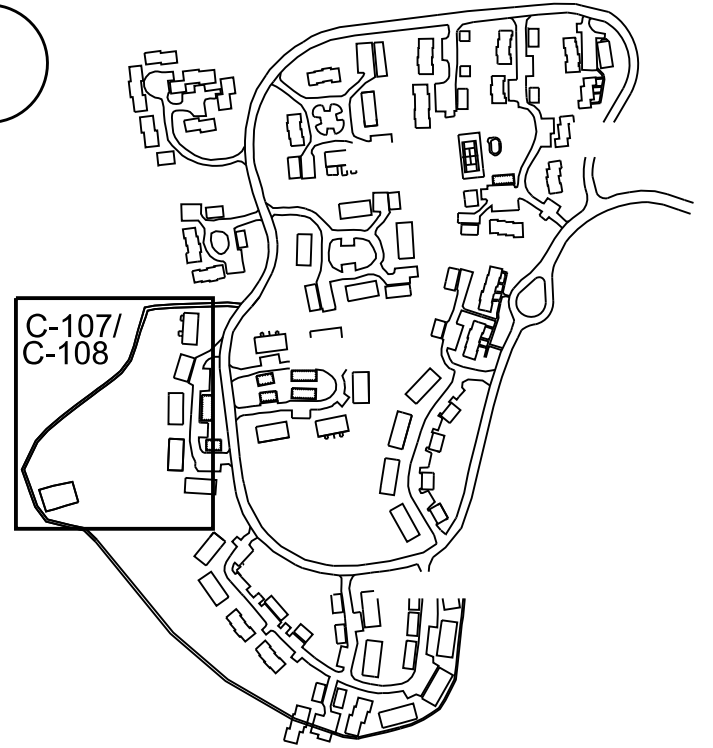
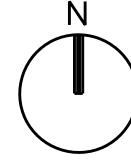


SHEET
REFERENCE
NUMBER
C-106
SHEET 09 OF 25

LIMITS OF DISTURBANCE LAYOUT	
STATION	OFFSET
0+06.2	-45.9
0+24.0	-76.2
0+78.4	-73.8
1+57.4	-115.9
1+78.1	-143.2
2+58.0	-165.0
3+63.1	-150.3
4+35.8	-105.2
4+74.7	-90.2
5+63.4	-3.4
4+81.5	-3.0
4+09.0	-22.5
2+43.3	-14.2
1+70.2	12.8
1+26.8	49.9
0+02.4	46.8



STONEHEDGE KEY PLAN



LEGEND
(EXISTING)

- | | | |
|--|------------------|--------------------------------|
| | 6" APPLE | WETLANDS |
| | 20" PINE | TREES |
| | | LIGHT POLE |
| | | SEWER MANHOLE |
| | | CATCH BASIN |
| | | WATER SHUT OFF |
| | | GAS SHUT OFF |
| | | ELECTRICAL BOX |
| | | HORIZONTAL VERTICAL
CONTROL |
| | | EDGE OF PAVEMENT |
| | S S _x | SEWER MAIN |
| | C P | STORM DRAIN |
| | W _x | WATER MAIN |
| | C _x | UNDERGROUND
COMMUNICATIONS |
| | E _x | OVERHEAD ELECTRICAL |
| | E S _x | BURIED ELECTRICAL |
| | G _x | UNDERGROUND NATURAL GAS |
| | X | FENCE |
| | W | WETLAND BOUNDARY |
| | P L | PROPERTY LINE |

LEGEND
(NEW)

- 1.00 — 1.00 — 1.00 LIMITS OF DISTURBANCE



US Army Corps
of Engineers
New York District

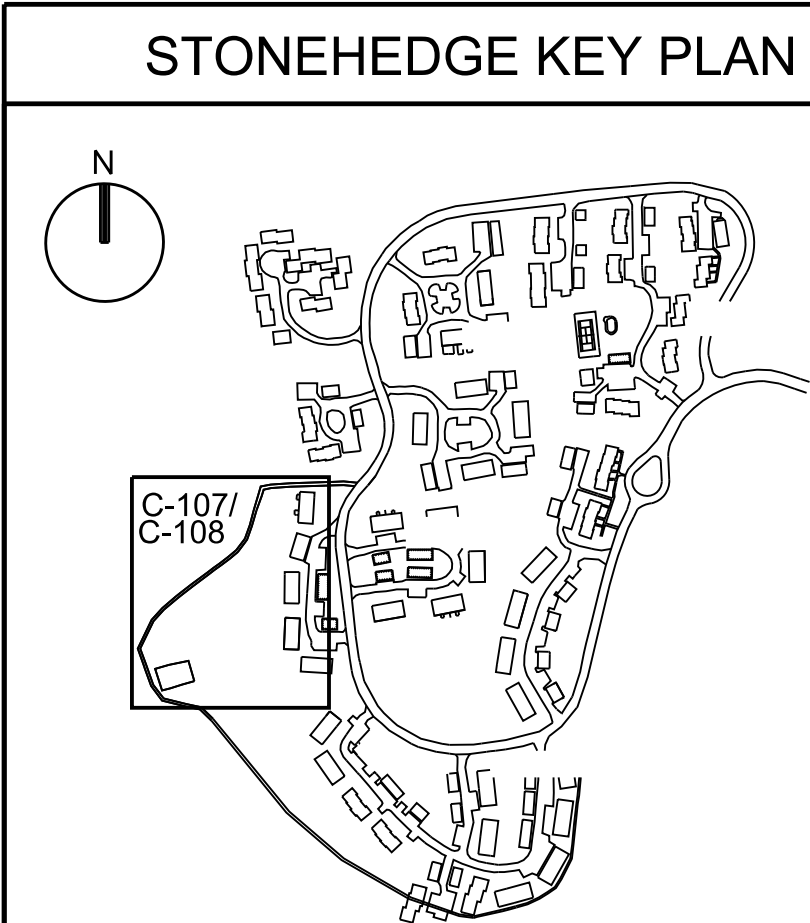
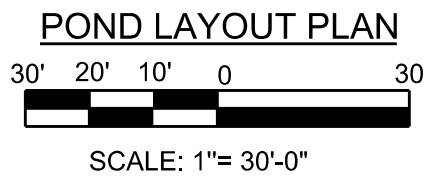
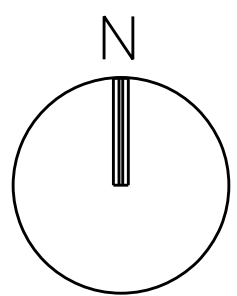
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	SUBMITTED BY: D & K	FILE NAME: ...dgn1720808C_SP-C107.dgn SIZE: ANSI D
	PLOTTED BY: DUBOIS & KING	PLOT DATE: 5/11/2015

STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

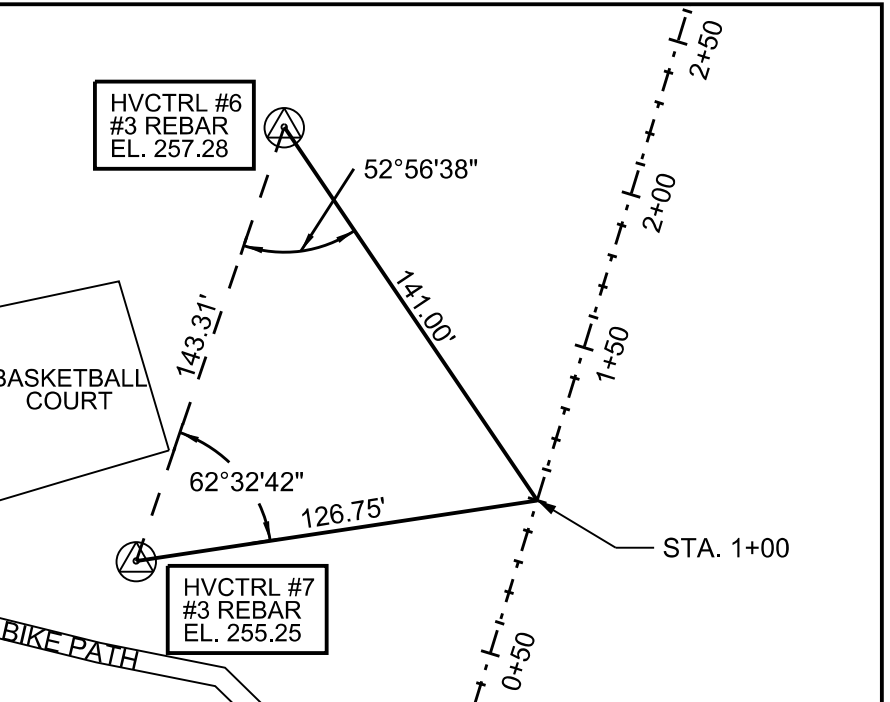
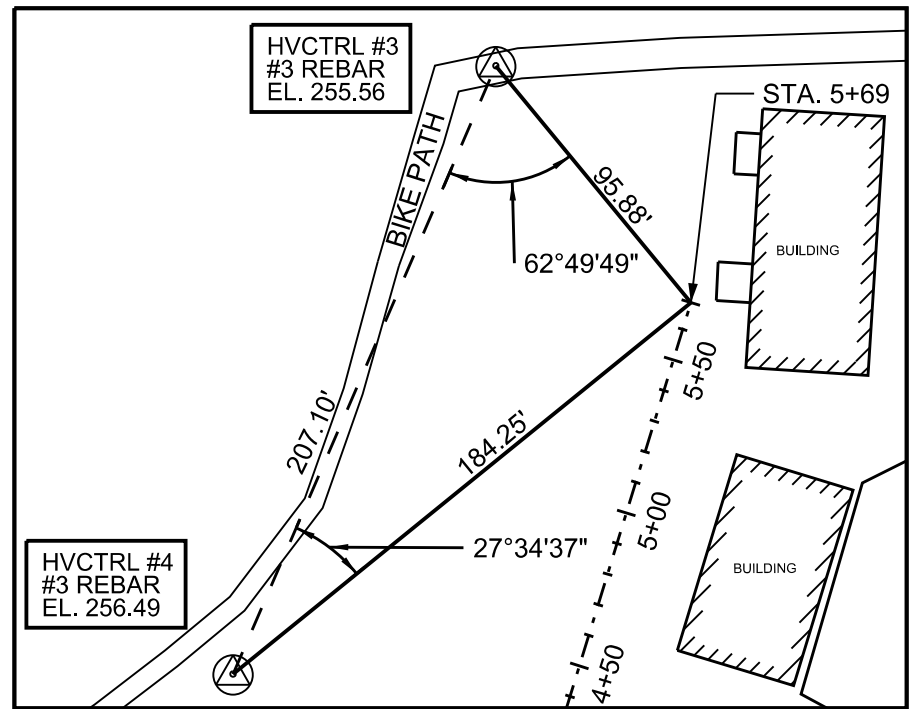
SITE PLAN











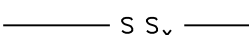
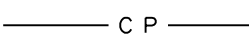

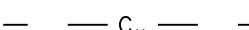
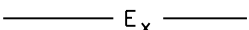
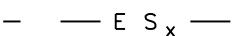
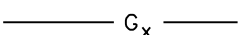
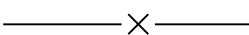
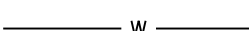


SHEET
REFERENCE
NUMBER
C-107



POND LAYOUT		
STATION	OFFSET	ELEVATION
0+50	-20.2	257
0+50	-41.0	257
0+50	-55.8	256
1+00	-46.4	256
1+00	-51.1	257
1+00	-65.4	257
1+00	-72.4	256
1+50	-34.0	253
1+50	-69.7	255
1+50	-81.1	257
1+50	-95.1	257
2+00	-16.4	254
2+00	-28.9	253
2+00	-42.4	249
2+00	-67.0	249
2+00	-80.5	253
2+00	-92.3	254
2+00	-106.5	257
2+00	-119.3	257
2+00	-140.3	252
2+23.7*	-60.2	254
2+28.5*	-61.7	254
2+50	-39.7	254
2+50	-49.7	243
2+50	-61.8	249
2+50	-88.8	249
2+50	-118.4	257
2+50	-130.5	257
2+50	-150.7	252
3+00	-38.1	254
3+00	-48.1	253
3+00	-60.2	249
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3+00	-118.7	257
3+00	-130.7	257
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3+50	-35.9	254
3+50	-44.7	253
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3+50	-76.2	250
3+50	-85.5	253
3+50	-97.3	254
3+50	-109.6	257
3+50	-121.8	257
3+50	-134.2	254
4+00	-31.5	256
4+00	-45.4	252
4+00	-51.8	250
4+00	-65.4	250
4+00	-74.7	253
4+00	-85.1	254
4+00	-97.8	257
4+00	-110.5	257
4+00	-114.7	256
4+50	-23.4	262
4+50	-33.1	249
4+50	-46.9	249
4+50	-59.4	253
4+50	-76.2	257
4+50	-89.2	257
4+50	-93.7	256
4+99.2*	-32.7	256
5+00	-51.6	257
5+00	-79.0	257
5+00	-83.0	256
5+03.5*	-26.1	256
5+50	-26.0	256
5+50	-39.6	256
5+50	-85.7	256

*CENTER OF SPILLWAY



- | <u>LEGEND</u>
<u>(EXISTING)</u> | |
|---|-----------------------------|
|  | WETLANDS |
|  | TREES |
|  | LIGHT POLE |
|  | SEWER MANHOLE |
|  | CATCH BASIN |
|  | WATER SHUT OFF |
|  | GAS SHUT OFF |
|  | ELECTRICAL BOX |
|  | HORIZONTAL VERTICAL CONTROL |
|  | EDGE OF PAVEMENT |
|  | SEWER MAIN |
|  | STORM DRAIN |
|  | WATER MAIN |
|  | UNDERGROUND COMMUNICATIONS |
|  | OVERHEAD ELECTRICAL |
|  | BURIED ELECTRICAL |
|  | UNDERGROUND NATURAL GAS |
|  | FENCE |
|  | WETLAND BOUNDARY |
|  | PROPERTY LINE |
| <u>LEGEND</u>
<u>(NEW)</u> | |
|  | LIMITS OF DISTURBANCE |

- NOTE:
1. CONTRACTOR TO USE MINIMUM OF TWO CONTROL POINTS TO ESTABLISH AND CONFIRM ELEVATION AT POND SITE AND SUBMIT RESULTS TO ENGINEER FOR APPROVAL PRIOR TO EXCAVATION.
 2. OFFSETS SHOWN ON POND LAYOUT TABLE ARE PERPENDICULAR TO POND BASELINE.

