SITE PLAN REVIEW
GRAFTON PUBLIC LIBRARY

Town of Grafton - Owner

Drummey, Rosane, Anderson, Inc – Architects
(DRA) Ken Best AIA

CDW Engineers – Civil Engineering
Eric Wilhelmsen - PE

Berkshire Design Group – Landscape Architects

Weston & Sampson– Traffic Engineers
Jeff Santacruce, PE PTOE

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PLANNING BOARD
GRAFTON, MA

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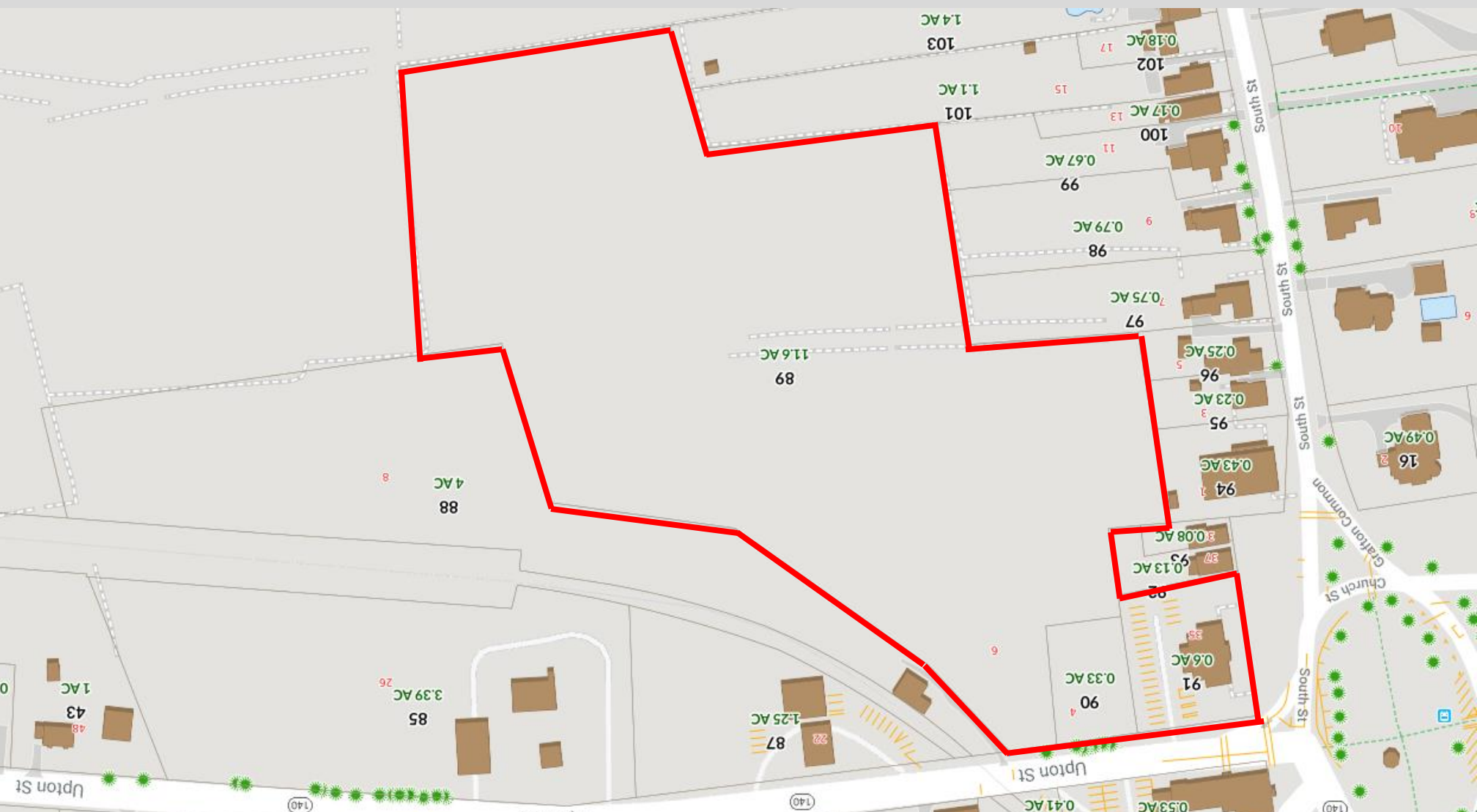
PARCELS 89, 90, 91



THE GRAFTON PUBLIC LIBRARY

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DRA PROJECT NO. 16020.01

PLANNING AND ZONING SUBMISSION

DRAWING LIST

COVER SHEET

LANDSCAPE ARCHITECTURE

L-301

CIVIL

C-100	EXISTING & DEMO
C-200	LAYOUT & MATERIALS
C-300	GRADING & DRAINAGE
C-400	UTILITIES
C-500	CONSTRUCTION DETAILS
C-501	CONSTRUCTION DETAILS
C-502	CONSTRUCTION DETAILS
C-503	CONSTRUCTION DETAILS

ARCHITECTURAL

PZ101	LOWER LEVEL FLOOR PLAN
PZ102	UPPER LEVEL FLOOR PLAN
PZ201	EXTERIOR ELEVATIONS
PZ202	EXTERIOR ELEVATIONS

January 31, 2019

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NO MOW SEEDING SPECIES LIST

SPECIES	COMMON NAME	QUANTITY
FESTUCA BREVIPILA	HARD FESCUE	5LBS/ 1,000 S.F.
FESTUCA OVINA	SHEEP FESCUE	TOTAL AREA: 6,260 S.F.
FESTUCA RUBRA	RED FESCUE	TOTAL SEED: 32 LBS
FESTUCA RUBRA VAR. FALLAX	CHEWINGS FESCUE	
FESTUCA RUBRA VAR. RUBRA	CREEPING RED FESCUE	

LOAM & SEED STANDARD SPECIES LIST

SPECIES	COMMON NAME	QUANTITY
POA PRATENSIS	KENTUCKY BLUEGRASS	3-4LBS/ 1,000 S.F.
LOLIUM PERENNE	PERENNIAL RYE GRASS	
FESTUCA RUBRA VAR. RUBRA	CREEPING RED FESCUE	
TRIFOLIUM SPP.	CLOVER	

PLANTING LIST

PATTERN	SPECIES	COMMON NAME	QUANTITY	FT. CENTER	SIZE
	AMELANCHIER CANADENSIS	SHAD BUSH	3	10'	2.5"-3" CAL
	ASCLEPIAS INCARNATA	SWAMP MILKWEED	24	1.5'	1 GAL
	ASTILBE 'BRIDAL VEIL'	BRIDAL VEIL ASTILBE	152	1.5'	1 GAL
	CAREX PENSYLVANICA	OAK SEDGE	4,058	9"	LANDSCAPE PLUG
	CAREX STRICTA	TUSSOCK SEDGE	2,472	1.5'	LANDSCAPE PLUG
	CEPHALANTHUS OCCIDENTALIS	BUTTON BUSH	28	7	2 GAL
	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPER BUSH	6	6'	2-3 GAL
	CORNUS SERICEA	RED-OSIER DOGWOOD	3	6'	2-3 GAL
	HYDRANGEA ARBORESCENS 'ANNABELLE'	SMOOTH HYDRANGEA	4	7'	2 GAL
	ILEX GLABRA	INKBERRY	19	5'	2-3 GAL
	IRIS VERSICOLOR	BLUE FLAG	72	1.5'	1 GAL
	ITEA VIRGINICA 'LITTLE HENRY'	VIRGINIA SWEETSPIRE	16	3'	2-3 GAL
	MATTEUCCIA STRUTHIOPTERIS	OSTRICH FERN	53	2'	2-3 GAL
	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	1	20'	2.5"-3" CAL
	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	275	1.5'	1 GAL
	QUERCUS RUBRA	RED OAK	1	20'	2.5"-3" CAL
	SCHIZACHRIUM SCOPARIUM	LITTLE BLUESTEM	1,110	1.5'	LANDSCAPE PLUG
	STEWARTIA PSEUDOCAMELIA	JAPANESE STEWARTIA	2	15'	2.5"-3" CAL
	TIARELLA CORDIFOLIA	FOAM FLOWER	125	8"	LANDSCAPE PLUG
	VERBENA HASTATA	BLUE VERVAIN	42	1'	LANDSCAPE PLUG

PLANTING NOTES

1. ALL NURSERY STOCK SHALL COMPLY WITH THE LATEST STANDARDS OF THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION WITH REGARD TO GRADING AND QUALITY.

2. ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED, EXCEPT THAT PLANTS LARGER THAN THOSE SPECIFIED MAY BE USED IF APPROVED BY THE LANDSCAPE ARCHITECT.

3. ALL PLANTS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES AND SHALL BE GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE PROJECT LOCALITY FOR AT LEAST TWO YEARS; HERBACEOUS PERENNIAL PLUGS MAY BE GROWN FOR LESS THAN ONE YEAR, BUT SHOULD BE FULLY ROOTED PRIOR TO PLANTING.

4. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS; ROOT BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP. CONTAINER GROWN PLANTS SHALL NOT BE REMOVED FROM CONTAINER PRIOR TO THE TIME OF INSTALLATION; ROOT SYSTEM SHALL BE FIRMLY SET IN CONTAINER.

5. PLANTING SOIL MIX SHALL CONSIST OF SEVEN (7) PARTS LOAM AND ONE (1) PART PEAT MOSS BY VOLUME, WITH A PH VALUE OF 5.0 TO 6.0. IF EXISTING TOP SOIL IS USED ON SITE, SOIL MUST BE TESTED FOR PARTICLE SIZE, PH, AND MINERAL CONTENT BY 3RD PARTY TESTING LAB. CONTRACTOR TO AMEND TOPSOIL FOR PLANTING AREAS TO REACH 5% ORGANIC CONTENT.

6. ALL TREES AND SHRUBS TO RECEIVE TWO (2) FERTILIZER PACKETS AS SHOWN IN DETAILS. ALL HERBACEOUS PLUGS TO RECEIVE ONE/ TENTH (0.10) PACKET OF FERTILIZER.

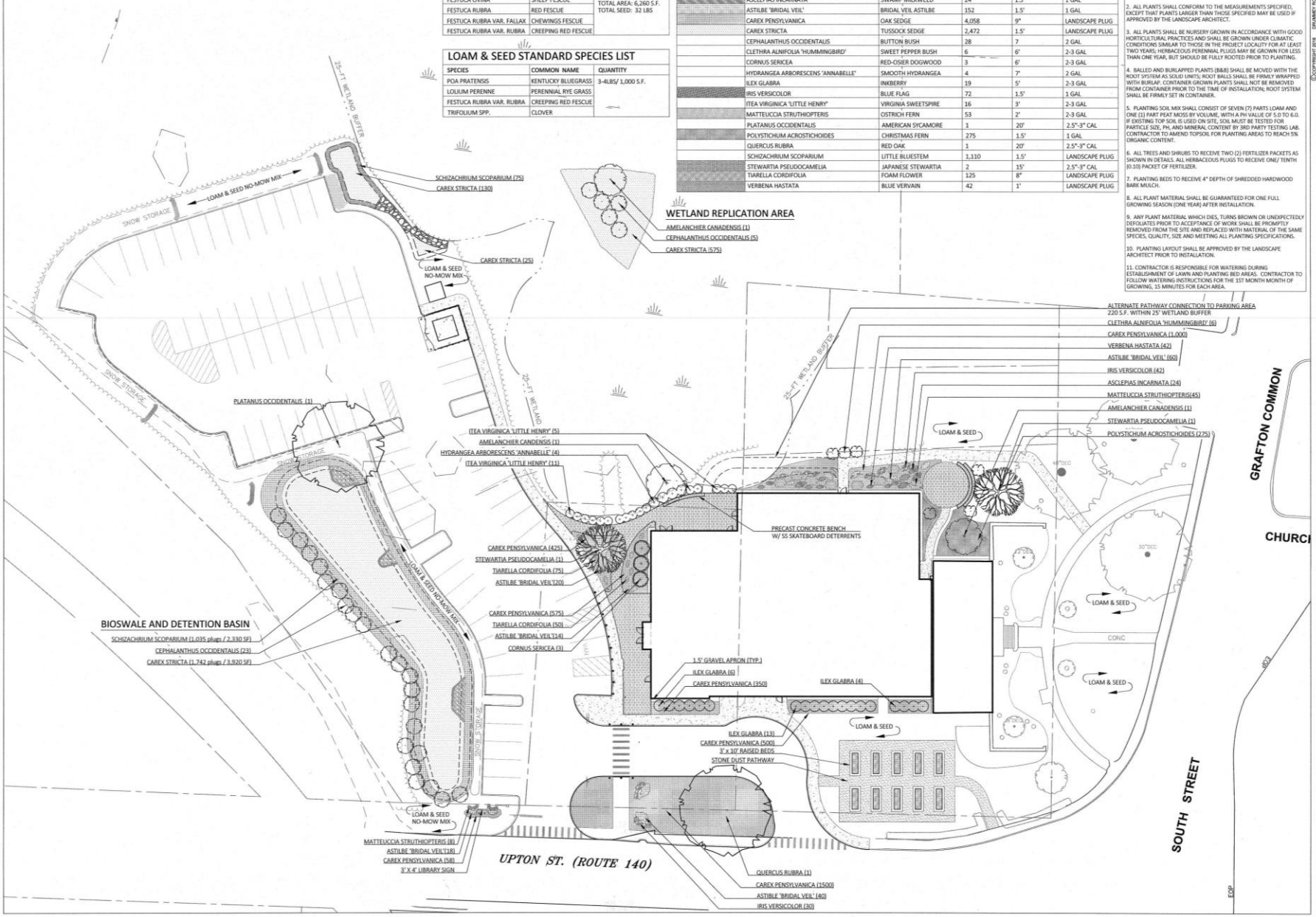
7. PLANTING BEDS TO RECEIVE 4" DEPTH OF SHREDDED HARDWOOD BARK MULCH.

8. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR ONE FULL GROWING SEASON (ONE YEAR) AFTER INSTALLATION.

9. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN OR UNEXPECTEDLY DEFOLIATES PRIOR TO ACCEPTANCE OF WORK SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUALITY, SIZE AND MEETING ALL PLANTING SPECIFICATIONS.

10. PLANTING LAYOUT SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

11. CONTRACTOR IS RESPONSIBLE FOR WATERING DURING ESTABLISHMENT OF LAWN AND PLANTING BED AREAS. CONTRACTOR TO FOLLOW WATERING INSTRUCTIONS FOR THE 1ST MONTH MONTH OF GROWING, 15 MINUTES FOR EACH AREA.



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THE GRAFTON PUBLIC LIBRARY

GRAFTON, MA

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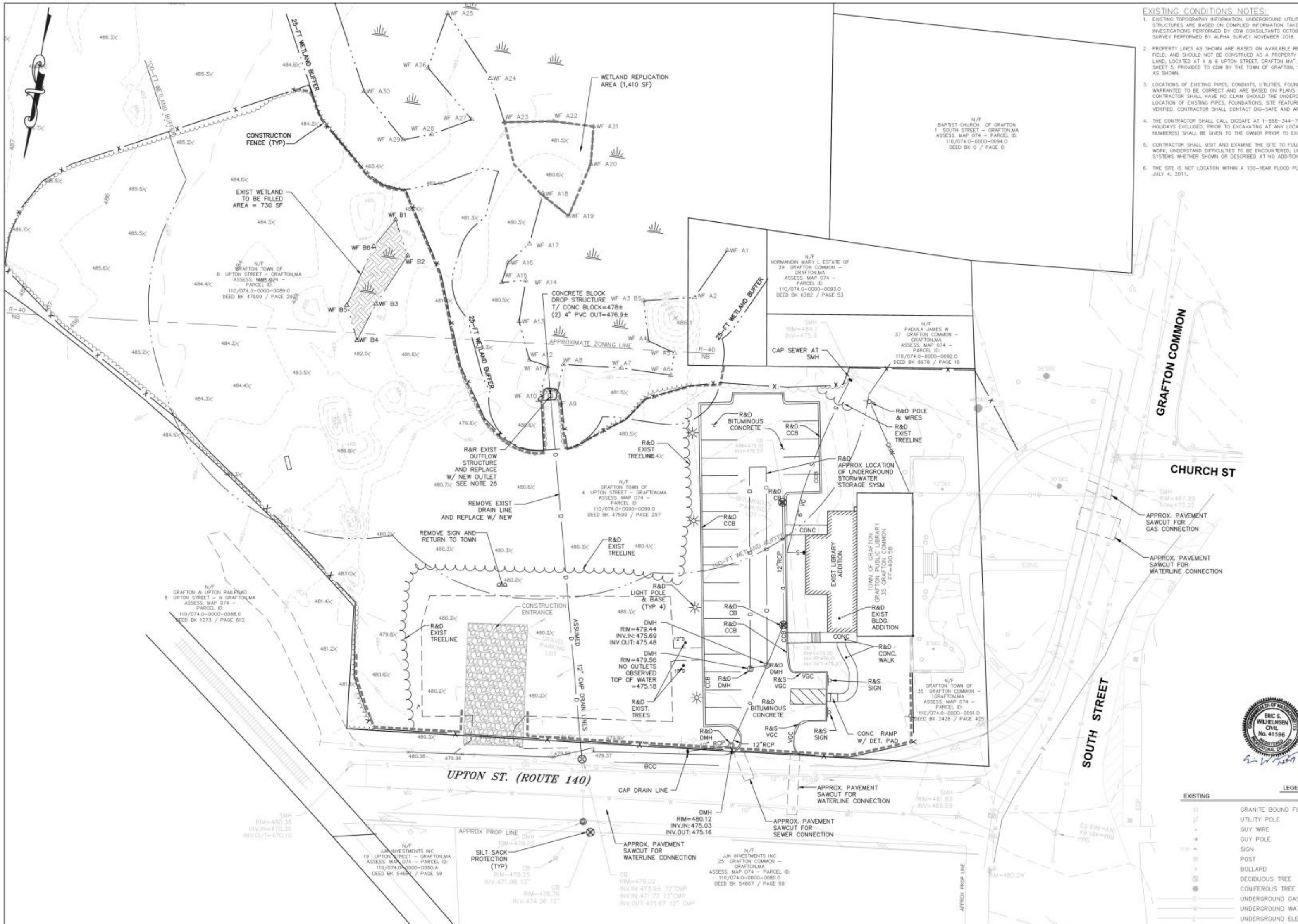
PLANTING PLAN

