

"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT

BELLINGHAM, MASSACHUSETTS
APRIL 4, 2016

PREPARED FOR:
K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD, MA 01757

PREPARED BY:
ANDREWS SURVEY & ENGINEERING, INC.
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TRAFFIC:
TIGHE & BOND
177 CORPORATE DRIVE
PORTSMOUTH, NH 03801

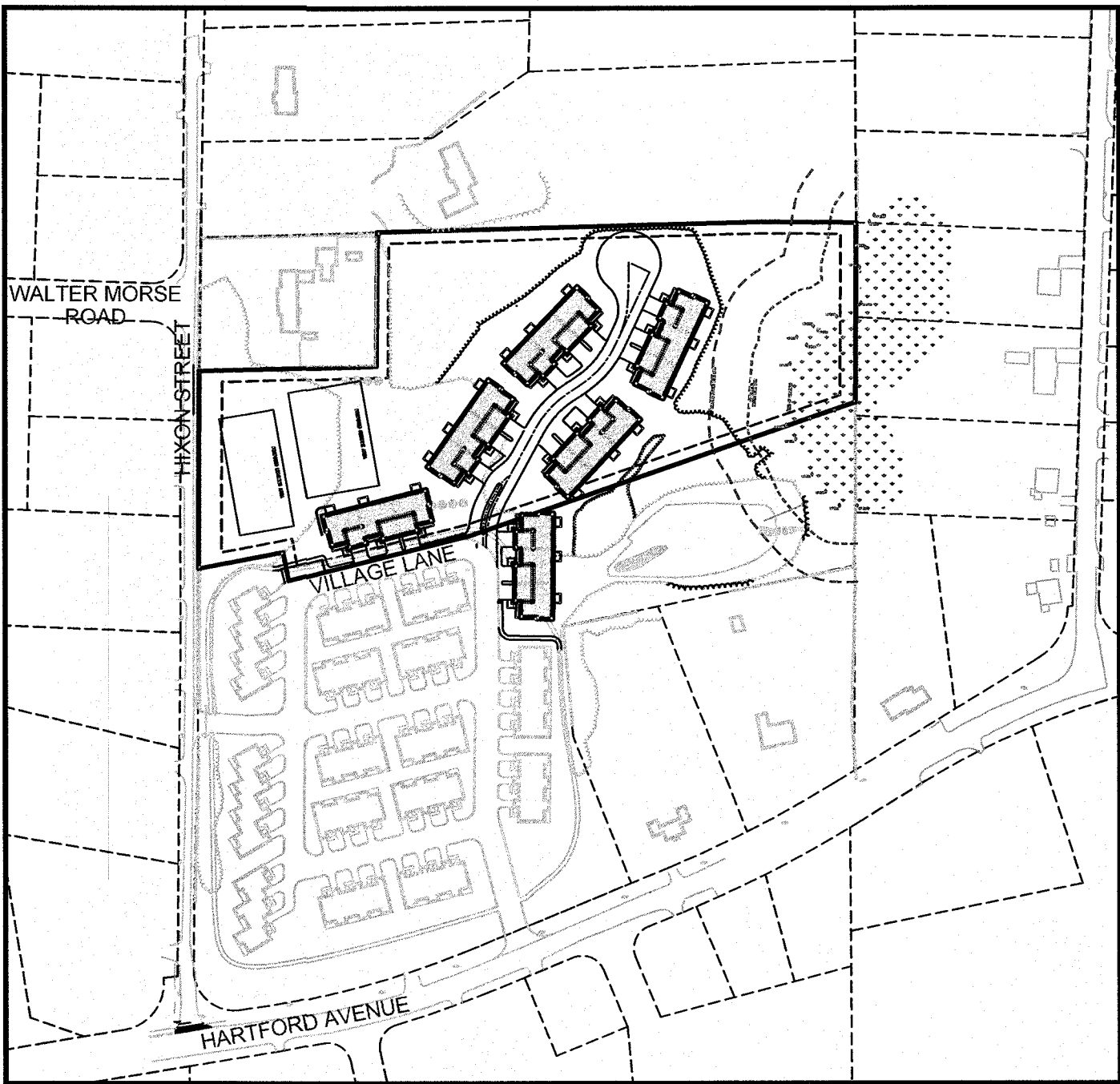
LANDSCAPE ARCHITECT:
EARTHDESIGN LANDSCAPE ARCHITECTURE
280 BEVERLY ROAD
WORCESTER, MA 01605

WETLANDS:
B&C ASSOCIATES INC.
2 RICE STREET
HUDSON, MA 01749

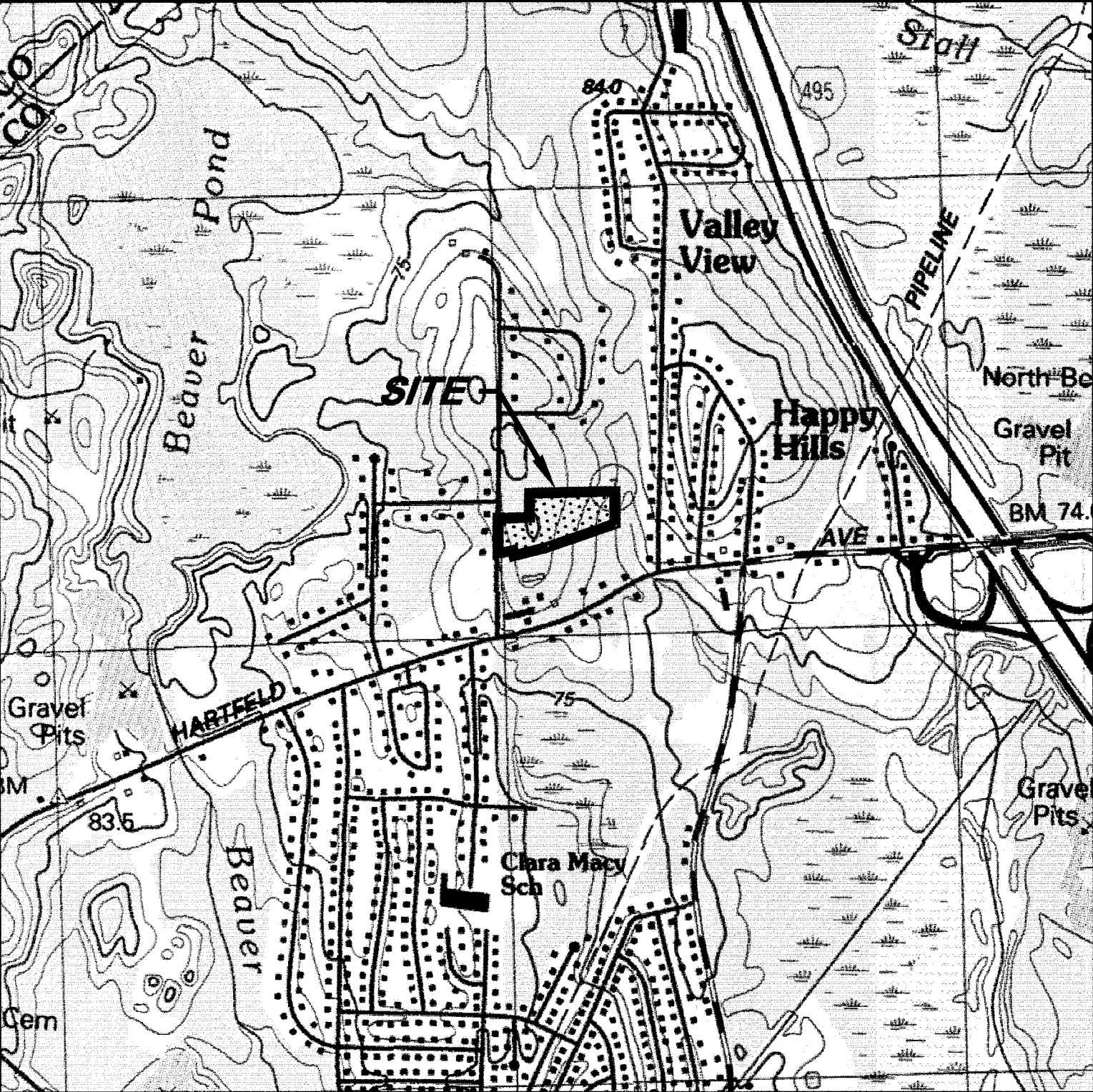
REQUIRED PERMITS:
§ 240-15 SPECIAL PERMIT
§ 240-15 DEVELOPMENT PLAN APPROVAL
§ 240-54 STORMWATER MANAGEMENT PLAN
AS PROPOSED HEREIN THE PROJECT WILL REQUIRE A MODIFICATION TO AMEND THE SPECIAL PERMIT DECISION FOR HARTFORD VILLAGE DATED NOVEMBER 11, 1999.

WAIVER REQUESTS:
§ 240-95 BUFFER AREAS
A BUFFER AREA OF 100 FEET SHALL BE PROVIDED AT THE PERIMETER OF THE PROPERTY WHERE IT ADJUTS RESIDENTIALLY ZONED OR OCCUPIED PROPERTIES, EXCEPT FOR DRIVEWAYS NECESSARY FOR ACCESS AND EGRESS TO AND FROM THE SITE.
THE APPLICANT REQUESTS A WAIVER FROM THIS REQUIREMENT. THE PROJECT AS PROPOSED IS, IN THE APPLICANT'S OPINION THE MOST COMPATIBLE WITH THE EXISTING NEIGHBORHOOD. THE AREA ENCRORCHING INTO THE BUFFER IN THE VICINITY OF UNIT #9, WILL BE IMPROVED WITH A GRADED BERM AND ADDITIONAL LANDSCAPING BOTH INTENDED TO SERVE AS A VISUAL BUFFER TO THE NEIGHBORS.
§ 240-17.8 (1)(d) SITE PLAN
LOCATION AND BOUNDARIES OF THE SITE AND OF ANY LOTS PROPOSED, FRONTAGE, AND ADJUTING LAND, AND AN INDICATION OF THE ADJUTING LAND UNDER SAME OWNERSHIP. THE LOCATION OF ZONING DISTRICTS, AND OVERLAY ZONING DISTRICTS WITHIN THE LOCUS OF THE PLAN.
THE PROPERTY BOUNDARIES ARE DEPICTED ON "PLAN OF LAND IN BELLINGHAM, MASSACHUSETTS PREPARED FOR K&S REALTY", DATED MAY 8, 2000 WHICH WAS APPROVED BY THE TOWN OF BELLINGHAM PLANNING BOARD AND RECORDED AT THE NORFOLK REGISTRY OF DEEDS. THIS PLAN WAS INCLUDED WITH THE SPECIAL PERMIT APPLICATION, AND SHOULD BE THE DOCUMENT USED OR REFERENCED TO ILLUSTRATE METES AND BOUNDS OF THE PROJECT SITE. NO NEW PROPERTIES BOUNDARIES ARE BEING PROPOSED SINCE THIS PROJECT IS NOT A SUBDIVISION.

APPROVED
By Bellingham Planning Board at 10:09 am, Apr 12, 2018



SITE OVERVIEW MAP
1"=200'



LOCUS MAP
1"=1,000'

Table with 5 columns: Zone Description, Min. Req'd/Max. Allowed, Proposed HV2, Ex. Development, Merged. Rows include Lot Requirements, Yard Requirements, Open Space, Building Height, Parking, Earthwork Volume Calculations, and Gross Volumes.

Footnote details regarding lot area calculations, project frontage, and measurements from proposed units.

OWNERS OF RECORD:
K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD, MA 01757
BELLINGHAM ASSESSORS INFORMATION:
MAP 23, LOT 6, BLOCK 1
LOT AREA:
6.17± ACRES
BELLINGHAM ZONING INFORMATION:
ZONE: MULTI-FAMILY DWELLING DISTRICT (M)
MINIMUM AREA: 40,000 S.F.
MINIMUM FRONTAGE: 150'
SETBACKS: FRONT 30', SIDE 15', REAR 20'
MINIMUM LANDSCAPED OPEN SPACE: 2,000 SF/DWELLING UNIT
MAXIMUM BUILDING HEIGHT: 35'

DEED REFERENCES:
BK. 6672, PG. 297
PLAN REFERENCES:
PB. 474, PL. 289

Table with 4 columns: Drawing Date, Last Revision, Sheet No., Sheet Title. Lists 11 sheets including Cover Sheet, Legend, Area Locus, Existing Conditions, Site Layout, Utility, Grading & Drainage, Construction Details, Erosion & Sediment Control, Fire Access Exhibit, Lighting, and Architectural Plans.

Table with 3 columns: Government & Utility Contacts. Lists contact information for Bellingham Police Dept., Bellingham D.P.W., Massachusetts Electric Co., Bellingham Fire Dept., Bellingham Building Dept., and Bellingham Planning Department.

ASE logo and contact information.
Approval for Special Permit Required.
Project: "HARTFORD VILLAGE II" MULTI-FAMILY DEVELOPMENT
Owner/Applicant: K & S REALTY TRUST
Revisions table with 3 columns: No., Date, Description.
Drawn by: WMB, JPC
Checked by: PBH, SJO
Date: APRIL 4, 2016
Project No.: 2014-260
Sheet Title: COVER SHEET
Seals for Paul B. Huttmak and Byron J. Andrews.
P.E. and P.L.S. designations.
Plan No. L-4427, Drawing No. C1.

F:\ACAD\2014 PROJECTS\2014-2015\DWG\PERMIT\PHASE2-REV 7.DWG 07-13-17 11:43:24 AM - LAYOUT C2

GENERAL NOTES

PART 1 – TOPOGRAPHIC AND PROPERTY LINE INFORMATION

A. NOTICE TO CONTRACTOR: THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND TOWNSHIP AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.

B. PROPERTY LINE AND TOPOGRAPHY:

• EXISTING BOUNDARY INFORMATION EFFECTING THE AREA OF THE PROPOSED DEVELOPMENT BASED UPON AN ON-THE-GROUND SURVEY PERFORMED BY ANDREWS SURVEY & ENGINEERING, INC. SUPPLEMENTAL BUTTER INFORMATION OBTAINED FROM TOWN OF BELLINGHAM GIS.

• EXISTING TOPOGRAPHIC INFORMATION BASED UPON AERIAL PHOTOGRAPHY SUPPLEMENTED BY AN ON THE GROUND SURVEY PERFORMED BY ANDREWS SURVEY & ENGINEERING, INC.

C. WETLAND DELINEATION BY B&C ASSOCIATES, INC.

D. DATUM: NGVD 1929

E. COORDINATE SYSTEM: MASSACHUSETTS STATE PLANE

F. CONSTRUCTION STAKING CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY TO PERFORM THE WORK.

G. FLOODPLAIN: THE PROPERTY DOES NOT LIE IN A FLOOD HAZARD AREA OR 100-YEAR FLOODPLAIN ACCORDING TO THE MOST RECENT FLOOD INSURANCE RATE MAPS FOR BELLINGHAM.

PART 2 – EXECUTION

2.1 DEMOLITION, SEDIMENTATION, AND EROSION CONTROL

A. THE FIRST STAGE INVOLVES ACTIVITIES NEEDED TO ADDRESS STORMWATER MANAGEMENT, EXCAVATING MATERIAL DESIGNATED FOR OFF-SITE REMOVAL OR ON-SITE RELOCATION AND FENCING SELECTED AREAS. STAGE ONE WILL PREPARE SITE FOR CONVENTIONAL CONSTRUCTION.

B. THE SECOND STAGE WILL CONSIST OF ROUTINE CONSTRUCTION INVOLVING BUILDING, PAVING, LANDSCAPING, AND UTILITIES.

C. THERE ARE GENERAL PHASES OF CONSTRUCTION. IN EACH PHASE OF CONSTRUCTION, IMPLEMENT STANDARD EROSION AND SEDIMENT CONTROL PRACTICES PRIOR TO INITIATING EARTH DISTURBING ACTIVITIES, AND MAINTAIN THESE PRACTICES THROUGHOUT THE COURSE OF CONSTRUCTION.

D. DURING DEMOLITION, EXCAVATIONS AS MUCH AS 20 FEET MAY BE REQUIRED FOR THE INSTALLATION OF FOUNDATIONS, RETAINING WALLS, AND UTILITIES. EXCAVATIONS SHALL BE CUT TO A STABLE SLOPE OR BE TEMPORARILY BRACED, DEPENDING ON THE EXCAVATION DEPTHS AND THE ENCOUNTERED SUBSURFACE CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO SUBMIT EXCAVATION AND SLOPE STABILIZATION METHODS PRIOR TO THE START OF CONSTRUCTION TO THE ENGINEER FOR REVIEW.

E. BASED ON THE COMPOSITION OF SOILS ENCOUNTERED DURING THE EXPLORATION PROGRAM, SITE SOILS ARE GENERALLY CLASSIFIED AS TYPES B AND C SOILS AS DEFINED BY (USGS) NATIONAL RESOURCES CONSERVATION SERVICE (NRCS), FORMERLY SOIL CONSERVATION SURVEY (SCS). TEMPORARY CONSTRUCTION SLOPES SHOULD BE DESIGNED IN STRICT COMPLIANCE WITH THE MOST RECENT GOVERNING REGULATIONS. STOCKPILES SHOULD BE PLACED WELL AWAY FROM THE EDGES OF THE EXCAVATION AND THEIR HEIGHT SHOULD BE CONTROLLED TO PREVENT SURCHARGE TO THE SIDES OF THE EXCAVATION. SURFACE DRAINAGE SHOULD BE CONTROLLED TO AVOID FLOW OF SURFACE WATER INTO THE EXCAVATIONS.

F. CONSTRUCTION SLOPES SHOULD BE REVIEWED FOR MASS MOVEMENT. IF POTENTIAL STABILITY PROBLEMS ARE OBSERVED, WORK SHOULD CEASE AND A GEOTECHNICAL ENGINEER SHOULD BE CONTACTED IMMEDIATELY. THE RESPONSIBILITY FOR EXCAVATION SAFETY AND STABILITY OF TEMPORARY CONSTRUCTION SLOPES SHOULD LIE SOLELY WITH THE CONTRACTOR.

2.2 – TYPICAL PRACTICES TO BE APPLIED TO THE SITE INCLUDE THE FOLLOWING:

A. PRIOR TO EARTH DISTURBANCE IN ANY WORK AREA, INSTALL EROSION CONTROL BARRIERS BETWEEN THE WORK AREA AND THE SURFACE WATER RESOURCE TO WHICH IT DRAINS.

B. DISCHARGE WATER FROM DEWATERING OPERATIONS TO A TEMPORARY SILTATION TRAP OR SEDIMENTATION BASIN.

C. PROVIDE TEMPORARY BERMS AND SWALES TO DIVERT SURFACE WATER AWAY FROM THE AREAS THAT WILL BE EXPOSED BY CONSTRUCTION ACTIVITY TO MINIMIZE THE AMOUNT OF SURFACE WATER COMING INTO CONTACT WITH EXPOSED SOILS. PROVIDE STABLE OUTLETS FOR THESE DEVICES, AND LINE OR VEGETATE THESE DIVERSIONS TO PROVIDE FOR THEIR STABILITY DURING CONSTRUCTION.

D. LIMIT THE EXTENT OF EXPOSED SOILS TO AREAS THAT CAN BE WORKED AND RESTABILIZED WITHIN THE CONSTRUCTION SEASON AND DURING THE SPECIFIC CONSTRUCTION PHASE.

E. WHEN EARTHWORK CONSTRUCTION ACTIVITY IN AN AREA IS COMPLETE, STABILIZE THE AREA WITH A SUITABLE SURFACE AS DESCRIBED BELOW.

F. IN ADDITION TO THESE PRACTICES, FOLLOW THE SPECIAL PRACTICES DESCRIBED BELOW. COMPLY WITH THE DIRECTIONS OF THE APPLICANT'S REPRESENTATIVE TO ADDRESS EROSION AND SEDIMENTATION CONDITIONS THAT MAY ARISE ON A CASE BY CASE BASIS DURING CONSTRUCTION.

G. THE FOLLOWING IS A DESCRIPTION OF MINIMUM CONSTRUCTION REQUIREMENTS AND DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES WITH REGARD TO DETERMINING THE ADEQUACY OF MEANS AND METHODS OF CONSTRUCTION.

2.3 – CONSTRUCTION SEQUENCING

A. SEQUENCING SHALL BE AS SHOWN ON THE PLAN AND AS DICTATED BY THE REQUIREMENTS OF CONSTRUCTION. SEE SHEET C-10.3 FOR DETAILED CONSTRUCTION SEQUENCING.

2.4 – MAINTENANCE

A. DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:

B. SEEDED AREAS WILL BE FERTILIZED AND RESEEDD AS NECESSARY TO INSURE VEGETATION ESTABLISHMENT.

C. TEMPORARY SEDIMENTATION BASINS WILL BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN STORAGE CAPACITY.

D. TEMPORARY DRAINAGE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY.

E. THE EROSION CONTROL BARRIERS AND OTHER EROSION AND SEDIMENT CONTROL MEASURES/DEVICES SHALL BE INSPECTED, CLEANED, REPLACED AND/OR REPAIRED AS NECESSARY, PERIODICALLY AND AFTER EACH SIGNIFICANT RAINFALL.

F. SWEEP ON-SITE PAVED AREAS AND OFF-SITE STREETS AS NECESSARY TO PREVENT SILT AND DEBRIS ORIGINATING ON-SITE FROM ENTERING CLOSURE SYSTEMS AND/OR ENVIRONMENTALLY SENSITIVE AREAS. WHEN NECESSARY UTILIZE WATER SPRAYING, SURFACE ROUGHENING AND/OR APPLY POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS FOR DUST CONTROL.

2.5 – GENERAL

A. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH (USDA) NATURAL RESOURCES CONSERVATION SERVICE (NRCS, FORMERLY SCS) GUIDELINES AND ALL LOCAL, COUNTY AND MUNICIPAL REGULATIONS.

B. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS. SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.

C. ALL WORK SHALL BE IN ACCORDANCE WITH THE PERMITS AND APPROVALS ISSUED AND THE CONSTRUCTION SPECIFICATIONS. PRIOR TO ANY BLASTING, THE CONTRACTOR SHALL CONDUCT A PRE-BLAST SURVEY OF ALL DWELLINGS WITHIN THREE HUNDRED (300') FEET OF THE SITE.

PART 2 – CONTINUED

D. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED HAYBALES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

E. TOPS OF STOCKPILES SHALL BE COVERED IN SUCH A MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.

F. ALL DISTURBED OR EXPOSED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN FIVE (5) BUSINESS DAYS OF COMPLETION OF CONSTRUCTION OF A GIVEN AREA. EXPOSED AREAS WHERE NO WORK HAS OCCURRED FOR FOURTEEN (14) DAYS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEED OR OTHER APPROVED METHOD.

G. THE LOCATION OF TEMPORARY DRAINAGE SWALES AND SEDIMENTATION TRAPS ARE APPROXIMATE ONLY AND SHALL BE RELOCATED AS REQUIRED AS CONSTRUCTION PROGRESSES.

H. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS. SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.

I. ALL WORK SHALL BE IN ACCORDANCE WITH THE PERMITS AND APPROVALS ISSUED AND THE CONSTRUCTION SPECIFICATIONS. PRIOR TO ANY BLASTING, THE CONTRACTOR SHALL CONDUCT A PRE-BLAST SURVEY OF ALL DWELLINGS WITHIN THREE HUNDRED (300') FEET OF THE SITE.

J. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED HAYBALES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.

K. TOPS OF STOCKPILES SHALL BE COVERED IN SUCH A MANNER THAT STORMWATER DOES NOT INFILTRATE THE MATERIALS AND THEREBY RENDER THE SAME UNSUITABLE FOR FILL USE.

L. WITHIN FIVE (5) BUSINESS DAYS OF COMPLETION OF CONSTRUCTION OF A GIVEN AREA, EXPOSED AREAS WHERE NO WORK HAS OCCURRED FOR FOURTEEN (14) DYAS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEED OR OTHER APPROVED METHOD.

M. THE LOCATION OF TEMPORARY DRAINAGE SWALES AND SEDIMENTATION TRAPS ARE APPROXIMATE ONLY AND SHALL BE RELOCATED AS REQUIRED AS CONSTRUCTION PROGRESSES.

N. HAYBALE DIKES SHALL BE CONSTRUCTED AT ALL EXISTING & PROPOSED CATCH BASINS LOCATED IN FILL AREAS & SUBJECT TO STORMWATER RUN-OFF FROM PROPOSED FILL AREAS DURING CONSTRUCTION OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. NO SEDIMENTS SHALL ENTER THE ON-SITE OR OFF-SITE DRAINAGE SYSTEMS AT ANY TIME.

O. CULVERT/PIPE INLETS AND OUTFALLS SHALL BE PROTECTED BY HAYBALE FILTERS UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED.

P. EROSION CONTROLS SHALL BE PERIODICALLY INSPECTED AND REPLACED AS REQUIRED.

Q. ALL PROPOSED NON-BIPRAP SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH EXCELSIOR BLANKETS AND PROTECTED FROM EROSION.

R. THE CONTRACTOR SHALL KEEP ON SITE AT ALL TIMES ADDITIONAL HAYBALES AND EXTRA SILTATION FENCING FOR INSTALLATION AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE OR LOCAL OFFICIALS TO MITIGATE ANY EMERGENCY CONDITION.

S. DISPOSAL OF ALL DEMOLISHED MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE HAULED AND OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL MUNICIPAL REQUIREMENTS.

T. THE CONTRACTOR SHALL PROTECT AND/OR CAP OFF ALL EXISTING ON-SITE UTILITY SERVICES DESIGNATED AS SUCH ON THESE DRAWINGS.

U. THE LIMIT OF WORK LINE FOR THE AREA TO BE CLEARED AND GRUBBED SHALL BE THE SAME AS THE LIMIT OF WORK LINE NECESSARY FOR GRADING PURPOSES, (I.E., THE GRADING LIMITS AROUND THE PERIMETER OF THE PROJECT AREA).

V. THE AREA OR AREAS OF ENTRANCE AND EXIT TO AND FROM THE SITE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

W. FOLLOWING THE ADDITION OF A BINDER COURSE, THE CONTRACTOR SHALL SWEEP ALL ON-SITE PAVEMENT, IF NECESSARY, UNTIL ALL SITE CONSTRUCTION IS COMPLETED.

X. THE MATERIALS AND METHODS USED IN THE CONSTRUCTION OF ROADWAYS SHALL CONFORM TO THE REQUIREMENTS OF "TOWN OF BELLINGHAM SUBDIVISION REGULATIONS". WHEN NO TOWN SPECIFICATION IS PROVIDED THE MATERIALS AND METHODS USED IN THE CONSTRUCTION OF ROADWAYS SHALL CONFORM TO THE REQUIREMENTS OF "THE COMMONWEALTH OF MASSACHUSETTS, DEPARTMENT OF PUBLIC WORKS, STANDARDS & SPECIFICATIONS FOR HIGHWAYS & BRIDGES," LATEST EDITION.

Y. FOUNDATION DRAINS SHALL BE PROVIDED AND SHALL DISCHARGE BY GRAVITY OR MECHANICAL MEANS INTO AN APPROVED DRAINAGE SYSTEM THAT COMPLIES WITH THE INTERNATIONAL PLUMBING CODE.

PART 3 – STORM DRAINS

A. UNLESS INDICATED OTHERWISE, STORM DRAIN PIPING (INDICATED BY LETTER "D") SHALL BE CLASS V REINFORCED CONCRETE PIPE (RCP) PER AASHTO M170 MANUFACTURED TO MEET ASTM C76.

B. STORM DRAIN MANHOLES (INDICATED BY LETTERS "DMH") SHALL BE PRECAST 4', 5' OR 6' DIAMETER CONCRETE PER ASTM C478 (AS CALLED FOR ON DRAWINGS OR FIELD CONDITIONS REQUIRE) WITH RUBBER GASKET JOINTS CONFORMING TO ASTM C443. PIPE TO MANHOLE CONNECTIONS SHALL BE MORTARED PIPE OPENINGS.

C. CATCH BASINS (INDICATED BY LETTERS "CB") SHALL BE PRECAST 5' DIAMETER CONCRETE PER ASTM C478, (ALTERNATE TOP SLAB WHERE NECESSARY) AND RUBBER GASKET JOINTS CONFORMING TO ASTM C443, WITH 4 FOOT SUMPS AND GAS TRAP OUTLET ELBOW. PIPE TO STRUCTURE CONNECTIONS SHALL BE MORTARED PIPE OPENINGS.

D. COORDINATES OF MANHOLES REFER TO CENTERS OF STRUCTURES AND CATCH BASINS REFER TO THE CENTER BACK OF THE FRAME AND GRATE.

E. FLARED END SECTIONS (FES) SHALL BE CLASS V REINFORCED CONCRETE PIPE (RCP) PER AASHTO M170 MANUFACTURED TO MEET ASTM C76.

PART 4 – UTILITIES

4.1 – WATER DISTRIBUTION AND FIRE PROTECTION

A. WATER MAINS 3" DIA. AND LARGER SHALL HAVE 5'-0" MINIMUM COVER AND SHALL BE CEMENT LINED DUCTILE IRON (CDI), CLASS 52 MINIMUM, CONFORMING TO AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A21.50, A21.4, A21.10 AND A21.51. JOINTS AT FITTINGS, VALVES AND HYDRANT LATERALS SHALL BE MECHANICAL JOINT PER ANSI A21.11, WITH GASKETS. JOINTS AT OTHER LOCATIONS SHALL BE PUSH-ON TYPE WITH GASKETS PER ANSI A21.11. ALL FITTINGS, VALVES, HYDRANTS AND CAPS SHALL BE CLASS 350 PROVIDED WITH THRUST RESTRAINTS (THRUST BLOCKS AND RETAINING RODS) IN CONFORMANCE WITH THE DETAILS.

B. GENERALLY, WATER MAIN FITTINGS IDENTIFIED ON THIS DRAWING ARE SHOWN FOR INSTALLATION LOCATION PURPOSES. THE CONTRACTOR IS ADVISED THAT NOT ALL FITTINGS AND SUPPLY LINES ARE NOTED, SHOWN, OR INDICATED.

C. ALL HYDRANTS SHALL BE INSTALLED WITH A 6" CDI LATERAL AND SHALL BE INSTALLED WITH A 6" GATE VALVE, BOX, AND TEE FITTING. ALL HYDRANTS SHALL MEET AND BE INSTALLED IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS.

D. ALL WATER MAIN APPURTENANCES, MATERIALS, AND METHODS OF INSTALLATION SHALL MEET OR EXCEED ALL LOCAL MUNICIPAL REQUIREMENTS.