STONEHEDGE STORMWATER IMPROVEMENTS SOUTH BURLINGTON, VERMONT		POND LAYOUT PLAN	
SHEET REFERENCE NUMBER C-108		SHEET 11 OF 25	
U.S. ARMY ENGINEER DISTRICT NEW YORK http://www.nan.usace.army.mil		DuBois & King Inc. <small>100 Leggett Street, Suite 200 New York, NY 10013-3006 Tel: 212-691-1000 Fax: 212-691-1001 Email: info@duboisandking.com</small>	
DESIGNED BY: HLV	DATE: MAY 2015		
DRAWN BY: ZDC	CHECKED BY: MTM		
SOLICITATION NO.:			
CONTRACT NO.:			
SUBMITTED BY: D & K			
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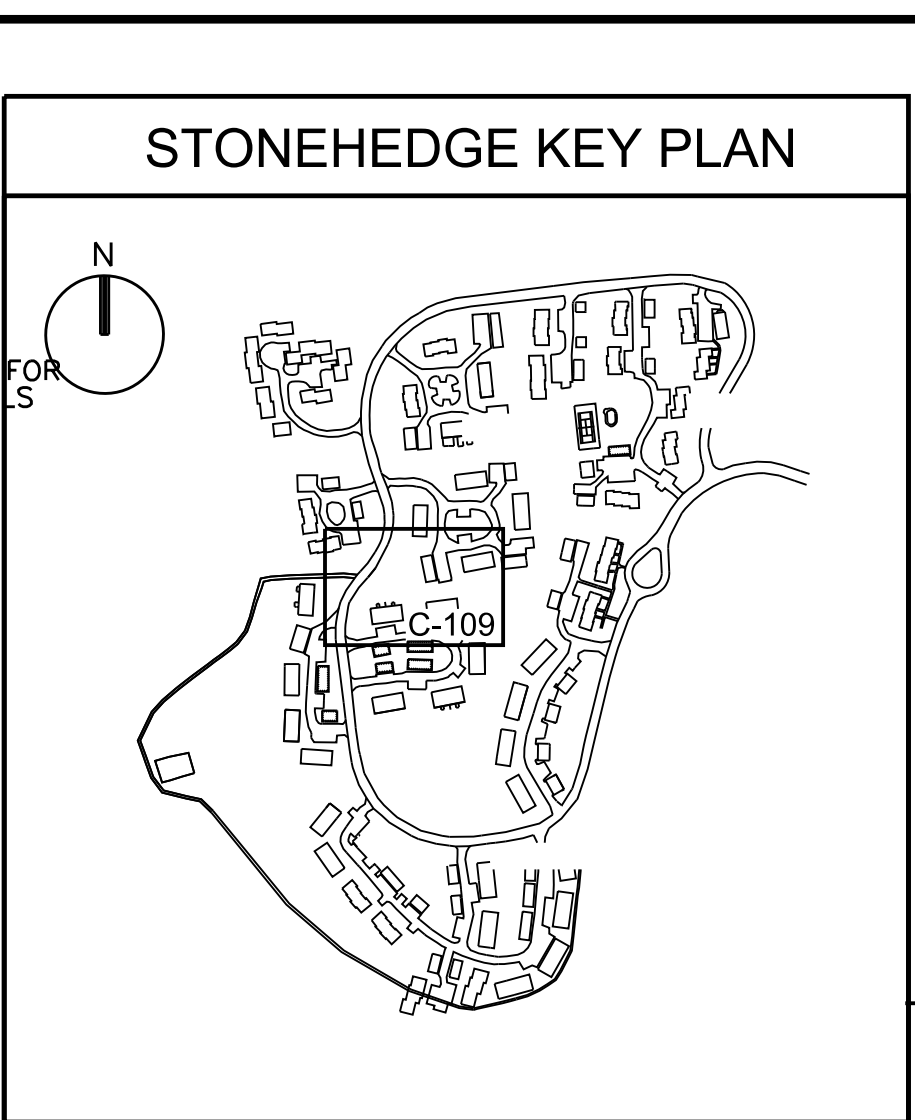
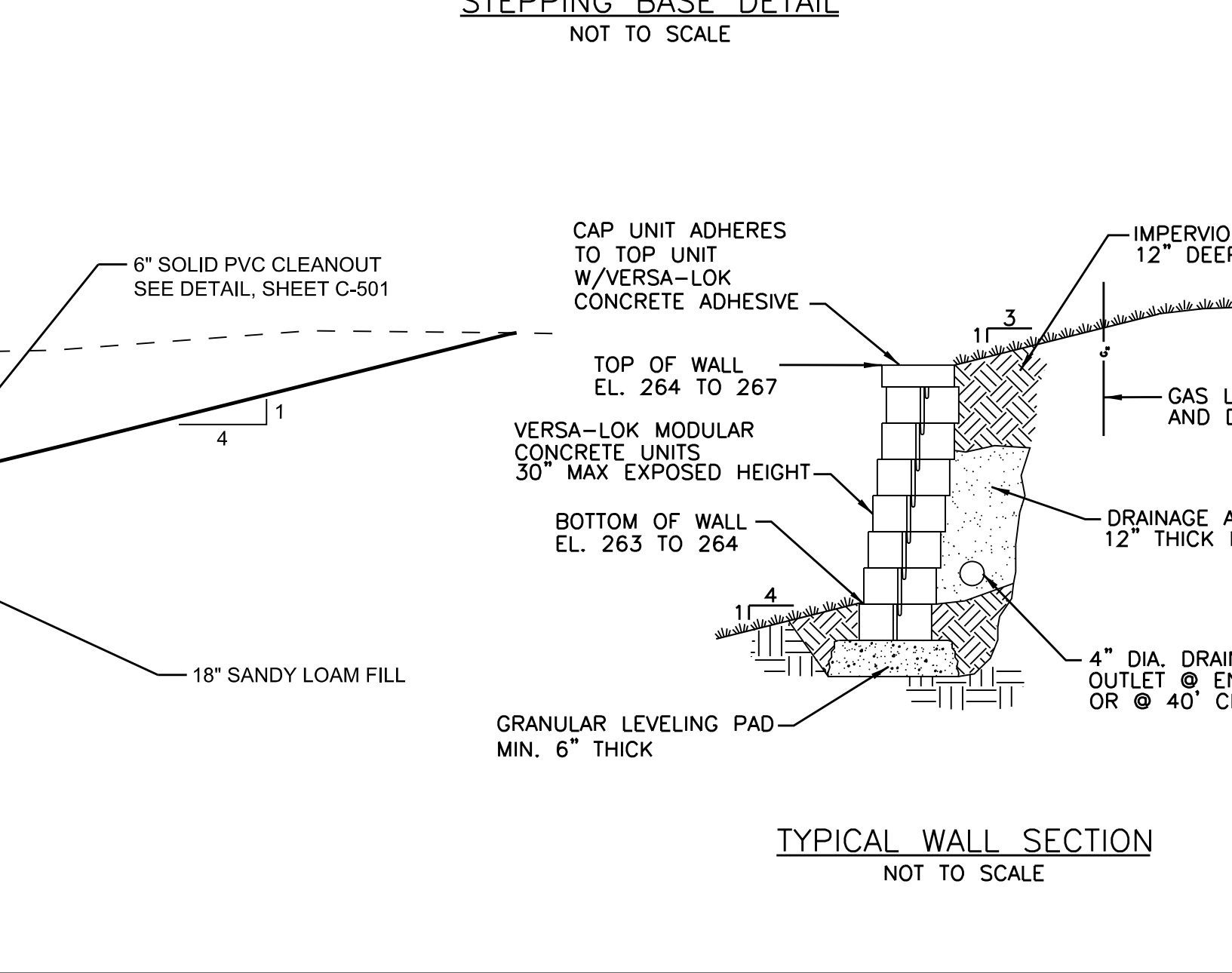
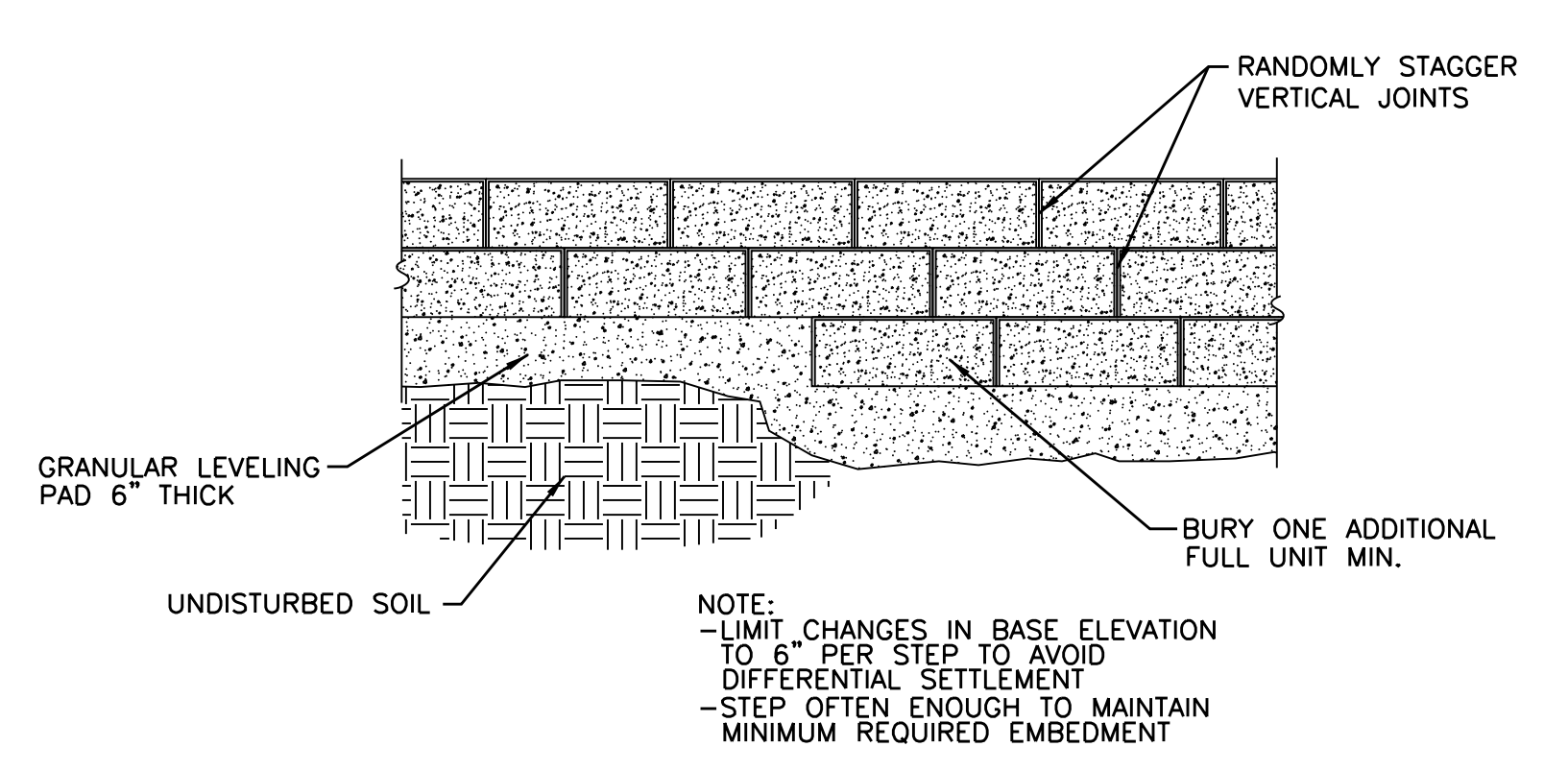
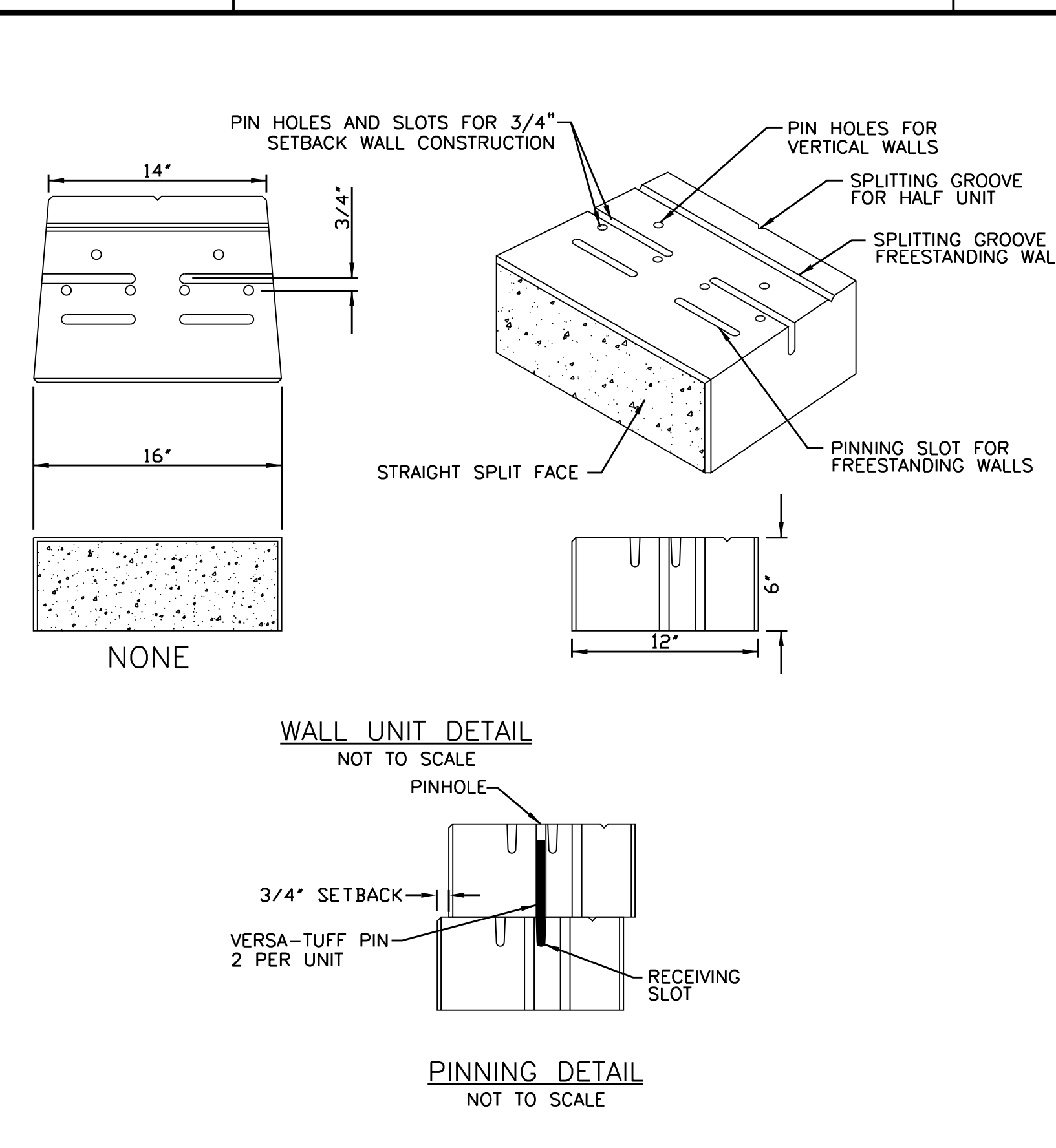
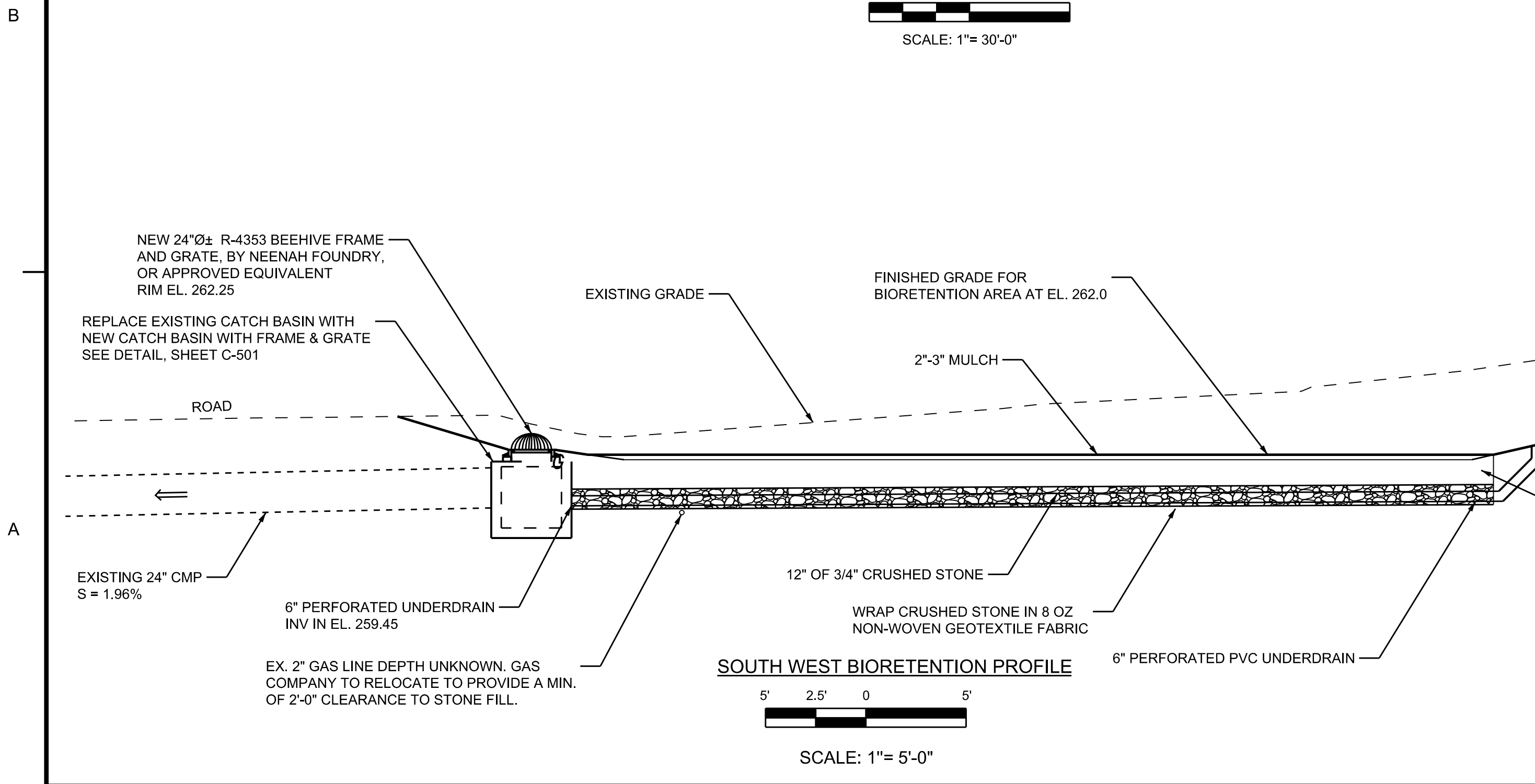
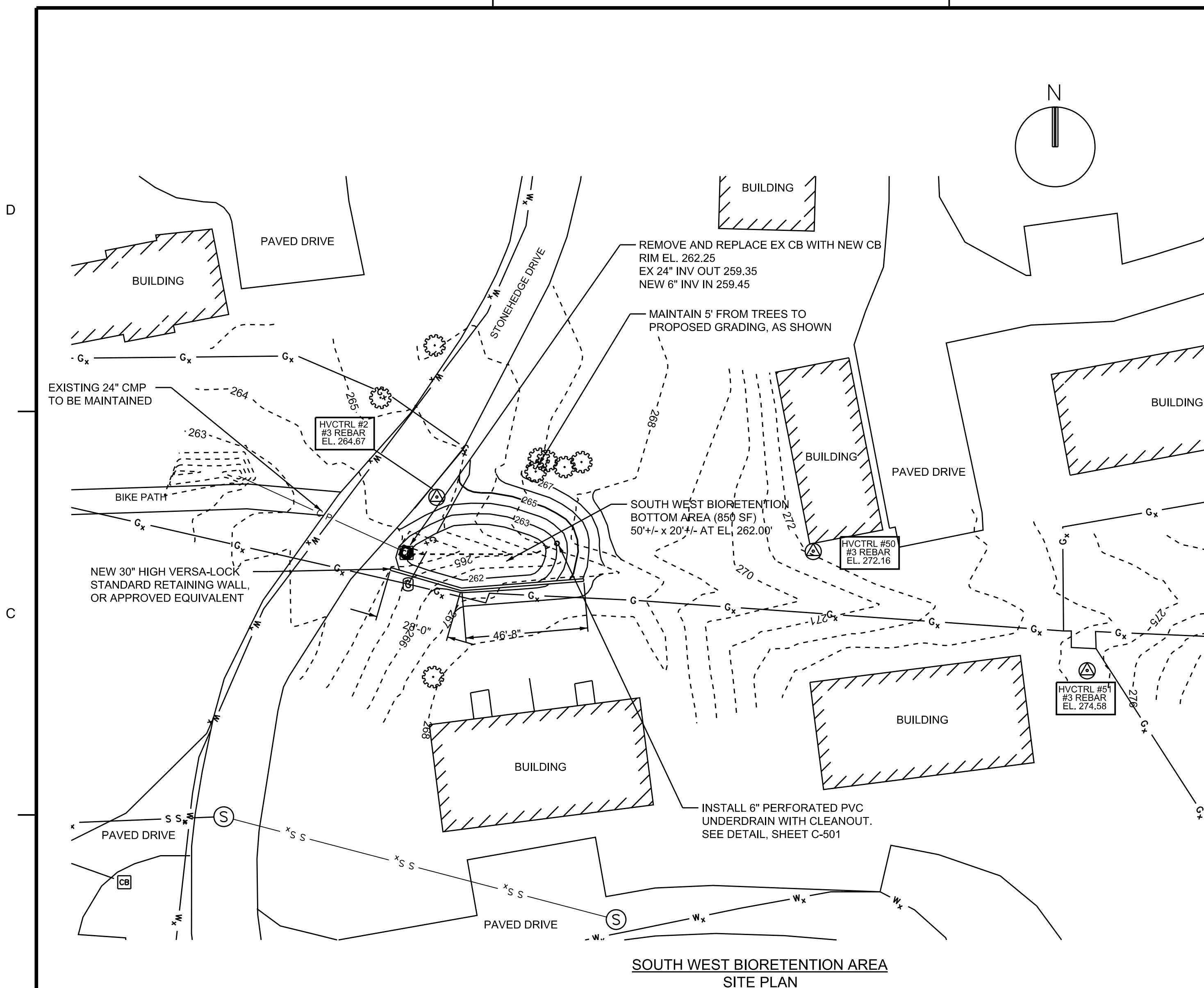
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2