PROJECT NORTH

0 10 20 40 60

Scale:	1"=20'-0"
Job No.:	
Drawn By:	WDS
Date:	1/30/2019

L-301



EXISTING CONDITIONS NOTES:

1. EXISTING TOPOGRAPHY INFORMATION, UNDERGROUND UTILITY INFORMATION, EDGE OF PAVEMENT AND LOCATIONS OF STRUCTURES ARE BASED ON COMPILED INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY AND FIELD INVESTIGATIONS PERFORMED BY CDW CONSULTANTS OCTOBER THROUGH NOVEMBER 2016, AND FROM A TOPOGRAPHIC SURVEY PERFORMED BY ALPHA SURVEY NOVEMBER 2018.
2. PROPERTY LINES AS SHOWN ARE BASED ON AVAILABLE RECORD INFORMATION AND ANY MONUMENTS LOCATED IN THE FIELD, AND SHOULD NOT BE CONSTRUED AS A PROPERTY LINE RE-TRACEMENT SURVEY. A PLAN ENTITLED "PLAN OF LAND, LOCATED AT 4 & 6 UPTON STREET, GRAFTON MA", DATED SEPTEMBER 28, 2012, BY LAND PLANNING, INC., SHEET 5, PROVIDED TO CDW BY THE TOWN OF GRAFTON, SERVED AS THE PRIMARY BASIS FOR THE PROPERTY LINES AS SHOWN.
3. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND ARE BASED ON PLANS PROVIDED TO CDW BY THE TOWN OF GRAFTON. THE CONTRACTOR SHALL HAVE NO CLAIM SHOULD THE UNDERGROUND OBJECTS BE OTHER THAN SHOWN. THE EXACT LOCATION OF EXISTING PIPES, FOUNDATIONS, SITE FEATURES/ANCILLARY ITEMS, SERVICES, ETC..., ARE TO BE FIELD VERIFIED. CONTRACTOR SHALL CONTACT DIG-SAFE AND APPROPRIATE AGENCIES/UTILTIES COMPANIES AS NECESSARY.
4. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 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.
5. CONTRACTOR SHALL VISIT AND EXAMINE THE SITE TO FULLY UNDERSTAND ALL THE CONDITIONS PERTAINING TO THE WORK, UNDERSTAND DIFFICULTIES TO BE ENCOUNTERED, UNDERSTAND THE SCOPE OF THE DEMOLITION WORK FOR ALL SYSTEMS WHETHER SHOWN OR DESCRIBED AT NO ADDITIONAL COST TO THE OWNER.
6. THE SITE IS NOT LOCATION WITHIN A 100-YEAR FLOOD PLAIN, ACCORDING TO FIRM MAP 250306, PANEL 0833, DATED JULY 4, 2011.

ABBREVIATIONS

BIT CONC	BITUMINOUS CONCRETE
CONC	CONCRETE
HDPE	HIGH-DENSITY POLYETHYLENE
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
FND	FOUND
N/F	NOW OR FORMERLY
TYP	TYPICAL
CO=	CLEAN OUT
RIM=	RIM ELEVATION
INV=	INVERT ELEVATION
R&D	REMOVE AND DEMOLISH
FE	FLARED END
AD	AREA DRAIN
WQS	WATER QUALITY STRUCTURE
OCS	OUTLET CONTROL STRUCTURE
TW	TOP OF WALL
BW	GRADE AT BOTTOM OF WALL
EOC	EDGE OF CONCRETE
R&S	REMOVE & STACK
R&R	REMOVE & RESET
R&D	REMOVE & DISPOSE
VGC	VERTICAL GRANITE CURB
CCB	CAPE COD BERM

ERIC S. WILHELMSEN CIVIL No. 41596 REGISTERED PROFESSIONAL ENGINEER — COMMONWEALTH OF MASSACHUSETTS

LEGEND

EXISTING / PROPOSED

- GRANITE BOUND FOUND
- UTILITY POLE
- GUY WIRE
- GUY POLE
- SIGN
- POST
- BOLLARD
- DECIDUOUS TREE
- CONIFEROUS TREE
- UNDERGROUND GAS LINE (G)
- UNDERGROUND WATER LINE (W)
- UNDERGROUND ELECTRIC LINE (E)
- UNDERGROUND SEWER LINE (S)
- UNDERGROUND DRAIN LINE (D)
- DRAIN MANHOLE (DMH)
- SEWER MANHOLE (SMH)
- CATCH BASIN (CB)
- GAS/WATER GATE
- HYDRANT
- BUSH
- LOCUS PROPERTY LINE (±)
- ADJOINERS PROPERTY LINE (±)
- OVERHEAD WIRE (OHW)
- TREELINE
- HISTORIC UTILITY LINE (G/W/E/S/D)
- HISTORIC BUILDING LOCATION
- MAJOR CONTOUR LINE (255)
- MINOR CONTOUR LINE (254)
- FENCE (X)
- GUARD RAIL

0 10 20 40 80
1 INCH = 20 FT.

GENERAL CONSTRUCTION AND DEMOLITION NOTES:

1. EXCEPT AS REQUIRED TO PERFORM SPECIFIC WORK ACTIVITIES RELATED TO UTILITY CONNECTIONS, CONTRACT SHALL CONFINE HIS OPERATIONS INCLUDING ALL STOCKPILES, STORAGE, AND STAGING, TO WITHIN THE LIMIT OF WORK. STOCKPILE DEMOLITION MATERIAL AND/OR EXCAVATED MATERIAL IN ACCORDANCE WITH SPECIFICATION SECTION 017418-DEMOLTION WASTE MANAGEMENT AND DISPOSAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE-RELATED DUST CONTROL, PER SPECIFICATION SECTION 013543.
3. THE CONTRACTOR SHALL COORDINATE WITH THE GRAFTON WATER DEPARTMENT TO OBTAIN WATER SERVICE. IF USED, THE CONTRACTOR SHALL INSTALL A TEMPORARY METERED WATER LINE WITH BACKFLOW PREVENTOR AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER, AND SHALL PROVIDE PROTECTION FOR THE HYDRANT.
4. THE CONTRACTOR SHALL MAKE ALL NECESSARY APPLICATIONS AND ARRANGEMENTS WITH UTILITY PROVIDERS FOR TEMPORARY ELECTRICAL SERVICE FOR DEMOLITION/CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PROVIDE AND PAY FOR ALL TEMPORARY WIRING, SWITCHES, CONNECTIONS, METERS AND SERVICE. CONTRACTOR SHALL REMOVE ALL TEMPORARY EQUIPMENT NOTED ABOVE AFTER COMPLETION OF WORK. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, UTILIZE TEMPORARY GENERATORS TO PROVIDE POWER FOR DEMOLITION/CONSTRUCTION ACTIVITIES. SEE SPECIFICATION SECTION 015000-TEMPOARARY FACILITIES AND CONTROLS.
5. THE CONTRACTOR SHALL PROVIDE TEMPORARY CHAIN LINK CONSTRUCTION FENCE IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PREPARE A PLAN CONFIRMING THE LOCATION OF THE CONSTRUCTION FENCE, ACCESS GATES AND CONSTRUCTION ENTRANCES, AND ANY APPLICABLE PHASES, FOR APPROVAL BY THE OWNER. FENCE SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATION SECTION 015000-TEMPORARY FACILITIES AND CONTROLS.
6. THE CONTRACTOR MAY UTILIZE ALL AREAS WITHIN THE LIMIT OF WORK AS A FIELD OFFICE/STAGING AREA.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR WHEEL CLEANING OF ALL CONSTRICTION VEHICLES BEFORE EXISTING THE SITE, PER SPECIFICATION 013543-ENVIRONMENTAL PROTECTION. ANY TRACKED DIRT FROM CONTRACTOR OR SUBCONTRACTOR VEHICLES ONTO THE ACCESS ROAD OR PUBLIC RIGHTS OF WAY SHALL BE SWEPT UP AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL DEMOLISH AND REMOVE ALL BITUMINOUS CONCRETE PAVING, INCLUDING AREAS OF PARTIAL PAVING WITHIN THE LIMIT OF WORK, AS INDICATED ON THE PLANS.
9. THE CONTRACTOR IS ADVISED THAT THE LOCATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE AND THAT ALL UTILITIES MAY NOT BE SHOWN. PRIOR TO THE START OF CONSTRUCTION AND DEMOLITION ACTIVITIES THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES NOT SCHEDULED FOR DEMOLITION.
10. REMOVAL OF ANY WORK OR ITEM SHALL INCLUDE OFFSITE LEGAL DISPOSAL OF SAME. ALL REMOVAL AND DISPOSAL WORK SHALL BE PERFORMED IN A SAFE AND LEGAL MANNER. THE CONTRACTOR'S DISPOSAL PRACTICE OF ANY EXCESS MATERIAL SHALL COMPLY WITH ALL FEDERAL, STATE, AND MUNICIPAL WASTE MANAGEMENT LAWS AND REGULATION.
11. THE CONTRACTOR SHALL RELOCATE ALL ITEMS SCHEDULED TO REMAIN AWAY FROM THE CONSTRUCTION AREA, AND PROTECT AGAINST DUST AND MOISTURE AS NEEDED. FOLLOWING CONSTRUCTION, THE CONTRACTOR SHALL RETURN THESE ITEMS UNDAMAGED TO THEIR ORIGINAL LOCATIONS. ANY ITEM DAMAGED BY THE CONTRACTOR SHALL BE REPLACED IN KIND, AT NO COST TO THE OWNER.
12. LOCATIONS OF INDIVIDUAL EXISTING TREES 12" AND LARGER AND SHRUBS ARE SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL REMOVE TREES, BUSHES, AND OTHER VEGETATION IN THE WORK AREA ONLY AS REQUIRED TO COMPLETE THE NEW WORK AND SHALL MAKE EVERY EFFORT TO MINIMIZE THE AMOUNT OF VEGETATION DISTURBED. THE CONTRACTOR SHALL REPLACE ALL DAMAGED VEGETATION TO REMAIN IN KIND FOLLOWING THE COMPLETION OF THE WORK. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL TREES AND SHRUBS.
13. ALL EXISTING STRUCTURES, INCLUDING BUT NOT LIMITED TO BUILDINGS, UTILITIES, WALKWAYS, RETAINING WALLS, PLANTING BEDS, TREES, FENCES, BENCHES, AND PLANTING GRATES NOT SUBJECTED TO THE SCOPE OF WORK SHALL BE PROTECTED DURING THE WORK.
14. THE CONTRACTOR SHALL RESTORE ALL LANDSCAPING AND HARDSCAPING AFFECTED BY THE DEMOLITION AND CONSTRUCTION ACTIVITIES IN KIND. THE CONTRACTOR SHALL PROVIDE TREE PROTECTION AS SPECIFIED IN THE DETAILS FOR ALL TREES TO BE PRESERVED IN THE WORK AREA.
15. THE CONTRACTOR IS ADVISED TO DISTURB VEGETATION AND PAVEMENT AS LITTLE AS POSSIBLE.
16. ANY ITEM OR STRUCTURE DAMAGED BEYOND THE LIMITS OF WORK SHALL BE REPLACED IN KIND BY THE CONTRACTOR, AT HIS OWN EXPENSE.
17. PROVIDE SHORING OR UNDERPINNING AS NECESSARY TO PROTECT EXISTING STRUCTURES.
18. EXISTING STRUCTURES, LANDSCAPING, AND HARDSCAPING ARE PRESENT IN AND BEYOND THE LIMITS OF WORK BUT NOT NECESSARILY SHOWN HEREON. THE CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES IN PLACE DURING THE ENTIRE DURATION OF THE PROJECT, OR IF ACCEPTABLE TO THE OWNER, HARDSCAPE ITEMS SUCH AS FENCES AND GUARDRAILS MAY BE REMOVED AND RESET, WITHOUT DAMAGE. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES.
19. CONTRACTOR TO PROTECT EXISTING SIGNS TO REMAIN, OR IF ACCEPTABLE TO THE OWNER, SIGNS MAY BE REMOVED AND RESET, WITHOUT DAMAGE, AFTER CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES. ADDITIONALLY, ALL EXISTING LIGHT POLES AND FLAG POLES SHALL BE PROTECTED DURING CONSTRUCTION, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
20. ALL MATERIALS STOCKPILED DURING THE WORK SHALL BE PLACED IN A LOCATION THAT PREVENTS EROSION AND SEDIMENTATION. THE CONTRACTOR SHALL STOCKPILE MATERIALS IN AN AREA ON-SITE.
21. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO STATE AND LOCAL REQUIREMENTS, INCLUDING BUT NOT LIMITED TO THE TOWN OF GRAFTON, THE COMMONWEALTH OF MASSACHUSETTS, AND ANY OTHER AGENCIES HAVING JURISDICTION.
22. EXISTING PAVEMENT MARKINGS ARE PRESENT THROUGHOUT THE PROJECT AREA, THOUGH THEY ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO THEIR PRECONSTRUCTION CONDITION, AND REPAIR ANY MARKINGS DAMAGED BY THE WORK. ALL EXISTING COLORS, THICKNESSES AND SYMBOLS SHALL BE MATCHED.
23. ALL EXISTING UTILITIES SHALL REMAIN IN SERVICE DURING DEMOLITION AND CONSTRUCTION AT ALL TIMES, UNLESS PRIOR APPROVAL IS GIVEN BY THE TOWN AND/OR THE OWNER. INCLUDING ALL EXISTING UTILITIES/SERVICES ASSOCIATED WITH THE EXISTING BUILDINGS. IF A UTILITY IS DAMAGED, TEMPORARY SERVICE MAY BE REQUIRED BY THE CONTRACTOR, AT HIS OWN EXPENSE.
24. CONTRACTOR SHALL PROTECT ALL CATCH BASINS WITHIN THE LIMIT OF WORK AND AS INDICATED ON THE PLANS, IN ACCORDANCE WITH SPECIFICATIONS SECTION 312500 EROSION AND SEDIMENTATION CONTROLS, AND THE DETAILS.
25. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE LIMITS OF THE DEVELOPMENT AS INDICATED ON THE PLANS PRIOR TO THE COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS. CONTRACTOR SHALL INSTALL SILT SACKS ON DOWNSTREAM CATCH BASINS AS INDICATED ON THE PLANS. PRIOR TO INSTALLING SILT SACKS THE CONTRACTOR SHALL CLEAN OUT THE SUMPS OF THE CATCH BASINS. THE EROSION CONTROL AS SHOWN IS A MINIMUM REQUIREMENT, ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BASED ON A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (PREPARED BY THE CONTRACTOR OR BY OTHERS FOR THIS PROJECT), OR AS CONDITIONS WARRANT. SEE ADDITIONAL EROSION CONTROL NOTES ON SHEET C-500.
26. THE EXISTING OUTFLOW STRUCTURE IS A CONCRETE BLOCK, SHALLOW DROP STRUCTURE WITH TWO (2) 6-INCH PVC OUTLETS. IT APPEARS TO BE CONNECTED TO A CATCH BASIN ON UPTON STREET, AS SHOWN. THE CATCH BASIN HAS TWO 12-INCH PIPES FROM THE GENERAL DIRECTION OF THE DROP STRUCTURE. THE HIGHER ELEVATION PIPE WAS OBSERVED TO BE FLOWING. THE LOWER PIPE IS PARTIALLY SUBMERGED. THE PROJECT IS PROPOSING TO REMOVE THE EXISTING DROP STRUCTURE IN THE WETLAND AND REPLACE IT A NEW STRUCTURE AND PIPE AND CONNECT TO THE SAME EXISTING CATCH BASIN.

