BOGUE BROOK RESERVOIR DAM

REHABILITATION PROJECT

MONTVILLE, CONNECTICUT

NID # CT00235 STATE ID # 8602

DAM OWNER AND OPERATOR

THE CITY OF NEW LONDON 120 BROAD STREET NEW LONDON, CONNECTICUT 06320



PROJECT ENGINEER

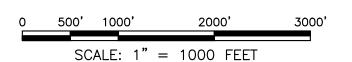
GZA GEOENVIRONMENTAL, INC. 249 VANDERBILT AVE. NORWOOD, MASSACHUSETTS 02062





PROJECT LOCUS MAP

SOURCE: THIS MAP CONTAINS THE ESRI ARCGIS ONLINE USA TOPOGRAPHIC MAP SERVICE. PUBLISHED DECEMBER 2009 BY ESRI RCIMS SERVICES. LAST UPDATED



NOTE: ALL SCALES APPLICABLE FOR 24"X36" DRAWINGS. USE SCALE BAR FOR ALTERNATE SIZE DRAWINGS.



INDEX OF DRAWINGS

GENERAL

- G-1 TITLE SHEET, SITE LOCUS AND INDEX OF DRAWINGS
- G-2 GENERAL NOTES AND CONSTRUCTION SEQUENCE
- G-3 EXISTING CONDITIONS PLAN
- G-4 EXISTING CONDITIONS SECTIONS (1 OF 2)
- G-5 EXISTING CONDITIONS SECTIONS (2 OF 2)
- G-6 EXISTING CONDITIONS DOWNSTREAM ELEVATION SECTION

- C-1 SEDIMENT AND EROSION CONTROL, WATER CONTROL SITE ACCESS, STAGING, AND STOCKPILING PLAN
- C-2 DOWNSTREAM SEDIMENT AND EROSION CONTROL WATER CONTROL, SITE ACCESS PLAN
- C-3 FINAL CONDITIONS PLAN
- C-4 FINAL CONDITIONS SECTIONS AND DETAILS (1 OF 3)
- C-5 FINAL CONDITIONS SECTIONS AND DETAILS (2 OF 3)
- C-6 FINAL CONDITIONS SECTIONS AND DETAILS (3 OF 3)
- C-7 FINAL CONDITIONS DOWNSTREAM ELEVATION SECTION C-8 FINAL CONDITIONS UPSTREAM ELEVATION SECTION
- C-9 LEFT ABUTMENT TRAINING WALL SECTIONS, AND ACB **DETAILS**
- C-10 RIGHT ABUTMENT TRAINING WALL SECTIONS AND DETAILS



2	ISSUED FOR BIDDING	CBN	6/22/18
1	RE-ISSUED FOR PERMITS	CBN	2/12/18
Ю.	ISSUE/DESCRIPTION	BY	DATE
NLES	S SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SO	LE PROP	PERTY OF GZA

GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

> BOGUE BROOK RESERVOIR DAM REHABILITATION PROJECT MONTVILLE, CONNECTICUT

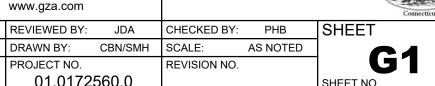
DRAWN BY: CBN/SMH SCALE:

01.0172560.0

TITLE SHEET, SITE LOCUS, AND INDEX OF DRAWINGS



THE CITY OF NEW LONDON



PROJECT PURPOSE

BOGUE BROOK RESERVOIR DAM CONSISTS OF A PARTIALLY REINFORCED CONCRETE BUTTRESS (AMBURSEN) DAM WITH EARTHEN EMBANKMENTS. THE APPROXIMATE MAXIMUM HEIGHT OF THE CONCRETE PORTION OF THE DAM IS 21 FEET. PROPOSED REPAIRS ARE INTENDED TO ADDRESS STRUCTURAL AND HYDRAULIC DEFICIENCIES AT THE DAM. PROPOSED REPAIRS INCLUDE:

- REGRADING OF DAM EMBANKMENTS AT BOTH ABUTMENTS
- PLACEMENT OF OVERTOPPING AND EROSION PROTECTION AT THE DOWNSTREAM SIDE OF DAM AND EMBANKMENTS
- CONSTRUCTION OF NEW STILLING BASIN AND SPLASH PAD IMMEDIATELY DOWNSTREAM OF SPILLWAY
- RECONSTRUCTION AND REINFORCEMENT OF UPSTREAM CONCRETE SLAB
- CONSTRUCTION OF NEW BRIDGE OVER THE EXISTING SPILLWAY AND SLIDE GATE ACCESS PLATFORM
- CONSTRUCTION OF NEW SLIDE GATE AT LOCATION OF EXISTING, NON-OPERATIONAL GATE
- INSTALLATION OF NEW STEEL SHEETING AT UPSTREAM TOE OF DAM WITH CONSTRUCTION OF NEW APRON FOR SEEPAGE MITIGATION
- PLACEMENT OF LIGHT WEIGHT CONCRETE FILL BETWEEN EXISTING BUTRESSES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NEEDED TO ACHIEVE FINAL CONDITIONS AS SHOWN ON THE PLANS AND AS STATED IN THE CONTRACTOR SHALL INSTALL A COFFERDAM UPSTREAM OF THE DAM SO WORK MAY BE PERFORMED IN THE DRY. IT IS ENVISIONED THAT MOST SPECIFICATIONS.

PLAN REFERENCES

- 1. ELEVATIONS ARE, IN FEET, REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (HEREAFTER REFERRED TO AS NAVD88)
- 2. BASE MAP DEVELOPED FROM CAD FILES PROVIDED BY GM2 ASSOCIATES OF GLASTONBURY, CONNECTICUT, ENTITLED "EXISTING CONDITIONS
- B. WETLANDS AT THE SITE WERE DELINEATED BY PAUL DAVIS AND AMANDA FABIS, CERTIFIED WETLANDS SCIENTISTS, FROM GZA GEOENVIRONMENTAL WHO CONDUCTED A SITE VISIT ON NOVEMBER 6, 2015. THE WETLAND DELINEATION WAS PERFORMED IN ACCORDANCE WITH THE 1987 CORPS. OF ENGINEERS WETLANDS DELINEATION METHOD IN CONJUNCTION WITH THE REGIONAL SUPPLEMENT TO THE CORPS. OF ENGINEERS WETLAND DELINEATION METHOD AND THE 2012 NATIONAL WETLAND PLANT LIST.

GENERAL NOTES AND CONDITIONS

- I. LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY, AND ARE NOT WARRANTED TO BE CORRECT. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT INDICATED ON THESE PLANS. ALL EXISTING UTILITIES SHALL BE VERIFIED FOR SERVICE, SIZE, INVERT ELEVATION, LOCATION, ETC. PRIOR TO ANY CONSTRUCTION WORK IN THE VICINITY THEREOF. THE CONTRACTOR MUST NOTIFY CALL BEFORE YOU DIG (811) AT LEAST 3 FULL WORKING DAYS PRIOR TO ANY CONSTRUCTION. APPROPRIATE MUNICIPAL DEPARTMENTS MUST ALSO BE NOTIFIED. NOTIFY OWNER AND ENGINEER IN WRITING OF ANY AND ALL DISCREPANCIES PRIOR TO COMMENCING WORK.
- TEMPORARY BENCHMARKS AND CONTROL POINTS WERE LOCATED OR SET BY THE SURVEYOR. NO GUARANTEE IS MADE AS TO THE EXISTENCE OR ACCURACY OF SUCH MARKS AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINDING, VERIFYING, AND RE-SETTING (IF NECESSARY) CONTROL POINTS AND BENCHMARKS FOR THE WORK OF THE CONTRACT OR OTHERWISE ESTABLISHING THEIR OWN.
- 3. THE RESPONSIBILITY FOR SAFETY IN, ON, OR ABOUT THE JOBSITE SHALL BE THAT OF THE CONSTRUCTION CONTRACTOR. THESE DRAWINGS DO NOT DEPICT COMPONENTS WHICH MAY BE NECESSARY FOR CONSTRUCTION SAFETY.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION, EXCEPT WHERE SPECIFICALLY DETAILED IN THE PLANS AND SPECIFICATIONS. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SEQUENCE OF THE WORK, EXCEPT WHERE SPECIFICALLY DETAILED IN THE PLANS AND SPECIFICATIONS.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURFACE AND GROUNDWATER CONTROL DURING THE WORK OF THE CONTRACT. TEMPORARY WATER CONTROL MEASURES SHALL BE, AT MINIMUM, AS REQUIRED BY THE PROJECT PLANS, SPECIFICATIONS, AND PERMIT CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL MEASURES NECESSARY FOR WATER CONTROL NECESSARY TO EXECUTE THE WORK OF THE CONTRACT "IN THE DRY." WATER CONTROL MEASURES ARE SUBJECT TO SPECIFIC LIMITS AND CONDITIONS AS MAY BE SHOWN ON THE PLANS AND SPECIFIED IN THE TEMPORARY DEWATERING AND WATER CONTROL SPECIFICATION 01565.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL DURING THE WORK OF THE CONTRACT. TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE, AT MINIMUM, AS REQUIRED BY THE PROJECT PLANS, SPECIFICATIONS, AND PERMIT CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL MEASURES NECESSARY FOR THE PREVENTION OF SEDIMENT DISCHARGE OR EROSION AT THE SITE.
- ACCESS TO THE SITE SHALL BE FROM CHESTERFIELD ROAD. THE CONTRACTOR SHALL BE RESPONSIBLE TO RESTORE THE CONDITION OF THE SITE ACCESS ROAD TO THE ORIGINAL CONDITION (OR BETTER) PRIOR TO DEMOBILIZING FROM THE SITE.
- 8. A SPECIFIC AREA HAS BEEN DESIGNATED AND DELINEATED ON THE PLANS AS A CONTRACTOR STAGING AREA. THE CONTRACTOR SHALL USE THIS AREA, AND THIS AREA ONLY FOR OFFICE TRAILERS (IF NECESSARY), EQUIPMENT AND MATERIAL STORAGE, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY SIGNAGE, FENCING, SAFETY, SEDIMENT/EROSION CONTROL, IMPROVEMENTS, RESTORATIONS, ETC. IN THESE AREAS. AREAS WITHIN THE LIMITS OF THE WORK MAY BE USED FOR TEMPORARY STORAGE, HAUL ROADS, PARKING, ETC.; HOWEVER, NO ADDITIONAL CONSIDERATIONS OR PAYMENT WILL BE MADE FOR WORK NECESSARY TO RE-GRADE AND RESTORE SUCH AREAS TO PRE-CONSTRUCTION CONDITIONS OR RELOCATE ANY MATERIALS OR EQUIPMENT TEMPORARILY STORED WITHIN THE LIMITS OF THE WORK. IF THE CONTRACTOR REQUIRES AND IDENTIFIES ADDITIONAL STAGING AREAS ON THE OWNER'S PROPERTY, THE CONTRACTOR SHALL MAKE A WRITTEN REQUEST TO THE OWNER AND ENGINEER DESCRIBING THE NEED AND LOCATION OF THE PROPOSED AREA. NO GUARANTEE IS MADE THAT ADDITIONAL LAY-DOWN AREAS WILL BE MADE AVAILABLE.
- THROUGHOUT CONSTRUCTION CHESTERFIELD ROAD SHALL REMAIN ACTIVE. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN REGARDING TEMPORARY TRAVEL AND PEDESTRIAN RESTRICTIONS ON THIS ROAD SHOULD THEY BE NECESSARY TO EFFECT EXECUTION OF THE WORK. TEMPORARY ROAD RESTRICTIONS MAY NEED POLICE DETAIL AND/OR OTHER TRAFFIC CONTROL MEASURES. COST FOR POLICE DETAIL OR RELATED TRAFFIC CONTROL MEASURES SHALL BE SOLELY BORNE BY THE CONTRACTOR.
- 10. THE CONTRACTOR SHALL RESTORE AREAS DISTURBED BY CONSTRUCTION AS PER THE PLANS AND SPECIFICATIONS. WHERE NO SPECIFIC INSTRUCTION IS GIVEN, RESTORATION SHALL BE TO THE ORIGINAL CONDITION OR BETTER AND AT NO ADDITIONAL COST TO THE OWNER.
- 11. THE CONTRACTOR IS SPECIFICALLY INFORMED THAT THE RESTORATION REQUIREMENT APPLIES TO ALL AREAS DISTURBED AS A RESULT OF THE PROJECT.
- 12. IN THE EVENT OF THE DISCOVERY OF THE PRESENCE OF AN ENDANGERED PLANT OR ANIMAL IN THE WORK AREA OR STAGING AREA, ALL WORK IN THE IMMEDIATE AREA OF THE FIND SHALL STOP AND THE OWNER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY. WORK IN THE IMMEDIATE AREA AND/OR THE ENTIRE SITE (AT THE DISCRETION OF THE OWNER) SHALL BE DISCONTINUED UNTIL CLEARANCE IS GRANTED BY THE OWNER.
- 13. IN THE EVENT OF THE DISCOVERY OF A PREVIOUSLY UNKNOWN ARCHEOLOGICAL SITE, POTENTIAL CULTURAL ARTIFACTS OR RESOURCES, OR ANY OTHER UNUSUAL ITEMS OR CONDITIONS, ALL WORK IN THE IMMEDIATE AREA OF THE FIND SHALL STOP AND THE OWNER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY. WORK IN THE IMMEDIATE AREA SHALL BE DISCONTINUED UNTIL CLEARANCE IS GRANTED BY THE OWNER.
- 14. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL DEVELOP, SUBMIT, AND MAINTAIN AN EMERGENCY CONTACT LIST WITH NAMES AND PHONE NUMBERS (DAY AND NIGHT) OF ALL KEY PERSONNEL INVOLVED WITH THE PROJECT. THE LIST SHALL SPECIFICALLY INCLUDE THE PERSON FROM THE CONTRACTOR WHO SHALL BE RESPONSIBLE FOR ENVIRONMENTAL COMPLIANCE. THE LIST SHALL BE PROVIDED TO THE OWNER, ENGINEER, AND CONSERVATION COMMISSION AND UPDATED AS NEEDED.
- 15. IN THE EVENT OF UNANTICIPATED ENVIRONMENTAL AND/OR ARCHEOLOGICAL CONDITIONS WHICH PREVENT CONTINUED WORK, THE OWNER MAY DIRECT THE CONTRACTOR TO STOP WORK AND STABILIZE THE SITE. THE OWNER RESERVES THE RIGHT TO TERMINATE THE CONTRACT IN SUCH A CASE.
- 16. THE CONTRACTOR IS RESPONSIBLE FOR ALL PENALTIES AND DELAYS DUE TO NON-COMPLIANCE WITH PERMIT CONDITIONS.
- 17. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.