E. PRESSURE AND LEAKAGE TEST, DISINFECTION AND FLUSHING SHALL BE IN ACCORDANCE WITH ALL LOCAL MUNICIPAL STANDARDS AND REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN CONNECTIONS WITH UTILITY TESTS, FLUSHING, AND INSPECTIONS AS REQUIRED BY THE LOCAL MUNICIPALITY.

F. EXISTING SERVICES SHALL BE CUT AND A WATERTIGHT PLUG SHALL BE INSTALLED. EXISTING GATE VALVES TO BE ABANDONED SHALL BE PERMANENTLY CLOSED AND CAPPED, AND WATER SERVICES SHOULD BE SHUT OFF AT THE MAIN CORPORATION.

4.2 – UTILITY SEPARATION

A. A MINIMUM 10 FEET CLEAR HORIZONTAL DISTANCE SHALL BE MAINTAINED BETWEEN SANITARY SEWER MAINS AND WATER MAINS. WHENEVER CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET, THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH AND THE ELEVATION OF THE CROWN OF THE SEWER SHALL BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.

B. A MINIMUM OF 18" VERTICAL CLEARANCE SHALL BE MAINTAINED WHERE WATER MAINS CROSS STORM DRAIN LINES.

PART 4 – CONTINUED

C. WHERE SANITARY SEWERS CROSS WATER MAINS, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE CROWN OF THE SEWER IS AT LEAST TWO FEET BELOW THE INVERT OF THE WATER MAIN. IF THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THIS REQUIREMENT, THE CONTRACTOR SHALL DO THE FOLLOWING:

• THE WATER MAIN SHALL BE RELOCATED TO PROVIDE THIS SEPARATION OR CONSTRUCTED WITH MECHANICAL JOINT PIPE FOR A DISTANCE OF TEN FEET ON EACH SIDE OF THE SEWER. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. IN ADDITION, THE WATER MAIN SHALL BE ENCASED IN CONCRETE, AS PER TOWN OF BELLINGHAM DPW STANDARDS.

D. PRIMARY ELECTRICAL ENCASED CONDUIT MUST BE SEPARATED FROM GAS BY 3' MIN. AND FROM OTHER UTILITIES BY 2' MINIMUM.

E. TELEPHONE AND FIRE ALARM WHICH SHARE THE SAME TRENCH MUST HAVE A 1' VERTICAL SEPARATION.

F. GAS MAINS MUST BE SEPARATED FROM OTHER UTILITIES BY 2' MINIMUM.

4.3 – ELECTRIC AND COMMUNICATIONS

A. INSTALLATION OF COMMUNICATIONS (TELEPHONE, CABLE AND FIRE ALARM) SYSTEMS SHALL BE COORDINATED AND SCHEDULED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANY SERVING THE PROJECT SITE.

B. COORDINATES REFER TO THE CENTER OF STRUCTURES UNLESS OTHERWISE NOTED OR DETAILED. CONTRACTOR SHALL COORDINATE LIGHT BASE LOCATIONS WITH PROPOSED CURBING AND PARKING LOT STRIPING.

C. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ELECTRICAL SERVICE PRIOR TO ORDERING ANY EQUIPMENT.

4.4 – STREET LIGHTING

A. CONTRACTOR SHALL SUPPLY ALL LIGHTING PRODUCTS (OR APPROVED EQUALS) AS SHOWN ON THIS PLAN. ADDITIONAL LIGHTS MAY BE REQUIRED FOR LIGHTING ENTRANCE WAYS, SIGNS OR OTHER OUTDOOR AREAS OF SPECIAL LIGHTING INTEREST. IN NO CASE SHALL THE CONTRACTOR USE LESS LIGHTS THAN SHOWN.

B. ALL LIGHTING PRODUCTS AND ACCESSORIES, INCLUDING POLES AND MOUNTING UNITS, SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. ALTERNATIVE PRODUCTS MAY BE USED IN LIGHTING ASSEMBLY AS LONG AS IT IS APPROVED BY THE MANUFACTURER.

C. EACH LIGHTING POLE IS TO BE EQUIPPED WITH LIGHTNING PROTECTION AS ESTABLISHED BY NFPA 780 (NATIONAL FIRE PROTECTION ASSOCIATION).

D. LIGHT TYPES AS INDICATED ON THIS PLAN ARE SUGGESTIONS ONLY. FINAL SELECTION OF LIGHT TYPES AND ASSEMBLIES TO BE DETERMINED AT TIME OF PURCHASE, DEPENDING ON AVAILABILITY, BALLAST, WATTAGE, QUANTITY AND POLE HEIGHT ARE NOT TO CHANGE WITHOUT PRIOR APPROVAL OF THE PLANNING BOARD.

PART 5 – PAVEMENT AND CURBING

A. JOINTS BETWEEN NEW BITUMINOUS CONCRETE PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDS.

B. CURBING SHALL BE INSTALLED AS FOLLOWS:

• VERTICAL GRANITE AT INTERSECTION ROUNDINGS AT VILLAGE LANE.

• VERTICAL GRANITE CURB INLETS AT CATCH BASIN LOCATIONS AT VILLAGE LANE.

• VERTICAL FACE BITUMINOUS BERM ALONG ENTIRE ROADWAY LENGTH EXCEPT AS NOTED ABOVE.

• BITUMINOUS MODIFIED CAPE COD BERM ALONG VILLAGE LANE AS NEEDED, INSTALLED IN MATCH EXISTING CAPE CODE BERM AT POINTS OF INTERCONNECTION.

C. DIMENSIONS REFER TO FACE OF CURB UNLESS NOTED OTHERWISE.

D. ALL LIMITS OF PAVING SHALL BE CURBED UNLESS NOTED OR DETAILED OTHERWISE.

PART 6 – TRAFFIC CONTROL

A. INCLUDING, BUT NOT LIMITED TO, ALL CROSSWALKS, STOP LINES AND LEGENDS.

• LEGENDS SHALL BE PERFORMED PERMANENT PLASTIC. PAVEMENT MARKINGS SHALL BE THERMO PLASTIC (THERMO). THE MARKINGS, LEGENDS SHALL BE INSTALLED IN ACCORDANCE WITH THE RELEVANT PORTIONS OF MASSACHUSETTS HIGHWAY DEPARTMENT (MHD) STANDARD SPECIFICATIONS. THE CONTRACTOR'S ATTENTION ALSO IS DIRECTED TO THE STANDARD SPECIFICATIONS, FOR REQUIREMENTS REGARDING THE AMBIENT AIR TEMPERATURE AT THE TIME OF APPLICATION.

PART 7 – QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS FROM ACCEPTABLE MANUFACTURERS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CONFORM TO CONDITIONS OF APPROVAL ISSUED BY REGULATORY AGENCIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, LOCAL PLANNING BOARD, CONSERVATION COMMISSION, CITY COUNCIL, BOARD OF HEALTH, PUBLIC WORKS / HIGHWAY DEPARTMENT, STATE ENVIRONMENTAL PROTECTION DEPARTMENT, AND U.S. GOVERNMENT, ENVIRONMENTAL PROTECTION AGENCY. WHERE CONDITIONS OF REGULATORY APPROVAL DIFFER FROM REQUIREMENTS CONTAINED HEREIN OR ON THE DRAWINGS, COMPLY WITH THE MORE STRINGENT REQUIREMENT.

PART 8 – INSPECTION AND MAINTENANCE

BITUMINOUS CONCRETE

A. INSPECT ALL CATCH BASINS (CB) AND MANHOLES AT LOCATIONS SHOWN ON SUBDIVISION PLANS. LOOK FOR SETTLING OF PAVEMENT, REPAIR AS REQUIRED. LOOK AT LEVEL OF SAND, SILT IN SUMPS. HAVE SUMPS CLEANED IF OUTLET PIPE IS BLOCKED. VERIFY THAT ELBOW (OIL TRAP) ON PIPE OUTLET IS SECURELY IN PLACE. CLEAN ALL LEAVES, TRASH, AND PINE NEEDLES FROM CB GRATE.

B. LOOK FOR SIGNS OF CRACKING & POTHOLES, REPAIR AS REQUIRED.

C. LOOK FOR SIGNS OF EROSION AT EDGES OF ROADWAY. INSPECT FOR BROKEN CURB. SEVERE EROSION MAY BE CAUSED BY PIPE BLOCKAGE AND RESULTING OVERFLOWS OUT OF CATCH BASINS. REMOVE DRAIN MANHOLE COVERS AND CB GRATES IN AREA AND LOOK FOR BLOCKAGES WHERE SURFACE EROSION IS EVIDENT.

LAWNS

B. INSPECT AFTER EACH SIGNIFICANT RAINFALL (½" OR MORE) FOR FIRST 6 MONTHS AFTER CONSTRUCTION TO ENSURE SURFACE VEGETATION IS HEALTHY. DISCHARGE DEVICES ARE NOT BLOCKED AND BANKS ARE NOT ERODING. CHECK ALL COMPONENTS AFTER EACH MAJOR STORM (MORE THAN 2" RAINFALL IN 24 HOURS). CLEAN/REPAIR AS REQUIRED.

LANDSCAPING

A. INSPECT FOR DISEASED/DYING TREES, SHRUBS, GROUND COVER, & GRASS; REPLACE AS REQUIRED.

B. INSPECT MULCH BEDS. SUPPLEMENT AS REQUIRED TO PROVIDE THE SPECIFIED MINIMUM DEPTH (LOOSE MEASURE).

RIP RAP (STONE) SLOPE PROTECTION

A. INSPECT STONE SLOPE PROTECTION, CUT EMERGING YOUNG TREES GROWING IN STONES. INSPECT STONE AT PIPE OUTLETS. REMOVE DEBRIS. REPAIR AS REQUIRED.

PART 9 – LANDSCAPING

A. ALL SITE INFORMATION REPRESENTED ON THIS PLAN IS ILLUSTRATIVE, AND MUST BE VERIFIED BY THE CONTRACTOR. WRITTEN SPECIFICATIONS SHALL TAKE PRECEDENCE OVER REPRESENTATIONS ON DRAWINGS.

B. IT IS CONTRACTORS RESPONSIBILITY TO BECOME APPRISED OF EXISTING CONDITIONS, UNDERGROUND UTILITIES, AND OVERHEAD UTILITIES. COORDINATION WITH ALL RELEVANT COMPANIES OR AGENCIES, INCLUDING PERMITTING, AFFECTED BY THIS CONSTRUCTION IS CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR IS REQUIRED TO OBTAIN ANY NECESSARY PERMITS REQUIRED FROM LOCAL AUTHORITIES FOR ALL WORK IN THIS CONTRACT.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR ON-SITE SAFETY OF CONSTRUCTION CREW, AND PARTICULARLY OF SAFETY OF PEDESTRIANS DURING PERIOD OF CONSTRUCTION PROJECT.

D. ALL UNUSED MOVEABLE MATERIALS SHALL BE REMOVED FROM THE SITE DAILY, OR STORED IN SUCH A WAY AS TO PRECLUDE LOSS OR VANDALISM. ALL DEBRIS SHALL BE REMOVED, AND ALL WALKS MADE FREE OF OBSTRUCTIONS, AND SITE LEFT IN NEAT, CLEAN CONDITION AT THE CLOSE OF EACH WORK DAY.

E. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO STARTING WORK. CONTRACTOR TO VERIFY THAT ADEQUATE DRAINAGE EXISTS PRIOR TO PLANTING.

PART 9 – CONTINUED

F. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON ALL DRAWINGS. PLANT COUNTS ARE FOR CONVENIENCE ONLY. CONTRACTOR SHALL USE SUFFICIENT PLANT MATERIALS TO FULFILL DESIGN INTENT, BUT IN NO CASE SHALL CONTRACTOR USE FEWER PLANTS THAN LISTED.

G. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

H. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AT THE NURSERY AND AT THE SITE. ALL TREES SHALL HAVE A SINGLE LEADER UNLESS SPECIFIED OTHERWISE. NO UN-APPROVED SUBSTITUTIONS WILL BE ACCEPTED. PLANT SPECIES AND CULTIVAR, SIZE AND QUANTITY SHALL NOT CHANGE WITHOUT APPROVAL OF LANDSCAPE ARCHITECT.

I. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS ORIGINAL GRADE BEFORE DIGGING. PLANTS TO BE TRANSPLANTED SHALL BE DUG CAREFULLY, WITH ADEQUATE ROOTBALLS AND PRUNED ACCORDING TO ANA STANDARD PRACTICE. TREES WITH ROOT FLARE COVERED BY MORE THAN 1.5" OF SOIL WILL BE REJECTED PRIOR TO INSTALLATION. SET PLANTS PLUMB.

J. ALL TREES AND SHRUBS SHALL BE BALLED IN BURLAP OR CONTAINERIZED, UNLESS SPECIFIED OTHERWISE. NO ROOT-BOUND CONTAINER GROWN STOCK WILL BE ACCEPTED. ALL PLASTIC ROOT WRAPPING AND METAL WIRE BASKETS SHALL BE CAREFULLY REMOVED AT THE TIME OF PLANTINGS, EXCEPT WIRE THAT IS DIRECTLY UNDER THE ROOTBALLS.

K. CONTRACTOR SHALL PLACE 2" TO 3" OF FINE SHREDDED, AGED 2 YEARS, DARK BROWN PINE BARK MULCH THROUGHOUT THE BED AREAS. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK.

L. FLOOD PLANTS THOROUGHLY ONCE IMMEDIATELY AFTER PLANTING AND TWICE DURING THE FIRST TWENTY-FOUR HOUR PERIOD AFTER PLANTING.

M. DO NOT WRAP TRUNK OF TREE.

N. THE CONTRACTOR SHALL MAINTAIN THE PLANTS FOR A MINIMUM OF 60 DAYS FOLLOWING INSTALLATION, OR LONGER IF CONTRACTED BY THE OWNER. BEFORE THE END OF THE 60-DAY PERIOD, THE CONTRACTOR SHALL PROVIDE A WRITTEN MAINTENANCE PLAN TO THE OWNERS AND THE CONTRACTOR SHALL BE AVAILABLE TO ANSWER QUESTIONS OR CONCERNS AT THAT TIME.

O. THE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A MINIMUM OF ONE YEAR FROM FINAL ACCEPTANCE BY OWNER/REP. THE CONTRACTOR SHALL REPLACE ANY DEAD MATERIALS AT HIS/HER OWN EXPENSE.

P. WHERE POSSIBLE EXISTING TREES ALONG THE RIGHT-OF-WAY ARE TO BE SAVED AND PROTECTED TO SERVE IN PLACE OF NEW STREET TREES. EXISTING TREES TO BE SAVED SHALL BE PROTECTED BY STAKING CONSTRUCTION FENCING AT DRIP LINE OF TREE CANOPY TO PROTECT ROOT SYSTEM.

Q. IF NECESSARY DURING CONSTRUCTION, THE LOCATION OF STREET SIGNS, TREES, AND LIGHTS NEAR THE STREET INTERSECTIONS SHALL BE REVISED SUCH THAT SIGHT DISTANCE WILL NOT BE IMPAIRED.

R. ALL TREES ALONG SIDEWALKS SHALL HAVE A MINIMUM SEVEN (7) FOOT BRANCHING HEIGHT.

10.0 MONITORING WELL

A. MONITORING WELL TO BE MINIMUM 2IN DIAMETER PERFORATED SCH-40 PVC PIPE.

B. PIPE SHALL BE WRAPPED IN FILTER FABRIC IF INSTALLED IN OPEN HOLE.

C. END OF PIPE TO BE HAVE SCREW CAP AND BE RAISED 1 FOOT ABOVE THE SURROUNDING GROUND.

APPROVED

By Bellingham Planning Board at 10:09 am, Apr 12, 2018

ABBREVIATIONS

BOOK	BK.
CAPE COD BERM	CCB
CEMENT LINED DUCTILE IRON	CDI
CONCRETE BOUND	C.B.
DRILL HOLE	D.H.
FOUND	FND
ELEVATION	ELEV.
FINISH GRADE	FG
FLARED END SECTION	FES
REINFORCED CONCRETE PIPE	RCP
HIGH DENSITY POLYETHYLENE PIPE	HDPE
INVERT	INV.
NOW OR FORMERLY	N/F
BITUMINOUS	BIT
PLAN BOOK	P.B.
PAGE	P.G.
PLAN	PL.
RETAINING	RET.
TIMBER GUARDRAIL	TGR
TYPICAL	TYP.
NOT TO SCALE	N.T.S.
UTILITY POLE	UP
WETLAND FLAG	WF
CONCRETE	CONC
SQUARE FEET	SF
ACRES	AC
FINISH FLOOR	FF</

1929 COUNTY LAYOUT



APPROVED
By Bellingham Planning Board at 10:10 am, Apr 12, 2018



Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning
P.O. Box 312, 104 Mendon Street
Uxbridge, Massachusetts 01569
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500 East Washington Street
North Attleboro, Massachusetts 02760
P: 508-316-0452 F: 508-316-0963

APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD

BEING A MAJORITY DATE:
THIS CERTIFIES THAT THE NOTICE OF APPROVAL
OF THIS PLAN BY THE BELLINGHAM PLANNING
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AT
AND NO APPEAL WAS RECEIVED DURING THE 20
DAYS NEXT AFTER SUCH RECEIPT OF SAID
NOTICE.

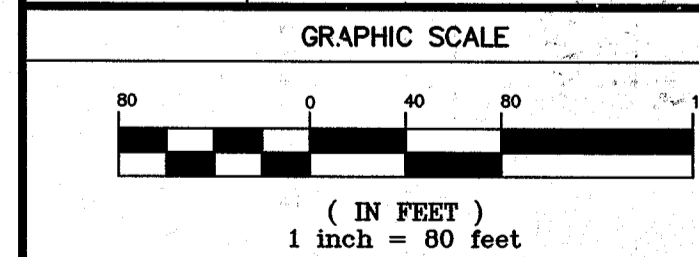
BELLINGHAM TOWN CLERK DATE

PROJECT: "HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

OWNER/APPLICANT:
K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

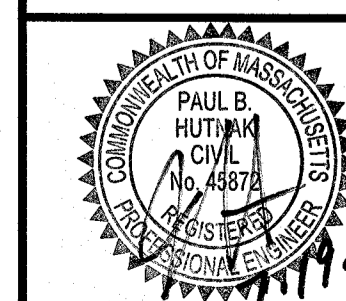
REVISIONS		
NO.	DATE	DESCRIPTION
1	8/24/16	NO CHANGE THIS SHEET
2	11/10/16	NO CHANGE THIS SHEET
3	2/14/17	NO CHANGE THIS SHEET
4	7/5/17	NO CHANGE THIS SHEET

DRAWN BY WMB
CHECKED BY PBH, SJO
DATE APRIL 4, 2016
PROJECT NO. 2014-260



SHEET TITLE
AREA LOCUS &
ZONING DISTRICT
PLAN

DRAWING NO.
C3
PLAN NO. L-4427



GENERAL NOTES:

- NOTICE TO CONTRACTOR: THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES, ENGINEERING AND UTILITY DRAWINGS, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
- PROPERTY BOUNDARIES SHOWN HEREON ARE SHOWN PER "PLAN OF LAND IN BELLINGHAM, MA" PREPARED FOR K & S REALTY, DATED MAY 8, 2000; APPROVED BY THE BELLINGHAM PLANNING BOARD ON MAY 25, 2000; RECORDED AT THE NORFOLK REGISTRY OF DEEDS ON JUNE 5, 2000 FILED AS NO. 289/PLN BK 479.

OBSERVATION TEST HOLE DATA

PERFORMED BY: BILL BLAIS, ANDREWS SURVEY
12/12/14

1212-1 ELEV. = 293.5		
0'-10"	Ap	SANDY LOAM
10'-24"	Bw	SANDY LOAM
24'-120"	C	LOAMY SAND
MOTTLES @ 48" WEAVING @ 108" NO REFUSAL		

1212-2 ELEV. = 285.5		
0'-8"	Ap	SANDY LOAM
8'-30"	Bw	SANDY LOAM
30'-120"	C	LOAMY SAND
MOTTLES @ 32" WEAVING @ 96" NO REFUSAL		

1212-3 ELEV. = 270.1		
0'-9"	Ap	SANDY LOAM
9'-26"	Bw	SANDY LOAM
26'-120"	C	LOAMY SAND
MOTTLES @ 48" WEAVING @ 108" NO REFUSAL		

PERFORMED BY: J.P. CONNOLLY, ANDREWS SURVEY

PERFORMED ON: 1/11/2016
OBSERVED BY: MIKE CATALANO, TOWN OF BELLINGHAM BOH;
CLIFF MATTHEWS, TOWN OF BELLINGHAM CONSERVATION COMMISSION

1116-1 ELEV. = 266.0		
0'-43"	FILL	SANDY LOAM
43'-55"	C1	LOAMY SAND
55'-92"	C2	LOAMY SAND
NO MOTTLES OBSERVED WEAVING @ 22" NO REFUSAL		

1116-3 ELEV. = 266.0		
0'-40"	FILL	SANDY LOAM
40'-62"	C	LOAMY SAND
MOTTLES @ 35" WEAVING @ 57" STANDING WATER @ 62" NO REFUSAL		

1116-5 ELEV. = 263.9

0'-5" A SANDY LOAM
5'-28" B LOAMY SAND
28'-70" C SAND

1116-4 ELEV. = 265.7		
0'-8"	A	SANDY LOAM
8'-16"	B	LOAMY SAND
16'-57"	C	SAND
MOTTLES @ 37" NO WEAVING		

*BOH - MIKE CATALANO, TOWN OF BELLINGHAM, BOARD OF HEALTH
*BOHCOM - MIKE CATALANO, TOWN OF BELLINGHAM, BOARD OF HEALTH &
CLIFF MATTHEWS, TOWN OF BELLINGHAM, CONSERVATION COMMISSION



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Land Surveying - Civil Engineering - Site Planning

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500 East Washington Street
North Attleboro, Massachusetts 02760
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APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD.

BEING A MAJORITY DATE:

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DAYS NEXT AFTER SUCH RECEIPT OF SAID
NOTICE.

BELLINGHAM TOWN CLERK DATE

PROJECT:
"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

OWNER/APPLICANT:

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

REVISIONS

NO.	DATE	DESCRIPTION
1	8/24/16	NO CHANGE THIS SHEET
2	11/10/16	REVISE EXISTING UTILITY LOCATIONS
3	2/14/17	NO CHANGE THIS SHEET
4	7/5/17	NO CHANGE THIS SHEET

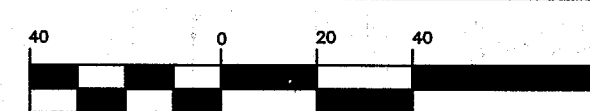
DRAWN BY WMB, JPC

CHECKED BY PBH, SJO

DATE APRIL 4, 2016

PROJECT NO. 2014-260

GRAPHIC SCALE



(IN FEET)
1 inch = 40 feet

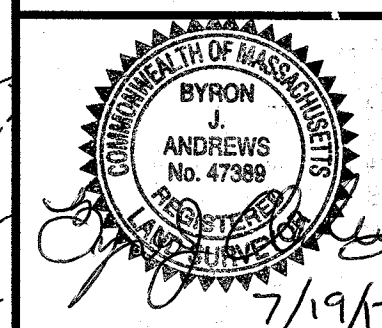
SHEET TITLE

EXISTING
CONDITIONS &
DEMOLITION PLAN

DRAWING NO.

C4

PLAN NO. L-4427



GENERAL NOTES:

1. NOTICE TO CONTRACTOR: THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
2. A COPY OF THESE APPROVED PLANS AND APPLICABLE SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNER'S TO ENSURE THAT CONNECTIONS TO EXISTING UTILITIES AND EXISTING UTILITY SERVICES ARE COMPLETED PER THERE REQUIREMENTS.
4. PROPOSED TELEPHONE/ELECTRIC/CABLE CONNECTIONS AND ON-SITE LOCATION OF SERVICES SHALL BE CONFIRMED WITH UTILITY OWNER TO ENSURE EXISTING CONNECTIONS ARE ADEQUATE AND CAN SUPPORT THE ADDITIONAL SERVICE DEMANDS OF THE PROJECT.
5. PROPOSED GAS CONNECTIONS AND ON-SITE LOCATION OF SERVICES AND MAINS SHALL BE CONFIRMED WITH THE UTILITY OWNER TO ENSURE EXISTING CONNECTIONS ARE ADEQUATE AND CAN SUPPORT THE ADDITIONAL SERVICE DEMANDS OF THE PROJECT.
6. CONTRACTOR TO CONTACT BELLINGHAM DPW MIN. 48 HOURS PRIOR TO START OF CONSTRUCTION AND PRIOR TO ANY WORK RELATED TO EXTENDING AND CONNECTING TO THE EXISTING WATER MAIN IN VILLAGE LANE.
7. SHARED SUBSURFACE SEWAGE DISPOSAL SYSTEM SHOWN HEREON FOR INFORMATION ONLY. PROPOSED SUBSURFACE SEWAGE DISPOSAL SYSTEM BY SEPARATE PERMIT. PROPOSED SEWER MAIN, SEWER MANHOLES AND SEWER SERVICES PER THIS PLAN.

PIPE CROSSING TABLE:

(PIPE CROSSINGS OF WATER SERVICES, AND SEWER SERVICES, NOT INCLUDED BELOW)

SEWER MAIN AND EX. WATER MAIN CROSSING
SEWER MAIN INV @ CROSSING = 280.77
WATER MAIN INV @ CROSSING = 283.25
SEPARATION PROVIDED = 1.81'

SEWER MAIN AND WATER MAIN CROSSING
SEWER MAIN INV @ CROSSING = 280.52
WATER MAIN INV @ CROSSING = 282.02
SEPARATION PROVIDED = 0.84'
(LESS THAN 18-INCH SEPARATION, INSTALL SEWER W/ CONCRETE ENCASUREMENT OR USE DUCTILE IRON PIPE FOR SEWER MAIN)

SEWER MAIN AND STORM DRAIN CROSSING
SEWER MAIN INV @ CROSSING = 272.21
12-INCH HDPE STORM DRAIN INV @ CROSSING = 276.02
SEPARATION PROVIDED = 3.14'

WATER MAIN AND STORM DRAIN CROSSING
WATER MAIN INV @ CROSSING = 272.92
12-INCH HDPE STORM DRAIN INV @ CROSSING = 270.13
SEPARATION PROVIDED = 0.79'

SEWER MAIN AND STORM DRAIN CROSSING
SEWER MAIN INV @ CROSSING = 272.14
12-INCH HDPE STORM DRAIN INV @ CROSSING = 270.57
SEPARATION PROVIDED = 0.57'

(DUE TO LIMITED SEPARATION CONTRACTOR TO INSTALL NEOPRENE PAD OR PROVIDE ALTERNATE EQUIVALENT CONSTRUCTION PROCEDURE FOR APPROVAL)

N/F
HARRY A. & LYNNE A. HAMJIAN
PLAT 17, LOT 5

WATER MAIN AND SEWER SERVICE CROSSING
WATER MAIN INV @ CROSSING = 272.69
6-INCH SEWER SERVICE INV @ CROSSING = 273.56
SEPARATION PROVIDED = 0.87'

(DUE TO LIMITED SEPARATION CONTRACTOR TO INSTALL NEOPRENE PAD OR PROVIDE ALTERNATE EQUIVALENT CONSTRUCTION PROCEDURE FOR APPROVAL)

APPROVED

By Bellingham Planning Board at 10:11 am, Apr 12, 2018



Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning

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Uxbridge, Massachusetts 01569
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500 East Washington Street
North Attleboro, Massachusetts 02760
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APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD

BEING A MAJORITY DATE:

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BELLINGHAM TOWN CLERK DATE:

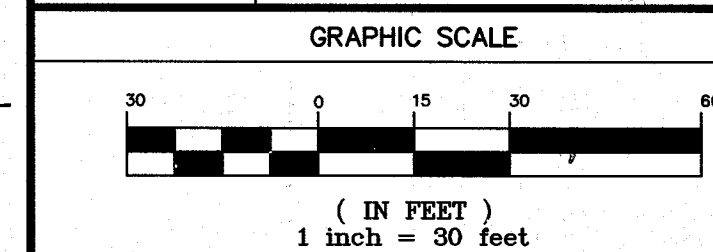
"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

OWNER/APPLICANT:

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

REVISIONS		
NO.	DATE	DESCRIPTION
1.	8/24/16	REVISE ROAD & BUILDING LAYOUT
2.	11/10/16	REVISE ROAD & BUILDING LAYOUT
3.	2/14/17	REVISE ROAD & BUILDING LAYOUT

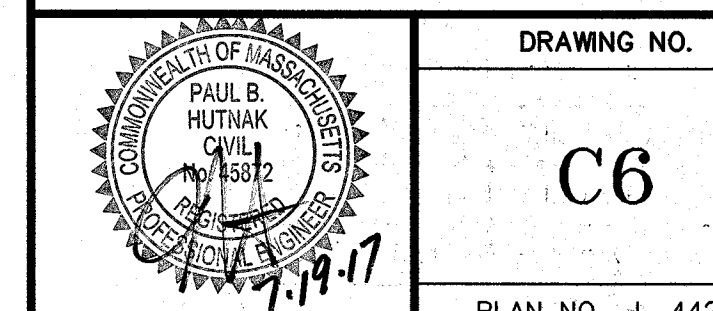
DRAWN BY WMB
CHECKED BY PBH, SJO
DATE APRIL 4, 2016
PROJECT NO. 2014-260



SHEET TITLE

UTILITY PLAN

DRAWING NO.
C6
PLAN NO. L-4427



GENERAL NOTES:

1. NOTICE TO CONTRACTOR: THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DUGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
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APPROVED

By Bellingham Planning Board at 10:12 am, Apr 12, 2018

N/F
HARRY A. & LYNNE A. HAMJIAN
PLAT 17, LOT 5

ASE

Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning

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BELLINGHAM TOWN CLERK DATE

"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

OWNER/APPLICANT:

PROJECT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/24/16	REVISE ROAD & BUILDING LAYOUT
2	11/10/16	REVISE ROAD & BUILDING LAYOUT
3	2/14/17	REVISE ROAD & BUILDING LAYOUT
4	7/5/17	REVISE BUILDING SEPARATION

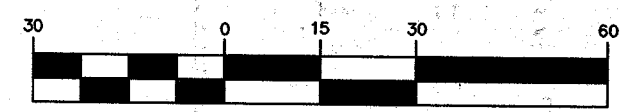
DRAWN BY WMB

CHECKED BY PBH, SJO

DATE APRIL 4, 2016

PROJECT NO. 2014-260

GRAPHIC SCALE



(IN FEET)
1 inch = 30 feet

SHEET TITLE

**GRADING &
DRAINAGE PLAN**

DRAWING NO.