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THE GRAFTON PUBLIC LIBRARY

GRAFTON, MA

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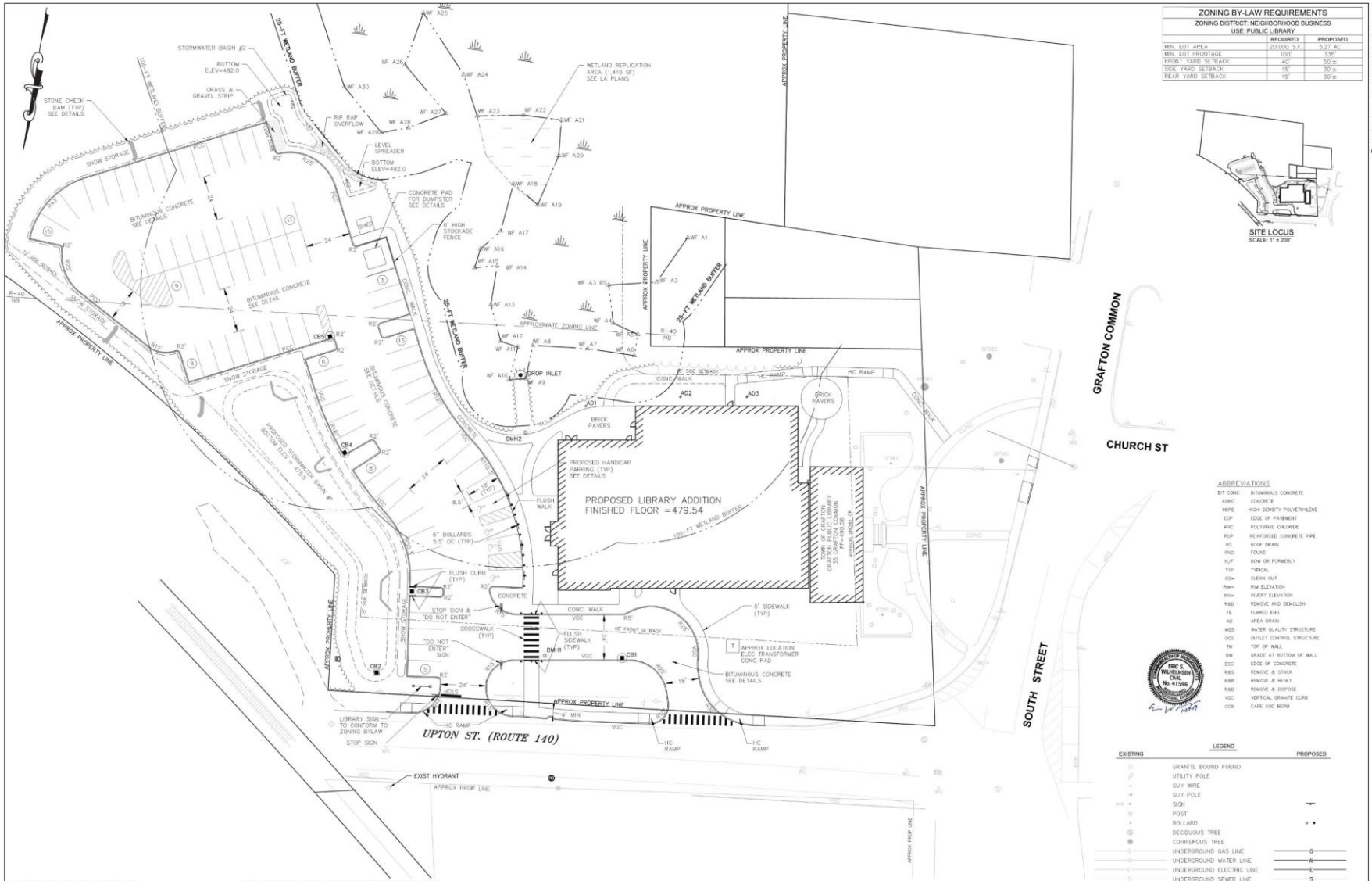
TEL (508) 875-2657 FAX (508) 875-6617
www.cdwconsultants.com

PROJECT NORTH

Existing Conditions & Demolition Plan

Scale: 1" = 20'
Job No.:
Drawn By: CDW
Date: 1/31/2019

C100



ZONING BY-LAW REQUIREMENTS		
ZONING DISTRICT: NEIGHBORHOOD BUSINESS		
USE: PUBLIC LIBRARY		
	REQUIRED	PROPOSED
MIN. LOT AREA	20,000 S.F.	5.27 AC
MIN. LOT FRONTAGE	100'	335'
FRONT YARD SETBACK	40'	50'±
SIDE YARD SETBACK	15'	30'±
REAR YARD SETBACK	15'	30'±

SITE LOCUS
SCALE: 1" = 200'

ABBREVIATIONS

BIT CONC	BITUMINOUS CONCRETE
CONC	CONCRETE
HDPE	HIGH-DENSITY POLYETHYLENE
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
FND	FOUND
N/F	NOW OR FORMERLY
TYP	TYPICAL
CO=	CLEAN OUT
RIM=	RIM ELEVATION
INV=	INVERT ELEVATION
R&D	REMOVE AND DEMOLISH
FE	FLARED END
AD	AREA DRAIN
WQS	WATER QUALITY STRUCTURE
OCS	OUTLET CONTROL STRUCTURE
TW	TOP OF WALL
BW	GRADE AT BOTTOM OF WALL
EOC	EDGE OF CONCRETE
R&S	REMOVE & STACK
R&R	REMOVE & RESET
R&D	REMOVE & DISPOSE
VGC	VERTICAL GRANITE CURB
CCB	CAPE COD BERM

COMMONWEALTH OF MASSACHUSETTS
ERIC S. WALHELGSON
CIVIL
No. 41596
REGISTERED PROFESSIONAL ENGINEER

LEGEND

EXISTING		PROPOSED
	GRANITE BOUND FOUND	
	UTILITY POLE	
	GUY WIRE	
	GUY POLE	
	SIGN	
	POST	
	BOLLARD	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
G	UNDERGROUND GAS LINE	G
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
S	UNDERGROUND SEWER LINE	S
D	UNDERGROUND DRAIN LINE	D
	DRAIN MANHOLE (DMH)	D
	SEWER MANHOLE (SMH)	S
	CATCH BASIN (CB)	
	GAS/WATER GATE	
	HYDRANT	
	BUSH	
	LOCUS PROPERTY LINE (±)	
	ADJOINERS PROPERTY LINE (±)	
OHW	OVERHEAD WIRE	
	TREELINE	
	HISTORIC UTILITY LINE (G/W/E/S/D)	
	HISTORIC BUILDING LOCATION	
	MAJOR CONTOUR LINE	255
	MINOR CONTOUR LINE	254
	FENCE	X
	GUARD RAIL	

0 10 20 40 80
1 INCH = 20 FT.

LAYOUT AND MATERIALS NOTES

1. ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
2. REFER TO MEP PLANS FOR SITE LIGHTING LOCATIONS AND DETAILS.
3. CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS TO THE OWNER AND THE ENGINEER FOR RESOLUTION.
4. DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. STANDARD PARKING SPACES ARE 9'x18', UNLESS OTHERWISE NOTED. ALL HANDICAP SPACES ARE 8.5'x18'.
5. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING. CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER. THE CONTRACTOR SHALL STAKE OUT BUILDING FROM THE LATEST ARCHITECTURAL DRAWINGS.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCES BETWEEN SITE PLAN DIMENSIONS AND BUILDING PLANS BEFORE PROCEEDING WITH ANY PORTION OF SITE WORK WHICH MAY BE AFFECTED SO THAT PROPER ADJUSTMENTS TO THE SITE LAYOUT CAN BE MADE IF NECESSARY.
7. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND ALL DETAILS CONTIGUOUS TO THE BUILDING, LIGHTING, ENTRANCES, DOORWAY PADS, LOADING DOCK DETAILS, ETC.
8. ACCESSIBLE RAMPS SHALL BE PER MASSACHUSETTS STATE CODE AND THE AMERICANS WITH DISABILITES ACT (ADA) ACCESSIBILITY GUIDELINES (WHICHEVER IS MORE STRINGENT).
9. EACH HANDICAP PARKING SPACE SHALL BE PROVIDED WITH A SIGN SIX (6) FEET IN HEIGHT LOCATED AT THE BACK OF THE THE CURB. THE SIGN SHALL CONTAIN THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AS DESCRIBED IN THE AMERICANS WITH DISABILITES ACT, PUBLIC LAW 101-336. (SEE DETAILS).
10. PROTECT EXISTING PROPERTY MONUMENTS AND ABUTTING PROPERTIES DURING CONSTRUCTION ACTIVITIES.
11. ALL SITE CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS (DPW) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, AND THE TOWN OF GRAFTON PUBLIC WORKS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LEGAL REMOVAL AND DISPOSAL OF ALL DEBRIS FROM THE SITE AND AS MAY BE DIRECTED BY THE A/E.
13. ALL FENCING AND GATES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DIRECTION.
14. THE SITE CONTRACTOR SHALL CUT AND MATCH ALL EXISTING ROAD PAVEMENT AS REQUIRED TO SET NEW CURBING AND CONSTRUCT NEW UTILITIES IN THE STREET.
15. SEE LANDSCAPE PLANS FOR ALL PLANTING INFORMATION AS WELL AS ADDITIONAL LAYOUT AND MATERIAL INFORMATION.
16. SEE DEMOLITION SHEET C-100 AND DETAIL SHEET C-500 FOR EROSION CONTROL NOTES.

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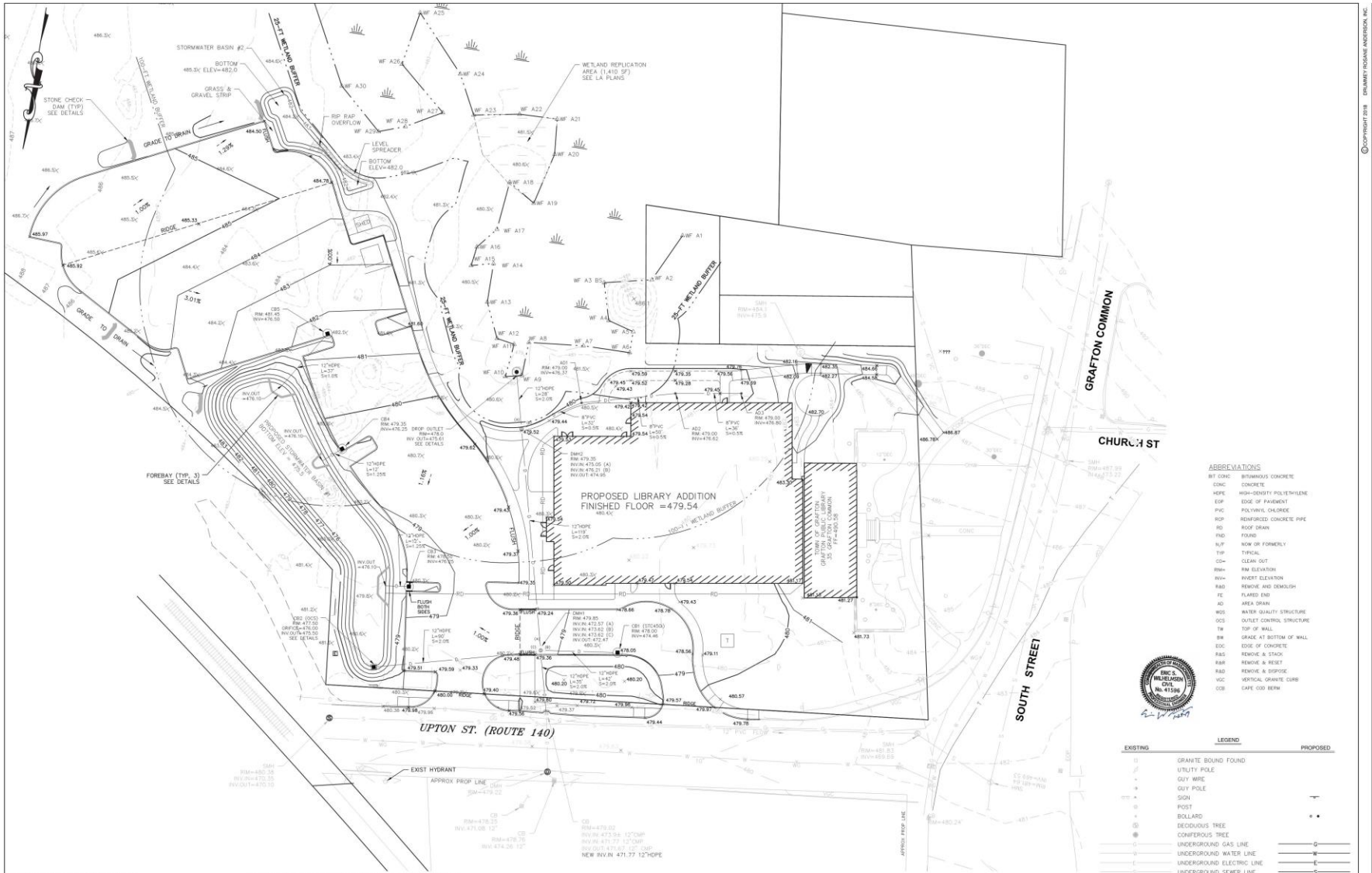
PROJECT NORTH

Layout & Materials Plan

Scale: 1" = 20'
Job No.:
Drawn By: CDW
Date: 1/31/2019

C200



ABBREVIATIONS

BIT CONC	BITUMINOUS CONCRETE
CONC	CONCRETE
HDPE	HIGH-DENSITY POLYETHYLENE
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
FND	FOUND
N/F	NOW OR FORMERLY
TYP	TYPICAL
CO=	CLEAN OUT
RIM=	RIM ELEVATION
INV=	INVERT ELEVATION
R&D	REMOVE AND DEMOLISH
FE	FLARED END
AD	AREA DRAIN
WQS	WATER QUALITY STRUCTURE
OCS	OUTLET CONTROL STRUCTURE
TW	TOP OF WALL
BW	GRADE AT BOTTOM OF WALL
EOC	EDGE OF CONCRETE
R&S	REMOVE & STACK
R&R	REMOVE & RESET
R&D	REMOVE & DISPOSE
VGC	VERTICAL GRANITE CURB
CCB	CAPE COD BERM

LEGEND

EXISTING		PROPOSED
	GRANITE BOUND FOUND	
	UTILITY POLE	
	GUY WIRE	
	GUY POLE	
	SIGN	
	POST	
	BOLLARD	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
G	UNDERGROUND GAS LINE	G
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
S	UNDERGROUND SEWER LINE	S
D	UNDERGROUND DRAIN LINE	D
	DRAIN MANHOLE (DMH)	
	SEWER MANHOLE (SMH)	
	CATCH BASIN (CB)	
	GAS/WATER GATE	
	HYDRANT	
	BUSH	
	LOCUS PROPERTY LINE (±)	
	ADJOINERS PROPERTY LINE (±)	
OHW	OVERHEAD WIRE	
	TREELINE	
	HISTORIC UTILITY LINE (G/W/E/S/D)	
	HISTORIC BUILDING LOCATION	
	MAJOR CONTOUR LINE	255
	MINOR CONTOUR LINE	254
	FENCE	
	GUARD RAIL	

1 INCH = 20 FT.

GRADING AND DRAINAGE NOTES

1. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE DESIGNER PRIOR TO ANY SITE WORK WHICH WOULD BE AFFECTED.
2. ALL DRAINAGE PIPES SHALL BE REINFORCED CONCRETE PIPE, EXCEPT WHERE NOTED OTHERWISE.
3. ALL EXCESS EXCAVATED MATERIAL SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. ALL SITE CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS (DPW) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, AND THE TOWN OF GRAFTON PUBLIC WORKS.
5. CONTRACTOR SHALL GRADE AND CONSTRUCT ALL ACCESSIBLE HANDICAP RAMPS IN ACCORDANCE WITH THE MASSACHUSETTS STATE CODE AND THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES (WHICHEVER IS MORE STRINGENT). SEE CONSTRUCTION DETAILS FOR SLOPE AND DIMENSIONAL REQUIREMENTS.
6. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS SHOWN ON THE PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OPERATIONS.
7. CONTRACTOR SHALL INSTALL SILT SACKS ON DOWN STREAM CATCH BASINS AS INDICATED ON THE PLANS. PRIOR TO INSTALLING A SILT SACK THE CONTRACTOR SHALL CLEAN OUT THE SUMP OF THE CATCH BASIN.
8. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE DESIGNER. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER AND ENGINEER FOR RESOLUTION.
9. CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION.
10. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
11. ALL UTILITY COVERS, GRATES, ETC. TO REMAIN SHALL BE ADJUSTED TO BE FLUSH WITH THE FINISH GRADE UNLESS OTHERWISE NOTED. RIM ELEVATIONS FOR STRUCTURES AND MANHOLES ARE APPROXIMATE.
12. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
13. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN.
14. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF THE FINISH SUBGRADE. PROVIDE TEMPORARY POSITIVE DRAINAGE AS REQUIRED.
15. EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON PRIOR APPROVAL OF THE OWNER.
16. THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL BARRIERS AFTER REVEGETATION OF DISTURBED AREAS AND AFTER APPROVAL OF THE DESIGNER AND OWNER. SEE ADDITIONAL EROSION CONTROL NOTES ON DEMOLITION SHEET C-100 AND DETAIL SHEET C-500.