STANDARDS

THE FOLLOWING LIST INCLUDES SOME BUT NOT ALL STANDARDS USED FOR DESIGN AND CONSTRUCTION. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL STANDARDS RELATIVE TO THE WORK OF THIS PROJECT.

HYDROLOGIC AND HYDRAULIC: THE FEMA DOCUMENT P-94 "SELECTING AND ACCOMMODATING INFLOW DESIGN FLOODS FOR DAMS" (FEMA, 2013) WAS USED AS THE GUIDELINE FOR THE REHABILITATION PROJECT DESIGN.

- 1. HAZARD CLASSIFICATION: SIGNIFICANT
- 2. SPILLWAY DESIGN FLOOD: 1000 YEAR FLOOD

WATER CONTROL NOTES

- TEMPORARY WATER CONTROL SHALL BE PERFORMED AS SPECIFIED IN THE CONTRACT DOCUMENTS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY WATER CONTROL, SURFACE WATER AND GROUNDWATER CONTROL, NECESSARY TO EXECUTE AND COMPLETE THE WORK OF THE CONTRACT SUBJECT TO THE RESTRICTIONS CONTAINED IN THE CONTRACT AND PROJECT PERMITS. CONTROLS SHOWN IN THE CONTRACT DRAWINGS AND MENTIONED IN THE TECHNICAL SPECIFICATIONS SHALL BE CONSIDERED MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL EMPLOY WHATEVER SUPPLEMENTARY MEASURES NECESSARY TO PROTECT THE SITE AND THE WORK.
- 3. ALL TEMPORARY WATER CONTROL MEASURES SHALL BE IMPLEMENTED IN CONJUNCTION WITH APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES SO AS TO MINIMIZE TO THE GREATEST EXTENT POSSIBLE RELEASE OF SEDIMENT INTO WATER BODIES AND POTENTIAL EROSION OF SOIL.
- 4. THE CONTRACTOR IS HEREBY NOTIFIED THAT STRICT ADHERENCE TO THE WATER CONTROL CONDITIONS AND LIMITATIONS AND USE OF BEST MANAGEMENT PRACTICES IS CRITICAL TO PREVENT POSSIBLE IMPACTS TO SENSITIVE ENVIRONMENTAL AREAS.
- FLOW INTO THE POND WILL BE CONTROLLED VIA. GRAVITY FLOW THROUGH THE COFFERDAM AND INTO THE EXISTING LOW-LEVEL OUTLET AND BLOW OFF TO THE BROOK DOWNSTREAM OF THE DAM.SUPPLEMENTAL PUMPING SHOULD BE PROVIDED ON A CONTINUAL BASIS DURING LOW-LEVEL OUTLET WORK, WHERE GRAVITY FLOW IS NOT POSSIBLE. PUMPING MAY ALSO BE NECESSARY DURING PERIODS OF HIGH INFLOW, WHERE GRAVITY FLOW IS NOT SUFFICIENT TO CONTROL THE RESERVOIR LEVEL.
- 6. THE CITY OF NEW LONDON PLANS TO PERFORM THE INITIAL DRAWDOWN OF BOGUE BROOK RESERVOIR TO APPROXIMATELY 191 FEET (NAVD 88
- 7. THE CONTRACTOR SHALL ESTIMATE THE DISCHARGE CAPACITY VIA GRAVITY FLOW AND/OR PUMPING REQUIRED TO MAINTAIN A WATER ELEVATION AT OR BELOW 191 DURING THE WORK, HOWEVER, A MINIMUM DISCHARGE CAPACITY OF 1000 GALLONS PER MINUTE (GPM) IS REQUIRED. THE CONTRACTOR SHALL MAINTAIN TWO INDEPENDENT SYSTEMS EACH CAPABLE OF MAINTAINING THE MINIMUM DISCHARGE AT ALL TIMES (i.e. TOTAL DISCHARGE CAPACITY OF 2,000 GPM).
- 8. EXCEPT FOR INFLOW EXCEEDING THE SPECIFIED MINIMUM 1000 GPM PUMPING RATE, RESERVOIR LEVELS SHALL BE MAINTAINED AT OR BELOW ELEVATION 191 FEET FOR THE DURATION OF THE PROJECT.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMISSION OF A CONSTRUCTION-PHASE FLOOD CONTROL / EMERGENCY RESPONSE PLAN PRIOR TO BEGINNING WORK ITEMS REQUIRING WATER CONTROL.
- 10. TEMPORARY PUMPS USED AT THE SITE MUST BE PROPERLY BAFFLED AGAINST EXCESSIVE NOISE. PUMPS OR GENERATORS WHICH USE LIQUID FUEL MUST BE PLACED WITHIN AN IMPERMEABLE SECONDARY CONTAINMENT AREA WITH SUFFICIENT CAPACITY TO CONTAIN THE FULL VOLUME OF THE FUEL
- 11. WATER PUMPED FROM THE EXCAVATIONS MUST BE PASSED THROUGH A PUMPED WATER FILTER BAG OR OTHER SUCH BEST MANAGEMENT PRACTICE (BMP) FEATURE PRIOR TO BEING DISCHARGED BACK TO A SURFACE WATER BODY. DISCHARGE WATER SHALL MEET APPROPRIATE WATER QUALITY STANDARDS.
- 12. PUMPED WATER DISCHARGE AREAS MUST BE PROPERLY PROTECTED TO PREVENT EROSION BY HIGH VELOCITY FLOW.

EROSION AND SEDIMENTATION CONTROL NOTES

- 1. TEMPORARY CONTROL OF EROSION AND SEDIMENT DISCHARGE IS REQUIRED THROUGHOUT THE DURATION OF THE PROJECT AND UNTIL FINAL STABILIZATION IS ACHIEVED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL AREAS WITHIN THE LIMITS OF WORK AND BEYOND FROM SEDIMENT AND/OR POLLUTANTS ORIGINATING FROM ANY WORK DONE ON OR IN SUPPORT OF THE PROJECT, INCLUDING SEDIMENT DUE TO EROSION FROM STORMWATER RUNOFF.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES NECESSARY TO EXECUTE AND COMPLETE THE WORK OF THE CONTRACT, IN COMPLIANCE WITH THE TERMS AND CONDITIONS CONTAINED IN THE CONTRACT, PROJECT PERMITS AND ALL STATE AND LOCAL ORDINANCES THAT APPLY. CONTROLS SHOWN ON THE CONTRACT DRAWINGS SHALL BE CONSIDERED MINIMUM REQUIREMENTS. THE CONTRACTOR SHALL EMPLOY WHATEVER SUPPLEMENTARY MEASURES ARE NECESSARY TO PROTECT WETLANDS, WATER, AND ADJACENT AREAS FROM DISTURBANCE OR DISCHARGE OF SEDIMENTS.
- 3. THE CONTRACTOR SHALL NOT DISTURB VEGETATED AREAS OUTSIDE OF THE WORK ZONE, EXCEPT TO THE MINIMUM EXTENT NECESSARY FOR ACCESS AND ACCOMPLISHMENT OF THE WORK SHOWN.
- 4. ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT MIGRATION INTO WATER BY SILT, SEDIMENT, FUELS, SOLVENTS, LUBRICANTS, CONCRETE, OR ANY OTHER POLLUTANTS ASSOCIATED WITH CONSTRUCTION PROCEDURES.
- ACTUAL LOCATION OF EROSION CONTROLS AND BEST MANAGEMENT PRACTICES (BMPS) MAY VARY DUE TO FIELD CHANGES, ONGOING CONSTRUCTION, ACCESS NEEDS, WEATHER, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING THESE CHANGES AND ADJUSTING EROSION CONTROLS AND BMP LOCATIONS ACCORDINGLY. IN PARTICULAR, THE CONTRACTOR SHALL COORDINATE THE INSTALLATION AND RELOCATION OF BMPS WITH PROJECT PHASING, AS NECESSARY.
- 6. ALL EROSION CONTROLS AND BMPS SHALL REMAIN IN PLACE, EXCEPT AS OTHERWISE NECESSARY, UNTIL CONSTRUCTION IS COMPLETED AND FINAL STABILIZATION IS ACHIEVED.
- 7. EXCAVATED MATERIALS SUSPECTED OF CONTAMINATION SHALL BE SEPARATED AND STOCKPILED ON SITE FOR EVALUATION BY THE ENGINEER.
- ADDITIONAL EROSION CONTROL BARRIERS SHALL BE INSTALLED AT THE DIRECTION OF THE ENGINEER TO MINIMIZE THE THREAT OF ADVERSE IMPACT DURING THE CONSTRUCTION PROCESS. AN ADEQUATE SUPPLY OF REPLACEMENT EROSION CONTROL BARRIERS WILL BE AVAILABLE ON-SITE FOR EMERGENCY PURPOSES.
- SEDIMENT AND EROSION CONTROLS AND BMPS SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION AT THE SITE. NO WORK WHICH MAY DISTURB THE SITE OR CREATE THE POTENTIAL FOR SEDIMENT RELEASE SHALL COMMENCE UNTIL THE SEDIMENT AND EROSION CONTROLS HAVE BEEN INSPECTED AND APPROVED BY THE OWNER AND ENGINEER. ALL CONTROLS AND BMPS SHALL BE SUBJECT TO INSPECTION BY THE OWNER AND HIS REPRESENTATIVE AT ANYTIME THEREAFTER.
- 10. PERIODIC INSPECTION, MAINTENANCE, AND CLEANING OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND BMPS ARE REQUIRED. ALL CONTROLS AND BMPS SHALL BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF RAINFALL EVENTS OF 0.5 INCHES OR GREATER. ROUTINE INSPECTION AND MAINTENANCE WILL REDUCE THE CHANCE OF POLLUTING STORMWATER BY FINDING AND CORRECTING PROBLEMS BEFORE THE NEXT RAIN EVENT. THE CONTRACTOR WILL BE REQUIRED TO KEEP A WRITTEN. UPDATED SITE MAINTENANCE LOG DOCUMENTING INSPECTION AND MAINTENANCE ACTIVITY.
- REPORTING AND RECORD KEEPING: IN ADDITION TO THE AFOREMENTIONED INSPECTION AND MAINTENANCE PROCEDURES, THE CONTRACTOR IS TO KEEP A RECORD OF THE FOLLOWING INFORMATION:
- THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR IN A PARTICULAR AREA;
- THE DATES WHEN CONSTRUCTION ACTIVITIES CEASE IN AN AREA, TEMPORARILY OR PERMANENTLY; THE DATES WHEN AN AREA IS STABILIZED, TEMPORARILY OR PERMANENTLY;
- A COPY OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL REPORTS GENERATED DURING CONSTRUCTION ACTIVITIES ARE TO BE RETAINED AS REQUIRED BY REGULATION.
- 12. SITE CLEARING: PRIOR TO ANY SITE CLEARING ACTIVITIES, SEDIMENT CONTROL BARRIERS SHALL BE INSTALLED AS INDICATED ON THE PLANS. ALONG THE OUTER LIMIT OF DISTURBANCE. DISTURBED AREAS ARE TO BE KEPT TO A MINIMUM. NO CLEARING IS ALLOWED OUTSIDE THE WORK AREA WITHOUT PRIOR APPROVAL FROM THE OWNER.
- 13. SEDIMENT AND EROSION CONTROL BARRIERS: SEDIMENT/EROSION CONTROL BARRIERS ARE INTENDED TO TRAP SEDIMENT TRANSPORTED BY RUNOFF BEFORE IT REACHES ANY DRAINAGE FEATURES, WATERBODIES, OR WETLANDS, IN ADDITION TO AREAS WHERE HIGH RUNOFF VELOCITIES OR HIGH SEDIMENT LOADS ARE EXPECTED. SAID CONTROLS ARE TO BE REPLACED AS NEEDED AS DETERMINED BY PERIODIC FIELD INSPECTIONS.
- 14. DUST CONTROL: DUST CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS.
- 15. STAGING AREA: THE CONTRACTOR MAY ESTABLISH LAYDOWN AND STAGING AREAS IN WHICH TO STORE EQUIPMENT AND MATERIALS ONLY IN THOSE AREAS SPECIFICALLY INDICATED ON THE CONTRACT DRAWINGS OR SPECIFICATIONS OR AS DIRECTED BY THE OWNER. LOCATION OR ADDITIONAL AREAS, IF NEEDED, SHALL BE COORDINATED WITH AND SHALL BE SUBJECT TO APPROVAL BY THE OWNER. STAGING AREAS SHALL BE ENCIRCLED WITH SEDIMENT/EROSION CONTROL BARRIERS AS APPROPRIATE. STAGING AREAS SHALL BE ENCIRCLED BY ORANGE PLASTIC TEMPORARY CONSTRUCTION FENCING OR OTHER MEANS OF DELINEATING THE AREAS. AT THE CONTRACTOR'S OPTION. ADDITIONAL OR MORE STURDY BARRIERS
- 16. STOCKPILED MATERIALS: STOCKPILES OF SOIL IN AREAS CREATED DURING CONSTRUCTION ACTIVITIES ARE TO BE SURROUNDED WITH SEDIMENT/EROSION CONTROL WHERE POSSIBLE. OTHER ALTERNATIVES UTILIZED MAY INCLUDE GRAVEL FILTER BERMS OR SIMILAR MEASURES LAID AROUND THE PERIMETER OR THE STOCKPILE.
- 17. TEMPORARY STABILIZATION: WHEN NECESSARY, TEMPORARY SLOPE PROTECTION SHALL BE PROVIDED BY INSTALLING SEDIMENT/EROSION CONTROL BARRIERS AT THE TOE OF FILLS OR CUT SLOPES. IF ADDITIONAL STABILIZATION IS NEEDED, THEN THE CONTRACTOR SHALL INSTALL MATTING, SUCH AS HAY, JUTE, WOOD FIBER, OR BIO OR PHOTO-DEGRADABLE MESH. IN THE EVENT THAT DISTURBED AREAS AT THE SITE ARE TO BE LEFT UN-WORKED FOR MORE THAN TWO WEEKS, THE AREAS SHALL BE MULCHED WITH STRAW AT A RATE OF 100 LBS. PER 1,000 S.F. TO HELP CONTROL EROSION. TWO INCHES OF WOOD CHIP MULCH MAY ALSO BE USED AS TEMPORARY COVER. IN THE EVENT THAT DISTURBED AREAS AT THE SITE ARE TO BE LEFT UN-WORKED FOR MORE THAN ONE MONTH, THE AREAS SHALL BE TOPSOILED AND SEEDED AT NO ADDITIONAL COST TO THE OWNER. LEAVE THE SURFACE OF ALL EXCAVATIONS AND FILLS IN A FIRM AND STABLE CONDITION AT THE END OF EACH DAY. ROLL OR OTHERWISE TREAT THE SURFACE AS NEEDED.

