

GENERAL NOTES

- TOPOGRAPHICAL INFORMATION BASED UPON SURVEY PERFORMED BY CHAPPELL ENGINEERING ASSOCIATES, LLC.
- REFER TO EXISTING CONDITIONS FOR SURVEY LEGEND. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.
- LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS. CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
- 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 ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE EXTENT OF EXCAVATION AND DEMOLITION REQUIRED TO RECEIVE SITE IMPROVEMENTS.
- ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO THE OWNER.
- ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
- ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE OWNER.
- ALL WORK SHOWN ON THE PLANS AS BOLD SHALL REPRESENT PROPOSED WORK. THE TERM "PROPOSED (PROF)" INDICATES WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET (R&R)", OR REMOVE, RELOCATE, RESET, (R,R&R).
- ALL KNOWN EXISTING STATE, COUNTY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND ARE INDICATED ON THE PLANS.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERINGS, OR FENCES AS NEEDED.
- THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO CONSTRUCTION.
- FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER.
- EXISTING TREES TO REMAIN SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITIES. NO STOCKPILING OF MATERIAL, EQUIPMENT OR VEHICULAR TRAFFIC SHALL BE ALLOWED WITHIN THE DRIP LINE OF TREES TO REMAIN. NO GUYS SHALL BE ATTACHED TO ANY TREE TO REMAIN. WHEN NECESSARY OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL ERECT TEMPORARY BARRIERS FOR THE PROTECTION OF EXISTING TREES DURING CONSTRUCTION.
- TREES AND SHRUBS WITHIN THE LIMITS OF WORK SHALL BE REMOVED ONLY UPON THE APPROVAL OF THE ENGINEER OR AS NOTED ON THE PLANS.
- THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
- NO FILLING SHALL OCCUR AROUND EXISTING TREES TO REMAIN WITHOUT THE APPROVAL OF THE OWNER OR OWNER REPRESENTATIVE.
- THE CONTRACTOR SHALL REMOVE ALL SURFACE VEGETATION PRIOR TO GRADING THE SITE. STUMPS SHALL BE REMOVED BY THE CONTRACTOR. TEMPORARY EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS (INCLUDING SILT FENCE, COMPOST FILTER TUBES, OR SILT SOCKS) SHALL BE INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE PROJECT WHICH COST SHALL BE INCIDENTAL TO THE PROJECT.
- ALL UNSUITABLE UNCONTAMINATED EXCESS SOIL FROM CONSTRUCTION ACTIVITIES SHALL BE DISPOSED OF THE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. REMOVAL ACTIVITIES SHALL BE ACCORDANCE WITH STATE AND LOCAL REGULATIONS AT NO ADDITIONAL COST TO THE OWNER. SUITABLE SOIL EXCAVATION AS PART OF THE PROJECT MUST MEET ONE OR MORE OF THE MATERIAL REQUIREMENTS SPECIFIED IN 02300 EARTHWORK, ON-SITE FILL MATERIALS, WHICH DO NOT CONFORM TO SPEC 02300, SHALL NOT BE USED BELOW ANY STRUCTURES. IF THE CONTRACTOR PROPOSES TO USE THE EXISTING FILL ON SITE BELOW PAVEMENT AREAS, HE MUST DEMONSTRATE THAT THE FILL MEETS THE REQUIREMENTS PER 02300. ALL EXCAVATED FILL MATERIAL WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL BE REMOVED AND DISPOSED OF OFF-SITE AT NO ADDITIONAL COST.
- CONTRACTOR IS RESPONSIBLE FOR STAKING CONSTRUCTION BASELINES IN FIELD BY A SURVEYOR REGISTERED IN THE COMMONWEALTH OF MA. NO CONSTRUCTION WILL BE PERFORMED WITHOUT THE PROPOSED BASELINES AND LAYOUTS APPROVED BY THE ENGINEER.
- NO FILL SHALL CONTAIN HAZARDOUS MATERIALS.
- CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AROUND PERIMETER OF WORK AREA (LIMIT OF WORK). FENCE SHALL NOT IMPEDE TRAVEL WAYS.
- ANY QUANTITIES SHOWN ON PLANS ARE FOR COMPARATIVE BIDDING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE PROJECT SITE TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO SUBMITTING BID.
- ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES, INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION.
- CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
- THE CONTRACTOR SHALL KEEP ALL STREETS, PARKING LOTS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNER.
- CONTRACTOR SHALL Dewater AS NECESSARY TO PERFORM THE PROPOSED WORK. CONTRACTOR SHALL BE AWARE OF PERCHED GROUNDWATER. (SEE SPECIFICATION SECTION 00320 SUBSURFACE DATA).
- THE LIMIT OF WORK SHALL BE DELINEATED IN THE FIELD PRIOR TO THE START OF SITE CLEARING OR CONSTRUCTION.
- DEEP SUMP CATCH BASINS AND STORMWATER BASIN SHALL BE CLEANED FOLLOWING CONSTRUCTION AND SHALL FOLLOW THE OPERATION AND MAINTENANCE PLAN THEREAFTER.
- HAULING OF EARTH MATERIALS TO AND FROM THE SITE SHALL BE RESTRICTED TO THE HOURS OF 7:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY.
- ANY BOULDERS 3 CY OR SMALLER SHALL BE CONSIDERED UNDOCUMENTED FILL AND SHALL BE DISPOSED OF AT NO ADDITIONAL COST TO THE OWNER.
- WORK ON SATURDAYS SHALL ONLY BE CONDUCTED IF PRIOR WRITTEN PERMISSION IS PROVIDED BY THE OWNER.
- THE TERM "AS DIRECTED" AS USED IN THE CONTRACT DRAWINGS SHALL BE REPLACED WITH "AS REQUIRED".
- THE CONTRACTOR IS RESPONSIBLE FOR THE FILING AND PREPARATION OF THE NPDES CONSTRUCTION GENERAL PERMIT APPLICATION, INCLUDING THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL COORDINATE WITH THE HAVERHILL CONSERVATION COMMISSION TO ENSURE THAT THE ANY COMMISSION ORDERS AND/OR REQUIREMENTS ARE ADDRESSED IN THE SWPPP.

EROSION AND SEDIMENT CONTROL NOTES

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. REFER TO PLAN FOR APPROXIMATE LOCATION OF EROSION AND SEDIMENT CONTROL. REFER TO SPECS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. AND THE CITY OF HAVERHILL WETLAND ORDINANCE REGULATIONS FOR SEDIMENT AND EROSION CONTROL.
- EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
- ALL CATCH BASINS AND DRAIN GRATES WITHIN LIMIT OF CONTRACT SHALL BE PROTECTED WITH FILTER FABRIC DURING THE ENTIRE DURATION OF CONSTRUCTION.
- EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES. SEE GRADING & DRAINAGE PLANS, NOTES, DETAILS AND SPECIFICATIONS.
- ANY AREA OUTSIDE THE PROJECT LIMIT THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL FOR CONSTRUCTION OPERATIONS AS APPROVED BY OWNER.
- ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO PUBLIC/Private ROADS.

DEMOLITION & SITE PREPARATION NOTES

- THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
- THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS IF THE OWNER RETAINS ANY MATERIAL. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER TO HAVE THOSE MATERIALS REMOVED OFF SITE AT NO ADDITIONAL COST.
- UNLESS SPECIFICALLY NOTED TO BE SAVED / STOCKPILED (R&S) OR REUSED / RELOCATED (R&R), ALL SITE FEATURES CALLED FOR REMOVAL (REGARDLESS IF TO BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC., TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO COST TO THE OWNER.
- ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.
- DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
- IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCUERRENCE OF THE OWNER, TO REUSE EXISTING GRAVEL IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR GRAVEL BORROW.
- ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES EXCEPT AS SPECIFICALLY NOTED OTHERWISE.
- CLEAR AND GRUB VEGETATION SHALL INCLUDE REMOVAL OF GRASS, SHRUBS, AND UNDERBRUSH, REMOVAL OF ROOTS, ROUGH GRADING, INSTALLATION OF LOAM FILL (APPLICABLE), FINE GRADING, SEEDING AND TURF ESTABLISHMENT BY THE CONTRACTOR.
- TREES DESIGNATED FOR REMOVAL SHALL BE TAGGED BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE STORAGE OF MATERIALS AND EQUIPMENT WILL BE PERMITTED AT LOCATIONS DESIGNATED BY OWNER OR OWNER'S REPRESENTATIVE. PROTECTION OF STORED MATERIALS AND EQUIPMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- STRIP & STORE EXISTING TOPSOIL FOR LATER REUSE WHERE APPROPRIATE, AND AS NOTED ON PLAN, WITH APPROPRIATE EROSION AND SEDIMENT CONTROLS.
- LOAM / TOP SOIL DESIGNATED FOR REUSE AS GENERAL FILL SHALL BE BLENDED WITH SUITABLE BORROW MATERIAL AS SPECIFIED.
- THE CONTRACTOR SHALL PROTECT EXISTING TREES TO REMAIN. CONTRACTOR SHALL INSTALL TREE PROTECTION BARRIER AFTER CLEARING UNDERBRUSH AND TAKE DUE CARE TO PREVENT INJURY TO TREES DURING CLEARING OPERATIONS.