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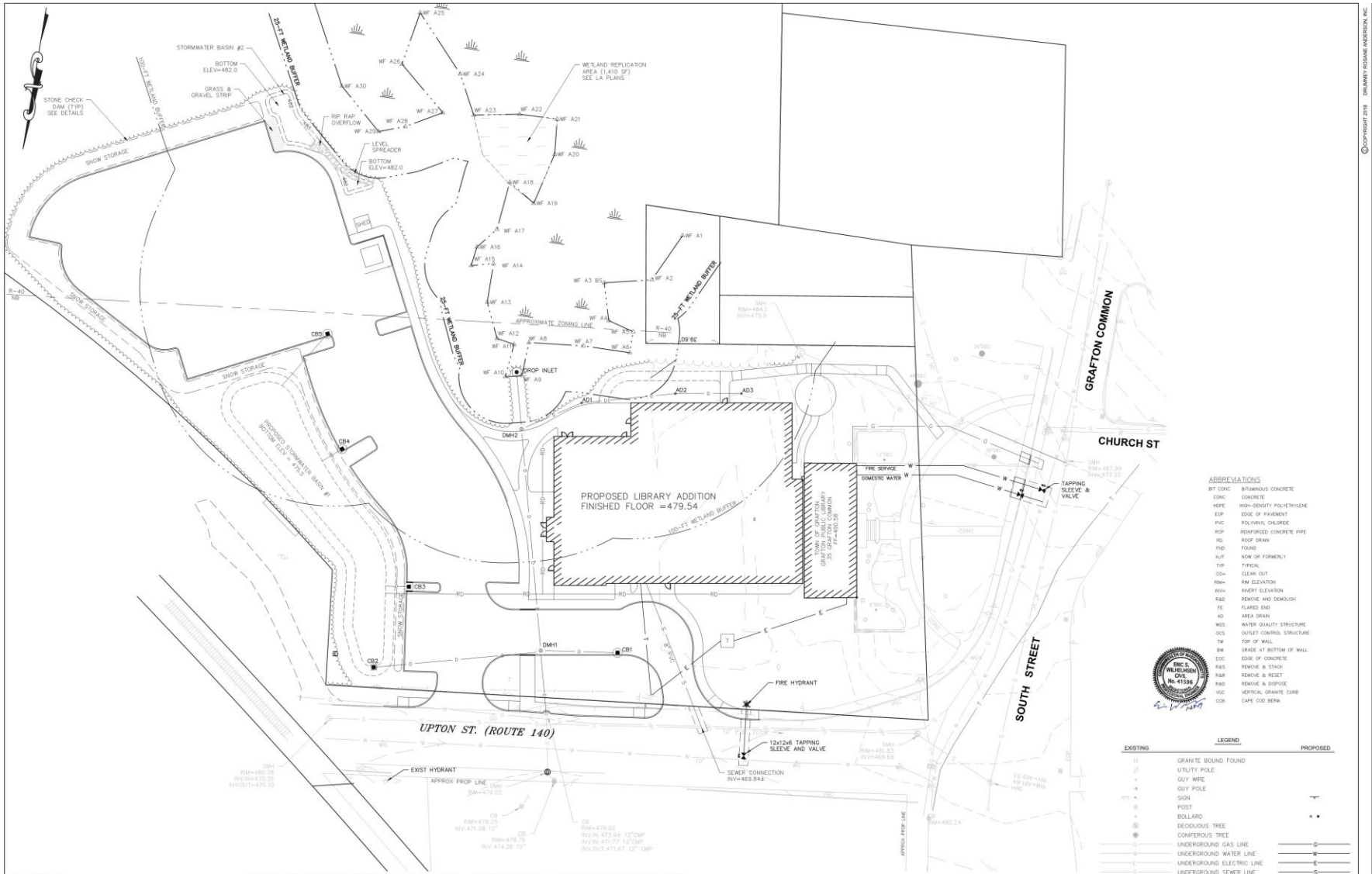
PROJECT NORTH

Grading & Drainage Plan

Scale:	1" = 20'
Job No.:	
Drawn By:	CDW
Date:	1/30/2019

C300



UTILITY NOTES

1. ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE DESIGNER PRIOR TO ANY SITE WORK WHICH WOULD BE AFFECTED.
2. ALL SITE CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS (DPW) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, AND THE TOWN OF GRAFTON PUBLIC WORKS.
3. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS SHOWN ON THE PLAN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION OPERATIONS.
4. CONTRACTOR SHALL INSTALL SILT SACKS ON DOWN STREAM CATCH BASINS AS INDICATED ON THE PLANS PRIOR TO INSTALLING A SILT SACK THE CONTRACTOR SHALL CLEAN OUT THE SUMP OF THE CATCH BASIN.
5. CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION.
6. EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
7. ALL UTILITY COVERS, GRATES, ETC. TO REMAIN SHALL BE ADJUSTED TO BE FLUSH WITH THE FINISH GRADE UNLESS OTHERWISE NOTED. RIM ELEVATIONS STRUCTURES AND MANHOLES ARE APPROXIMATE.
8. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER AND ENGINEER FOR RESOLUTION.
9. UNLESS OTHERWISE INDICATED, ABANDONED EXISTING UTILITY LINES SHALL BE CAPPED AND ABANDONED IN PLACE UNLESS THEY CONFLICT WITH PROPOSED IMPROVEMENTS. CAP REMAINING PORTIONS WHERE PARTIALLY REMOVED.
10. REFER TO ELECTRICAL DRAWINGS FOR ALL SITE ELECTRICAL WORK, AND TO PLUMBING AND MECHANICAL DRAWINGS FOR ALL PLUMBING AND MECHANICAL WORK.
11. INSTALL ALL UTILITIES (INCLUDING CONCRETE PADS) PER UTILITY COMPANY AND DPW STANDARDS.
12. ALL WATER UTILITY IMPROVEMENTS SHALL COMPLY WITH THE AMERICAN WATERWORKS ASSOCIATION STANDARDS AND THE TOWN OF GRAFTON DPW.
13. WATER LINE SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON.
14. WATER PIPES WITH JOINTS OR FITTINGS AS REQUIRED TO PROVIDE A MINIMUM OF 6" CLEARANCE FOR UTILITY CROSSINGS OR AS NOTED IN THE SPECIFICATIONS.
15. ALL VALVES AND HYDRANTS SHALL CONFORM TO THE TOWN STANDARDS.
16. WATER LINES AND SEWER LINES SHALL BE SEPARATED BY 10' HORIZONTALLY. WHERE THIS IS NOT POSSIBLE, AN 18" SEPARATION BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE SEWER LINE IS ALSO ACCEPTABLE BUT ONLY WHERE THE WATER LINE IS ABOVE THE SEWER LINE. BOTH PIPES SHALL BE ENCASED IN CONCRETE IN ANY AREA WHERE NEITHER OF THE TWO SEPARATIONS NOTED ABOVE CAN BE MAINTAINED. IN SUCH AN INSTANCE, BOTH THE WATER LINE AND SEWER LINE (IN THE AREA OF ENCASEMENT) MUST BE PRESSURE TESTED TO 150 PSI TO ENSURE BOTH ARE WATERTIGHT.
17. ALL SANITARY PIPE SHALL BE SDR-35 PVC UNLESS OTHERWISE NOTED.
18. INSULATE SANITARY PIPES WHERE INVERT DEPTH IS LESS THAN FOUR (4) FEET BELOW FINISHED GRADE.
19. SIZES OF THE WATER, GAS AND SEWER SERVICES ARE APPROXIMATE, SIZING TO BE DETERMINED DURING THE CONSTRUCTION DOCUMENT PHASE AND COORDINATION WITH THE MEP CONSULTANT.

ABBREVIATIONS

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CONC	CONCRETE
HDPE	HIGH-DENSITY POLYETHYLENE
EOP	EDGE OF PAVEMENT
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LEGEND

EXISTING		PROPOSED
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	UTILITY POLE	
	GUY WIRE	
	GUY POLE	
	SIGN	
	POST	
	BOLLARD	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
G	UNDERGROUND GAS LINE	G
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
S	UNDERGROUND SEWER LINE	S
D	UNDERGROUND DRAIN LINE	D
	DRAIN MANHOLE (DMH)	
	SEWER MANHOLE (SMH)	
	CATCH BASIN (CB)	
	GAS/WATER GATE	
	HYDRANT	
	BUSH	
	LOCUS PROPERTY LINE (±)	
	ADJOINERS PROPERTY LINE (±)	
OHW	OVERHEAD WIRE	
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	HISTORIC UTILITY LINE (G/W/E/S/D)	
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0 10 20 40 80
1 INCH = 20 FT.

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PROJECT NORTH

Utilities Plan

Scale: AS NOTED
Job No.:
Drawn By: CDW
Date: 1/31/2019

C400

EROSION & SEDIMENTATION CONTROL NOTES:

GENERAL

1. THE PURPOSE OF THESE NOTES IS TO PRESENT A CONSTRUCTION SYSTEM THAT SHOULD MINIMIZE THE IMPACT OF THE CONSTRUCTION UPON WETLANDS AND OTHER SENSITIVE AREAS. THE INFORMATION CONTAINED HEREIN IS TO SUPPLEMENT THE DEVELOPER OR CONTRACTOR'S EXPERTISE AND IS NOT MEANT TO CIRCUMVENT LOGICAL DECISIONS REQUIRED BY A VARIETY OF FIELD CONDITIONS INCLUDING WEATHER AND THE TYPE OF EQUIPMENT AVAILABLE TO THE CONTRACTOR.
2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION SEDIMENT CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN THE BARRIERS UNTIL ALL WORK IS COMPLETE AND ALL AREAS HAVE BEEN STABILIZED. THE REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE ONLY UPON THE APPROVAL OF THE DESIGNER AND OWNER.
3. SEDIMENTATION AND EROSION CONTROL DEVICES ARE TO BE INSTALLED AS SHOWN ON THE DRAWING AND SPECIFICATIONS, OR AS REQUIRED BY VARYING FIELD CONDITIONS INCLUDING WEATHER AND SPECIFIC CONSTRUCTION REQUIREMENTS. THE EROSION CONTROL AS SHOWN IS A MINIMUM REQUIREMENT, ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BASED ON A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY THE CONTRACTOR FOR THIS PROJECT, CONTRACTOR'S MEANS AND METHODS, CONSTRUCTION SEQUENCE, OR AS CONDITIONS WARRANT DUE TO WEATHER CONDITIONS.
4. THE FUNCTIONING OF TEMPORARY MITIGATIVE MEASURES OR CONSTRUCTION OPERATIONS SHALL NOT CAUSE NOTICEABLE SEDIMENTATION PLUMES. THE CONTRACTOR SHALL STOP WORK AND INSTALL SEDIMENTATION CONTROL DEVICES IMMEDIATELY TO PREVENT FURTHER SEDIMENTATION.
5. NO MATERIAL SUBJECT TO EROSION SHALL BE STOCKPILED OVERNIGHT WITHIN 100 FEET OF ANY WETLAND AREAS.
6. ACCUMULATED SEDIMENT SHALL BE PERIODICALLY REMOVED FROM THE EROSION CONTROL DEVICES AND DISPOSED OF BY THE CONTRACTOR AS REQUIRED OR WHEN DIRECTED BY THE DESIGNER OR OWNER.
7. SOIL AND SLOPE STABILIZATION SHALL PRESUMED TO BE ATTAINED WHEN THE VEGETATION HAS ACHIEVED AT LEAST 75% GROUND COVER BY A HEALTHY STAND OF GRASS FOR THE SPECIFIED MIX OF SPECIES.
8. THE CONTRACTOR WILL DESIGNATE A PERSON TO BE THE EROSION CONTROL OFFICER FOR THE PROJECT TO INSURE PROPER MAINTENANCE OF MITIGATING MEASURES. THE NAME OF THIS PERSON WILL BE PROVIDED TO THE DESIGNER AND OWNER.

DEMARCATION OF AREAS

1. BARRIERS SHALL BE PLACED ON THE SITE TO CONTROL THE LIMITS OF DISTURBANCE. AS AN EXAMPLE, HAY BALE BARRIERS PROVIDE DEMARCATION AND OTHER METHODS SUCH AS LOG BARRIERS, ROPE AND FLAGGING, ETC... MAY BE UTILIZED.
2. CARE SHOULD BE TAKEN IN THE OPERATION OF EQUIPMENT SUCH THAT ONLY THE MINIMUM AREA NEEDED TO BE ALTERED IS DISTURBED.

EROSION AND SEDIMENT CONTROL METHODS

1. EROSION CONTROL BARRIERS SUCH AS STRAW BALE, SILT FENCES AND MULCH SHALL BE BROUGHT TO THE SITE AND STOCKPILED PRIOR TO INITIATING CONSTRUCTION. A RESERVE STOCKPILE SHALL BE ON SITE AT ALL TIMES FOR USE DURING EMERGENCY SITUATIONS.
2. THE PRIMARY EROSION CONTROL METHOD TO BE UTILIZED IS TO LIMIT THE AREA OF DISTURBANCE AND PROMPT STABILIZATION OF DISTURBED AREAS.
3. EROSION AND SEDIMENT CONTROL DEVICES SUCH AS STRAW BALES, SILT FENCES, DIVERSION BERMS, ETC... SHALL BE UTILIZED FOR THE PROTECTION OF THE AREAS BEYOND THE LIMITS OF CONSTRUCTION.
4. ALL DEVICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND GOOD CONSTRUCTION PRACTICE.
5. THE CONCENTRATION OF UNCONTROLLED RUNOFF SHALL BE AVOIDED IN ORDER TO PREVENT THE TRANSPORTATION OF SEDIMENT.
6. CONTRACTORS SHALL MAKE EVERY REASONABLE EFFORT TO RETAIN SEDIMENT ON SITE AND PREVENT SEDIMENT MIGRATION TO OUTSIDE THE WORK AREA.
7. OFF-SITE MIGRATION OF SEDIMENT THROUGH VEHICLE TRAFFIC IN AND OUT OF SITE SHALL BE ADDRESSED WITH CONSTRUCTION SWEEPING AS DIRECTED BY THE LOCAL HIGHWAY SUPERINTENDENT, TOWN ENGINEER, OR OWNER.
8. SEDIMENT SHALL BE REMOVED FROM ANY SEDIMENT TRAPS OR PONDS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
9. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER RUNOFF.
10. OFF-SITE MATERIAL STORAGE AREAS, INCLUDING SOIL STOCKPILES AND BORROW PITS, USED SOLELY BY THE PERMITTED PROJECT, ARE CONSIDERED PART OF THE PROJECT UNDER THIS PERMIT AND ARE THEREFORE SUBJECT TO THE SAME RESTRICTIONS AND CONDITIONS OF A NPDES PERMIT APPLICABLE TO THIS PROJECT(IF ANY).
11. CONCRETE WASHOUT LOCATIONS SHALL BE LOCATED OUTSIDE OF RESOURCE AREAS AND THEIR ASSOCIATED BUFFER ZONE SETBACKS.
12. SNOW DUMPING AREAS DURING CONSTRUCTION SHALL BE LOCATED MORE THAN 100 FEET FROM WETLAND RESOURCE AREAS.

STABILIZATION PRACTICES

1. ALL SOIL SLOPES OF 2:1 OR GREATER SHALL BE STABILIZED WITH CURLEX BIODEGRADEABLE ENVIRONMENTAL MATTING OR EQUAL UNLESS OTHERWISE SPECIFIED. ALL OTHER SLOPES AND DETENTION BASINS SHALL BE STABILIZED WITH THE APPLICATION OF ECOAEGIS SPRAY MIX OR EQUAL. REMAINING AREAS SHALL BE LOAMED AND SEEDED WITH THE SPECIFIED SEED MIX.
2. STABILIZATION PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO: ESTABLISHMENT OF TEMPORARY VEGETATION, ESTABLISHMENT OF PERMANENT VEGETATION, MULCHING, GEOTEXTILES, SOD STABILIZATION, VEGETATIVE BUFFER STRIPS, PROTECTION OF TREES AND EXISTING VEGETATION, AND OTHER APPROPRIATE MEASURES.
3. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
4. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE, INCLUDING THE TIMELY REMOVAL OF SNOW COVER TO ALLOW STABILIZATION MEASURES TO BE PUT DIRECTLY IN CONTACT WITH THE SOIL SURFACE.
5. WHERE CONSTRUCTION ACTIVITY ON A SITE IS TEMPORARILY CEASED, AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 21 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

STRUCTURAL PRACTICES

1. STRUCTURAL PRACTICES MAY INCLUDE BUT ARE NOT LIMITED TO: SILT FENCES, STRAW BALES, EARTH DIKES, DRAINAGE SWALES, SEDIMENT TRAPS, CHECK DAMS, SUBSURFACE DRAINS, LEVEL SPREADERS, STORM DRAIN INLET PROTECTION, REINFORCED SOIL RETAINING SYSTEMS, GABIONS, AND TEMPORARY AND PERMANENT SEDIMENT BASINS.
2. PRIOR TO BEGINNING WORK, CONTRACTOR SHALL INSTALL EROSION CONTROL BARRIERS AS SHOWN ON PLANS IN AREAS WHERE WORK IS PLANNED. PERMANENT STORM WATER MANAGEMENT BASINS SHOWN ON PLANS MAY BE USED AS TEMPORARY SEDIMENTATION BASINS DURING CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT BERMS, SWALES OR OTHER MEASURES TO DIRECT STORM WATER TO TEMPORARY BASINS DURING CONSTRUCTION. WHERE STORM WATER CANNOT BE DIRECTED TO PERMANENT BASIN AREAS, TEMPORARY BASINS SHALL BE CONSTRUCTED WITH A VOLUME OF 3,600 CUBIC FEET PER ACRE OF AREA DIRECTED TO BASIN.