C7

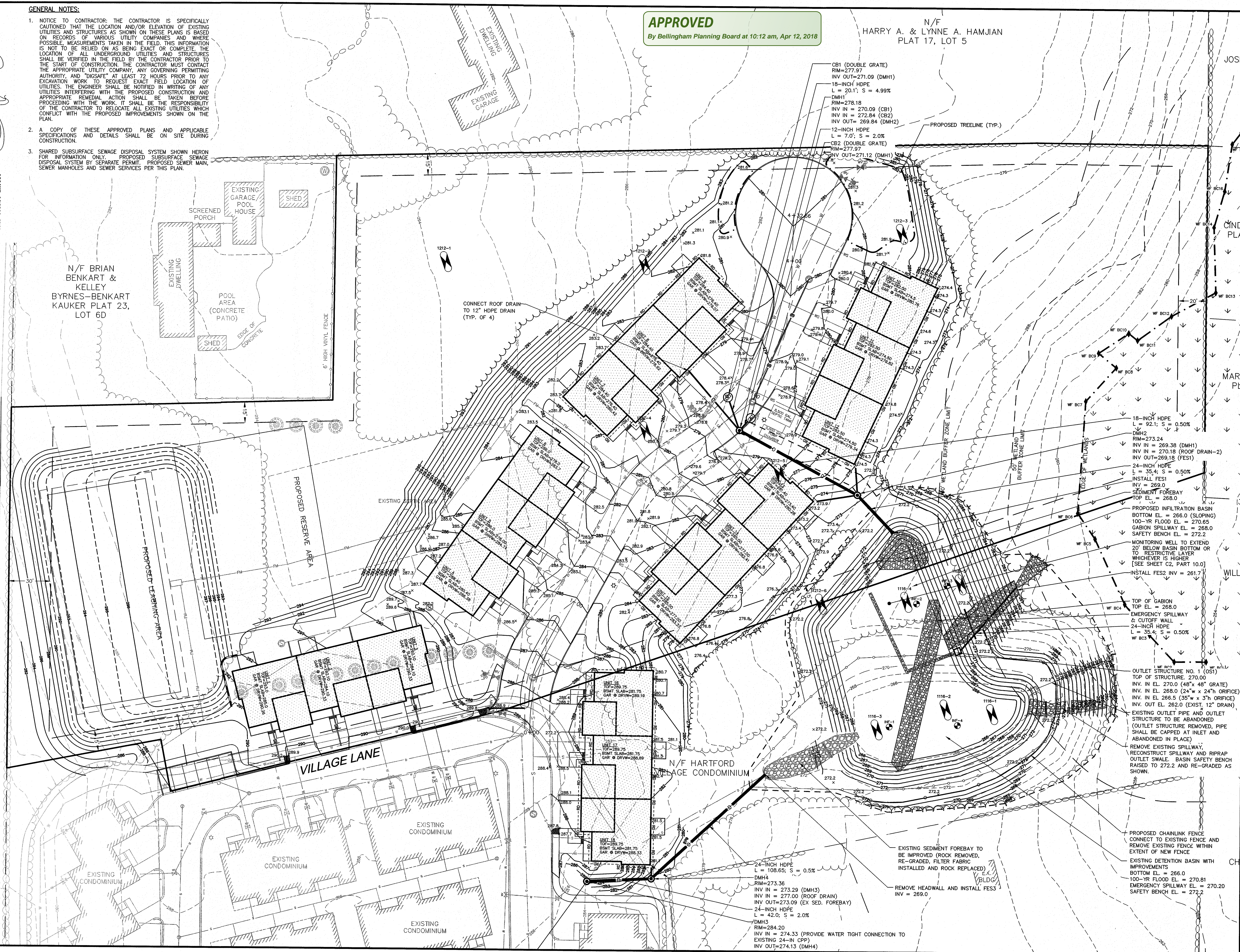
PLAN NO. L-4427

1929 COUNTY LAYOUT

EOP

HIXON (PUBLIC VARIABLE WIDTH) STREET

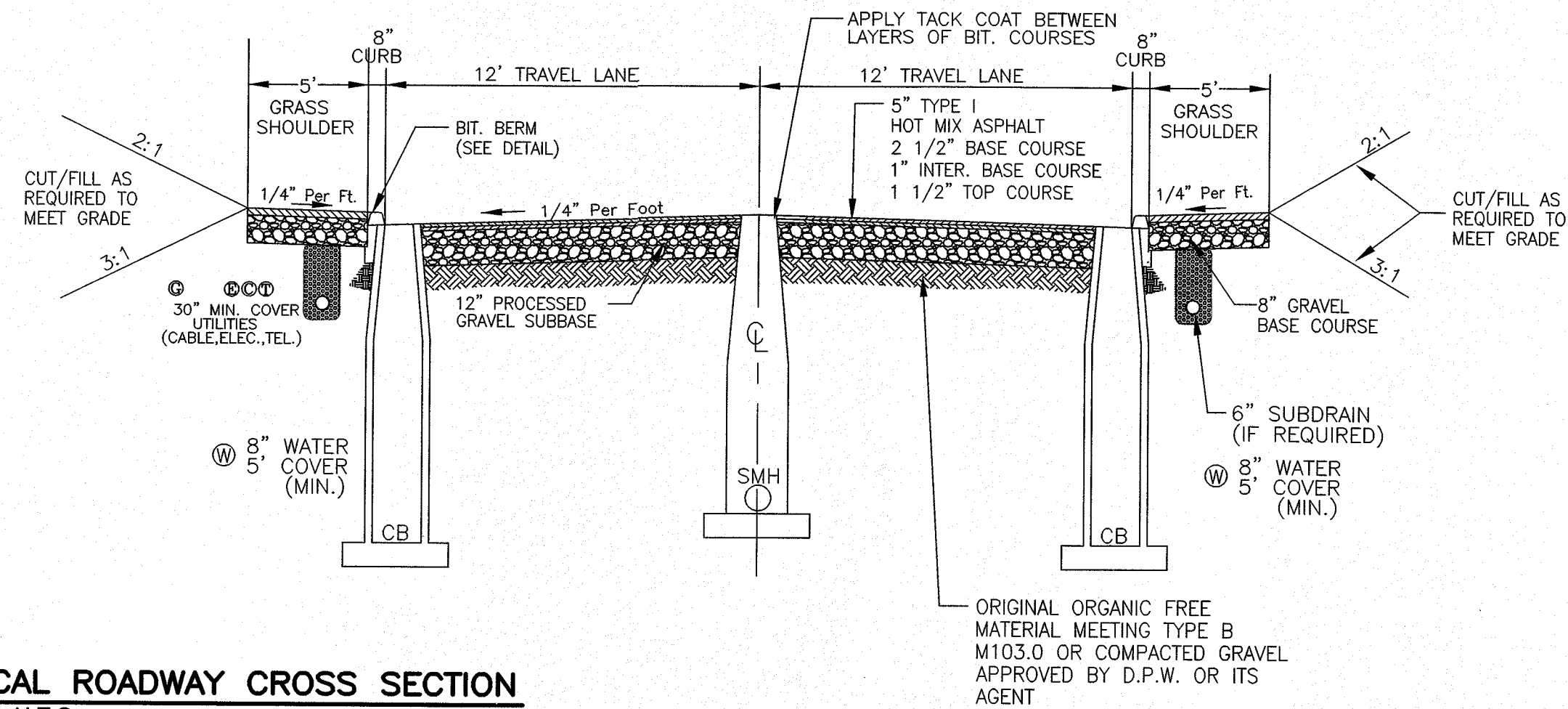
E:\ACAD\2014 PROJECTS\2014-260\DWG\PHASE2-REV 2.DWG, 07-19-17, 6:29:12 PM - LAYOUT C7



2014 © COPYRIGHT ANDREWS SURVEY & ENGINEERING, INC.

NOTES:

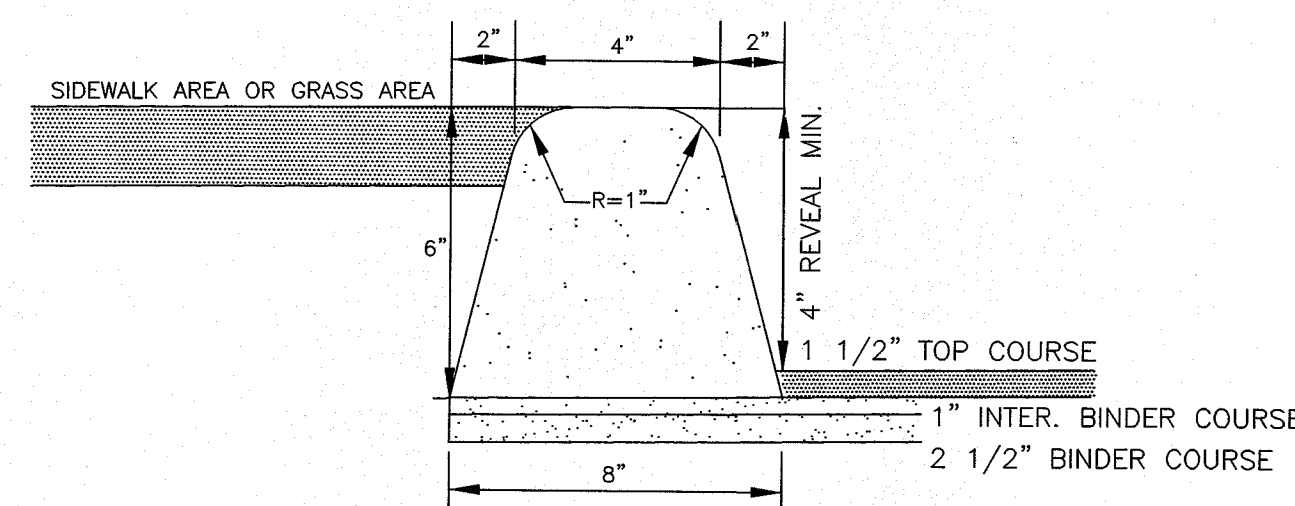
1. ALL UNSUITABLE SUBGRADE MATERIAL WITHIN ROADWAY AREA SHALL BE REMOVED.
2. PROCESSED GRAVEL BASES FOR PAVEMENT SHALL BE PLACED IN 6" LIFTS AND COMPACTED PER MASSDOT M1.03.1.b
3. REFER TO GENERAL NOTES SHEET FOR UTILITY SEPARATION REQUIREMENTS.
4. GRAVEL BASE COURSE SHALL BE PLACED IN TWO LIFTS, COMPACTED 8" OF TYPE "A", COMPACTED 4" OF TYPE "C".
5. LOAM & SEED ALL DISTURBED AREAS.
6. CATCH BASINS TO BE INSTALLED WITH RIM ELEVATION EQUAL TO BINDER COURSE ELEVATION. CATCH BASIN RIM ELEVATIONS TO BE RAISED PRIOR TO TOP COURSE APPLICATION.



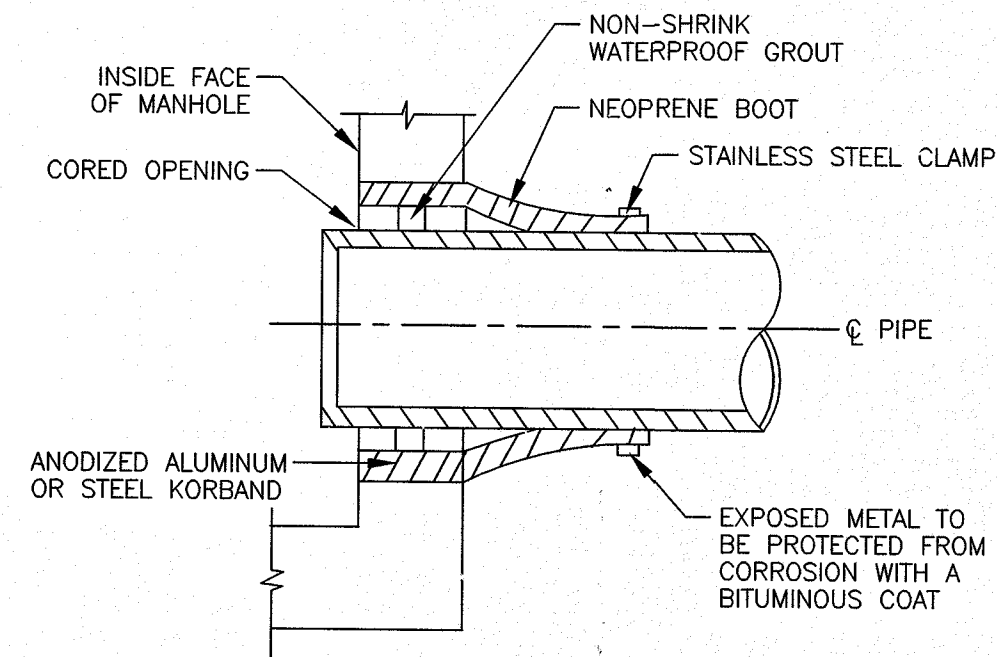
1 TYPICAL ROADWAY CROSS SECTION
SCALE: N.T.S.

APPROVED

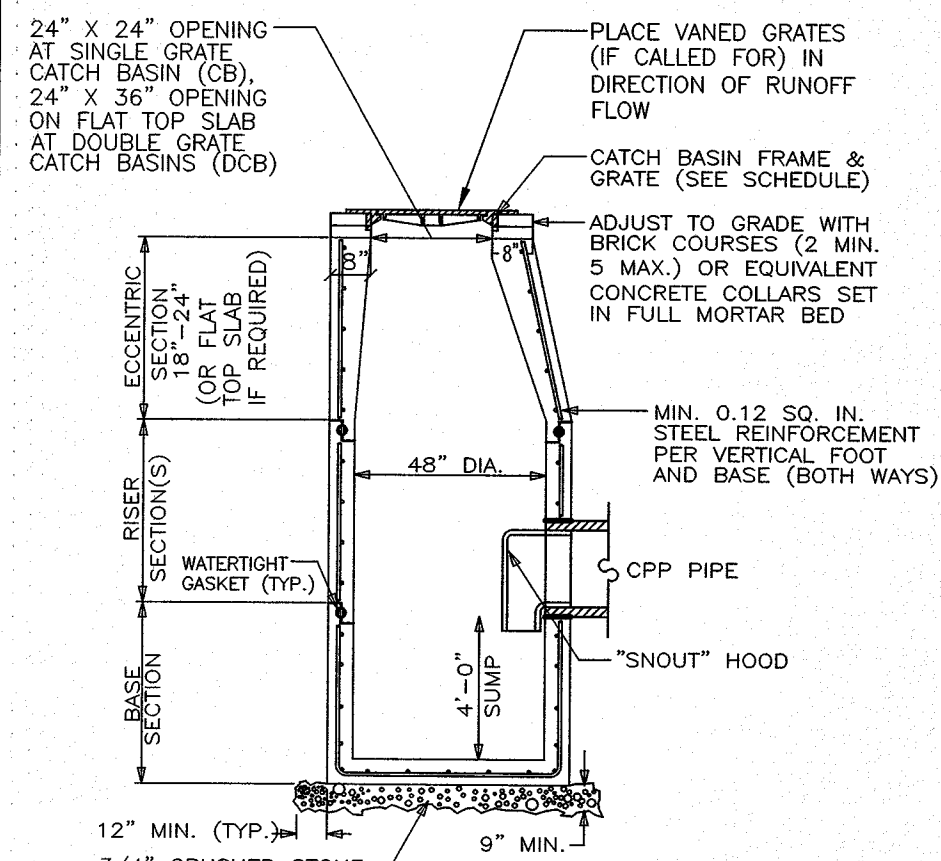
By Bellingham Planning Board at 10:12 am, Apr 12, 2018



2 VERTICAL FACE BITUMINOUS BERM
SCALE: N.T.S.



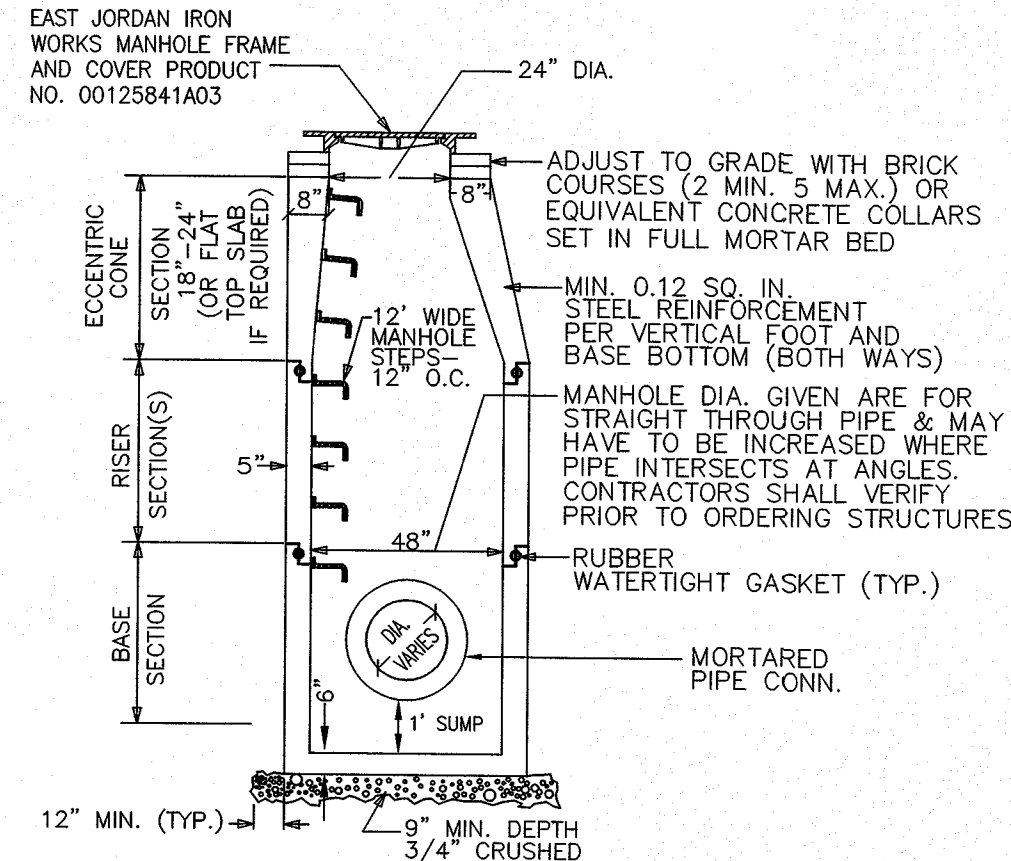
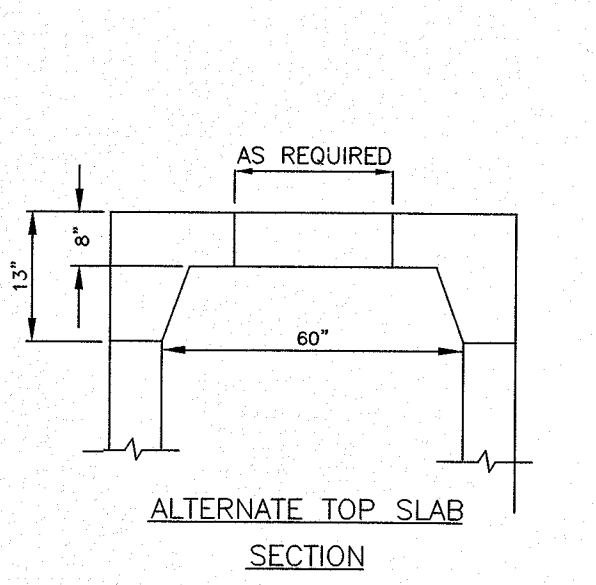
3 SEWER PIPE CONNECTION
SCALE: N.T.S.



4 PRECAST CONCRETE SINGLE GRATE (CB) CATCH BASIN & DOUBLE GRATE (DCB) DEEP SUMP CATCH BASIN
SCALE: N.T.S.

NOTES:

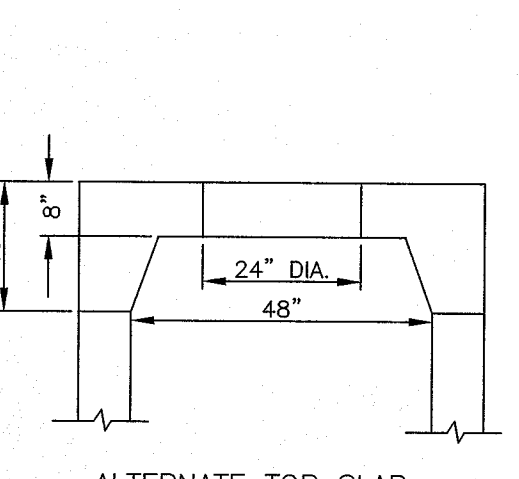
1. USE 4-FLANGE LEBARON LF248-2 GRATES AT ALL CB STRUCTURES.
2. SUBMIT SHOP DRAWINGS FOR APPROVAL.
3. REINFORCED STEEL CONFORMS TO LATEST A185 SPEC. 0.12 SQ. IN./LINEAL FT. (0.15 SQ. IN. FOR 60" DIA) AND BASE BOTTOM.
4. CONCRETE COMPRESSIVE STRENGTH 4000 PSI MIN.
5. JOINT SEALANT SHALL BE SYNTHETIC RUBBER GASKET THAT COMPLIES W/ C-443 OR C-361.
6. DOUBLE CATCH BASIN HOOD SHALL BE "EAST JORDAN IRON WORKS MODEL #53571 HOOD", OR APPROVED EQUAL PER DPW.



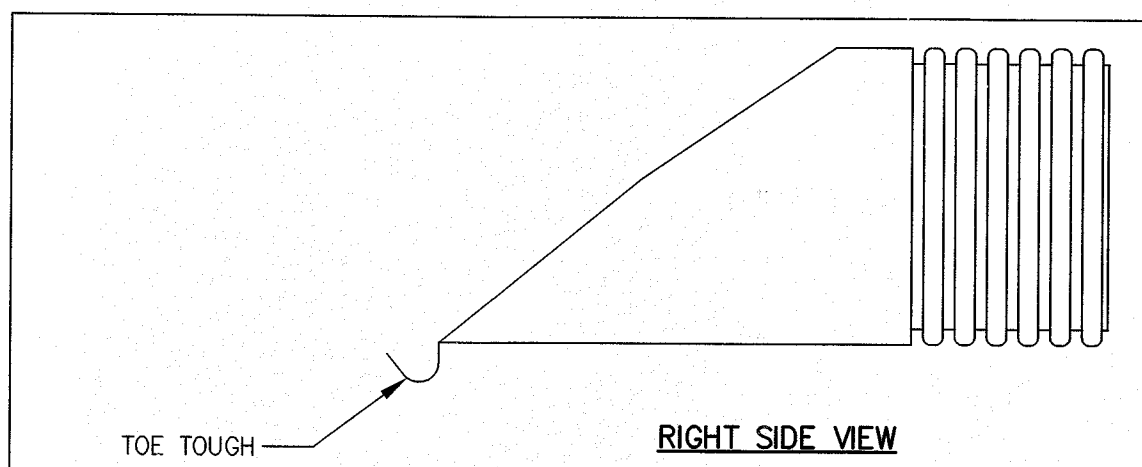
5 TYPICAL PRECAST CONCRETE 48" DIAMETER DRAIN MANHOLE (DMH) FOR PIPE DIAMETERS 24" OR LESS
SCALE: N.T.S.

NOTES:

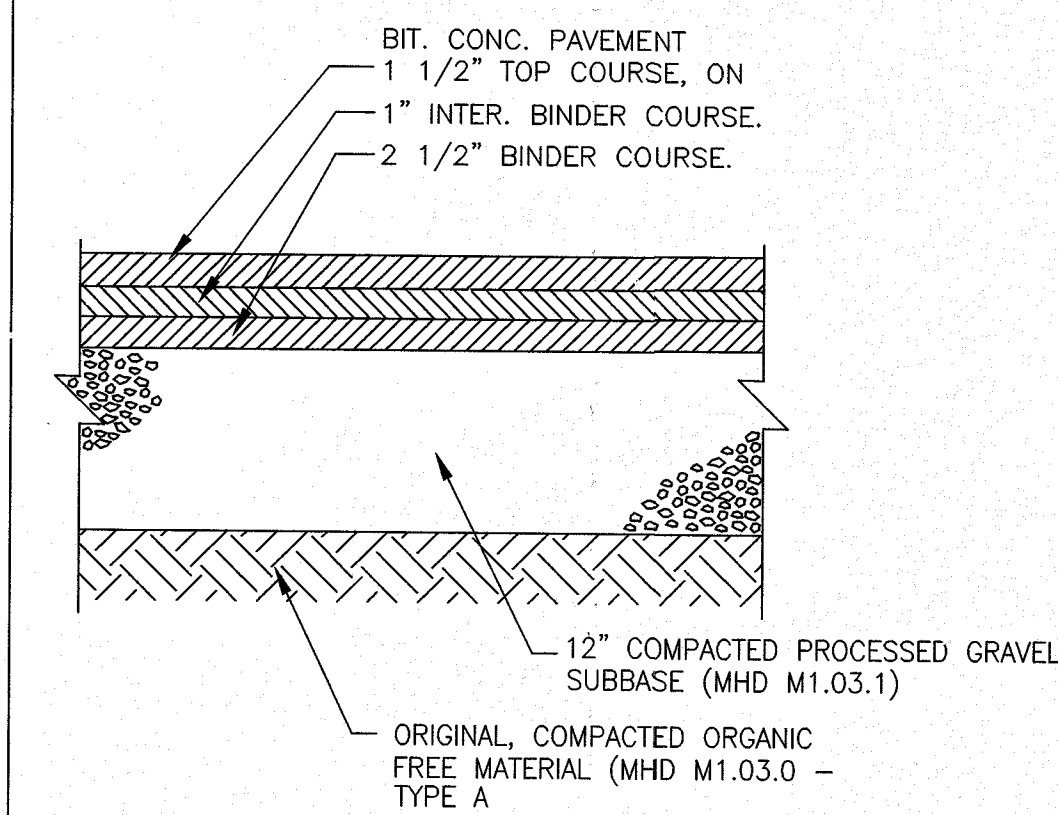
1. REINFORCED STEEL CONFORMS TO LATEST A185 SPEC. 0.12 SQ. IN./LINEAL FT. (0.15 SQ. IN. FOR 60" DIA) AND BASE BOTTOM.
2. CONCRETE COMPRESSIVE STRENGTH 4000 PSI MIN.
3. MANHOLE DESIGN CONFORMS TO LATEST ASTM C478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
4. JOINT SEALANT SHALL BE SYNTHETIC RUBBER GASKET THAT COMPLIES W/ C-443 OR C-361. 5. BASE SECTION SHALL BE ONE FOUR MONOLITHIC.



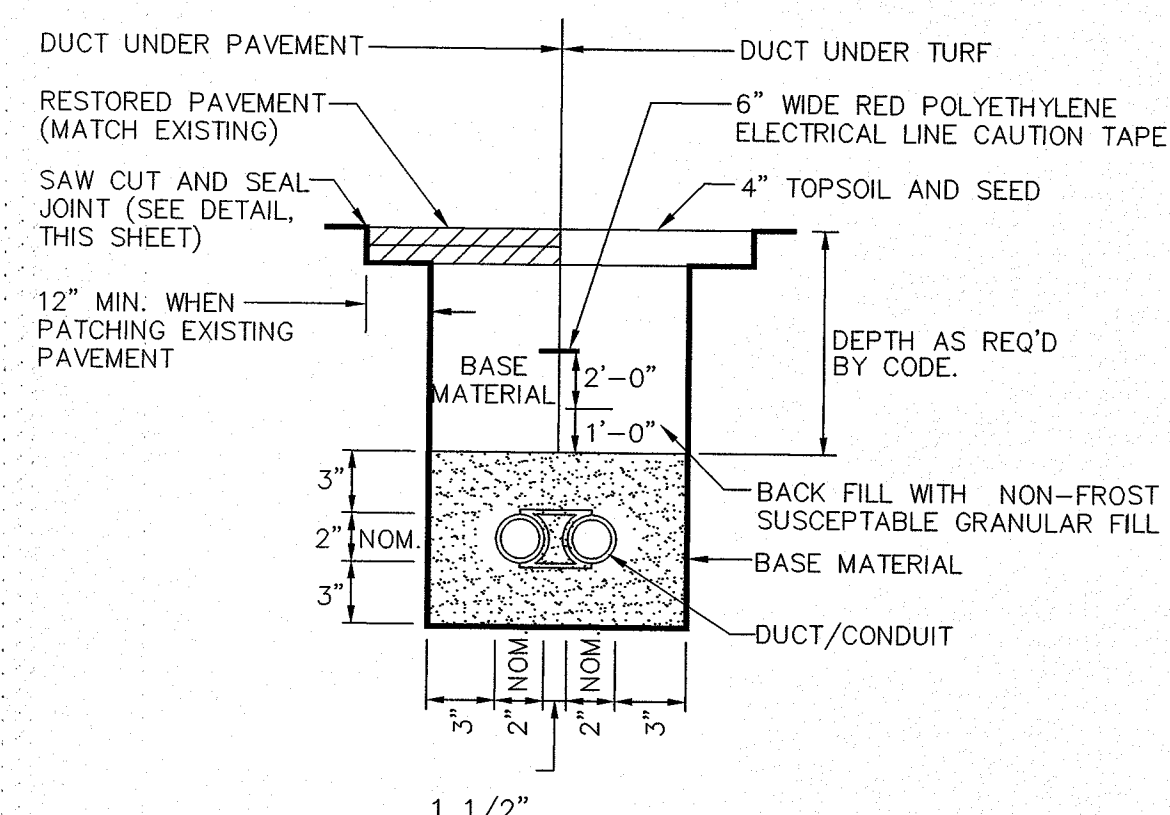
6 LOAM & SEED DETAIL
SCALE: N.T.S.



7 CORRUGATED POLYETHYLENE FLARED-END SECTION (FES)
SCALE: N.T.S.



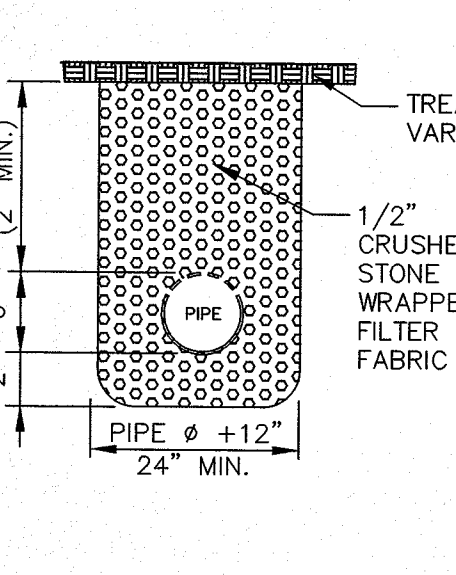
8 BITUMINOUS CONCRETE PAVEMENT DETAIL
SCALE: N.T.S.



