

TOWN OF LEXINGTON, MASSACHUSETTS

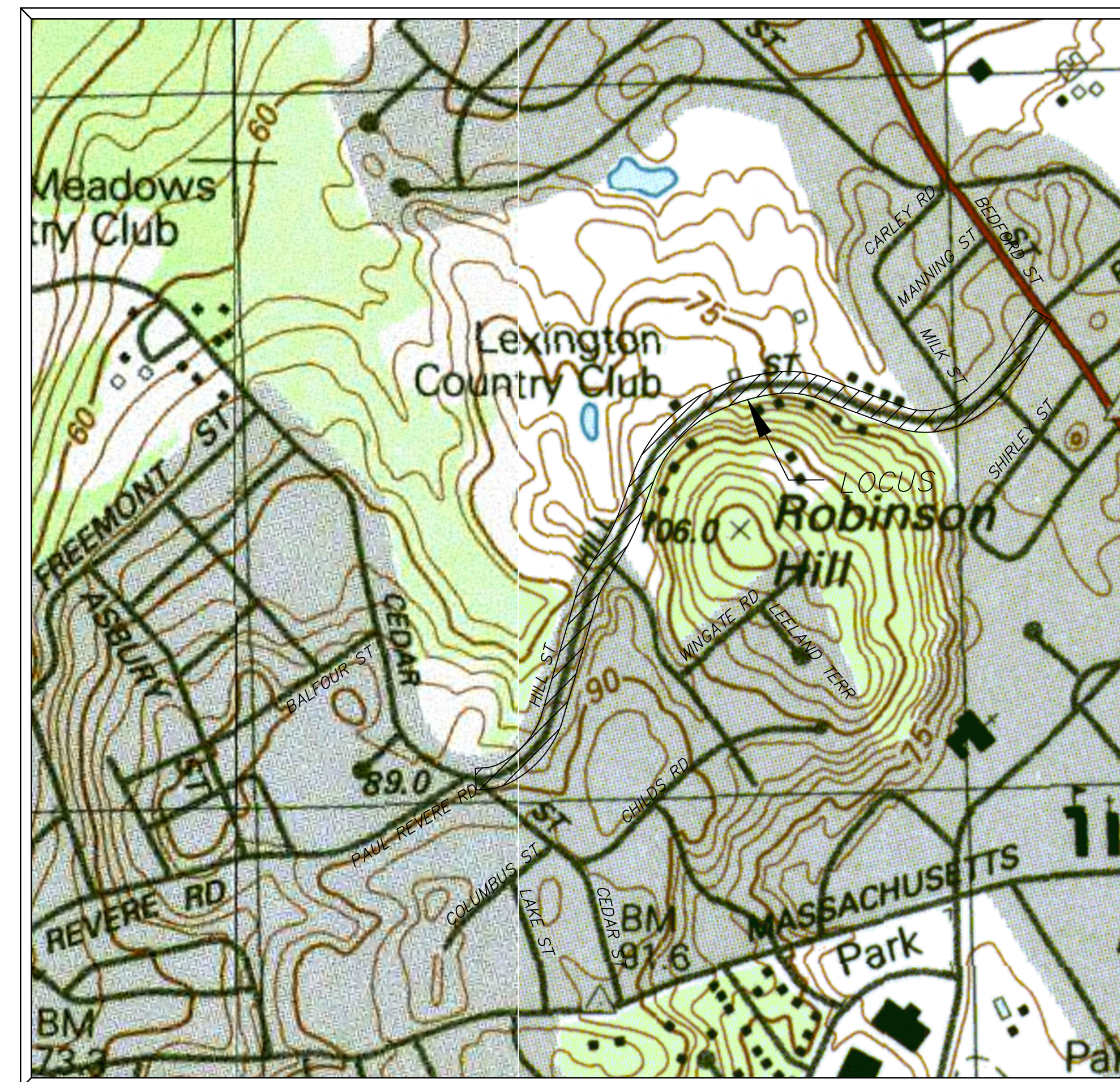
HILL STREET

PROPOSED SIDEWALK PLAN

AUGUST 6, 2020

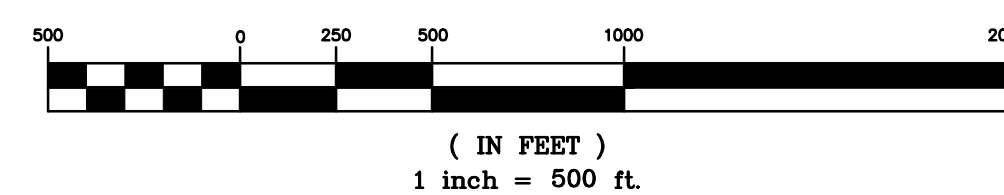
LEGEND:

N/F	NOW OR FORMERLY	—	HEDGE LINE
FND	FOUND	—	STONE WALL
GRAV	GRAVEL	— SWEL	ROADWAY STRIPING SINGLE WHITE EDGE LINE
BIT	BITUMINOUS CONCRETE	— DYCL	ROADWAY STRIPING DOUBLE YELLOW CENTER LINE
CONC	CEMENT CONCRETE	— VGC	EXISTING VERTICAL GRANITE CURB
EOP	EDGE OF PAVEMENT	— BIT BERM	EXISTING BITUMINOUS BERM CURBING
DRV	DRIVEWAY	—	EXISTING CHAIN LINK FENCE
DYCL	DOUBLE YELLOW CENTERLINE	—	EXISTING WOOD OR STOCKADE FENCE
SWEL	SINGLE WHITE EDGE LINE	— 170'	EXISTING 5' CONTOURS
SYL	SINGLE YELLOW LINE	— 160'	EXISTING 1' CONTOURS
SWL	SINGLE WHITE LINE	— 130.56	EXISTING ROADWAY/CURB GRADE
EOP	EDGE OF PAVEMENT	□	EXISTING BOUND
RET	RETAINING (WALL)	—	EXISTING MAG NAIL
BAL	BALANCING (WALL)	IR, IP	EXISTING IRON ROD OR PIPE
□	EXISTING DRAINAGE CATCH BASIN	LP	EXISTING GEODISC
○	EXISTING ROUND DRAINAGE CATCH BASIN	⊙ 3.50"	EXISTING LAMP POST
⊙	EXISTING DRAIN MANHOLE	⊙ 3.50"	EXISTING TREE W/TRUNK DIAMETER
⊙	EXISTING UTILITY POLE	⊙	EXISTING EASTERN RED BUD
⊙	EXISTING GUY WIRE ANCHOR	⊙ 3.50"	EXISTING TREE STUMP W/TRUNK DIAMETER
⊙	EXISTING SIGN	—	EXISTING APPROXIMATE PROPERTY LINE
⊙	EXISTING MAIL BOX	— R.O.W.	EXISTING RIGHT OF WAY
⊙	EXISTING WATER GATE VALVE	—	PROFILE - EXISTING ROADWAY CENTERLINE
⊙	EXISTING HYDRANT	—	PROFILE - EXISTING LEFT GUTTER LINE
⊙	EXISTING WATER SHUT OFF	—	PROFILE - EXISTING RIGHT GUTTER LINE
⊙	EXISTING GAS VALVE		
⊙	EXISTING ELECTRIC HAND HOLE		
⊙	EXISTING ELECTRIC MH		
—	EXISTING DRAIN LINE		
—	EXISTING WATER LINE		
—	EXISTING GAS LINE		
—	EXISTING SEWER LINE		
—	EXISTING ELECTRIC LINE		



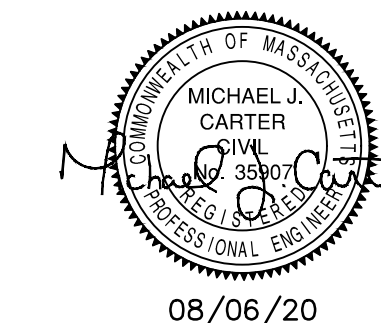
SOURCE: TOWN OF LEXINGTON GIS

LOCUS PLAN
SCALE: 1"=500'
GRAPHIC SCALE



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BID SET

GCG ASSOCIATES INC. CONSULTING ENGINEERS WILMINGTON, MASSACHUSETTS

PLAN NO. 1 OF 14

GENERAL NOTES

- PLANS AND TOPOGRAPHIC INFORMATION ARE PREPARED FROM A GROUND SURVEY PERFORMED BY GCG ASSOCIATES, INC., IN AUGUST, 2016, FEBRUARY AND APRIL 2018.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES ON SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING AN INDEPENDENT UTILITY MARKING COMPANY TO LOCATE EXISTING UTILITIES ON SITE. THE COST FOR THIS SHALL BE INCLUDED UNDER THE BASE BID.
- EXISTING UTILITIES INTERFERING WITH THE WORK SHALL BE RELOCATED AS DIRECTED IN THE FIELD BY THE ENGINEER, UNLESS OTHERWISE INDICATED OR SPECIFIED.
- DAMAGE TO ANY UTILITY WILL BE REPAIRED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, IN A TIMELY MANNER SO THAT DISRUPTION OF SERVICE TO ANY UTILITY WILL NOT BE LONGER THAN PRACTICALLY NECESSARY TO REPAIR THE DAMAGE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL STATE OR LOCAL BUILDING PERMITS THAT MAY BE REQUIRED. THE OWNER SHALL PAY FOR ALL PERMITS.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A CONSTRUCTION SCHEDULE DELINEATING THE SEQUENCE OF WORK, TRAFFIC MANAGEMENT PLAN AND ESTIMATED TIME OF COMPLETION OF EACH SEGMENT OF WORK, PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL MAINTAIN CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION SATISFACTORY TO THE ENGINEER AND THE TOWN. ACCESS TO ALL EXISTING RESIDENCES SHALL BE MAINTAINED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE PARKING LOT DURING CONSTRUCTION FOR ALL RESIDENTS. CONTRACTOR SHALL PROVIDE PROPER NOTICE TO ALL RESIDENTS WHEN ACCESS AND EGRESS IS IMPEDED OR OBSTRUCTED. CONTRACTOR CONSTRUCTION SCHEDULE SHALL INCLUDE PROJECT PHASING TO ENSURE MAINTENANCE OF ACCESS AND SUFFICIENT OF PARKING THROUGHOUT THE CONSTRUCTION PERIOD.
- NO EQUIPMENT SHALL BE ALLOWED TO BE PARKED ON THE ROAD WHEN NOT IN USE. MATERIALS SHALL NOT BE STOCKPILED ON THE ROAD OR IN PARKING AREAS. THE CONTRACTOR SHALL CONSULT THE LEXINGTON DEPARTMENT OF PUBLIC WORK WITH RESPECT TO LOCATION OF STOCKPILED MATERIALS.
- ALL CONSTRUCTION SIGNAGE SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- BUILDING LOCATIONS AS SHOWN ON ADJACENT PROPERTIES, ARE APPROXIMATE AND FOR REFERENCE PURPOSES ONLY.
- SIDEWALKS, WALKS AND DRIVEWAYS THAT ARE DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF MATERIAL ONCE THE WORK IS COMPLETED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING ANY DEBRIS, SEDIMENT OR SILTY WATER FROM ENTERING ANY DRAINAGE SYSTEM, ETC. DURING ALL PHASES OF CONSTRUCTION. CONTROLS MAY INCLUDE HAY BALES, SILT FENCE, SILT SACKS, CRUSHED STONE.
- ALL CONSTRUCTION MATERIAL, DEBRIS, ASPHALT, SOIL, ETC. THAT IS REMOVED FROM THE SITE SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
- DURING CONSTRUCTION THE CONTRACTOR SHALL PROTECT ALL TREES AND ROOTS OF TREES TO REMAIN.
- THE CONTRACTOR SHALL MAINTAIN THE EXISTING SITE DRAINAGE PATTERNS UNLESS OTHERWISE NOTED. ALL GRADING MODIFICATIONS SHALL DIRECT DRAINAGE AWAY FROM EXISTING BUILDINGS AND TOWARDS THE APPROPRIATE AREAS. ALL GRADING MODIFICATIONS SHALL BE GRADUAL SO AS NOT TO CREATE ANY STEEP SLOPES, UNEVEN AREAS, ETC.
- DURING THE COURSE OF CONSTRUCTION, ANY DAMAGE TO FENCES, GUARD RAILS, PATHS, STAIRS, AND VEGETATION SHALL BE REPAIRED OR REPLACED AND RESTORED TO THE ORIGINAL CONDITION AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL CASTINGS, GATE BOXES, HYDRANTS, LIGHT POLES, ETC. DAMAGED DURING RECONSTRUCTION SHALL BE SUPPLIED AND REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES, AND FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH ALL WORK INCLUDED UNDER THIS CONTRACT. THE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL SAFETY BARRIERS, WARNING FLASHERS AND THE LIKE, AS REQUIRED BY THE CONDUCT OF THE WORK FOR THE PROTECTION OF WORKERS AND NON-WORKERS ALIKE. THE CONTRACTORS ATTENTION IS DIRECTED TO OSHA REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE RESTORATION AND CLEAN UP UPON COMPLETION OF THE PROJECT.

GENERAL PAVING NOTES: ROADWAY/PARKING/SIDEWALKS

- THE CONTRACTOR SHALL SAW CUT ALL JOINTS IN THE EXISTING PAVEMENT AREAS WHERE THE PROPOSED PAVEMENT WILL MEET EXISTING PAVEMENT TO REMAIN. ALL JOINTS SHALL PROVIDE A SMOOTH TRANSITION BETWEEN NEW AND OLD PAVEMENTS. IMMEDIATELY AFTER BITUMINOUS CONCRETE PAVING, ALL JOINTS SHALL BE SANDED AND SEALED. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE.
- THE CONTRACTOR SHALL RESET ALL WATER, SEWER, GAS, ELECTRIC, TELEPHONE AND DRAINAGE FRAMES AND GRATES AND ANY OTHER STRUCTURES, SIGNS, ETC. NECESSARY TO INSTALL THE PROPOSED PAVEMENT TO THE PROPOSED FINISH GRADE ELEVATION. THIS WORK SHALL BE INCLUDED IN THE CONTRACT PRICE. ALL WORK REQUIRED TO LOWER, RAISE, AND EXTEND THE EXISTING CASTINGS & VALVE BOXES TO THE PROPOSED FINISH GRADE SHALL BE INCLUDED FOR PAYMENT UNDER THE CONTRACT PRICE
- ALL NEW PAVEMENT STRIPING SHALL BE 4" WIDE PAINTED LINES TO MATCH EXISTING COLOR ON SITE.

FINE GRADING AND COMPACTING

- THE CONTRACTOR SHALL FINE GRADE AND COMPACT ALL AREAS IN PREPARATION FOR PAVEMENT, INCLUDING, BUT NOT LIMITED TO THE DRIVEWAY AREAS AND TRANSITION DRIVEWAY AREAS. THE CONTRACTOR SHALL ALSO STRAIGHT CUT ALL EXISTING JOINTS AND EDGES IN PREPARATION FOR FINAL PAVEMENT.
- PAYMENT FOR GRADING AND COMPACTING THE RECONSTRUCTED BITUMINOUS SIDEWALK SHALL BE INCLUDED IN THE CONTRACT PRICE.
- PAYMENT FOR FINE GRADING AND COMPACTING THE RECONSTRUCTED BITUMINOUS DRIVEWAY AND PARKING AREAS SHALL BE INCLUDED IN THE CONTRACT PRICE.

SIDEWALK NOTES

- CONSTRUCTION OF SIDEWALKS SHALL BE IN ACCORDANCE WITH THE TYPICAL CROSS SECTION DETAILS.
- A MINIMUM SIDEWALK WIDTH OF 5' MUST BE MAINTAINED. MATCH EXISTING SIDEWALK WIDTHS WHERE WIDTH IS GREATER THAN 5'.
- HOT MIX ASPHALT (HMA)/BITUMINOUS CONCRETE SIDEWALKS SHALL HAVE A MINIMUM 2-1/2" DEPTH CONSISTING OF A 1-1/4" INTERMEDIATE (BINDER) COURSE AND A 1-1/4" SURFACE COURSE.
- CONTRACTOR SHALL REMOVE & REPLACE THE ENTIRE WIDTH OF EXISTING BITUMINOUS CONCRETE PAVEMENT OR TOPSOIL & SUBSOIL AND SHALL PROVIDE, AN 8" MINIMUM DEPTH OF GRAVEL BASE AND 2-1/2" MINIMUM DEPTH OF HMA/BITUMINOUS CONCRETE SIDEWALK AS SHOWN ON THE TYPICAL SIDEWALK CROSS SECTIONS AND DETAIL. EXCAVATION AND BACKFILL, SUPPLEMENTAL GRAVEL AS NEEDED, PAVING AND DISPOSAL OF SURPLUS MATERIAL SHALL BE INCLUDED IN THE CONTRACT PRICE.
- THE CONTRACTOR SHALL COMPACT AND FINE GRADE GRAVEL SUBBASE AS SPECIFIED. ALL SUBBASE MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% OF THE STANDARD PROCTOR DENSITY.
- ALL PROPOSED CUTS AND FILLS REQUIRED TO GRADE THE PAVEMENT MATERIAL TO THE REQUIRED DEPTH SHALL BE INCLUDED FOR PAYMENT IN THE CONTRACT PRICE.
- THE CONTRACTOR SHALL FINE GRADE THE GRAVEL SUBBASE NO MORE THAN 24 HOURS PRIOR TO THE PLACEMENT OF THE BASE COURSE PAVEMENT.
- ANY STRUCTURES OR GATE BOXES IN SIDEWALKS SHALL BE RESET TO FINISHED GRADE AS PART OF THE CONTRACT PRICE.

CATCH BASIN CLEANING NOTES

- ALL CATCH BASINS SHALL BE CLEANED UPON COMPLETION OF WORK. ALL ACCUMULATED SEDIMENT, DEBRIS, ORGANIC MATTER, ETC. SHOULD BE REMOVED FROM CATCH BASINS AND DRAINAGE SYSTEMS.
- ALL SEDIMENT AND DEBRIS REMOVED FROM THE CATCH BASIN OR PIPE LINE SHALL BE PROPERLY HANDLED AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL GUIDELINES AND REGULATIONS.
- ANY REQUIRED MAINTENANCE OR REPAIRS NOTED DURING CLEANING SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER IMMEDIATELY.

GRANITE CURBING NOTES

- ALL GRANITE CURB SHALL BE AS SPECIFIED BY MASSDOT AND SHALL INCLUDE ALL LENGTHS – STRAIGHT, RADIUS AND TRANSITIONS.
- GRANITE CURBING SHALL BE SET IN ACCORDANCE WITH THE CONSTRUCTION DETAIL PROVIDED IN CONTRACT DRAWINGS AND SPECIFICATIONS.

SITE EROSION & SEDIMENT CONTROL NOTES

- THE CONTRACTOR SHALL COMPLY WITH EROSION AND SEDIMENTATION CONTROL DETAILS AND NOTES AS SHOWN ON PLAN.
- STRAW EROSION AND SEDIMENT CONTROL BARRIER SHALL BE PLACED AT DOWNSTREAM PROJECT LIMITS PRIOR TO THE COMMENCEMENT OF WORK. WATTLES SHALL BE INSPECTED DAILY AND CLEANED OR REPAIRED AS NEEDED DURING CONSTRUCTION PERIOD.
- CONSTRUCTION PERIOD SILT SACKS SHALL BE USED AT ALL CATCH BASINS. SILT SACKS SHALL BE KEPT FREE OF SEDIMENT AND DEBRIS, INSPECTED WEEKLY AND REPAIRED PROMPTLY.

CURB REMOVAL NOTES

- THE CONTRACTOR SHALL REMOVE EXISTING BITUMINOUS CONCRETE CURBING/BERM AND FURNISH AND INSTALL NEW GRANITE CURBING OR HMA CAPE COD BERM WITHIN LIMITS AS SHOWN AND SPECIFIED ON PLANS.
- THE CONTRACTOR MAY RETAIN EXISTING CONCRETE CURBING/BERM IF DETERMINED TO BE IN GOOD CONDITION AND APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL LOAM AND SEED IN ALL DISTURBED AREAS.

LEGEND

	EXIST. MAG NAIL BENCHMARK
	EXIST. CATCH BASIN
	EXIST. ROUND CATCH BASIN
	EXIST. DRAIN MANHOLE
	EXIST. SEWER MANHOLE
	EXIST. MANHOLE
	EXIST. HYDRANT
	EXIST. WATER GATE VALVE
	EXIST. GAS GATE VALVE
	EXIST. LIGHT POST
	EXIST. SIGN
	EXIST. BLDG. (APPROX.)
	EXIST. BENCH
	EXIST. DRAIN LINE
	EXIST. SEWER LINE
	EXIST. WATER LINE
	EXIST. ELECTRIC LINE
	EXIST. GAS LINE
	EXIST. HEAT
	EXIST. PLUMBING
	EXIST. 5' CONTOURS
	EXIST. 1' CONTOURS
	EXIST. SPOT GRADE
	EXIST. TREE/VEGETATION LINE
	EXIST. TREE W/ DIAMETER
	APPROX. LOCUS LOT LINE
	APPROX. ABUTTER LOT LINE
	PROPOSED SPOT GRADE
	PROPOSED HMA CURB
	PROPOSED VERTICAL GRANITE CURB

ABBREVIATIONS

APPROX	APPROXIMATE
BB	BITUMINOUS BERM CURB
BLDG	BUILDING
BIT	BITUMINOUS CONCRETE
CB	CATCH BASIN
CC	CONCRETE CURB
CCB	CAPE COD BERM
CIP	CAST-IN-PLACE
CONC	CONCRETE
D	DRAIN
DRV	DRIVEWAY
DMH	DRAIN MANHOLE
E	ELECTRIC
EMH	ELECTRIC MANHOLE
EOP	EDGE OF PAVEMENT
EX	EXISTING
HCR	HANDICAPPED RAMP
HMA	HOT MIX ASPHALT
HYD	HYDRANT
I	INVERT
LF	LINEAR FEET
LP	LIGHT POLE
MH	MANHOLE
NO	NUMBER
PROP	PROPOSED
R	RIM
SMH	SEWER MANHOLE
SPEC	SPECIFICATION
SW	SIDEWALK
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
UP	UTILITY POLE
VGC	VERTICAL GRANITE CURB

WETLAND NOTES

- WETLAND BOUNDARY EVALUATED AND FLAGGED BY WETLAND & LAND MANAGEMENT, INC. ON APRIL 7, 2018 AND FIELD LOCATED BY GCG ASSOCIATES, INC.
- ADDITIONAL OFF SITE WETLAND BOUNDARY BASED ON MASS-GIS WETLAND LAYER AND TOWN OF LEXINGTON RECORD SITE PLAN (O DIANA LANE).

BID SET

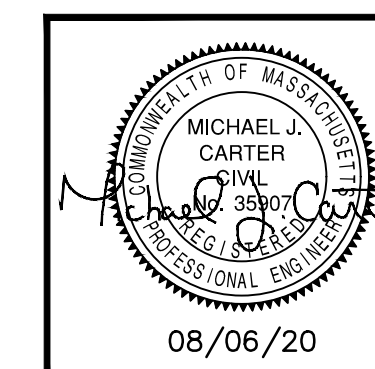
TOWN OF LEXINGTON, MA
NOTES AND LEGEND
PROPOSED SIDEWALK PLAN
HILL STREET
LEXINGTON, MA

GCG ASSOCIATES, INC.