GENERAL SITE MAINTENANCE

1. UNDER NO CONDITIONS SHALL SOLID MATERIALS, INCLUDING BUILDING MATERIALS, BE DISCHARGED TO WATERS OF THE UNITED STATES EXCEPT AS MAY BE AUTHORIZED BY PERMIT UNDER SECTION 404 OF THE CLEAN WATERS ACT.
2. DUST SHALL BE CONTROLLED BY WATERING AS SITE CONDITIONS DEMAND.
3. STABILIZED STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO BEGINNING EARTHWORK. IF STONE VOIDS IN STONE IN CONSTRUCTION ENTRANCE BECOME COMPLETELY FILLED WITH SEDIMENT, STONE SHALL BE REMOVED AND REPLACED WITH CLEAN STONE.
4. ALL EROSION CONTROL MEASURES AND OTHER PROTECTIVE MEASURES USED ON THE SITE MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION. IF SITE INSPECTIONS IDENTIFY BMPS THAT ARE NOT FUNCTIONING, MAINTENANCE SHALL BE PERFORMED BEFORE THE NEXT ANTICIPATED STORM EVENT, OR AS NECESSARY TO MAINTAIN THE CONTINUED EFFECTIVENESS OF STORM WATER CONTROLS. IF MAINTENANCE PRIOR TO THE NEXT ANTICIPATED STORM EVENT IS IMPRACTICABLE, MAINTENANCE MUST BE SCHEDULED AND ACCOMPLISHED AS SOON AS PRACTICABLE.

INSPECTIONS

1. INSPECTIONS MUST BE CONDUCTED AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT OF 0.5 INCHES OR GREATER.
2. INSPECTIONS MAY BE REDUCED TO ONCE A MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR IF THE GROUND SURFACE IS STABILIZED BY SNOW, ICE OR FROZEN GROUND.
3. INSPECTIONS MUST BE CONDUCTED BY A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICE OF EROSION AND SEDIMENT CONTROLS WHO POSSESSES THE SKILLS TO ASSESS CONDITION AT THE CONSTRUCTION SITE THAT COULD IMPACT STORM WATER QUALITY AND TO ASSESS THE EFFECTIVENESS OF ANY SEDIMENT AND EROSION CONTROL MEASURES SELECTED TO CONTROL THE QUALITY OF STORM WATER DISCHARGES FROM THE CONSTRUCTION ACTIVITY.
4. FOR EACH INSPECTION PERFORMED, AN INSPECTION REPORT MUST BE COMPLETED AND SUBMITTED TO THE CONSERVATION COMMISSION AND RETAINED AS PART OF THE SWPPP FOR AT LEAST THREE YEARS FROM THE DATE THAT PERMIT COVERAGE EXPIRES OR IS TERMINATED.

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR SHALL PERFORM MAJOR SITE CONSTRUCTION ACTIVITIES IN A MANNER WHICH WILL INSURE THE STABILIZATION OF AREAS AS SOON AS POSSIBLE AS OUTLINED BELOW.

- INSTALL EROSION CONTROL BARRIER ALONG AREAS TO BE DISTURBED
- INSTALL CONSTRUCTION ENTRANCE(S)
- SOIL STABILIZATION
- CLEAR AND GRUB SITE
- EXCAVATE AND CONSTRUCT STORM WATER MANAGEMENT SYSTEMS
- INSTALL UTILITIES
- EXCAVATION AND GRADING FOR BUILDING SITE
- INSTALL PAVEMENT BASE
- FINAL GRADING AND SOIL TREATMENT WITH LOAM AND SEED

ACCESS

1. ACCESS TO THE SITE SHALL BE MADE IN THE AREA OF A PERMANENT DRIVEWAY OR ROADWAY UNLESS DOING SO WOULD RESULT IN A TRAFFIC HAZARD.
2. PRIOR TO CONSTRUCTION AN AREA OF CRUSHED STONE SHALL BE PLACED AT THE DRIVEWAY ENTRANCE TO INSURE THAT MUD IS NOT TRACKED ONTO THE EXISTING ROAD (SEE CONSTRUCTION ENTRANCE). IF MUD IS INADVERTENTLY TRACKED ONTO THE ROAD IT SHOULD BE REMOVED BEFORE THE END OF THE WORK DAY.
3. LABORERS VEHICLES SHALL BE PARKED IN A DESIGNATED AREA AS TO MINIMIZE DISTURBED SURFACES AND TO INSURE THAT RUTS ARE NOT CREATED AND WHICH COULD CARRY WATER TO A WETLAND OR SENSITIVE AREA.
4. SUITABLE MEASURES SHALL BE TAKEN TO INSURE THAT LARGE DELIVERY TRUCKS SERVICING THE SITE DO NOT DAMAGE AREAS OF EXISTING VEGETATION OR CAUSE DISTURBANCE TO STABILIZED AREAS.

CLEARING

1. LAND CLEARING SHALL BE PERFORMED IN PHASES CONSISTENT WITH ACTUAL CONSTRUCTION REQUIREMENTS. FINAL LAND CLEARING SHALL BE LIMITED TO RETURN TO GRADE SLOPES.
2. TREES SHALL BE CUT AND STUMPS GROUND IN PLACE TO EXISTING GRADE TO MAINTAIN SOIL STABILIZATION.
3. BRUSH AND BRANCHES SHOULD BE CHIPPED AND UTILIZED FOR WOOD MULCH IF PRACTICAL.

GRUBBING AND STRIPPING

1. TOP SOIL SHALL BE RETAINED FOR LANDSCAPING PURPOSES.
2. GRUBBING AND STRIPPING OF STEEP SLOPES SHOULD NOT BE UNDERTAKEN DURING PERIODS OF INTENSE RAINFALL.
3. TOP SOIL SATURATED WITH WATER SHALL BE REMOVED AND CONTAINED PRIOR TO BEING USED.
4. DURING PERIODS OF INTENSE RAINFALL, OR IF THE PROJECT IS TO BE LEFT FOR A PERIOD OF TIME, CONSIDERATION SHOULD BE GIVEN TO SUPPLEMENT EXISTING EROSION CONTROL DEVICES WITH CRUSHED STONE OR ARMORED BARRIERS. CONSIDERATION SHOULD ALSO BE GIVEN TO DIVERTING RUNOFF INTO TEMPORARY SEDIMENTATION CONTROL AREAS.
5. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.

ROUGH GRADING

1. THE ROUGH GRADING OF THE PAVEMENT AREAS SHALL FOLLOW STANDARD FILL AND EXCAVATION SEQUENCES, RESULTING IN SLOPES BEING MAINTAINED AS MUCH AS IS PRACTICAL.
2. DURING THIS PROCESS THE EROSION POTENTIAL IS HIGH AND SUFFICIENT EROSION CONTROL BARRIERS SHOULD BE KEPT ON SITE TO INSURE THAT NO SEDIMENT IS DISCHARGED FROM THE SITE.
3. IN EXTENSIVE AREAS OF CUT, OR WHEN TOES OF FILL COULD DIVERT WATER, METHODS SHOULD BE TAKEN TO DIVERT WATER AWAY FROM EXCAVATED OR FILLED AREAS.
4. STEEP SIDE SLOPES IN EXCAVATION OR FILL SHOULD BE AVOIDED AS MUCH AS IS PRACTICAL.
5. DISTURBED AREAS SHALL BE STABILIZED BY LOAMING AND SEEDING OR RIP RAPPED IMMEDIATELY AFTER THE FINISHED GRADE HAS BEEN MET. IF FINAL GRADING DOES NOT OCCUR DURING THE GROWING SEASON, THESE AREAS SHALL BE MULCHED BY HAY SECURED BY WEIGHTED SNOW FENCE, CHICKEN WIRE MESH OR JUTE MATTING WITH APPROPRIATE SECURING DEVICES.
6. A GROUND COVER SUFFICIENT TO RETAIN EROSION MUST BE PLANTED OR OTHERWISE PROVIDED WITHIN 30 WORKING DAYS, SEASON PERMITTING, ON ANY PORTION OF THE SITE UPON WHICH FURTHER ACTIVE CONSTRUCTION IS NOT BEING UNDERTAKEN.

DRAINAGE

1. DRAINAGE PIPES AND SWALES ARE TO BE CONSTRUCTED FROM THE DOWNSTREAM END UP AND CONSTRUCTION SHALL INCLUDE THE PLACEMENT OF OUTFALL RIP RAP AND OTHER MITIGATION MEASURES SHOWN ON THE PLAN.
2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION STRAW BALES OR OTHER SUITABLE METHODS TO ENTRAP SEDIMENT SHALL BE PLACED DOWNSTREAM.
3. THE TOE OF EMBANKMENTS SHALL BE STABILIZED IMMEDIATELY, MULCHED AND TACKED DOWN BY SUITABLE MEANS.
4. IF THE PROPOSED ROADWAY IS NOT PAVED IMMEDIATELY AFTER THE INSTALLATION OF DRAINAGE STRUCTURES, HAY BALE BARRIERS SHALL BE PLACED TO PROTECT THE INTEGRITY OF THE STRUCTURES.

LANDSCAPING

1. LANDSCAPING OF AREAS SHOULD OCCUR AS SOON AS POSSIBLE.
2. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT PERMIT THE ESTABLISHMENT OF VEGETATION, TEMPORARY HAY MULCH, OR OTHER MEANS OF STABILIZATION, SHALL BE PERFORMED.
3. THE USE OF HERBICIDES MAY BE SUBJECT TO LOCAL OR STATE REGULATIONS.
4. CARE SHOULD BE TAKEN WITH FERTILIZERS SUCH THAT THEY ARE NOT CARRIED TO A WETLAND OR SENSITIVE AREA.
5. TRUNKS OF TREES SHOULD NOT BE COVERED WITH MORE THAN TWO (2) INCHES OF SOIL.
6. STUMPS MAY BE GROUND DOWN INTO A WOOD MULCH AND UTILIZED OR REMOVED FROM THE SITE.

BUILDING CONSTRUCTION

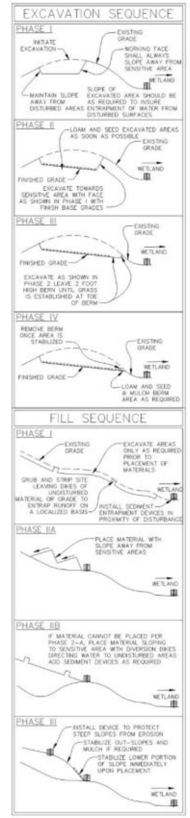
1. DURING BUILDING CONSTRUCTION MATERIALS SHALL BE STOCKPILED IN A MANNER AS TO NOT DIVERT OR CONCENTRATE RUNOFF IN ORDER TO PREVENT THE TRANSPORTATION OF SEDIMENT.
2. THE LOT SHOULD BE KEPT LITTER FREE.
3. NO FUELS, SOLVENTS, PAINTS, ETC. SHALL BE STORED ON SITE. THESE PRODUCTS SHALL BE REMOVED FROM THE SITE EACH EVENING AND RETURNED THE FOLLOWING DAY.
4. BURIAL OF CONSTRUCTION DEBRIS AND RELATED MATERIALS IS PROHIBITED.
5. PLASTERERS AND PAINTERS SHALL BE INFORMED THAT THE DISCHARGE OF LIQUIDS INTO A THE DRAINAGE SYSTEM OR WETLAND OR OTHER RESOURCE AREA IS PROHIBITED.

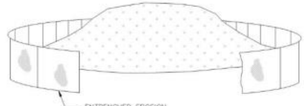
CREATION OF STORMWATER BASINS

1. THE PRIMARY EROSION CONTROL METHOD FOR BASIN CONSTRUCTION, AS WELL AS THE SITE, IS THE RAPID STABILIZATION OF ALL SURFACES. SECONDARY IN IMPORTANCE IS TO AVOID CONCENTRATION OF RUNOFF IN ORDER TO PREVENT THE TRANSPORTATION OF SEDIMENT.
2. DURING CONSTRUCTION THE FILL AND EXCAVATION SEQUENCES SHOWN ON THIS PLAN SHOULD BE UTILIZED. THESE SEQUENCES REQUIRE THAT SLOPED AREAS LEFT FOR ANY PERIOD OF TIME SHALL NOT NOT BE SLOPED TOWARDS THE WETLAND OR SENSITIVE AREA, BUT RATHER BACK INTO THE FILL MATERIAL.
3. THE BASIN BERM IS TO BE CONSTRUCTED BY EQUIPMENT WORKING ON STABLE MATERIAL ONLY. EROSION CONTROL BARRIERS SHALL BE PLACED AT THE TOE OF SLOPE UNTIL SURFACES ARE STABILIZED.
4. NO EXCAVATION WITHIN THE BASIN SHALL COMMENCE UNTIL THE BERM IS IN PLACE.
5. CARE SHOULD BE TAKEN TO INSURE THAT ORGANIC MATERIAL REMOVED FROM THE BASIN AREA IS RESERVED FOR FINISH GRADING AND THE STABILIZATION OF DISTURBED AREAS.
7. IF DEWATERING IS NECESSARY, PUMPING TO A SETTLING BASIN SHALL BE PERMITTED IF THE BASIN IS CONSTRUCTED, MAINTAINED AND OPERATED EFFECTIVELY.
8. ADDITIONAL NOTES REGARDING THE STORMWATER BASIN CONSTRUCTION ARE SHOWN ON THE BASIN CONSTRUCTION DETAILS.
9. DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE STORM WATER BASIN MAY BE USED AS A SEDIMENTATION AREAS. TO ACCOMMODATE THIS DUAL USE, DURING CONSTRUCTION THE FOLLOWING MEASURES SHALL BE USED:
   - DURING CONSTRUCTION THE BASIN SHALL BE EXCAVATED TO A DEPTH OF ONE (1) FOOT ABOVE FINAL GRADE. WHEN THE SITE IS STABILIZED, THE BASIN SHALL BE EXCAVATED TO THE FINISHED GRADES SHOWN ON THE DESIGN PLANS. THIS WILL ALLOW THE ORIGINAL SOIL TO REMAIN IN PLACE WITHOUT BEING DISTURBED OR CLOGGED WITH SILT TO PROVIDE FOR MAXIMUM INFILTRATION FOLLOWING THE COMPLETION OF THE BASIN CONSTRUCTION.
   - A TEMPORARY SILT FENCE BAFFLE SHALL BE INSTALLED IN THE LOCATION OF THE FOREBAY CHECK DAM, OR OTHER APPLICABLE LOCATION, TO PROMOTE THE SEDIMENTATION OF FINE PARTICULATE MATTER. ALTERNATIVELY A PERMANENT FOREBAY CHECK DAM WRAPPED IN FILTER FABRIC MAY BE USED IN LIEU OF THE SILT FENCE BAFFLE.
   - SILT ELEVATION POLES SHALL BE DRIVEN VERTICALLY INTO THE BASIN BOTTOM SO THAT THE ELEVATION OF THE BASIN BOTTOM AND MAXIMUM SILT LEVEL CAN BE MARKED ON IT AND READ FROM THE BASIN PERIMETER.
   - SEDIMENT SHALL BE ALLOWED TO ACCUMULATE TO A DEPTH OF ONE (1) FOOT OR TO AN ELEVATION OF ONE (1) FOOT LESS THAN THE ELEVATION OF THE LOWEST OUTLET. THIS MAXIMUM DEPTH SHALL BE RECORDED ON THE BASIN ELEVATION POLE, AND WHEN EXCEEDED, THE BASIN SILT SHALL BE REMOVED.
   - UPON FINAL STABILIZATION OF AREAS DRAINING TO THE STORMWATER BASIN THE SILT FENCE BAFFLE WILL BE REPLACED WITH A PERMANENT FOREBAY CHECK DAM, ANY TEMPORARY FILTER FABRIC REMOVED, AND THE BASIN INTERIOR AND EXTERIOR SIDE SLOPES SHALL BE RE-GRADED AS NECESSARY TO CONFORM TO THE PROPOSED GRADES. ALL SILT SHALL BE REMOVED, AND ALL AREAS RE-STABILIZED AS REQUIRED.

CATCH BASINS AND DRAIN INLETS

1. ALL CATCH BASINS AND DRAINAGE INLETS SHALL BE PROTECTED BY HAYBALE SILT DAMS UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED IN ALL AREAS TRIBUTARY TO THE STRUCTURE.
2. SILT SACKS SHALL BE INSTALLED IN ALL CATCH BASINS AND MAINTAINED UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED IN ALL AREAS TRIBUTARY TO THE STRUCTURE.
3. SEDIMENT SHALL BE ALLOWED TO ACCUMULATE IN THE SUMPS OF CATCH BASINS TO A DEPTH NO GREATER THAN SIX (6) INCHES.