EROSION AND SEDIMENTATION CONTROL NOTES (CONTINUED)

- 18. SITE-RESTORATION: STABILIZATION OF THE WOODED AREAS TO BE CLEARED AND OTHER AREAS DISTURBED AS A RESULT OF CONSTRUCTION SHALL BE IMPLEMENTED WITHIN 14 DAYS AFTER GRADING OR CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. APPROPRIATE VEGETATIVE SOIL STABILIZATION IS TO BE USED TO MINIMIZE EROSION. TEMPORARY AND PERMANENT VEGETATIVE COVER IS TO BE ESTABLISHED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, USING HYDRO-SEEDING, BROADCASTING, OR OTHER APPROVED TECHNIQUES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF PREVIOUSLY VEGETATED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES. UNLESS OTHERWISE SHOWN ON DRAWINGS, RESTORATION SHALL CONSIST OF REPLACEMENT OF TOPSOIL OR PLACEMENT OF IMPORTED LOAM AS NEEDED SUCH THAT A MINIMUM OF 6 INCHES OF SUITABLE MATERIAL IS PRESENT AND APPROPRIATELY LIMED, FERTILIZED, GRADED, AND SCARIFIED.
- 19. RESTORED ARES SHALL BE ROLLED AND THEN APPROPRIATELY MULCHED OR COVERED IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.
- 20. FINAL STABILIZATION SHALL BE CONSIDERED COMPLETE WHEN ALL SOIL-DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY PERCENT HAS BEEN ESTABLISHED OR EQUIVALENT STABILIZATION MEASURES (SUCH AS THE USE OF MULCHES OR EROSION CONTROL MATTING) HAVE BEEN EMPLOYED ON ALL UNPAVED AREAS WITHIN THE CONSTRUCTION LIMITS AND AREAS NOT COVERED BY PERMANENT STRUCTURES.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF SURFACES LOAMED AND SEEDED UNDER THIS CONTRACT, INCLUDING WATERING, FERTILIZING, AND RE-SEEDING UNTIL ESTABLISHMENT CONDITIONS ARE MET AND UNTIL THE END OF THE CONTRACTUAL MAINTENANCE PERIOD.
- 22. ALL SLOPES WITHIN THE PROJECT LIMITS WILL BE STABILIZED WITHIN 2 WEEKS OF THE FINAL GRADING. AREAS FAILING TO BE STABILIZED SHALL BE RE-GRADED AND CONTINUED TO BE STABILIZED AS NEEDED.

GENERAL SCOPE AND ANTICIPATED CONSTRUCTION SEQUENCE:

THE GENERAL SCOPE OF WORK INCLUDES THE EXECUTION OF THE REPAIRS TO THE DAM AND APPURTENANCES AS PRESENTED ON THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND AS SHOWN ON THE FINAL CONDITIONS PLAN. THE INTENT OF THE ANTICIPATED CONSTRUCTION SEQUENCE IS TO PROVIDE GUIDANCE TO THE CONTRACTOR TOWARDS MEETING THE TERMS AND CONDITIONS OF ENVIRONMENTAL PROTECTION PERMITS AND BEST MANAGEMENT PRACTICES. CERTAIN ASPECTS OF THE ANTICIPATED CONSTRUCTION SEQUENCE MAY BE ALTERED BY THE CONTRACTOR WITH APPROVAL FROM THE OWNER, EXCEPT AS REQUIRED BY PERMIT CONDITIONS AND SPECIFIC INSTRUCTIONS CONTAINED IN THE SPECIFICATIONS. THE FOLLOWING LIST IS NOT COMPREHENSIVE AND DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR EXECUTING ALL REQUIRED WORK AS PER THE CONTRACT PLANS AND SPECIFICATIONS.

- MOBILIZE TO THE SITE AND DEPLOY TEMPORARY SEDIMENT AND EROSION CONTROLS ASSOCIATED WITH THE PROJECT, INCLUDING PERIMETER EROSION AND SEDIMENT CONTROL BARRIERS, AND OTHER BMPS.
- NOTIFY OWNER, ENGINEER, AND REPRESENTATIVES FROM THE VARIOUS ENVIRONMENTAL AGENCIES HAVING JURISDICTION, SCHEDULE AND CONDUCT SITE WALK TO INSPECT SEDIMENT AND EROSION CONTROL MEASURES. MODIFY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED. WORK MAY PROCEED ONCE APPROVAL HAS BEEN GRANTED FROM SAID ENTITIES.
- 3. CONTRACTOR SHALL REMOVE STUMPS, CLEAR TREES (IF ANY REMAIN WITHIN WORK LIMITS), SHRUBS, BRUSH, AND RELATED VEGETATIVE GROWTH WITHIN THE LIMITS ESTABLISHED ON THE DRAWINGS TO ALLOW FREE AND EASY ACCESS TO THE WORK ZONES.
- 4. INSTALL APPROVED TEMPORARY COFFERDAMS TO ALLOW REQUIRED WORK TO BE CONDUCTED IN THE DRY. MAINTAIN RESERVOIR DRAW DOWN VIA. PUMPING AND GRAVITY FLOW THROUGH THE LOW-LEVEL OUTLET.
- EXCAVATE SEDIMENT UPSTREAM OF DAM TO GRADES SHOWN ON CONTRACT DOCUMENTS. INSTALL SHEET PILE CUTOFF WALL.
- CHIP AND REMOVE DETERIORATED/LOOSE CONCRETE. INSTALL NEW REINFORCED CONCRETE FACING AND CREST.
- 7. INSTALL NEW REINFORCED CONCRETE APRON BETWEEN NEW SHEET PILE AND DAM TO COMPLETE CUTOFF. BACKFILL SEDIMENT TO EXISTING
- REMOVE EXISTING 16 INCH CAST IRON LOW-LEVEL OUTLET PIPE AND INSTALL NEW 24 INCH DIAMETER PIPE. INSTALL NEW DOWNSTREAM BLOW OFF AND CONNECT NEW LOW-LEVEL OUTLET TO 12 INCH CONDUIT TO BECKWITH RESERVOIR. INSTALL UPSTREAM CAST IRON SLIDE GATE, OPERATORS, AND TRASH RACK.
- 9. REMOVE/ ABANDON BLOW OFF PIPE AT SPILLWAY.
- 10. NOTE, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING INSTRUMENTATION (PIEZOMETERS) UPSTREAM AND DOWNSTREAM OF THE DAM. RESTORE PEIZOMETER CABLES AND ENCLOSURES AFTER COMPLETION OF WORK. CABLES SHALL BE ACCESSIBLE DURING THE WORK FOR READINGS BY THE ENGINEER AND CONTRACTOR. PRESSURES SHOULD BE RECORDED DURING THE WORK.
- 11. CONSTRUCT NEW CONCRETE TRAINING WALLS AT THE RIGHT AND LEFT ENDS OF THE CONCRETE DAM. STRIP AND STOCKPILE TOPSOIL AND REGRADE EMBANKMENTS.
- 12. EXCAVATE DOWNSTREAM SOILS BETWEEN BUTTRESSES (CELLS). CHIP AND REMOVE LOOSE/DETERIORATED CONCRETE AND SHOTCRETE. INSTALL WATERSTOPS AND BACKFILL CELLS WITH LIGHT WEIGHT FOAMED CELLULAR CONCRETE.
- 13. INSTALL DOWNSTREAM TOE DRAIN AND PLACE BACKFILL TO EXISTING GRADES.
- INSTALL REINFORCED CONCRETE APRON AND ARTICULATED CONCRETE BLOCK OVERTOPPING PROTECTION.
- 15. CONSTRUCT REINFORCED CONCRETE STILLING BASIN DOWNSTREAM OF SPILLWAY.
- 16. INSTALL NEW RAILINGS, BRIDGE OVER SPILLWAY AND CANTILEVERED OUTLET OPERATOR PLATFORM AT TOP OF DAM.
- 17. LOAM AND SEED ALL DISTURBED AREAS OR LOCATIONS WHERE GRASS COVER IS SPECIFIED.
- 18. NOTIFY OWNER, ENGINEER, AND ENVIRONMENTAL PERSONNEL HAVING JURISDICTION OF FINAL STABILIZATION. SCHEDULE AND CONDUCT SITE INSPECTION.
- 19. UPON APPROVAL REMOVE ALL PERIMETER SEDIMENT AND SITE ACCESS CONTROLS.
- 20. COMPLETE DEMOBILIZATION.

2	ISSUED FOR BIDDING	CBN	6/22/18
1	RE-ISSUED FOR PERMITS	CBN	2/12/18
NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZ GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA' CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED O THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOUSE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. AN IRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTE EXPRESS CONSENT OF GZA. WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZ/

> BOGUE BROOK RESERVOIR DAM REHABILITATION PROJECT MONTVILLE, CONNECTICUT

GENERAL NOTES AND CONSTRUCTION SEQUENCE



GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com JDA REVIEWED BY: JDA CHECKED BY: PHB SHEET PROJ MGR:

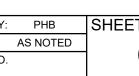
5/22/2017

ROJECT NO.

01.0172560.0

THE CITY OF NEW LONDON

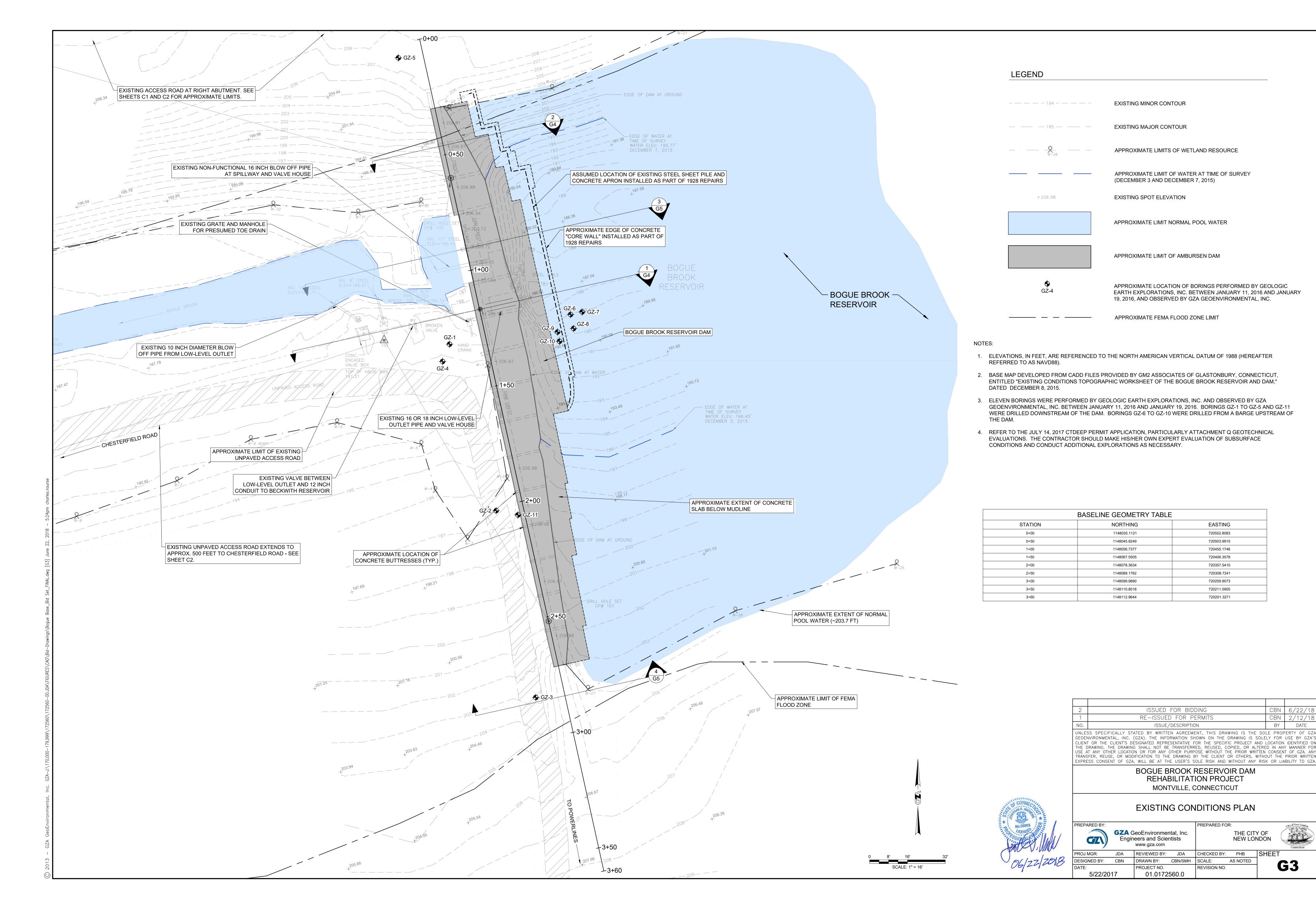
REVISION NO.