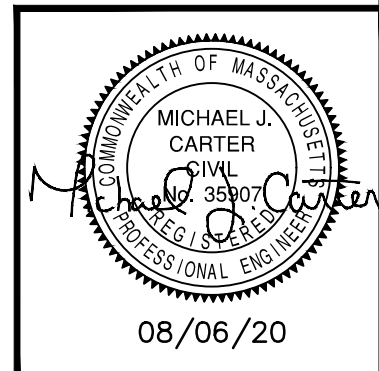
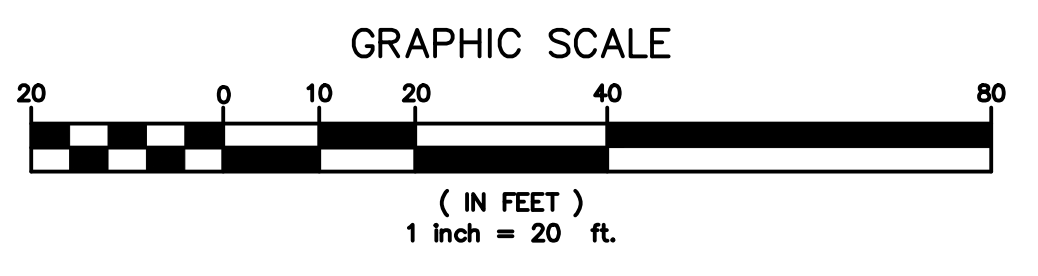
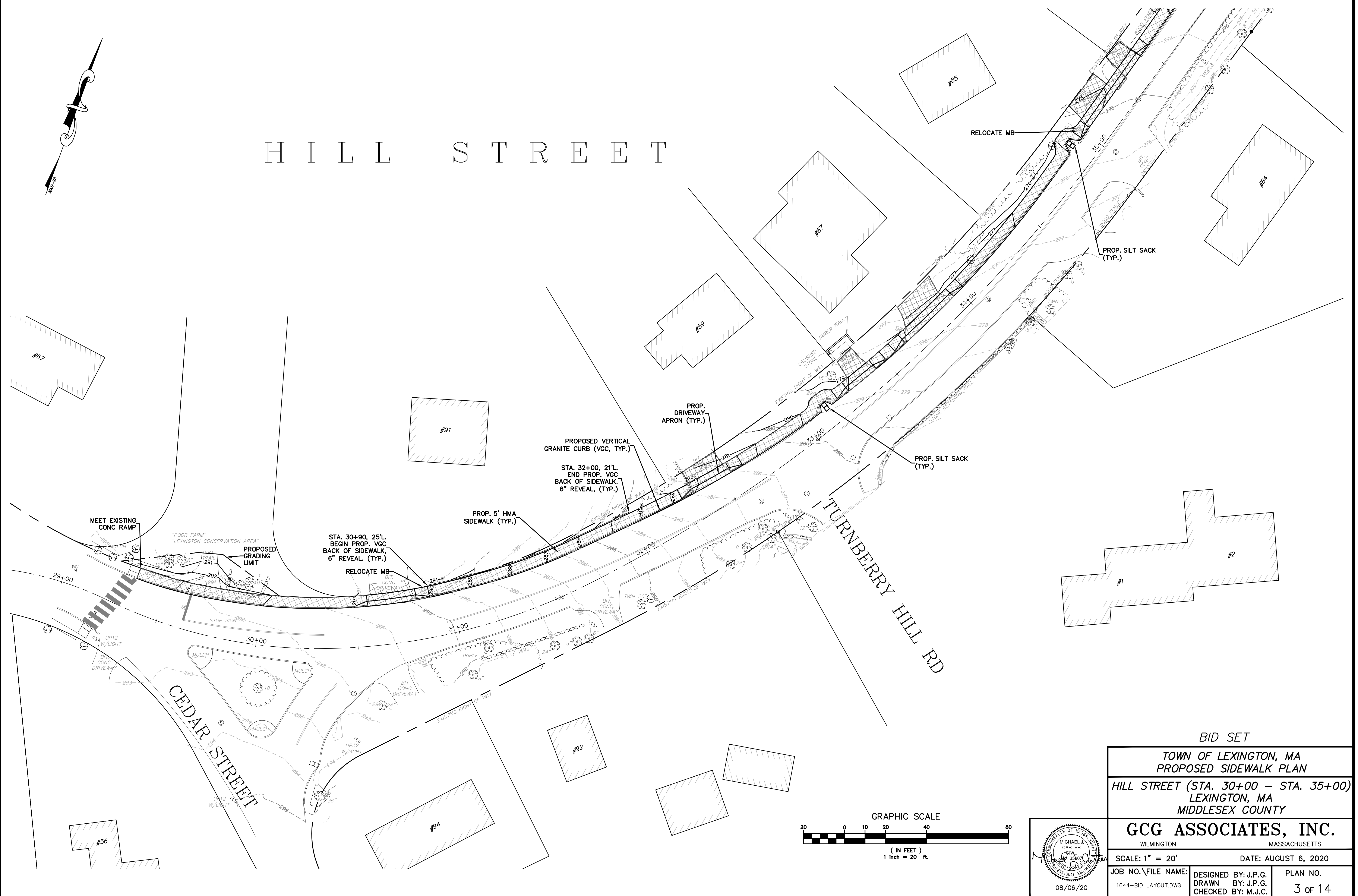
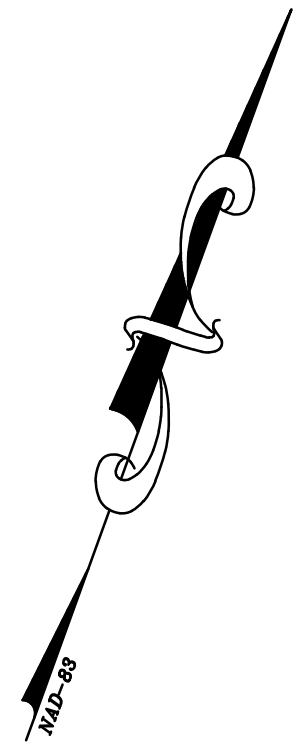
WILMINGTON MASSACHUSETTS

SCALE: NOT TO SCALE DATE: AUGUST 6, 2020

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	CHECKED BY: M.J.C.	

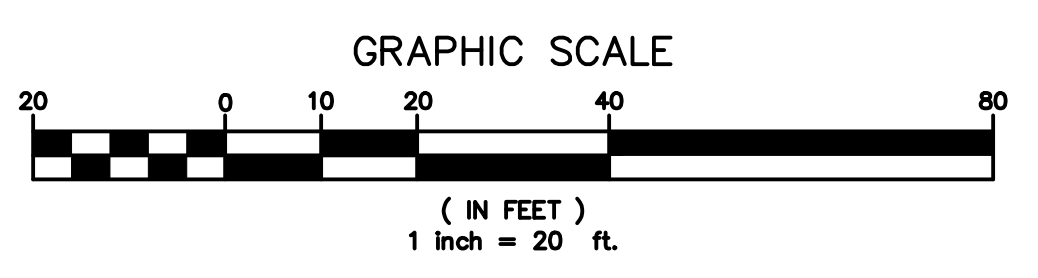
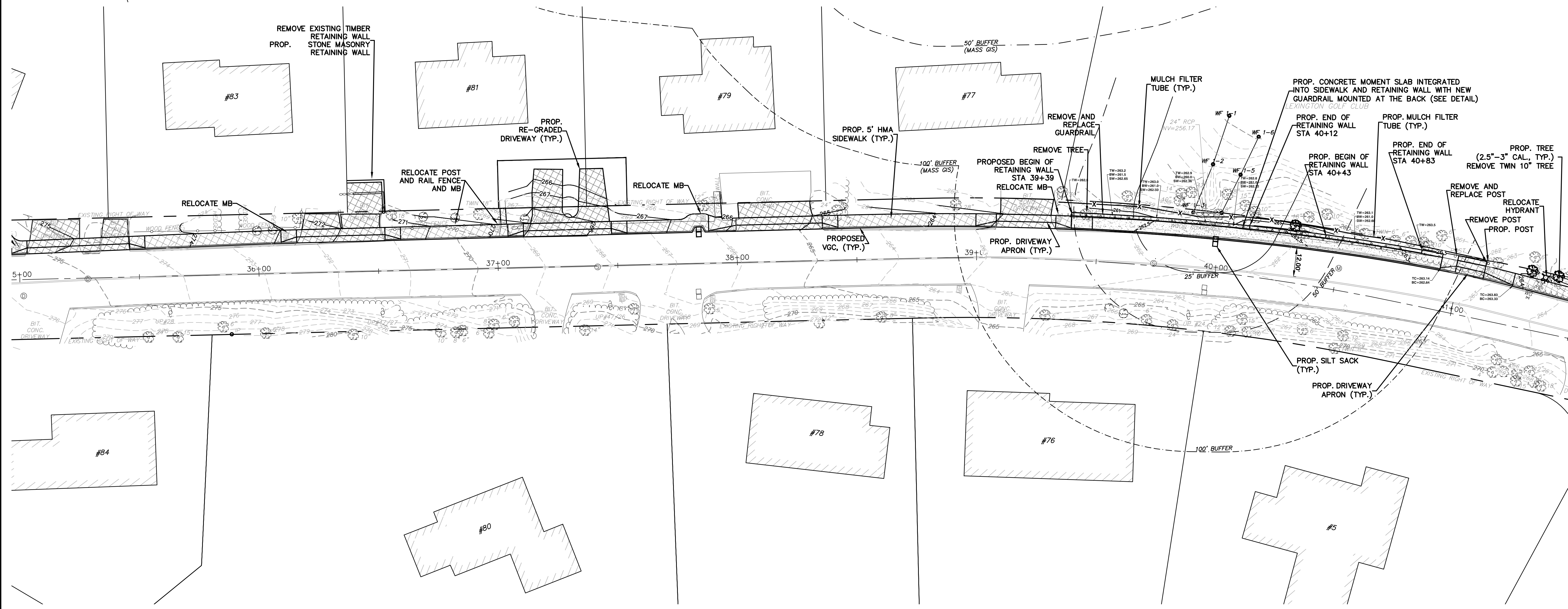


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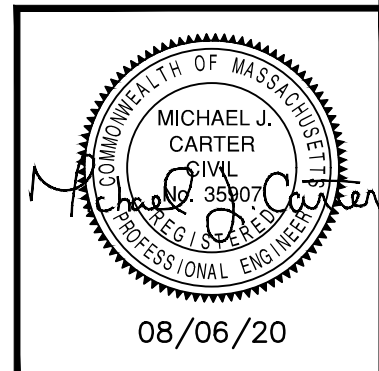


BID SET TOWN OF LEXINGTON, MA PROPOSED SIDEWALK PLAN HILL STREET (STA. 30+00 - STA. 35+00) LEXINGTON, MA MIDDLESEX COUNTY		
GCG ASSOCIATES, INC. WILMINGTON MASSACHUSETTS		
SCALE: 1" = 20'		DATE: AUGUST 6, 2020
JOB NO. \ FILE NAME: 1644-BID LAYOUT.DWG	DESIGNED BY: J.P.G. DRAWN BY: J.P.G. CHECKED BY: M.J.C.	PLAN NO. 3 of 14

HILL STREET

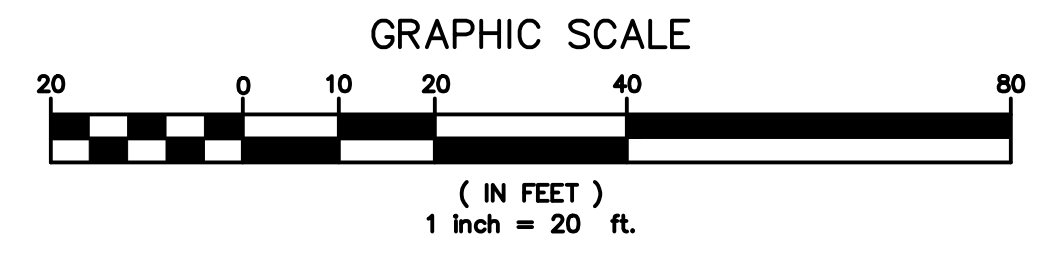
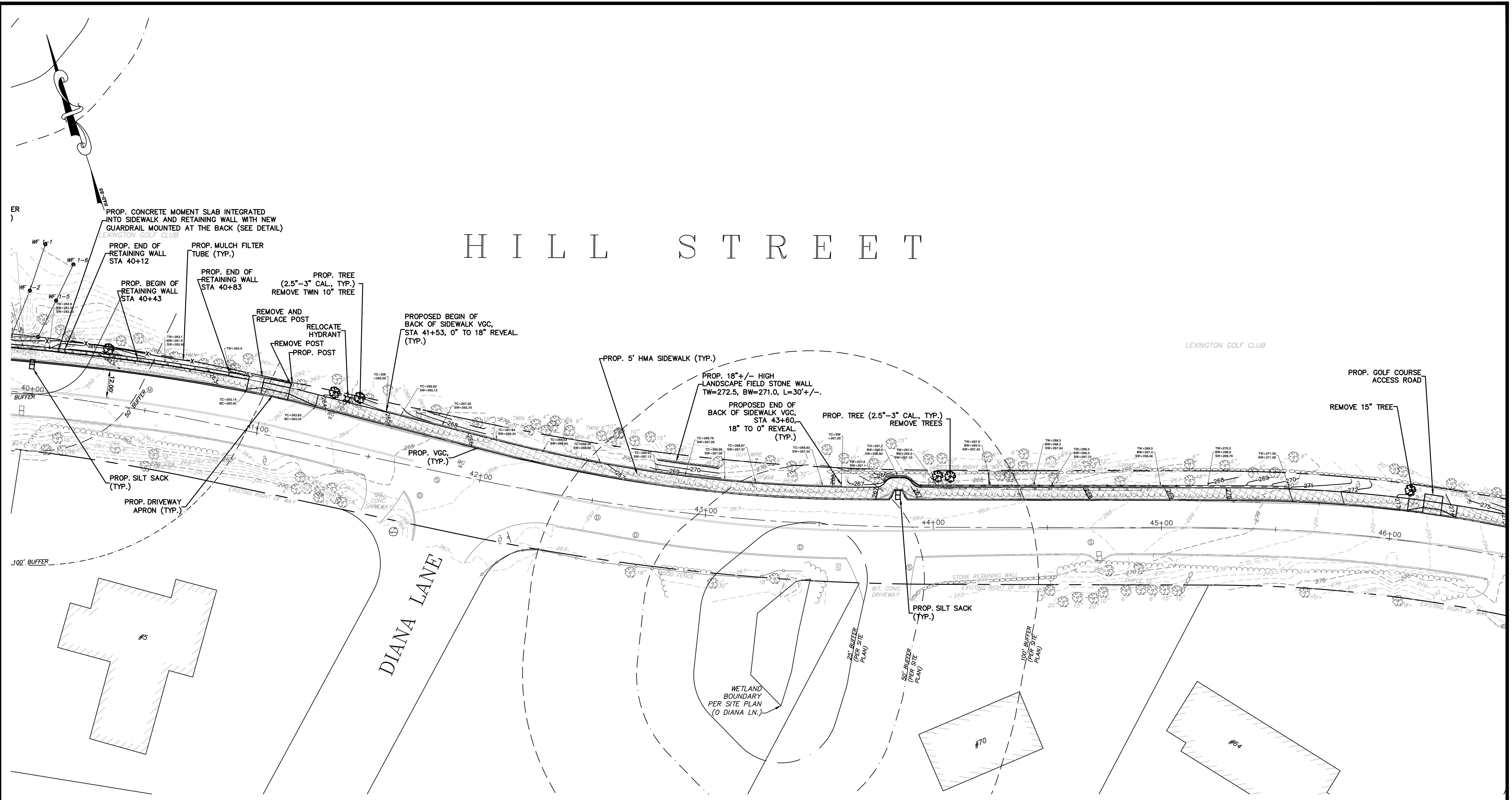


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 HILL STREET (STA. 35+00 - STA. 41+00)
 LEXINGTON, MA
 MIDDLESEX COUNTY

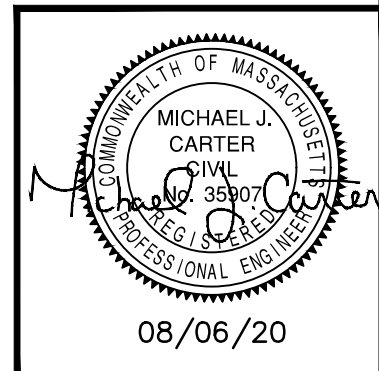


GCG ASSOCIATES, INC.
 WILMINGTON MASSACHUSETTS
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 DRAWN BY: J.P.G.
 CHECKED BY: M.J.C.

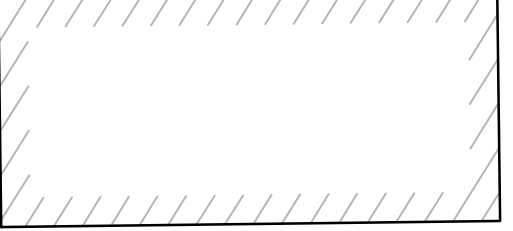
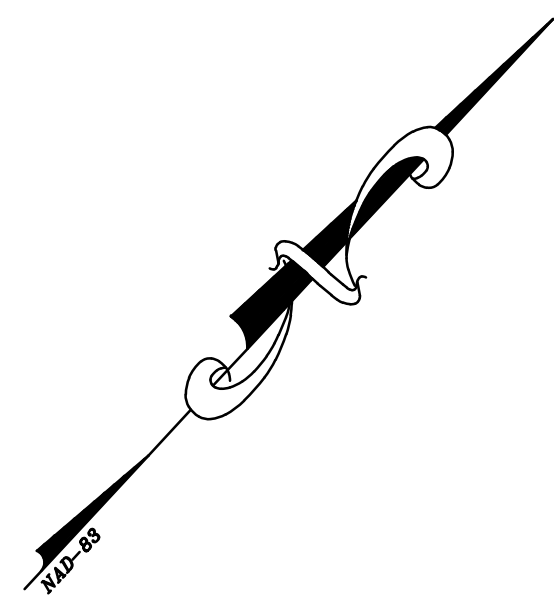
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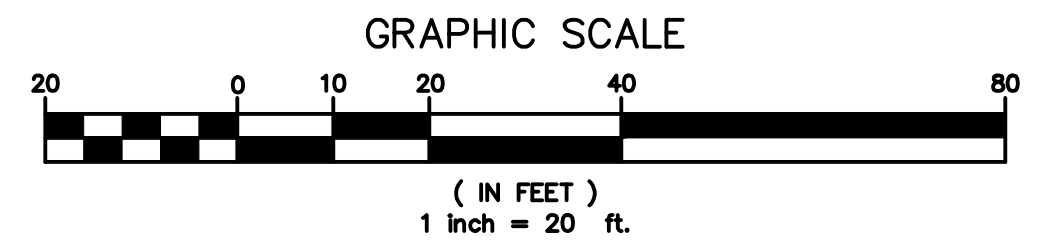
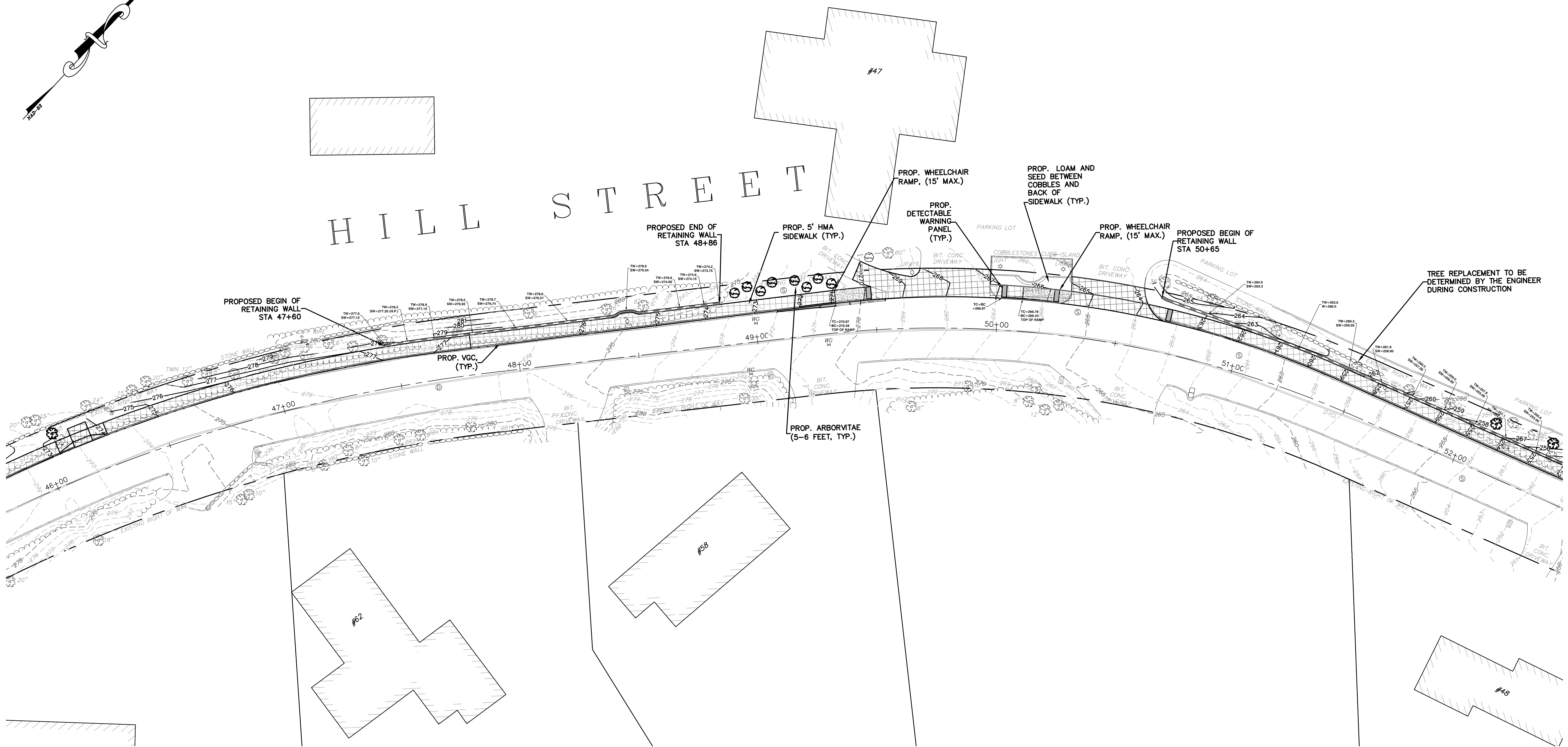
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 PROPOSED SIDEWALK PLAN
 HILL STREET (STA. 41+00 - STA. 46+00)
 LEXINGTON, MA
 MIDDLESEX COUNTY