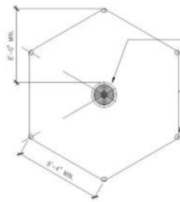




NOTE:

STABILIZE STOCKPILE WITH ANNUAL RYEGRASS, MULCH OR EROSION CONTROL BLANKETS.

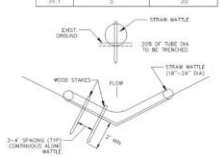
SOIL STOCKPILE - EROSION CONTROL
(NOT TO SCALE)



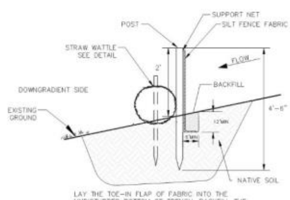
TREE PROTECTION
(NOT TO SCALE)

NOTES:
1. STRAW WATTLES MUST MEET THE CRITERIA OUTLINED IN THE SPECIFICATIONS BEFORE BEING UTILIZED AND BE FREE FROM DEFECTS OR TRANSPORTATION DAMAGE.
2. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE WATTLES ARE IN COMPLETE CONTACT WITH UNDERLYING SOIL. SEDIMENT TUBES ARE TO BE 18"-24" IN DIAMETER AND ARE TO BE TRENCHED 3 TO 5 INCHES.
3. WATTLES ARE TO BE INSTALLED PERPENDICULAR TO WATER FLOW.
5. THE WATTLES SHALL BE STAKED DOWN WITH 1 INCH BY 1 INCH WOOD STAKES OR 1.25 LBS/LINEAR FOOT STEEL POSTS EVERY 3 TO 4 FEET ALONG ITS LENGTH. THE STAKES SHALL BE A MINIMUM OF 2 FEET INTO THE GROUND LEAVING LESS THAN 6 INCHES OF THE STAKE ABOVE THE EXPOSED WATTLE. REFER TO THE MANUFACTURERS RECOMMENDATIONS FOR OTHER STAKING DETAILS.
6. SELECT PROPER LENGTH OF WATTLES TO MINIMIZE THE NUMBER NEEDED TO SPAN THE WIDTH OF AREA. IF NECESSARY, WATTLES CAN BE LAPPED A MINIMUM OF 6 INCHES TO PREVENT PASSAGE OF FLOW AND SEDIMENT THROUGH FIELD JOINT.
7. INSTALL WATTLES FOR DITCH CHECKS OVER BARE SOIL, MULCHED AREAS, OR EROSION CONTROL BLANKETS. KEEP WATTLES FOR DITCH CHECKS IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS HAVE COMPLETELY DEVELOPED AND CAN SURVIVE ON THEIR OWN.
8. REMOVE AND/OR REPLACE INSTALLED WATTLES AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS. REMOVE WHEN THE FUNCTIONAL LONGEVITY IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR, OR MANUFACTURERS REPRESENTATIVE. GATHER WATTLES AND DISPOSE OF THEM IN REGULAR MEANS AS NON-HAZARDOUS INERT MATERIAL.
10. PRIOR TO FINAL STABILIZATION, BACKFILL ALL TRENCHES, DEPRESSIONS, AND OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF THE WATTLES.

SLOPE	ON SLOPE SPACING (FT)	MIN DIAMETER (INCH)
<6:1	50	12
6:1 - 4:1	25	20
4:1 - 2:1	20	20
2:1 - 1:1	10	20
>1:1	5	20

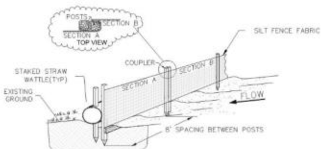


EROSION CONTROL BARRIER, STRAW WATTLES (TYP)
(NOT TO SCALE)

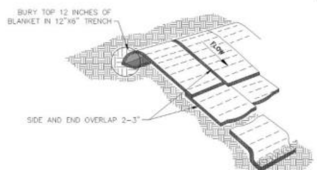


LAY THE TOE-IN FLAP OF FABRIC INTO THE UNDISTURBED BOTTOM OF TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. PLACE HAYBALES NEXT TO THE FILTER FABRIC.

TOE-IN METHODS

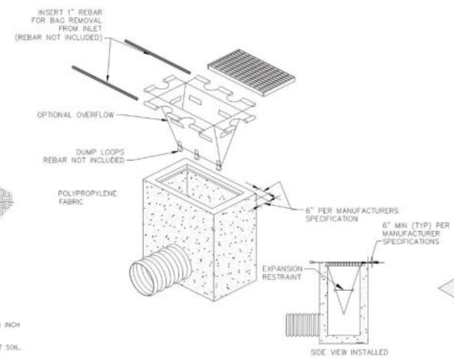


EROSION CONTROL BARRIER - HAYBALE/SILTFENCE
(NOT TO SCALE)



1. GRADE AND COMPACT AREA OF INSTALLATION AND REMOVE ALL ROCK, CLODS, VEGETATION OR OTHER OBSTRUCTION SO THAT THE INSTALLED BLANKET/MAT WILL HAVE DIRECT CONTACT WITH THE SOIL.
2. PREPARE SEEDBED BY LOOSENING 2-3IN OF TOPSOIL ABOVE FINAL GRADE.
3. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO THE SOIL IF NEEDED. DO NOT MULCH AREAS WHERE MAT IS TO BE PLACED.
4. APPLY SEED TO THE SOIL SURFACE BEFORE INSTALLING BLANK/MAT, OR AFTER INSTALLATION FOR TURF REINFORCEMENT MATS FOR ENHANCED PERFORMANCE.
5. EXTEND BLANKET/MAT 2-3 FEET OVER CREST OF SLOPE AND EXCAVATE A 12x6 INCH TERMINAL ANCHOR TRENCH
6. ANCHOR BLANKET/MAT IN A TRENCH ON 1 FT SPACING, BACKFILL AND COMPACT SOIL.
7. ROLL THE BLANKETS THE SLOPE WITH THE APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE
8. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP AND STAPLE. MAKE SURE THAT EDGE OVERLAPS ARE SHINGLED AWAY
9. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
10. LAY BLANKETS/MAT LOOSE TO MAINTAIN DIRECT CONTACT WITH SOIL.
11. TO BE INSTALLED ON ALL SLOPES 2:1 OR STEEPER UNLESS OTHERWISE NOTED.

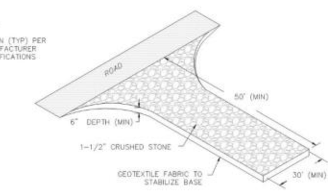
STABILIZED SLOPE DETAIL
(NOT TO SCALE)



NOTES:

1. INSTALL CATCH BASIN INLET PROTECTION PER MANUFACTURER'S SPECIFICATIONS.
2. REMOVE CATCH BASIN GRATE AND INSTALL POLYPROPYLENE FABRIC OVER CATCH BASIN FRAME. REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.
3. LENGTH AND WIDTH WILL BE MANUFACTURED TO FIT THE OPENING OF THE CATCH BASIN OR DROP INLET.
4. MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE CATCH BASIN INLET PROTECTION SACK AS NEEDED.

CATCH BASIN INLET PROTECTION
(NOT TO SCALE)



CONSTRUCTION ENTRANCE / EXIT PAD
(NOT TO SCALE)

COMMONWEALTH OF MASSACHUSETTS ERIC S. WILHELMSEN CIVIL No. 41596 REGISTERED PROFESSIONAL ENGINEER

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PROJECT NORTH

CONSTRUCTION DETAILS

Scale: AS NOTED
Job No.:
Drawn By: CDW
Date: 1/30/2019

C500

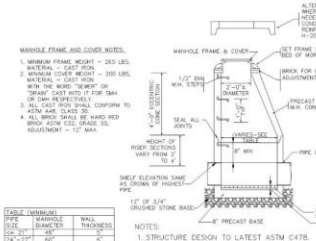
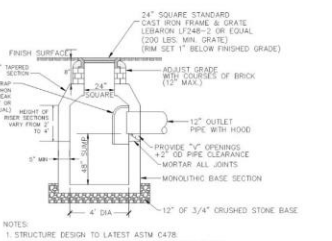
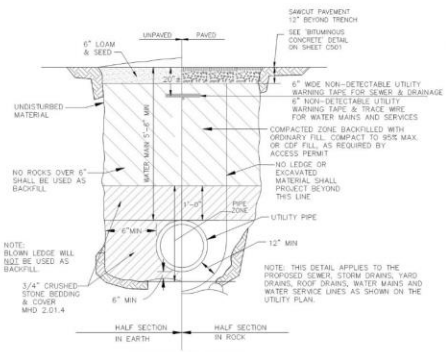


TABLE (MINIMUM)		
PIPE SIZE	MANHOLE DIAMETER	WALL THICKNESS
24" – 27"	48"	5"
27" – 36"	60"	5"
42" – 60"	72"	5"
42" – 60"	84"	5"

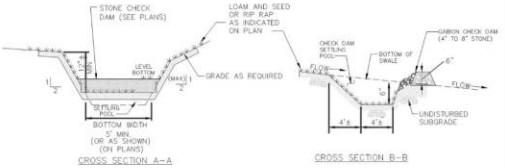
PRECAST CONCRETE DRAIN MANHOLE
(NOT TO SCALE)

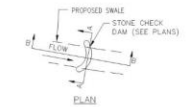


PRECAST CONCRETE CATCH BASIN W/TRAP
(NOT TO SCALE)



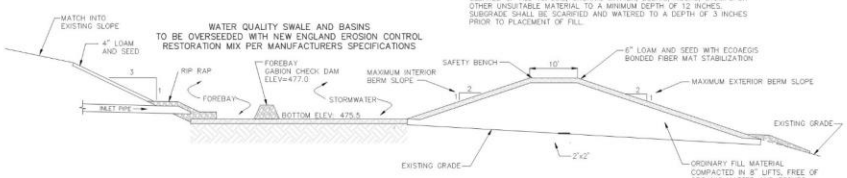
TYPICAL PIPE IN TRENCH
(NOT TO SCALE)





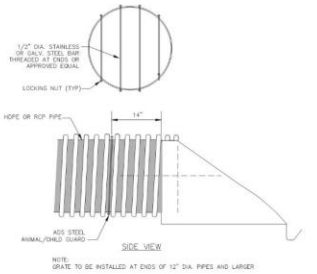
NOTES:
1. ALL TREES, STUMPS, BRUSH AND DEBRIS SHALL BE REMOVED FROM THE AREA OF THE DRAINAGE SWALE AND DISPOSED OF PROPERLY.
2. GRASS SWALES TO BE STABILIZED WITH 4" LOAM & EROSION CONTROL SEED MIX WITH JUTE MATTING.
3. TEMPORARY DIKES MAY BE CONSTRUCTED AROUND THE TOPS AND SIDES OF WATERWAYS TO DIVERT RUNOFF AS REQUIRED DURING CONSTRUCTION.

GRASSED SWALE
(NOT TO SCALE)

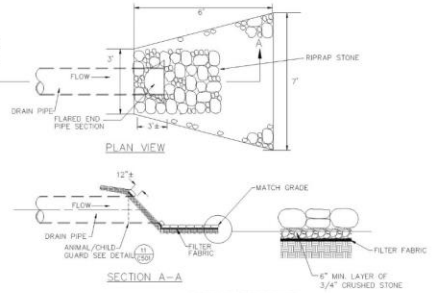


NOTE:
EXISTING GRADE BASE FOR ALL STORMWATER BASIN BERMS SHALL BE CLEARED OF ALL TOPSOIL, ORGANIC MATTER, DEBRIS, ROCKS, STUMPS OR OTHER UNSUITABLE MATERIAL TO A MINIMUM DEPTH OF 12 INCHES. SUBGRADE SHALL BE SCARIFIED AND WATERED TO A DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF FILL.

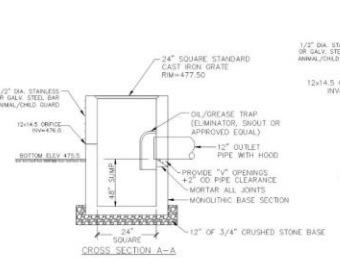
TYPICAL STORMWATER BASIN CROSS SECTION
(NOT TO SCALE)



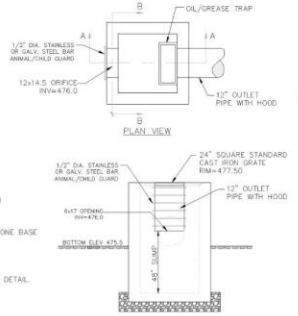
ADS STEEL ANIMAL/CHILD GUARD
(NOT TO SCALE)



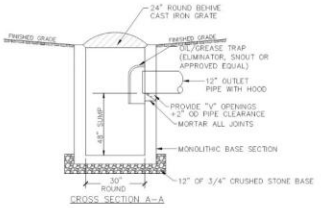
RIP RAP AT PIPE ENDS



NOTES:
1. SEE ADDITIONAL INFORMATION ON PRECAST CATCH BASIN DETAIL.

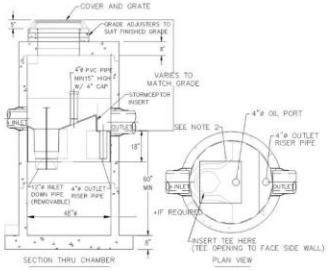


OUTLET CONTROL STRUCTURE (CB2 - OCS)
(NOT TO SCALE)



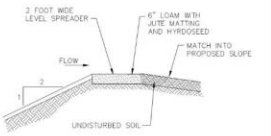
NOTES:
1. SEE ADDITIONAL INFORMATION ON PRECAST CATCH BASIN DETAIL.

DROP OUTLET
(NOT TO SCALE)

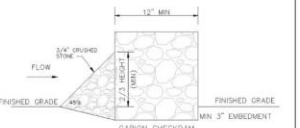


NOTES:
1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE INLET DROP PIPE AND THE OIL PORT.
3. CONTACT A CONCRETE PIPE DIVISION REPRESENTATIVE FOR FURTHER DETAILS NOT LISTED ON THIS DRAWING.
4. USE STORMCEPTOR STC 450(S) OR APPROVED EQUAL

WATER QUALITY STRUCTURE (CB1)
(NOT TO SCALE)



LEVEL SPREADER SECTION
(NOT TO SCALE)



1. ALL STONE TO CONFORM TO MHD M2.02.4.
2. GABIONS TO USE GEOMESH WIRE ROLLS OR APPROVED EQUAL.

GABION CHECK DAM
(NOT TO SCALE)

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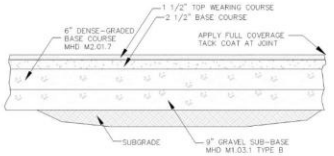
PROJECT NORTH

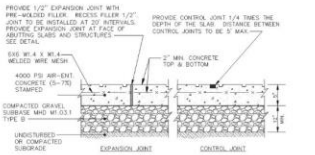
CONSTRUCTION DETAILS

Scale: AS NOTED
Job No.:
Drawn By: CDW
Date: 1/30/2019

C501

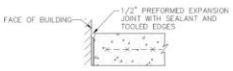


BITUMINOUS CONCRETE PAVEMENT
(NOT TO SCALE)

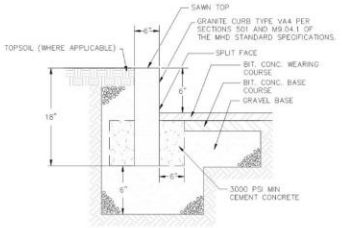


1. MAXIMUM CROSS SLOPE = 2%
2. MAXIMUM GRADIENT = 5%
3. PROVIDE EXPANSION JOINT AT FACE OF ABUTTING SLABS AND STRUCTURES, INCLUDING BACK OF CURB
4. PROVIDE VERTICAL GRANITE OR PRECAST CONCRETE CURBING.
5. CONCRETE SIDEWALK TO BE SEALED WITH A WATERPROOF COMPOUND.