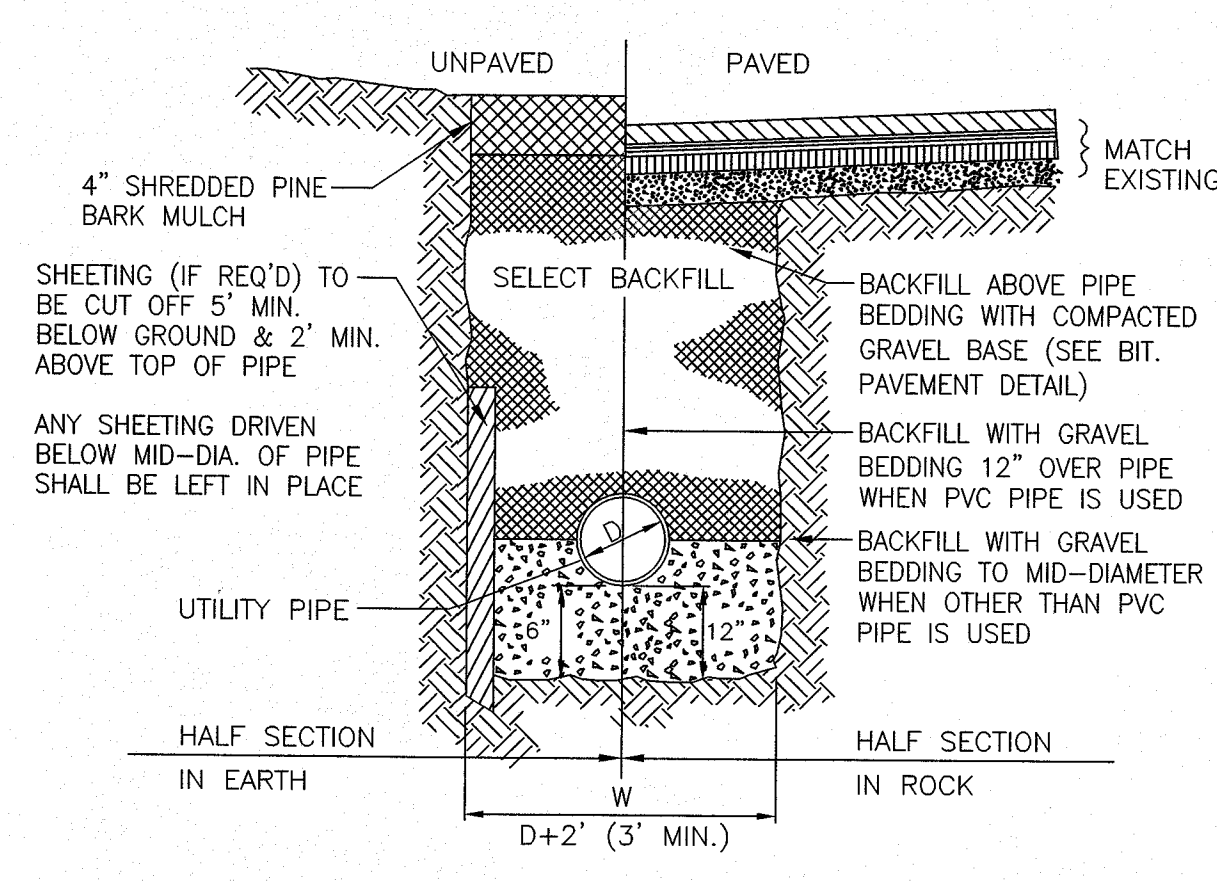
9 UNENCASED DUCT/CONDUIT DETAIL
SCALE: N.T.S.

NOTES:

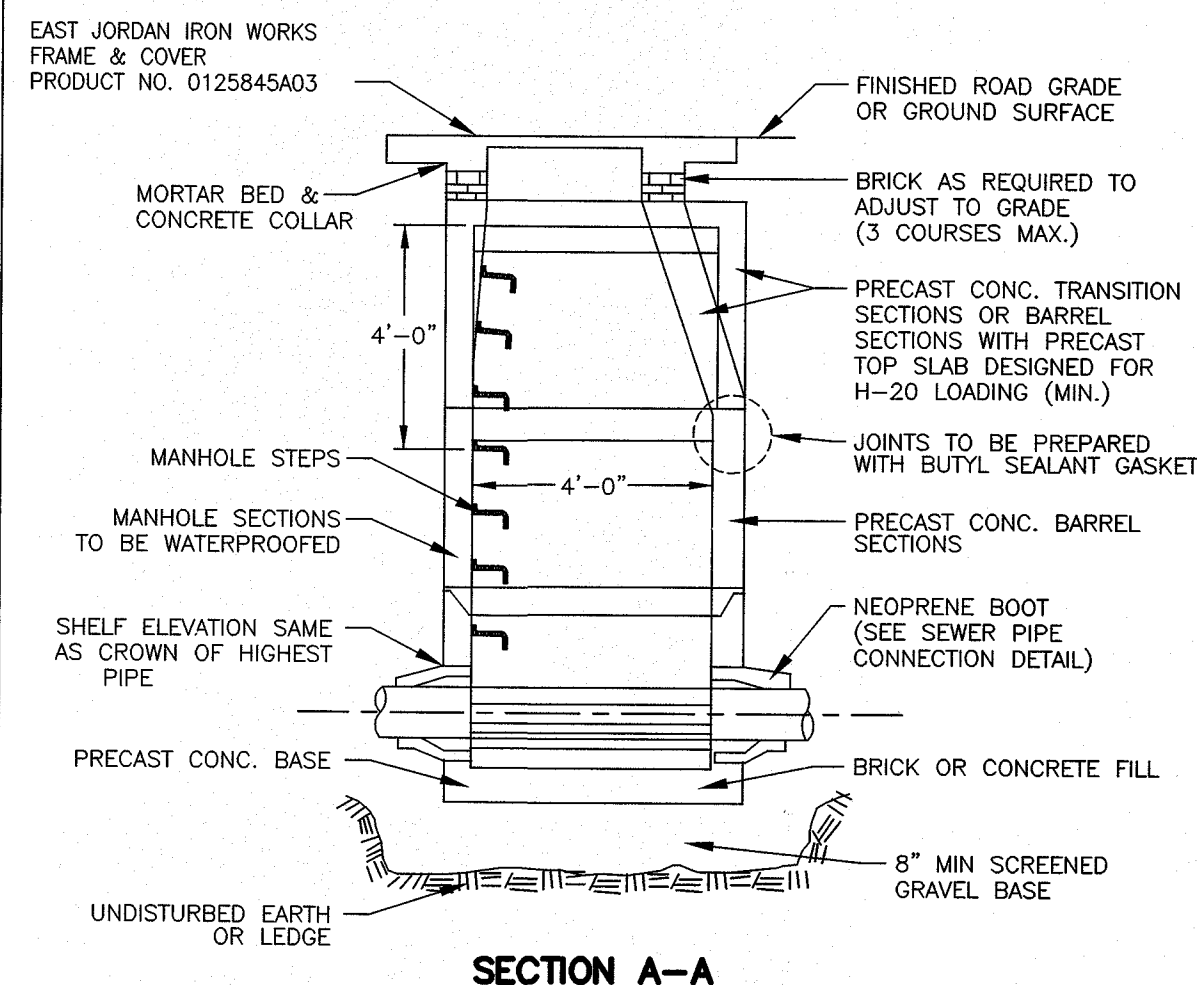
1. SUB-DRAINS ARE REQUIRED WHERE CUTS EXCEED 4', WHERE GROUNDWATER IS LESS THAN 3' BELOW GRADE, OR WHERE SPECIFIED BY ENGINEER.
2. SUBDRAINS SHALL DISCHARGE TO THE NEAREST DOWNSTREAM CATCH BASIN.



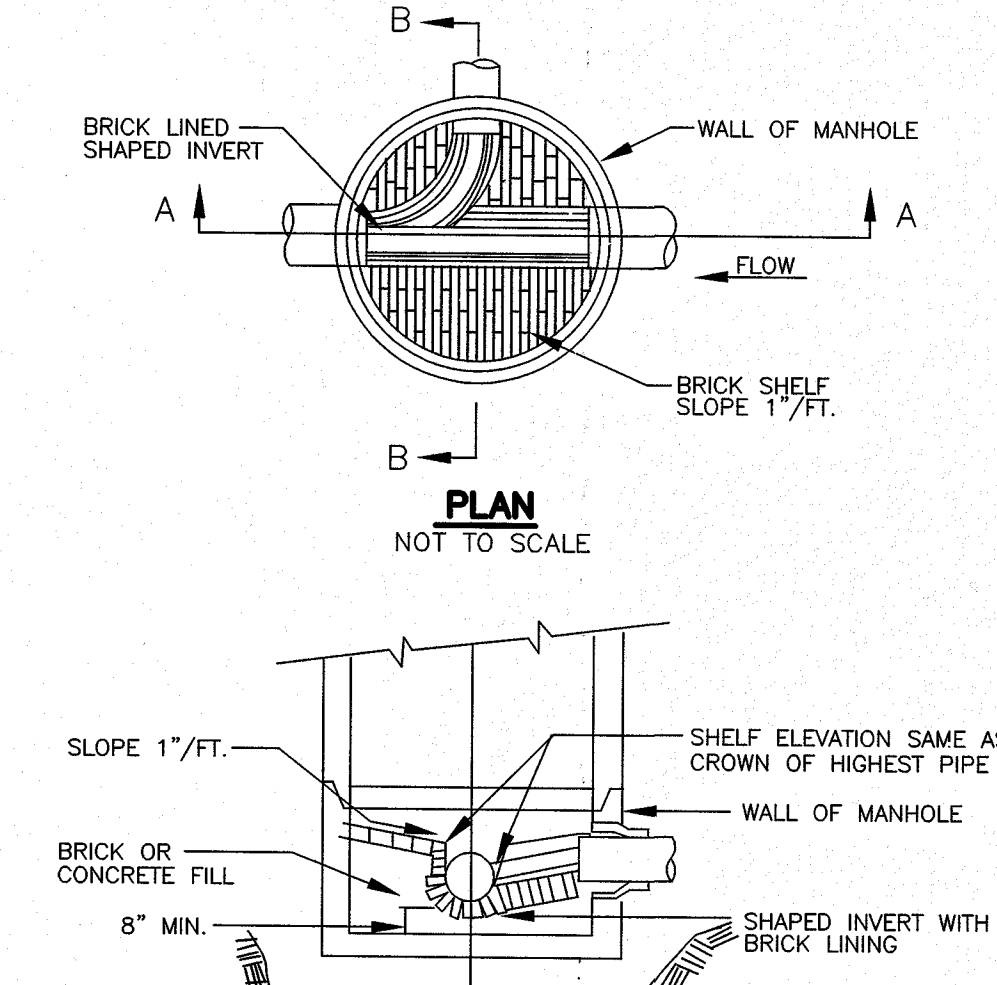
10 TYPICAL SUB-DRAIN
SCALE: N.T.S.



11 TYPICAL UTILITY TRENCH DETAIL
SCALE: N.T.S.



12 TYPICAL PRECAST CONCRETE 48" DIAMETER SEWER MANHOLE (SMH)
SCALE: N.T.S.



ASE

Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning

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500 East Washington Street
North Attleboro, Massachusetts 02760
P: 508-316-0452 F: 508-316-0963

APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD

BEING A MAJORITY DATE:

THIS CERTIFIES THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE BELLINGHAM PLANNING BOARD HAS BEEN RECEIVED AND RECORDED ON AT
AND NO APPEAL WAS RECEIVED DURING THE 20 DAYS NEXT AFTER SUCH RECEIPT OF SAID NOTICE.

BELLINGHAM TOWN CLERK DATE:

"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

PROJECT: OWNER/APPLICANT:

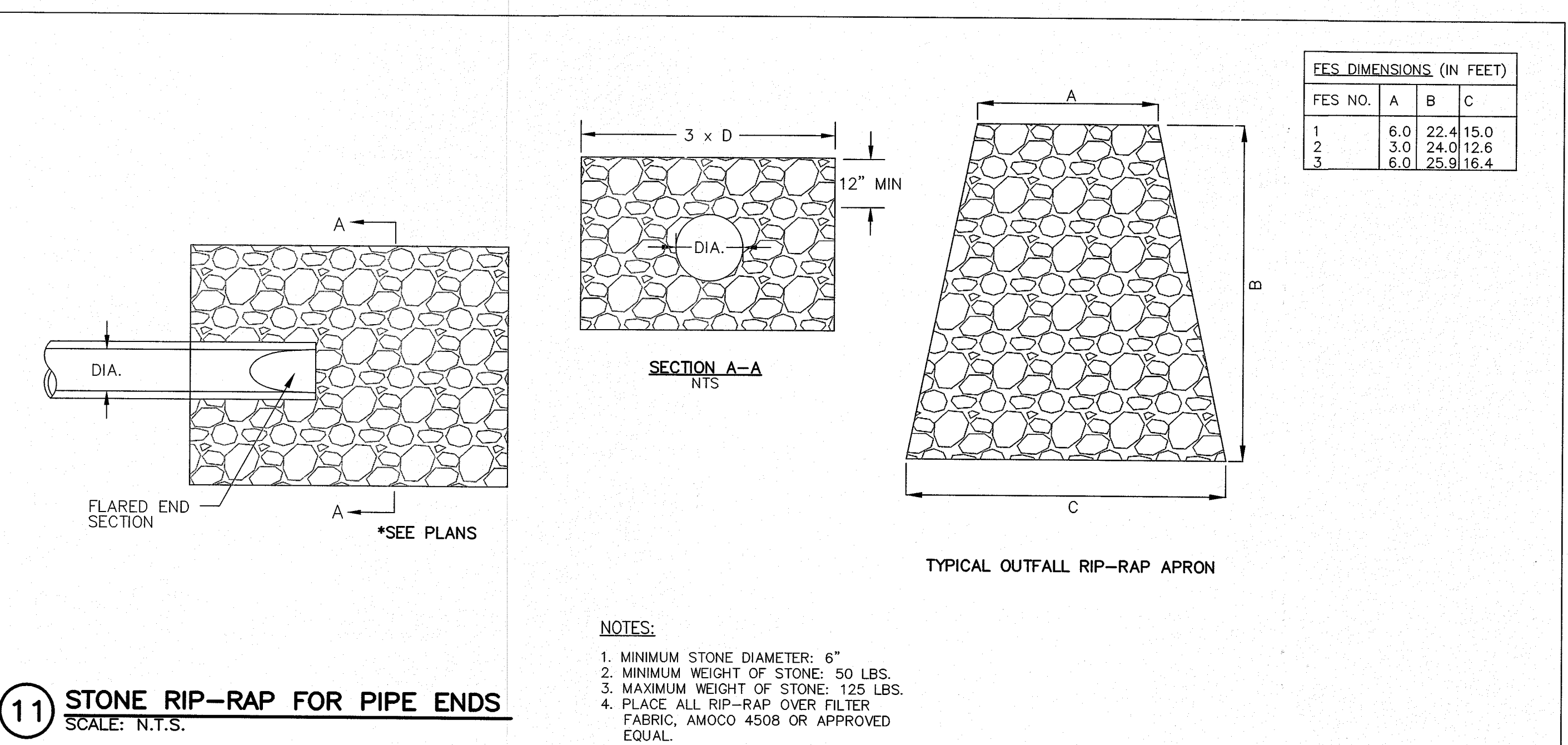
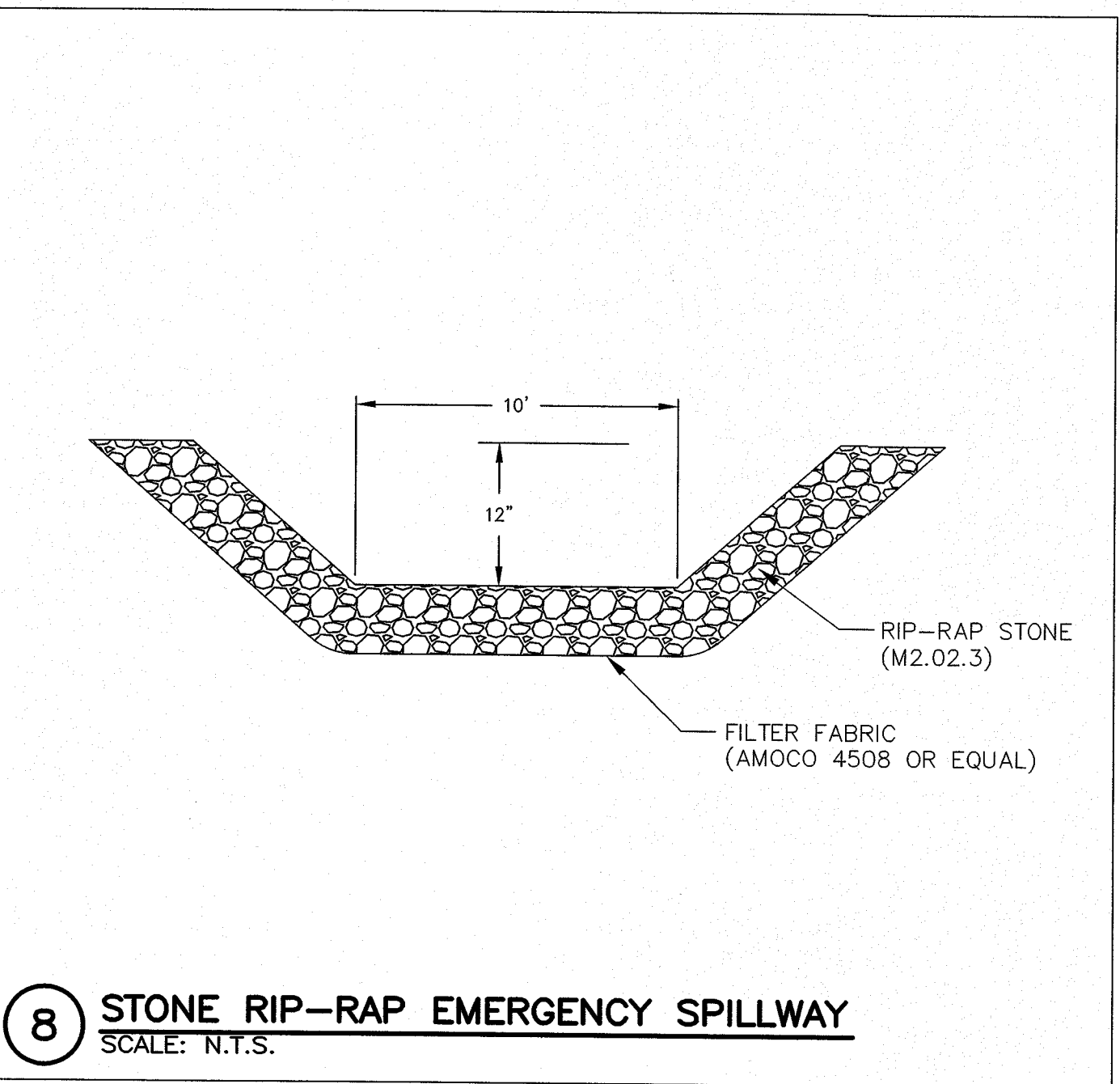
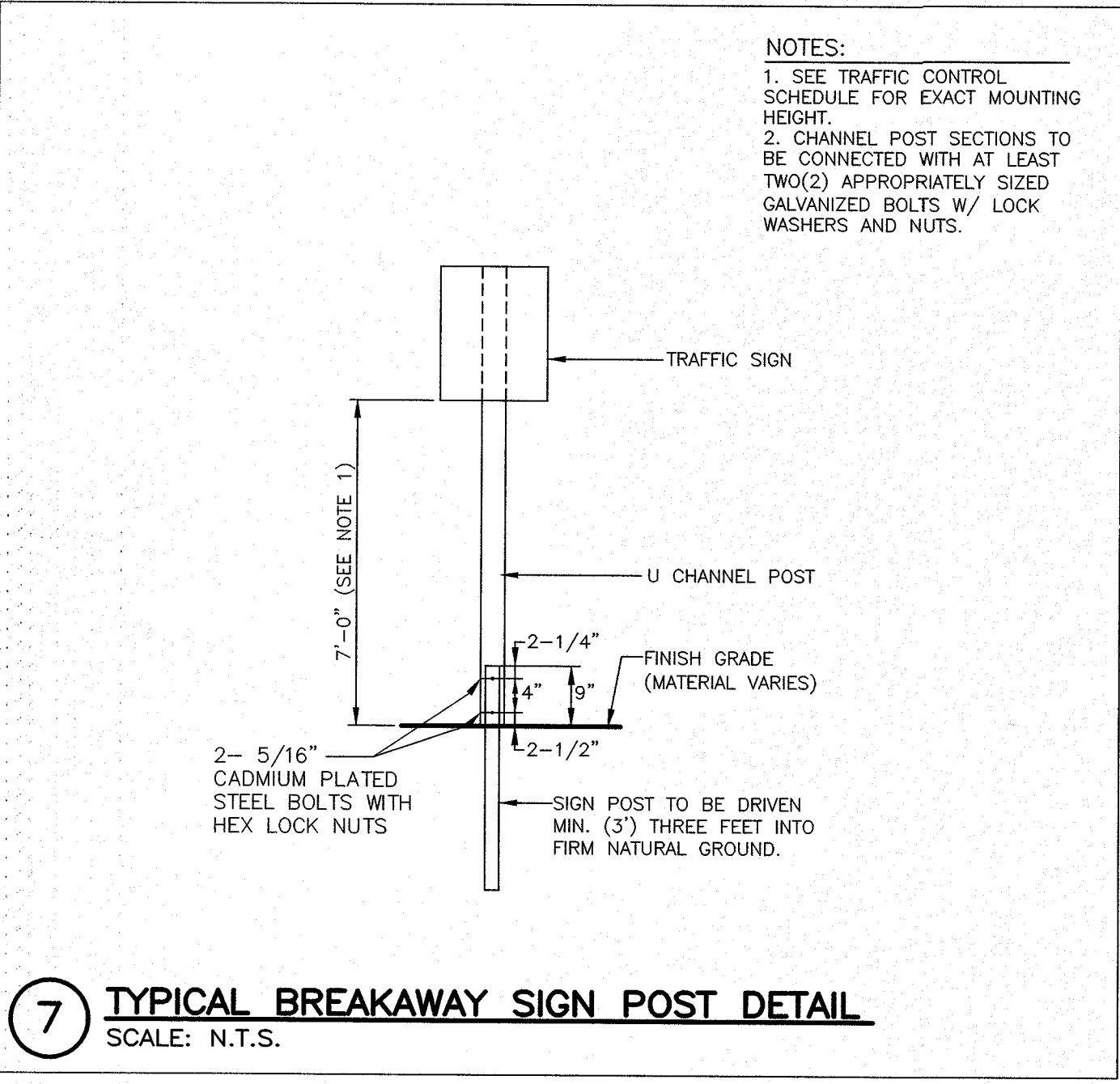
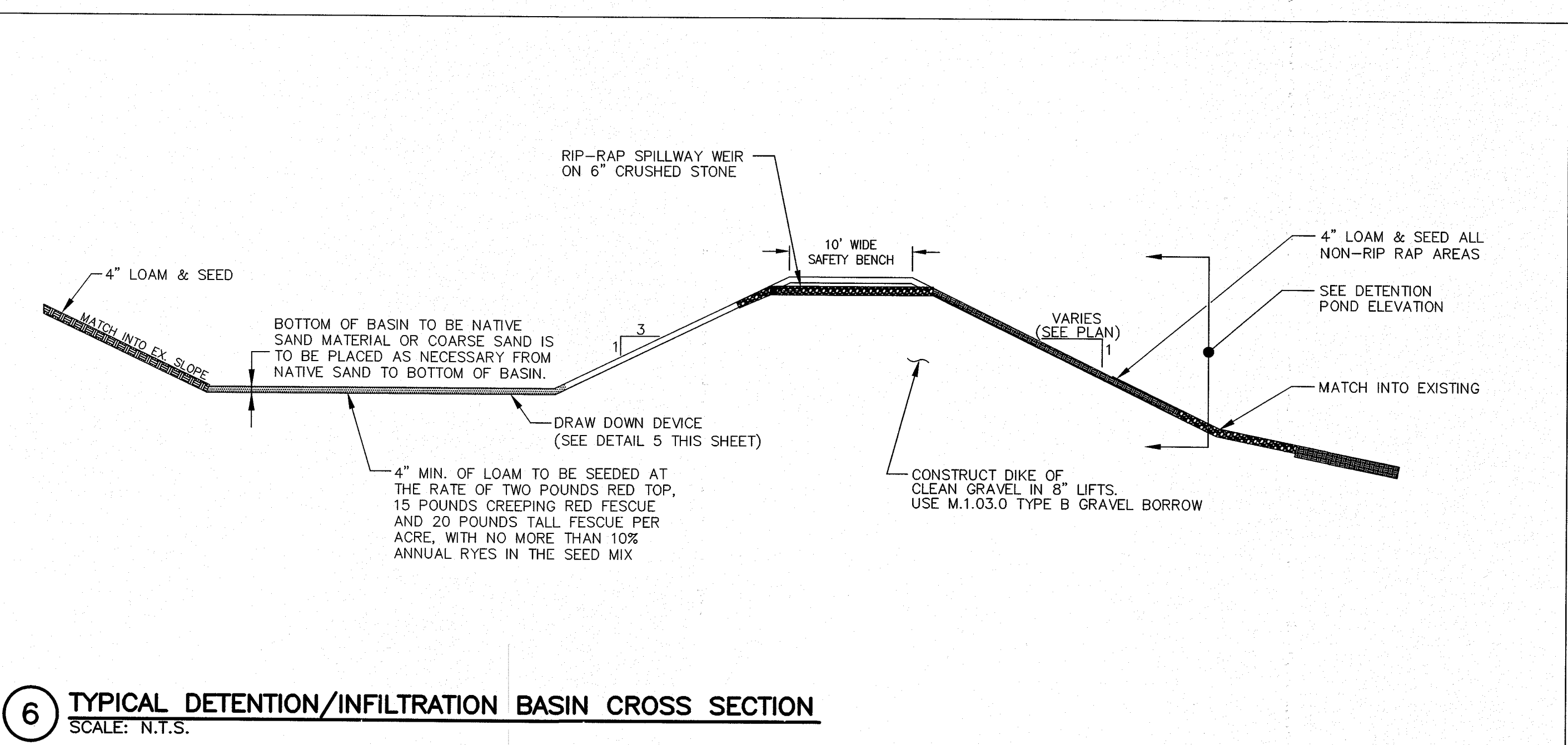
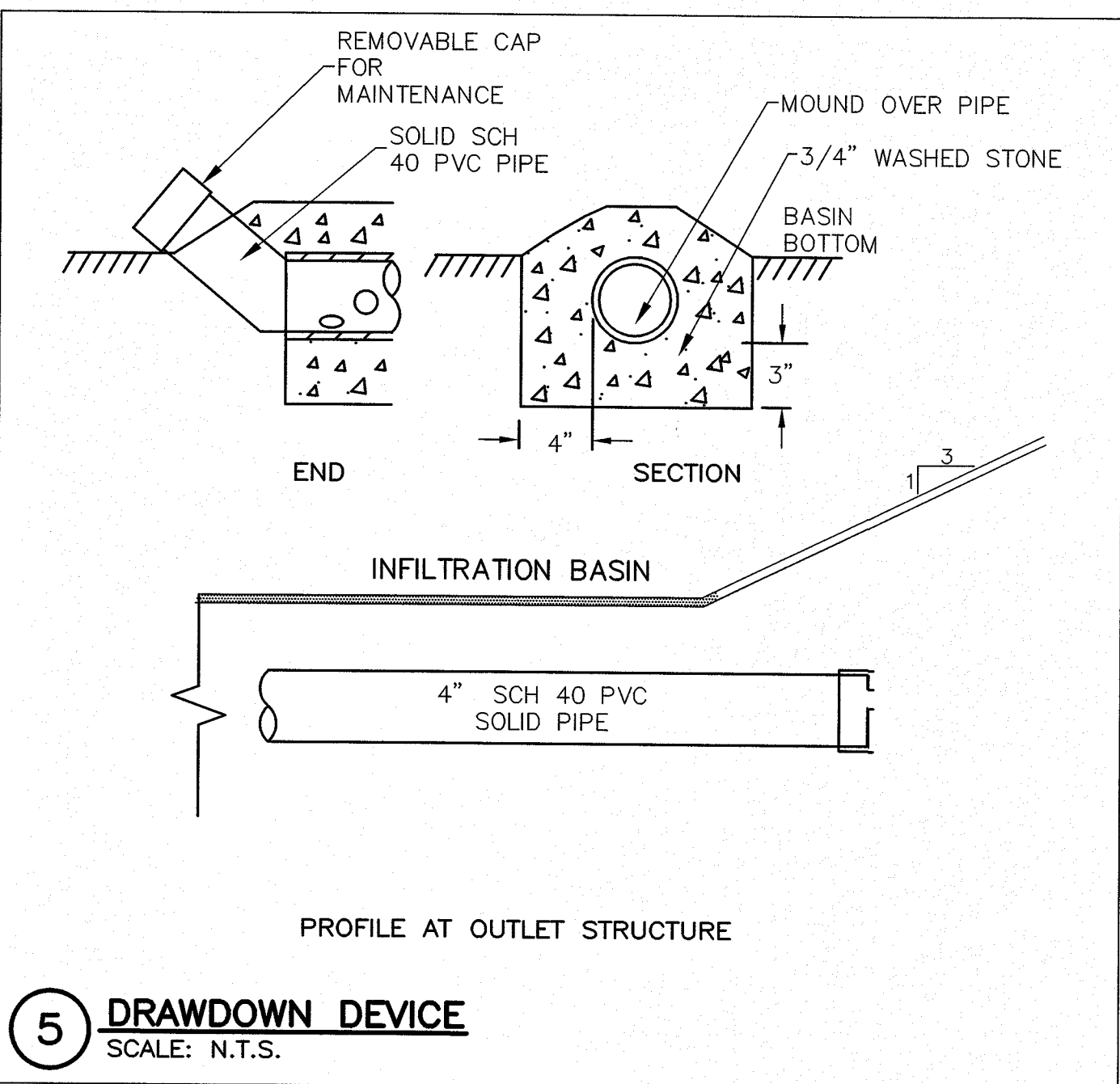
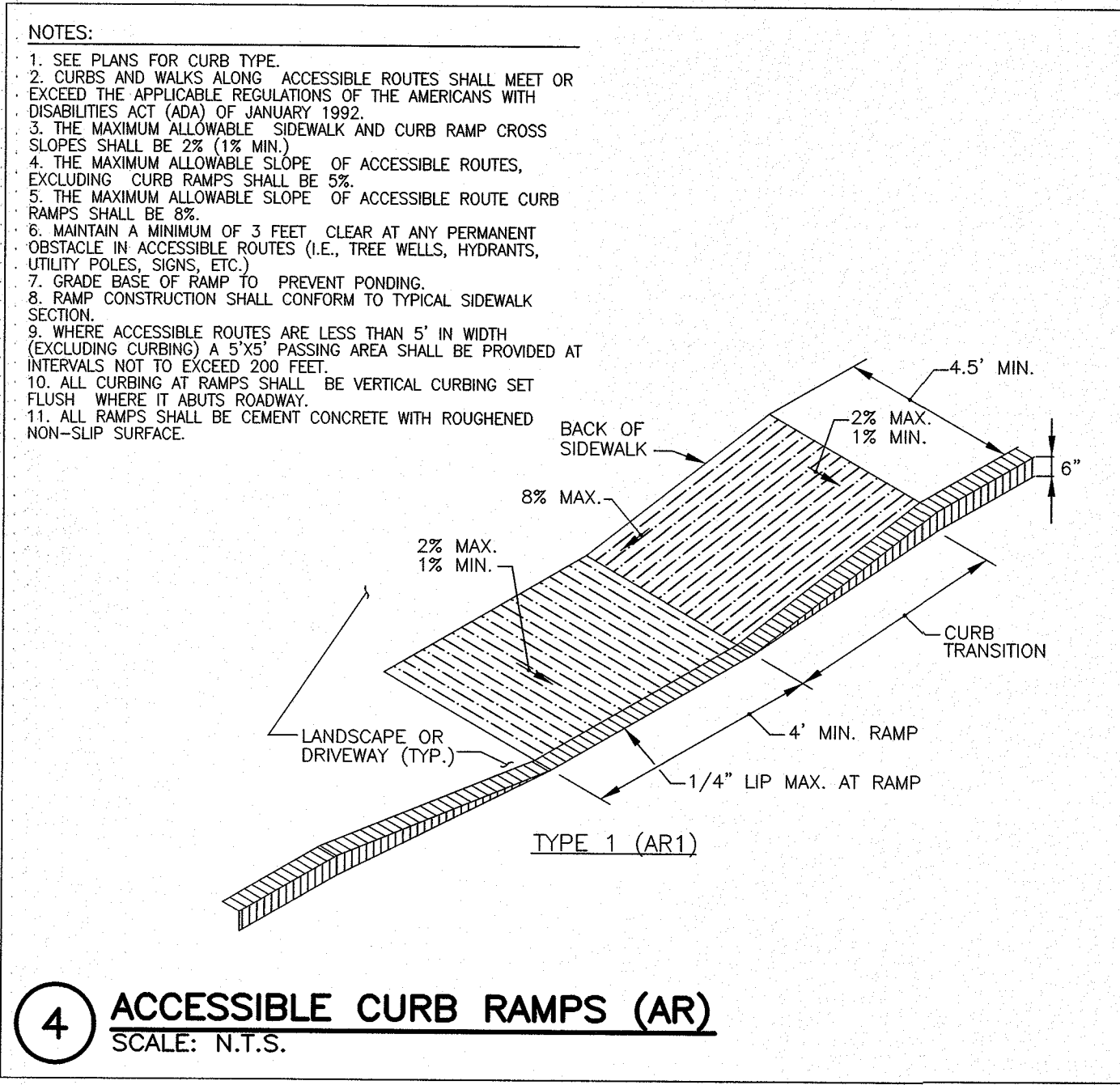
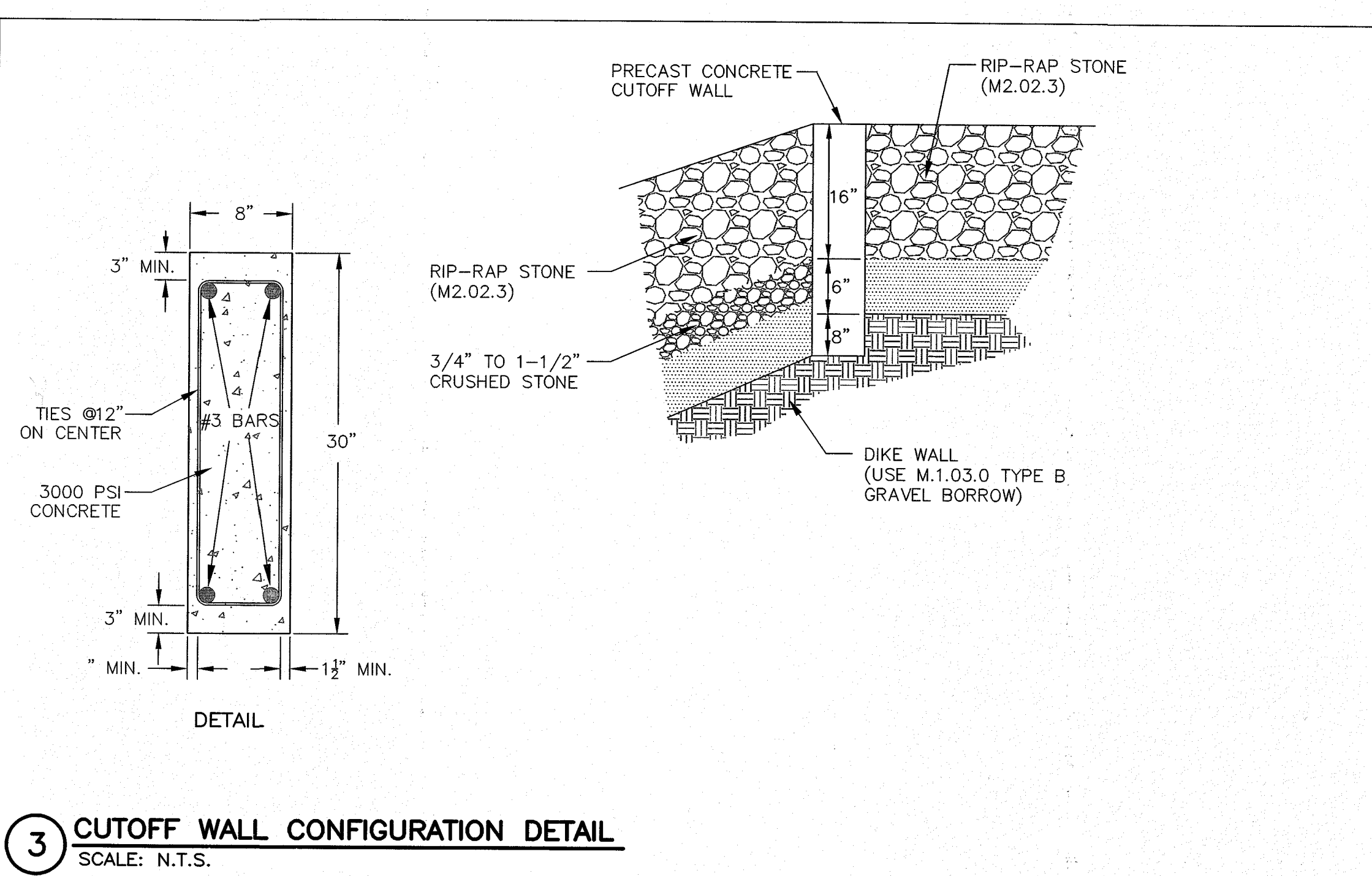
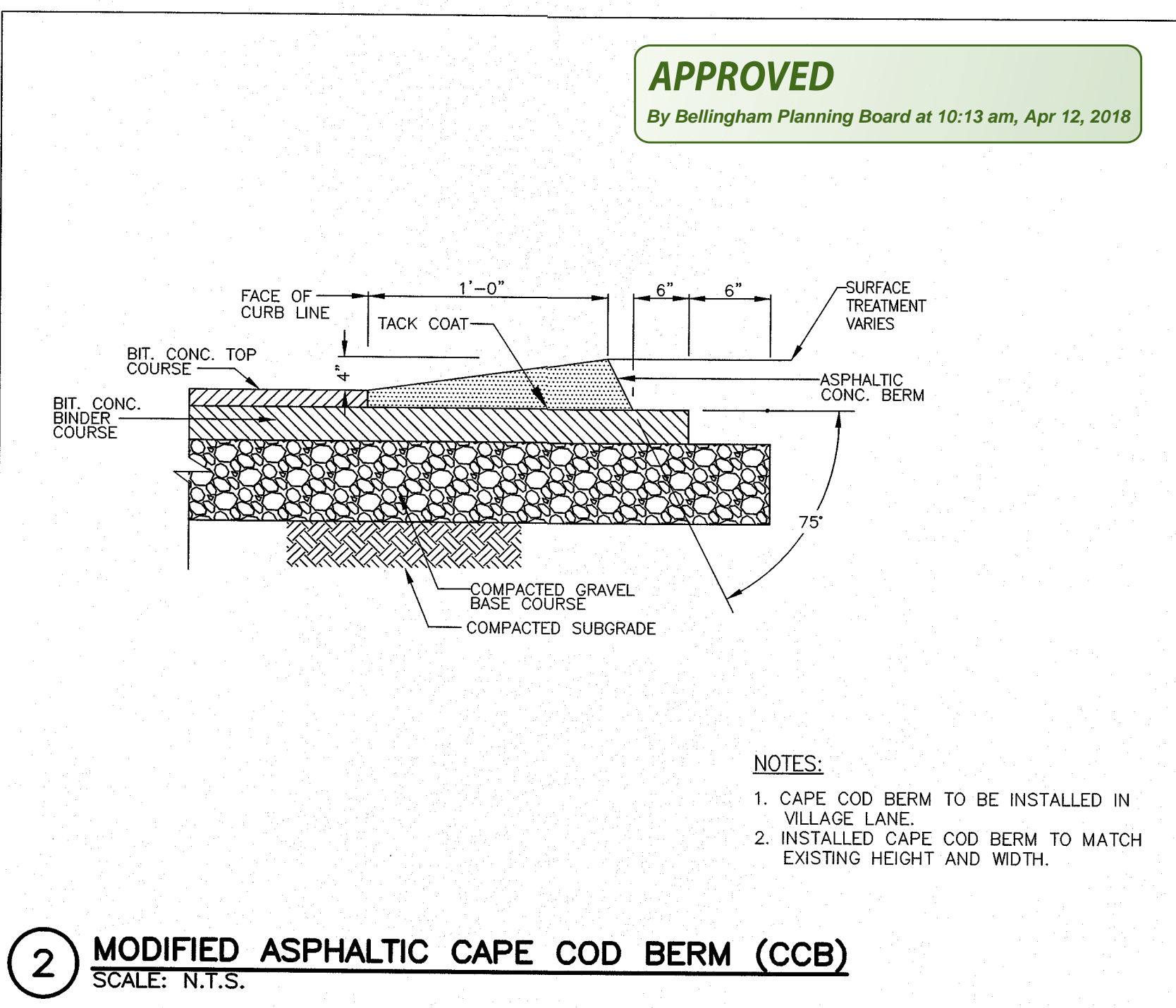
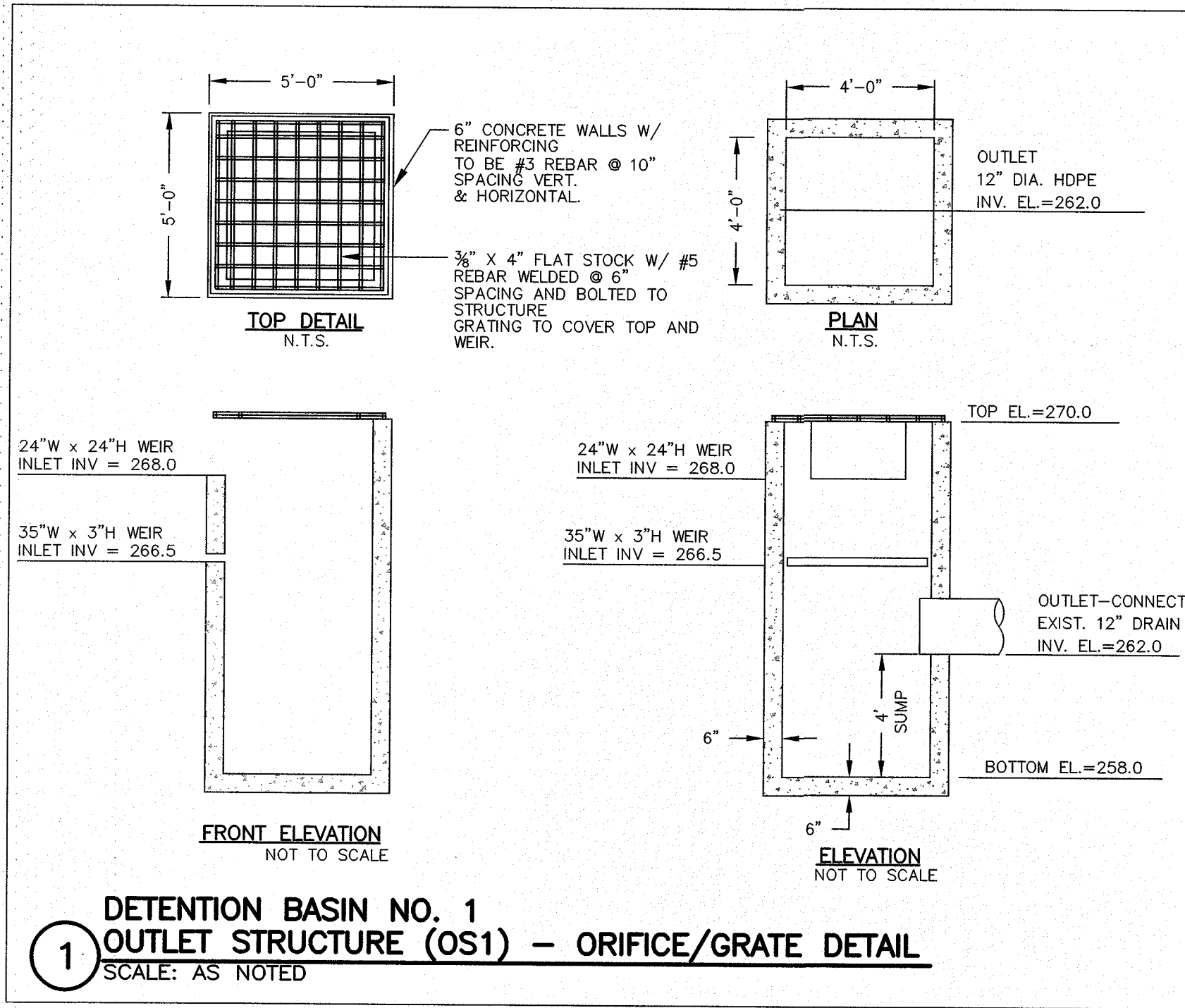
REVISIONS		
NO.	DATE	DESCRIPTION
1	8/24/16	REVISE ROAD & BUILDING LAYOUT
2	11/10/16	REVISE ROAD & BUILDING LAYOUT
3	2/14/17	REVISE ROAD & BUILDING LAYOUT
4	7/5/17	NO CHANGE THIS SHEET