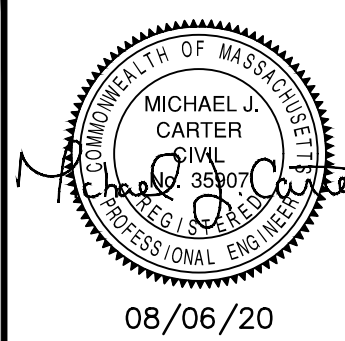
GCG ASSOCIATES, INC.
 WILMINGTON MASSACHUSETTS
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 JOB NO. \FILE NAME: 1644-BID LAYOUT.DWG DESIGNED BY: J.P.G. PLAN NO. 5 OF 14
 DRAWN BY: J.P.G.
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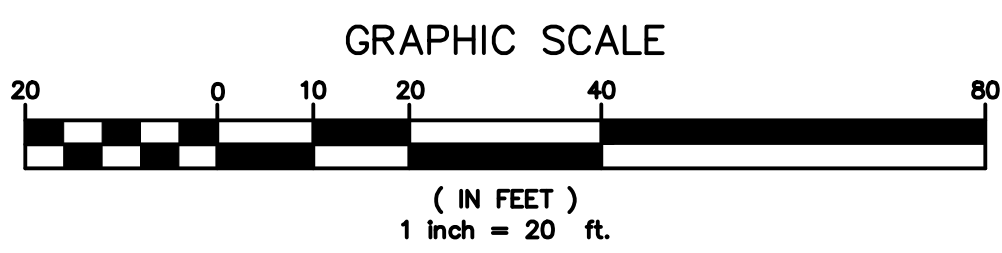
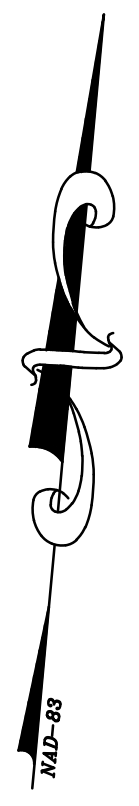
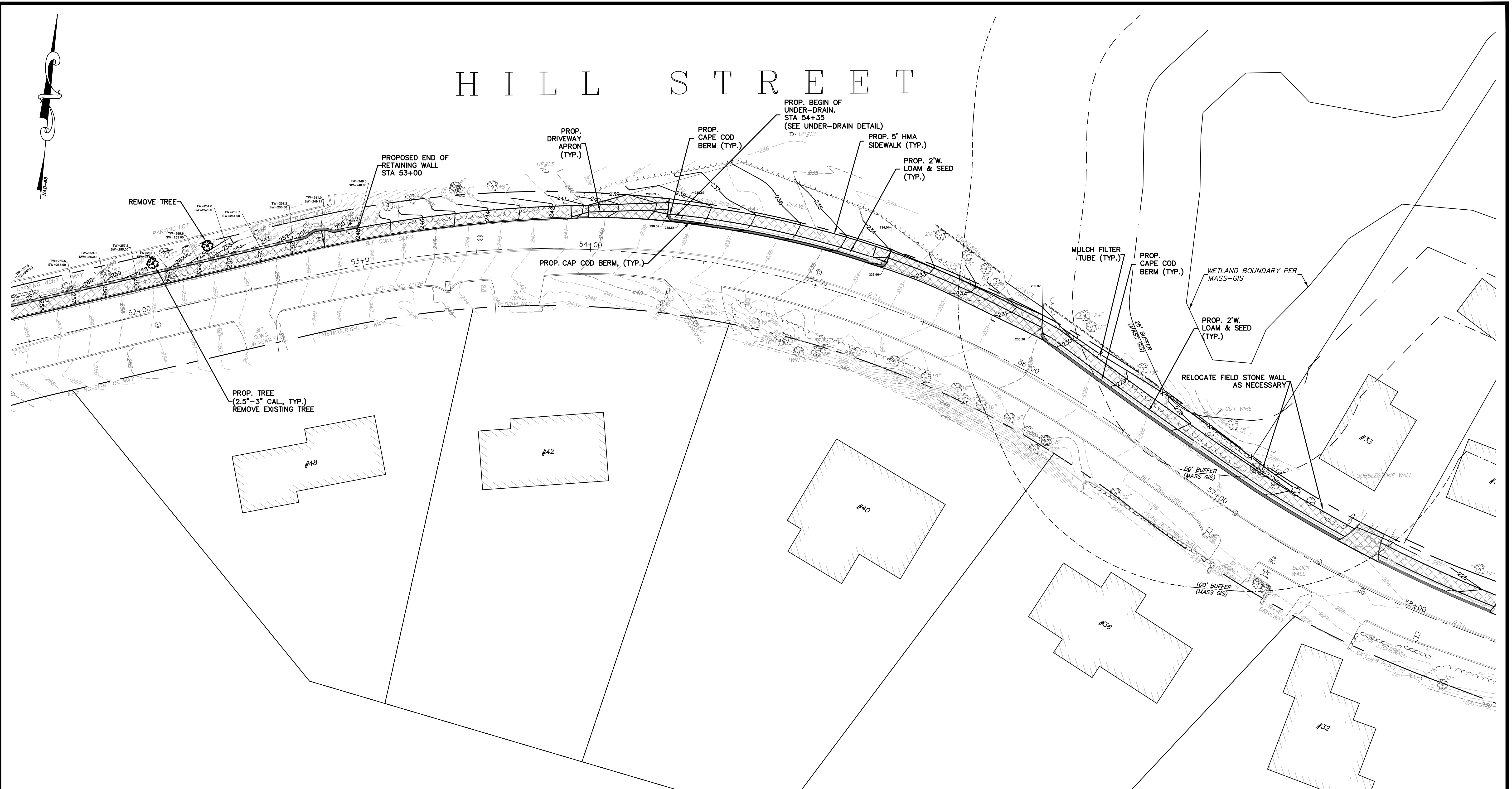
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LEXINGTON, MA
MIDDLESEX COUNTY



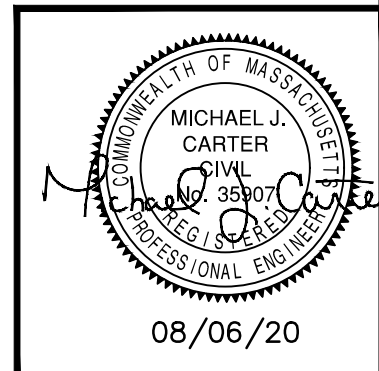
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08/06/20

HILL STREET



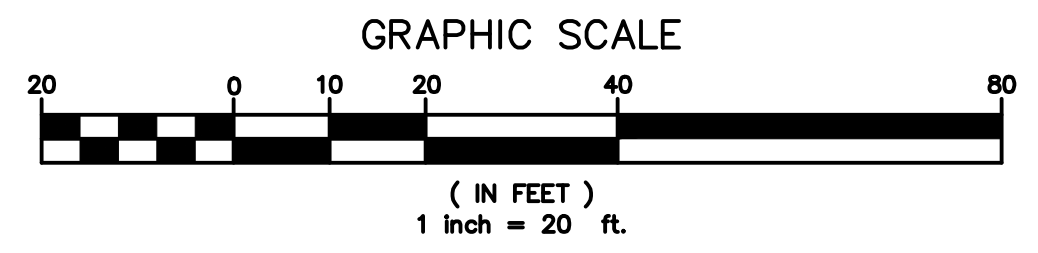
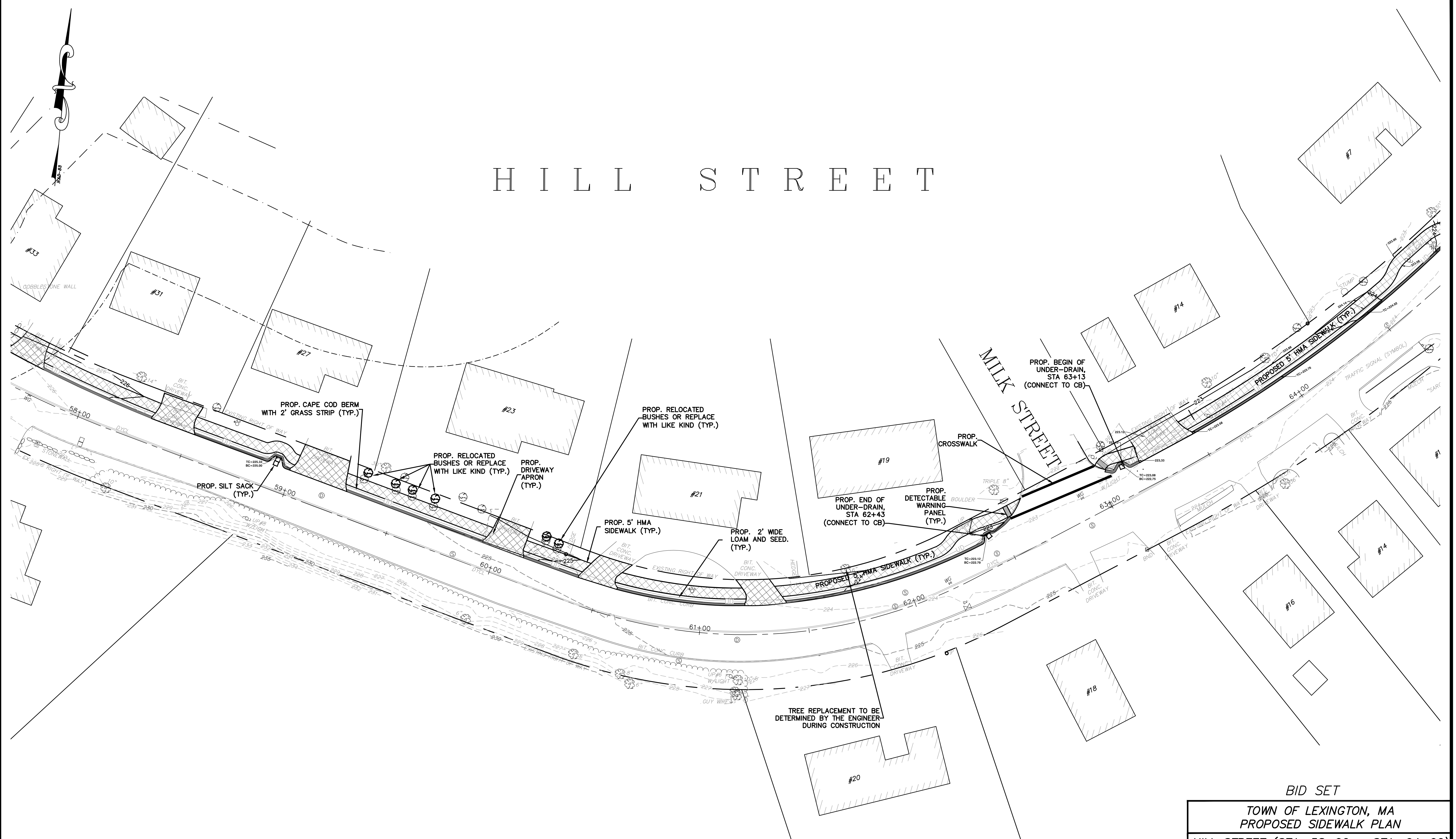
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 TOWN OF LEXINGTON, MA
 PROPOSED SIDEWALK PLAN
 HILL STREET (STA. 52+00 - STA. 58+00)
 LEXINGTON, MA
 MIDDLESEX COUNTY



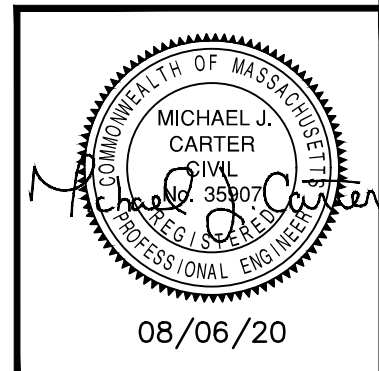
GCG ASSOCIATES, INC.
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 DRAWN BY: J.P.G.
 CHECKED BY: M.J.C.

08/06/20

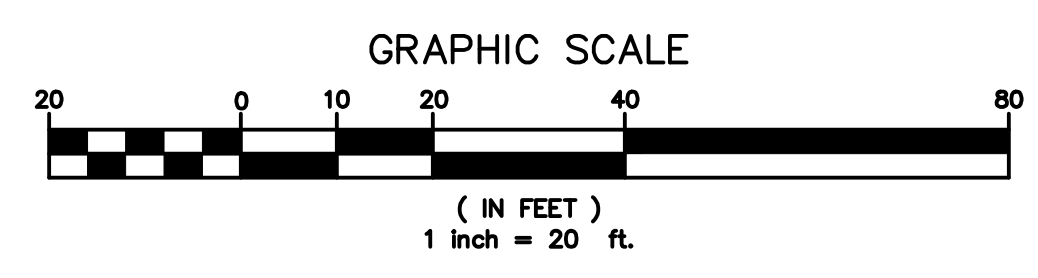
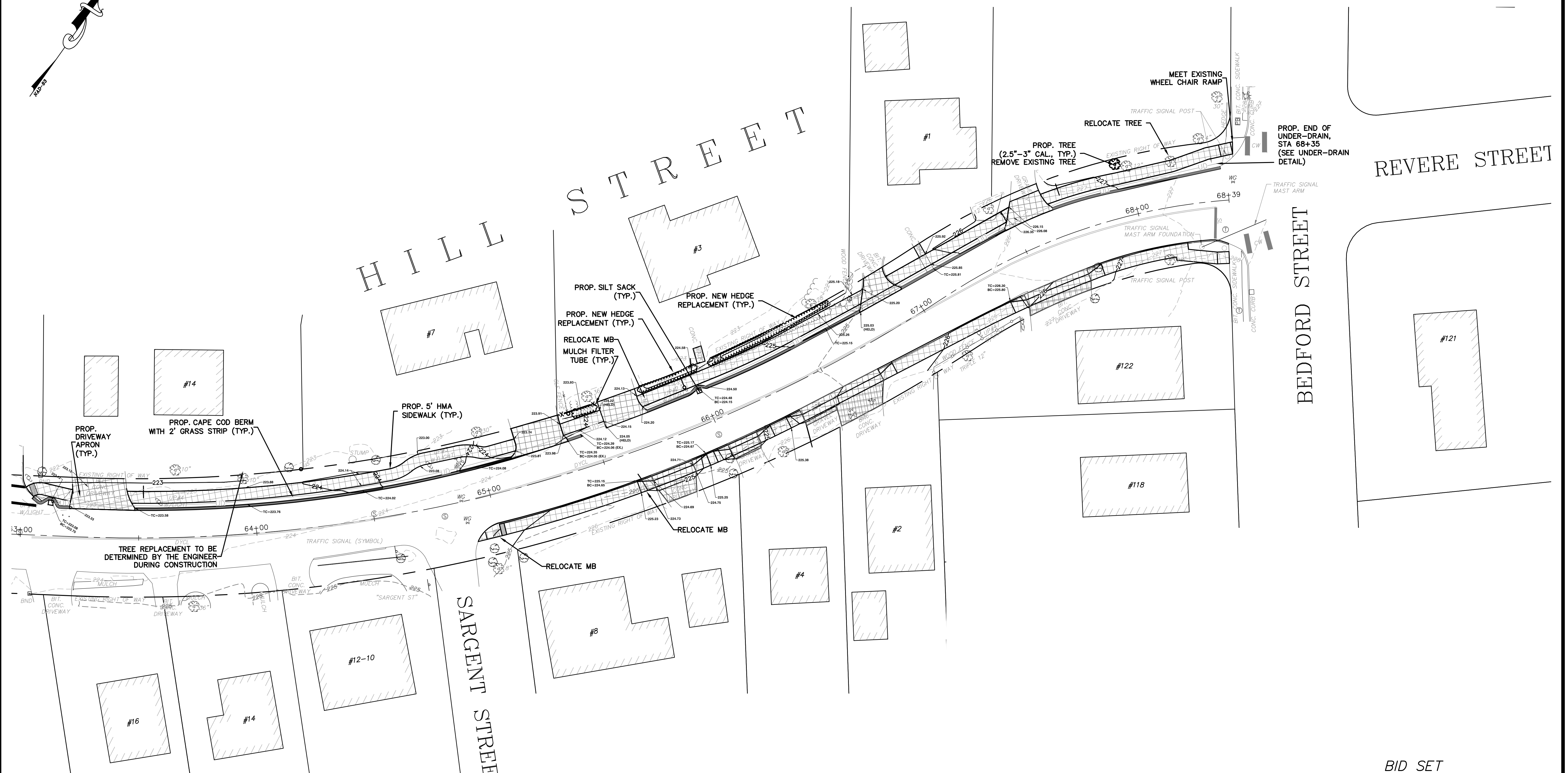
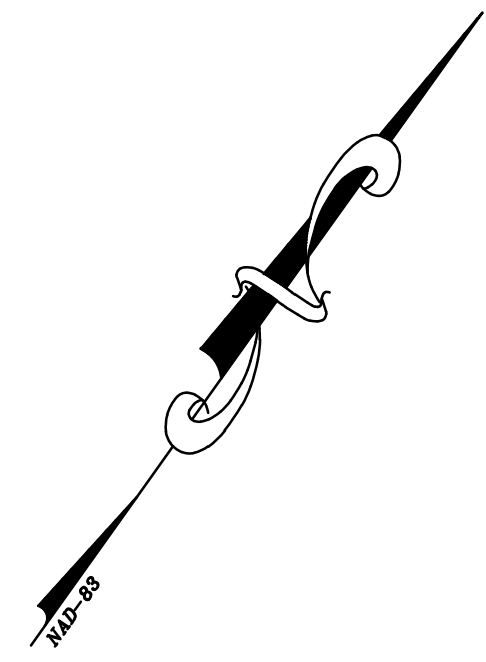
HILL STREET



BID SET
 TOWN OF LEXINGTON, MA
 PROPOSED SIDEWALK PLAN
 HILL STREET (STA. 58+00 - STA. 64+00)
 LEXINGTON, MA
 MIDDLESEX COUNTY

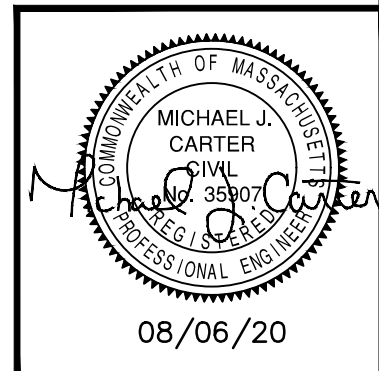


GCG ASSOCIATES, INC.
 WILMINGTON MASSACHUSETTS
 SCALE: 1" = 20' DATE: AUGUST 6, 2020
 JOB NO. \FILE NAME: 1644-BID LAYOUT.DWG DESIGNED BY: J.P.G. PLAN NO. 8 of 14
 DRAWN BY: J.P.G.
 CHECKED BY: M.J.C.