3

4

5



LEGEND (EXISTING)			
	WETLANDS		SEWER MAIN
	TREES		STORM DRAIN
	LIGHT POLE		WATER MAIN
	SEWER MANHOLE		UNDERGROUND COMMUNICATIONS
	CATCH BASIN		OVERHEAD ELECTRICAL
	WATER SHUT OFF		BURIED ELECTRICAL
	GAS SHUT OFF		UNDERGROUND NATURAL GAS
	ELECTRICAL BOX		FENCE
	HORIZONTAL VERTICAL CONTROL		WETLAND BOUNDARY
	EDGE OF PAVEMENT		PROPERTY LINE

LEGEND (NEW)			
	SEWER MAIN		LIMITS OF DISTURBANCE
	STORM DRAIN		
	WATER MAIN		
	UNDERGROUND COMMUNICATIONS		
	OVERHEAD ELECTRICAL		
	BURIED ELECTRICAL		
	UNDERGROUND NATURAL GAS		
	FENCE		
	WETLAND BOUNDARY		
	PROPERTY LINE		

US Army Corps of Engineers
New York District

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DATE:	5/11/2015	DATE:	5/11/2015

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NEW YORK
http://www.nan.usace.army.mil

DuBois & King
INC.

STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

SOUTH WEST BIORETENTION
SITE PLAN

SHEET
REFERENCE
NUMBER
C-109
SHEET 12 OF 25

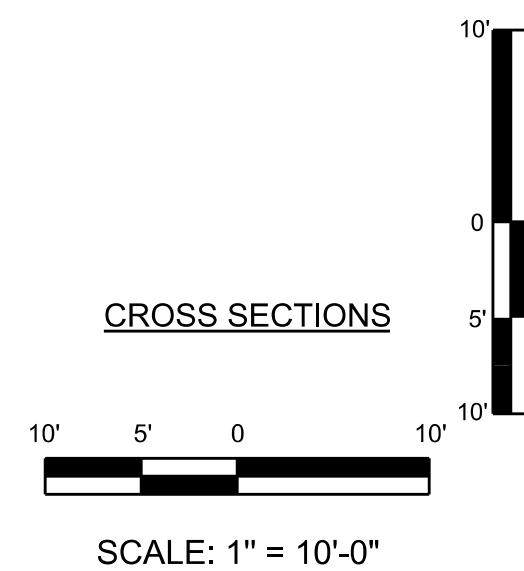
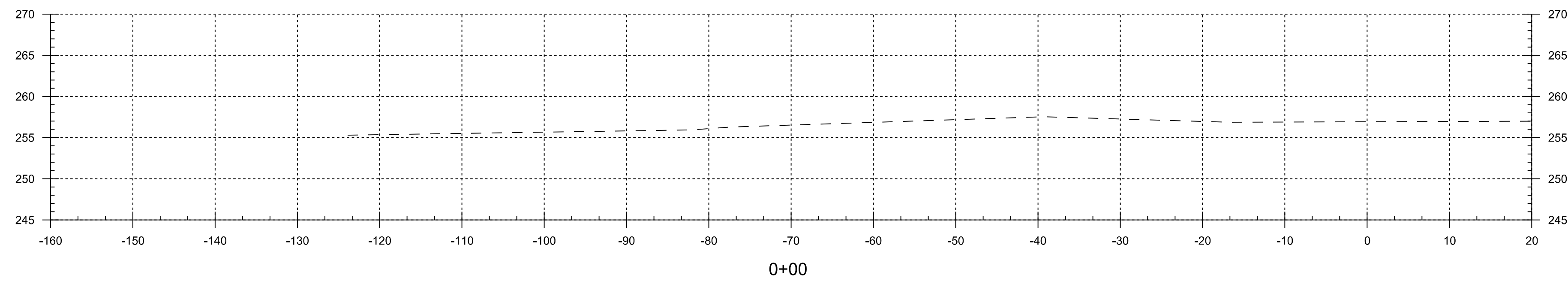
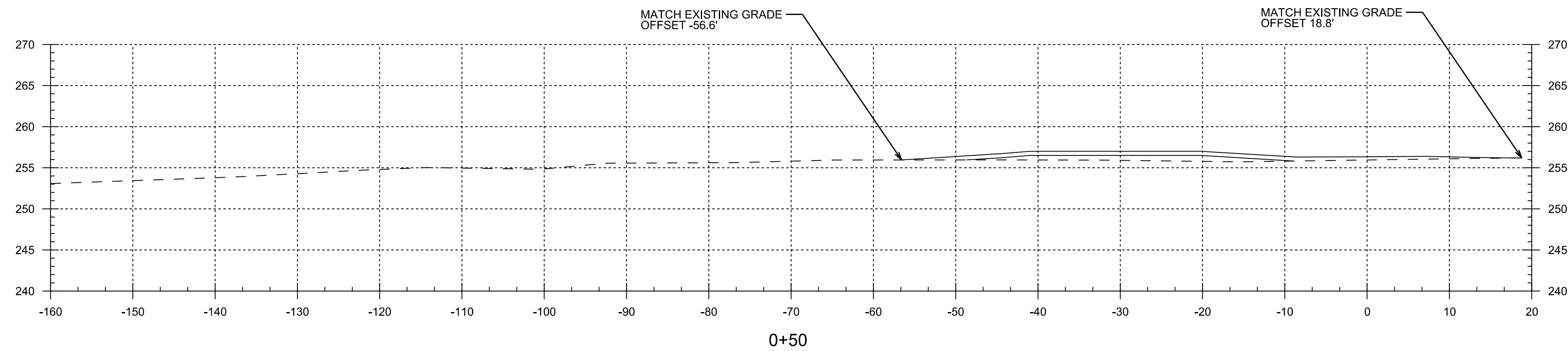
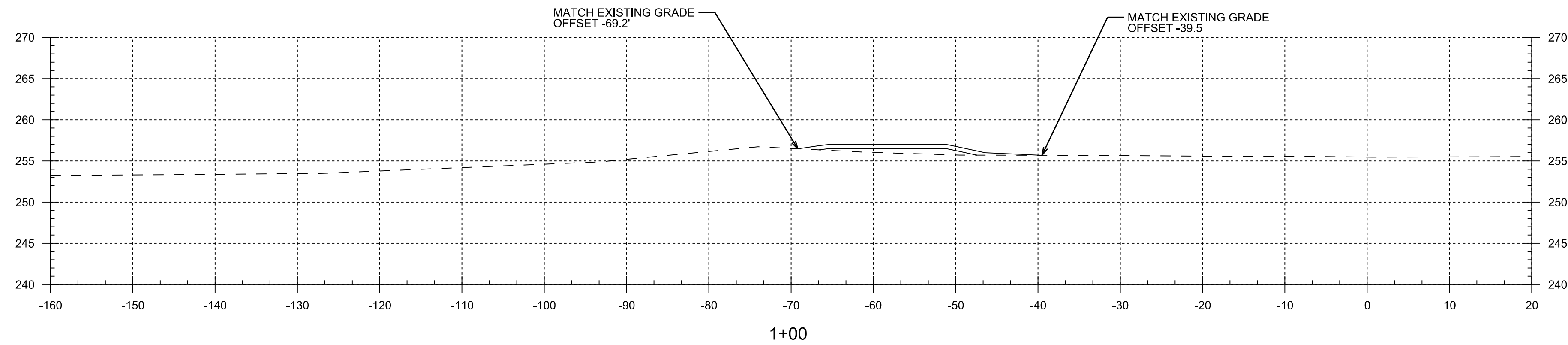
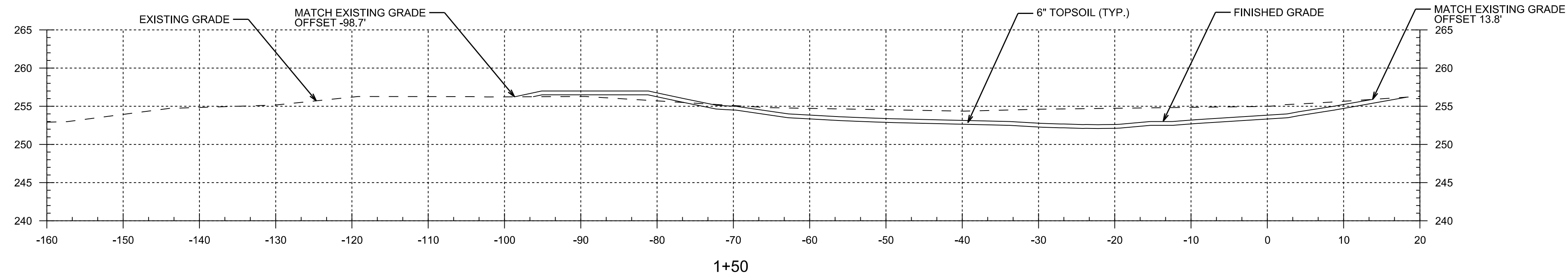
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US Army Corps
of Engineers
New York District