DRAWN BY	WMB
CHECKED BY	PBH, SJO
DATE	APRIL 4, 2016
PROJECT NO.	2014-260

GRAPHIC SCALE	
SHEET TITLE	

CONSTRUCTION DETAILS	
DRAWING NO.	

C8	
PLAN NO. - L-4427	



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North Attleboro, Massachusetts 02760
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APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD

BEING A MAJORITY DATE:

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BELLINGHAM TOWN CLERK DATE

PROJECT: "HARTFORD VILLAGE II" MULTI-FAMILY DEVELOPMENT BELLINGHAM, MA 02019

OWNER/APPLICANT: K & S REALTY TRUST ONE STALLBROOK ROAD MILFORD MA, 01757

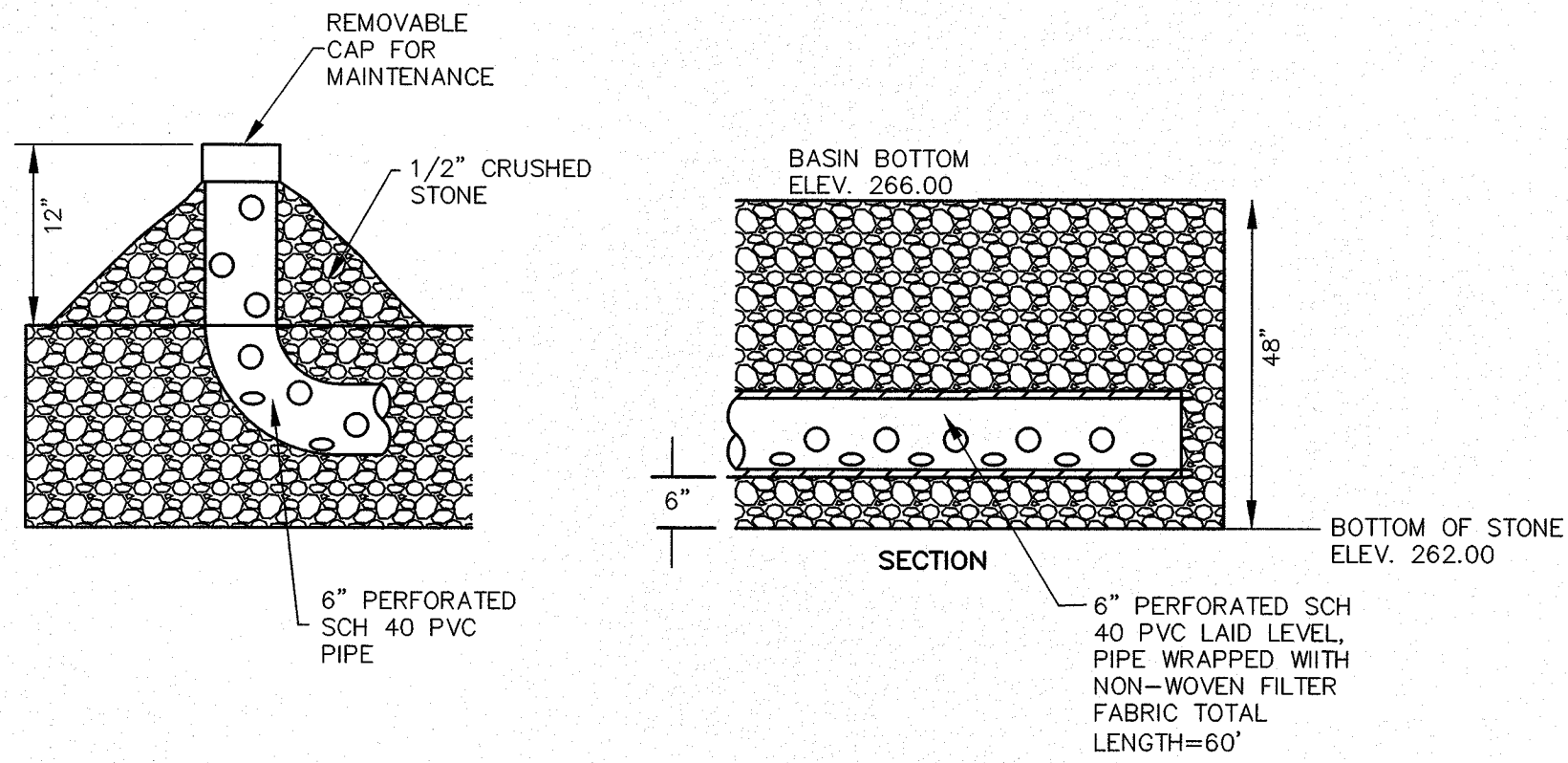
REVISIONS		
NO.	DATE	DESCRIPTION
1.	8/24/16	REVISE ROAD & BUILDING LAYOUT
2.	11/10/16	REVISE ROAD & BUILDING LAYOUT
3.	2/14/17	REVISE ROAD & BUILDING LAYOUT
4.	7/5/17	NO CHANGE THIS SHEET

DRAWN BY: WMB
CHECKED BY: PBH, SJO
DATE: APRIL 4, 2016
PROJECT NO.: 2014-260

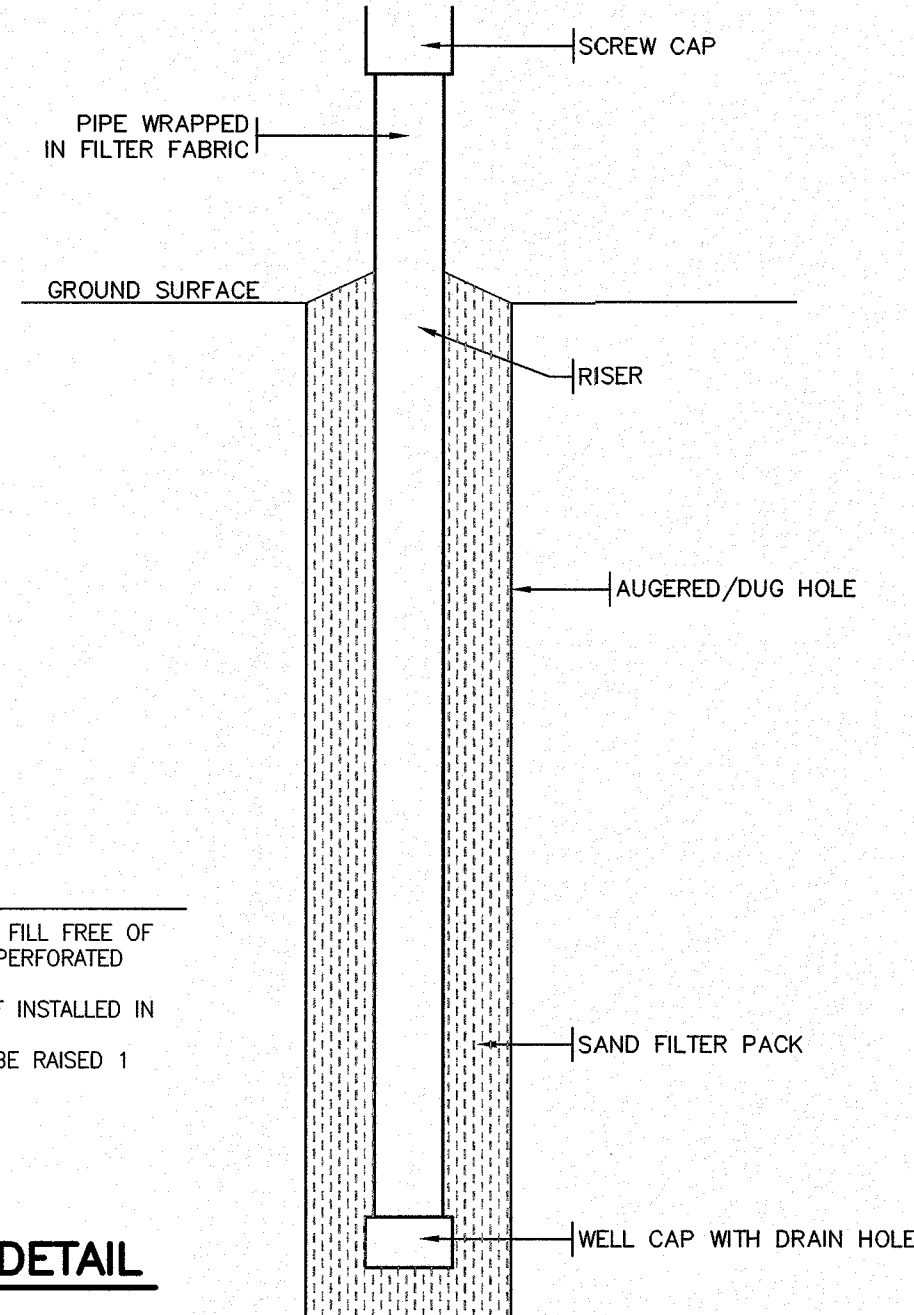
GRAPHIC SCALE

SHEET TITLE: CONSTRUCTION DETAILS

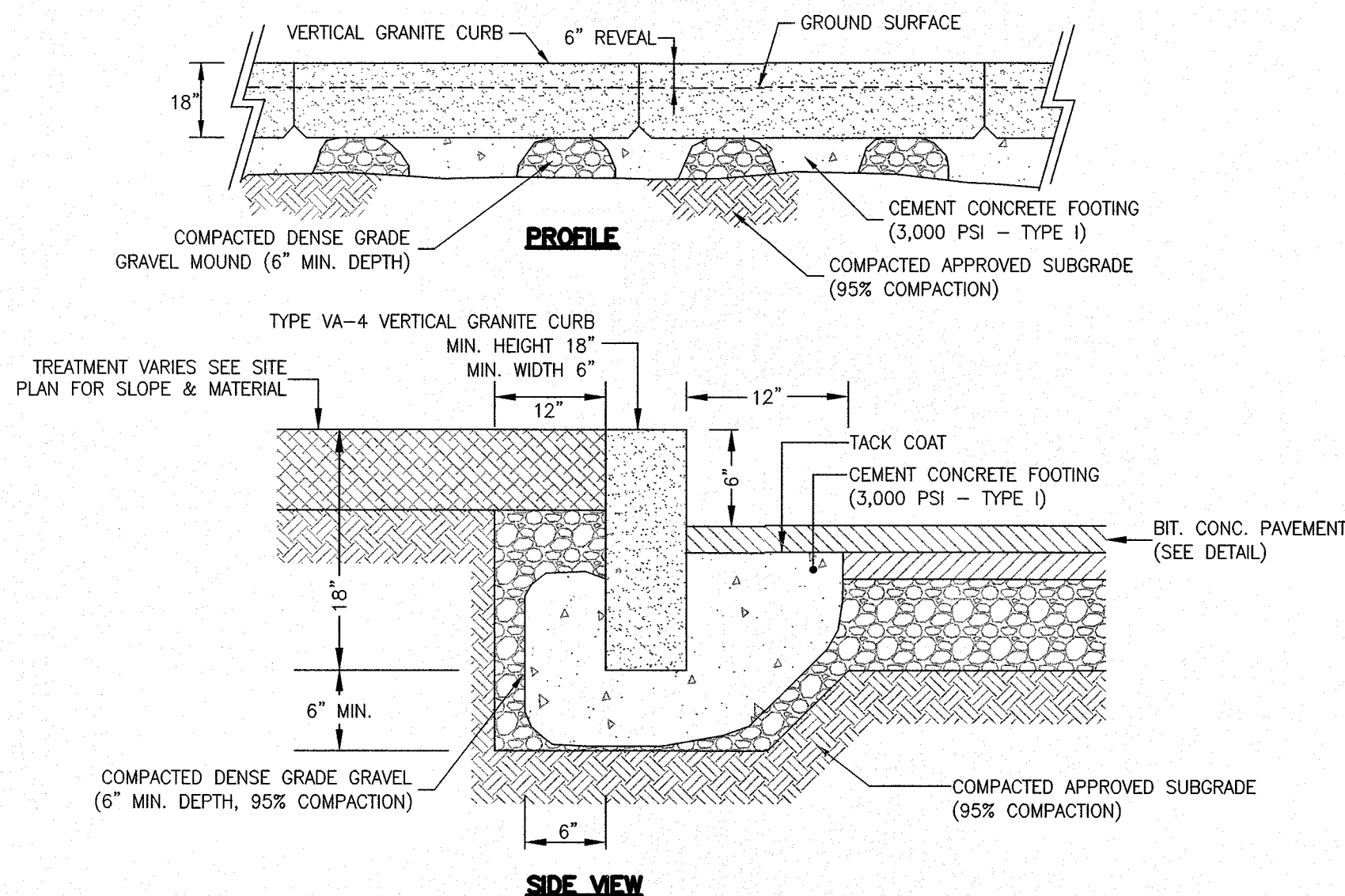
DRAWING NO.: C8.1
PLAN NO.: L-4427



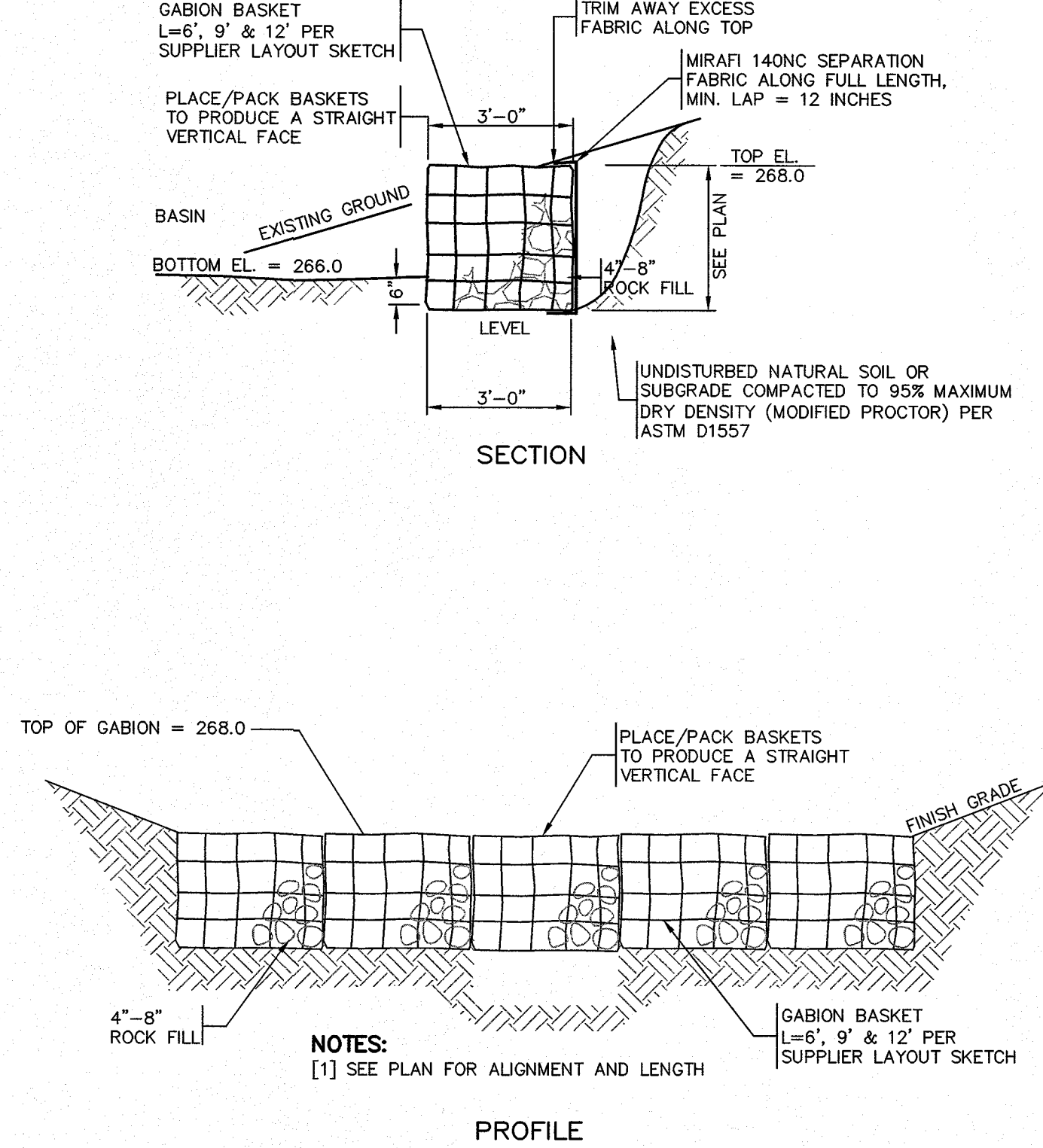
1 INFILTRATION TRENCH
SCALE: N.T.S.