BID SET

TOWN OF LEXINGTON, MA
PROPOSED SIDEWALK PLAN
HILL STREET (STA. 64+00 - STA. 68+40)
LEXINGTON, MA
MIDDLESEX COUNTY

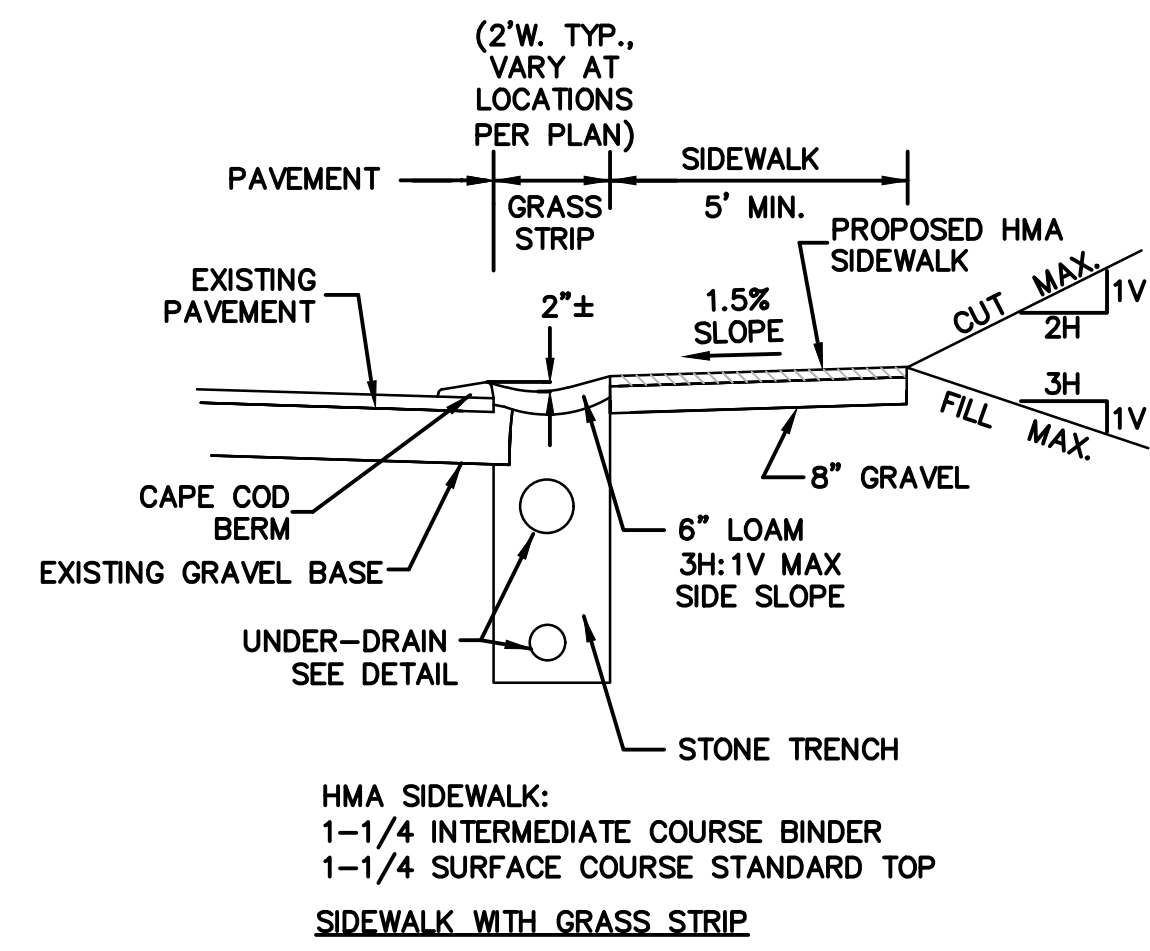


GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

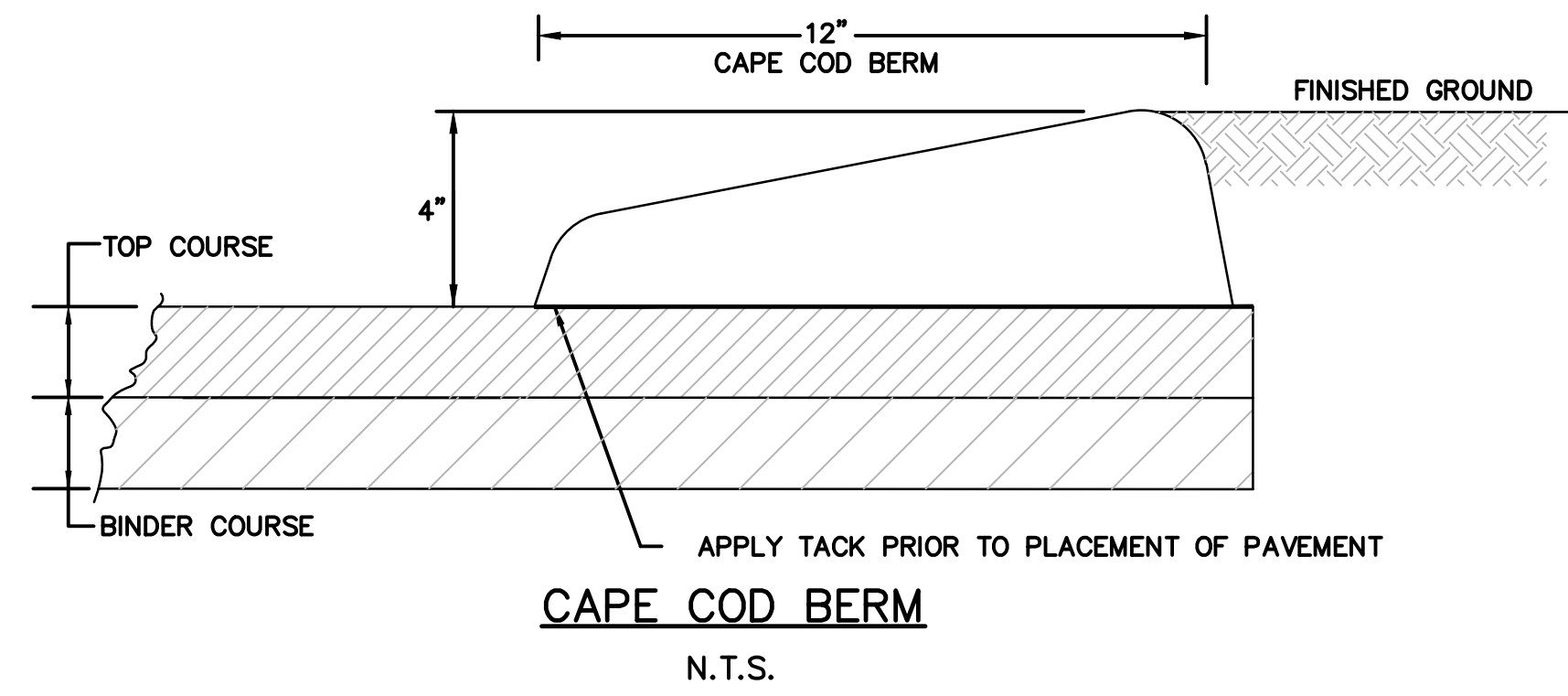
SCALE: 1" = 20' DATE: AUGUST 6, 2020

JOB NO. \ FILE NAME: 1644-BID LAYOUT.DWG	DESIGNED BY: J.P.G. DRAWN BY: J.P.G. CHECKED BY: M.J.C.	PLAN NO. 9 of 14
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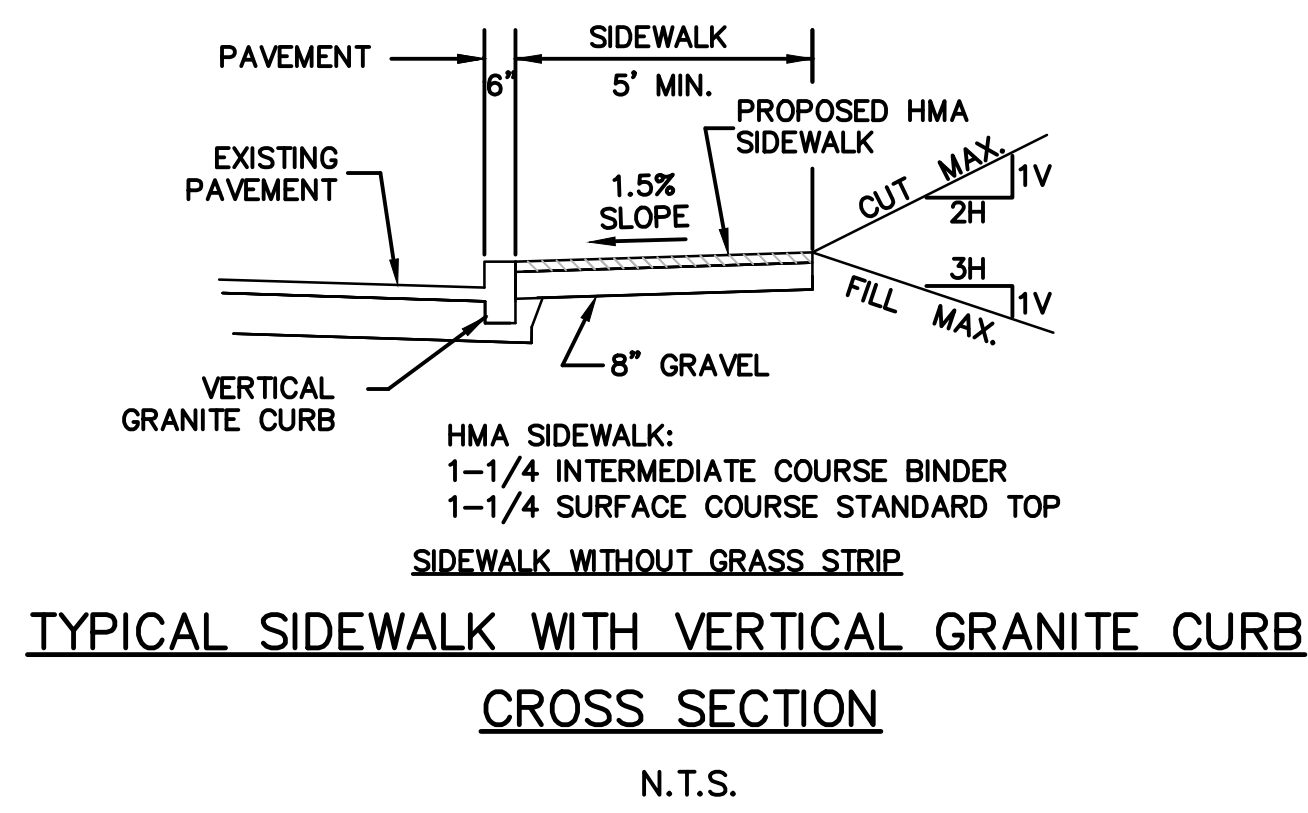
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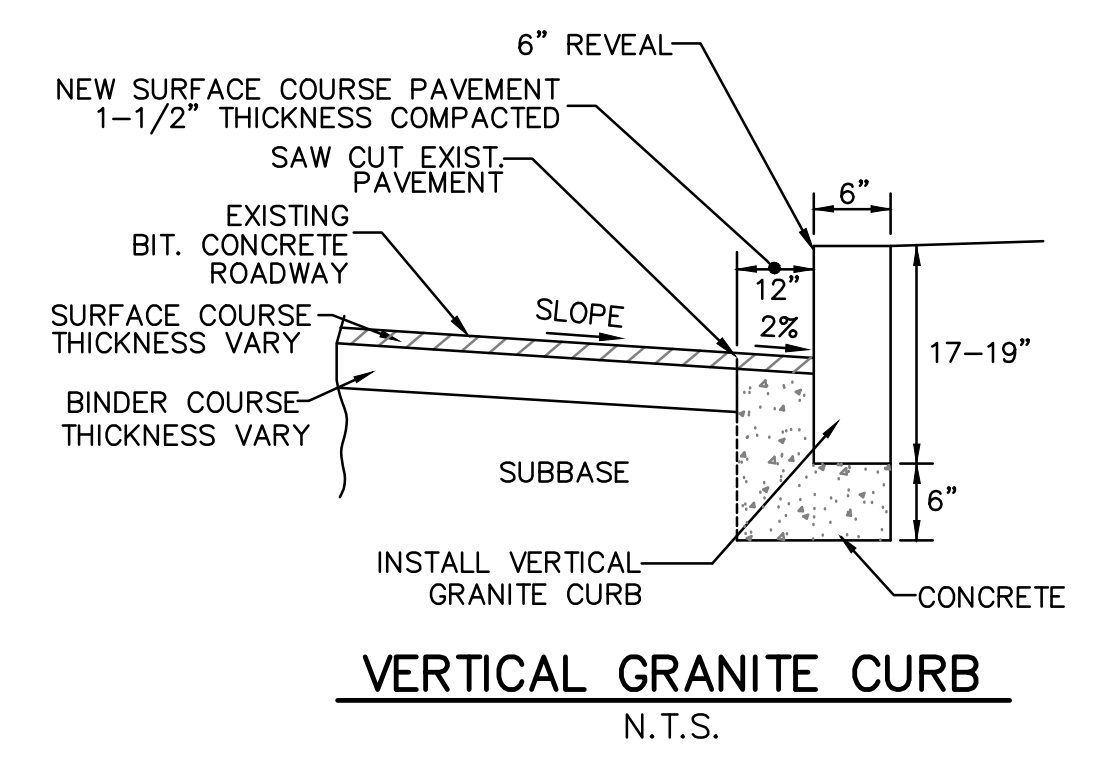
**TYPICAL SIDEWALK WITH GRASS STRIP
CROSS SECTION**



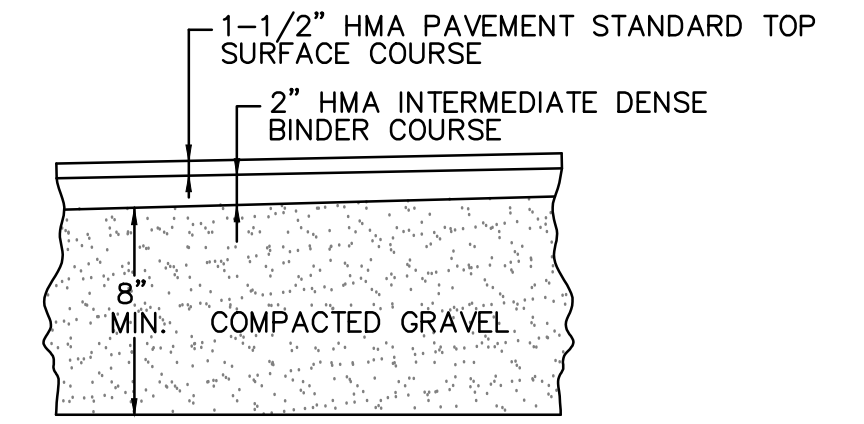
**CAPE COD BERM
N.T.S.**



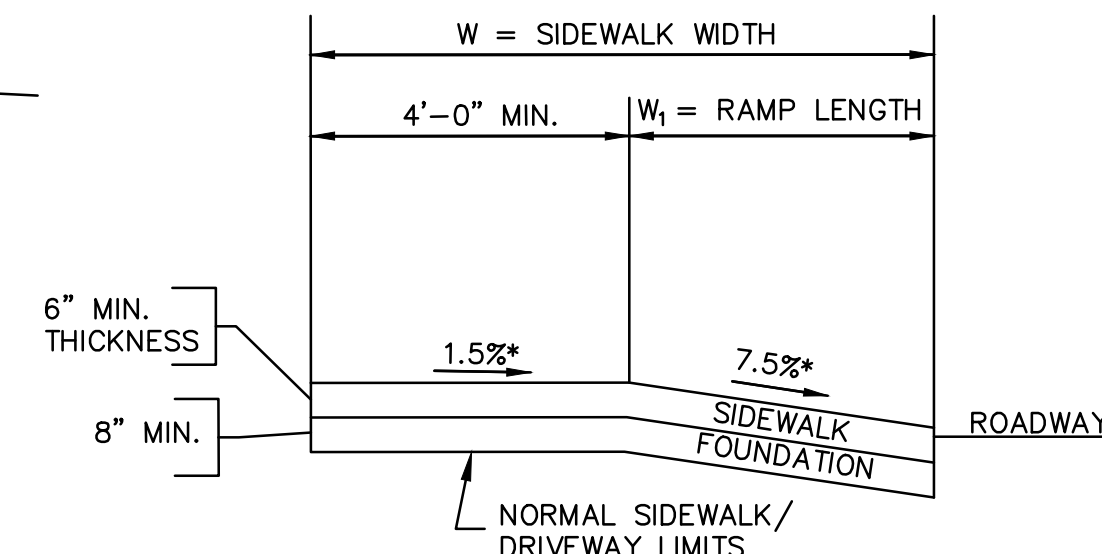
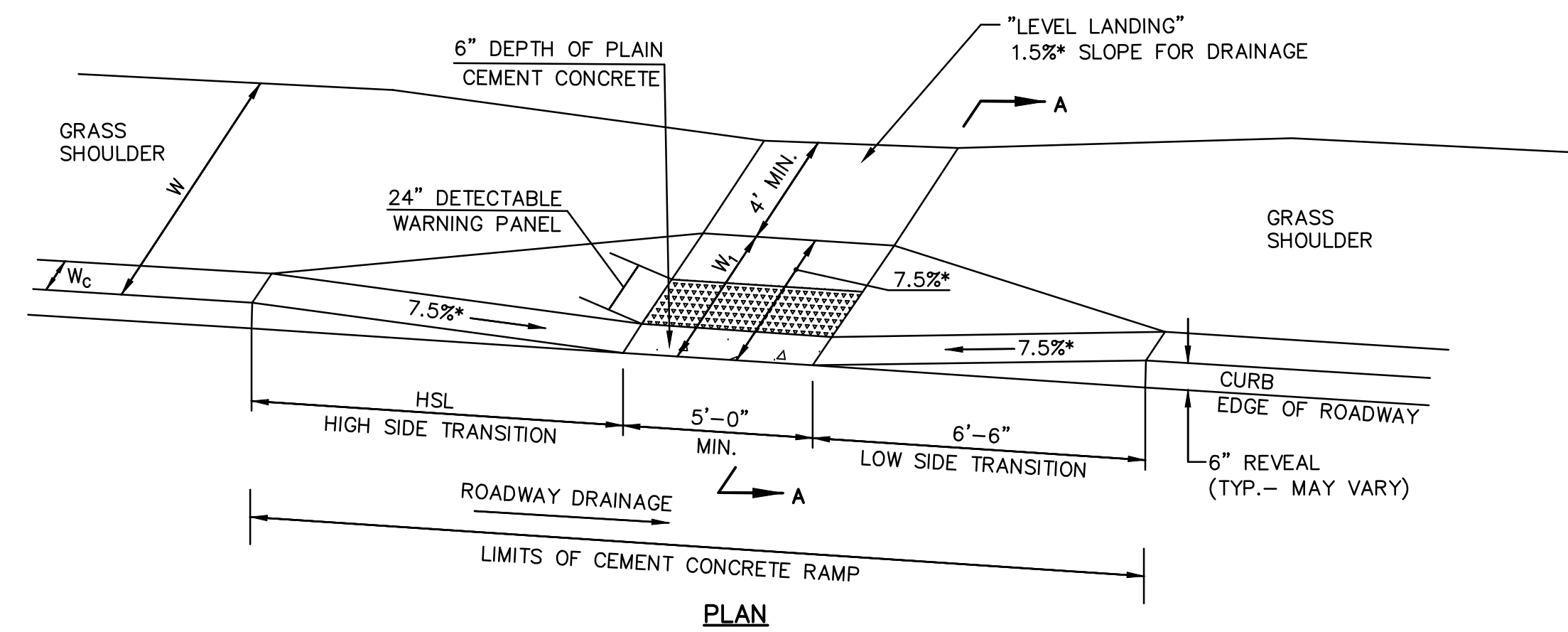
**TYPICAL SIDEWALK WITH VERTICAL GRANITE CURB
CROSS SECTION
N.T.S.**



**VERTICAL GRANITE CURB
N.T.S.**

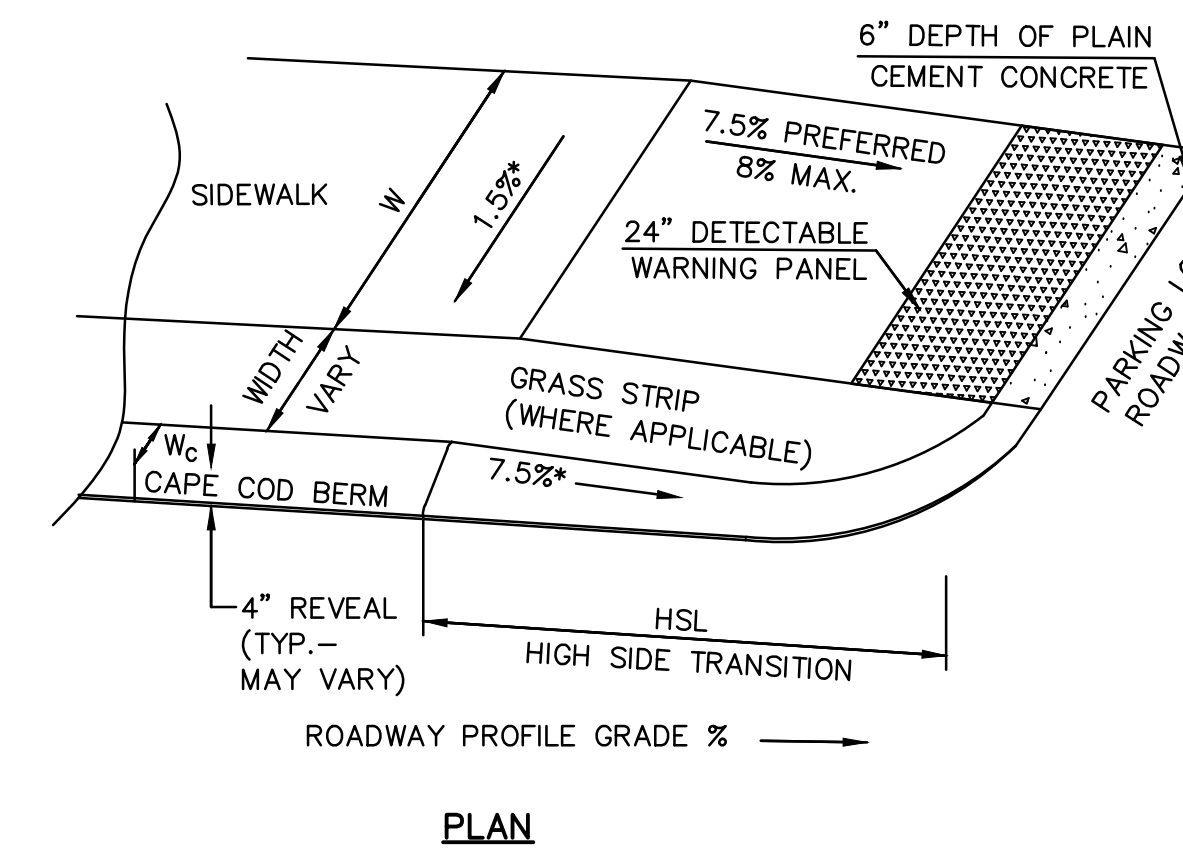


**TYPICAL DRIVEWAY PAVEMENT SECTION
N.T.S.**

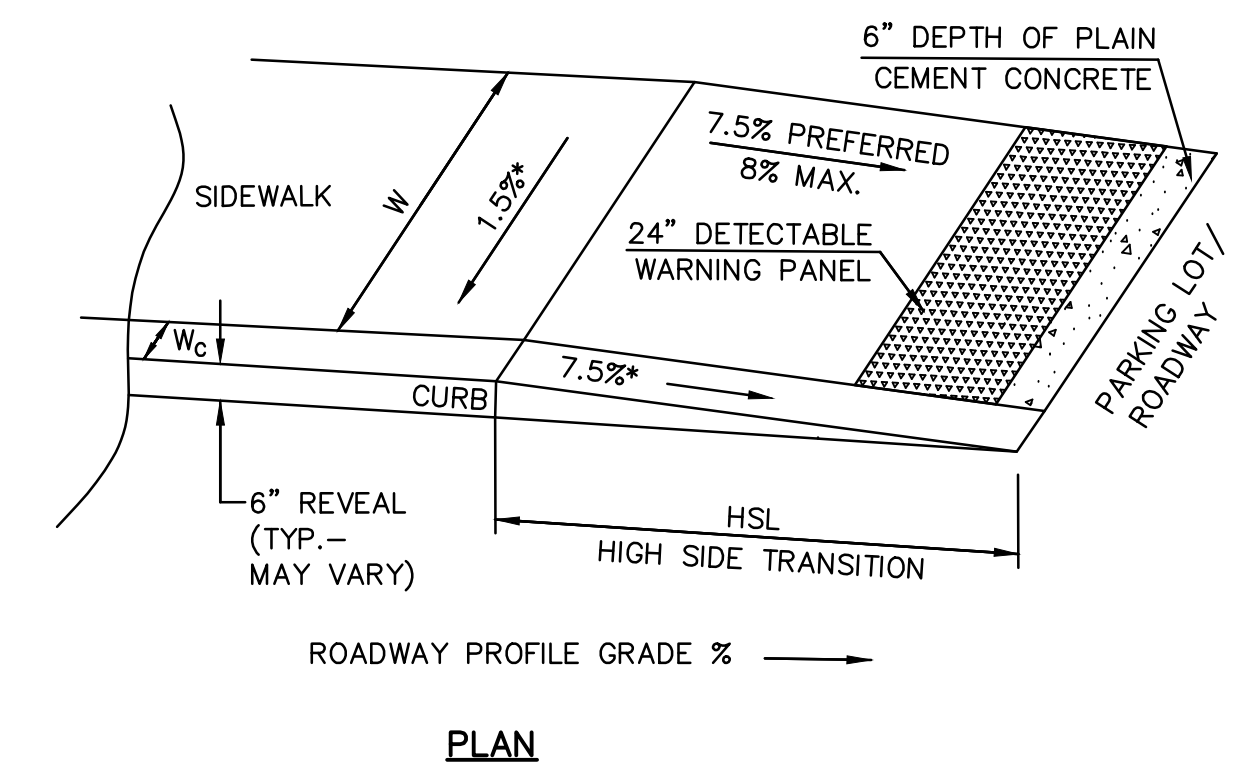


* = TOLERANCE FOR CONSTRUCTION ±0.5%
USEABLE SIDEWALK WIDTH PER ABB = $W - W_c$
RAMP LENGTH, $W_1 = W - (4'-0")$ MIN.

SECTION A-A



PLAN



PLAN

DETAIL NOTES:

1. THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2. RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK; e.g. DEPTH OF SURFACES.
3. PORTLAND CEMENT CONCRETE RAMPS ARE TO BE TEXTURED BY BROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP.
4. ALL HANDICAP RAMPS SHALL BE PORTLAND CEMENT CONCRETE.
5. CURBING FOR ALL CONCRETE RAMPS SHALL BE GRANITE CURB.
6. THESE DIMENSIONS ARE SUBJECT TO CHANGE IN THE FIELD IF EXISTING APPURTENANCES OR CONDITIONS WILL MAKE THE RAMP LOCATIONS IMPRACTICAL OR UNSAFE.

ROADWAY PROFILE GRADE %	*HIGH SIDE TRANSITION LENGTH
0	6'-6"
> 0 - 1	7'-8"
> 1 - 2	9'-0"
> 2 - 3	11'-0"
> 3 - 4	14'-0"
> 4	15'-0" MAX.

* BASED ON DESIGN SLOPE = 7.5% AND A CURB REVEAL OF 6".

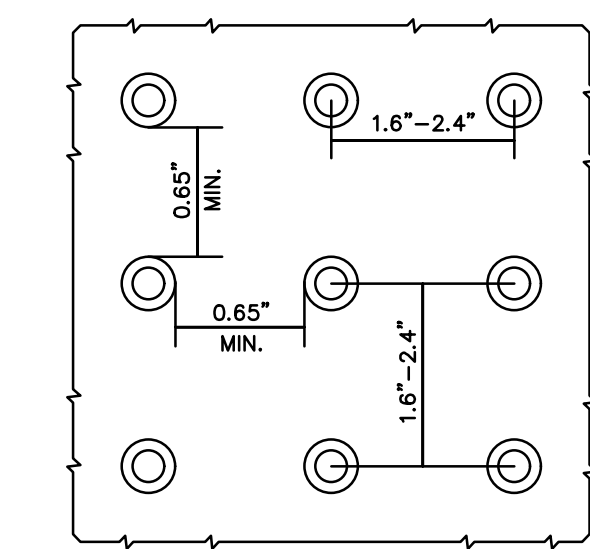
**CURB TRANSITION LENGTH
FOR WHEELCHAIR RAMPS**

WHEELCHAIR RAMP NOTES

1. ROADWAY SIDEWALK CROSS SLOPES, FOR BRICK, CEMENT CONCRETE, AND BITUMINOUS CONCRETE, AS INDICATED IN THE STANDARD SPECIFICATIONS, WILL BE 1.5%. A CONSTRUCTION TOLERANCE OF ±0.5% IS ACCEPTABLE ON ROADWAY SIDEWALKS. IN ACCORDANCE WITH 521 CMR THE RULES AND REGULATIONS OF THE ARCHITECTURAL ACCESS BOARD (AAB), THE SIDEWALK CROSS SLOPE CANNOT EXCEED 2.0%.
2. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-3" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, SIGNAL FOUNDATIONS AND MASTS, MAILBOXES, ALONG DRIVE OPENINGS, ETC.).
3. THE WHEELCHAIR RAMP SLOPES AND SIDE SLOPES (TRANSITIONS) WILL BE 7.5% WITH A CONSTRUCTION TOLERANCE OF ±0.5%. HOWEVER, THESE SLOPES MAY BE FLATTER WHEN WARRANTED BY SURROUNDING CONDITIONS.
4. IF THE ROAD PROFILE EXCEEDS 4%, THE HIGH SIDE TRANSITION LENGTH UNDER ANY CONDITIONS NEED NOT EXCEED 15'.
5. IN NO CASE WHERE A STOP LINE IS WARRANTED, SHALL A RAMP BE PLACED ON THE TRAFFIC APPROACH SIDE OF THAT STOP LINE.
6. FIXED OBJECTS (I.E. UTILITY POLES, HYDRANTS, SIGNS, SIGNAL FOUNDATIONS, ETC.) MUST NOT ENCRoACH UPON ANY PART OF THE WHEELCHAIR RAMP INCLUDING TRANSITION SLOPES.
7. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP, EXCLUDING CURB TRANSITIONS, TO BE LOCATED OUTSIDE THE CROSSWALK OR PEDESTRIAN TRAVEL PATH. THE WHEELCHAIR RAMP ENTRANCE IS TO BE CENTERED IN THE CROSSWALK OR PEDESTRIAN TRAVEL PATH WHENEVER POSSIBLE.
8. CATCH BASINS WHICH ARE IN THE VICINITY OF A WHEELCHAIR RAMP SHALL BE LOCATED UPDRADE OF THE RAMP ENTRANCE.
9. THE ENTRANCE OF A WHEELCHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
10. TESTING SURFACE: WHEN TESTING WITH A STRAIGHTEDGE PLACED PARALLEL TO THE LINE OF THE SLOPE THERE SHALL BE NO DEVIATION FROM A TRUE SURFACE IN EXCESS OF 1/4".
11. SIDEWALK CONSTRUCTION SHALL BE IN CONFORMANCE WITH MASS HIGHWAY CONSTRUCTION STANDARDS FOR WHEELCHAIR RAMPS.

TYPICAL WHEELCHAIR RAMP CONDITION

N.T.S.