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U. S. ARMY ENGINEER DISTRICT NEW YORK http://www.nan.usace.army.mil		DESIGNED BY: HLV DATE: MAY 2015
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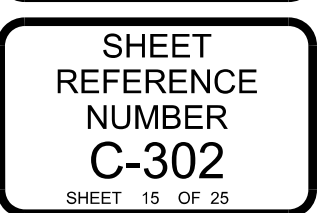
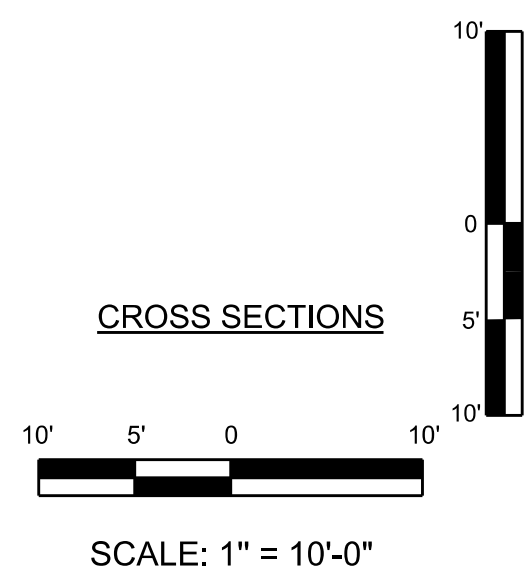
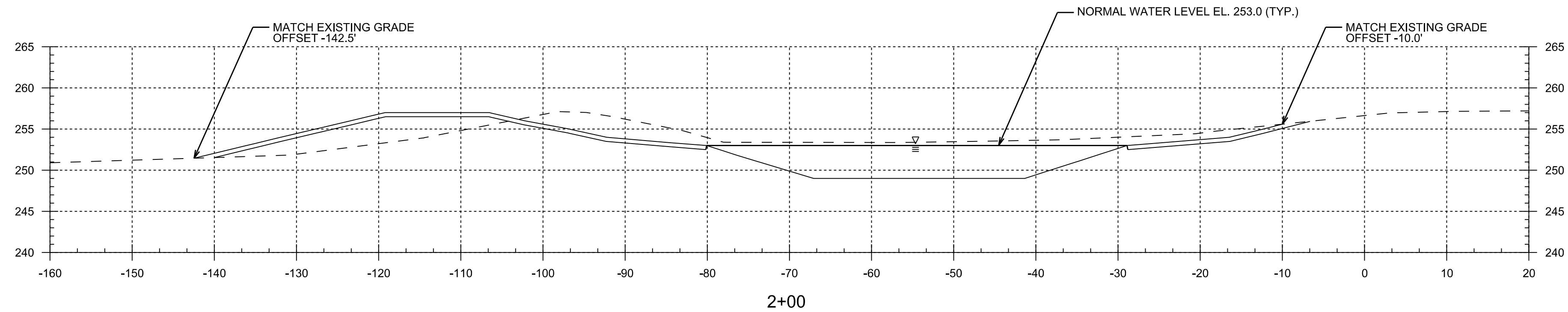
**STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT**

POND SECTIONS
STA. 0+00 TO STA. 1+50

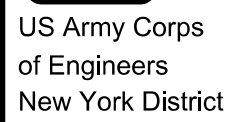
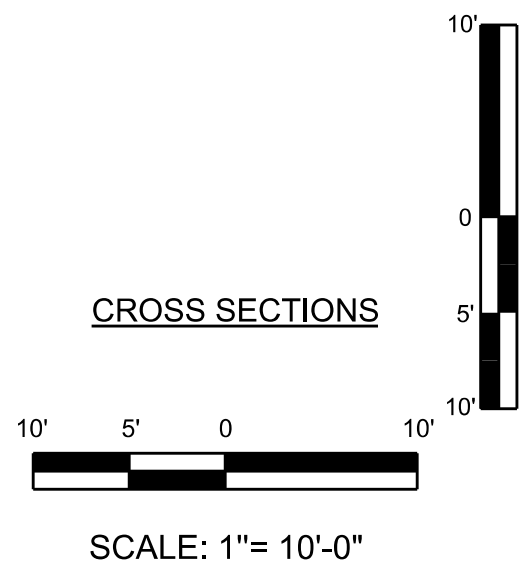
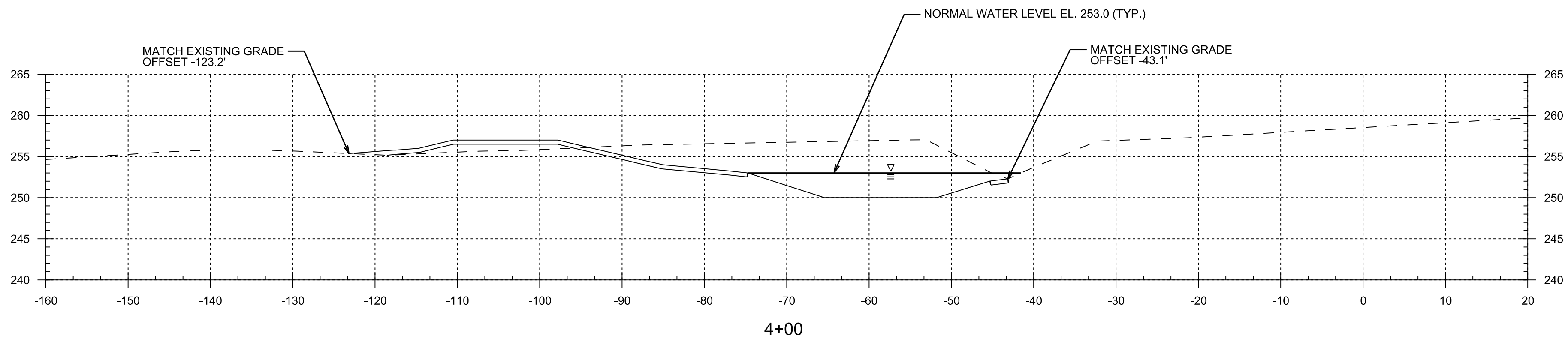
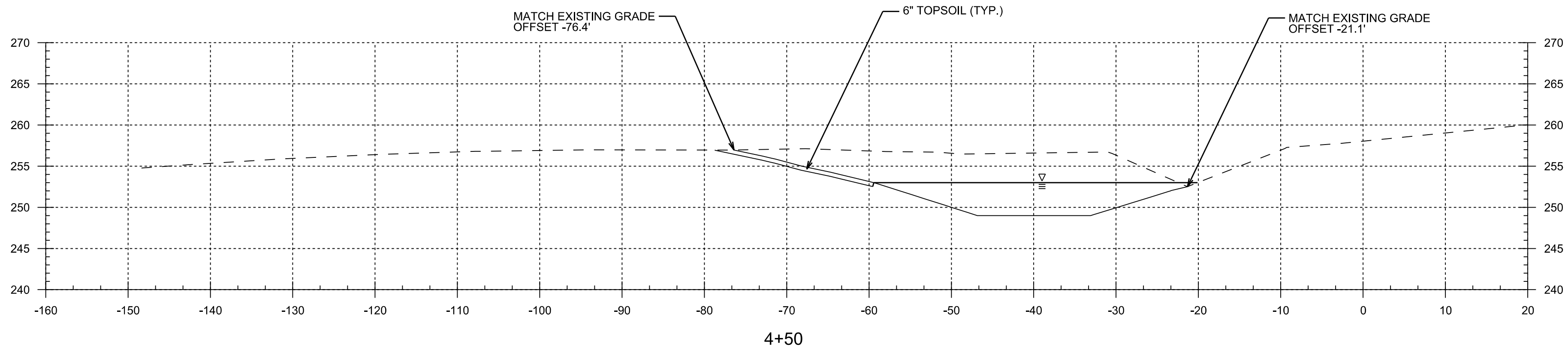
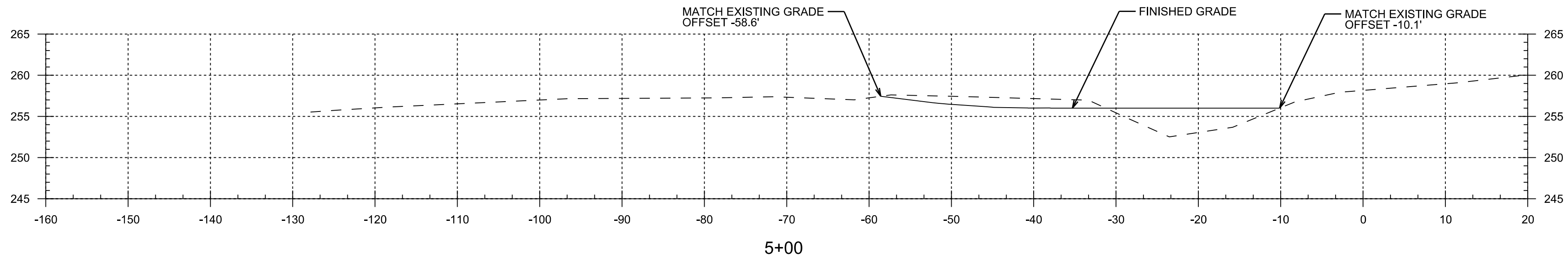
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NUMBER
C-301