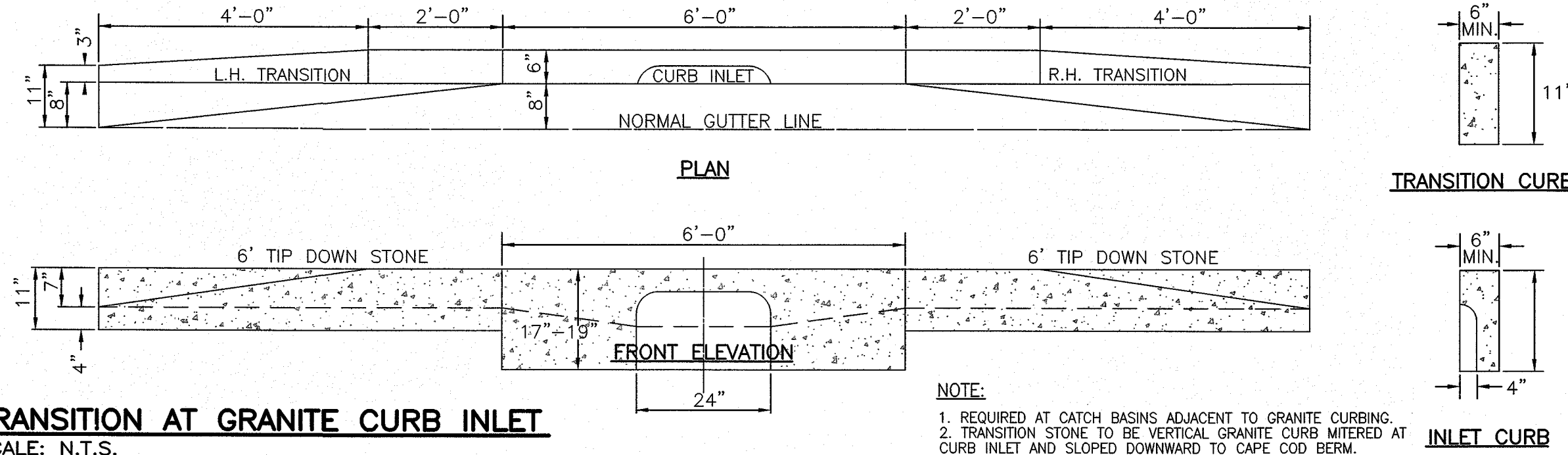
2 MONITORING WELL DETAIL
SCALE: N.T.S.



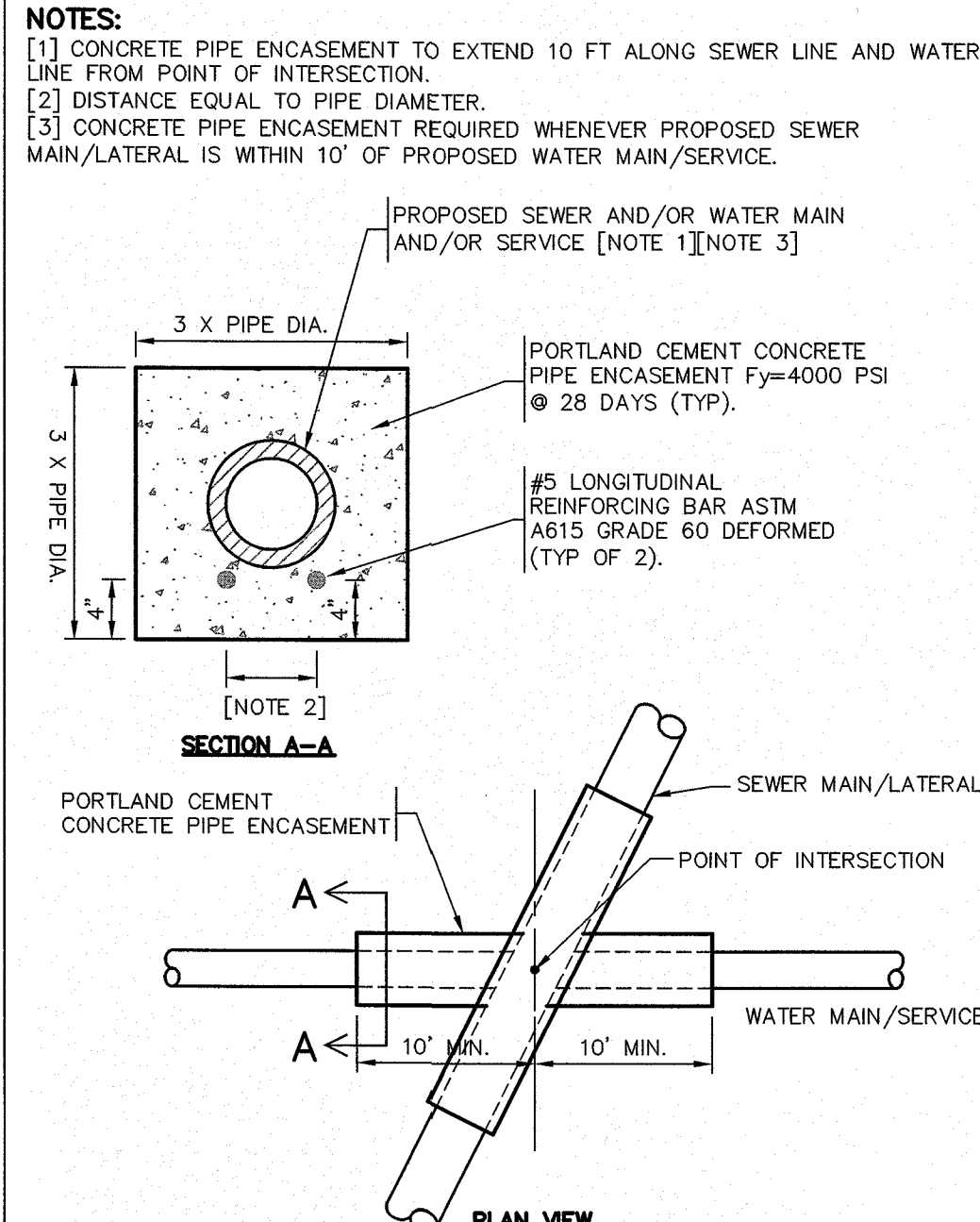
3 VERTICAL GRANITE CURB (VGC)
SCALE: N.T.S.



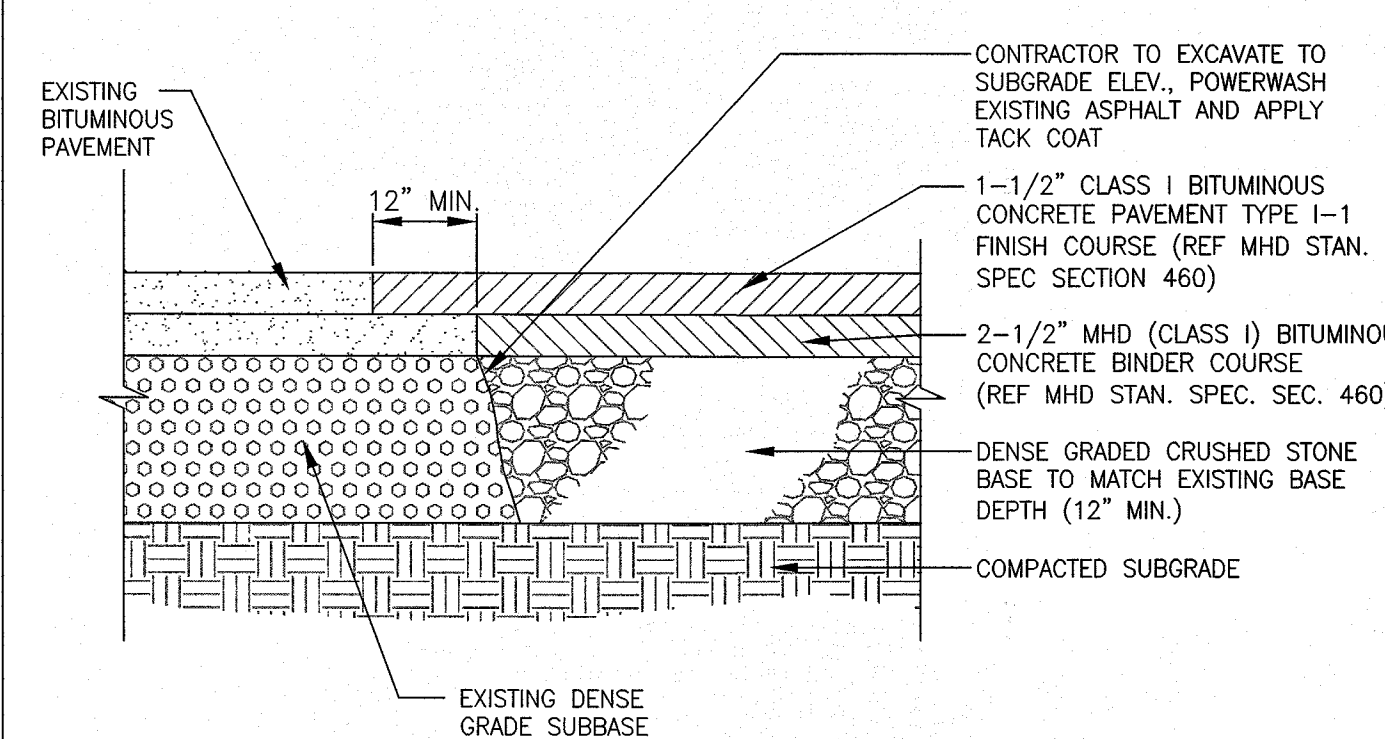
4 GABION WALL FOR SEDIMENT FOREBAY & INFILTRATION BASIN DETAIL
SCALE: N.T.S.



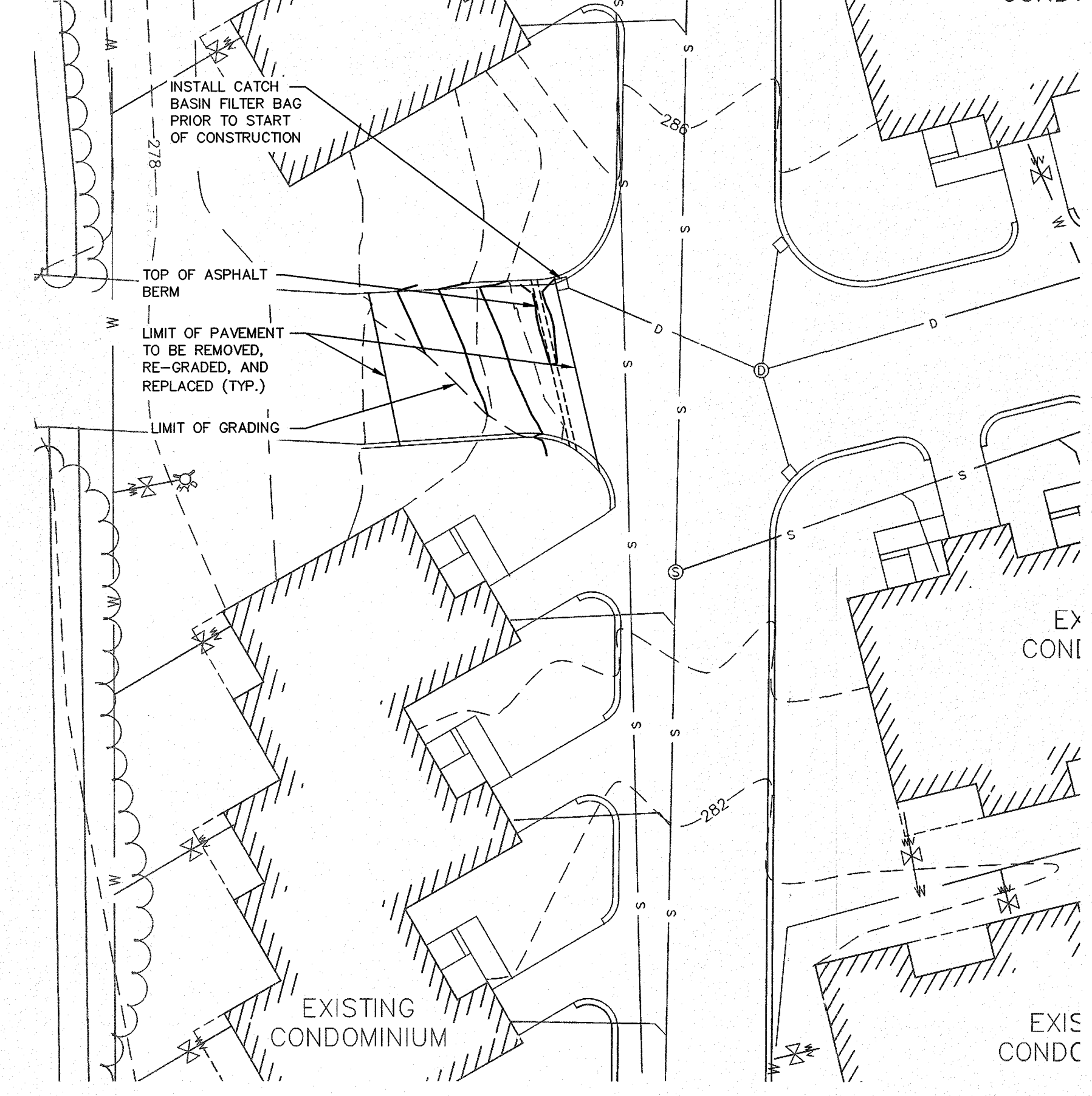
5 TRANSITION AT GRANITE CURB INLET
SCALE: N.T.S.



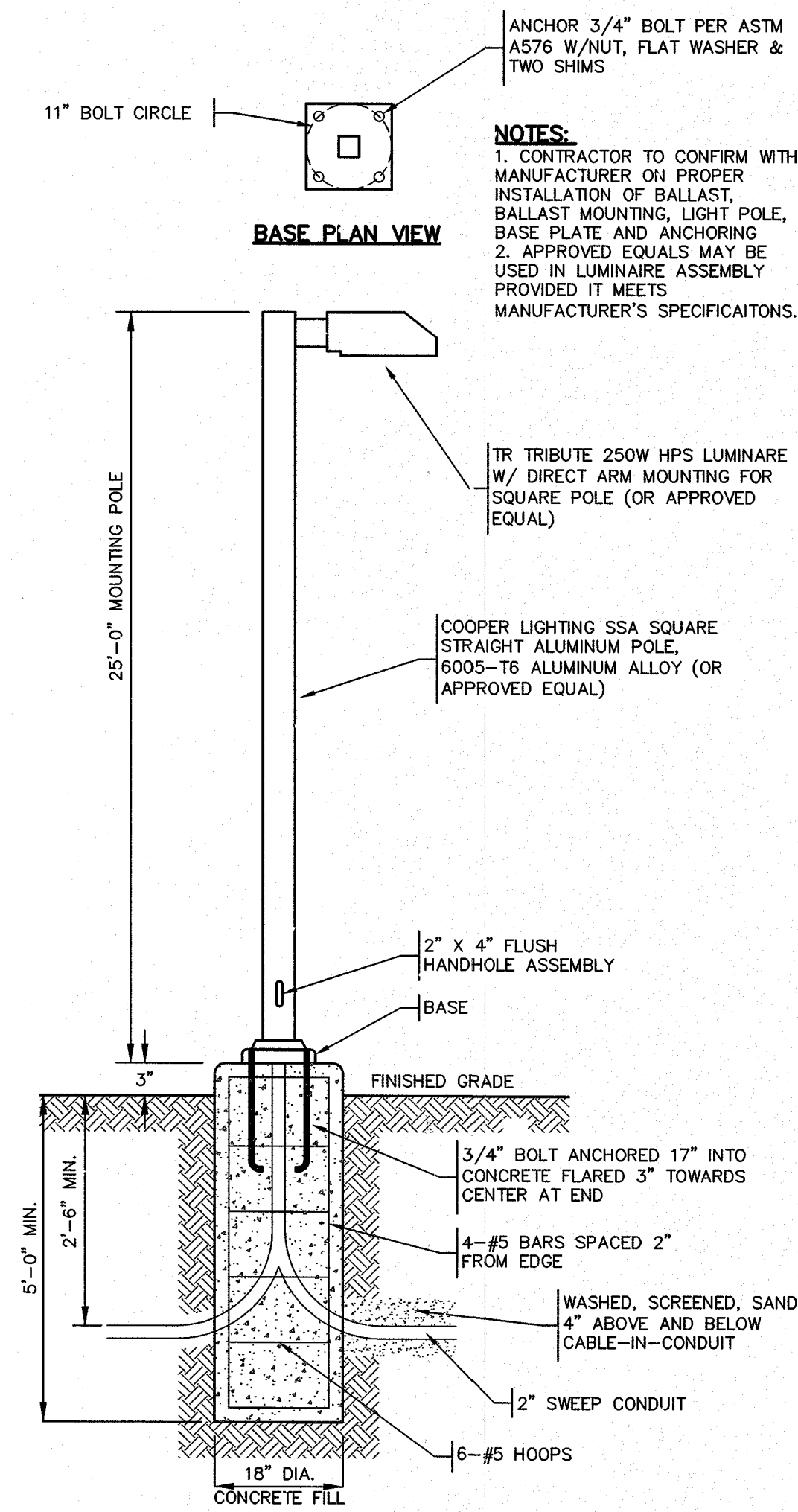
6 PIPE ENCASEMENT
SCALE: N.T.S.



7 PAVEMENT JOINTING
SCALE: N.T.S.



9 OFFSITE DRAINAGE IMPROVEMENTS: VILLAGE LANE
SCALE: 1" = 20'



8 LIGHTPOLE BASE (LP)
SCALE: N.T.S.

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500 East Washington Street
North Attleboro, Massachusetts 02760
P: 508-316-0452 F: 508-316-0963

APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD

BEING A MAJORITY DATE:

THIS CERTIFIES THAT THE NOTICE OF APPROVAL
OF THIS PLAN BY THE BELLINGHAM PLANNING
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AT
AND NO APPEAL WAS RECEIVED DURING THE 20
DAYS NEXT AFTER SUCH RECEIPT OF SAID
NOTICE.

BELLINGHAM TOWN CLERK DATE

PROJECT: "HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019
OWNER/APPLICANT: K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/24/16	REVISE ROAD & BUILDING LAYOUT
2	11/10/16	REVISE ROAD & BUILDING LAYOUT
3	2/14/17	REVISE ROAD & BUILDING LAYOUT
4	7/5/17	NO CHANGE THIS SHEET

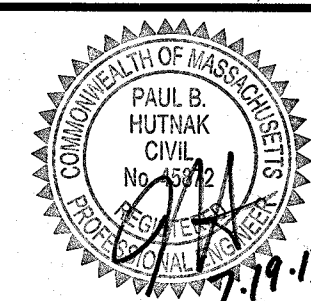
DRAWN BY: WMB
CHECKED BY: PBH, SJO
DATE: APRIL 4, 2016
PROJECT NO.: 2014-260

GRAPHIC SCALE

SHEET TITLE

CONSTRUCTION
DETAILS

DRAWING NO.
C8.3
PLAN NO. L-4427





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Land Surveying - Civil Engineering - Site Planning

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North Attleboro, Massachusetts 02760
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APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD.

BEING A MAJORITY DATE:

THIS CERTIFIES THAT THE NOTICE OF APPROVAL
OF THIS PLAN BY THE BELLINGHAM PLANNING
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DAYS NEXT AFTER SUCH RECEIPT OF SAID
NOTICE.

BELLINGHAM TOWN CLERK DATE

"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

OWNER/APPLICANT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/24/16	REVISE ROAD & BUILDING LAYOUT
2	11/10/16	REVISE ROAD & BUILDING LAYOUT
3	2/14/17	REVISE ROAD & BUILDING LAYOUT
4	7/5/17	REVISE BUILDING SEPARATION

DRAWN BY: WMB
CHECKED BY: PBH, SJO
DATE: APRIL 4, 2016
PROJECT NO.: 2014-260

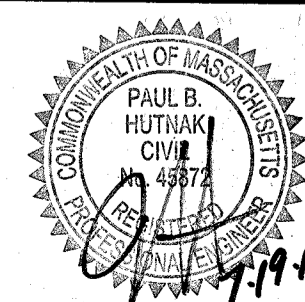
GRAPHIC SCALE



(IN FEET)
1 inch = 40 feet

SHEET TITLE

EROSION & SEDIMENT
CONTROL PLAN



DRAWING NO.

C9

PLAN NO. L-4427



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EROSION AND SEDIMENT CONTROL REQUIREMENTS

PART 1 – GENERAL

1.01 SUMMARY

A. FURNISH, INSTALL, AND MAINTAIN TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS, BUT NOT NECESSARILY LIMITED TO, STRAW BALE AND SILT FENCE BARRIERS, RIPRAP, VEHICLE TRACKING PADS, DIVERSION CHANNELS AND BERMS, CHECK DAMS, STRATEGICALLY LOCATED STOCKPILES, SEDIMENT BASINS, MULCH, AND SEED MIX (HEREINAFTER "CONTROL MEASURES") ADEQUATE TO PREVENT THE CONVEYANCE OF EROSION PRODUCTS (E.G. SOIL, MULCH, SOD) OFF SITE, OR INTO ENVIRONMENTALLY SENSITIVE AREAS, OR INTO AREAS WHERE WORK WILL BE ADVERSELY IMPACTED. ENVIRONMENTALLY SENSITIVE AREAS INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, WETLANDS, TRIBUTARIES TO WETLANDS, WETLAND BUFFER ZONES, INTERMITTENT AND PERENNIAL STREAMS / RIVERS, AND THEIR ATTENDANT BUFFER ZONES.

ALL METHODS AND MATERIALS USED FOR EROSION CONTROL SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN "EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS A GUIDE FOR PLANNERS, DESIGNERS, AND MUNICIPAL OFFICIALS" AS PUBLISHED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF RESOURCE PROTECTION, UNLESS OTHERWISE APPROVED IN WRITING.

1. REFER TO DRAWINGS FOR LOCATION AND DETAILS OF LIMITS OF DISTURBANCE AND CONTROL MEASURES REQUIRED TO COMMENCE WORK. LIMITS OF DISTURBANCE SHALL BE MARKED WITH TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES. CONTROL MEASURES WILL BE ADEQUATE ONLY FOR VEGETATION CLEARING. THE DRAWINGS ARE NOT INTENDED TO GRAPHICALLY DEPICT ALL CONTROL MEASURES THAT WILL BE REQUIRED TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A.

2. DEVISE AND EMPLOY CONTROL MEASURES THROUGHOUT THE DURATION OF PROJECT, OVER ALL AREAS DISTURBED OR UNDISTURBED BY CONSTRUCTION, AS NECESSARY TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A.

3. DEVISE AND EMPLOY TEMPORARY CONTROL MEASURES AS NECESSARY TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A, WHILE ALLOWING WORK TO PROCEED IN AN EFFICIENT, COST EFFECTIVE MANNER.

4. DEVISE, EMPLOY AND MAINTAIN CONTROL MEASURES UNTIL SUCH TIME AS THE ENTIRE SITE IS PERMANENTLY STABILIZED BY ESTABLISHED VEGETATION, FINISH LANDSCAPE MATERIALS, PAVED SURFACES, AND/OR ROOF AREA.

5. ONCE THE SITE IS PERMANENTLY STABILIZED AND CERTIFIED AS SUCH BY ENGINEER, REMOVE TEMPORARY CONTROL MEASURES WHILE PROTECTING STABILIZED SURFACES.

1.02 SUBMITTALS

A. SUBMIT PRODUCT DATA, WARRANTY, AND TEST REPORTS AS INDICATED ON THE DRAWINGS.

B. SUBMIT SKETCH SHOWING LOCATIONS OF PROPOSED STOCKPILE AREAS, CONSTRUCTION ENTRANCES AND EROSION CONTROLS IF NOT SHOWN ON THE SITE PLAN OR DIFFERENT FROM THOSE LOCATIONS SHOWN ON THE SITE PLAN.

C. A SITE SPECIFIC SEQUENCE OF CONSTRUCTION FOR EACH PORTION OF THE SITE. NO PORTION OF THE SITE SHALL EXCEED FIVE (5) ACRES.

1.03 QUALITY ASSURANCE

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS FROM ACCEPTABLE MANUFACTURERS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. CONFORM TO CONDITIONS OF APPROVAL ISSUED BY REGULATORY AGENCIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, LOCAL PLANNING BOARD, CONSERVATION COMMISSION, CITY COUNCIL, BOARD OF HEALTH, PUBLIC WORKS / HIGHWAY DEPARTMENT, STATE ENVIRONMENTAL PROTECTION DEPARTMENT, AND U.S. GOVERNMENT, ENVIRONMENTAL PROTECTION AGENCY, WHERE CONDITIONS OF REGULATORY APPROVAL DIFFER FROM REQUIREMENTS CONTAINED HEREIN OR ON THE DRAWINGS, COMPLY WITH THE MORE STRINGENT REQUIREMENT.

PART 2 – PRODUCTS

2.01 MATERIALS

A. STRAW BALES: WEED FREE DRY GRASS OR STRAW, MACHINE BOUND WITH JUTE OR WIRE, APPROXIMATE SIZE EACH BALE 42" X 16" X 16". EACH BALE SHALL BE STAKED WITH A MINIMUM OF TWO 24" LONG HARDWOOD STAKES. NOTE: HAY SHALL NOT BE USED.

B. STRAW WATTLES: NORTH AMERICAN GREEN MODEL WS1210 OR APPROVED EQUAL.

C. SILT FENCE: NON-WOVEN, UV-RESISTANT, POLYPROPYLENE FABRIC, FLOW RATED AT 10 GPM/SF MINIMUM, GRAB TENSILE RATED AT 124 POUNDS MINIMUM, WITH INTEGRAL STAKE LOOPS, AND HARDWOOD STAKES. USE NO. 2130 BY AMOCO FABRICS & FIBERS, OR APPROVED EQUAL.

D. MULCH: ORGANICS INCLUDING STRAW, PROCESSED PINE / HEMLOCK TWIGS AND NEEDLES.

E. SEED MIXES: SHALL MEET THE REQUIREMENTS OF MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION SECTION 6.03.0 OR 6.03.1 AS APPROPRIATE.

F. EXCELSIOR BLANKET: CURLED WOOD FIBER ON PHOTODEGRADABLE EXTRUDED PLASTIC MATRIX, 80% OF FIBERS 6-INCHES LONG OR LONGER, WEIGHT 0.975 POUNDS / SY, CONTAINING NO CHEMICAL ADDITIVES, USE CURLEX 1 BLANKET BY AMERICAN EXCELSIOR COMPANY, OR APPROVED EQUAL.

G. ROCK RIPRAP: SOUND, ANGULAR, 6-INCH MINUS PROCESSED ROCK, BLAST ROCK, OR TAILINGS.

H. CRUSHED STONE: SOUND, ANGULAR, 2-INCH MINUS PROCESSED CRUSHED STONE.

PART 3 – EXECUTION

3.01 THROUGHOUT CONSTRUCTION

A. DEVISE WORK SEQUENCE SO AS TO LIMIT DRAINAGE AREA THAT IS TRIBUTARY TO DISTURBED AREAS. DEVISE, EMPLOY, AND MAINTAIN CONTROL MEASURES SUCH AS DIVERSION CHANNELS AND BERMS, STRATEGICALLY LOCATED STOCKPILES, AND SEDIMENT BASINS TO SUBDIVIDE DRAINAGE AREAS INTO SMALL, MANAGEABLE SUBAREAS, THEREBY MINIMIZING RUNOFF AND THE POTENTIAL FOR EROSION.

B. MAINTAIN BARRIER AT LIMIT OF WORK AND PROTECT EXISTING VEGETATION / FACILITIES OUTSIDE OF LIMIT OF WORK.

C. MAINTAIN SPARE MATERIAL STOCKPILES FOR IMMEDIATE EMPLOYMENT / REPAIR / EXPANSION OF CONTROL MEASURES. AT A MINIMUM, SUCH MATERIALS SHALL INCLUDE HAY BALES, SILT FENCE AND STAKES, AND CRUSHED STONE.

D. INSPECT AND MAINTAIN EFFECTIVENESS OF CONTROL MEASURES BY REPAIRING AS NECESSARY TO ENSURE INTENDED FUNCTION; BY SUPPLEMENTING AS NECESSARY FOR ADEQUATE EXTENT; BY REMOVING TRAPPED PRODUCTS OF EROSION AS NECESSARY TO MAINTAIN EFFECTIVE TRAP VOLUME.

E. LIMIT EXTENT OF WORK AREA SO THAT ALL DISTURBED AREAS CAN BE STABILIZED WITH CONTROL MEASURES WITHIN A 24-HOUR PERIOD.

F. INSTALL CONTROL MEASURES AS SOON AS PRACTICABLE AFTER EACH MANAGEABLE PORTION OF EARTHWORK IS COMPLETE. EMPLOY TEMPORARY MEASURES AS NECESSARY TO STABILIZE DISTURBED AREAS, EVEN WHERE SUBSEQUENT CONSTRUCTION OPERATIONS MAY REQUIRE RE-DISTURBANCE.