**STAMPED CONCRETE
DETECTABLE WARNING PANEL
N.T.S.**

BID SET

TOWN OF LEXINGTON, MA
DETAILS I

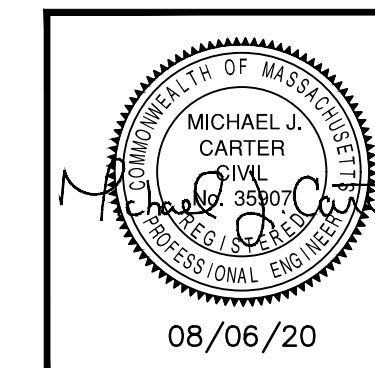
PROPOSED SIDEWALK PLAN
HILL STREET
LEXINGTON, MA

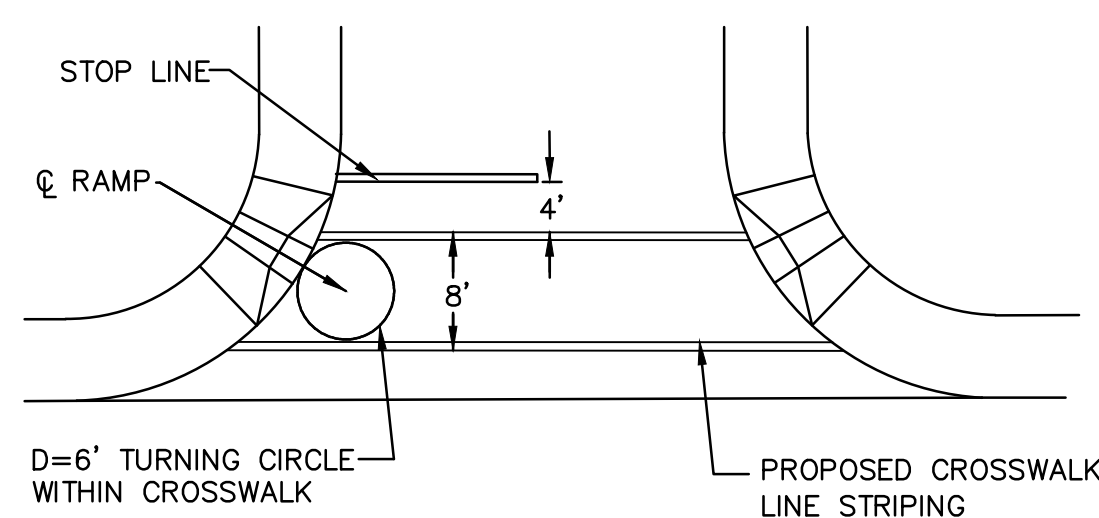
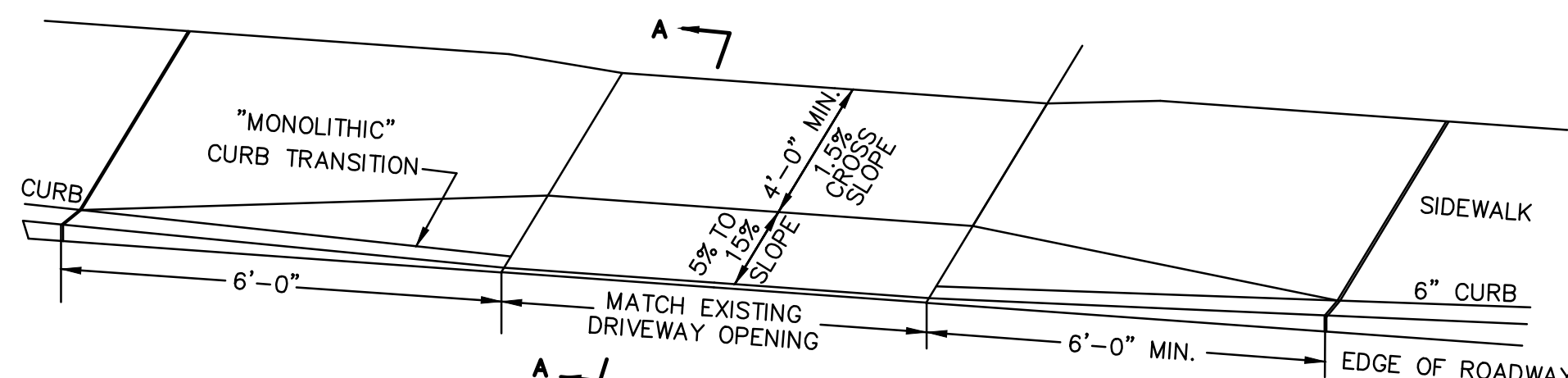
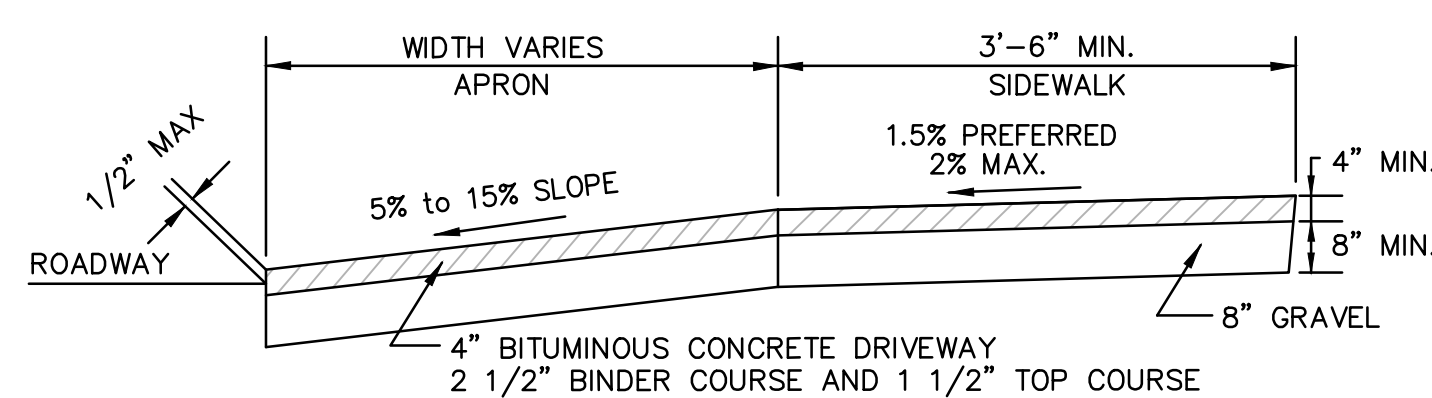
GCG ASSOCIATES, INC.

WILMINGTON MASSACHUSETTS

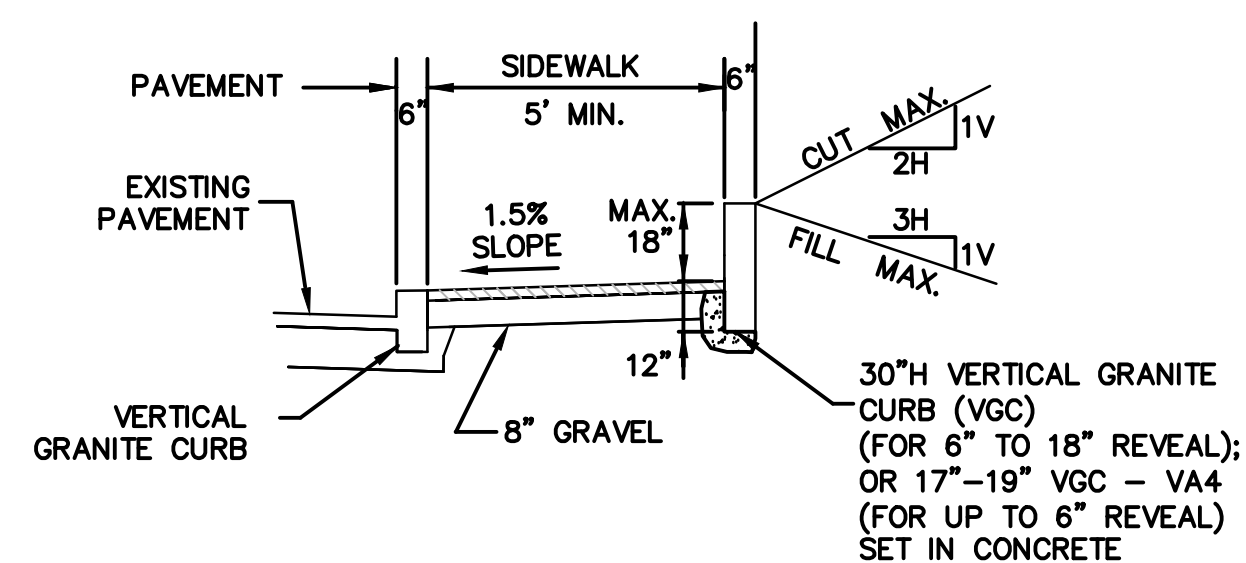
SCALE: NOT TO SCALE DATE: AUGUST 6, 2020

JOB NO. \ FILE NAME: 1644 BID-DETAILS
DESIGNED BY: A.C.M.
DRAWN BY: A.C.M.
CHECKED BY: M.J.C.
PLAN NO. 10 OF 14





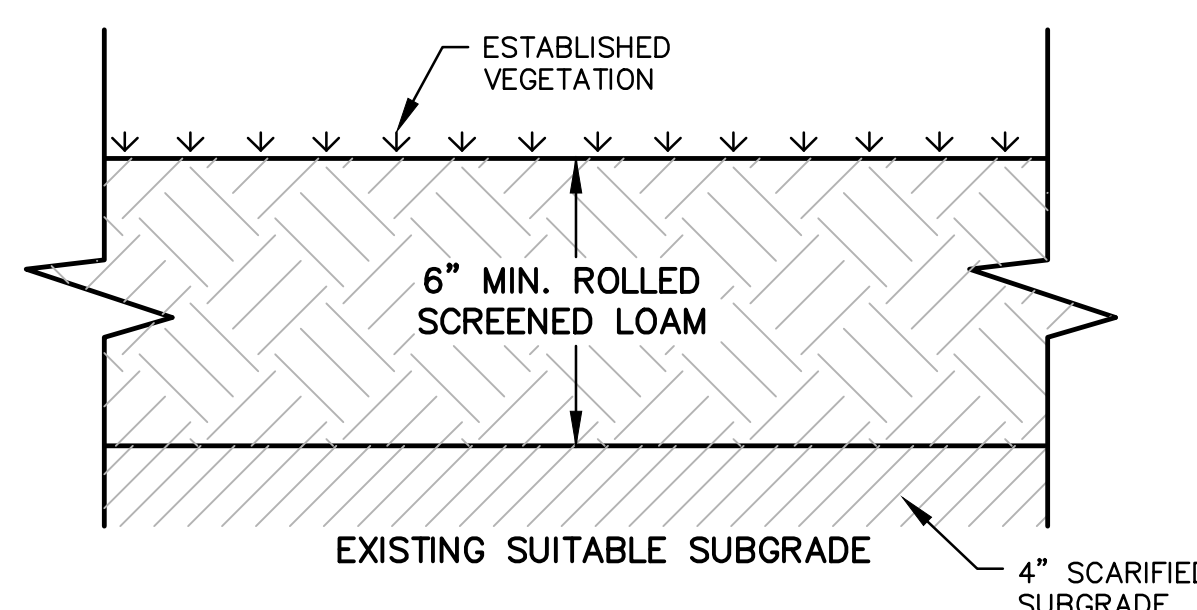
- NOTES:
- CROSSWALKS SHALL BE PAINTED AT ALL PAIRED WHEELCHAIR RAMP LOCATIONS WITHIN THE LIMITS OF WORK.
 - THE CROSSWALKS AND STOP LINES SHALL BE PAINTED WITH 12" WIDE, WHITE REFLECTORIZED, EPOXY PAINT IN THE PATTERN SHOWN.



VERTICAL GRANITE CURB SHORT WALL

CROSS SECTION

N.T.S.

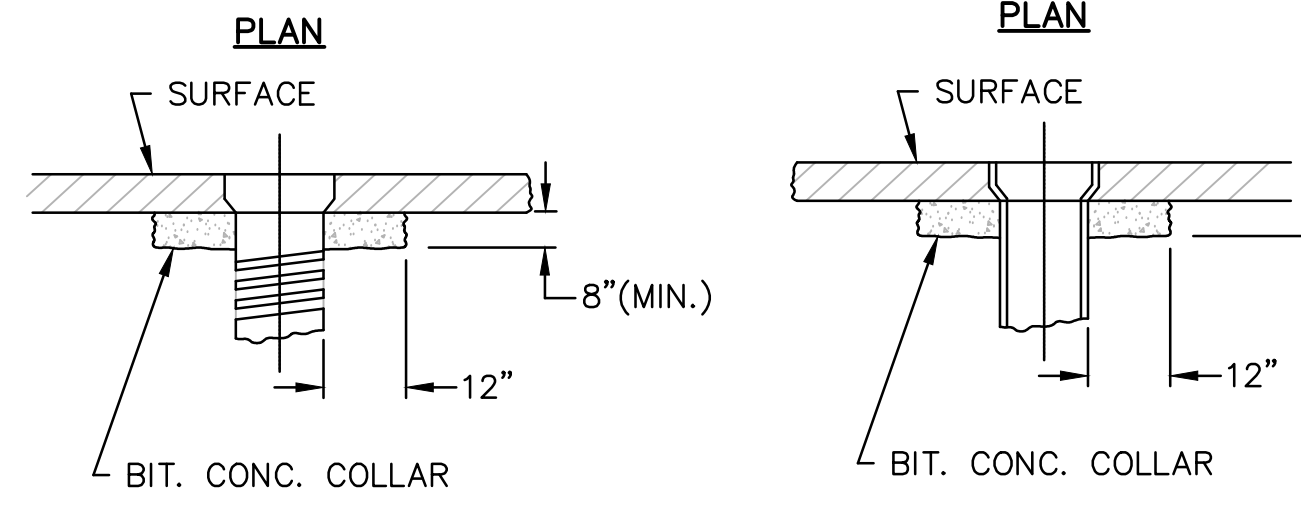
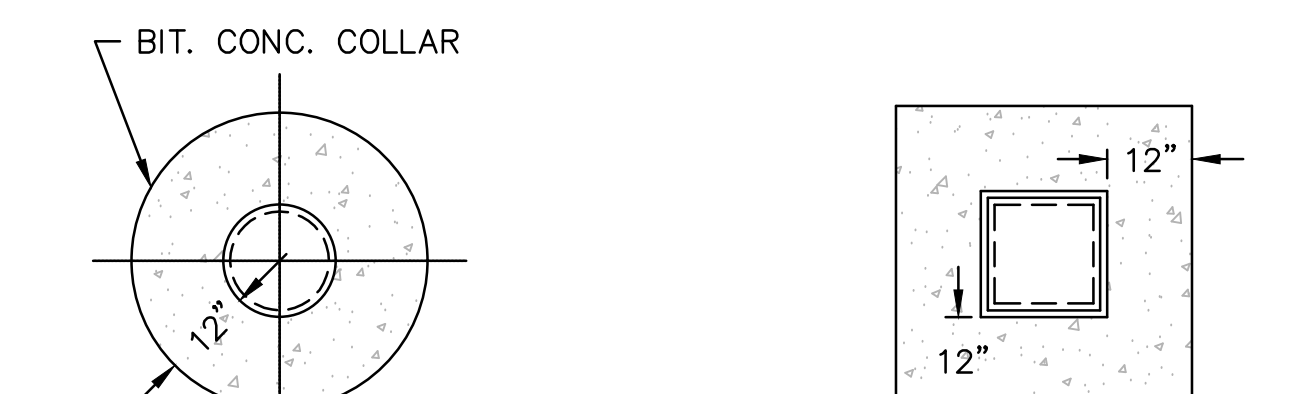
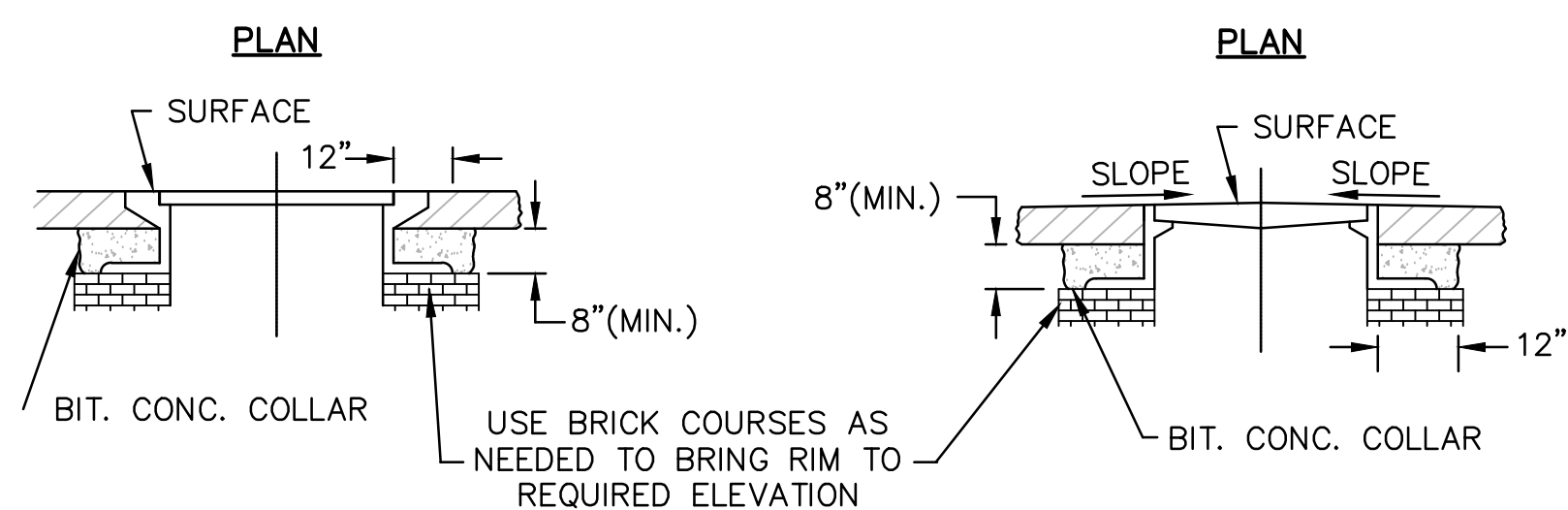
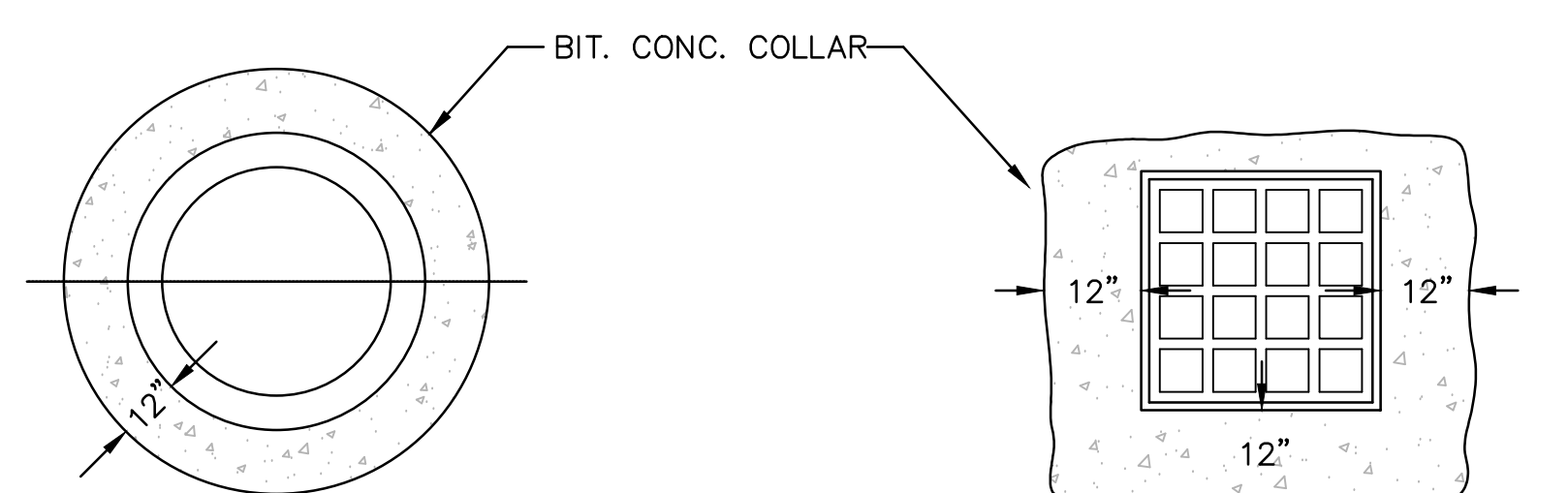


NOTES:

- ALL DISTURBED AREAS TO BE LOAMED WITH A MINIMUM OF 6-INCHES OF SCREENED LOAM IN ACCORDANCE WITH MASSACHUSETTS HIGHWAY DEPARTMENT (MHD) STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 751. LOAM MATERIAL SHALL MEET MHD M1.05.0 MATERIAL SOURCE AND IN-PLACE LABORATORY ANALYTICAL TESTING OF LOAM FOR COMPLIANCE WITH M1.05.0 MAY BE REQUIRED BY THE OWNER PRIOR TO PLACEMENT AND FINAL ACCEPTANCE.
- AFTER PLACEMENT, ROLLING AND RAKING OF THE SCREENED TOPSOIL, SEEDING AND FERTILIZING OF THE TOP SOIL SHALL BE IN ACCORDANCE WITH MHD STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 765. IF NECESSARY, REFERTILIZATION SHALL OCCUR IN ACCORDANCE WITH MHD SECTION 766.
- MULCHING SHALL BE IN ACCORDANCE WITH MHD SECTION 767, FOR AREAS SPECIFICALLY INDICATED ON THE DRAWINGS, OR AS FIELD CONDITIONS MAY WARRANT.
- SEED MIX, FERTILIZER AND MULCHING MATERIALS SHALL COMPLY WITH SECTION M6 OF MHD STANDARD SPECIFICATIONS FOR ROADSIDE DEVELOPMENT MATERIALS. SUBMITTAL REQUIREMENTS MAY INCLUDE PRODUCT LABELS OR LABORATORY ANALYTICAL TESTING, AS MAY BE REQUESTED BY THE OWNER OR THEIR AGENTS.