LAYOUT & MATERIALS NOTES

- REFER TO EXISTING CONDITIONS PLANS FOR SURVEY INFORMATION (SHEET C1.00).
- COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
- ALL WORK SHALL BE PERFORMED BY CONTRACTOR UNLESS SPECIFICALLY INDICATED.
- TO FACILITATE LAYOUT OF PROPOSED SITE FEATURES AND FACILITIES, LAYOUT INFORMATION FOR CERTAIN FUTURE WORK, WHICH IS NOT INCLUDED WITHIN THE SCOPE OF THIS CONTRACT HAS BEEN PROVIDED ON THE LAYOUT AND MATERIALS PLAN FOR INFORMATION ONLY. THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. SOME ITEMS ARE "NOT IN CONTRACT" (NIC) AND SHOWN FOR REFERENCE ONLY.
- THE LAYOUT OF SITE AMENITIES AND FENCES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- LAYOUT OF ALL NEW PATHWAYS / WALKWAYS AND THE GRADING OF ALL SLOPES AND CROSS SLOPES SHALL CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS RULES AND REGULATIONS FOR HANDICAP ACCESS CMR 821, AND THE AMERICANS WITH DISABILITIES ACT (ADA), TITLE 3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE REQUIRED.
- ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
- ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
- ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENT OF ALL PROPOSED FENCES AND GATES.
- THE DEPTH OF LOAM BORROW FOR ALL PROPOSED LAWN AREAS SHALL BE 6" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED.
- ALL REFERENCES TO LOAM AND SEED (L&S) REFER TO HYDROMULCH SEEDED LAWN.
- REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.
- EXISTING WINGGATE NURSING HOME ENTRANCE ON CONCORD PLACE WILL BECOME ONE-WAY AT THE COMPLETION OF THE PROJECT.

GRADING, UTILITIES & DRAINAGE NOTES

- ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, DRAINAGE AND/OR SEWER SERVICES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE CITY OF HAVERHILL.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED GRAVEL SURFACE MEETS EXISTING SURFACE. BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
- CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE (1.5% MINIMUM) AWAY FROM ALL BUILDING FOUNDATIONS AND STRUCTURES.
- CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCHED TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
- ALL NEW WALKWAYS / ACCESS PATHS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF PERCENT (1.5%) AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 5% MAX.
- MINIMUM SLOPE ON ALL WALKWAYS WILL BE 1:100 OR 1% TO PROVIDE POSITIVE DRAINAGE. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER PRIOR TO CONTINUING WORK.
- ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- THE CONTRACTOR SHALL SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/Private STREETS AND WORK AREAS, CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
- EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN 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.
- WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
- WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
- RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE NOTED.
- SEE EARTHWORK SECTION OF SPECIFICATIONS FOR SPECIFIC EXCAVATION AND FILLING PROCEDURES.
- FOR STRUCTURE REMODELING (REMOD), CONSTRUCTION METHODS SHALL FOLLOW MASSACHUSETTS DOT STANDARD SPEC. LATEST EDITION (SECTION 220)

ABBREVIATIONS

GENERAL

PROP	PROPOSED
ADJ	ADJUST
BIT. CONC.	BITUMINOUS CONCRETE
CEM. CONC.	CEM. CONC.
B	BASELINE
N.T.S.	NOT TO SCALE
BENCH MARK	BENCH MARK
ABANDON	ABANDON
MB	MAIL BOX
GRAN. CURB	GRANITE CURB
EXIST.	EXISTING
(OR EX.)	FOUNDATION
FDN	FOUNDATION
F.L.	FLOW LINE
(OR F)	PROPERTY LINE
PVMT	PAVEMENT
P.W.W.	PAVED WATERWAY
RC	REINFORCED CONCRETE
M.H.B.	MASSACHUSETTS HIGHWAY BOUND
REM	REMOVE
REMOD	REMODEL
RET	RETAIN
R.O.W.	RIGHT-OF-WAY
R&R	REMOVE AND RESET
R&R	REMOVE, RELOCATED AND RESET
R&S	REMOVE AND STACK
R&D	REMOVE AND DISPOSE
SB	STONE BOUND
NIC	NOT IN CONTRACT
H.C.	HANDICAP
WCR	WHEELCHAIR RAMP
FF	FINISHED FLOOR
G.C.	HOT MIX ASPHALT
E.C.	GENERAL CONTRACTOR
P.C.	ELECTRICAL CONTRACTOR
SWEL	FLUMING CONTRACTOR
BWLL	SOLID WHITE EDGE LINE
SYEL	BROKEN WHITE LANE LINE
SDBH	SOLID YELLOW EDGE LINE
CLF	STONE BOUND DRILL HOLE
TEMP.	CHAIN LINK FENCE
EQ	TEMPORARY
H.C.	TYPICAL
EOP	EQUIPMENT
PROT	HANDICAP
RL	EDGE OF PAVEMENT
L.O.W.	PROTECT
VIF	CONNECT TO EXISTING
APPROX.	ROOF LEADER
TBM	LIMIT OF WORK
	VERIFY IN FIELD
	APPROXIMATE
	TEMPORARY BENCHMARK

UTILITIES

GIC	GUTTER INLET W/ CURB INLET
CB	DRAIN BASIN W/ CURB INLET
C.I.T.	CATCH BASIN
FRG	CHANGE IN TYPE
F&C	FRAME AND GRATE
CI	FRAME AND COVER
CMP	CURB INLET
DI	CAST IRON PIPE
ACCM PIPE	CORRUGATED METAL PIPE
HYD	DUCTILE IRON PIPE
INV. ELEV.	GUTTER INLET
UP	ASPHALT COATED CORRUGATED METAL PIPE
SMH	HYDRANT
DS	INVERT ELEVATION
HDPE	UTILITY POLE
PVC	SEWER MANHOLE
RCP	WATER GATE
DMH	DOWN SPOUT
LB	HIGH DENSITY POLYETHYLENE PIPE
LG	POLYVINYL CHLORIDE
CI	REINFORCED CONCRETE PIPE
OCS	DRAIN MANHOLE
OGT	LEACHING BASIN
VC	LEACHING GALLEY
OHW	CAST IRON
UPLP	OUTLET CONTROL STRUCTURE
SWTU	OIL AND GRIT TRAP
HH	VITRIFIED CLAY PIPE
GW	LIGHT POLE
CO	OVERHEAD WIRE
LC	UTILITY POLE WITH LIGHT
GV	STORM WATER TREATMENT UNIT
	MANHOLE
	GARAGE WASTE
	CLEANOUT
	LEACHING CHAMBER
	GATE VALVE

ALIGNMENT/GRADING

BW	BOTTOM OF WALL
BC	BOTTOM OF CURB
PI	POINT OF INTERSECTION
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
PRC	POINT OF REVERSE CURVATURE
PVI	POINT OF COMPOUND CURVATURE
PVC	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
ELEV	ELEVATION
CC	CENTER OF CURVE
H.P.	HIGH POINT
L.P.	LOW POINT
R	RADIUS OF CURVATURE
STA	STATION
S.S.D.	STOPPING SIGHT DISTANCE
TC	TOP OF CURB
TW	TOP OF WALL

EXISTING

CB	CATCH BASIN
CBCI	CATCH BASIN CURB INLET
	LEACHING GALLEY
	CURB (OR BERM)-TYPE NOTED
	EDGE OF ROAD
	HANDHOLE (NUMBER AS NOTED)
	ELECTRIC MANHOLE
	TELEPHONE MANHOLE
	SEWER MANHOLE
	DRAINAGE MANHOLE
	GAS GATE
	WATER GATE VALVE
	HYDRANT
	WELL
	LIGHTPOLE

HH	HANDHOLE (NUMBER AS NOTED)
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
SMH	SEWER MANHOLE
DMH	DRAINAGE MANHOLE
GG	GAS GATE
WG	WATER GATE VALVE
	HYDRANT
	WELL
	LIGHTPOLE

LP	LIGHTPOLE
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D	DRAIN PIPE
S	SEWER MAIN
E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES

LP	LIGHTPOLE
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D	DRAIN PIPE
S	SEWER MAIN
E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES

LP	LIGHTPOLE
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D	DRAIN PIPE
S	SEWER MAIN
E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES

D	DRAIN PIPE
S	SEWER MAIN
E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES

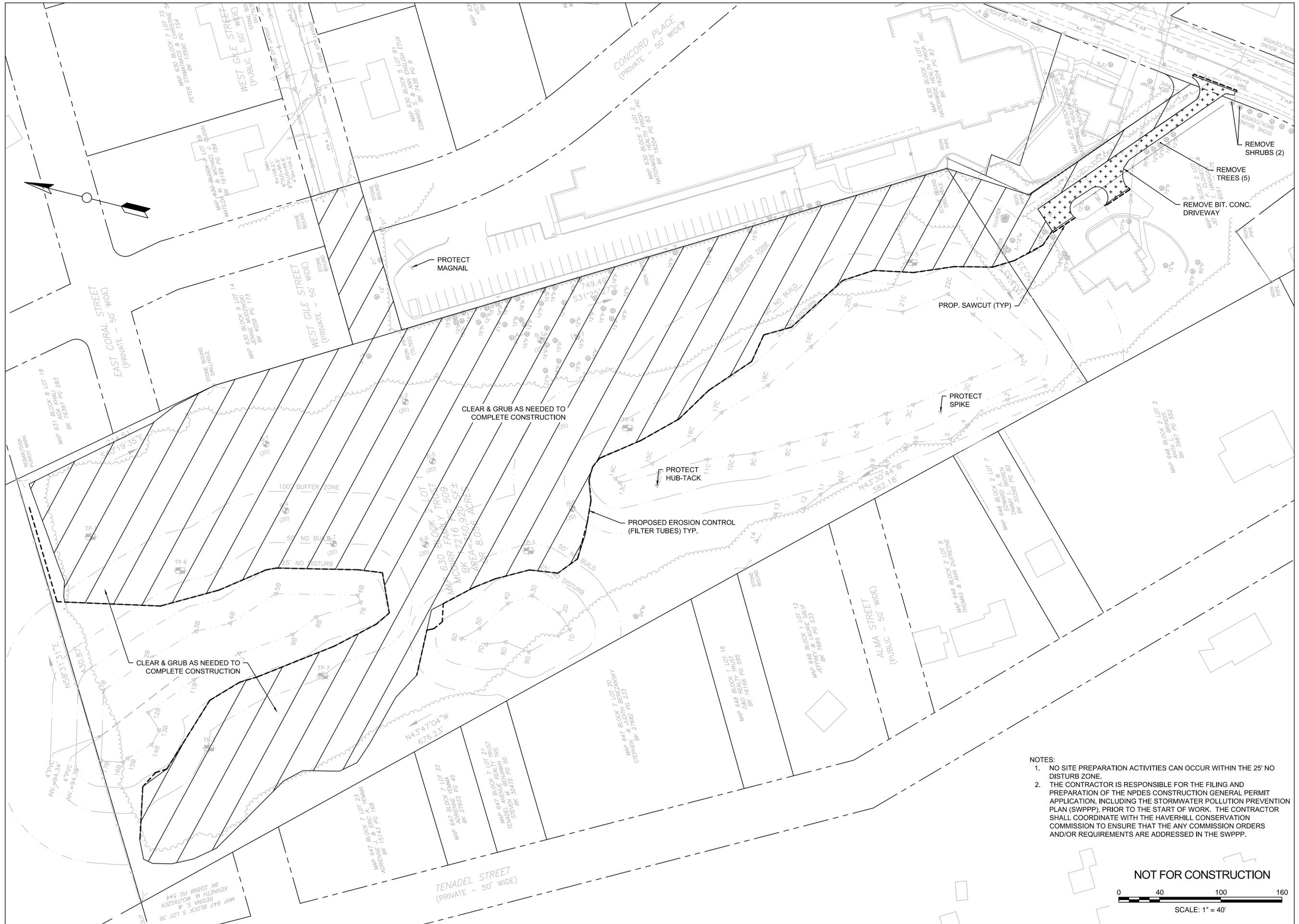
D	DRAIN PIPE
S	SEWER MAIN
E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES

D	DRAIN PIPE
S	SEWER MAIN
E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
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	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES

D	DRAIN PIPE
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E	SEWER MAIN BY P.C.
C	ELECTRIC DUCT
G	TELEPHONE/COMMUNICATIONS/FIRE ALARM
W	GARAGE WASTE LINE
OHW	GARAGE WASTE LINE BY P.C.
	VENTS BY P.C.
	GAS MAIN
	WATER MAIN
	OVERHEAD WIRES



- NOTES:
1. NO SITE PREPARATION ACTIVITIES CAN OCCUR WITHIN THE 25' NO DISTURB ZONE.
 2. THE CONTRACTOR IS RESPONSIBLE FOR THE FILING AND PREPARATION OF THE NPDES CONSTRUCTION GENERAL PERMIT APPLICATION, INCLUDING THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL COORDINATE WITH THE HAVERHILL CONSERVATION COMMISSION TO ENSURE THAT THE ANY COMMISSION ORDERS AND/OR REQUIREMENTS ARE ADDRESSED IN THE SWPPP.

NOT FOR CONSTRUCTION

0 40 100 160

SCALE: 1" = 40'

Project:

WINGATE RESIDENCES
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Consultants:

North:

Revisions:

Rev	Date	Description

Seal:

NOI SUBMISSION

Date: 6/1/16

Scale: 1:40

Drawn By: NAP

Reviewed By: LFK

Checked By: SRA

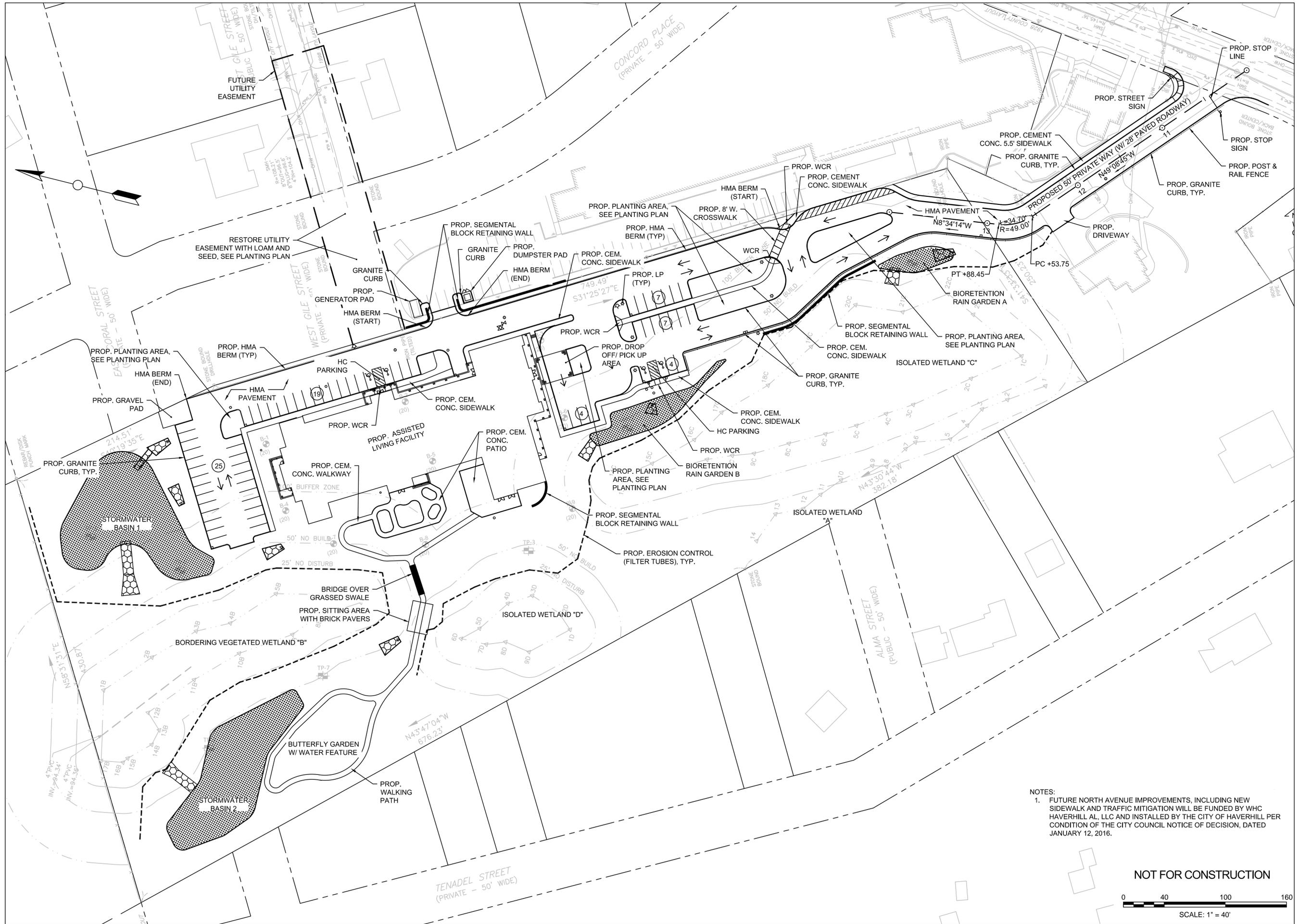
Approved By: SRA

Drawing Title:

SITE PREPARATION & EROSION CONTROL PLAN

Sheet Number: SHEET 4 OF 12

C2.01



Project:

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Revisions:

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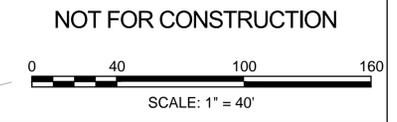
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NOI SUBMISSION

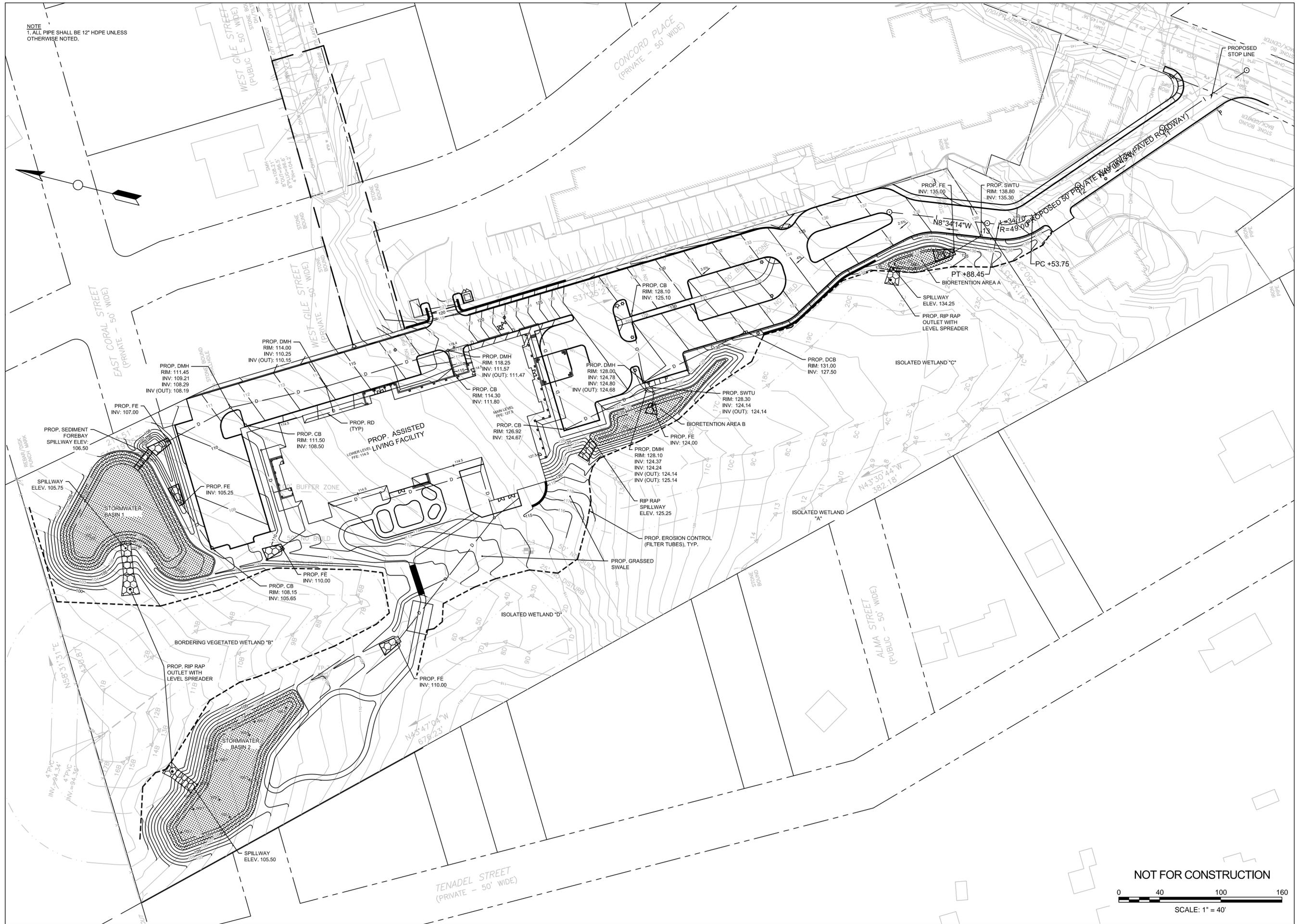
Date: 6/1/16
 Scale: 1:40
 Drawn By: NAP
 Reviewed By: LFK
 Checked By: SRA
 Approved By: SRA

Drawing Title:
LAYOUT & MATERIALS PLAN
 Sheet Number: SHEET 5 OF 12
C3.01

NOTES:
 1. FUTURE NORTH AVENUE IMPROVEMENTS, INCLUDING NEW SIDEWALK AND TRAFFIC MITIGATION WILL BE FUNDED BY WHC HAVERHILL AL, LLC AND INSTALLED BY THE CITY OF HAVERHILL PER CONDITION OF THE CITY COUNCIL NOTICE OF DECISION, DATED JANUARY 12, 2016.



NOTE
 T, ALL PIPE SHALL BE 12" HDPE UNLESS OTHERWISE NOTED.



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Rev	Date	Description

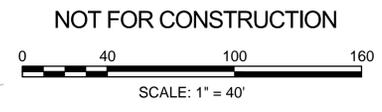
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Date: 6/1/16
 Scale: 1:40
 Drawn By: AKP
 Reviewed By: LFK
 Checked By: SRA
 Approved By: SRA