PART 3 – CONTINUED

G. WHEN INTENSE RAINFALL IS EXPECTED, CONSIDER, DEVISE, AND EMPLOY REINFORCING CONTROL MEASURES PRIOR TO THE RAINFALL EVENT TO MEET THE REQUIREMENTS DESCRIBED IN 1.01.A. IF NECESSARY, EMPLOY TEMPORARY CONTROL MEASURES ON MATERIAL STOCKPILES TO COUNTERACT POTENTIAL SEDIMENT TRANSPORT DURING INTENSE RAINFALL.

H. WHEN VEHICLE REFUELING IS REQUIRED ON SITE, CONDUCT REFUELING OPERATIONS OUTSIDE OF ENVIRONMENTALLY SENSITIVE AREAS.

I. PROPERLY DISPOSE OF DEBRIS, SOLID WASTE, TRASH, AND CONSTRUCTION WASTE / BYPRODUCTS OFF SITE.

J. SWEEP ON-SITE PAVED AREAS AND OFF-SITE STREETS AS NECESSARY TO PREVENT SILT AND DEBRIS ORIGINATING ON SITE FROM ENTERING CLOSED DRAINAGE SYSTEMS AND / OR ENVIRONMENTALLY SENSITIVE AREAS. WHEN NECESSARY UTILIZE WATER SPRAYING, SURFACE ROUGHENING AND/OR APPLY POLYMERS, SPRAY-ON TACKIFIERS, CHLORIDES AND BARRIERS FOR DUST CONTROL.

K. INSPECT EROSION CONTROLS DAILY THROUGHOUT CONSTRUCTION REPAIR DAMAGED CONTROLS IMMEDIATELY.

3.02 SITE PREPARATION AND ACCESS

A. WALK SITE AND IDENTIFY LOCATIONS OF LIMIT OF WORK AND ENVIRONMENTALLY SENSITIVE AREAS. ESTABLISH CONSTRUCTION STAGING AREA, LOCATED BEYOND ENVIRONMENTALLY SENSITIVE AREAS.

B. INSTALL CONTROL MEASURES AS SHOWN ON THE DRAWINGS, INCLUDING THOSE DEFINING THE LIMIT OF WORK.

C. LIMIT VEHICULAR TRAFFIC TO AND FROM SITE TO MINIMIZE TRANSPORT OF SEDIMENT.

3.03 CLEARING, GRUBBING, AND STRIPPING

A. SCHEDULE GRUBBING AND STRIPPING TO OCCUR IMMEDIATELY PRIOR TO EARTH DISTURBANCE. DEPENDING ON SITE AREA, CONSIDER MULTIPLE GRUBBING PHASES, SEQUENCED TO TAKE ADVANTAGE OF THE EROSION PREVENTION POTENTIAL OF EXISTING VEGETATIVE COVER.

B. MINIMIZE THE AREA OF EXISTING VEGETATION REMOVED WHEREVER POSSIBLE. NO GREATER THAN FIVE (5) ACRES SHALL BE UNSTABLE AT ANY TIME.

C. LOCATE AND SIZE STOCKPILES TO MINIMIZE EROSION POTENTIAL, TAKING ADVANTAGE OF TERRAIN SLOPE AND ASPECT, WHERE APPROPRIATE.

D. PROTECT VEGETATION, INCLUDING ROOT SYSTEMS, BEYOND LIMIT OF CLEARING.

E. PROCESS TIMBER, STUMPS, SLASH, AND BRUSH SO AS TO PROTECT ENVIRONMENTALLY SENSITIVE AREAS AND INSTALLED CONTROL MEASURES. PROPERLY DISPOSE OF EXCESS OFF SITE. BURIAL OF STUMPS ON SITE IS PROHIBITED.

3.04 EXCAVATION FOR BUILDING FOUNDATIONS AND UTILITIES

A. DEVISE AND INSTALL CONTROL MEASURES ADEQUATE TO HANDLE DISCHARGES AND TRAP SEDIMENT FROM FOOTING SUMP AND WELL POINT PUMPS PRIOR TO EXCAVATION.

B. ARMOR SUMP PUMP DISCHARGE LOCATIONS TO PREVENT EROSION AT POINT OF DISCHARGE AND AREAS DOWNSTREAM.

C. IF FOUNDATION EXCAVATIONS GRADE TO DAYLIGHT ON THE LOW SIDE, DEVISE AND INSTALL CONTROL MEASURES TO HANDLE SURFACE AND GROUNDWATER FLOW FROM EXCAVATION LOW POINT.

D. STOCKPILE EXCAVATED MATERIALS TO BAFFLE OVERLAND RUNOFF, AVOIDING THE CREATION OF LENGTHY PATHS OF CONCENTRATED RUNOFF. STOCKPILE SLOPES SHALL NOT EXCEED 2:1.

E. BACKFILL UTILITY TRENCHES AS SOON AS PRACTICABLE TO PREVENT FLOODING, SLOUGHING, POTENTIAL OVERFLOW, AND REPETITIVE EARTH DISTURBANCE.

3.05 SITE GRADING

A. WHERE APPLICABLE, FOLLOW EXCAVATION AND FILL PRACTICES SHOWN ON DRAWINGS TO LOCALIZE AND MINIMIZE EROSION.

B. MONITOR SEDIMENT VOLUME IN TEMPORARY SEDIMENT BASINS AND AT DIVERSION BERMS AND CHECK DAMS. IN ALL AREAS EXCEPT THOSE THAT DO NOT PRESENT POTENTIAL PROBLEMS WITH REGARD TO FUTURE SOIL STABILITY, DRAINAGE, OR BEARING CAPACITY, REMOVE AND PROPERLY DISPOSE OF TRAPPED SEDIMENT BEFORE BRINGING SITE TO FINAL SUBGRADE.

C. EXPOSED SOILS SHALL BE PERMANENTLY STABILIZED WITHIN FIVE (5) BUSINESS DAYS OF COMPLETION OF CONSTRUCTION OF A GIVEN AREA. EXPOSED AREAS WHERE NO WORK HAS OCCURRED FOR FOURTEEN (14) DAYS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEED OR OTHER APPROVED METHOD.

D. SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED IMMEDIATELY AFTER COMPLETION.

3.06 LANDSCAPING

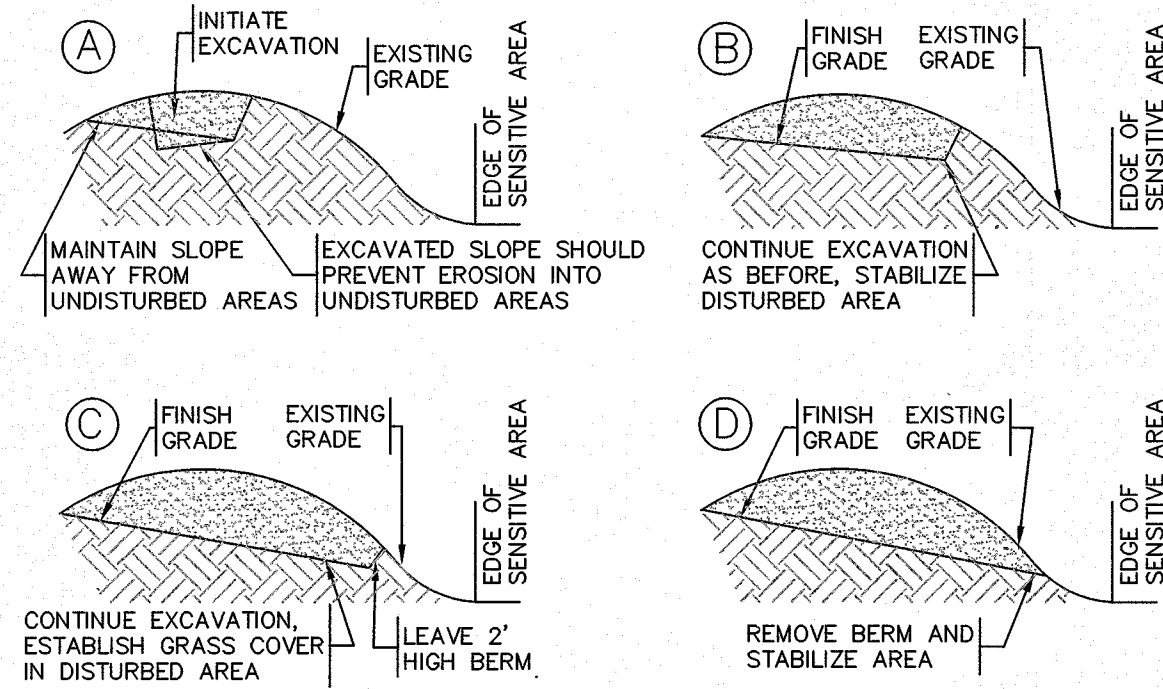
A. COMPLETE LANDSCAPING AS SOON AS POSSIBLE AFTER COMPLETION OF FINAL SUBGRADE.

B. IMMEDIATELY AFTER PLACEMENT OF TOPSOIL, STABILIZE WITH CONTROL MEASURES INCLUDING, BUT NOT NECESSARILY LIMITED TO, SEED MIX, MULCH, AND / OR BLANKET.

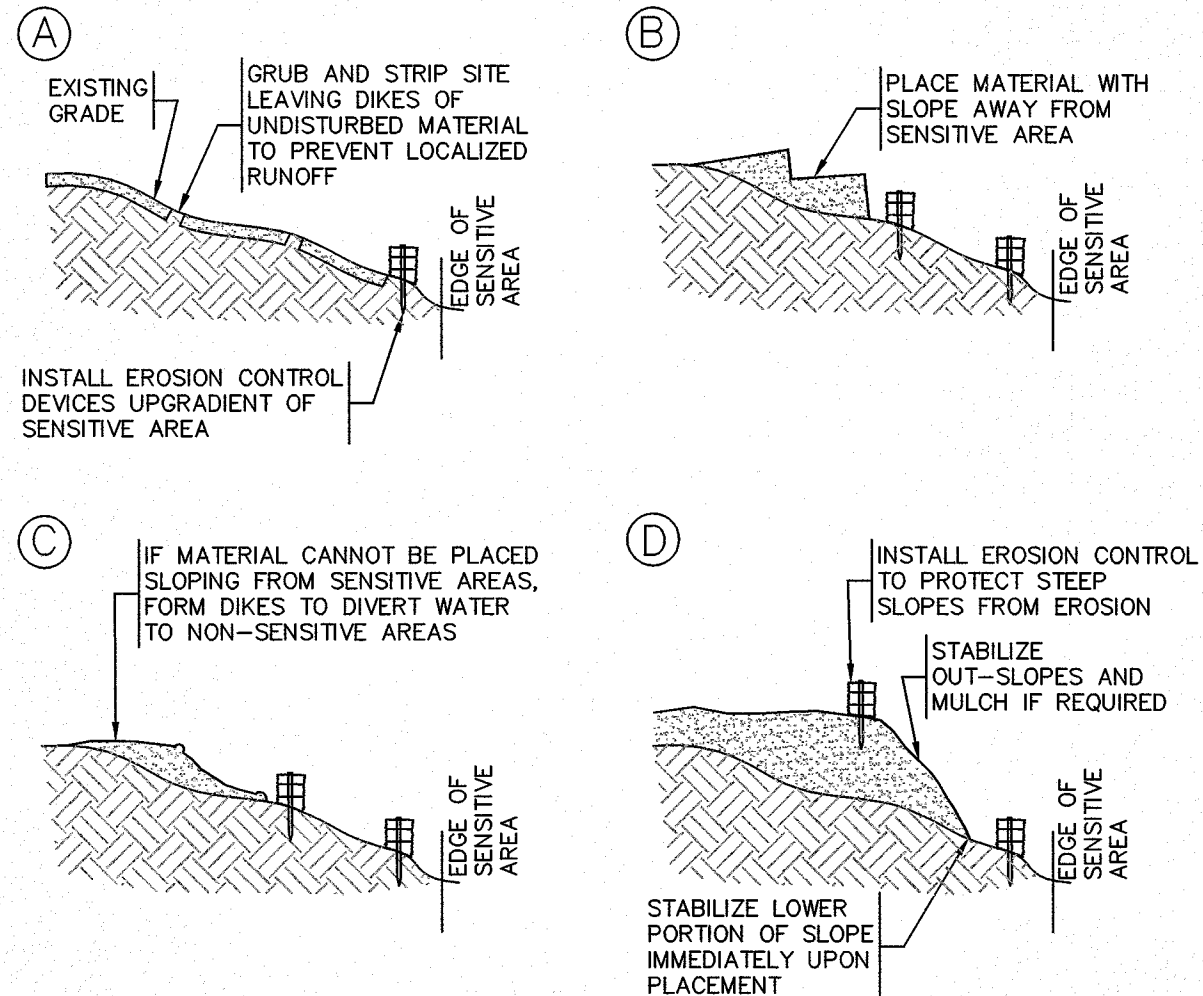
C. PERMANENT SEEDING MAY BE PERFORMED IN THE SPRING PRIOR TO JULY 1 AND IN BETWEEN AUGUST 1 AND OCTOBER 15. PERMANENT SEEDING AT OTHER TIMES SHALL BE APPROVED AND SHALL ONLY BE ALLOWED WITH AN APPROVED MULCHING AND IRRIGATION PROGRAM.

GENERAL SEQUENCE OF CONSTRUCTION

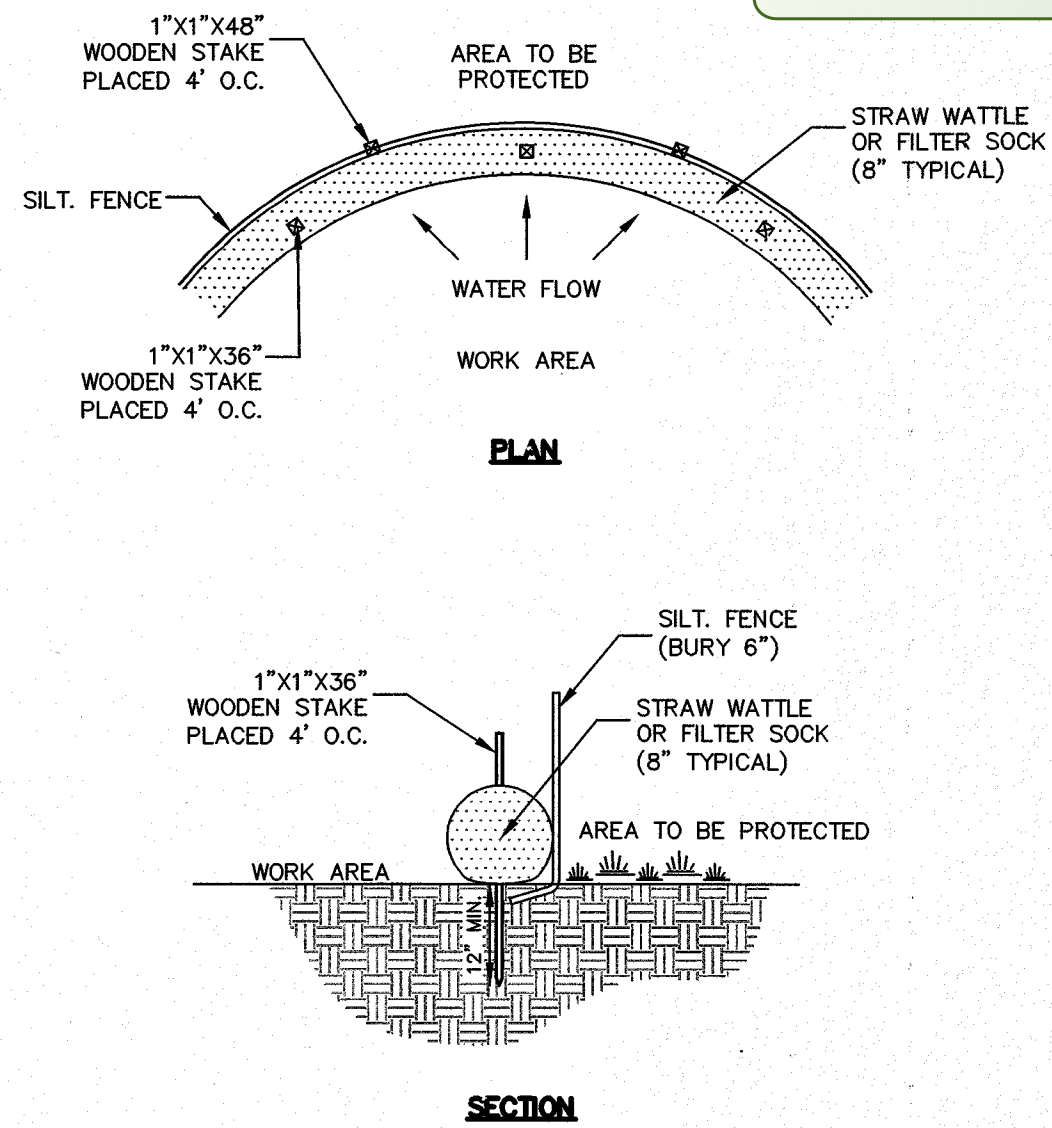
1. PLACE LIMIT OF WORK BARRIERS, FENCES, CONSTRUCTION ENTRANCES AND REQUIRED FENCING & SIGNS.
2. CONSTRUCT SEDIMENT TRAPS & BARRIERS AND PLACE OTHER CONTROLS, DIVERSION TRENCHES, PERIMETER DIKES, WATER BARS & OUTLET PROTECTION.
3. ESTABLISH STOCKPILE AND STAGING AREAS.
4. CUT TREES AND SHRUBS AND REMOVE FROM SITE OR STOCKPILE AND PROTECT STOCKPILE(S) BY APPROVED METHODS.
5. EXCAVATE STUMPS AND REMOVE FROM SITE OR STOCKPILE AND PROTECT STOCKPILE(S) BY APPROVED METHODS.
6. INSTALL DRAINAGE SYSTEM BEGINNING WITH INFILTRATION AND DETENTION AREAS. INSTALL, STABILIZE AND PROTECT INFILTRATION AND DETENTION AREAS AND OTHER AREAS DISTURBED FOR COMPONENTS OF DRAINAGE SYSTEM. CLEAR, ROUGH GRADE & STABILIZE SLOPES OF ROADWAY FROM STATION 0+00 TO END BETWEEN JULY 1ST AND SEPTEMBER 15TH.
7. BEGIN EARTHWORKS. ESTABLISH, STABILIZE AND PROTECT CUT AND FILL SLOPES.
8. BEGIN INSTALLATION OF OTHER UTILITIES. ESTABLISH COVER, STABILIZE AND PROTECT AREAS DISTURBED FOR UTILITY INSTALLATION.
9. BEGIN EXCAVATION FOR STRUCTURES. STOCKPILE AND PROTECT EXCAVATED MATERIALS.
10. BACKFILL FOUNDATIONS STABILIZE ALL DISTURBED AREAS AND REMOVE EXCESS SOIL FROM SITE.
11. PERFORM SITE WORK IN ACCORDANCE WITH "EROSION AND SEDIMENT CONTROL REQUIREMENTS, PART 3 – EXECUTION".
12. VERIFY ALL AREAS HAVE BEEN STABILIZED, RE-SEED EXPOSED SOILS.
13. CLEAN INFILTRATION AREA, CLEAN CATCH BASINS AND STORM DRAINS. REMOVE SOILS FROM SITE.
14. REMOVE ALL EROSION CONTROLS, LIMIT OF WORK BARRIERS, FENCES, CONSTRUCTION ENTRANCES, SIGNS AND SWEEP PAVED AREAS.



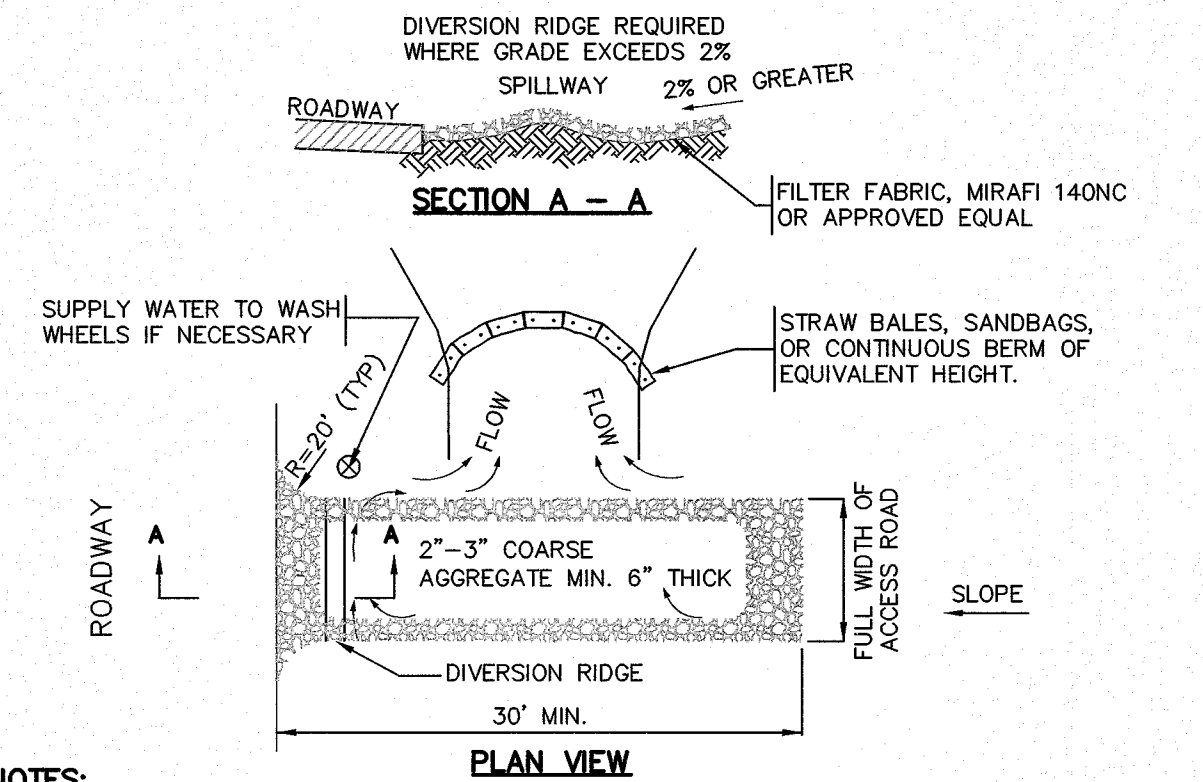
1 EXCAVATION PROCEDURE
SCALE: N.T.S.



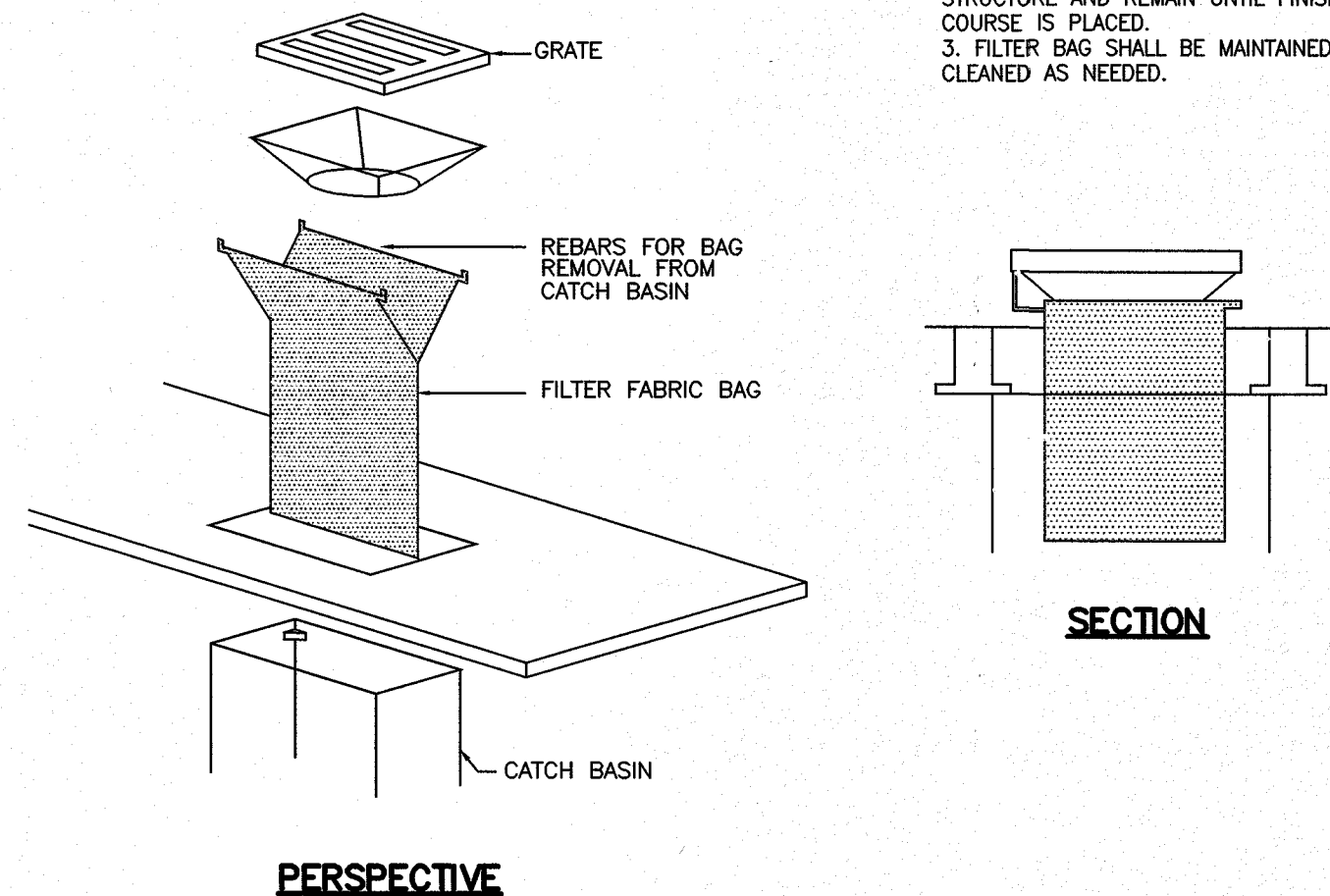
2 EROSION CONTROL BARRIER (ECB)
SCALE: N.T.S.



4 TEMPORARY STOCKPILE
SCALE: N.T.S.



5 CONSTRUCTION ENTRANCE
SCALE: N.T.S.



6 TYPICAL CATCH BASIN FILTER BAG DETAIL
SCALE: N.T.S.

APPROVED

By Bellingham Planning Board at 10:14 am, Apr 12, 2018



Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning

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APPROVAL FOR SPECIAL PERMIT REQUIRED.
BELLINGHAM PLANNING BOARD

BEING A MAJORITY DATE:

THIS CERTIFIES THAT THE NOTICE OF APPROVAL
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AT

AND NO APPEAL WAS RECEIVED DURING THE 20
DAYS NEXT AFTER SUCH RECEIPT OF SAID
NOTICE.