SHEET 14 OF 2

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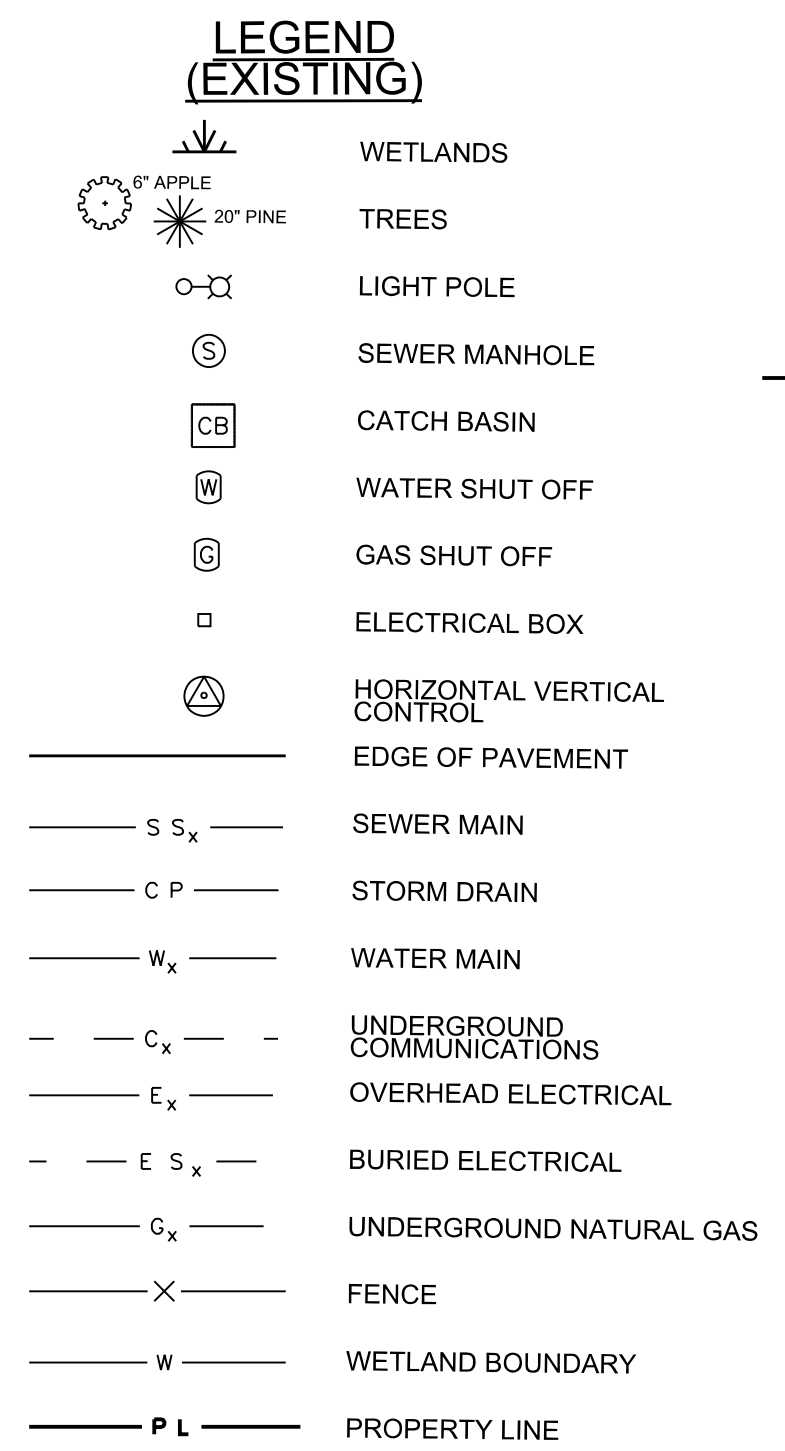
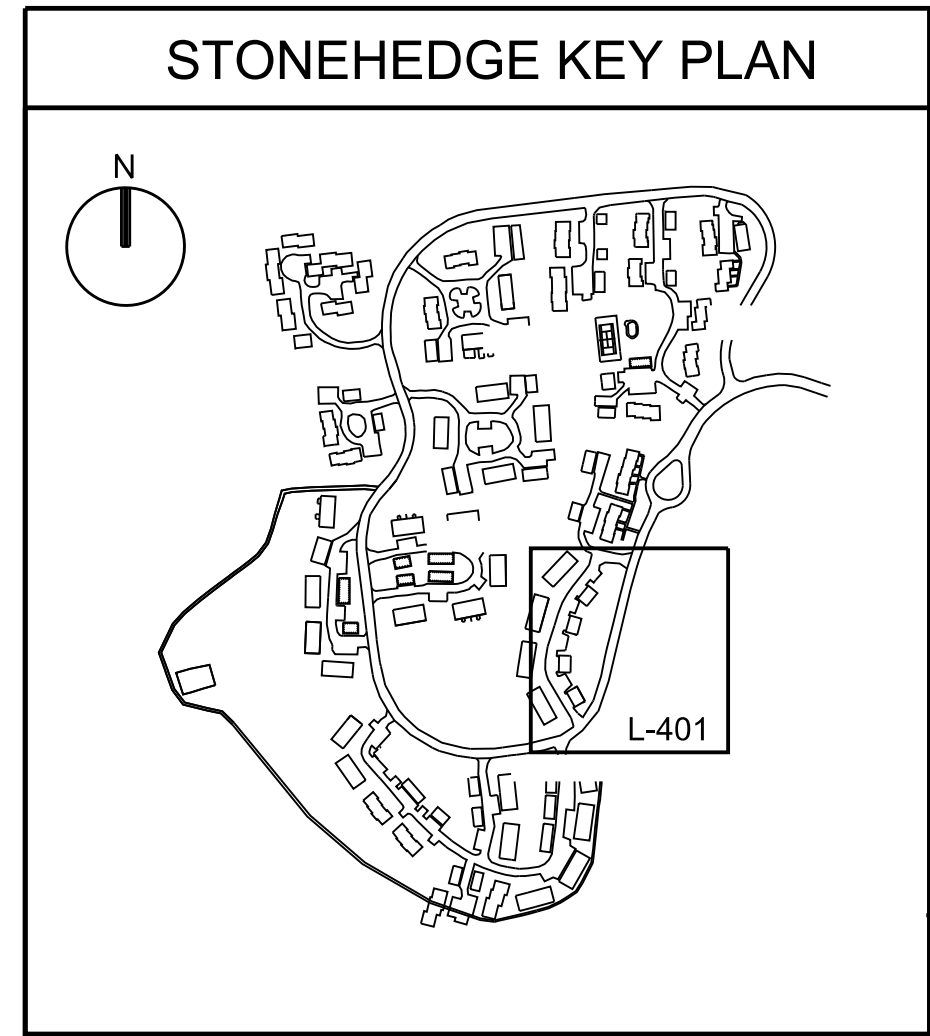
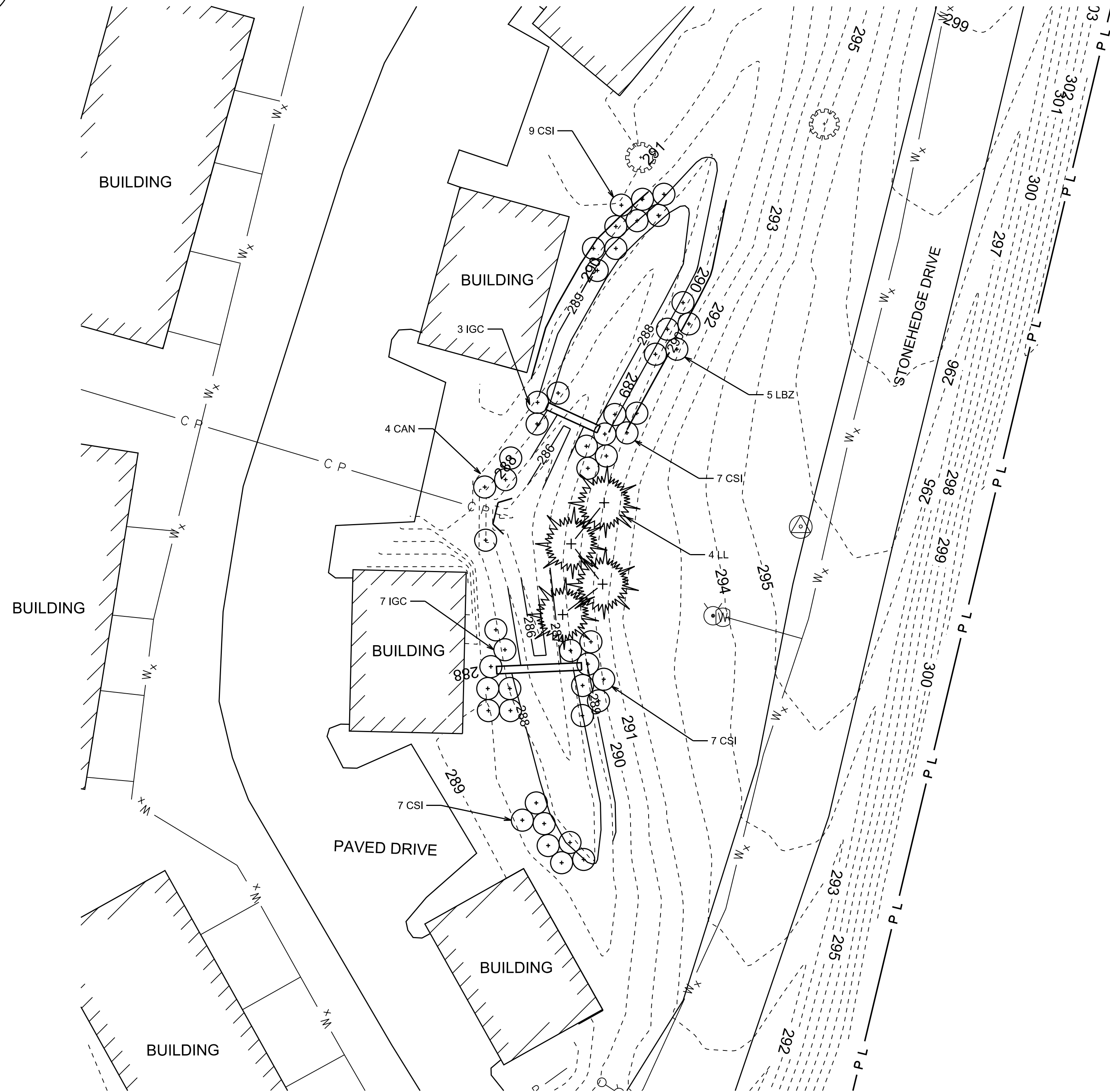
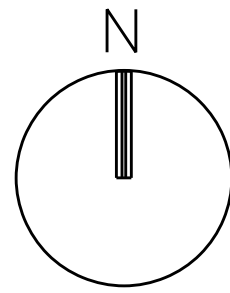
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U.S. ARMY ENGINEER DISTRICT NEW YORK http://www.nen.usace.army.mil
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ZDC MTM CONTRACT NO.:
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SIZE: 303.dwg
ANSI D: DUBOIS & KING PLOT DATE: 11/12/2015

STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

POND SECTIONS
STA. 4+00 TO STA. 5+50

SHEET
REFERENCE
NUMBER
C-303

SHEET 16 OF 25

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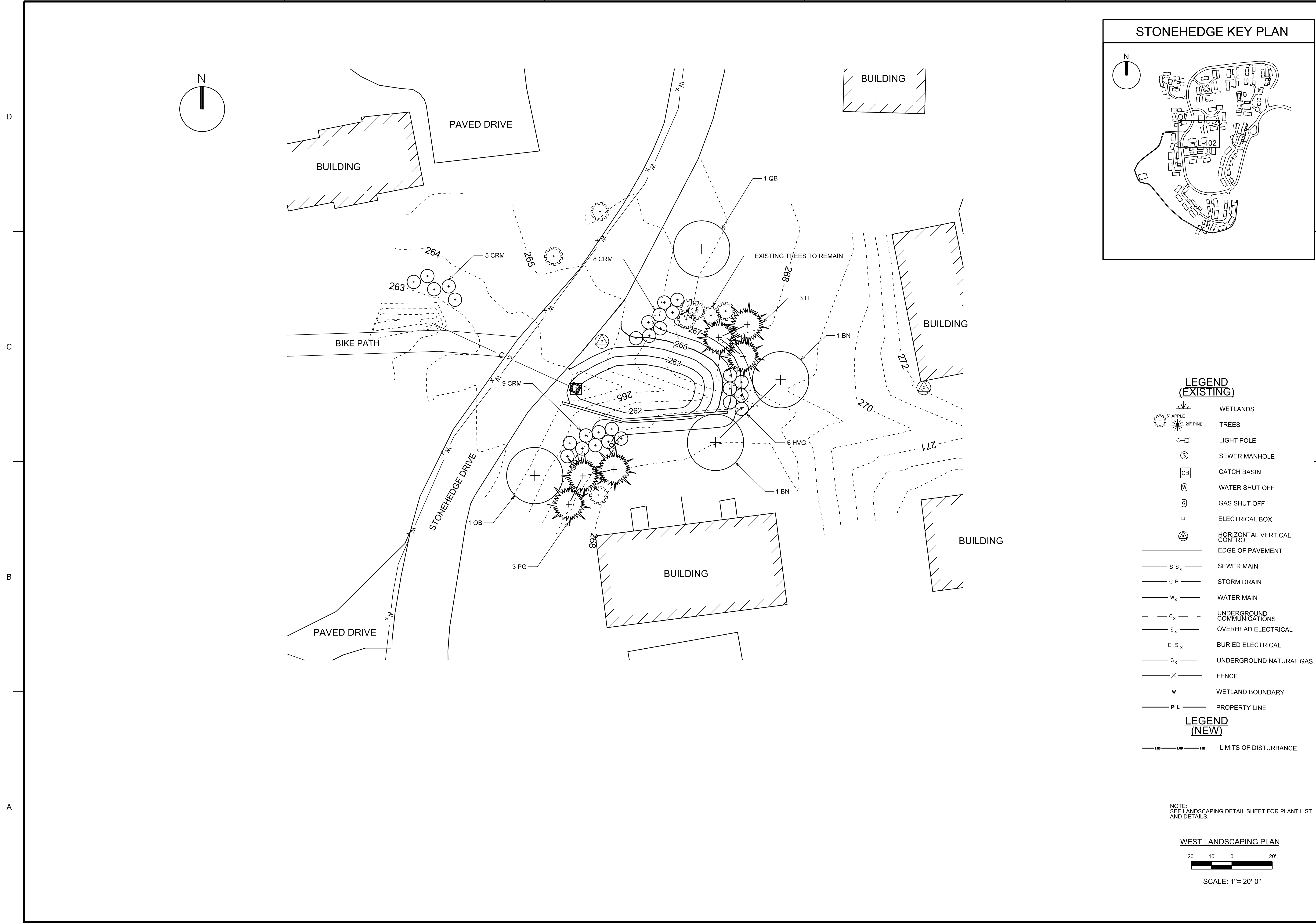
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		ZDC	CONTRACT NO.:
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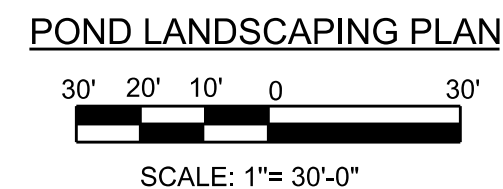
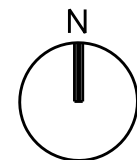
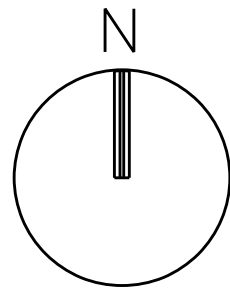
DuBois & King inc.