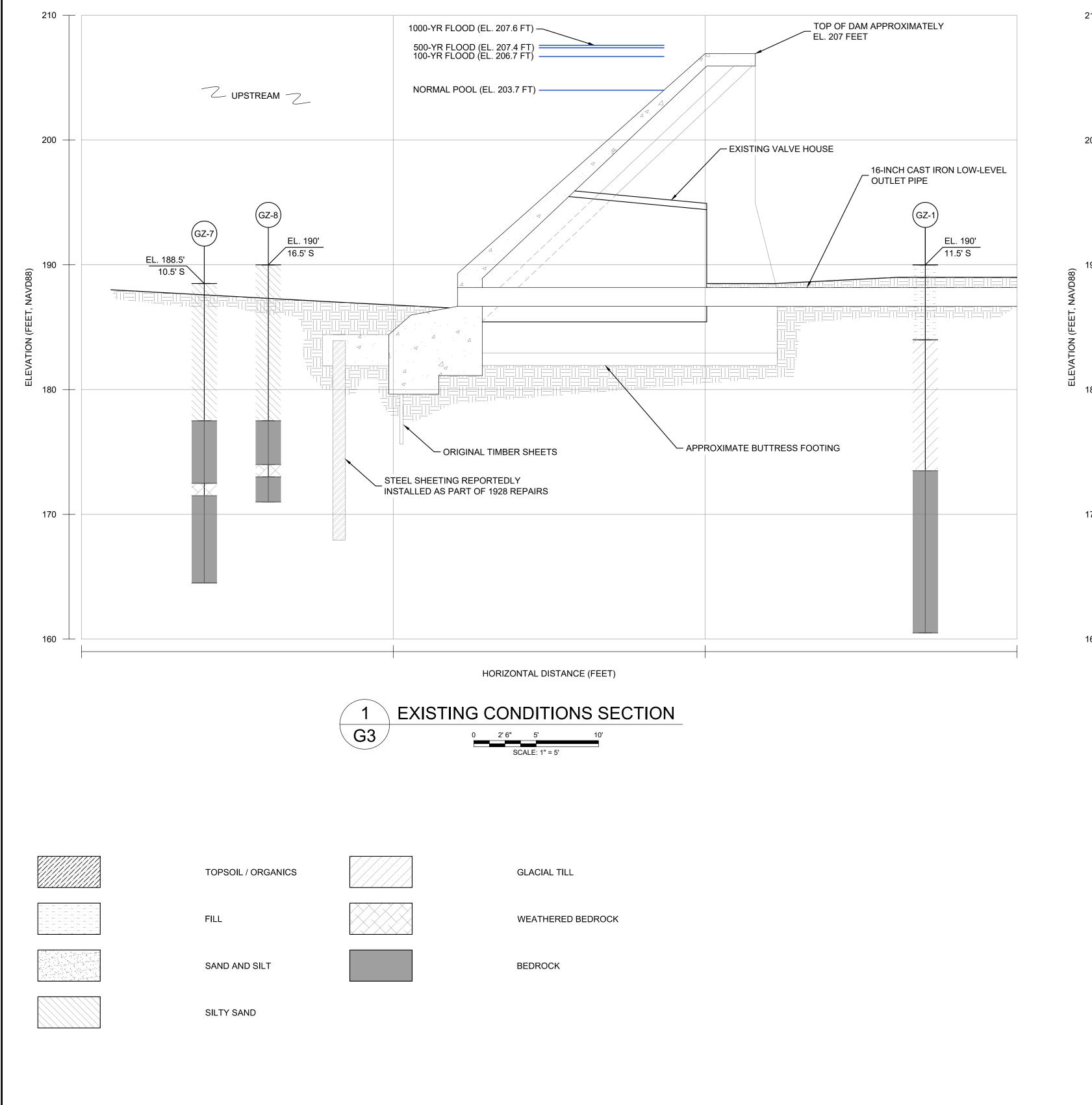


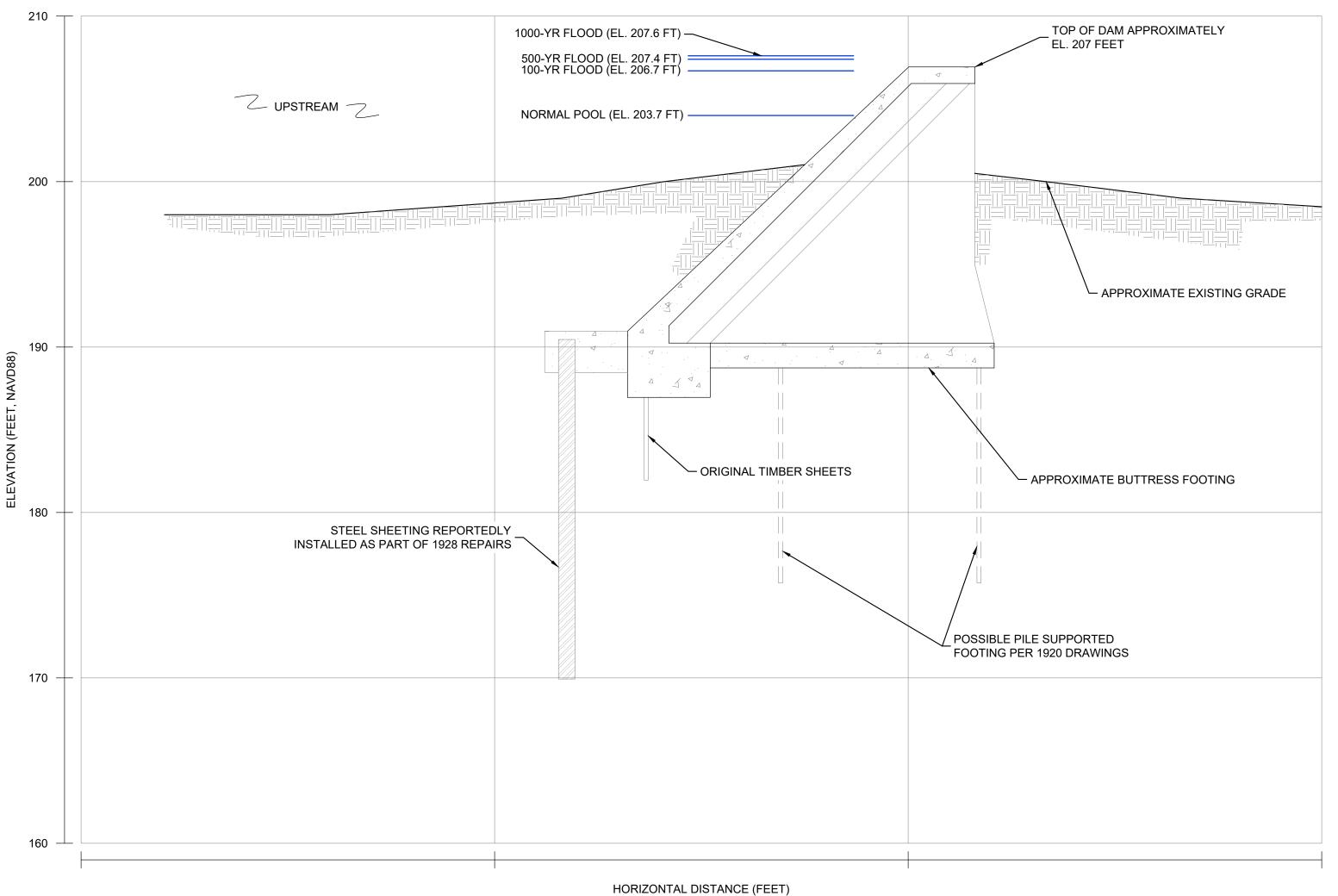




TOPOGRAPHIC WORKSHEET OF THE BOGUE BROOK RESERVOIR AND DAM," DATED DECEMBER 8, 2015.







2 EXISTING CONDITIONS SECTION

O 2'6" 5' 10'

SCALE: 1" = 5'

2 ISSUED FOR BIDDING CBN 6/22/18
1 RE-ISSUED FOR PERMITS CBN 2/12/18
NO. ISSUE/DESCRIPTION BY DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

BOGUE BROOK RESERVOIR DAM REHABILITATION PROJECT MONTVILLE, CONNECTICUT

EXISTING CONDITIONS SECTIONS (1 OF 2)



*	
155	PREPARED BY:
	GZN
/	PROJ MGR:
-17818	DESIGNED BY:

5/22/2017

			`	,
REPARED BY:		PREPARED FOR:		City 6
	GZA GeoEnvironmental, Inc.		THE CITY OF	3

Z	Engin	eers and Scier www.gza.com	ntists		NEW LON	NDON
₹:	JDA	REVIEWED BY:	JDA	CHECKED BY:	PHB	SHEE
D BY:	CBN	DRAWN BY:	CBN/SMH	SCALE:	AS NOTED	
		PROJECT NO.		REVISION NO.		

01.0172560.0

۷.	GEOENVIRONMENTAL, INC. AND SHOULD BE CONSIDERED APPROXIMATE OF ACTUAL SITE FEATURES AND LOCATIONS.
3.	REFER TO SHEET G3, NOTE 3.

REPAIRS ON BOGUE BROOK DAM ", DATED FEBRUARY, 1928.

1. EXISTING FEATURES SHOWN IN ELEVATION AND SECTION VIEWS DEVELOPED FROM HISTORIC PLANS FOR BOGUE

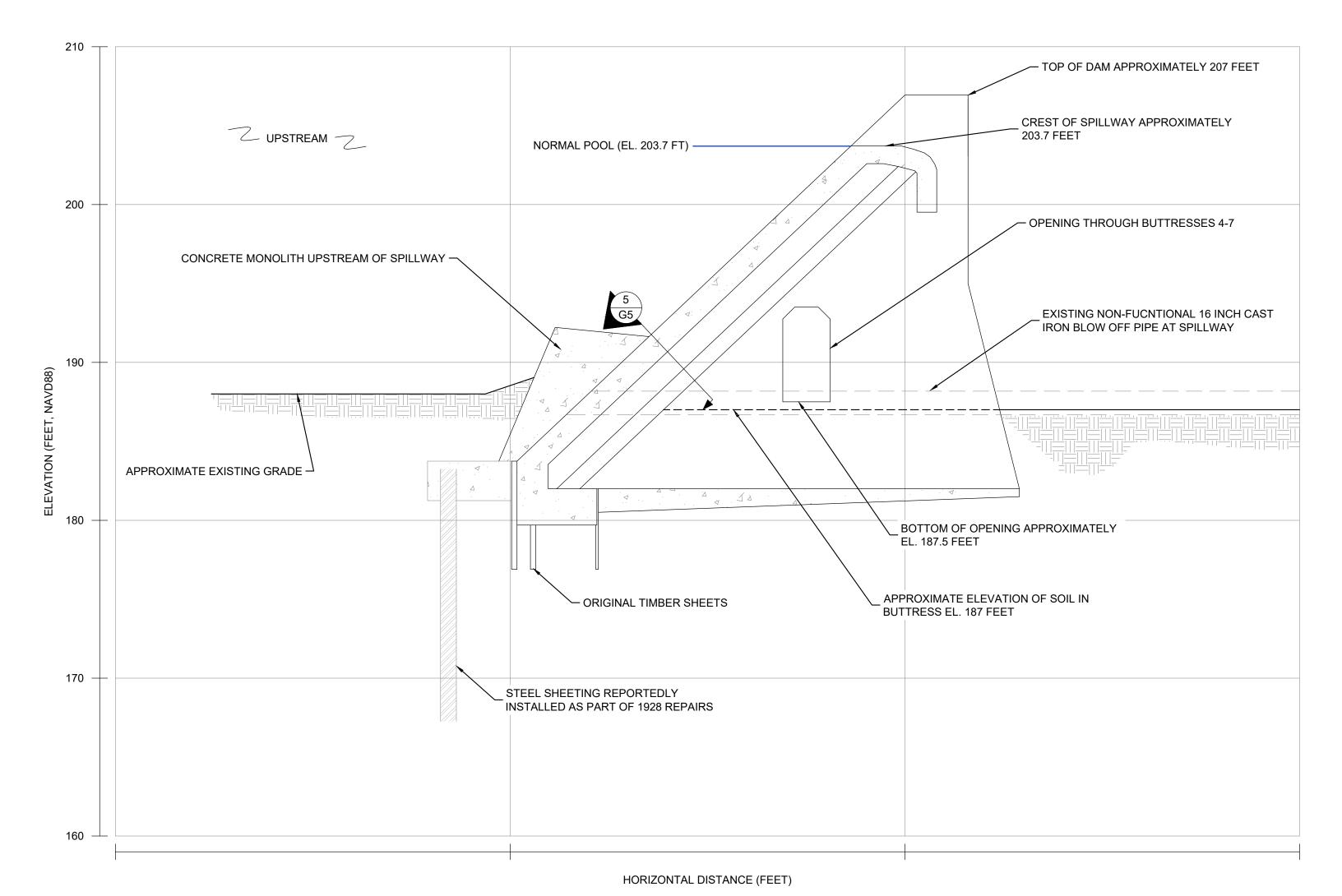
BOGUE BROOK DAM CONSTRUCTED AT MONTVILLE, CONNECTICUT IN 1920", BY W.H. RICHARDS; AND "PLAN OF

PRESENCE AND LOCATION OF BELOW GRADE FEATURES HAVE NOT BEEN INDEPENDENTLY VERIFIED BY GZA

BROOK RESERVOIR DAM. PLAN SET USED IN DEVELOPMENT OF THESE DRAWINGS INCLUDE PLANS ENTITLED "PLAN SHOWING REPAIRS ON BOGUE BROOK DAM", DATED OCTOBER 1921, BY GEO.E.WATTERS; "PLAN AND DETAILS OF

4 EXISTING CONDITIONS EMBANKMENT SECTION G3 2'6" 5' 10'

HORIZONTAL DISTANCE (FEET)

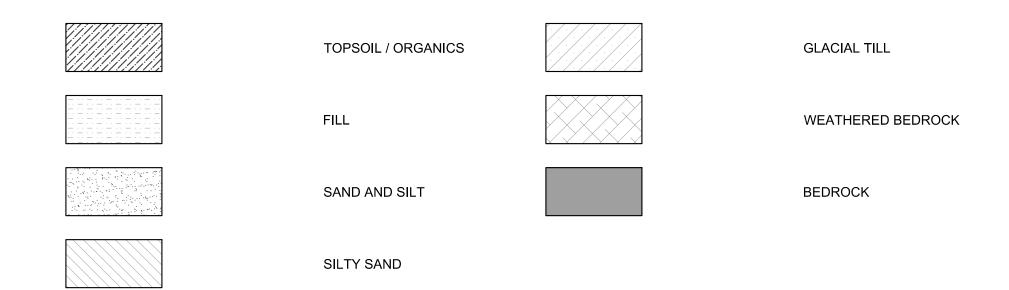


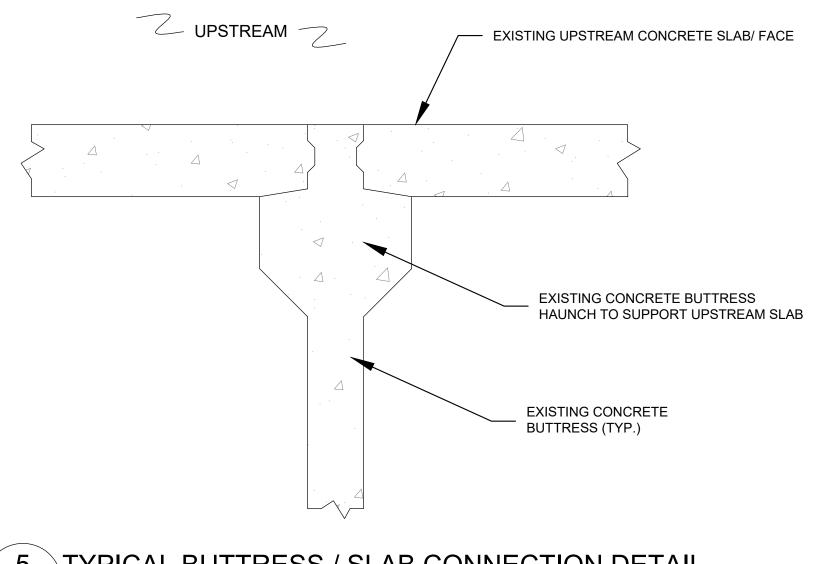
3 EXISTING CONDITIONS SECTION

O 2' 6" 5' 10'

SCALE: 1" = 5'

LEGEND





5 TYPICAL BUTTRESS / SLAB CONNECTION DETAIL

NOT TO SCALE

NOTE: REFER TO SHEET G4, NOTES 1 AND 2.