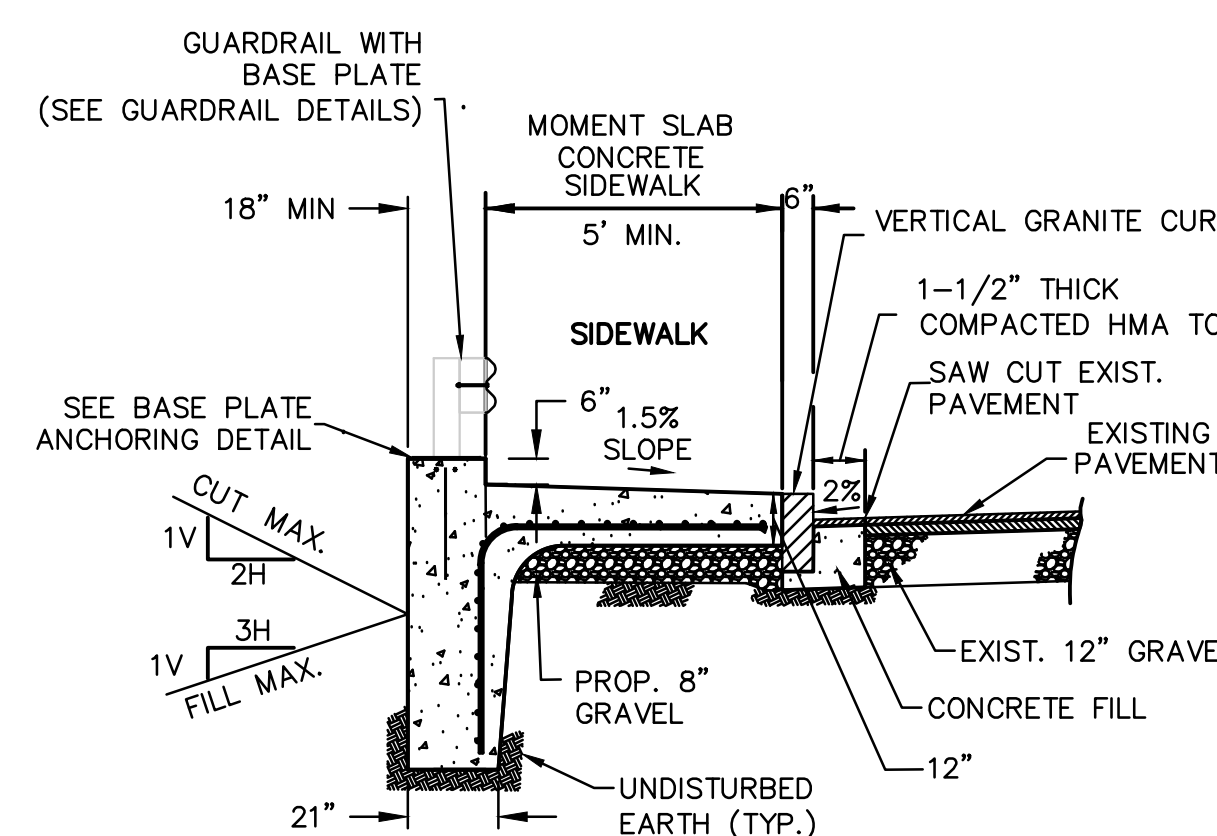
LOAM & SEED

NOT TO SCALE



DETAILS FOR RAISING CASTINGS

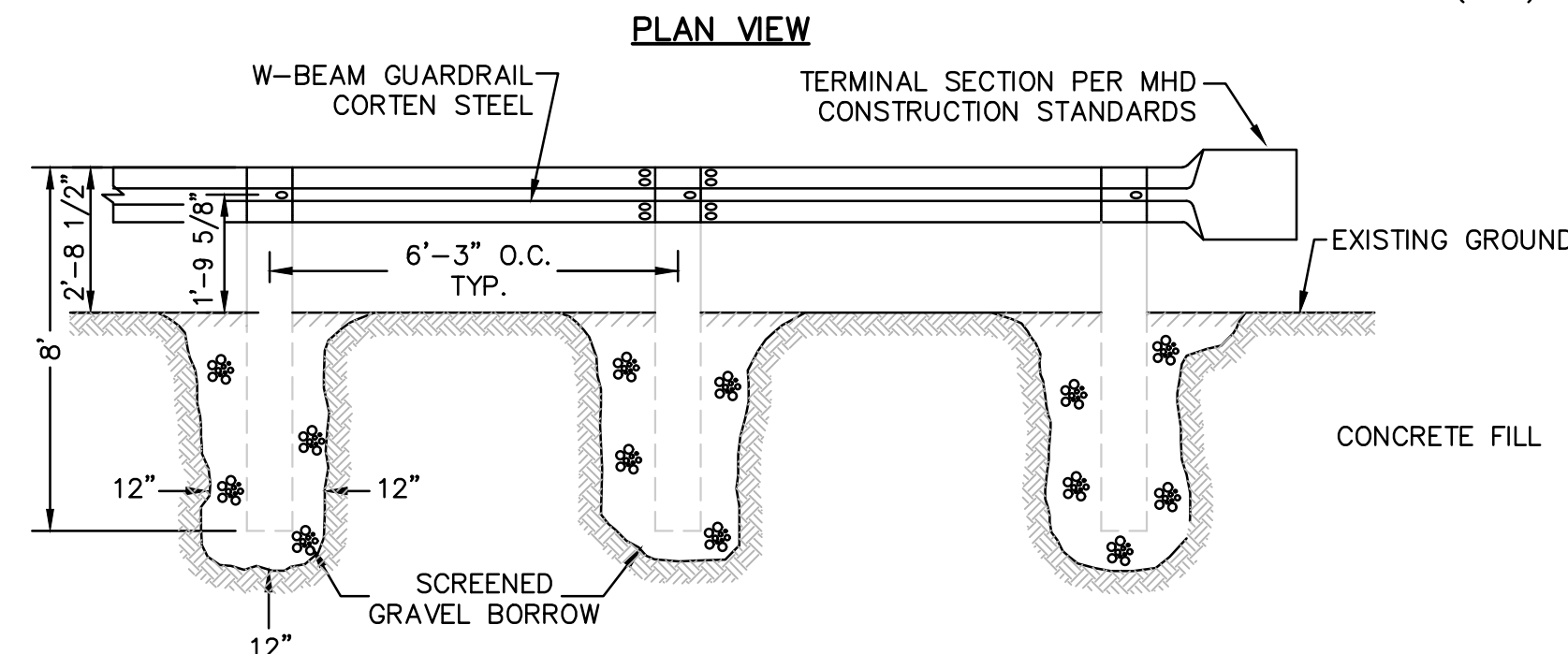
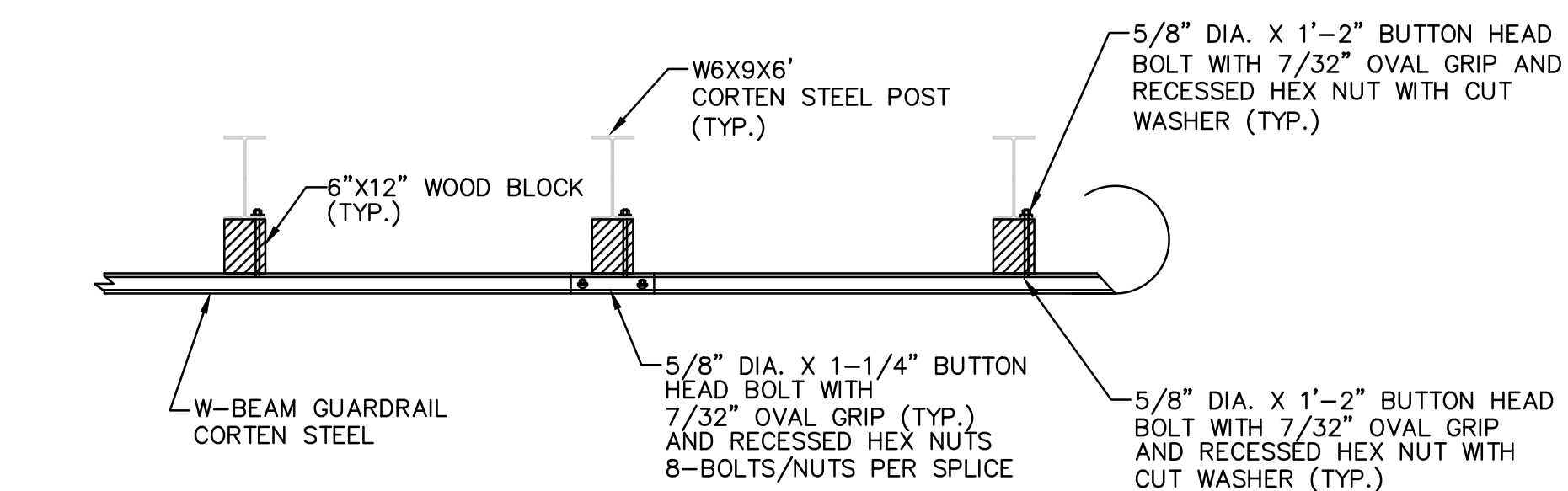
N.T.S.



MOMENT SLAB CONCRETE SIDEWALK WITH RETAINING WALL & GUARDRAIL DETAIL

NOT TO SCALE

NOTE: #6 REBAR SHALL BE PLACED AT 6" O.C.

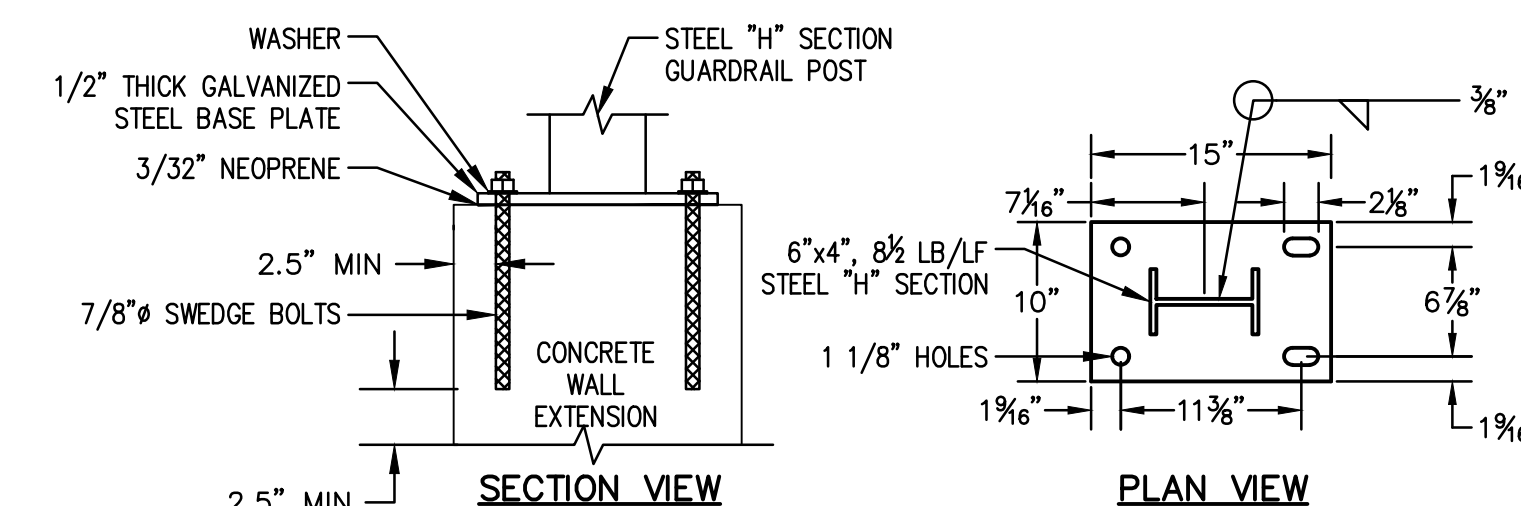


NOTES:

- ALL NUTS, BOLTS, AND WASHERS ARE TO BE GALVANIZED.
- SPLICES ARE TO LAP DOWNSTREAM IN DIRECTION OF TRAFFIC.
- CONSTRUCTION AND MATERIALS SHALL CONFORM WITH MHD CONSTRUCTION STANDARDS.

GUARDRAIL DETAILS

NOT TO SCALE



NOTES:

- WASHERS SHALL HAVE AN OUTER DIAMETER OF 2-1/4", INNER DIAMETER OF 1-1/8", AND A THICKNESS OF 3/16".
- BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED.
- HOLES FOR SWEDGE BOLTS SHALL BE 10" DEEP. SWEDGE BOLTS TO BE SET IN EPOXY RESIN.
- BASE PLATES SHALL BE SET ON 3/32" NEOPRENE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD MEASUREMENTS.
- 6" x 4" STEEL "H" SECTION POSTS SHALL ONLY BE USED ON CONCRETE WALL EXTENSIONS.
- ALL MATERIALS SHALL CONFORM WITH MASSACHUSETTS SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

BASE PLATE ANCHORING DETAIL

BID SET

TOWN OF LEXINGTON, MA
DETAILS II

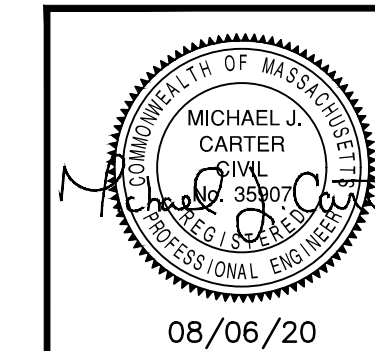
PROPOSED SIDEWALK PLAN
HILL STREET
LEXINGTON, MA

GCG ASSOCIATES, INC.

WILMINGTON MASSACHUSETTS

SCALE: NOT TO SCALE DATE: AUGUST 6, 2020

JOB NO. \FILE NAME: 1644 BID-DETAILS
DESIGNED BY: A.C.M.
DRAWN BY: A.C.M.
CHECKED BY: M.J.C.
PLAN NO. 11 of 14



EROSION AND SEDIMENT CONTROL MAINTENANCE

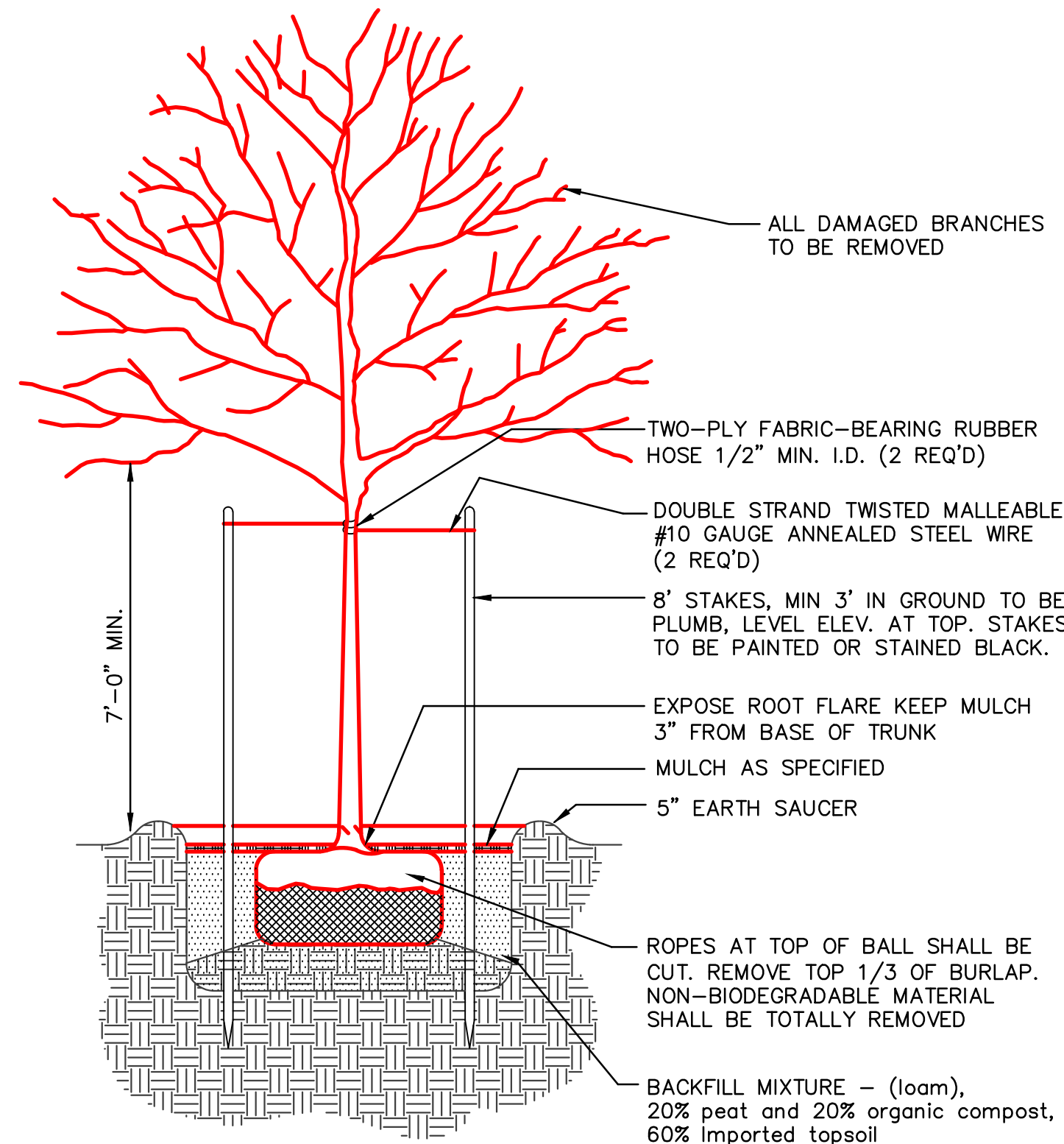
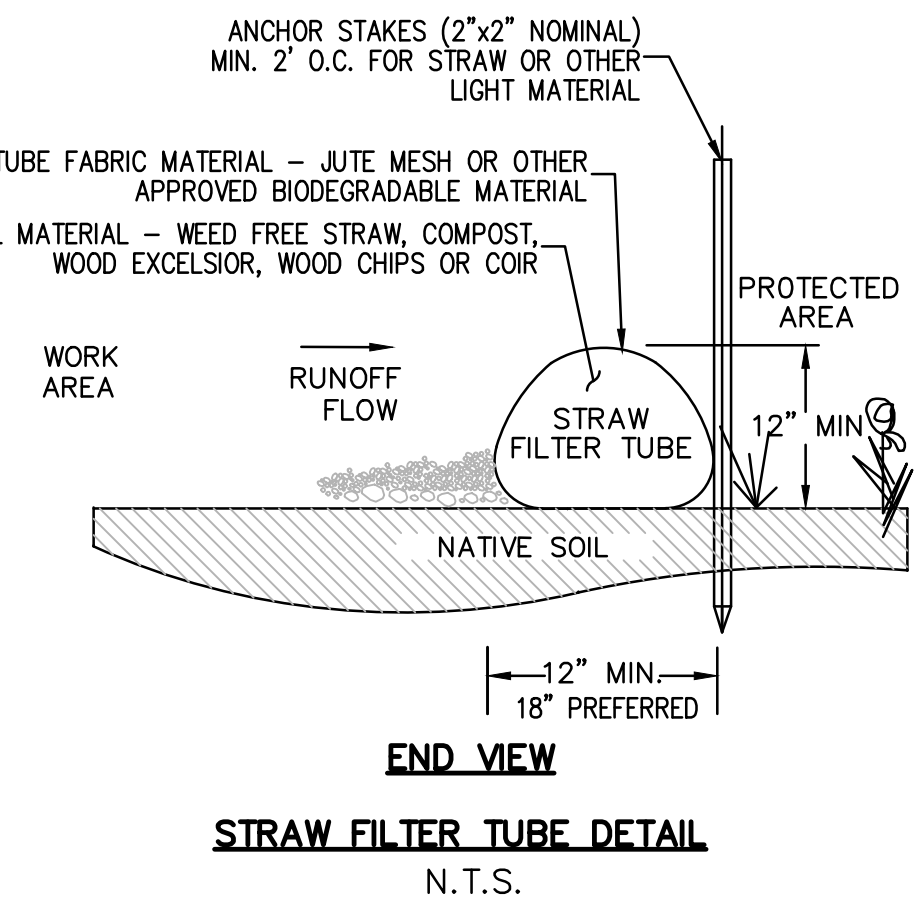
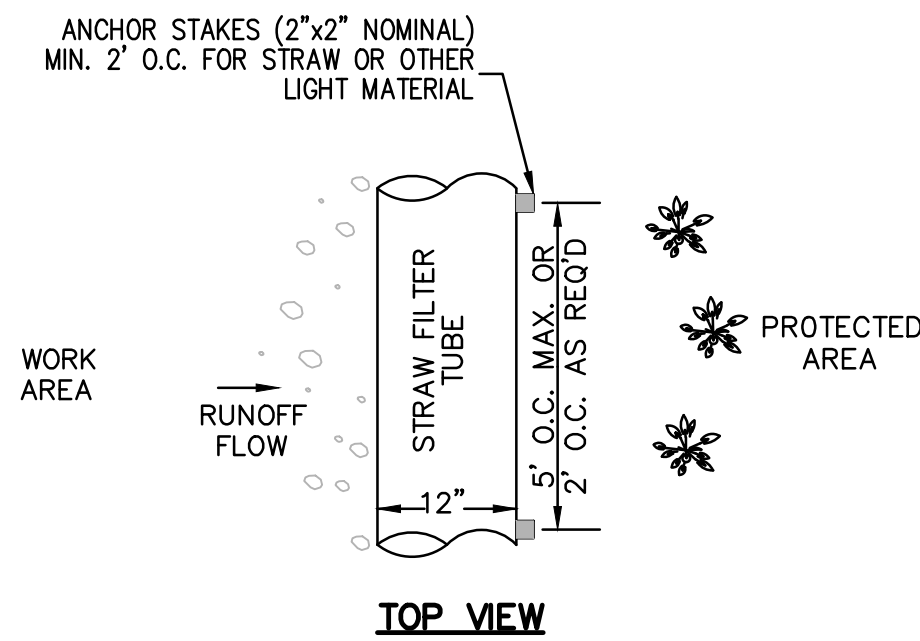
DURING CONSTRUCTION, AS SMALL AN AREA OF SOIL AS POSSIBLE SHOULD BE EXPOSED OR AS SHORT A TIME AS POSSIBLE. AFTER CONSTRUCTION, GRADE, RESPREAD TOPSOIL, AND STABILIZE SOIL BY SEEDING AND MULCHING AS TO PREVENT EROSION.

ALL SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE INSPECTED DURING CONSTRUCTION ON A DAILY BASIS AND FOLLOWING ALL STORMS BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL MAINTAIN AND MAKE REPAIRS AND REMOVE SEDIMENT AS REQUESTED BY THE RESIDENT ENGINEER. THIS WORK SHALL BE PERFORMED WITHIN 24 HOURS OF REQUEST.

THE CONTRACTOR SHALL CLEAN SEDIMENT AND DEBRIS FROM ALL DRAINAGE STRUCTURES, AND PIPES AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REPAIR ALL ERODED AREAS AND ENSURE A GOOD STAND OF TURF IS ESTABLISHED THROUGHOUT. THE CONTRACTOR SHALL REPAIR ALL ERODED OR DISPLACED RIPRAP, AND CLEAN SEDIMENT COVERED STONES.

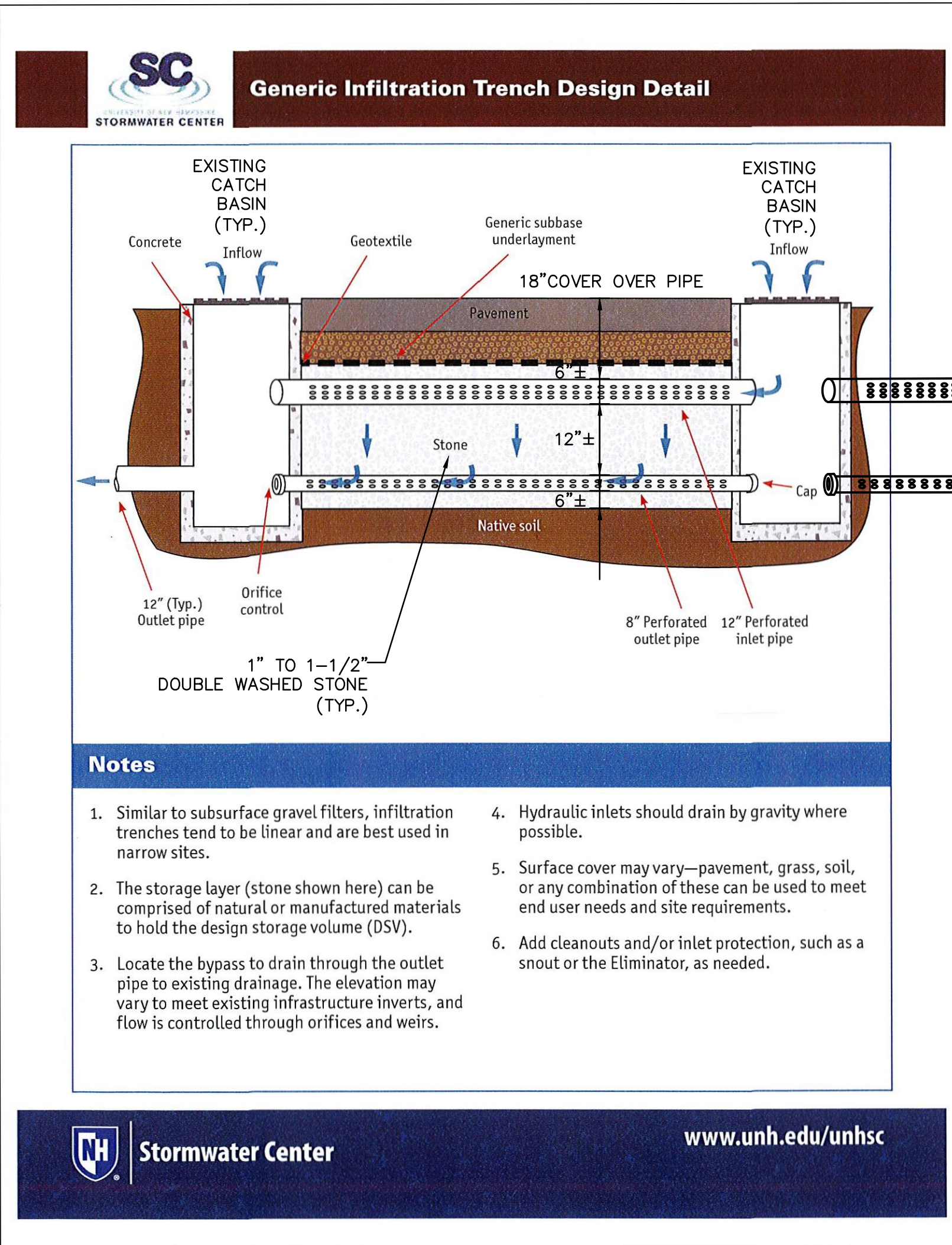
NOTES:

1. TUBES MAY BE FILLED ON SITE OR SHIPPED.
2. ENSURE PROPER LOCATION AT SITE FOR EFFECTIVENESS.
3. TUBES SHALL BE PLACED AND STAKED IN PLACE AS REQUIRED TO ENSURE STABILITY AGAINST WATER FLOWS.
4. TUBES FILLED WITH LIGHT MATERIAL SHALL BE STAKED AT A MAXIMUM OF 2 FEET ON CENTER. FOR HEAVIER MATERIAL, 5 FEET ON CENTER.
5. TUBES SHALL BE TAMPED TO ENSURE GOOD CONTACT WITH SOIL.
6. INSPECT AFTER EACH RAINFALL OR DAILY DURING RAINFALL EVENTS. CORRECT ALL DEFICIENCIES IMMEDIATELY. FAILURE INCLUDES BUT IS NOT LIMITED TO WASHOUT, OVERTOPPING, CLOGGING, AND EROSION. IF OVERTOPPING OR WASHOUT OCCURS, NEW FILTER TUBES WITH ADDITIONAL STAKING OR STRAW MATERIAL SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER.
7. FILTER TUBES SHALL BE REMOVED ONCE SITE WORK IS COMPLETE, SITE IS STABLE, ADEQUATE GROWTH HAS BEEN ESTABLISHED AND AS DIRECTED BY THE ENGINEER. TUBE FABRIC SHALL BE CUT, REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR AT NO ADDITIONAL COST. AS DIRECTED BY ENGINEER, REMAINING STRAW MATERIAL MAY BE RAKED OUT SO NO MATERIAL IS GREATER THAN 2" IN DEPTH.
8. SILT SACKS SHALL BE INSTALLED IN CATCH BASINS DURING CONSTRUCTION.