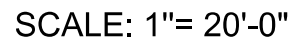
STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

EAST BIORETENTION AREA
LANDSCAPING PLAN

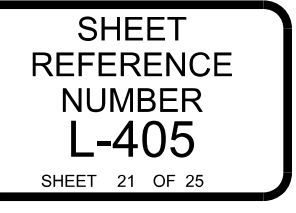
SHEET
REFERENCE
NUMBER
L-401

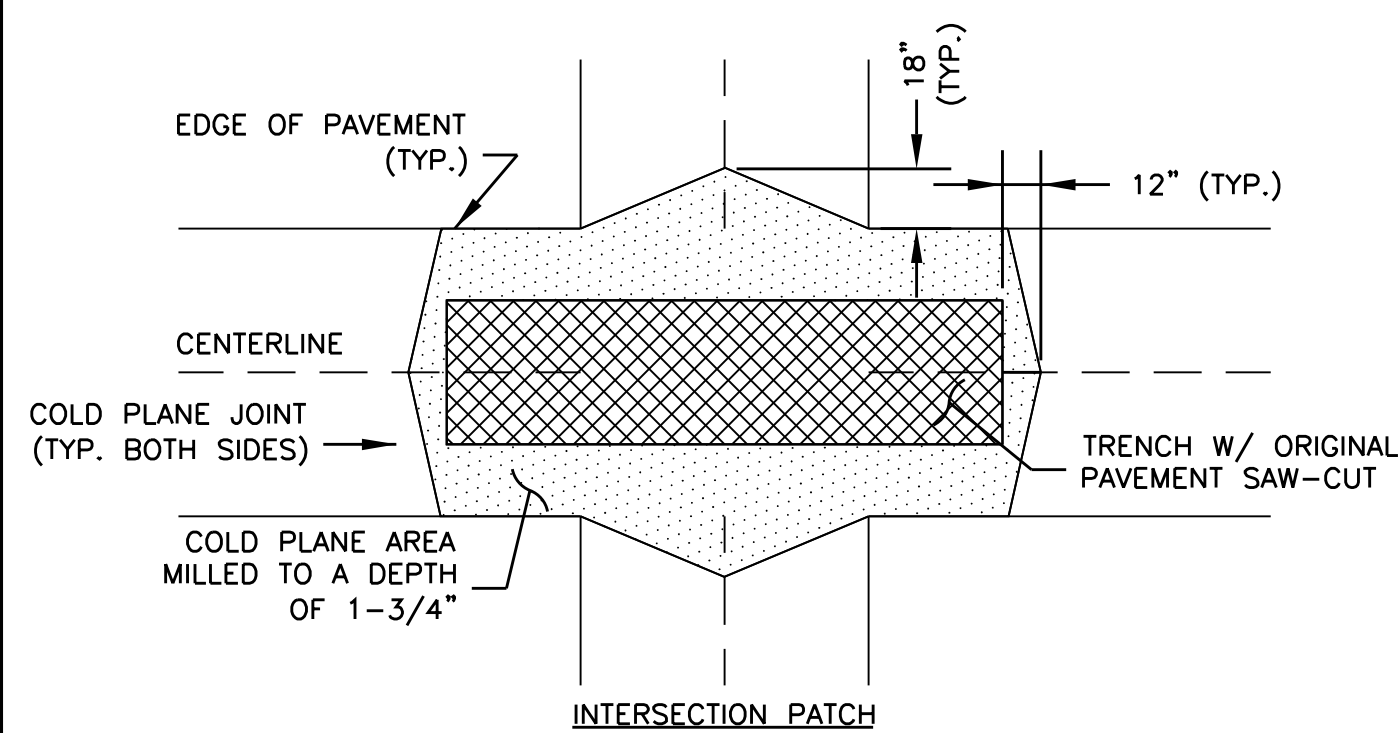
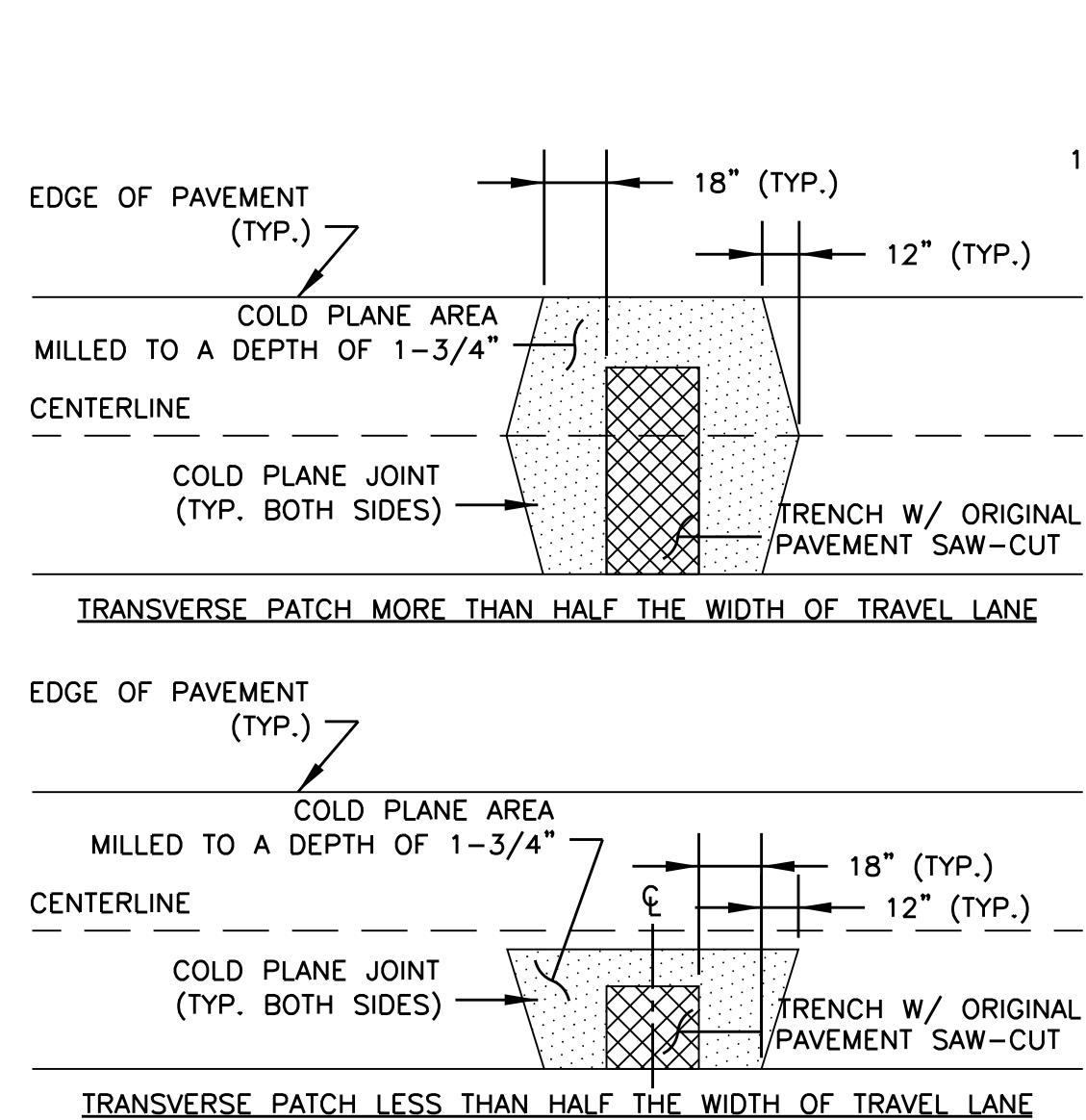
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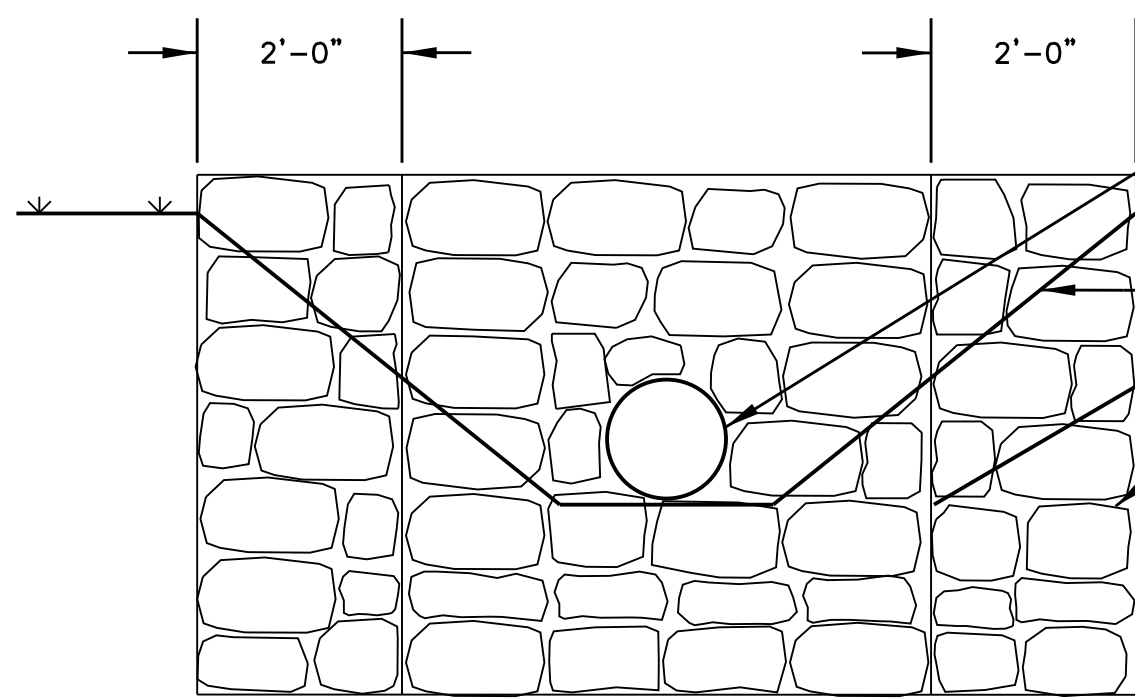
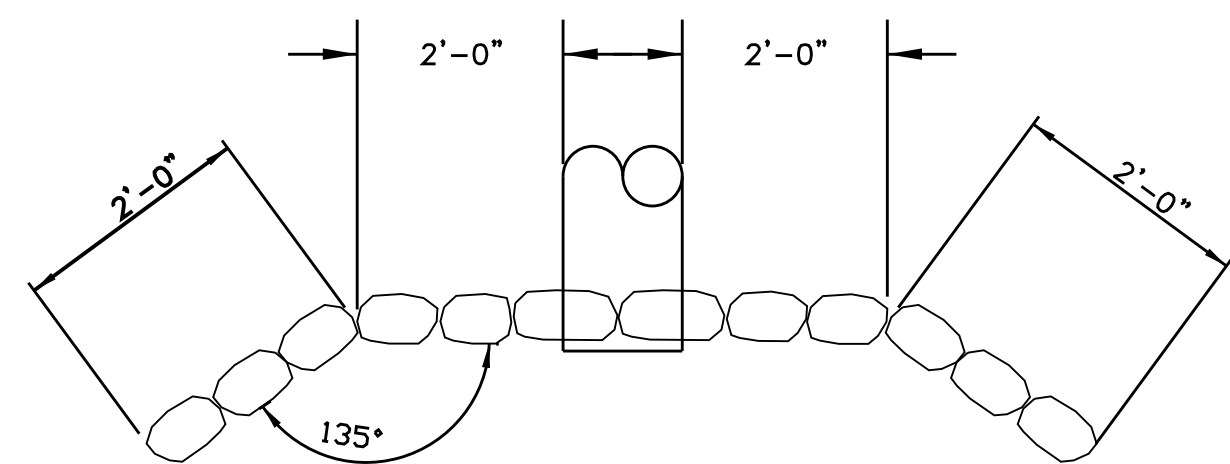