2	ISSUED FOR BIDDING	CBN	6/22/18
1	RE-ISSUED FOR PERMITS	CBN	2/12/18
NO.	ISSUE/DESCRIPTION	BY	DATE
GEOE	SS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SO NVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLE I OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND	ELY FOR	USE BY GZA'S

GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

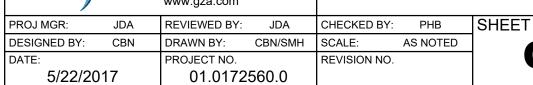
BOGUE BROOK RESERVOIR DAM REHABILITATION PROJECT MONTVILLE, CONNECTICUT

EXISTING CONDITIONS SECTIONS (2 OF 2)

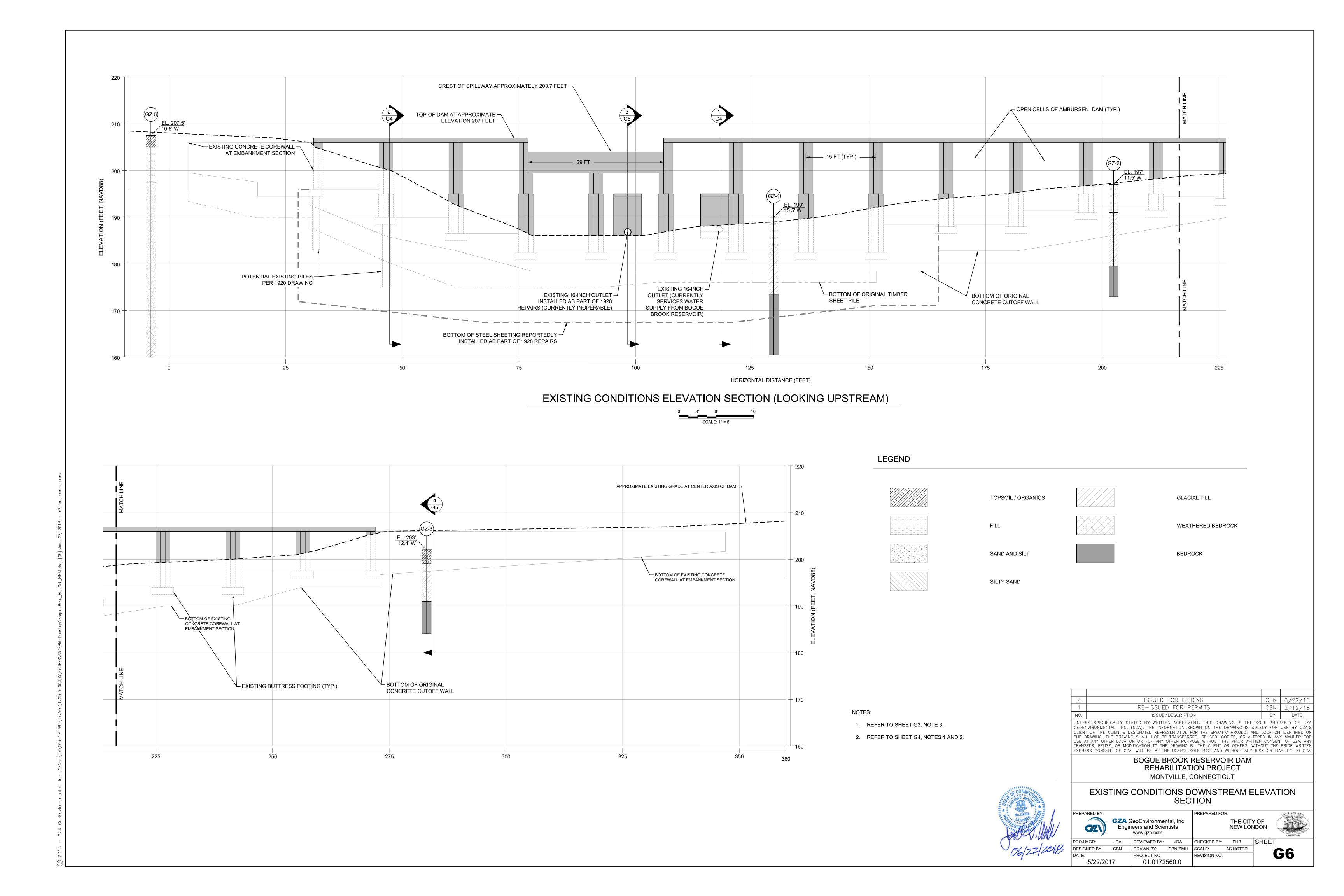


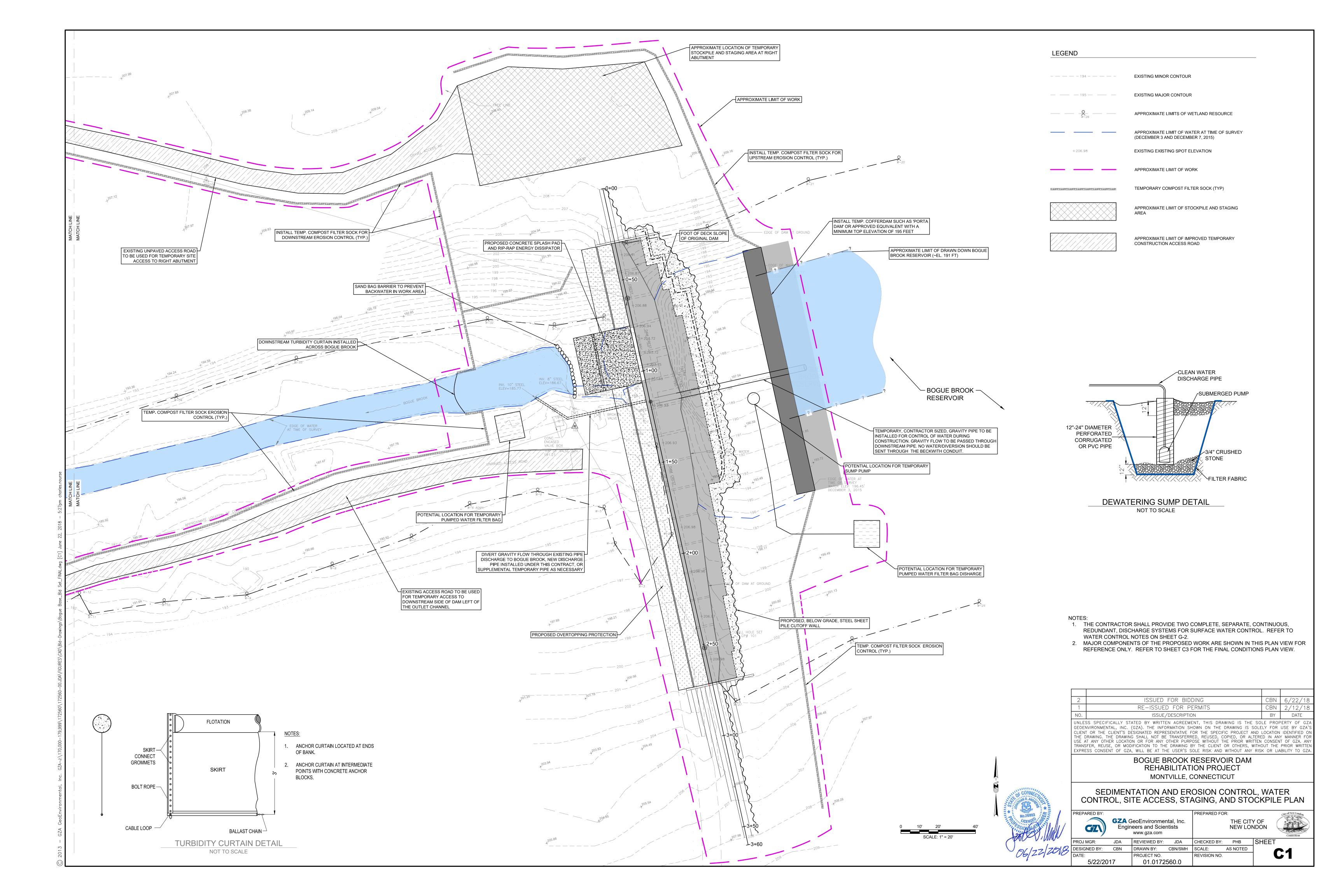
PREPARED BY:				PRE
GZ		GeoEnvironment eers and Scient www.gza.com		
PROJ MGR:	JDA	REVIEWED BY:	JDA	CHE

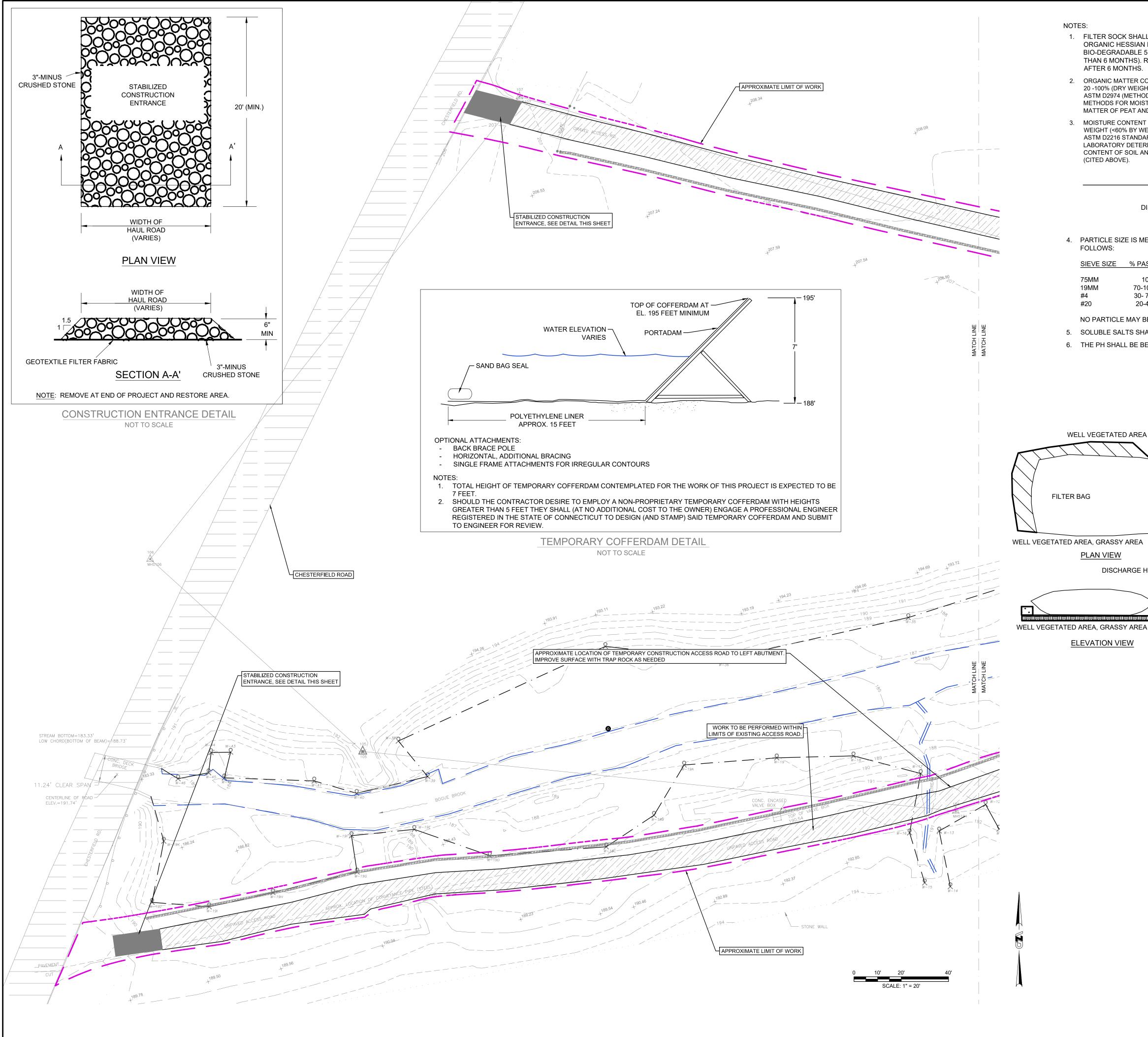
EPARED FOR: THE CITY OF NEW LONDON



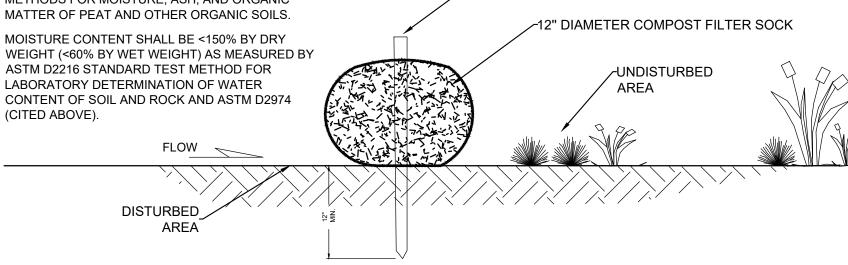
G5







- 1. FILTER SOCK SHALL BE MADE OF 100% ORGANIC HESSIAN FABRIC (BURLAP) OR BIO-DEGRADABLE 5 MIL HDPE (NO LONGER THAN 6 MONTHS). REPLACEMENT NEEDED AFTER 6 MONTHS.
- 2. ORGANIC MATTER CONTENT SHALL BE BETWEEN 20 -100% (DRY WEIGHT BASIS) AS DETERMINED BY ASTM D2974 (METHOD A) STANDARD TEST METHODS FOR MOISTURE, ASH, AND ORGANIC
- 3. MOISTURE CONTENT SHALL BE <150% BY DRY WEIGHT (<60% BY WET WEIGHT) AS MEASURED BY ASTM D2216 STANDARD TEST METHOD FOR LABORATORY DETERMINATION OF WATER CONTENT OF SOIL AND ROCK AND ASTM D2974 (CITED ABOVE).