- NOTE:**
1. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS EXISTING GRADE.
 2. NEW TREE LOCATION SHOWN ON THE PLAN ARE APPROXIMATE. FINAL LOCATION AND TREE TYPE TO BE DETERMINED BY THE ENGINEER.

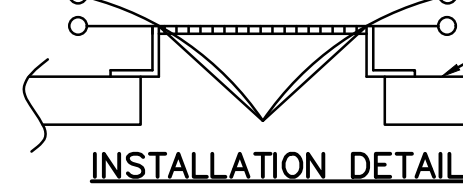
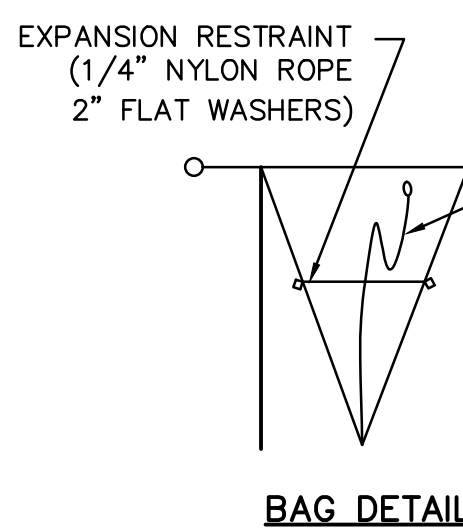
DECIDUOUS TREE PLANTING DETAIL
TREE TYPE TO BE DETERMINED BY THE DPW
NOT TO SCALE



Notes

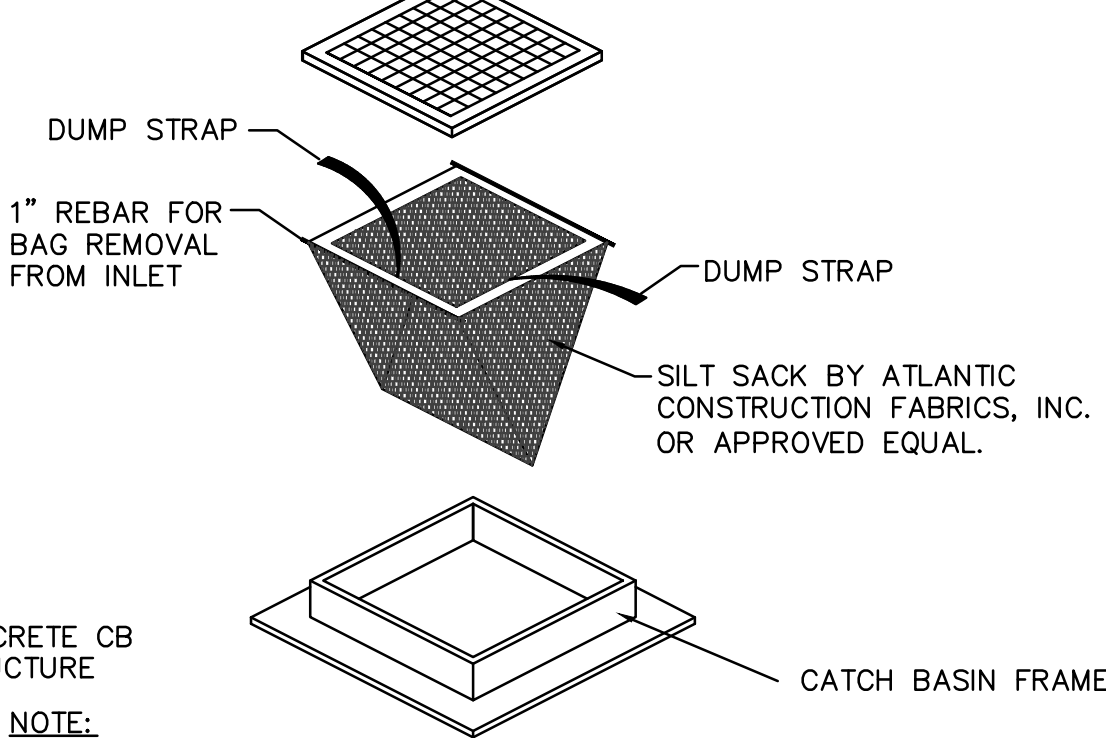
1. Similar to subsurface gravel filters, infiltration trenches tend to be linear and are best used in narrow sites.
2. The storage layer (stone shown here) can be comprised of natural or manufactured materials to hold the design storage volume (DSV).
3. Locate the bypass to drain through the outlet pipe to existing drainage. The elevation may vary to meet existing infrastructure inverts, and flow is controlled through orifices and weirs.
4. Hydraulic inlets should drain by gravity where possible.
5. Surface cover may vary—pavement, grass, soil, or any combination of these can be used to meet end user needs and site requirements.
6. Add cleanouts and/or inlet protection, such as a snout or the Eliminator, as needed.

Stormwater Center www.unh.edu/unhsc

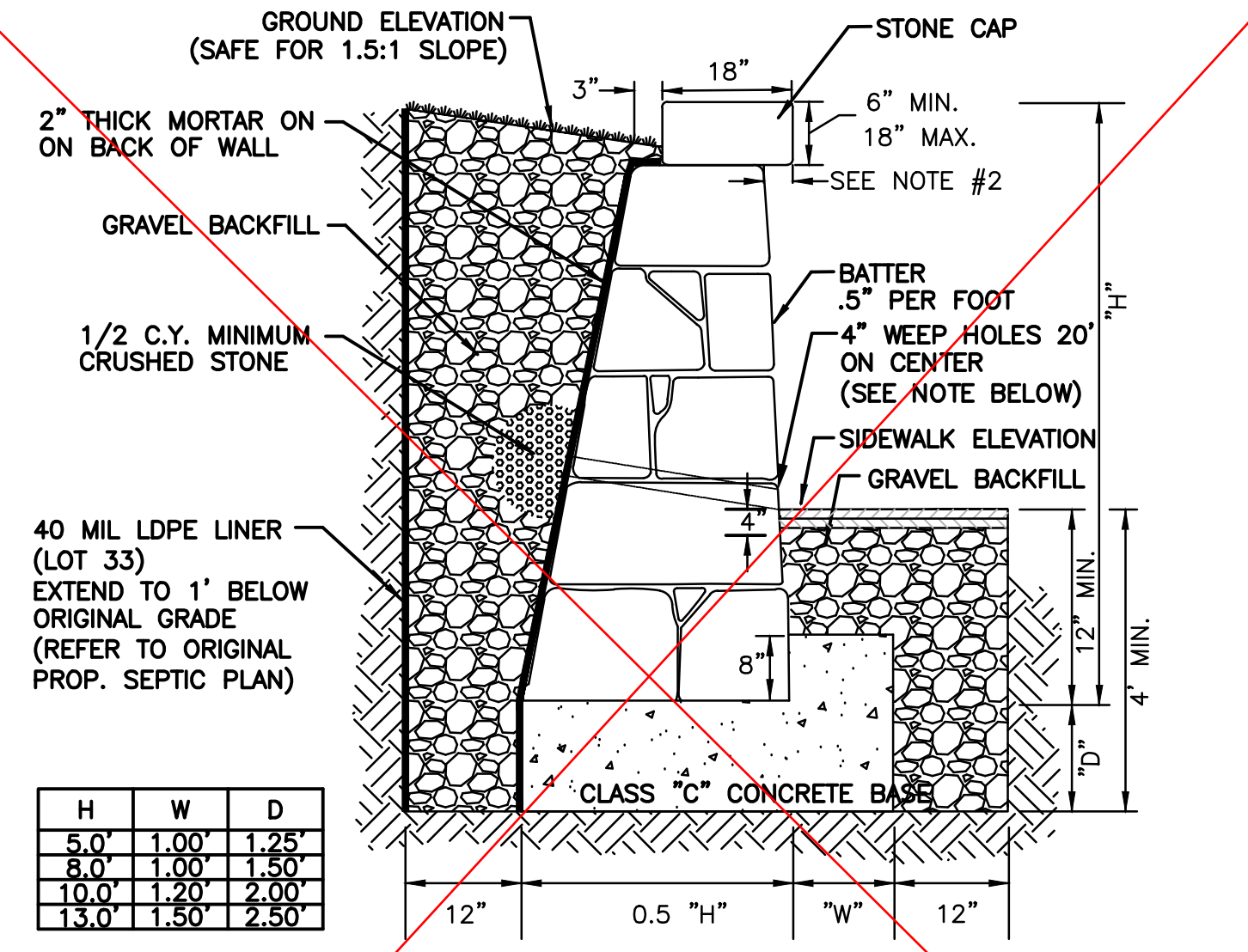


SILT SACK DETAIL
NOT TO SCALE

- NOTE:**
1. SILT SACKS SHALL BE INSTALLED IN ALL CATCH BASIN UNTIL DRAINAGE AREA HAS BEEN FULLY STABILIZED.



REFER TO APPENDIX D: REVISED WALL DETAIL FOR STONE MASONRY WALL DETAIL AND INFORMATION



TYPICAL SECTION STONE MASONRY RETAINING WALL
SCALE: N.T.S.

- NOTES:**
1. COPING OVERHANG TO BE APPROX. 3" FOR WALLS 10' OR MORE IN HEIGHT AND APPROX. 2" FOR WALLS LESS THAN 10' IN HEIGHT; IN A CONTINUOUS WALL OF VARYING HEIGHT THE OVERHANG WILL BE APPROX. 2" TO 3" FOR THE ENTIRE LENGTH.
 2. ALL DIMENSIONS SHOWN ARE MINIMUM.
 3. STRUCTURAL FILL SHALL BE PLACED UNDER WALL TO THE ORIGINAL GROUND GRADE AND COMPACTED TO 95%.
 4. MORTAR SHALL BE PLACED BETWEEN ALL STONES.

UNDER-DRAIN DETAIL
STA. 54+35 TO STA. 68+35
NOT TO SCALE

BID SET

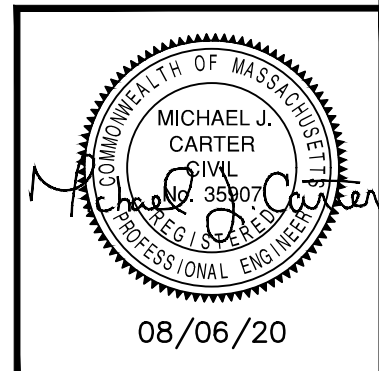
TOWN OF LEXINGTON, MA
DETAILS III

PROPOSED SIDEWALK PLAN
HILL STREET
LEXINGTON, MA

GCG ASSOCIATES, INC.
WILMINGTON MASSACHUSETTS

SCALE: NOT TO SCALE DATE: AUGUST 6, 2020

JOB NO. \FILE NAME: 1644 BID-DETAILS DESIGNED BY: A.C.M. DRAWN BY: A.C.M. CHECKED BY: M.J.C. PLAN NO. 12 OF 14



NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERCEDED BY THESE PLANS.
2. ALL SIGN LEGENDS, BORDERS, AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES, AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN MCHRP REPORT 353, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ADJUTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT, AND SIMILAR OPERATIONS.
7. THE FIRST FIVE PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH TYPE A LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET (3.3m) UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- WORK ZONE
- WORK VEHICLE
- DIRECTION OF TRAFFIC
- TRUCK MOUNTED ATTENUATOR
- P/F POLICE/FLAGGER DETAIL
- IMPACT ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- TYPE III BARRICADE
- MEDIAN BARRIER
- CHANGEABLE MESSAGE SIGN
- MEDIAN BARRIER WITH WARNING LIGHTS
- ARROW BOARD

THE IDEAL CAPACITY OF A MAJOR HIGHWAY IS GENERALLY CONSIDERED TO BE 1900 PASSENGER CARS PER HOUR PER LANE (PCPHPL). IN WORK ZONES ON A MULTI-LANE DIVIDED HIGHWAY, THE FOLLOWING VOLUME GUIDELINES HAVE BEEN SUGGESTED:

MEASURED AVERAGE WORK ZONE CAPACITIES

NUMBER OF LANES		NUMBER OF STUDIES	AVERAGE CAPACITY	
NORMAL (EXISTING)	OPEN (TO TRAFFIC)		VPH	VPHPL
3	1	7	1,170	1,170
2	1	8	1,340	1,340
5	2	4	2,740	1,370
4	2	4	2,960	1,480
3	2	9	2,980	1,490
4	3	4	4,560	1,520

Source: Dudek, C., Notes on Work Zone Capacity and Level of Service, Texas Transportation Institute, Texas A&M University, College Station, Texas (1984)

BY OBTAINING HOURLY TRAFFIC COUNTS FOR A PARTICULAR ROADWAY (WITH A MINIMUM OF A 48-HOUR AUTOMATIC TRAFFIC RECORDER (ATR) COUNT), THIS WILL HELP TO DETERMINE AT WHAT TIMES OF THE DAY OR NIGHT A CERTAIN NUMBER OF LANES MAY BE CLOSED.



Notes for Traffic Management

FIGURE GEN-1
GENERAL GUIDELINES

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS*	350 (100)	350 (100)	350 (100)
MOST OTHER ROADWAYS*	500 (150)	500 (150)	500 (150)
FREEWAYS AND EXPRESSWAYS*	1,000 (300)	1,500 (450)	2,640 (800)

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET (METERS). THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE).

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTC SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (I.E. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (I.E. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10a, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

Based on: Table 6C-1 MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

SPEED* (km/h)	DISTANCE (m)	SPEED* (mph)	DISTANCE (ft)
30	35	20	115
40	50	25	155
50	65	30	200
60	85	35	250
70	105	40	305
80	130	45	360
90	160	50	425
100	185	55	485
110	220	60	570
120	250	65	645
		70	730
		75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

Source: Table 6C-2 MUTCD LATEST EDITION



Notes for Traffic Management

FIGURE GEN-2
NOTES ON WORK ZONE DISTANCES

CONVENTIONAL ROADWAY— A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY— A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY— A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD— A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 ADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L) ¹
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN.(15 m) 100 FT(30 m) MAX.
DOWNSTREAM TAPER	50 FT MIN.(15 m) 100 FT MAX.(30 m) PER LANE

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET	SPEED LIMIT (S)	TAPER LENGTH (L) Meters
40 MPH OR LESS	$L = \frac{WS^2}{60}$	60 KM/H OR LESS	$L = \frac{WS^2}{155}$
45 MPH OR MORE	$L = WS$	70 KM/H OR MORE	$L = \frac{WS}{1.6}$

WHERE: L = TAPER LENGTH IN FEET (METERS)

W = WIDTH OF OFFSET IN FEET (METERS)

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH (KM/H)

Source: Table 6C-4 MUTCD LATEST EDITION



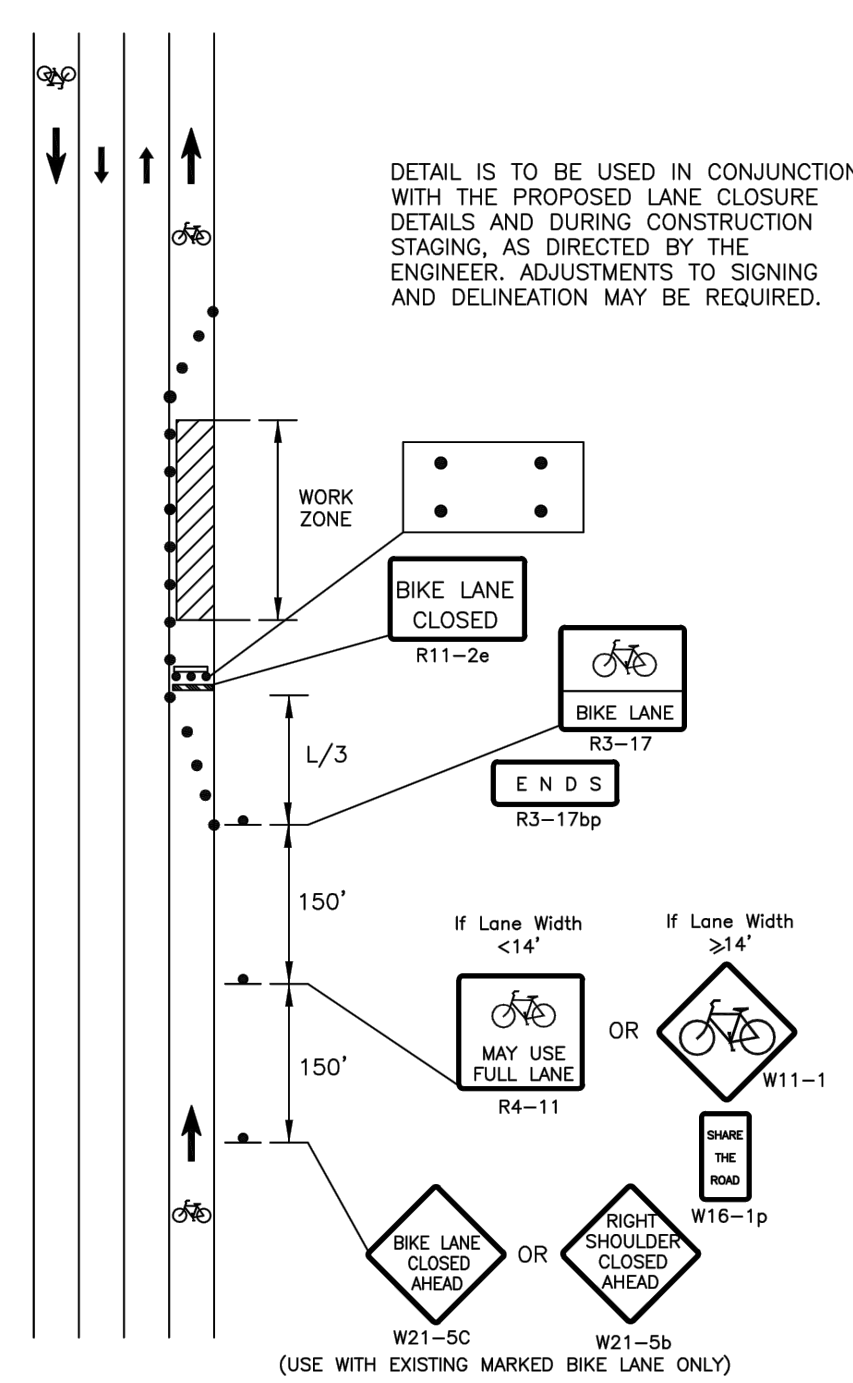
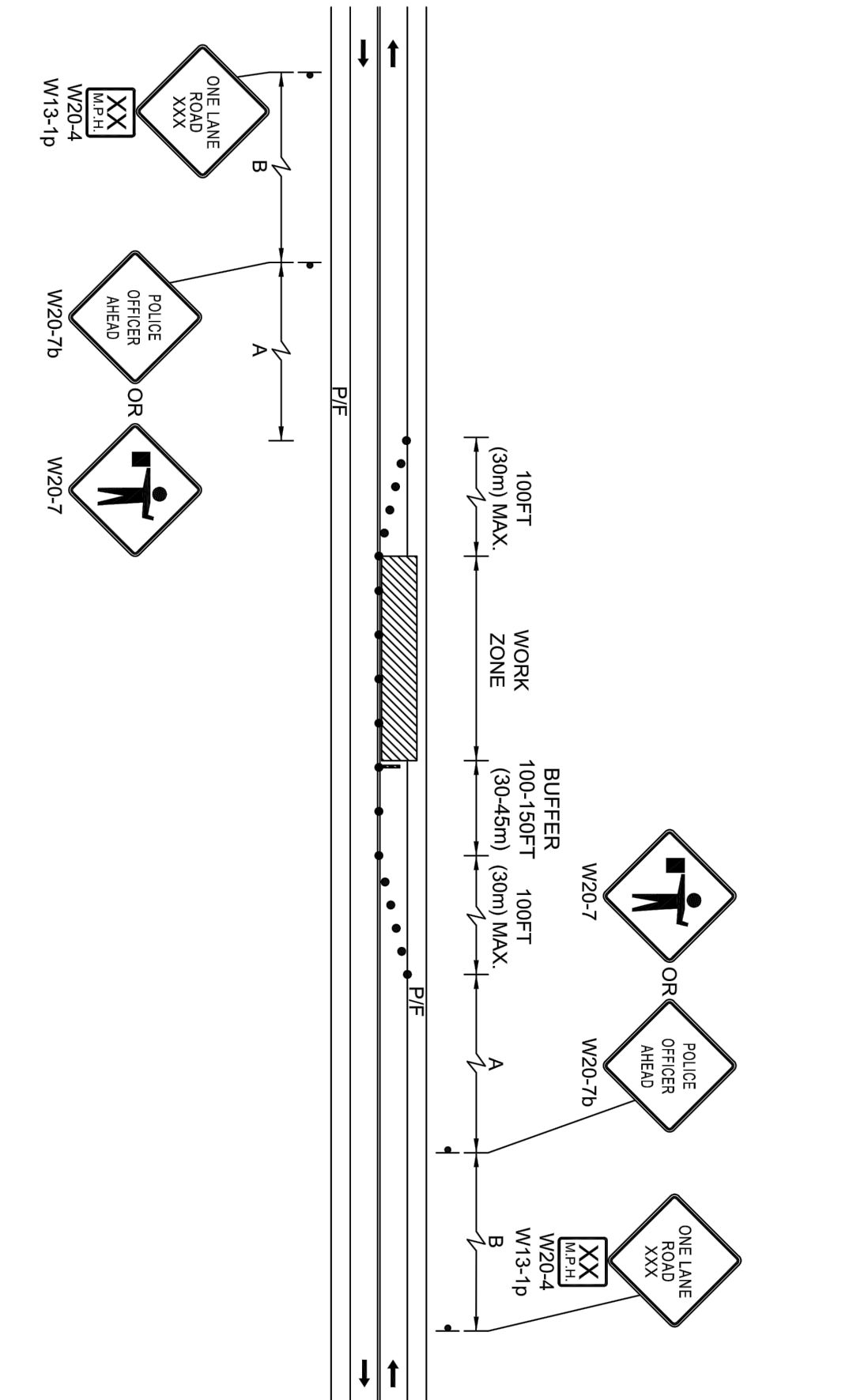
Notes for Traffic Management