SHEET
REFERENCE
NUMBER
L-404
SHEET 20 OF 25



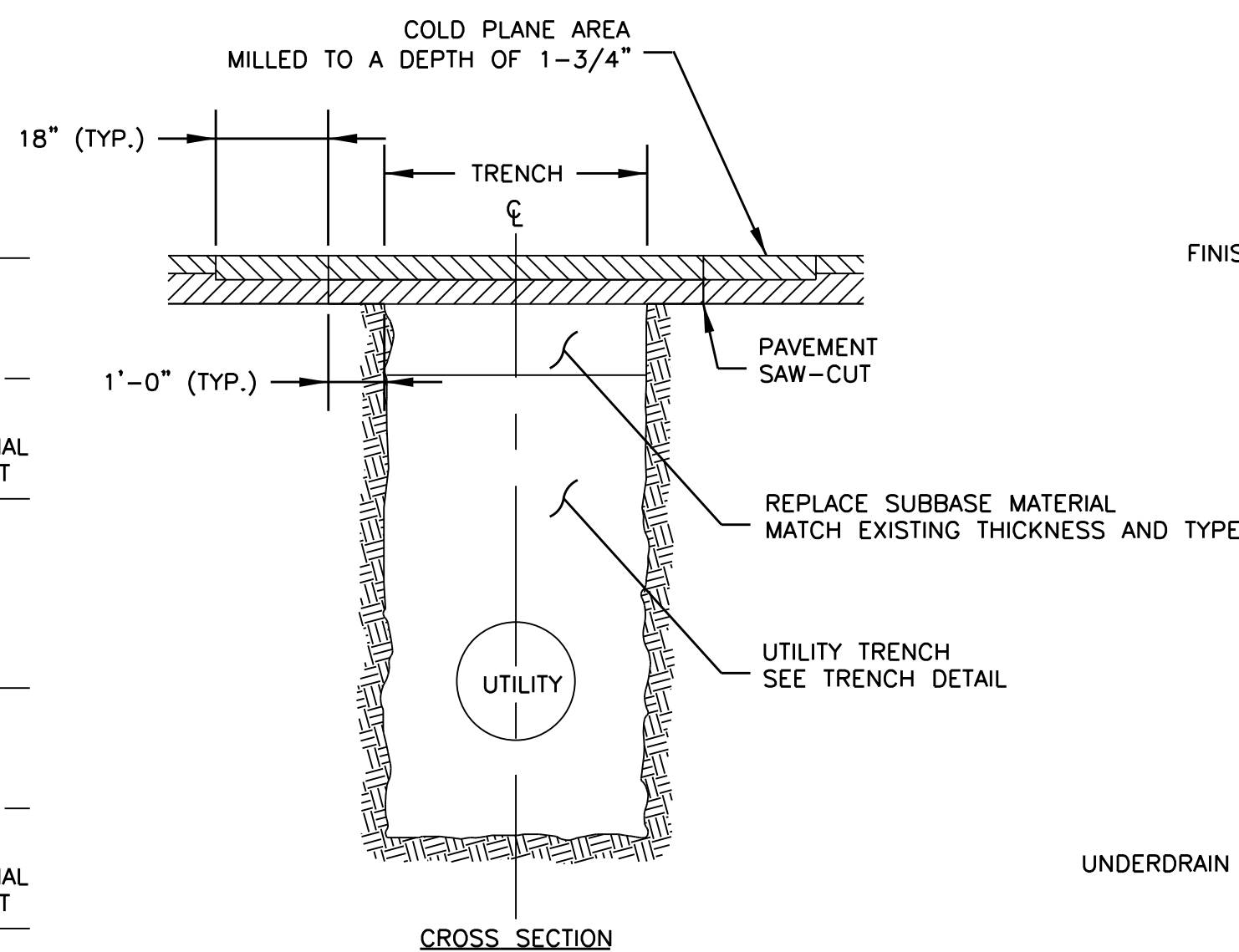


PAVEMENT REPAIR DETAIL
NOT TO SCALE

ELEVATION

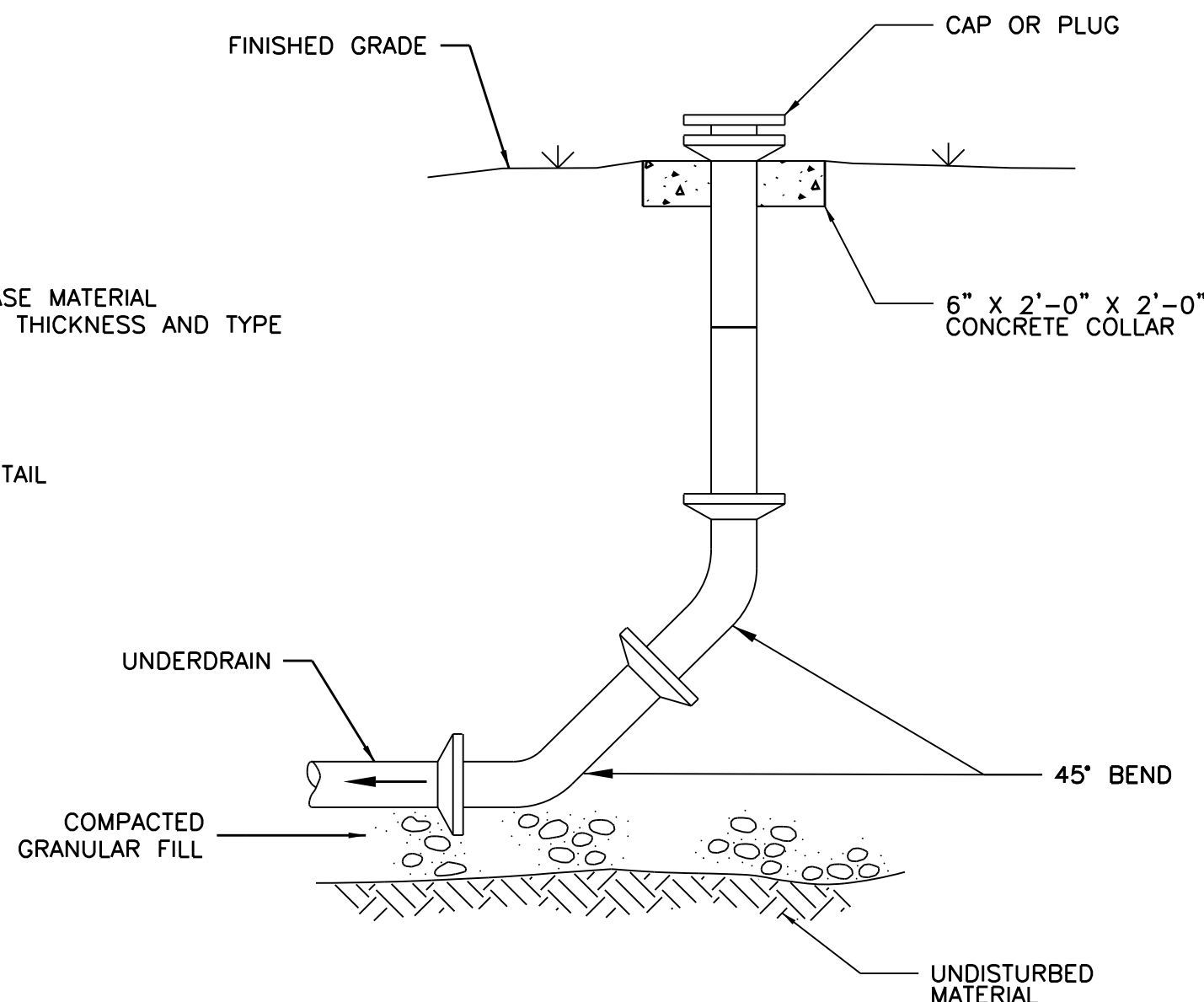
- | <u>NOTES:</u> | <u>ELEVATION</u> |
|---|------------------|
| 1. STONE HEADWALL SHALL BE CONSTRUCTED IN COMPLIANCE WITH VTRANS SPECIFICATION SECTION 602 - MASONRY. | |
| 2. STONES USED IN HEADWALL SHALL COMPLY WITH VTRANS SPECIFICATION SECTION 706.01 - STONE FOR MASONRY. | |

TYPICAL MORTARED STONE HEADWALL DETAIL

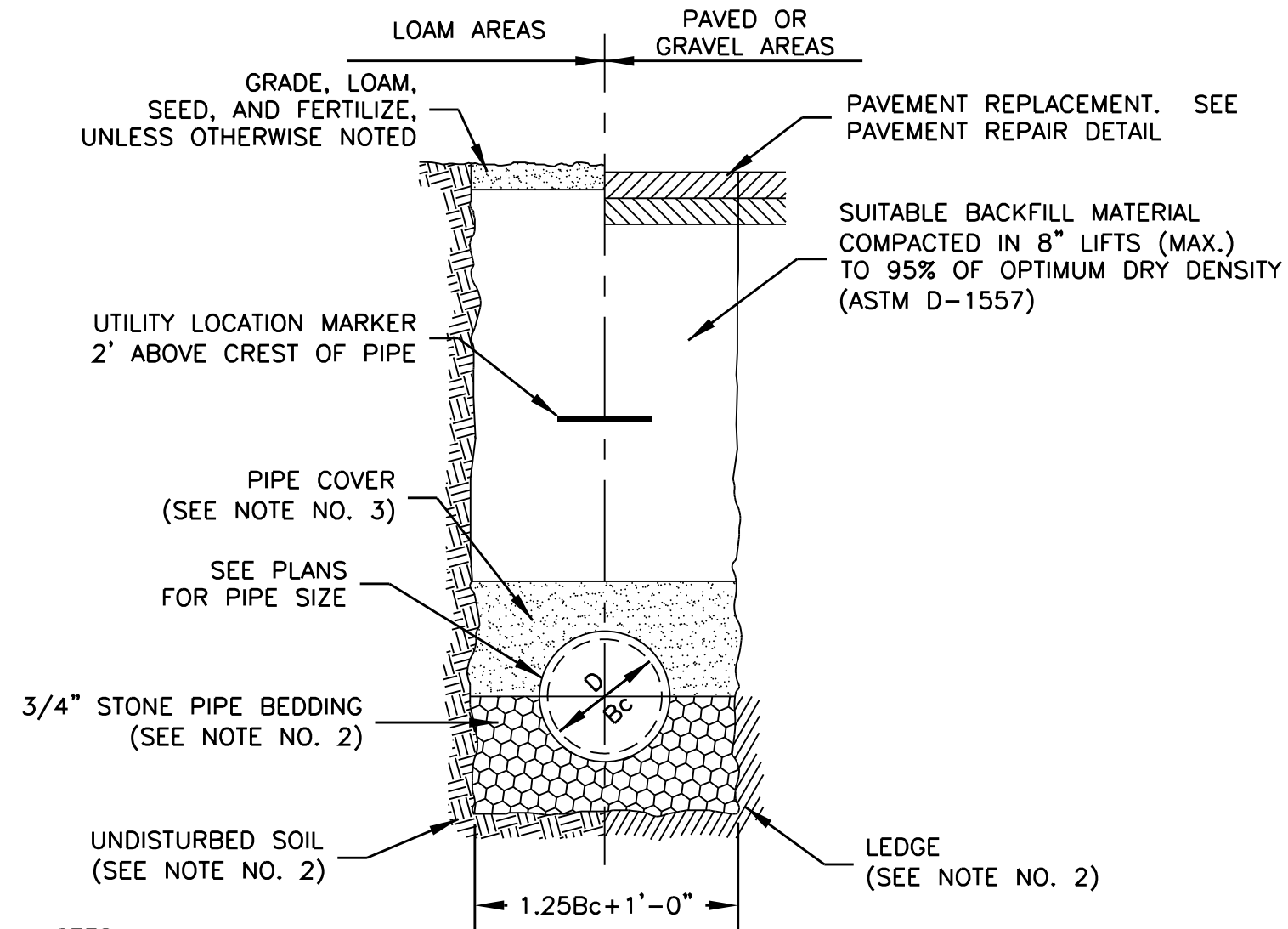


NOTES:

1. PRIOR TO ALL TRENCH EXCAVATIONS EXISTING PAVEMENT SHALL BE SAW-CUT. ANY UNDERMINED AREAS THAT INADVERTENTLY DEVELOP DURING CONSTRUCTION ACTIVITIES SHALL BE REPAIRED.
2. A TEMPORARY 3-INCH DEPTH OF VTRANS 406.25 HOT BITUMINOUS MATERIAL SHALL BE PLACED IN CURE (2) 1-1/2" LIFTS. TEMPORARY PATCH SHALL CURE FOR 30-DAYS.
3. AFTER PAVEMENT CURE PERIOD HAS BEEN COMPLETED, PAVEMENT AREA SHALL BE MILLED TO A DEPTH OF 1-3/4" IN ACCORDANCE TO THE PLAN LAYOUTS PROVIDING A MINIMUM 18" OVERLAP ONTO EXISTING UNDISTURBED PAVEMENT.
4. TACK ALL PAVEMENT EDGES PRIOR TO PLACEMENT OF PERMANENT BITUMINOUS MATERIAL.
5. PLACE 1-3/4" OF VTRANS 406.25 HOT BITUMINOUS MATERIAL.



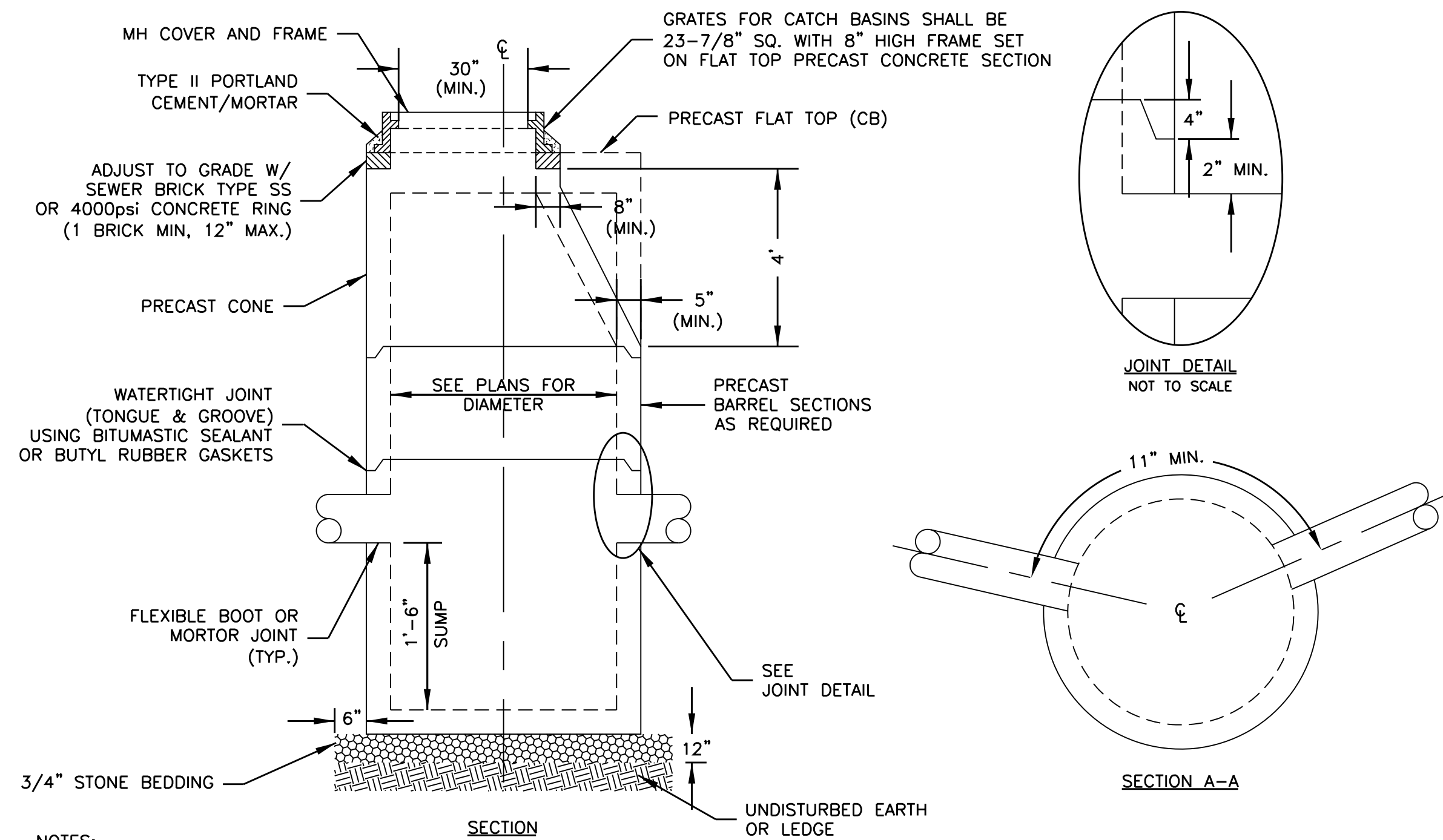
CLEANOUT TO GRADE DETAIL
NOT TO SCALE



NOTES:

1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. BEDDING MATERIAL SHALL BE FULL WIDTH OF TRENCH. BEDDING MATERIAL SHALL BE 6" BELOW PIPE (IN EARTH) OR 12" BELOW PIPE (IN LEDGE) UP TO SPRING LINE OF PIPE.
3. PIPE COVER MATERIAL SHALL BE FULL WIDTH OF TRENCH FROM SPRING LINE UP TO 12" (MINIMUM) ABOVE CREST OF PIPE. [PIPE COVER MATERIAL SHALL BE SCREENED SAND].

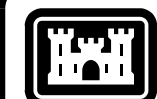
CULVERT AND STORM DRAIN PIPE TRENCH DETAIL



NOTES:

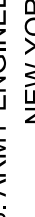
1. PRECAST SECTIONS SHALL BE 5" THICK WITH 0.12 SQ.IN/LF AREA OF STEEL REINFORCEMENT OR 8" THICK UNREINFORCED.
2. PRECAST SECTIONS SHALL MEET HS-20 LOADING, CONSIST OF CONCRETE THAT IS A MINIMUM OF 4000psi @28 DAYS AND SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478; LATEST REVISION.
3. SEE PLANS FOR STRUCTURE SIZES.