4. PARTICLE SIZE IS MEASURED BY SIEVING SHALL BE AS

SIEVE SIZE % PASSING

75MM	100%
19MM	70-100%
#4	30- 75%
#20	20-40%

- NO PARTICLE MAY BE LONGER THAN 150MM
- 5. SOLUBLE SALTS SHALL BE <5.0 MMHOS/CM (DS/M).

— DISCHARGE HOSE

└─ INTAKE HOSE

6. THE PH SHALL BE BETWEEN 5.5 AND 8.0.

DISCHARGE HOSE

7. FILTER SOCKS MUST BE PLACED PARALLEL TO CONTOUR WITH BOTH ENDS OF THE SOCK EXTENDED UPSLOPE AT A 45 DEGREE ANGLE TO THE REST OF THE SOCK TO PREVENT END-AROUNDS.

∠2" X 2" WOOD STAKE @ 10 FT O.C.

- 8. THE CONTRACTOR SHALL MAINTAIN THE FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES, INCLUDING INSPECTIONS AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- 9. FOR REMOVAL, THE CONTRACTOR SHALL RAKE OUT SO THAT FILTER MATERIAL IS NO GREATER THAN 3" IN DEPTH ON SOIL

COMPOST FILTER SOCK DETAIL NOT TO SCALE

PUMPED WATER FILTER BAG NOTES:

- 1. CONTRACTOR SHALL LOCATE FILTER BAG TO COMPLY WITH REQUIREMENTS BELOW. LOCATION IS SUBJECT TO APPROVAL BY THE ENGINEER.
- 2. FILTER BAGS SHALL BE USED TO FILTER WATER PUMPED FROM DISTURBED AREAS PRIOR TO DISCHARGING.
- 3. FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. CONTRACTOR SHALL PROVIDE A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY (FOR DISPOSAL PURPOSES).
- 4. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME ½ FULL.
- 5. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.
- 6. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%.
- 7. THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED.
- 8. THE PUMPING RATE SHALL BE NO GREATER THAN 100 GPM OR ½ THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHOULD BE FLOATING AND SCREENED.
- 9. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

PUMPED WATER FILTER BAG DETAIL NOT TO SCALE

2	ISSUED FOR BIDDING	CBN	6/22/18	
1	RE-ISSUED FOR PERMITS	CBN	2/12/18	
10.	ISSUE/DESCRIPTION	BY	DATE	
NLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA				

GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED OF THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA

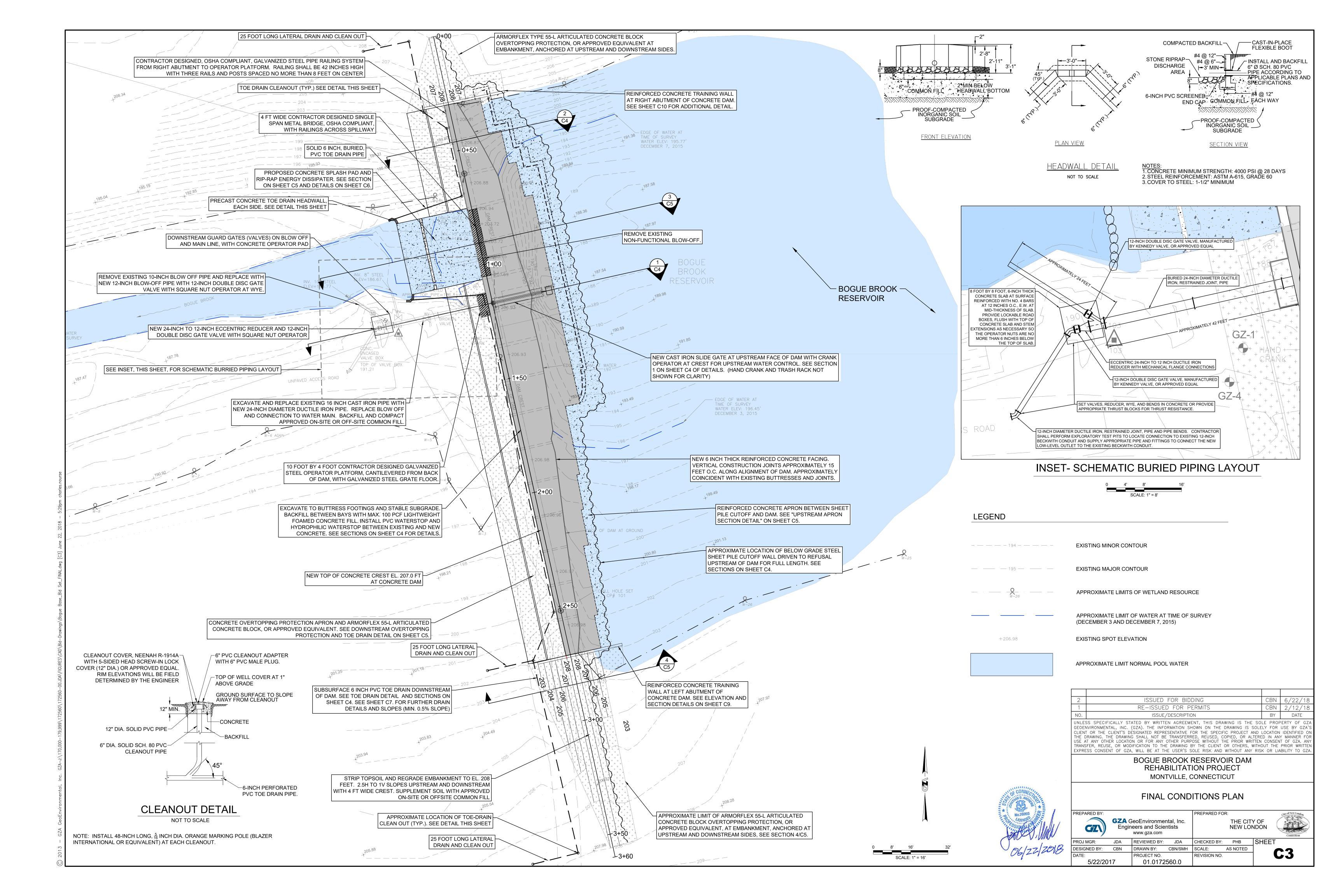
> BOGUE BROOK RESERVOIR DAM REHABILITATION PROJECT MONTVILLE, CONNECTICUT

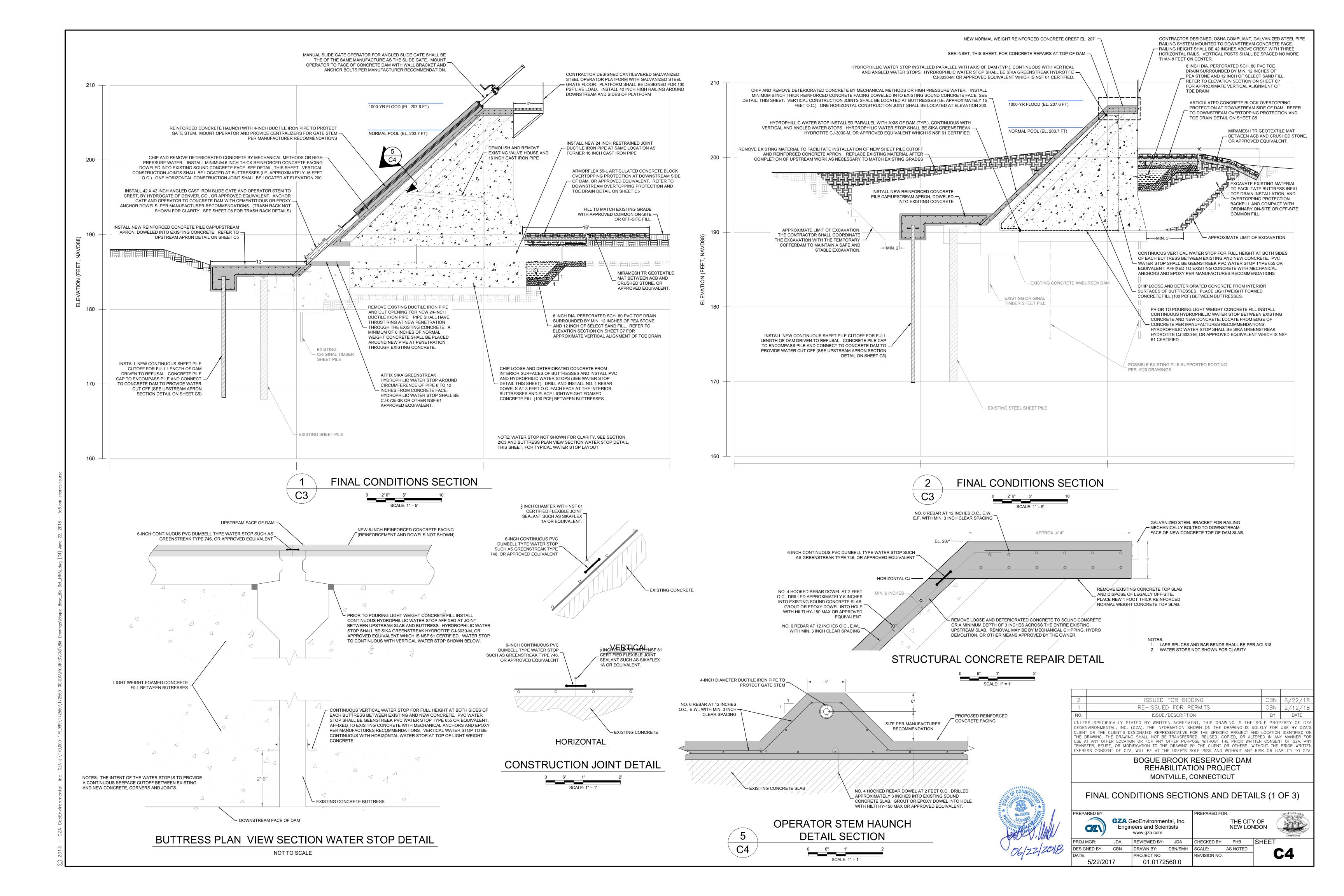
DOWNSTREAM SEDIMENTATION AND EROSION CONTROL, WATER CONTROL, SITE ACCESS PLAN

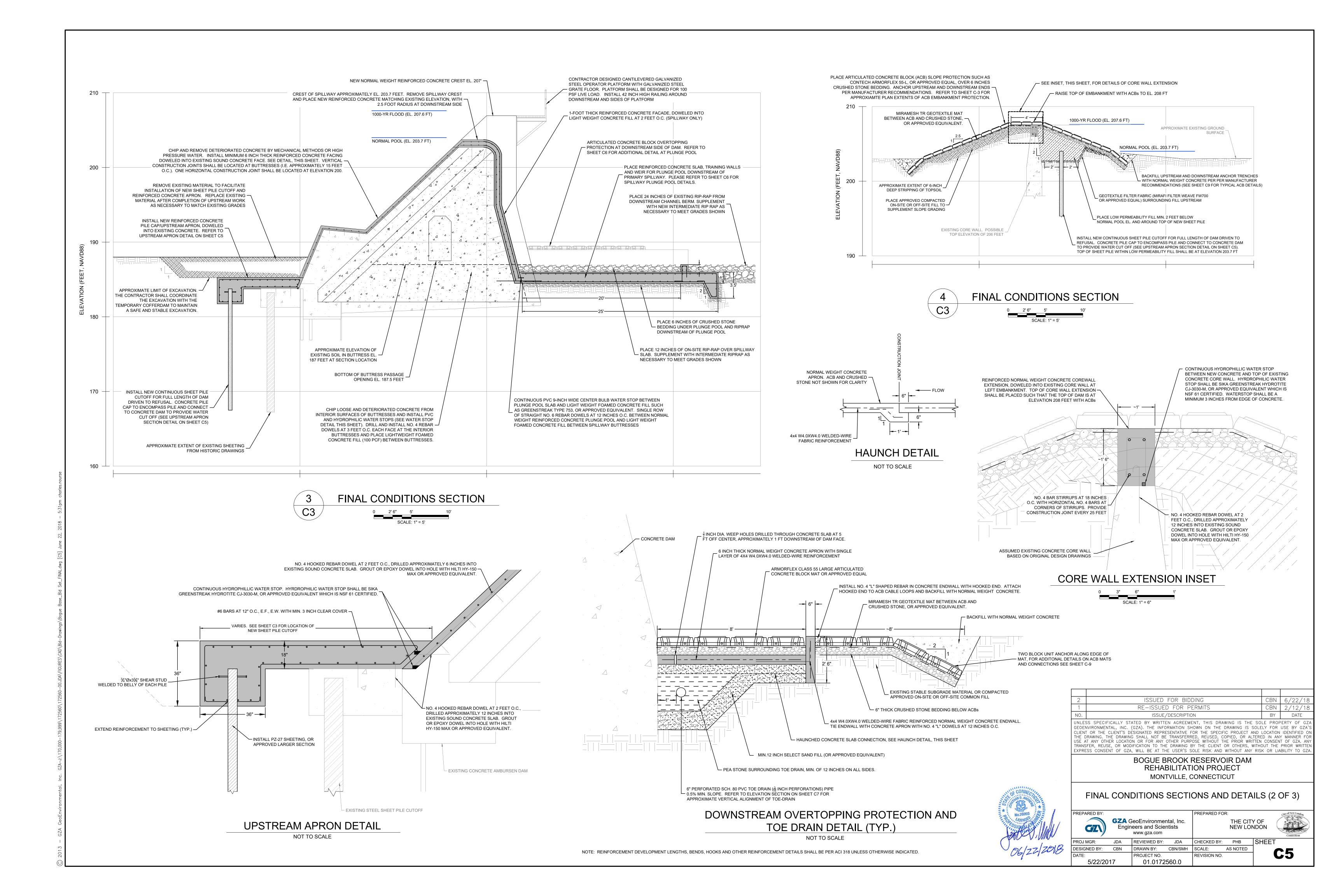


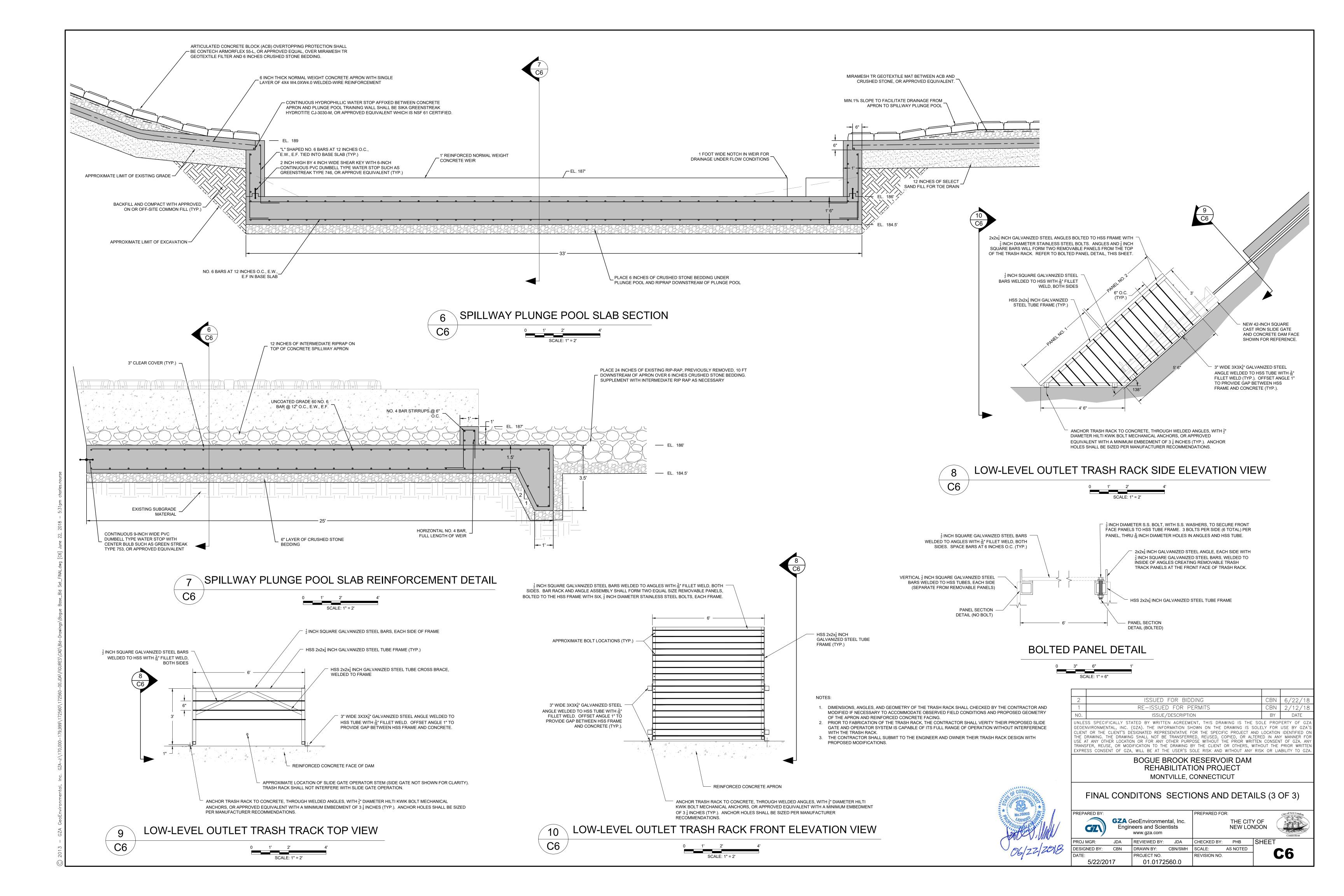


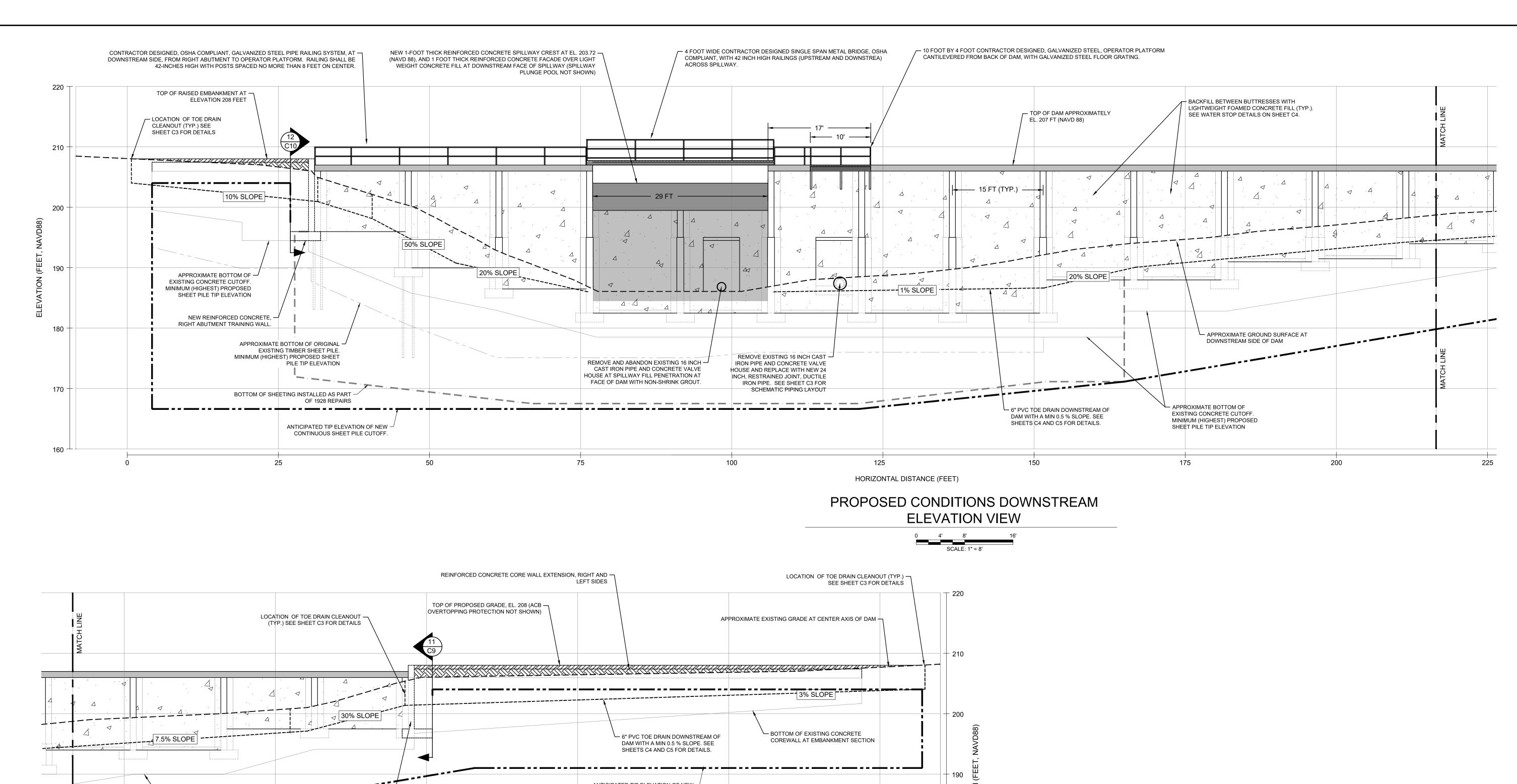
JDA REVIEWED BY: JDA CHECKED BY: PHB SHEET DESIGNED BY: CBN DRAWN BY: CBN/SMH SCALE: AS NOTED 5/22/2017 01.0172560.0

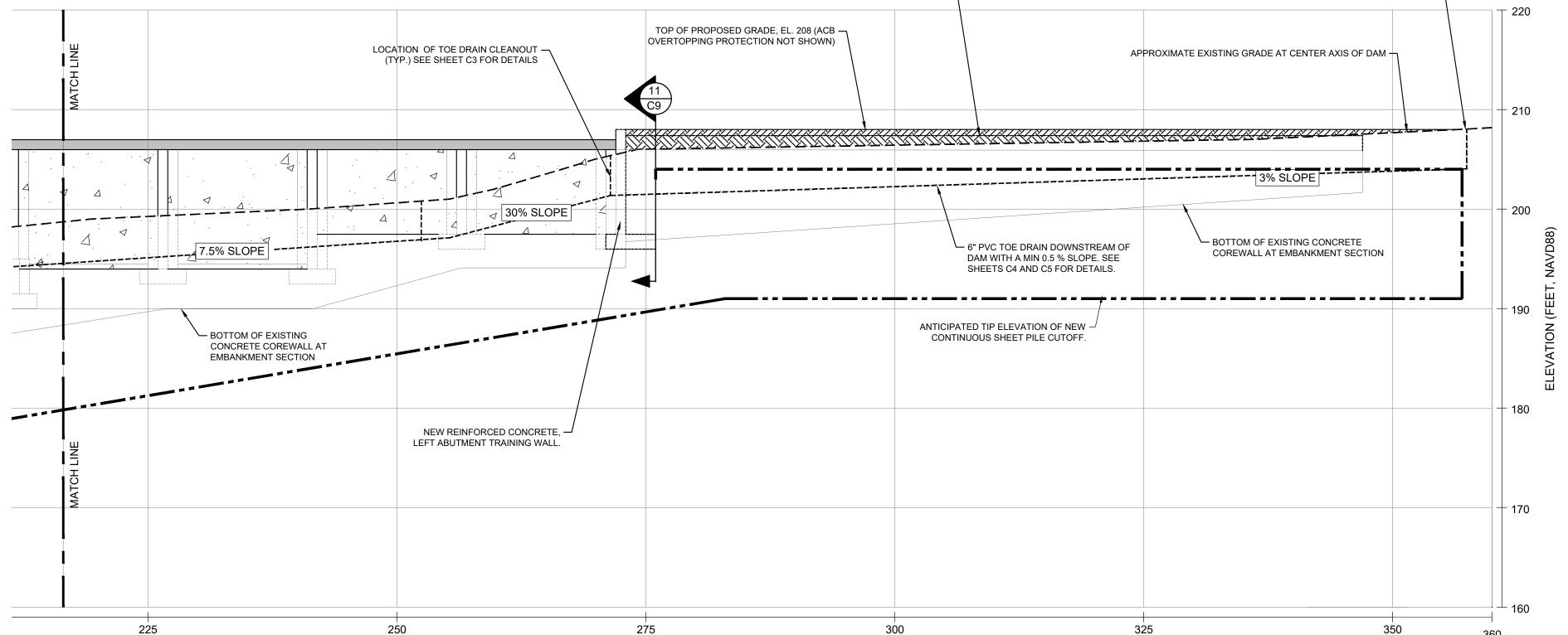












				IS DOWNSTREA CONTINUED)	M	
0 4' 8' 16' SCALE: 1" = 8'						



2	ISSUED FOR BIDDING	CBN	6/22/18
1	RE-ISSUED FOR PERMITS	CBN	2/12/18
NO.	ISSUE/DESCRIPTION	BY	DATE
UNLE	SS SPECIFICALLY STATED BY WRITTEN AGREEMENT. THIS DRAWING IS THE SOI	IF PROF	PERTY OF GZA

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZAGEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED O THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