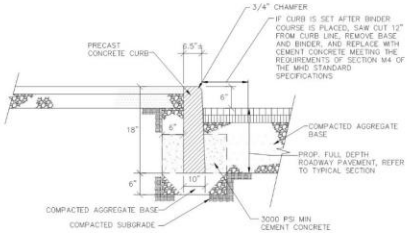
CONCRETE SIDEWALK
(NOT TO SCALE)



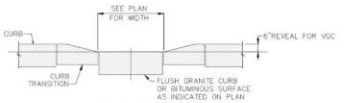
BUILDING SIDEWALK EXPANSION JOINT
(NOT TO SCALE)



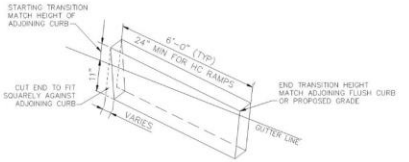
VERTICAL GRANITE CURB
(NOT TO SCALE)



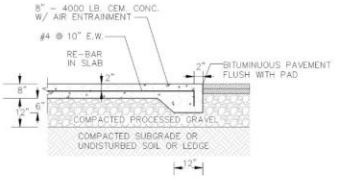
PRECAST CONCRETE CURB
(NOT TO SCALE)



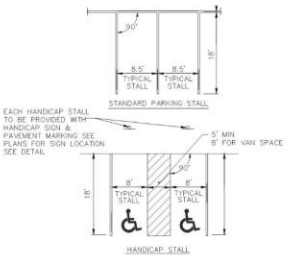
FLUSH CURB
(NOT TO SCALE)



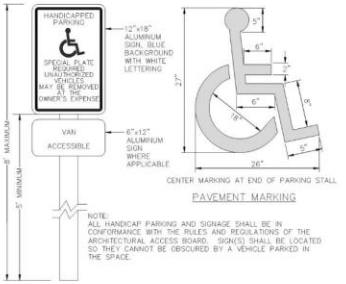
TRANSITION CURB DETAIL
(NOT TO SCALE)



CONCRETE DUMPSTER PAD
(NOT TO SCALE)

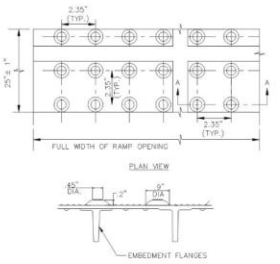


PARKING STALL LAYOUT
(NOT TO SCALE)

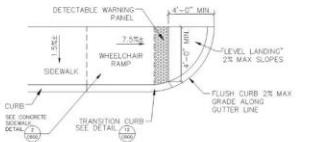


NOTE:
ALL HANDICAP PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBSCURED BY A VEHICLE PARKED IN THE SPACE.

HANDICAP SIGNAGE
(NOT TO SCALE)



DETECTABLE WARNING PANEL
(NOT TO SCALE)



HANDICAP ACCESSIBLE RAMP
(NOT TO SCALE)

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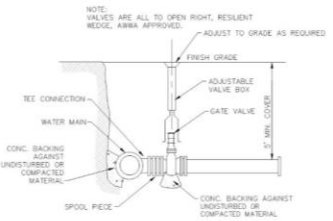
PROJECT NORTH

CONSTRUCTION DETAILS

Scale: AS NOTED
Job No.:
Drawn By: CDW
Date: 1/30/2019

C502



TYPICAL VALVE DETAIL

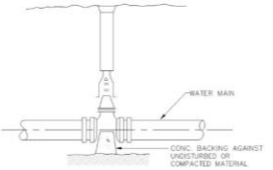
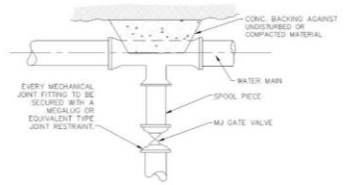


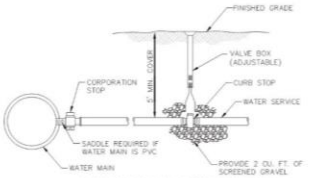
TABLE OF BEARING AREAS IN S.F. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS

SIZE OF MAIN (IN.)	45° BEND	TEES & PLUGS	22 1/2° BEND
8" & LESS	8	10	6
10" & 12"	22	16	13

TYPICAL VALVE

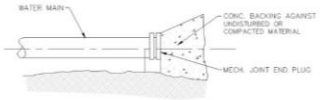


TYPICAL VALVE CONNECTION–RESTRAINED JOINT TEE

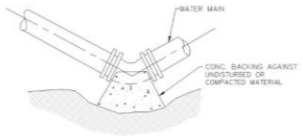


1. ONLY FORD, MUELLER, OR MAC DONALD BRASS WILL BE ACCEPTED.
2. SANDY SILTY FILL IS REQUIRED TO BE PLACED AROUND SERVICE LINES.
3. ONLY ERIE TYPE CURB BOXES, PLUG COVER WITH RODS ARE ACCEPTED.

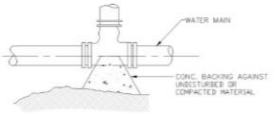
WATER SERVICE DETAIL



TYPICAL PLUG

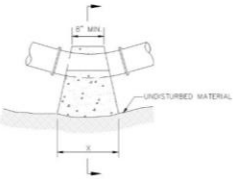


TYPICAL BEND

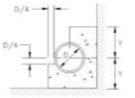


TYPICAL TEE

TYPICAL WATER SUPPLY DETAILS
(NOT TO SCALE)



PLAN

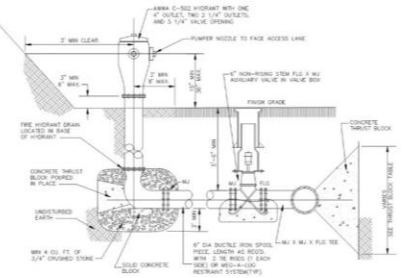


SECTION

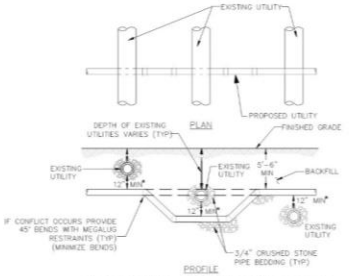
	BENDS AND SIZE OF MAINS								
	11° BEND			22 1/2° BEND			45° BEND		
D	4"	6"	8"	4"	6"	8"	4"	6"	8"
X	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
Y	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-7"

THRUST BLOCK DETAILS
(NOT TO SCALE)

NOTE:
1. DIMENSIONS FOR THRUST BLOCKS ARE MINIMUM.
2. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
3. ALL CONCRETE SHALL BE CLASS 3500 P.S.I. IN 28 DAYS.

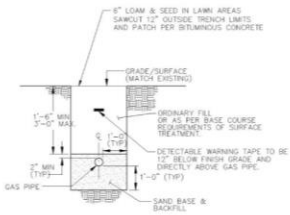


TYPICAL FIRE HYDRANT ASSEMBLY
(NOT TO SCALE)



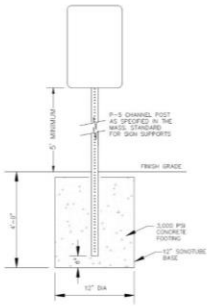
*NOTE: WHERE WATER MAIN IS CROSSING EXISTING SEWER LINES INSTALL A FULL JOINT OF PIPE CENTERED AT THE CROSSING, AND PROVIDE 18" MINIMUM CLEARANCE. IF THE MINIMUM 18" CLEARANCE CANNOT BE MET THE WATER AND SEWER SHALL BE ENCASED IN CONCRETE 10–FEET ON EITHER SIDE OF THE CROSSING.

UTILITY CROSSING
(NOT TO SCALE)



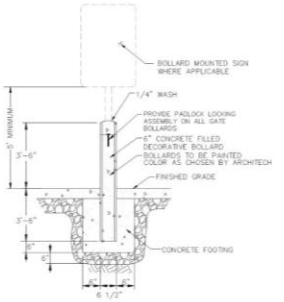
NOTE:
THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING & ALL BACKFILL AS REQUIRED.

GAS TRENCH DETAIL
(NOT TO SCALE)

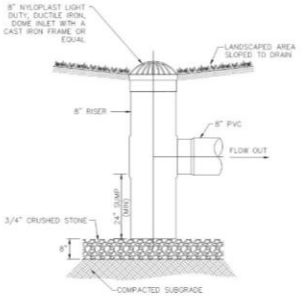


STANDARD SIGN BASE

TYPICAL SIGN POST BASES
(NOT TO SCALE)



TYPICAL 6" PERMANANT BOLLARD
(NOT TO SCALE)



AREA DRAIN
(NOT TO SCALE)

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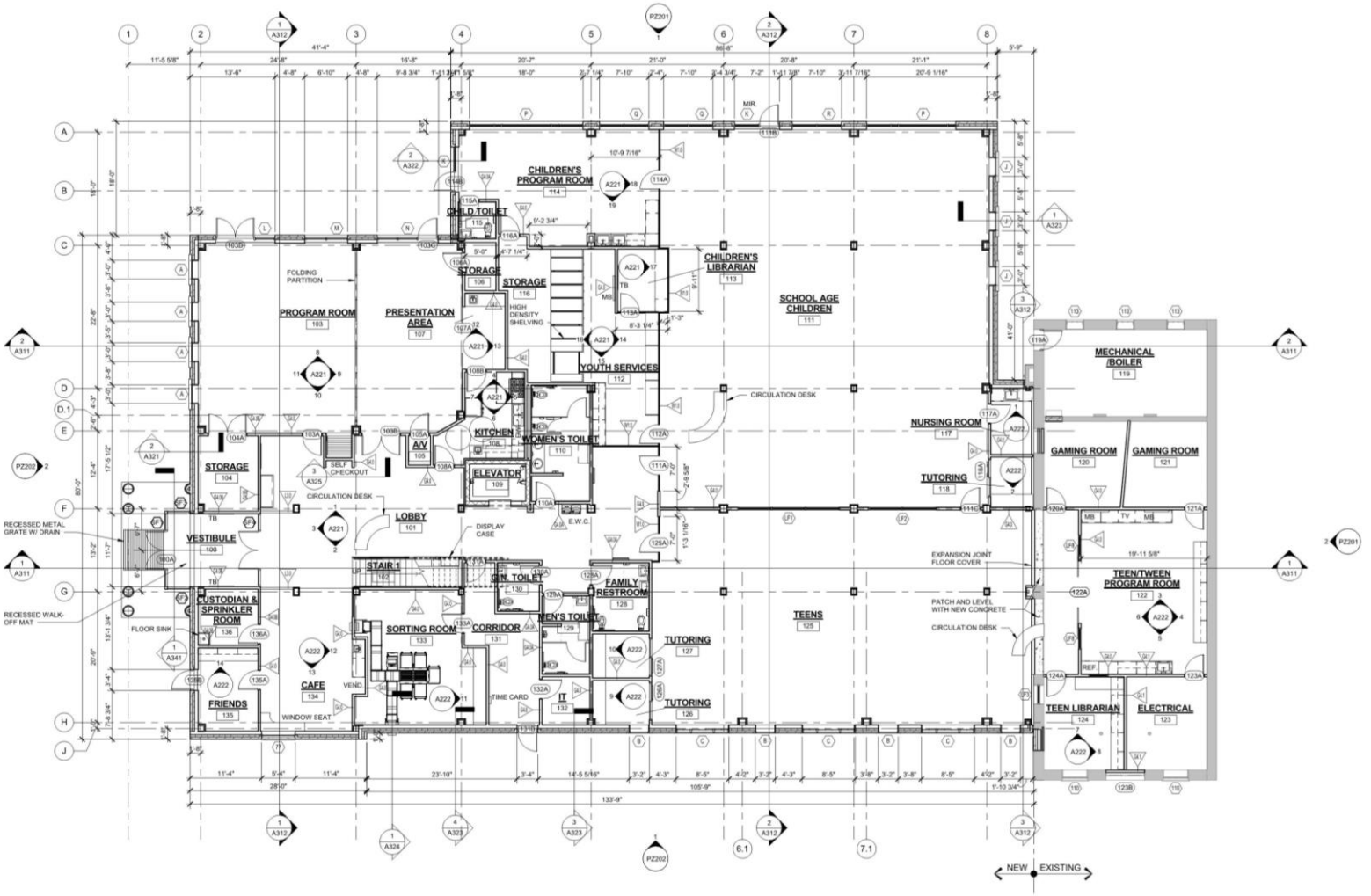
PROJECT NORTH

CONSTRUCTION DETAILS

Scale: AS NOTED
Job No.:
Drawn By: CDW
Date: 1/30/2019

C503



1 Lower Level PZ Submission
1/8" = 1'-0"

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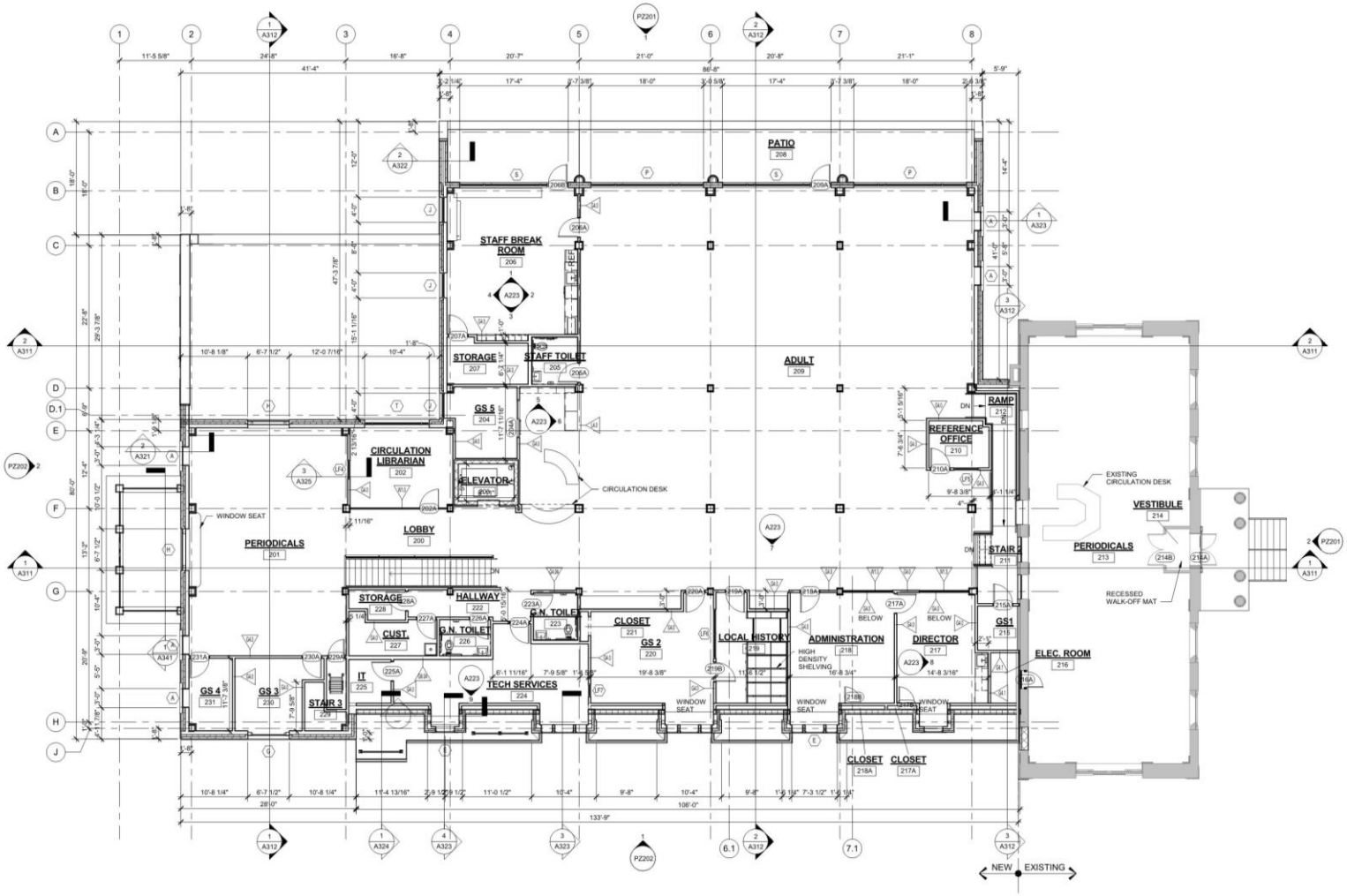
PROJECT NORTH

LOWER LEVEL FLOOR PLAN

Scale: AS NOTED
Job No.: 16020.01
Drawn By: DRA
Date: 1/31/19

PZ101



1 Upper Level PZ Submission
1/8" = 1'-0"

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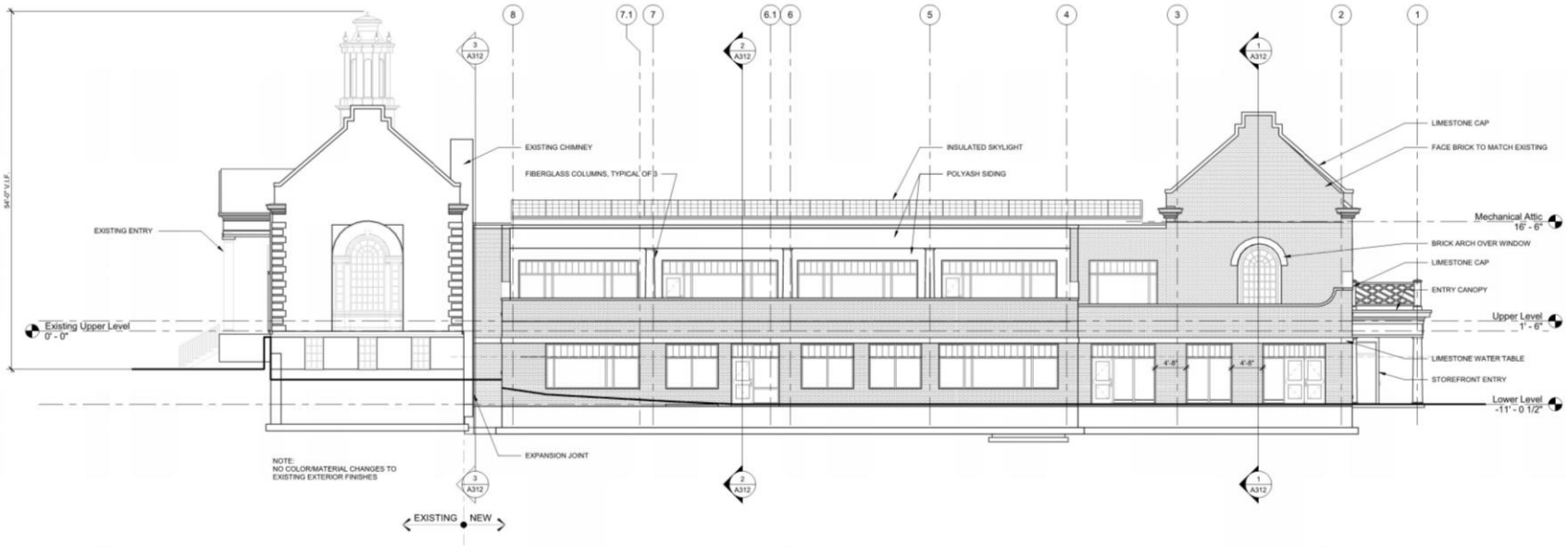
PROJECT NORTH