CATCH BASIN/DRAIN MANHOLE DETAIL
NOT TO SCALE



US Army Corps
of Engineers
New York District

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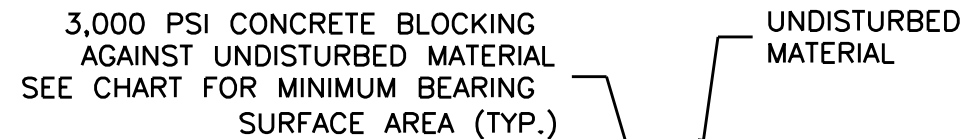
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ZDC MTM		
SUBMITTED BY: D & K		
CONTRACT NO.:		
U.S. ARMY ENGINEER DISTRICT NEW YORK http://www.nan.usace.army.mil		

**STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT**

STORM DRAIN DETAILS

SHEET
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C-501

SHEET 23 OF 2



CAST-IN-PLACE CONCRETE THRUST BLOCK BEARING SURFACE AREA TABLE (S.F.)				
PIPE SIZE (IN)	SOFT WET SAND OR	CLAY, SILT	DRY SAND	COMPACT COARSE SAND OR GRAVEL HARDPAN
DEAD END OR TEE				
2	2	2	2	2
4	4	2	2	2
6	9	5	3	3
8	16	8	5	5
10	24	12	8	8
12	34	17	12	12
$\frac{1}{4}$ BEND				
2	2	2	2	2
4	2	2	2	2
6	4	2	2	2
8	7	4	3	3
10	10	5	4	4
12	15	7	5	5
$\frac{1}{8}$ BEND				
2	2	2	2	2
4	2	2	2	2
6	2	2	2	2
8	3	2	2	2
10	5	3	2	2
12	7	4	3	3
$\frac{1}{16}$ BEND				
2	2	2	2	2
4	2	2	2	2
6	2	2	2	2
8	2	2	2	2
10	3	2	2	2
12	4	2	2	2

NOT TO SCALE



1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. PIPE LEAKAGE TESTING SHALL COMPLY WITH LOCAL OR STATE REGULATIONS, WHICHEVER IS MORE STRICT.
3. PIPE JACKING OR HORIZONTAL DIRECTIONAL-DRILLING (HDD) PIT DIMENSIONS ARE AS REQUIRED BY CONTRACTOR.
4. RUBBER NEOPRENE CASING SEAL WITH STAINLESS STEEL BANDS OR HEAT SHRINK CASING SEAL ARE ACCEPTABLE. INSTALLATION SHALL FOLLOW MANUFACTURER'S RECOMMENDATION TO PROVIDE A WATER-TIGHT SEAL.
5. CASING PIPE LENGTH SHALL BE CALCULATED AS FOLLOWS:

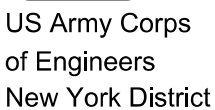
$$\text{OUTSIDE PIPE DIAMETER (OD)} + [2 \times (1.5 \times \text{MIN. SEPARATION})] + 12"$$
 OR AS IDENTIFIED ON PLANS, WHICHEVER IS GREATER

NOT TO SCALE



1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. WATER PIPE LEAKAGE TESTING SHALL COMPLY WITH LOCAL OR STATE REGULATIONS, WHICHEVER IS MORE STRICT.
3. POLYSTYRENE RIGID INSULATION SHALL BE INSTALLED WHEN CASING/CULVERT SEPARATION IS LESS THAN 4'. INSULATION SHALL BE LOCATED 6-INCHES ABOVE CASING PIPE AND EXTEND TO THE LIMITS OF FROST LINE OF INFLUENCE + 12" EITHER SIDE OF O.D. OF CASING.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH CITY OF LACONIA WATER DEPARTMENT SPECIFICATIONS.
5. ALL JOINTS TO BE MECHANICALLY RESTRAINED INCLUDING THRUST RESTRAINT RODS FROM EACH VALVE TO THE ADJACENT 45 DEGREE ELBOW.
6. THE CARRIER PIPE SHALL CONSIST OF A SINGLE PIPE LENGTH WITHIN THE CASING. NO JOINTS WILL BE ALLOWED WITHIN THE CASING.
7. THE CONTRACTOR MUST COORDINATE WITH THE LACONIA WATER DEPARTMENT AS INDICATED IN THE SPECIFICATIONS FOR ACTIVITIES INCLUDING BUT NOT LIMITED TO THE SETUP OF TEMPORARY SERVICE LINES, INSPECTION, PRESSURE TESTING, AND CHLORINATION. THESE SERVICES WILL BE PERFORMED AND PAID FOR BY THE CITY.

NOT TO SCALE

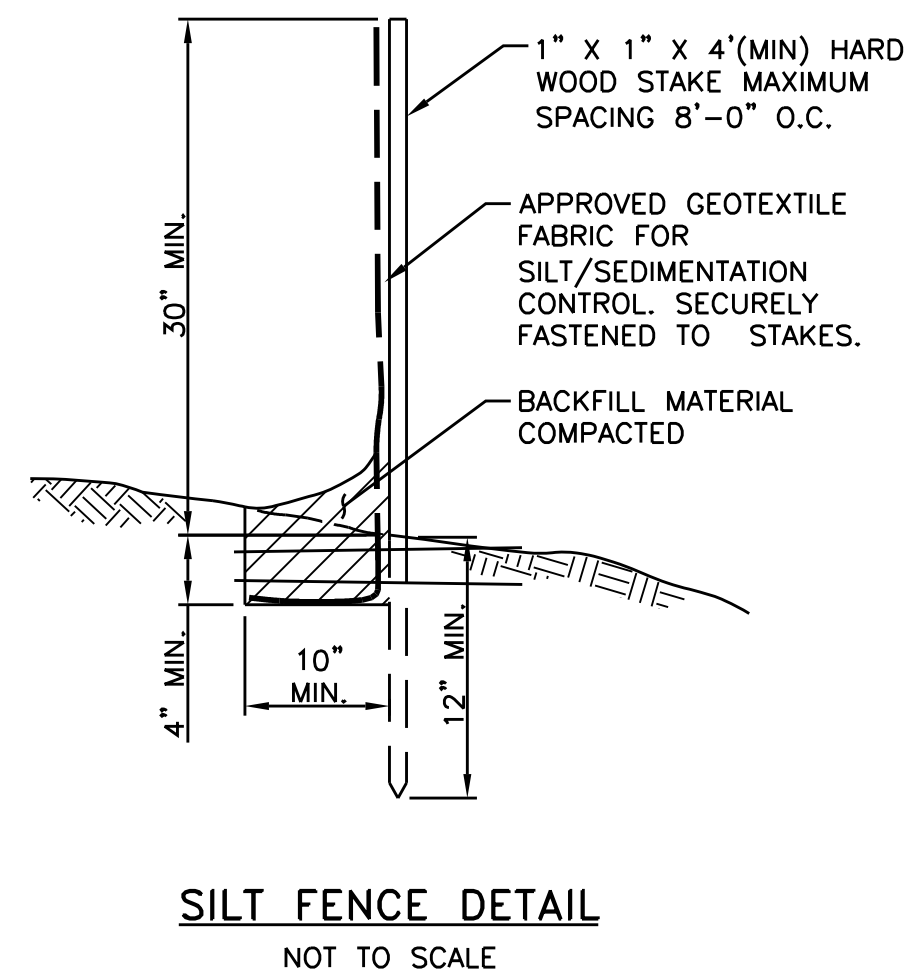
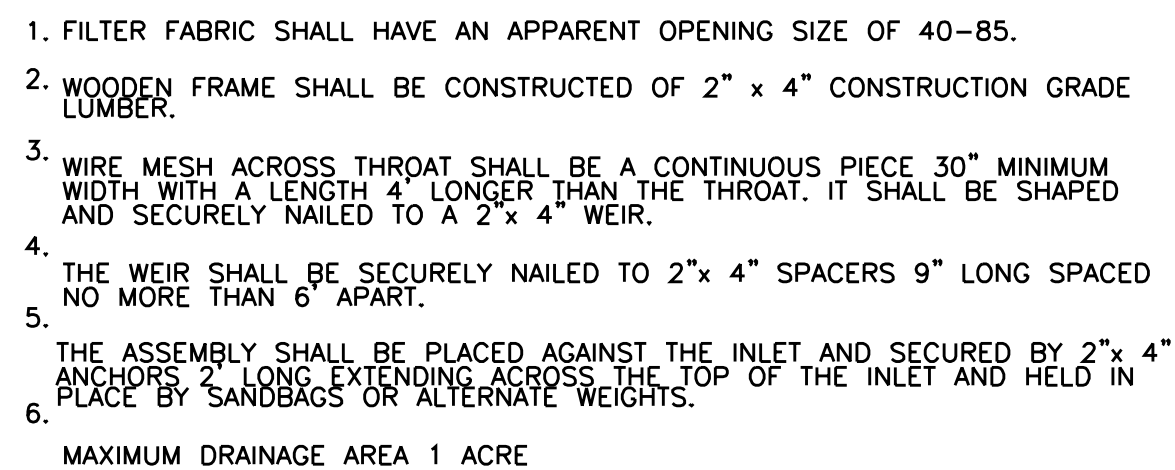
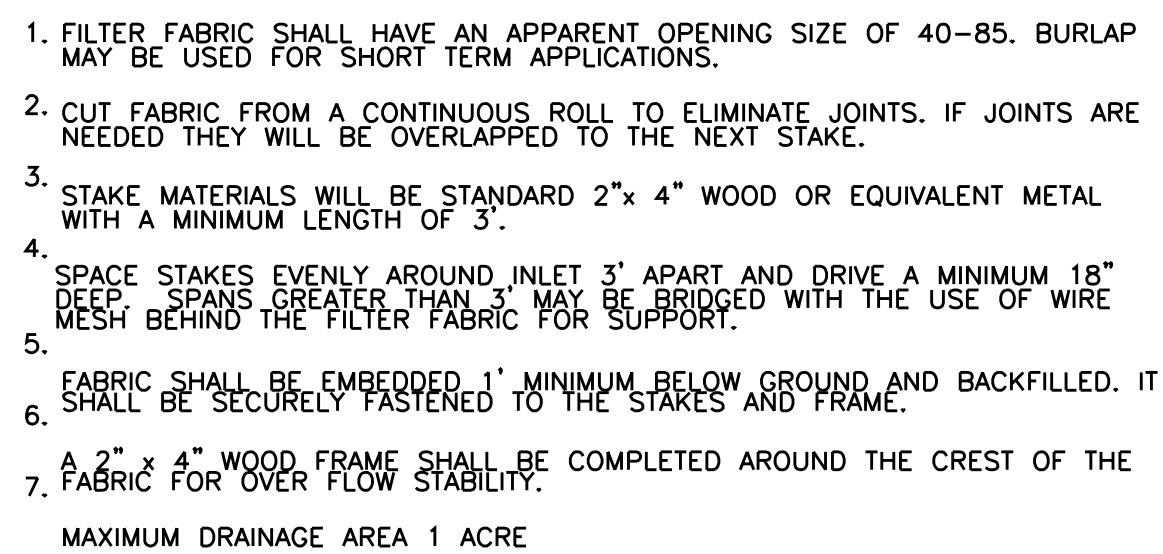
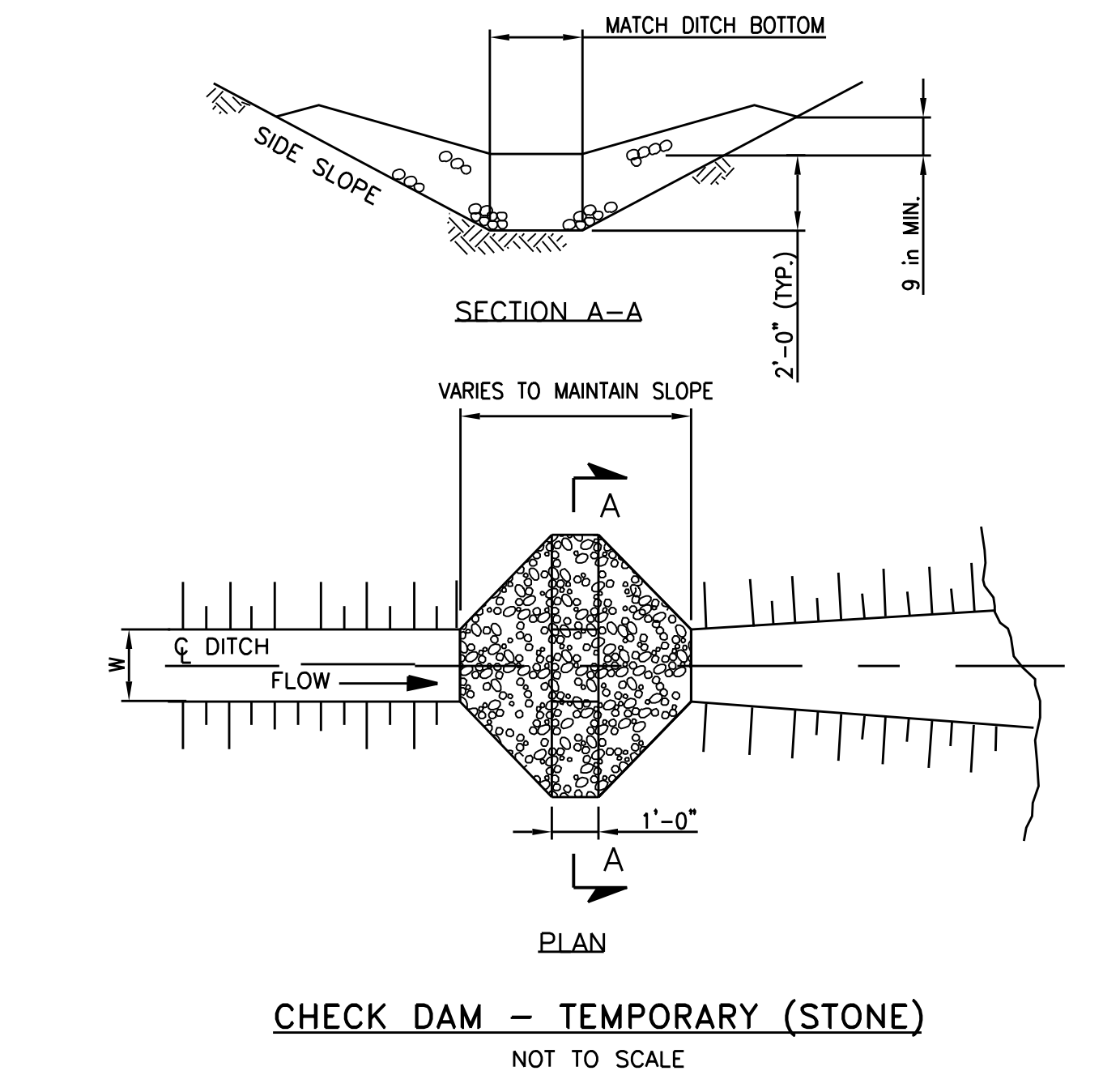
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SUBMITTED BY:	D & K	OWN BY:	CND BY:	DESIGNED BY:
ZDC	MTK	DWN BY:	ZDC	HLV

STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

SITE AND WATER RELOCATION
DETAILS

SHEET
REFERENCE
NUMBER
C-502
SHEET 24 OF 25

[illegible]

U. S. ARMY ENGINEER DISTRICT NEW YORK http://www.nan.usace.army.mil		DESIGNED BY: HLV DATE: MAY 2015
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STONEHEDGE
STORMWATER IMPROVEMENTS
SOUTH BURLINGTON, VERMONT

SHEET
REFERENCE
NUMBER
C-503
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