FIGURE GEN-3
NOTES ON WORK ZONE DISTANCES



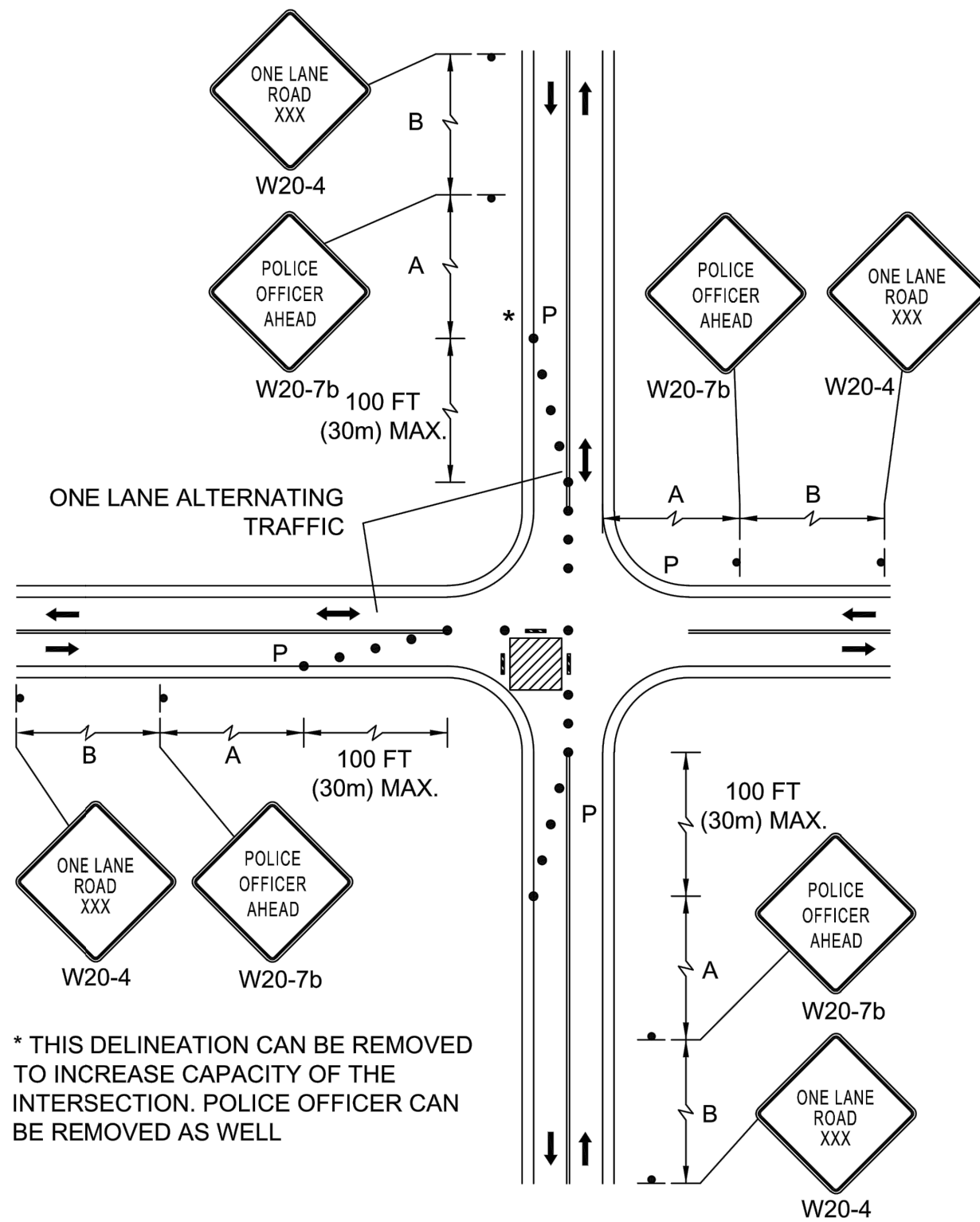
Standard Drawings Development of Temporary Traffic Control Plans

FIGURE TLR-9
TWO LANE ROAD ONE LANE ALTERNATING TRAFFIC NOT TO SCALE



Standard Details and Drawings for the Development of Temporary Traffic Control Plans

FIGURE BIK-1
BICYCLE LANE CLOSURE WITHOUT DETOUR
NOT TO SCALE



Standard Details and Drawings for the Development of Temporary Traffic Control Plans

FIGURE INT-2
SINGLE LANE APPROACH ONE QUADRANT CLOSURE
NOT TO SCALE

BID SET

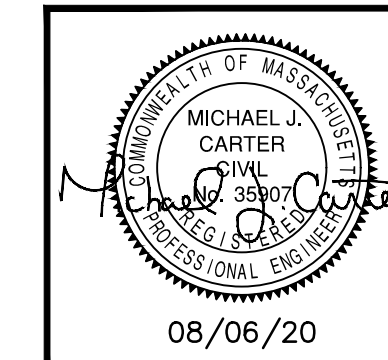
TOWN OF LEXINGTON, MA
TRAFFIC MANAGEMENT PLAN 1
PROPOSED SIDEWALK PLAN
HILL STREET
LEXINGTON, MA

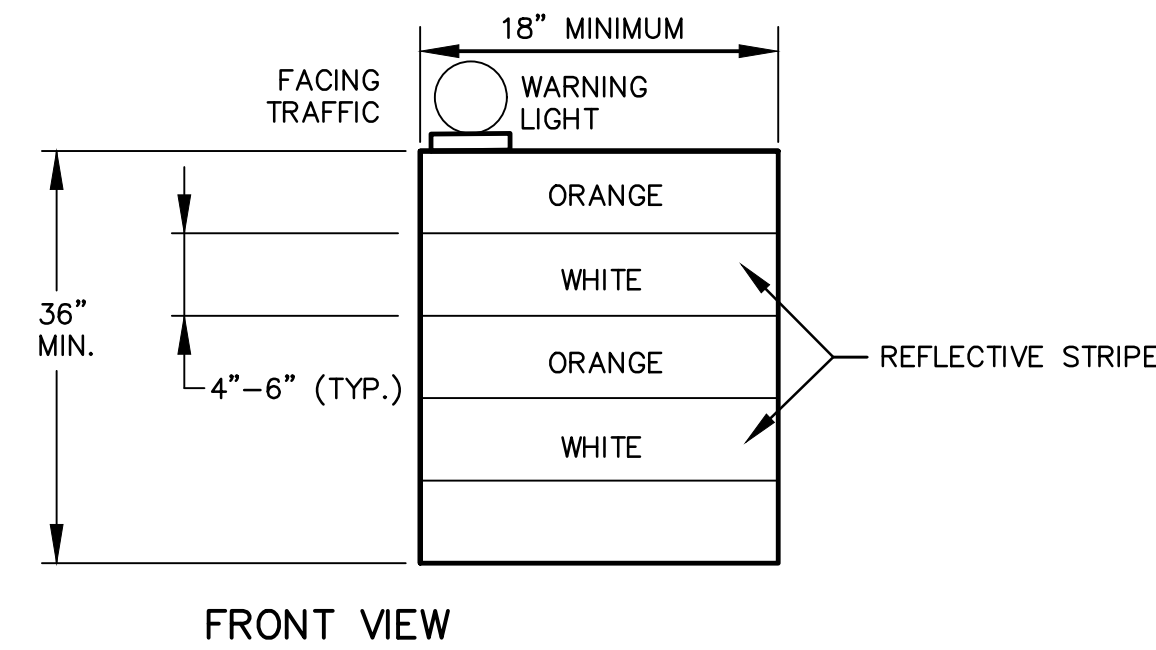
GCG ASSOCIATES, INC.

WILMINGTON MASSACHUSETTS

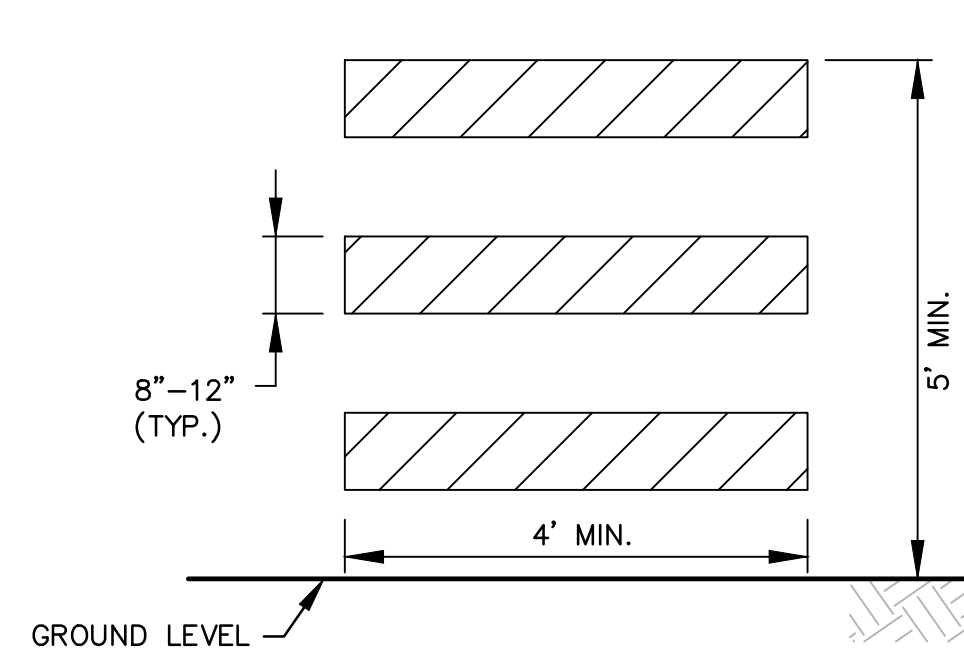
SCALE: NOT TO SCALE DATE: AUGUST 6, 2020

JOB NO./FILE NAME: 1644 BID-DETAILS
DESIGNED BY: A.C.M.
DRAWN BY: A.C.M.
CHECKED BY: M.J.C.
PLAN NO. 13 OF 14





FRONT VIEW



ALUMINUM BARRICADE FACE PANELS

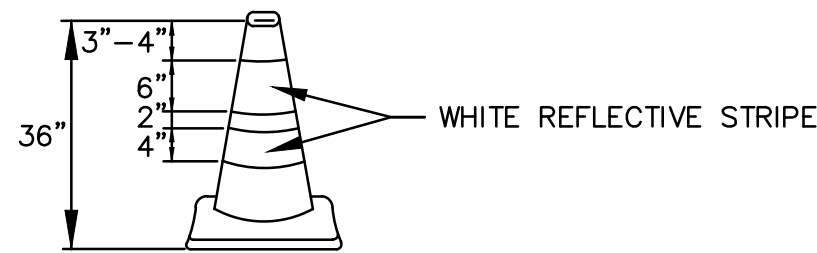
N.T.S.

1. TRAFFIC DRUM SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION M.U.T.C.D.
2. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY DRUM DEEMED NOT SUITABLE FOR THE PURPOSE INTENDED.
3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FLEXIBLE ENCAPSULATED LENS REFLECTIVE SHEETING.
4. REFLECTORIZED STRIPES SHOULD NOT BE PLACED OVER THE PROTRUDING CIRCUMFERENTIAL RIBS OF THE DRUM.
5. THE SECTIONS OF DRUMS NOT COVERED WITH REFLECTORIZED STRIPED SHALL BE ORANGE.
6. THE DESIGN OF THE DRUM REQUIRES A PHOTO ELECTRIC STEADY BURN (TYPE "C") WARNING LIGHT MOUNTED ON TOP.

1. ALUMINUM BARRICADE FACE PANELS SHALL BE MOUNTED ON 3" OR 4" P.V.C. BARRICADE SUPPORT.
2. MARKINGS FOR BARRICADE FACE PANELS SHALL BE 8" TO 12" IN HEIGHT AND ALTERNATE ORANGE AND WHITE STRIPES SLOPING DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS. 6" WIDE STRIPES AT A 45 DEGREE ANGLE SHALL BE USED.
3. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE REFLECTIVE SHEETING -- ENCAPSULATED LENS. BARRICADE FACE PANELS AS NOTED SHALL BE REFLECTORIZED ON BOTH SIDES. WHERE TRAFFIC PASSES ONLY IN ONE DIRECTION OF TRAVEL, ONLY THE SIDE FACING TRAFFIC SHALL BE REFLECTORIZED.
4. ALUMINUM BARRICADE FACE PANELS SHALL HAVE ROUNDED CORNERS.
5. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY BARRICADE FACE PANEL WHICH THE ENGINEER DEEMS HAZARDOUS, AND NOT IN THE BEST INTEREST OF THE MOTORING PUBLIC, OR NOT SUITABLE FOR PURPOSE INTENDED.

TRAFFIC DRUM

N.T.S.



1. TRAFFIC CONES SHALL BE DESIGN IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CHAPTER VI, SECTION 6C-3, CONE DESIGN.
2. HEIGHT OF THE CONES SHALL BE 36".
3. CONES SHALL BE PREDOMINATELY FEDERAL ORANGE IN COLOR AND WITH REFLECTIVE STRIPES.
4. RUBBER CONES SHALL HAVE INTERIOR RIBS FOR RIGIDITY.
5. PLASTIC CONES SHALL BE COLOR IMPREGNATED.
6. CONES SHALL BE OF A THICKNESS NECESSARY TO WITHSTAND IMPACT WITHOUT DAMAGE TO EITHER CONE OR IMPACTING VEHICLE.
7. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY CONE THE ENGINEER DEEMS NOT SUITABLE FOR PURPOSE INTENDED.

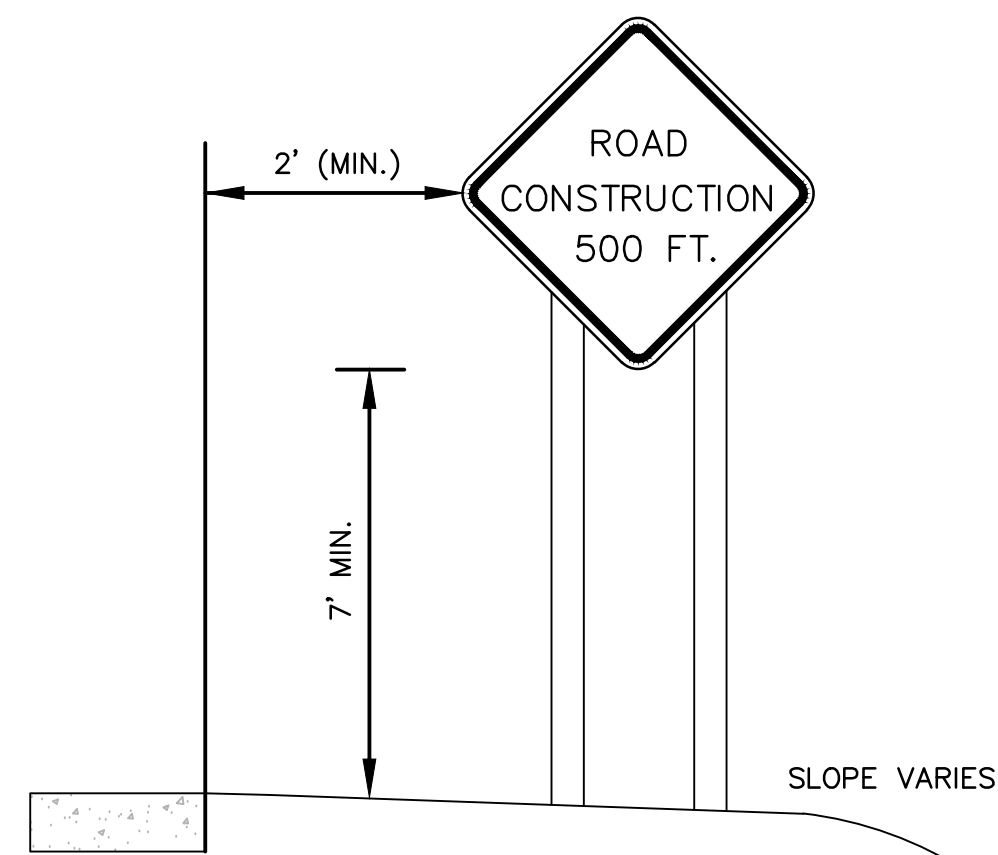
TRAFFIC CONES

N.T.S.

STATIONARY CONSTRUCTION PERIOD SIGNS

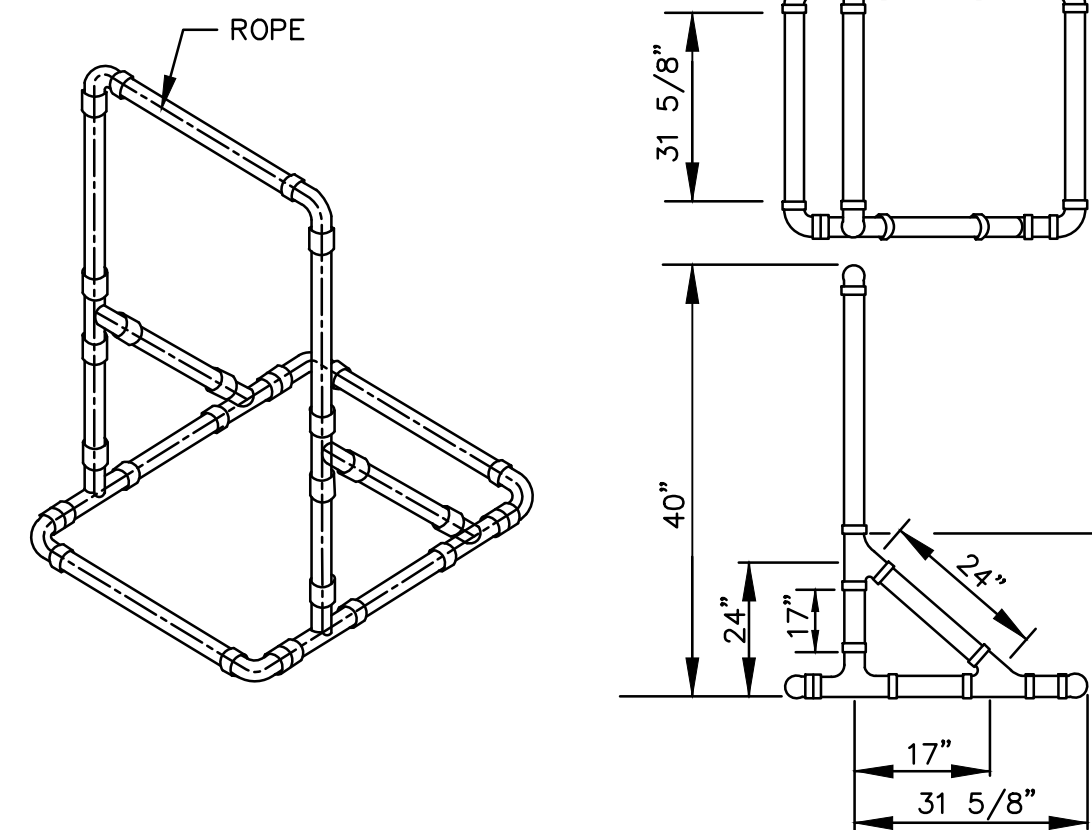
SIGN	WIDTH	HEIGHT
ROAD CONSTRUCTION 1000 FT. W20-1a	48"	48"
ROAD CONSTRUCTION 500 FT. W20-1b	48"	48"
END CONSTRUCTION G20-2	36"	18"
VARIABLE MESSAGE BOARD VMB		

(REFER TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION)



HEIGHT AND LATERAL LOCATIONS OF STATIONARY CONSTRUCTION PERIOD SIGNS

N.T.S.



TYPICAL 3" OR 4" PLASTIC SIGN/BARRICADE SUPPORT

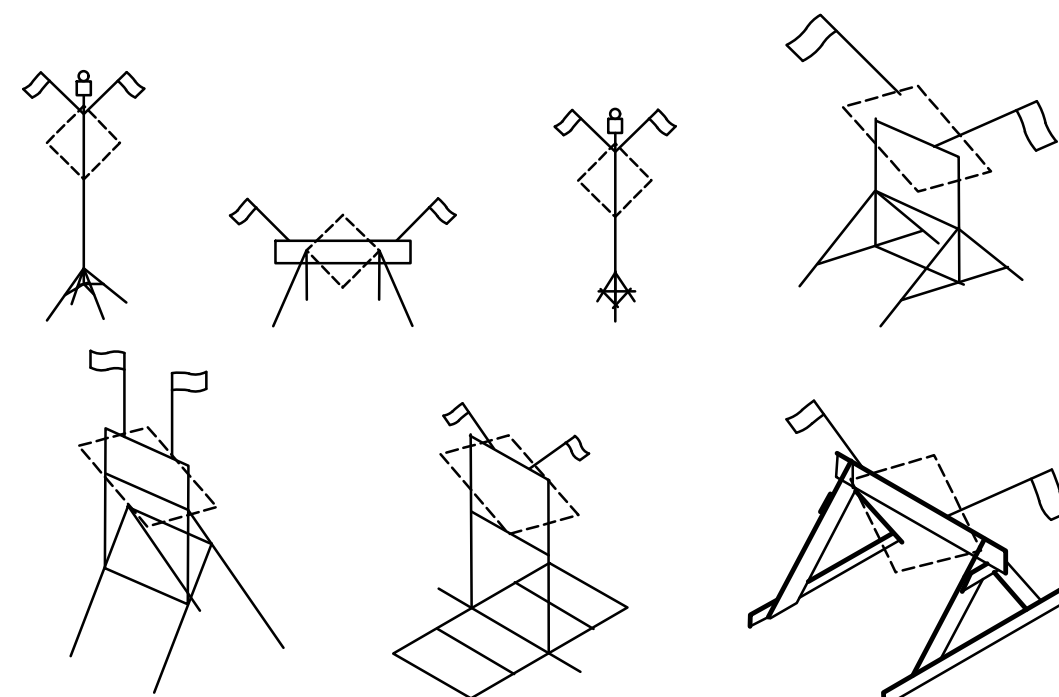
N.T.S.

1. DIMENSIONS ARE APPROXIMATE.
2. BOTTOM SECTION MAY BE FILLED WITH SAND FOR BALLAST.
3. SUPPORT SHALL BE LOOSELY THREADED WITH ROPE, KNOTTED AS REQUIRED.

TEMPORARY CONSTRUCTION PERIOD SIGNS

SIGN	WIDTH	HEIGHT
ROAD WORK AHEAD W20-1	36"	36"
ONE LANE ROAD AHEAD W20-4	36"	36"
POLICE OFFICER AHEAD W20-8	36"	36"

(ADDITIONAL TEMPORARY TRAFFIC MANAGEMENT SIGN REFER TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION)



TEMPORARY CONSTRUCTION PERIOD PORTABLE SIGN SUPPORTS

N.T.S.

1. SIGN SUPPORTS SHALL BE CONSTRUCTED OF A SUITABLE MATERIAL. BREAKAWAY AND/OR COLLAPSIBLE FEATURES SHALL BE INCORPORATED IN THE SIGN SO THAT THE SUPPORT WILL NOT CONSTITUTE A HAZARD TO THE MOTORIST AND/OR WORKERS IN THE WORK AREA. SIGNS MUST MEET NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) 350 STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND MASSDOT.
2. MOUNTING HEIGHT OF SIGN UTILIZING STRUCTURES DEPICTED ABOVE SHALL BE A MINIMUM OF 12", WITH A RECOMMENDED HEIGHT OF 18" ABOVE PAVEMENT.
3. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY SUPPORT WHICH THE ENGINEER DEEMS A HAZARD, OR NOT IN THE BEST INTEREST OF THE MOTORING PUBLIC.
4. FLAGS AND/OR BARRICADE WARNING LIGHTS SHALL BE USED AS SHOWN ON THE TRAFFIC CONTROL PLANS AND AS REQUIRED BY THE ENGINEER.

BID SET

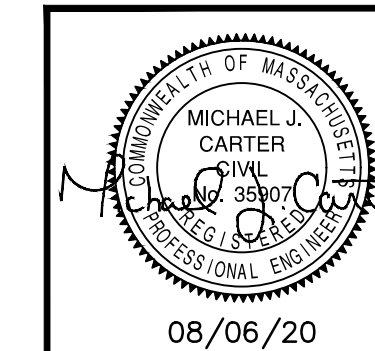
TOWN OF LEXINGTON, MA
TRAFFIC MANAGEMENT PLAN 2

PROPOSED SIDEWALK PLAN
HILL STREET
LEXINGTON, MA

GCG ASSOCIATES, INC.

WILMINGTON MASSACHUSETTS

SCALE: NOT TO SCALE DATE: AUGUST 6, 2020



JOB NO. \ FILE NAME: 1644 BID-DETAILS	DESIGNED BY: A.C.M. DRAWN BY: A.C.M. CHECKED BY: M.J.C.	PLAN NO. 14 OF 14
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