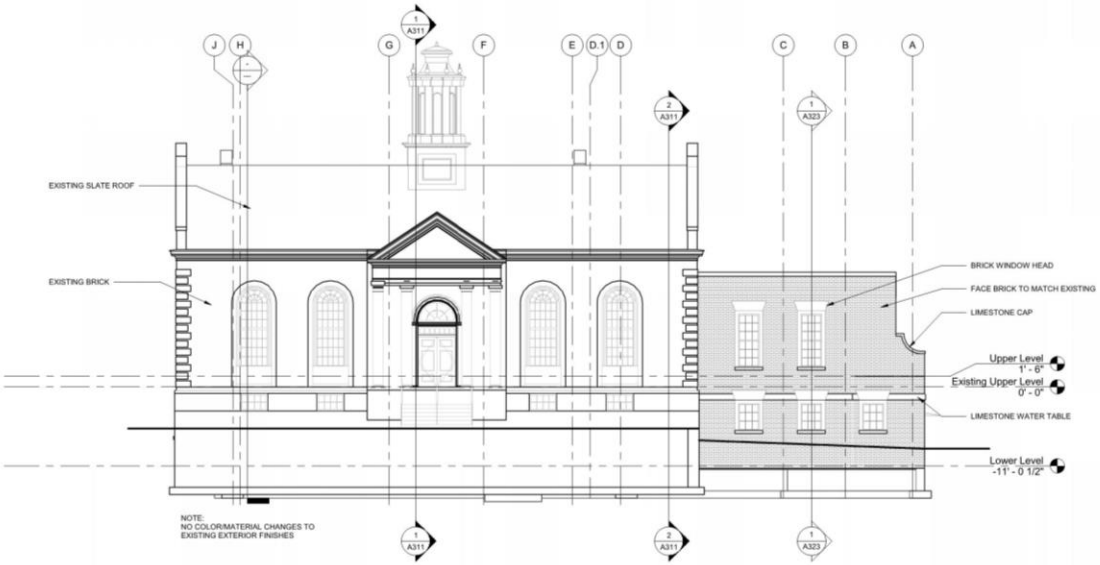
UPPER LEVEL FLOOR PLAN

Scale: AS NOTED
Job No.: 16020.01
Drawn By: DRA
Date: 1/31/19

PZ102



1 SOUTH ELEVATION
1/8" = 1'-0"



2 WEST ELEVATION
1/8" = 1'-0"

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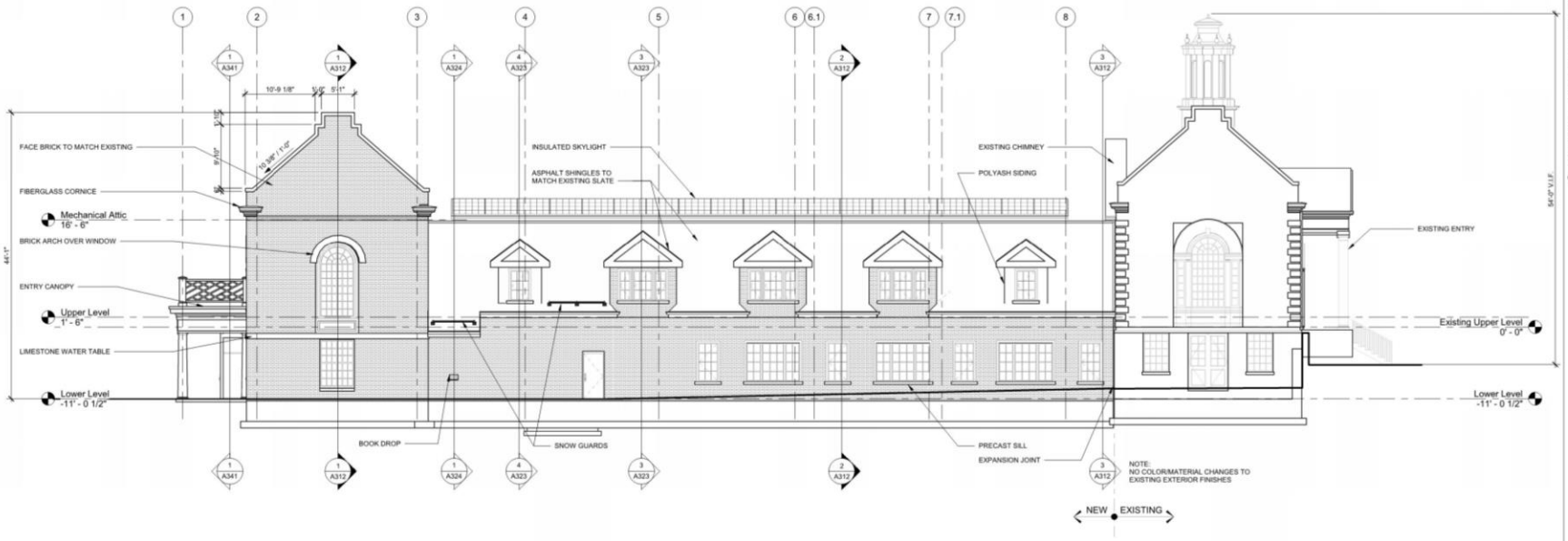
PROJECT NORTH

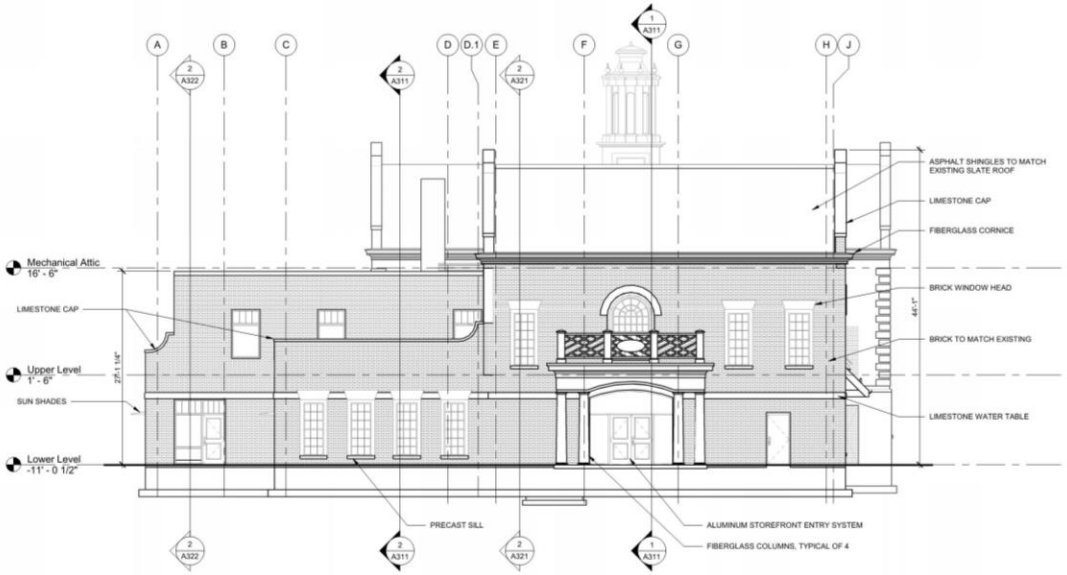
EXTERIOR ELEVATIONS

Scale: AS NOTED
Job No.: 16020.01
Drawn By: DRA
Date: 1/31/19

PZ201



1 NORTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
1/8" = 1'-0"

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Planning Architecture Interior Design

THE GRAFTON PUBLIC LIBRARY

GRAFTON, MA

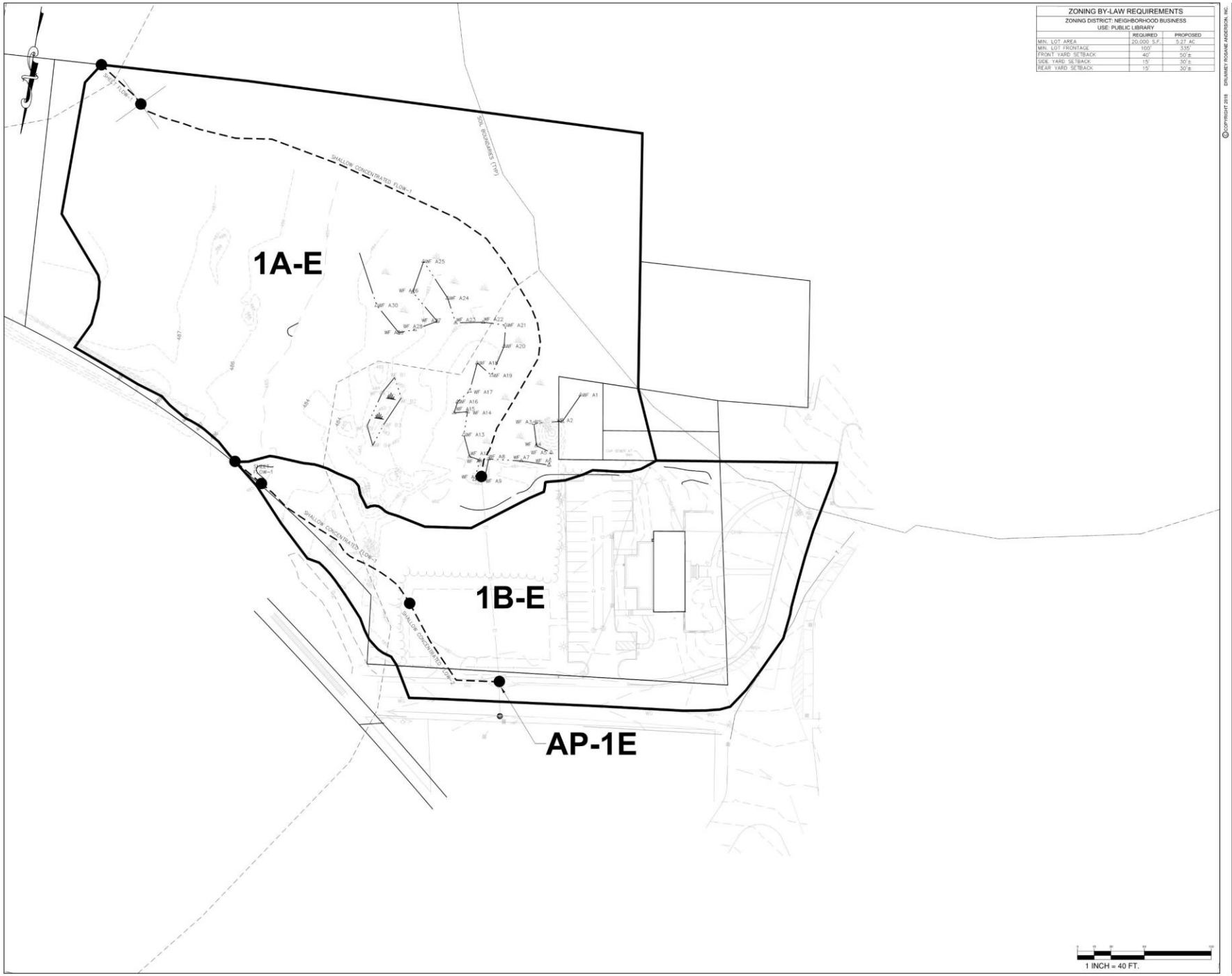
PLANNING AND ZONING SUBMISSION

PROJECT NORTH

EXTERIOR ELEVATIONS

Scale: AS NOTED
Job No.: 16020.01
Drawn By: DRA
Date: 1/31/19

PZ202



ZONING BY-LAW REQUIREMENTS		
ZONING DISTRICT: NEIGHBORHOOD BUSINESS		
USE: PUBLIC LIBRARY		
	REQUIRED	PROPOSED
MIN. LOT AREA	20,000 S.F.	5.27 AC
MIN. LOT FRONTAGE	100'	335'
FRONT YARD SETBACK	40'	50'±
SIDE YARD SETBACK	15'	30'±
REAR YARD SETBACK	15'	30'±

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CDW CONSULTANTS, INC.
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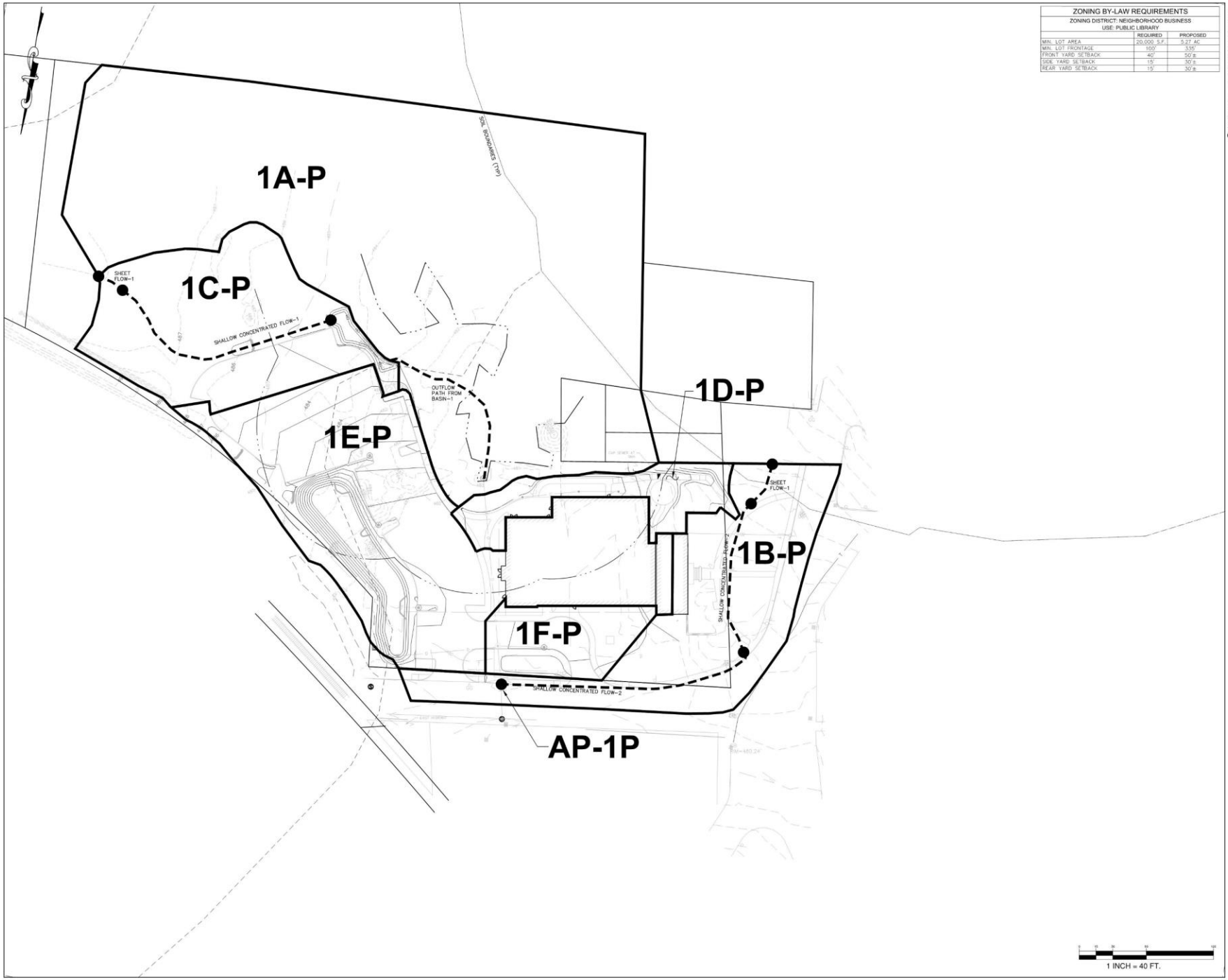
6 HURON DRIVE
NATICK, MA 01760
TEL (508) 875-267 FAX (508) 875-6817
www.cdwconsultants.com

PROJECT NORTH

Pre Development Watershed

Scale: 1" = 40'
Job No.:
Drawn By: CDW
Date: 1/31/2019

C001



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PROJECT NORTH

Post Development Watershed

Scale: 1" = 40'
Job No.:
Drawn By: CDW
Date: 1/31/2019

C002