Drawing Title:
GRADING & DRAINAGE PLAN

Sheet Number: SHEET 7 OF 12
C6.01

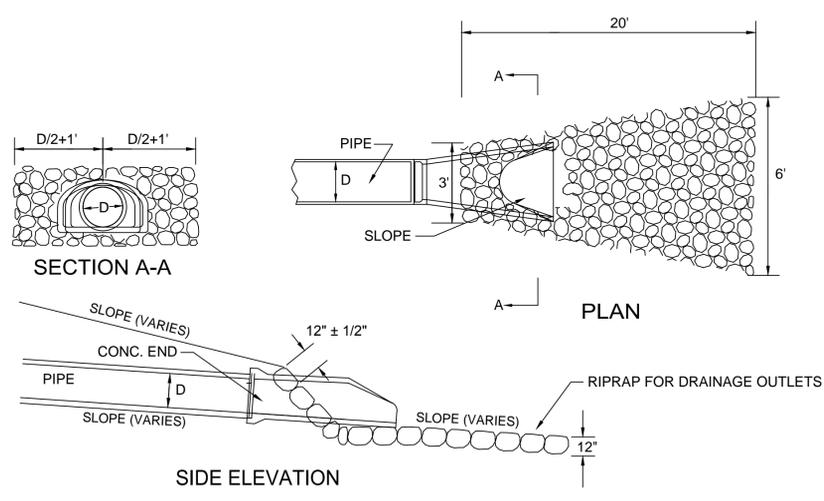


Rev	Date	Description

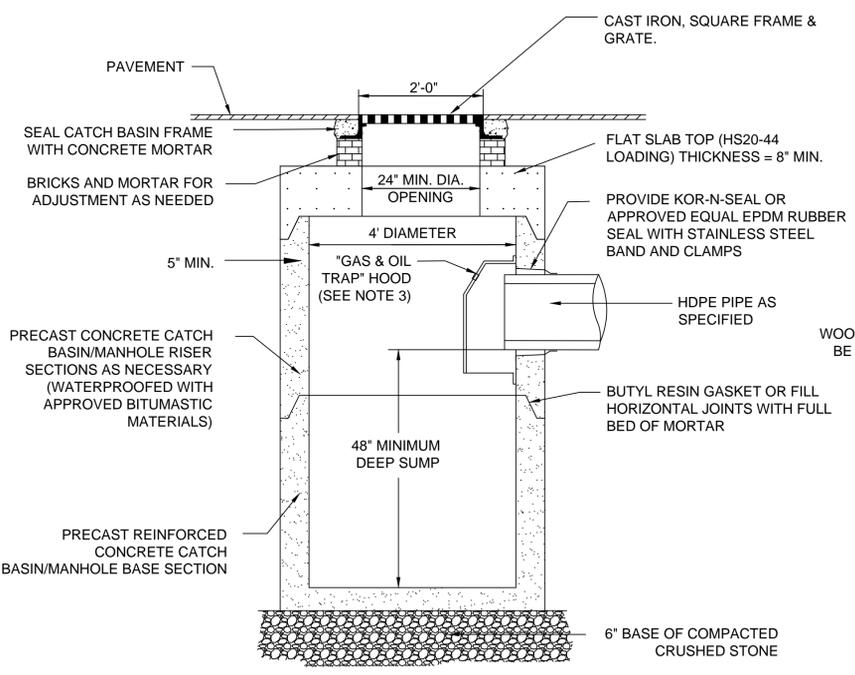
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Date: 6/1/16
Scale:
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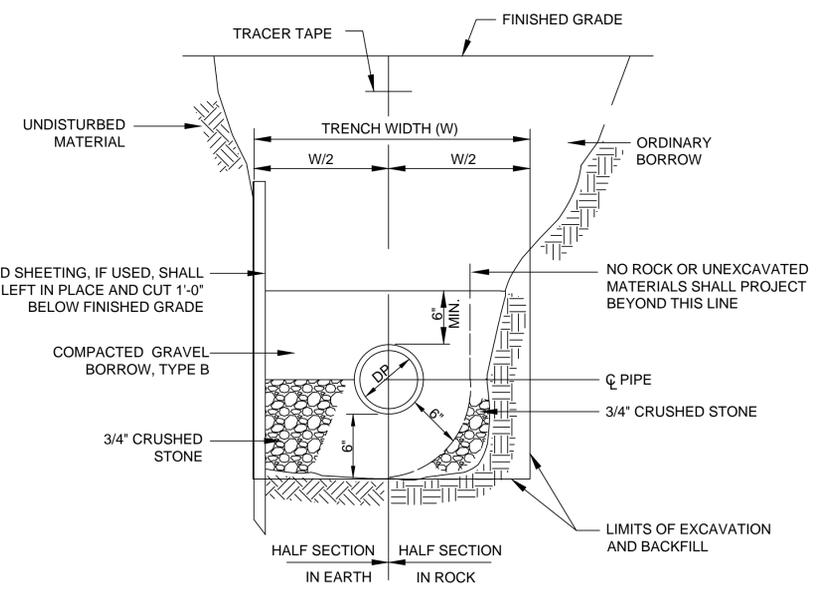


1 FLARED END PIPE DETAIL
SCALE: N.T.S.



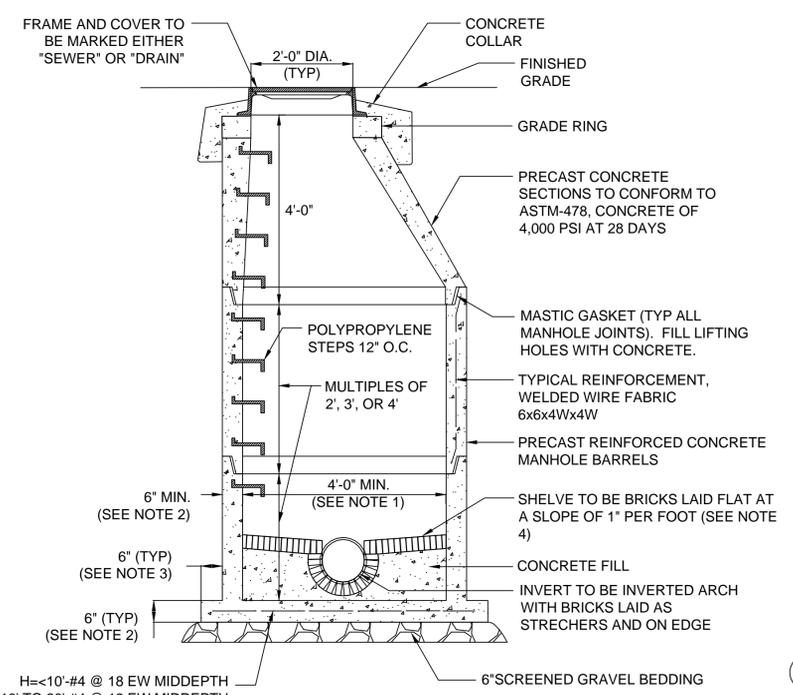
NOTES
1. FOR DOUBLE CATCH BASINS, STRUCTURE SHALL BE 6' IN DIAMETER.
2. ADJUSTMENT OF THE FRAME WITH BRICK SHALL BE A MAXIMUM HEIGHT OF 12 INCHES.
3. GAS & OIL HOOD SHALL BE THE SNOOT, AS MANUFACTURED BY BMP, INC., LYME, CT, THE ELIMINATOR, AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA, OR APPROVED EQUAL.

3 STANDARD CATCH BASIN
SCALE: N.T.S.



DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAX. TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)
0-12'	TO 4"	5'-0"

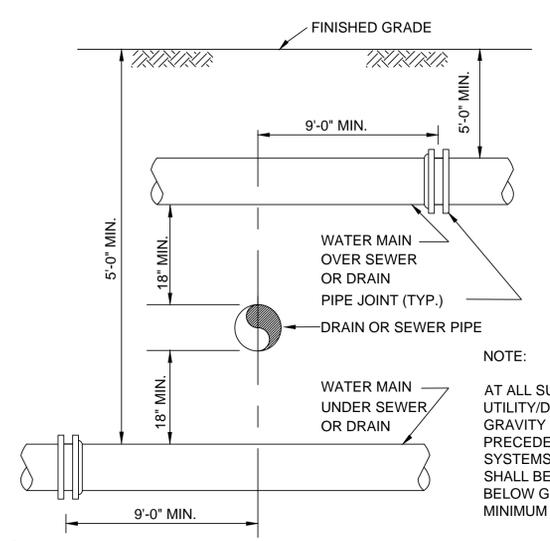
5 SEWER TRENCH DETAIL
SCALE: N.T.S.



H=<10'-#4 @ 18 EW MIDDEPTH
H=10' TO 20'-#4 @ 12 EW MIDDEPTH
H=20' TO 30'-#5 @ 12 EW MIDDEPTH
IN ADDITION TO WELDED WIRE FABRIC

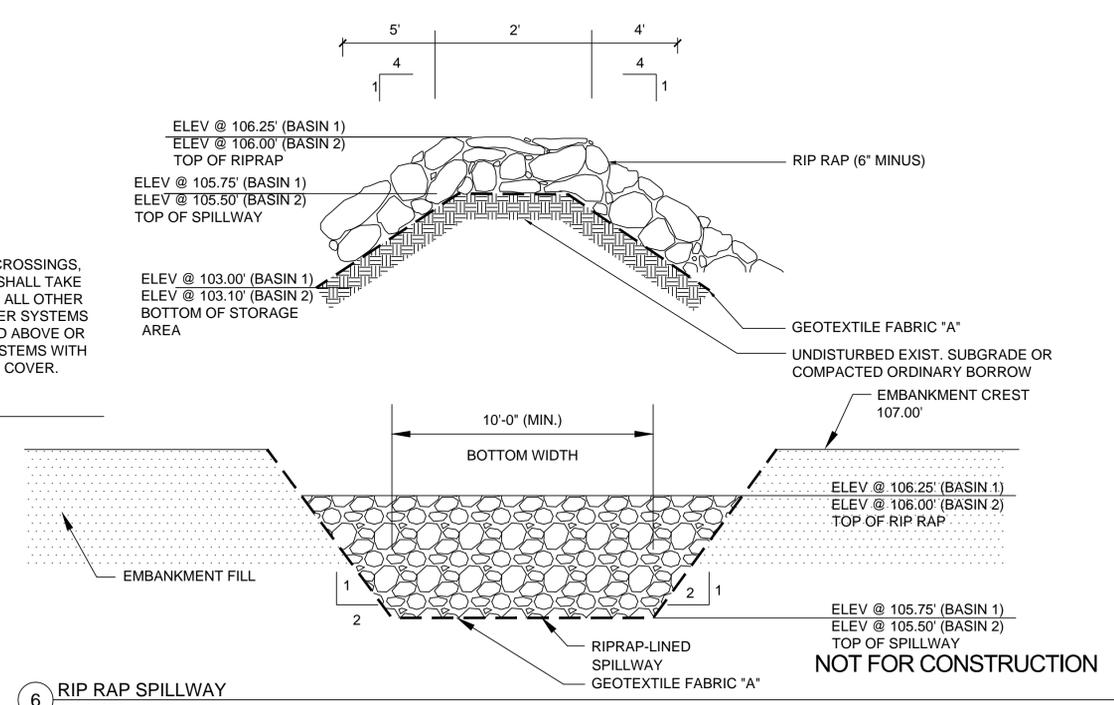
NOTES
1. 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN REQUESTED BY THE ENGINEER.
2. 6" MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES.
3. 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED.
4. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER.
5. ADJUSTMENT OF THE FRAME WITH BRICK SHALL BE A MAXIMUM HEIGHT OF 12 INCHES.