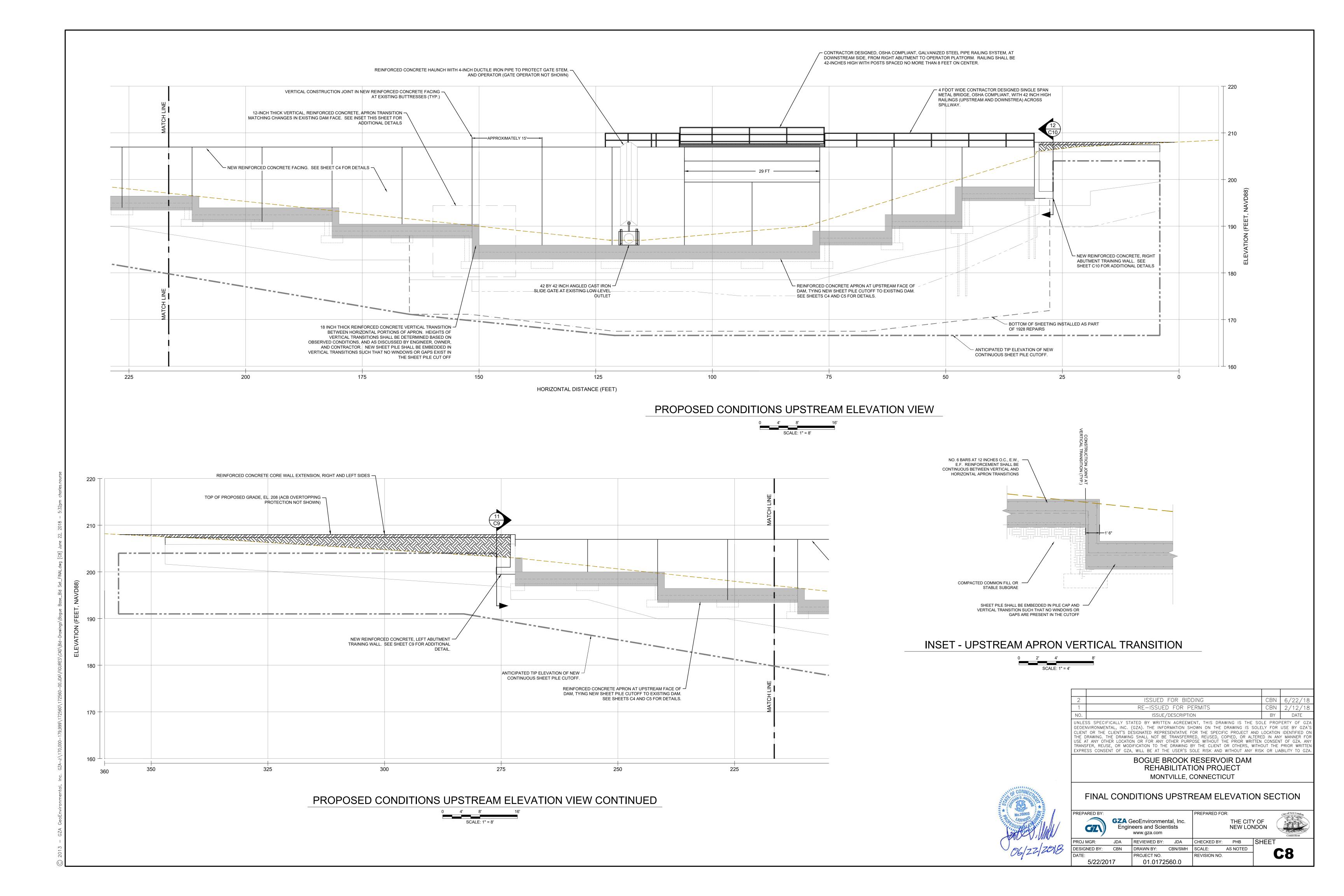
BOGUE BROOK RESERVOIR DAM REHABILITATION PROJECT MONTVILLE, CONNECTICUT

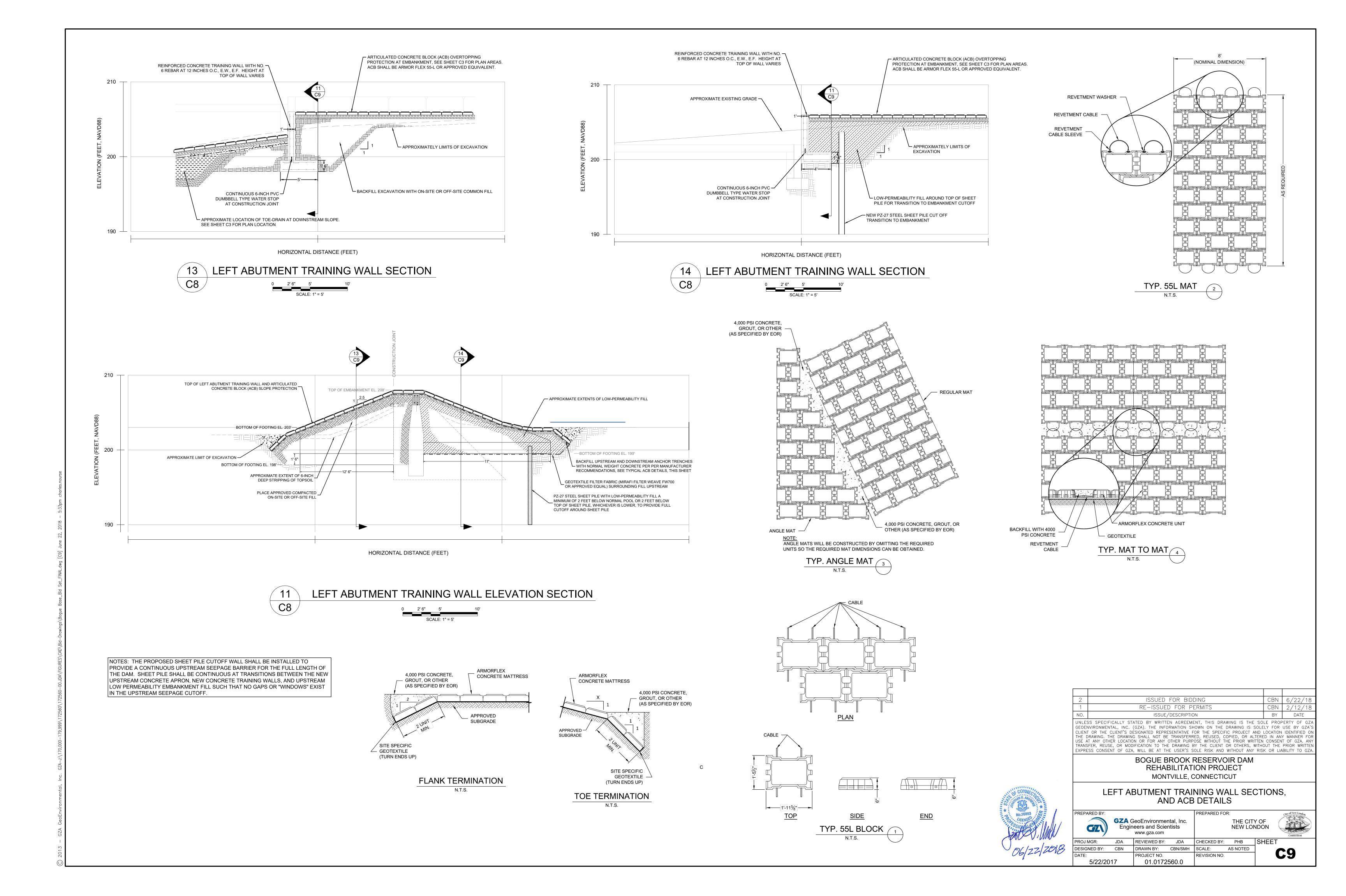
FINAL CONDITIONS DOWNSTREAM ELEVATION SECTION

	PREPARED BY:				PREF
	GZN	GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			
	PROJ MGR:	JDA	REVIEWED BY:	JDA	CHEC
	DESIGNED BY:	CBN	DRAWN BY:	CBN/SMH	SCAL

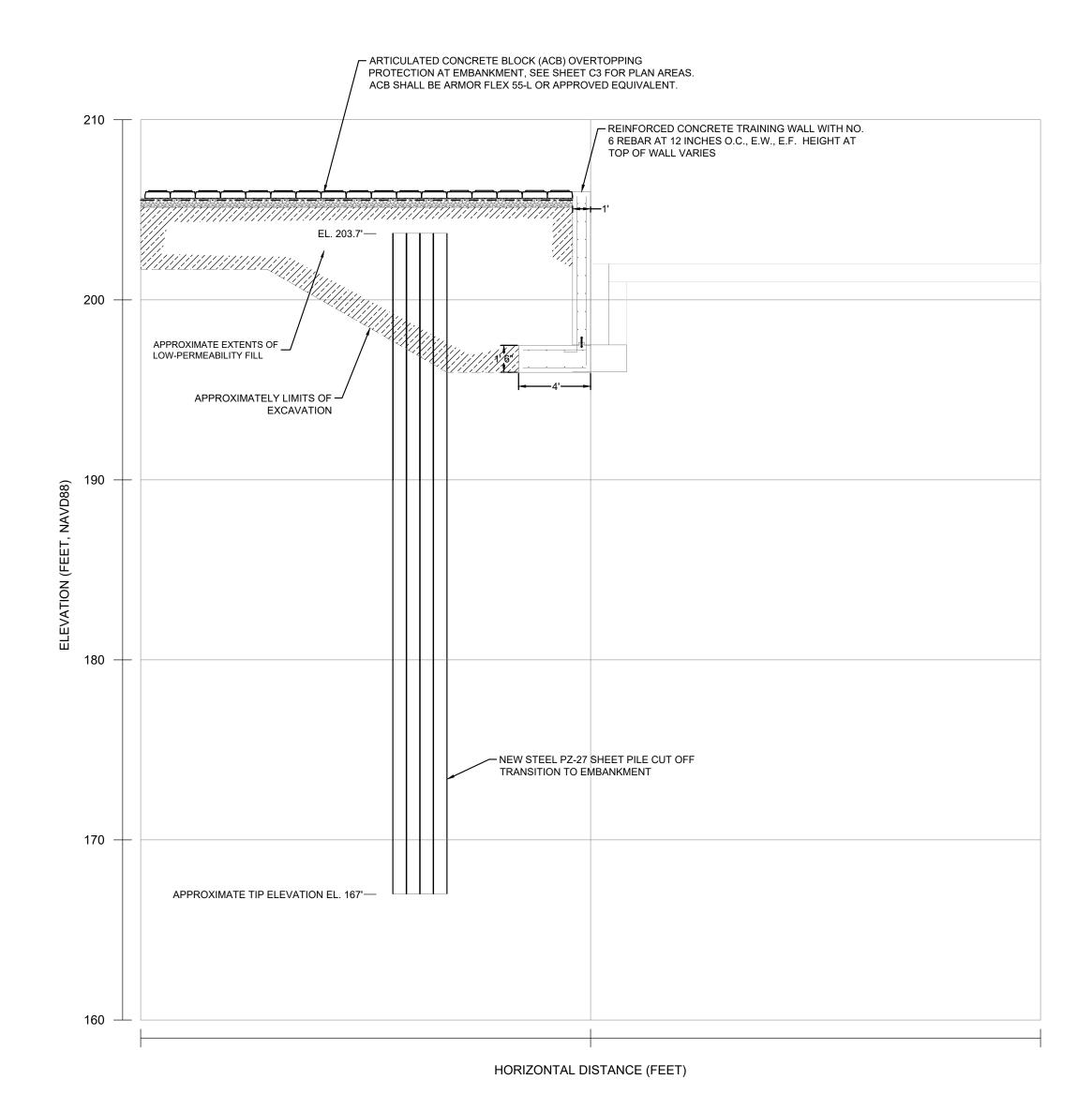
REPARED FOR: THE CITY OF NEW LONDON		
= 0 0.	REPARED FOR:	
		 . •

CKED BY: PHB SHEET ALE: AS NOTED PROJECT NO. REVISION NO. 01.0172560.0 5/22/2017

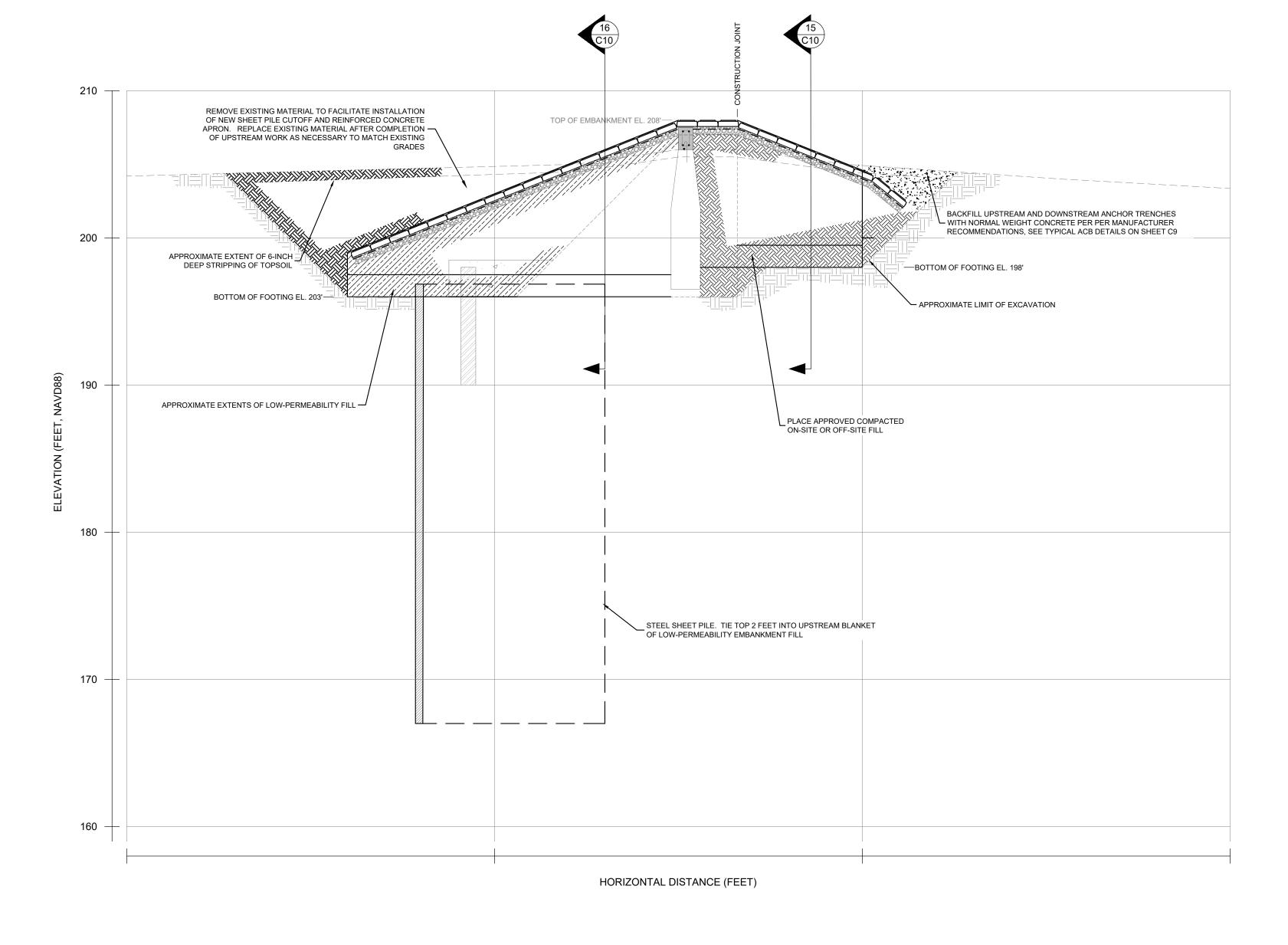




HORIZONTAL DISTANCE (FEET) 15 LEFT ABUTMENT TRAINING WALL SECTION



LEFT ABUTMENT TRAINING WALL SECTION



NOTES: THE PROPOSED UPSTREAM SHEET PILE CUTOFF WALL SHALL BE INSTALLED TO PROVIDE A CONTINUOUS UPSTREAM SEEPAGE CUTOFF FOR THE FULL LENGTH OF THE DAM. SHEET PILE SHALL TRANSITION BETWEEN THE UPSTREAM CONCRETE APRON, NEW CONCRETE TRAINING WALLS, AND UPSTREAM LOW PERMEABILITY EMBANKMENT FILL SUCH THAT NO GAPS OR "WINDOWS" EXIST IN THE UPSTREAM SEEPAGE CUTOFF.





2	ISSUED FOR BIDDING	CBN	6/22/18		
1	RE-ISSUED FOR PERMITS	CBN	2/12/18		
NO.	ISSUE/DESCRIPTION	BY	DATE		
GEOEI CLIEN' THE I USE A TRANS	SS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA IVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON PRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR TANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY FER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN SS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.				
BOGUE BROOK RESERVOIR DAM					

REHABILITATION PROJECT MONTVILLE, CONNECTICUT

RIGHT ABUTMENT TRAINING WALL SECTIONS AND DETAILS

PREPARED BY:				PREPARE
	GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			
PROJ MGR:	JDA	REVIEWED BY:	JDA	CHECKED

5/22/2017

01.0172560.0

THE CITY OF NEW LONDON ED BY: PHB SHEET DESIGNED BY: CBN DRAWN BY: CBN/SMH SCALE: AS NOTED REVISION NO.