2 PRECAST CONCRETE MANHOLE
SCALE: N.T.S.



NOTE:
AT ALL SUBSURFACE UTILITY/DRAINAGE CROSSINGS, GRAVITY SYSTEMS SHALL TAKE PRECEDENCE OVER ALL OTHER SYSTEMS. ALL OTHER SYSTEMS SHALL BE INSTALLED ABOVE OR BELOW GRAVITY SYSTEMS WITH MINIMUM REQUIRED COVER.

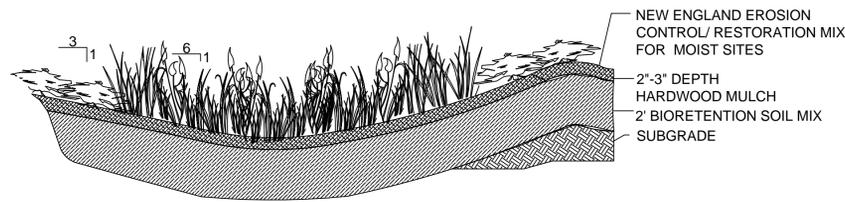
4 SEWER OR DRAIN CROSSING DETAIL
SCALE: N.T.S.



6 RIP RAP SPILLWAY
SCALE: N.T.S.

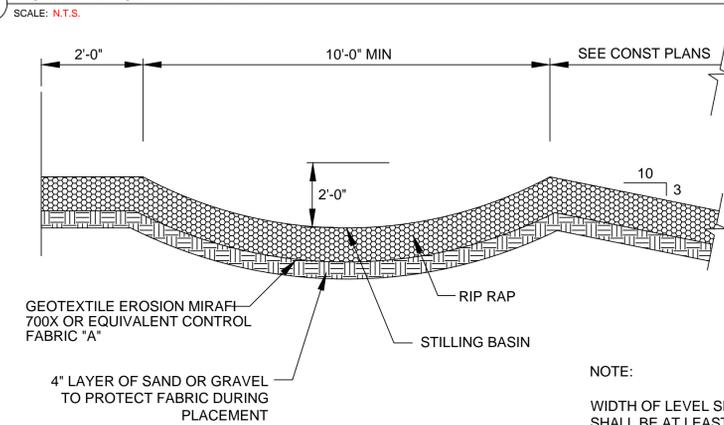
NOTES:

1. THE SOIL MIX FOR BIORETENTION AREAS SHOULD BE A MIXTURE OF SAND COMPOST AND SOIL. 40% SAND, 20-30% TOPSOIL, AND 30-40% COMPOST.
2. THE SOIL MIX MUST BE UNIFORM, FREE OF STONES, STUMPS, ROOTS OR SIMILAR OBJECTS LARGER THAN 2 INCHES. CLAY CONTENT SHOULD NOT EXCEED 5%.
3. SOIL PH SHOULD GENERALLY BE BETWEEN 5.5-6.5.
4. SOILS WITH 1.5% TO 3% ORGANIC CONTENT AND MAXIMUM 500-PPM SOLUBLE SALTS.
5. THE SAND COMPONENT SHOULD BE GRAVELLY SAND THAT MEETS ASTM D 422.
6. THE TOPSOIL COMPONENT SHALL BE A SANDY LOAM, LOAMY SAND OR LOAM TEXTURE.
7. THE COMPOST COMPONENT MUST BE PROCESSED FROM YARD WASTE IN ACCORDANCE WITH MASS DEP GUIDELINES. THE COMPOST SHALL NOT CONTAIN BIOSOLIDS.



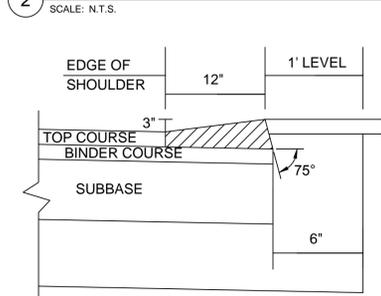
SECTION

1 BIORETENTION AREA DETAIL

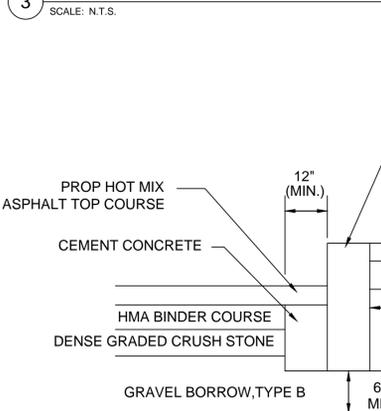


NOTE:
WIDTH OF LEVEL SPREADER SHALL BE AT LEAST 10' WIDE.

2 LEVEL SPREADER



3 HMA BERM AND HOT MIX ASPHALT

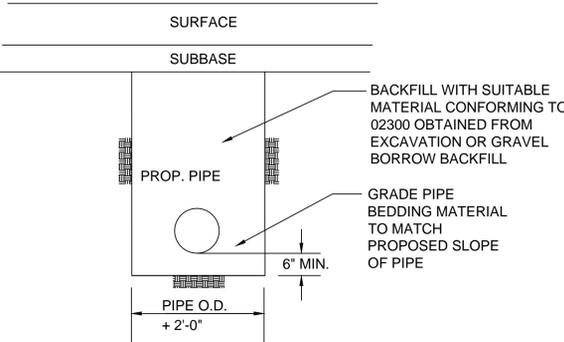


5 CURB INSTALLATION IN FULL DEPTH PAVEMENT

SCALE: N.T.S.

4 DRAINAGE TRENCH DETAIL

SCALE: N.T.S.



PAVEMENT NOTES

PROPOSED HOT MIX ASPHALT PAVEMENT:

SURFACE: 4" HOT MIX ASPHALT PAVEMENT (1 1/2" TOP COURSE MATERIAL OVER 2 1/2" BINDER COURSE MATERIAL)

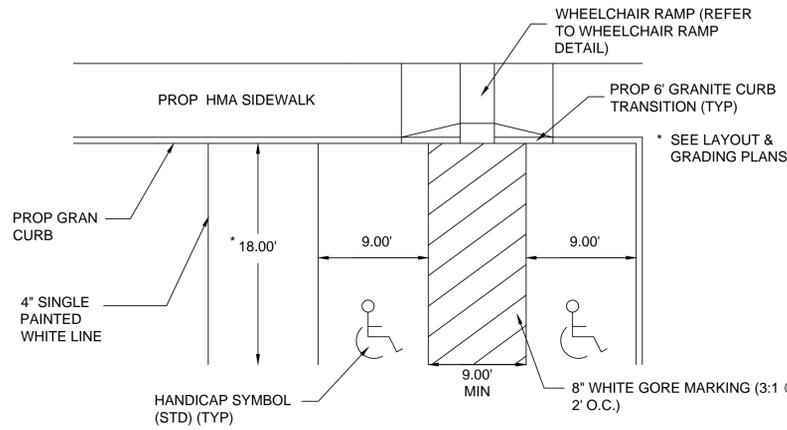
SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER 8" GRAVEL BORROW, TYPE B

PROPOSED CEMENT CONCRETE WALK:

SURFACE: 4" CEMENT CONCRETE
8" GRAVEL BORROW, TYPE B

8 CEMENT CONCRETE WALK

SCALE: N.T.S.

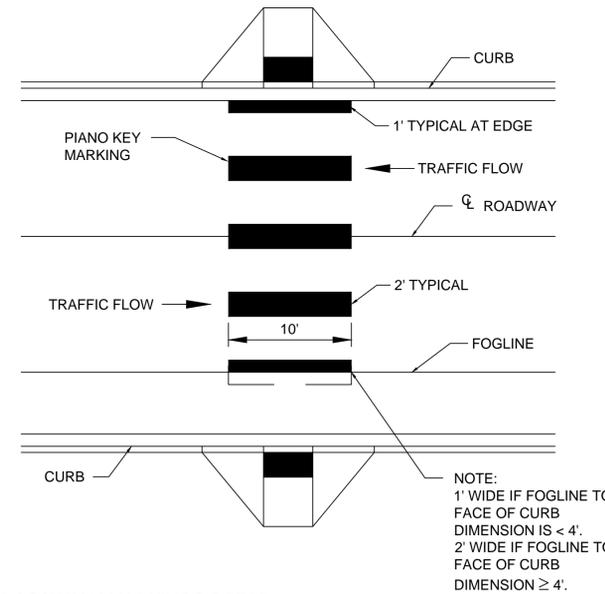


6 PARKING STALLS AND SYMBOLS

SCALE: N.T.S.

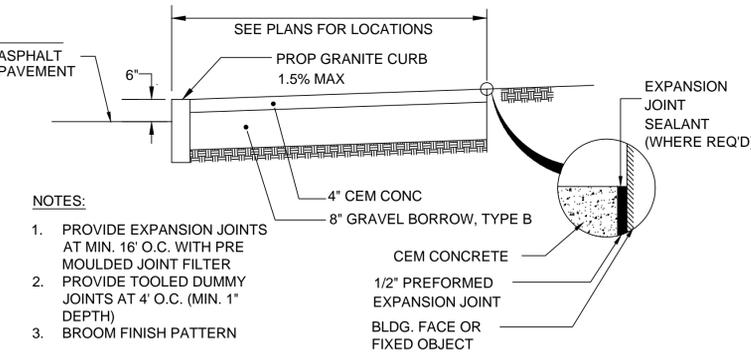
NOTES:

1. MATERIAL SHALL BE PAINTED OR THERMOPLASTIC, HOT APPLIED OR HEAT FUSED PREFORMED (90 MIL. MIN.), UNLESS OTHERWISE APPROVED BY THE ENGINEER. (SEE SHEET C3.01 & C3.02)
2. GAP WIDTH SHALL BE 2" MINIMUM.
3. CROSSWALK MARKING STYLE TO BE DETERMINED BY ENGINEER.



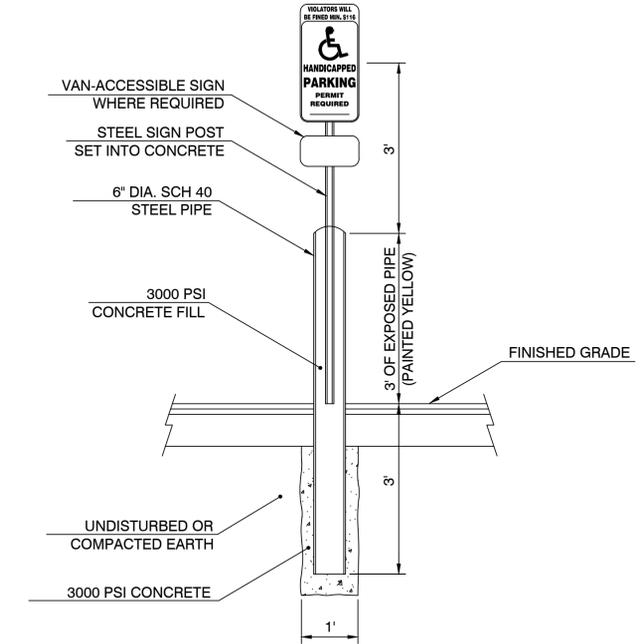
7 CROSSWALK MARKINGS DETAIL

SCALE: N.T.S.



NOTES:

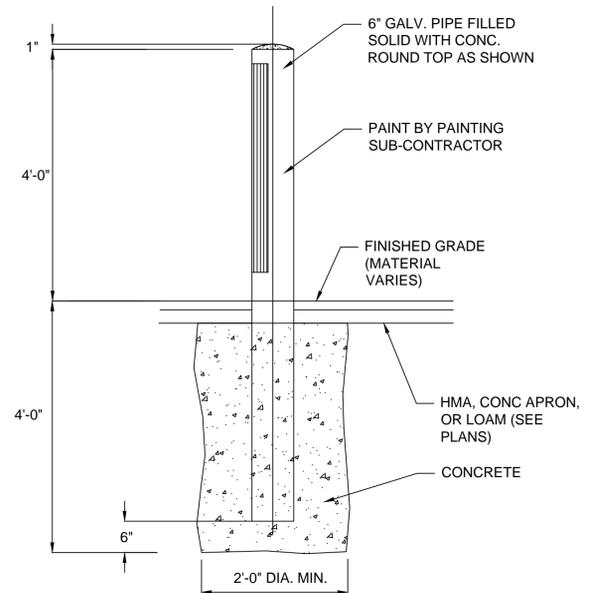
1. PROVIDE EXPANSION JOINTS AT MIN. 16' O.C. WITH PRE MOULDED JOINT FILTER
2. PROVIDE TOOLED DUMMY JOINTS AT 4' O.C. (MIN. 1" DEPTH)
3. BROOM FINISH PATTERN



NOTE:
1. LOCATE CENTER OF 6" STEEL PIPE 1' FROM EDGE OF PARKING.
2. ALL SIGNS TO BE CENTERED ON PARKING SPACE.

9 ACCESSIBLE SIGN AND POST DETAIL

SCALE: N.T.S.



BOLLARD NOTES:

1. SEE C3.01 & EQUIPMENT DRAWINGS FOR EXTERIOR BOLLARD LOCATIONS.
2. BOLLARD FOUNDATION CONCRETE TO BE 3000 PSI MIN.
3. 6" GALVANIZED PIPE PROVIDED BY MISC. METAL CONTRACTOR. INSTALLATION & CONC. FOR ALL EXTERIOR BOLLARDS BY GENERAL CONTRACTOR.
4. BOLLARDS @ OVERHEAD DOORS SHALL BE LOCATED SO THAT THE FACE OF BOLLARD IS EVEN WITH DOOR JAMB. BOLLARD SHALL BE LOCATED A MINIMUM OF 2' FROM FACE OF BUILDING. EXACT LOCATION TO BE DETERMINED IN THE FIELD AND APPROVED BY CITY BEFORE INSTALLATION.
5. BOLLARDS TO BE PAINTED BY PAINTING CONTRACTOR.
6. COORDINATE LOCATION OF BOLLARDS AROUND TRANSFORMER W/UTILITY COMPANY REQUIREMENTS.

10 METAL PIPE BOLLARD DETAIL

SCALE: N.T.S. NOT FOR CONSTRUCTION

Project:

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Revisions:

Rev	Date	Description

Seal:

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Date: 6/1/16

Scale:

Drawn By: NAP

Reviewed By: LFK

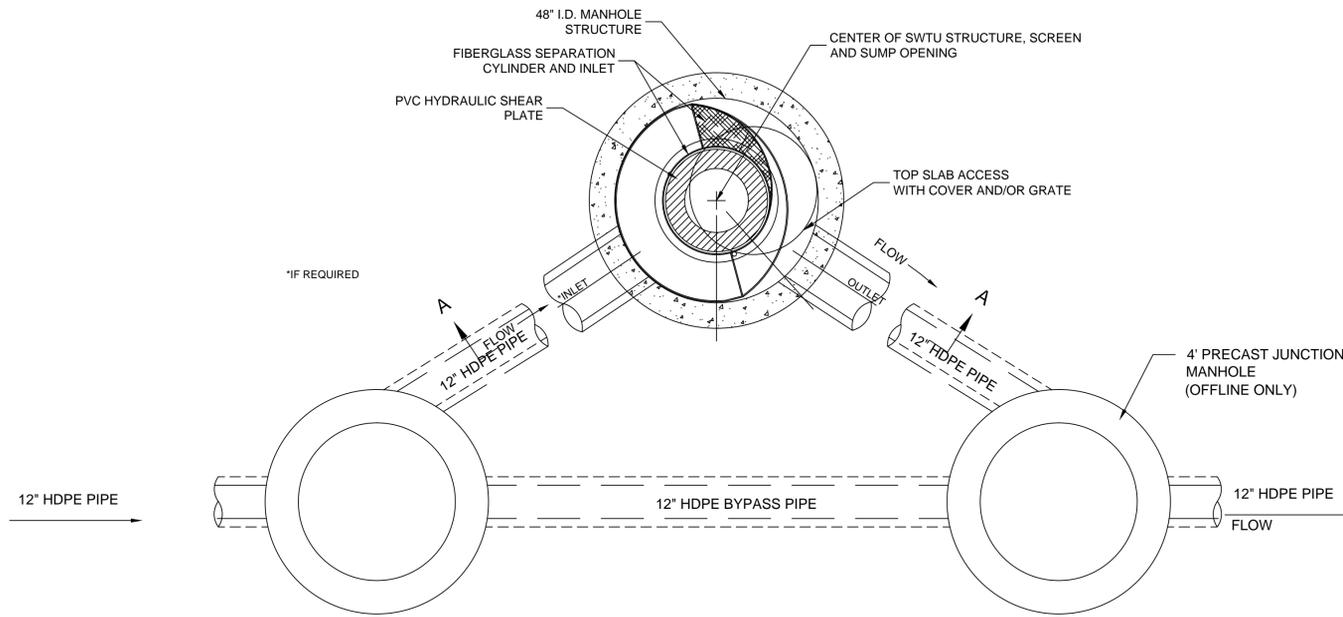
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Approved By: SRA

Drawing Title:

DETAILS

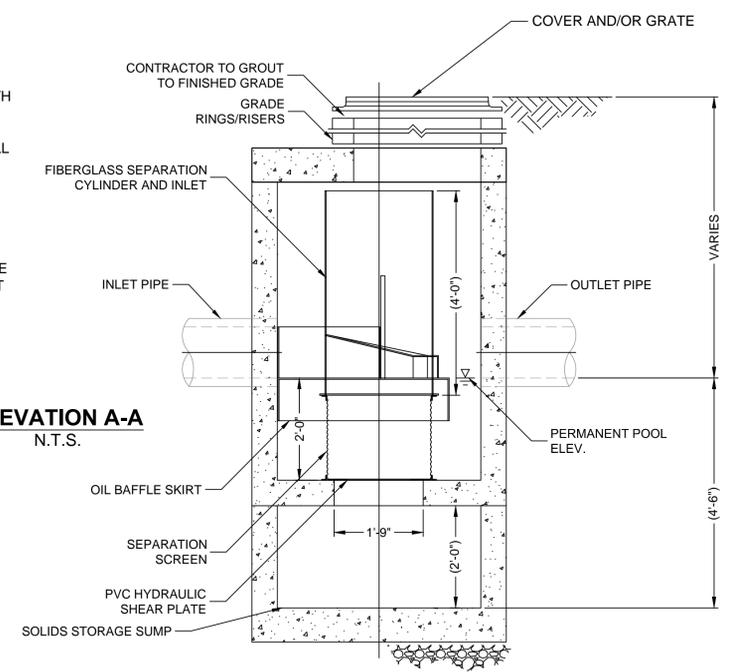
Sheet Number: SHEET 11 OF 12
C8.03



PLAN VIEW

NOTES:

1. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
2. WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATE AND INFORMATION CONTAINED IN THE SPECIFICATIONS.
3. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING.
4. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE SWTU MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
5. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
6. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS BE GROUTED.
7. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. SEE SHEET C6.01 FOR LOCATION, MATERIAL AND INVERT DATA.



ELEVATION A-A
N.T.S.

1 STORMWATER TREATMENT UNIT (SWTU)

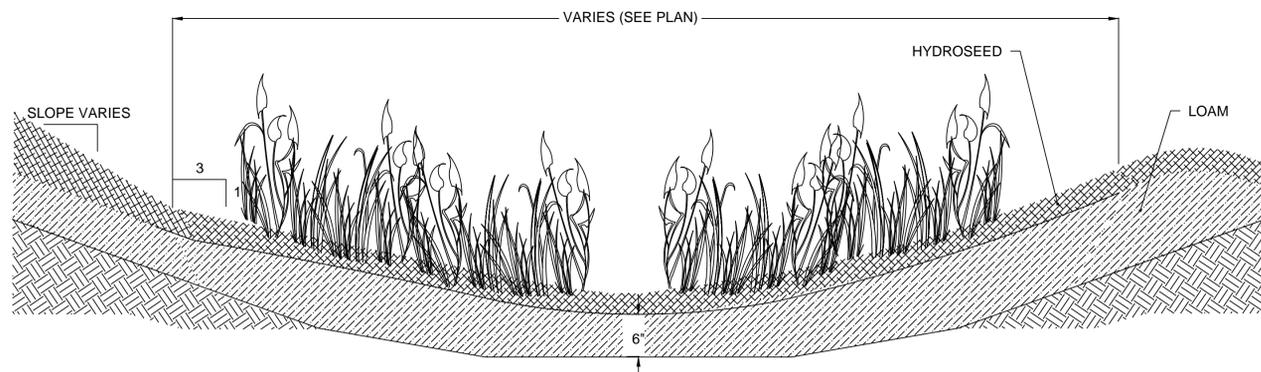
SCALE: N.T.S.

IDENTIFICATION NUMBER	TEXT	PANEL SIZE			NUMERALS & LETTERS				COLOR COMB.	NUMBER OF SIGNS REQUIRED	TOTAL AREA SQ. FT.	POST SIZE AND NUMBER REQUIRED
		WIDTH	HEIGHT	CORNER RADII	BORDER WIDTH	MARGIN WIDTH	NUM. IN.	UPPER CASE				
R1-1	STOP	30"	30"							WHITE ON RED		P5-1 x
R1-2	YIELD	30"	30"							RED ON WHITE		P5-1
R7-8	RESERVED PARKING	12"	18"							WHITE ON BLUE		P5-1
R6-1	ONE WAY	54"	18"							BLACK ON WHITE		P5-1
R5-1	DO NOT ENTER	36"	36"							WHITE ON RED		P5-1
V-1	VISITOR PARKING	12"	18"							WHITE ON BLUE		P5-1 x

SEE MUTCD, INCLUDING STANDARD HIGHWAY SIGNS, LATEST EDITION

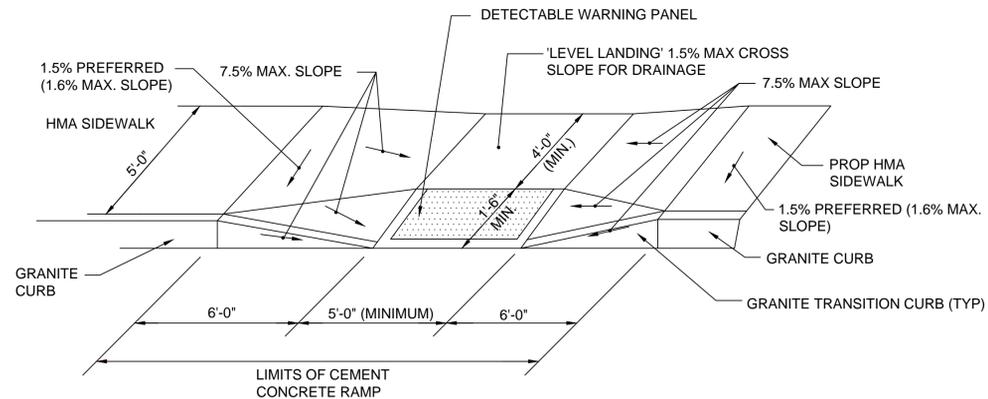
2 PERMANENT TRAFFIC SIGN SUMMARY

SCALE: N.T.S.



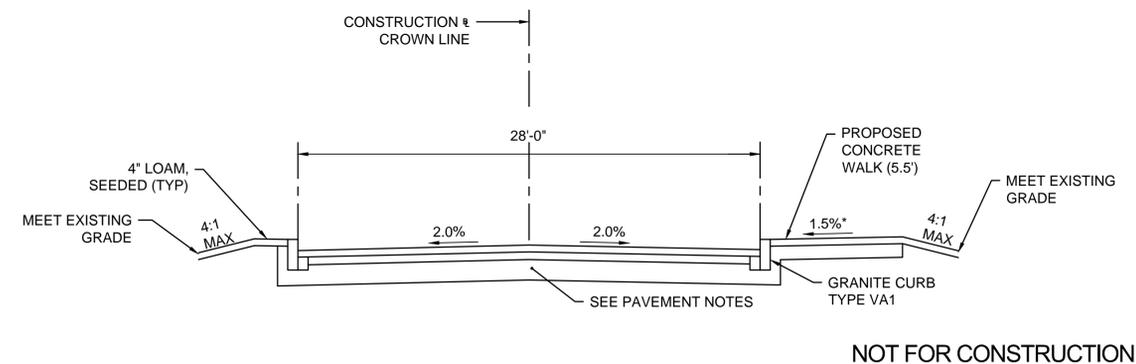
3 GRASS SWALE

SCALE: N.T.S.



5 WHEELCHAIR RAMP DETAIL

SCALE: N.T.S.



6 TYPICAL ROADWAY SECTION

SCALE: N.T.S.

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Checked By: SRA

Approved By: SRA

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DETAILS

Sheet Number: SHEET 12 OF 12
C8.04