BELLINGHAM TOWN CLERK DATE

PROJECT:	"HARTFORD VILLAGE II" MULTI-FAMILY DEVELOPMENT BELLINGHAM, MA 02019	OWNER/APPLICANT:	K & S REALTY TRUST ONE STALLBROOK ROAD MILFORD MA, 01757
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REVISIONS		
NO.	DATE	DESCRIPTION
1	8/24/16	REVISE ROAD & BUILDING LAYOUT
2	11/10/16	REVISE ROAD & BUILDING LAYOUT
3	2/14/17	REVISE ROAD & BUILDING LAYOUT
4	7/5/17	NO CHANGE THIS SHEET

DRAWN BY	WMB
CHECKED BY	PBH, SJO
DATE	APRIL 4, 2016
PROJECT NO.	2014-260

GRAPHIC SCALE	
(IN FEET) 1 inch = 40 feet	

SHEET TITLE	
EROSION & SEDIMENT CONTROL NOTES & DETAILS	

	DRAWING NO. C9.1 PLAN NO. L-4427
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"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

OWNER/APPLICANT:

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

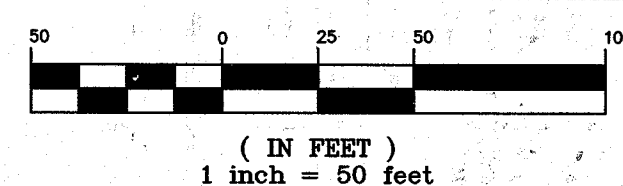
PROJECT:

REVISIONS

NO.	DATE	DESCRIPTION
1	8/24/16	NO CHANGE THIS SHEET
2	11/10/16	NO CHANGE THIS SHEET
3	2/14/17	SHEET ADDED
4	7/5/17	REVISE BUILDING SEPARATION

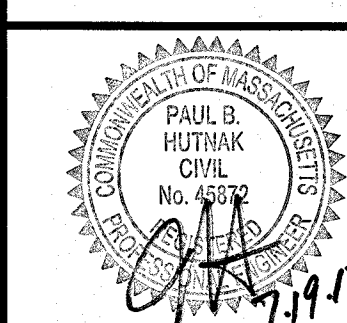
DRAWN BY	WMB
CHECKED BY	PBH, SJO
DATE	APRIL 4, 2016
PROJECT NO.	2014-260

GRAPHIC SCALE



SHEET TITLE

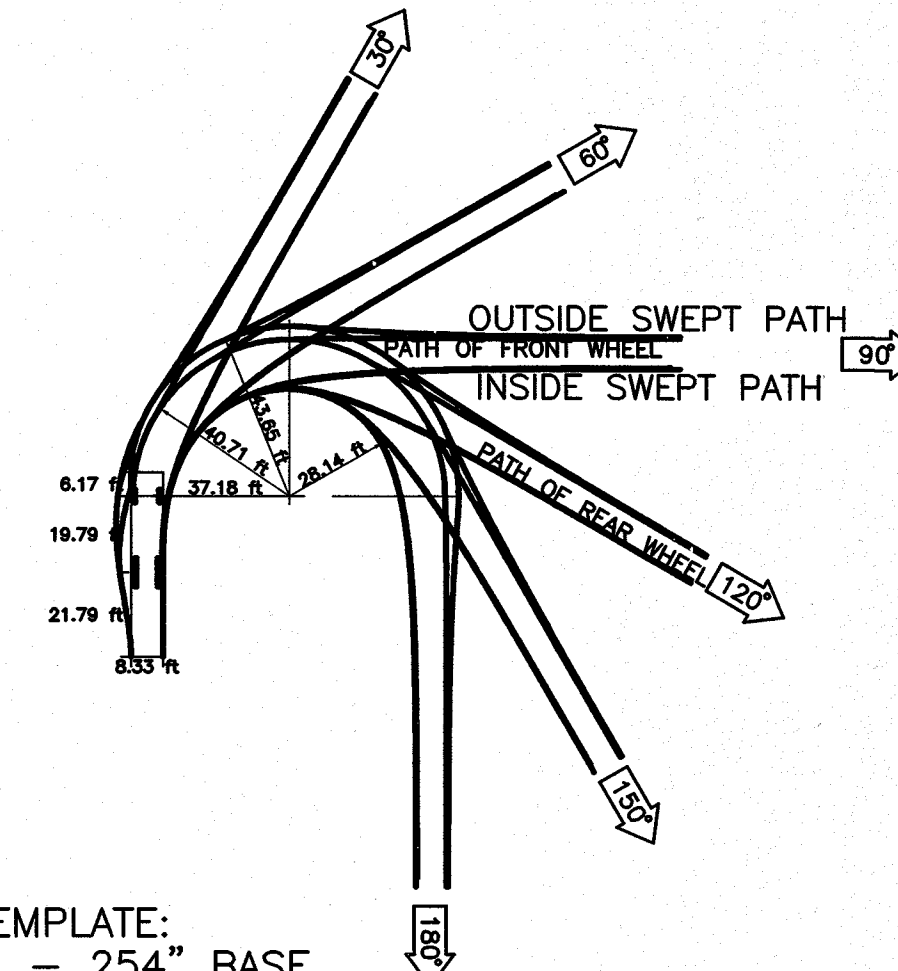
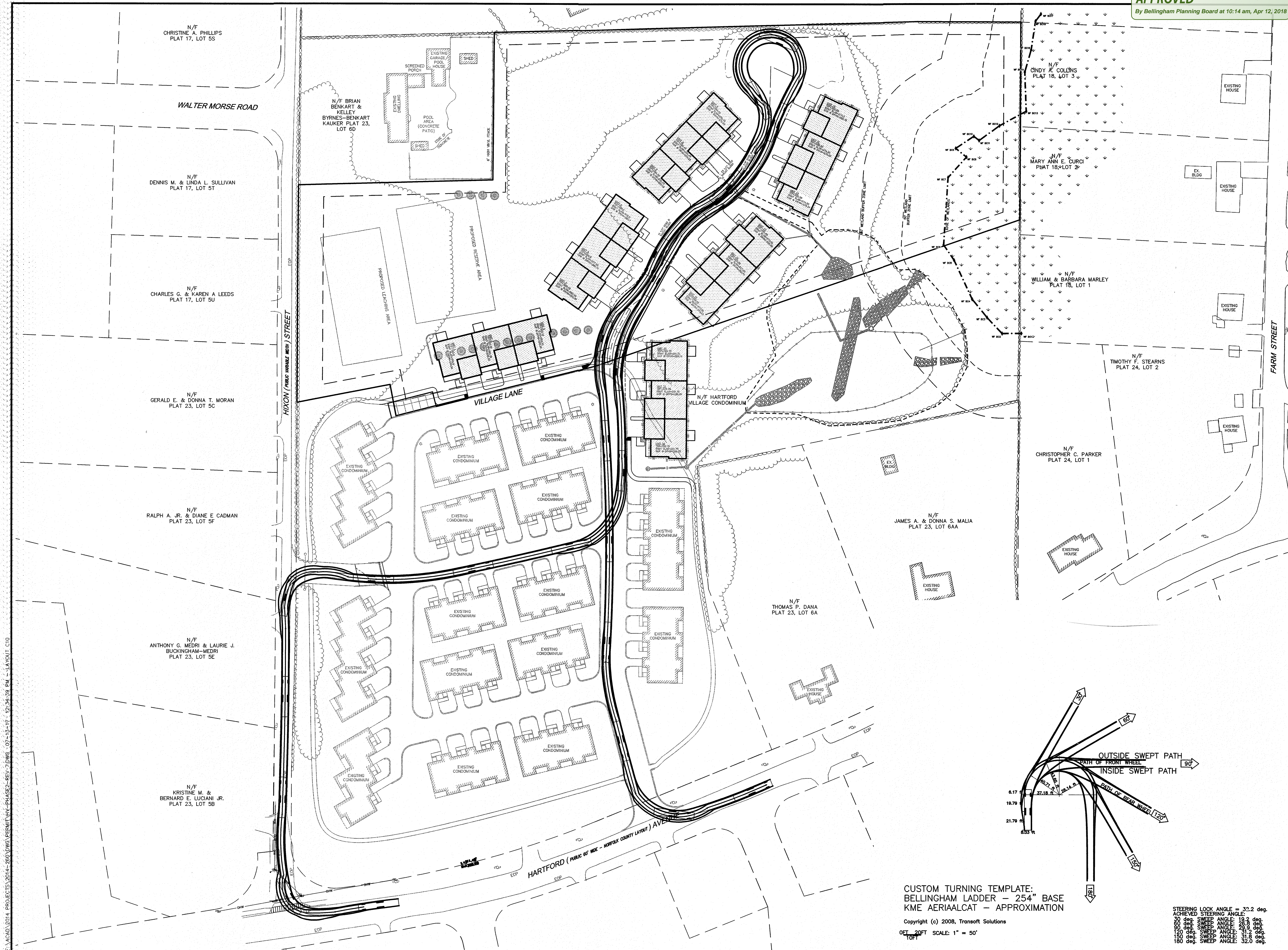
FIRE ACCESS EXHIBIT



DRAWING NO.

C10

PLAN NO. L-4427



CUSTOM TURNING TEMPLATE:
BELLINGHAM LADDER - 254" BASE
KME AERIALCAT - APPROXIMATION

Copyright (c) 2008, Transoft Solutions
OCT 2017 SCALE: 1" = 50'
10/1

STEERING LOOK ANGLE = 32.2 deg.
ACHIEVED STEERING ANGLE:
30 deg SWEEP ANGLE: 19.2 deg.
45 deg SWEEP ANGLE: 25.8 deg.
60 deg SWEEP ANGLE: 29.8 deg.
75 deg SWEEP ANGLE: 31.2 deg.
90 deg SWEEP ANGLE: 31.8 deg.
105 deg SWEEP ANGLE: 32.0 deg.
120 deg SWEEP ANGLE: 32.0 deg.

By Bellingham Planning Board at 10:14 am, Apr 12, 2018

JOSEPH W. &
PLA1

Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning

**500 East Washington Street
North Attleboro, Massachusetts 02760
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PROJECT:	"HARTFORD VILLAGE II" MULTI-FAMILY DEVELOPMENT BELLINGHAM, MA 02019
OWNER/APPLICANT:	K & S REALTY TRUST ONE STALLBROOK ROAD MILFORD MA, 01757

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/24/16	NO CHANGE THIS SHEET
2	11/10/16	NO CHANGE THIS SHEET
3	2/14/17	SHEET ADDED
4	7/5/17	REVISE BUILDING SEPARATION

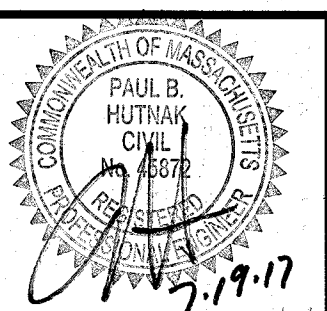
DRAWN BY	WMB
CHECKED BY	PBH, SJO
DATE	APRIL 4, 2016
PROJECT NO.	2014-260

GRAPHIC SCALE

(IN FEET)
1 inch = 30 feet

SHEET TITLE	
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LIGHTING PLAN



DRAWING NO. _____

C11

PLAN NO. L-4427

Luminaire parts list								
Index	Manufacturer	Luminaire type	Item number	Fitting	Luminous flux	Light loss factor	Connected load	Quantity
1	GE LIGHTING SOLUTIONS	EALP01 EVOLVE LED AREA	EALP01_...C3AW730	1xLED	3380l lm	0.80	330 W	2
GE EVOLVE LED 2	GE LIGHTING SOLUTIONS	EALP01 EVOLVE LED AREA	EALP01_...C3AW730	1xLED	7500 lm	0.80	73 W	2

F:\ACAD\2014 PROJECTS\2014-260\DWG\PERMIT\HV-PHASE2-REV 7.DWG 07-13-17 12:36:22 PM - LAYOUT-C11



APPROVED
By Bellingham Planning Board at 10:15 am, Apr 12, 2018

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APPROVAL UNDER SUBDIVISION CONTROL LAW
REQUIRED. BELLINGHAM PLANNING BOARD

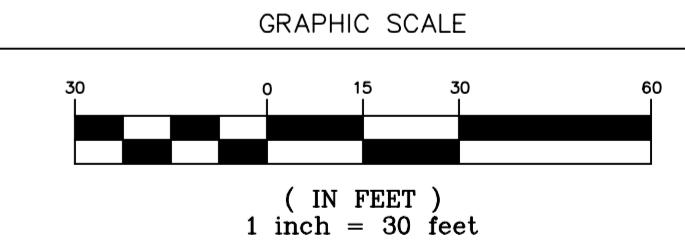
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BELLINGHAM TOWN CLERK DATE

PROJECT: "HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019
OWNER/APPLICANT: K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

REVISIONS		
NO.	DATE	DESCRIPTION
1.	8/24/16	REVISE ROAD & BUILDING LAYOUT
2.	2/3/17	MISC. LAYOUT & GRADING REVISIONS

DRAWN BY: AWW
CHECKED BY: AWW
DATE: AUGUST 17, 2016
PROJECT NO.: 2014-260



SHEET TITLE

LANDSCAPE PLAN

DRAWING NO. **L1**
PLAN NO. L-4427

NOTES:

- SEE SHEET L2 FOR PLANT SCHEDULE AND DETAILS, AND SEE SHEET L3 FOR TECHNICAL NOTES.
- PLANT SPECIES, CULTIVARS, SIZES, AND LOCATIONS SHALL NOT BE CHANGED EXCEPT BY PERMISSION OF THE LANDSCAPE ARCHITECT.
- ALL AREAS TO RECEIVE TURFGRASS SEED AND PLANTINGS SHALL FIRST RECEIVE 6" OF LOAM AS SPECIFIED ON SHEET L3
- ALL BARE SOIL AREAS THAT ARE NOT SHOWN AS PLANT BEDS SHALL BE SOWN WITH TURFGRASS SEED AS SPECIFIED ON SHEET L3, EXCEPT FOR STORMWATER BASINS WHICH SHALL BE SEEDED IN ACCORDANCE WITH CIVIL SHEETS.

LEGEND:

- PROPOSED PERENNIALS & GROUNDCOVERS
- PROPOSED SHRUBS
- PROPOSED ORNAMENTAL TREES
- PROPOSED LARGE DECIDUOUS AND EVERGREEN TREES

APPROVED

By Bellingham Planning Board at 10:15 am, Apr 12, 2018



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BELLINGHAM TOWN CLERK DATE

PROJECT:

"HARTFORD VILLAGE II"
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

OWNER/APPLICANT:

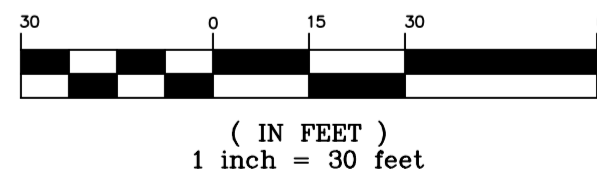
K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

REVISIONS

NO.	DATE	DESCRIPTION
1.	8/24/16	REVISE ROAD & BUILDING LAYOUT
2.	2/3/17	MISC. LAYOUT & GRADING REVISIONS

DRAWN BY	AWW
CHECKED BY	AWW
DATE	AUGUST 17, 2016
PROJECT NO.	2014-260

GRAPHIC SCALE



SHEET TITLE

LANDSCAPE SCHEDULE
& DETAILS



DRAWING NO.

L2

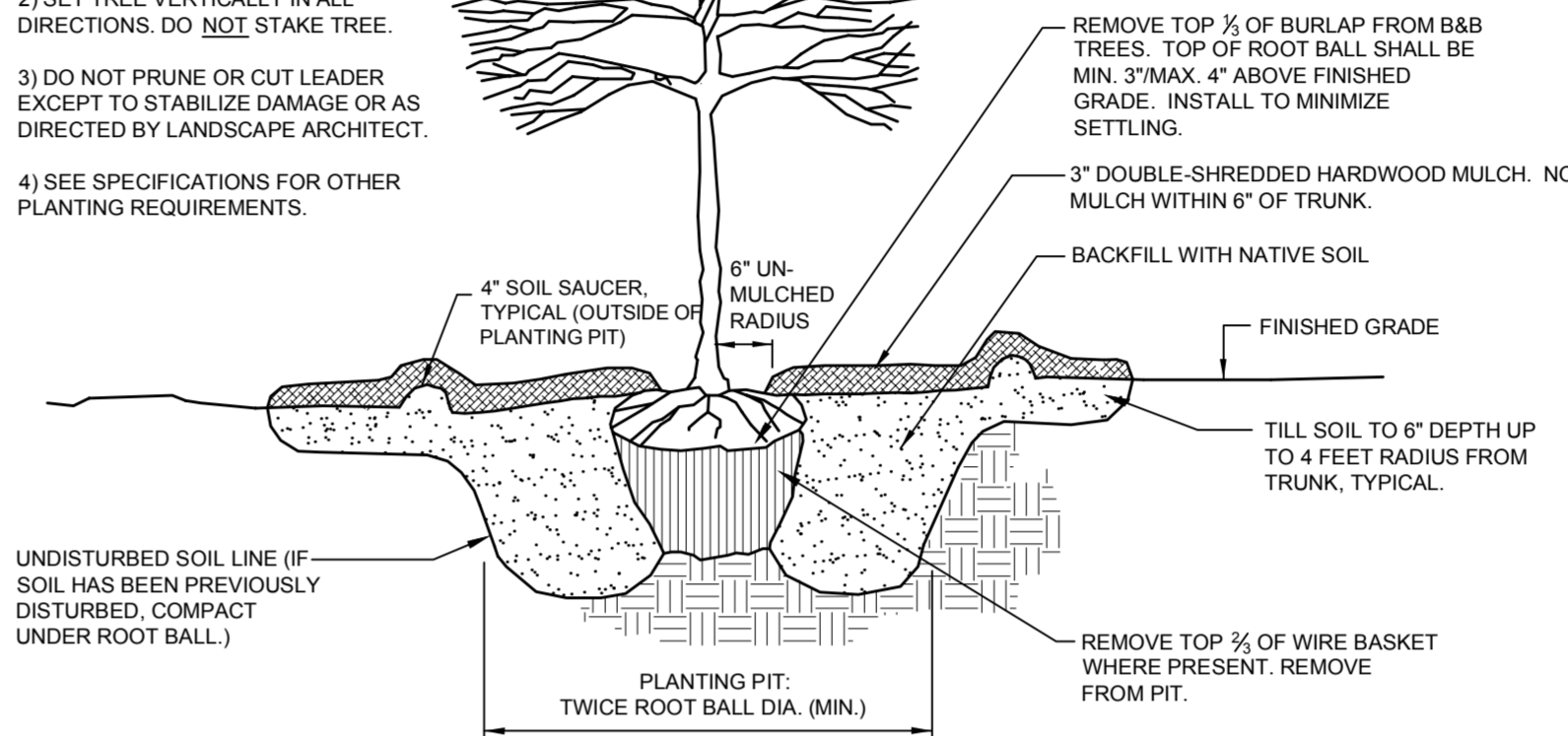
PLAN NO. L-4427

PLANT SCHEDULE

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	MINIMUM SIZE AT PLANTING	PLANT SPACING & NOTES
LARGE TREES:					
AFR	8	ACER X FREEMANII 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	2.5" CAL.	B&B, PLANT 25' ON CENTER
ARS	4	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	2.5" CAL.	B&B, PLANT WHERE SHOWN
PIS	4	PINUS STROBUS	WHITE PINE	2.5" CAL.	B&B, PLANT 30' ON CENTER
QAL	6	QUERCUS ALBA	WHITE OAK	2.5" CAL.	B&B, PLANT 25' ON CENTER
QPG	3	QUERCUS PALUSTRIS 'GREEN PILLAR'	GREEN PILLAR PIN OAK	2.5" CAL.	B&B, PLANT 18' ON CENTER, AT EDGE OF SLOPE
QRU	3	QUERCUS RUBRA	RED OAK	2.5" CAL.	B&B, PLANT WHERE SHOWN
SMALL ORNAMENTAL TREES:					
AGA	9	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	1.5" - 2" CAL.	B&B, MULTI-STEM, PLANT WHERE SHOWN
CCA	9	CERCIS CANADENSIS	EASTERN REDBUD	1.5" - 2" CAL.	B&B, PLANT WHERE SHOWN
HVI	1	HAMAMELIS VIRGINIANA	COMMON WITCHHAZEL	1.5" - 2" CAL.	B&B, PLANT WHERE SHOWN
SHRUBS:					
CFL	6	CALYCANTHUS FLORIDUS	SWEETSHRUB	4' - 5' HT.	PLANT 8' ON CENTER
COC	7	CHAMAECYPARIS OBTUSA 'CRIPPSII'	GOLDEN HINOKI FALSECYPRESS	5' - 6' HT.	PLANT 7' ON CENTER
CRA	6	CORNUS RACEMOSA	GRAY DOGWOOD	4' - 5' HT.	PLANT 10' ON CENTER
ENK	10	ENKIANTHUS CAMPANULATUS	REDVEIN ENKIANTHUS	2 - 3' HT.	PLANT 6' ON CENTER, PLANT BETWEEN WINDOWS WHERE SHOWN.
FGA	90	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	2 - 2.5' HT.	PLANT 3' ON CENTER
FMM	8	FOTHERGILLA MAJOR 'MOUNT AIRY'	MOUNT AIRY FOTHERGILLA	2 - 3' HT.	PLANT 6' ON CENTER, PLANT BETWEEN WINDOWS WHERE SHOWN.
HID	33	HYPERICUM X 'HIDCOTE'	HIDCOTE HYPERICUM	# 3 POT	PLANT 3' ON CENTER
HST	24	HYDRANGEA SERRATA 'TUFF STUFF'	TUFF STUFF HYDRANGEA	# 3 POT	PLANT 3' ON CENTER
ICH	6	ILEX CRENATA 'HELLER'	HELLER HOLLY	# 3 POT	PLANT 4' ON CENTER
IMF	8	ILEX X MESERVEAE 'BLUE PRINCESS'	BLUE PRINCESS HOLLY	4' - 5' HT.	PLANT 6' ON CENTER
IMM	1	ILEX X MESERVEAE 'BLUE PRINCE'	BLUE PRINCE HOLLY	4' - 5' HT.	PLANT 6' ON CENTER
IVG	12	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	# 3 POT	PLANT 4' ON CENTER
JVR	12	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6 - 7' HT.	PLANT 8' ON CENTER
POW	10	PHYSOCARPUS OPULIFOLIUS 'SUMMER WINE'	SUMMER WINE NINEBARK	2 - 3' HT.	PLANT 6' ON CENTER, PLANT BETWEEN WINDOWS WHERE SHOWN.
RHO	24	RHODODENDRON 'PURPLE GEM'	PURPLE GEM RHODODENDRON	# 3 POT	PLANT 3' ON CENTER
RPK	60	ROSA 'PINK KNOCKOUT'	PINK KNOCKOUT ROSE	2 - 2.5' HT.	PLANT 3' ON CENTER
PERENNIALS:					
HAK	42	HAKONECHLOA MACRA 'AUREOLA'	AUREOLA HAKONE GRASS	#1 POT	PLANT 18" ON CENTER
HHR	42	HEMEROCALLIS X 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	#1 POT	PLANT 18" ON CENTER
NFB	84	NEPETA FAASSENII 'BLUE WONDER'	BLUE WONDER CATMINT	#1 POT	PLANT 18" ON CENTER
RUG	84	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM BLACK-EYED SUSAN	#1 POT	PLANT 18" ON CENTER
GROUNDCOVERS:					
JHB	8	JUNIPERUS HORIZONTALIS 'BAR HARBOR'	BAR HARBOR JUNIPER	#3 POT	PLANT 3' ON CENTER, IN ONE ROW ALONG CENTER OF DRIVEWAY MEDIAN
RAL	6	RHUS AROMATICA 'GRO-LOW'	GRO-LOW SUMAC	#3 POT	PLANT 3' ON CENTER, IN ONE ROW ALONG CENTER OF DRIVEWAY MEDIAN

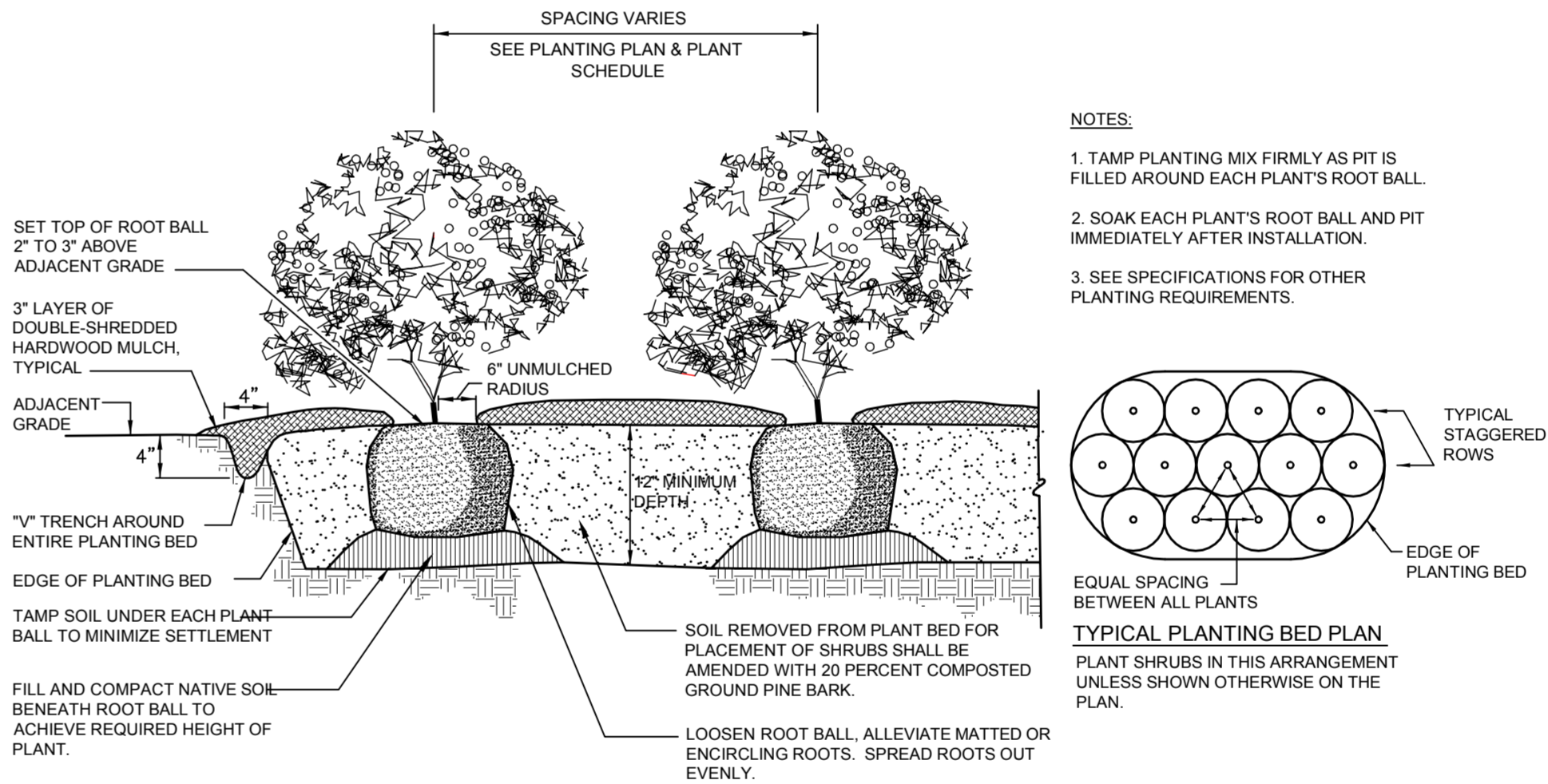
TREE PLANTING NOTES:

- 1) THIS DETAIL APPLIES TO SINGLE- AND MULTI-STEM TREES.
- 2) SET TREE VERTICALLY IN ALL DIRECTIONS. DO NOT STAKE TREE.
- 3) DO NOT PRUNE OR CUT LEADER EXCEPT TO STABILIZE DAMAGE OR AS DIRECTED BY LANDSCAPE ARCHITECT.
- 4) SEE SPECIFICATIONS FOR OTHER PLANTING REQUIREMENTS.



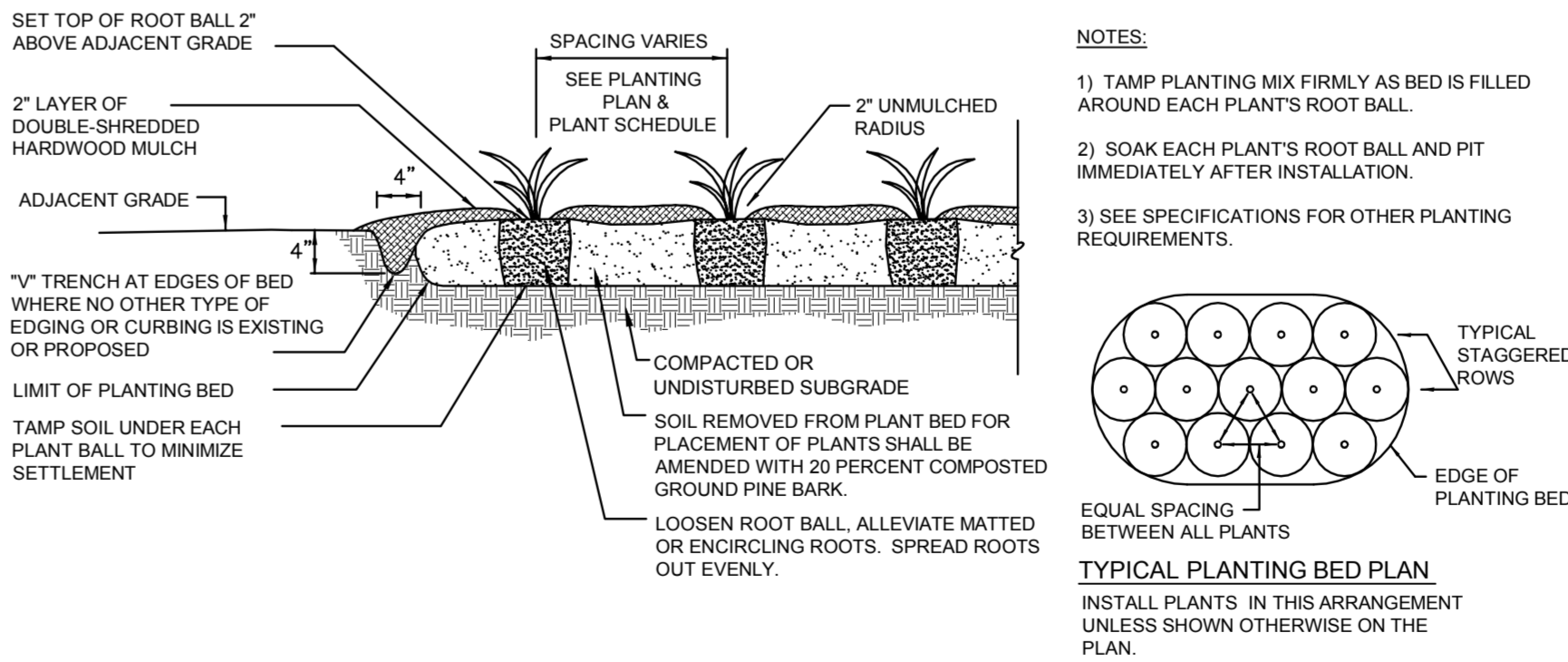
TREE PLANTING

N.T.S.



SHRUB PLANTING

N.T.S.



GROUNDCOVER & PERENNIAL PLANTING

N.T.S.

APPROVED

By Bellingham Planning Board at 10:15 am, Apr 12, 2018



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LANDSCAPE ARCHITECTURE
WORCESTER, MA • 508.852.2644



Andrews Survey & Engineering, Inc.
Land Surveying - Civil Engineering - Site Planning

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APPROVAL UNDER SUBDIVISION CONTROL LAW
REQUIRED: BELLINGHAM PLANNING BOARD

BEING A MAJORITY

DATE:

THIS CERTIFIES THAT THE NOTICE OF APPROVAL
OF THIS PLAN BY THE BELLINGHAM PLANNING
BOARD HAS BEEN RECEIVED AND RECORDED ON
AT
AND NO APPEAL WAS RECEIVED DURING THE 20
DAYS NEXT AFTER SUCH RECEIPT OF SAID
NOTICE.

BELLINGHAM TOWN CLERK

DATE

PROJECT:

”HARTFORD VILLAGE II”
MULTI-FAMILY DEVELOPMENT
BELLINGHAM, MA 02019

OWNER/APPLICANT:

K & S REALTY TRUST
ONE STALLBROOK ROAD
MILFORD MA, 01757

REVISIONS

NO.	DATE	DESCRIPTION
1.	8/24/16	REVISE ROAD & BUILDING LAYOUT
2.	2/3/17	MISC. LAYOUT & GRADING REVISIONS

DRAWN BY	AWW
CHECKED BY	AWW
DATE	AUGUST 17, 2016
PROJECT NO.	2014-260

GRAPHIC SCALE



(IN FEET)
1 inch = 30 feet

SHEET TITLE

LANDSCAPE NOTES



DRAWING NO.

L3

PLAN NO. L-4427

TECHNICAL NOTES FOR LOAM BORROW:

1) SCOPE OF WORK: FOR THIS PROJECT, THE WORK SHALL INCLUDE PLACING LOAM ALL AREAS TO RECEIVE PLANTS AND TURFGRASS SEEDING.

2) THE CONTRACTOR SHALL FURNISH A CERTIFIED LABORATORY REPORT SHOWING THE SOILS CLASSIFICATION AND NUTRIENT ANALYSIS OF REPRESENTATIVE SAMPLES OF THE LOAM THIS IS PROPOSED TO BE USED, INCLUDING THE EXTENT OF LIME AND FERTILIZER REQUIRED. ALL COSTS FOR SUCH WORK SHALL BE BORNE BY THE CONTRACTOR.

3) IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF THIS PROJECT, EXISTING ON-SITE SOIL MAY BE RE-USED AS LOAM BORROW ONLY IF IT MEETS THIS SPECIFICATION. EXISTING TOPSOIL THAT DOES NOT MEET THIS SPECIFICATION MAY BE RE-USED ONLY UP TO THE SUBGRADE ELEVATION WITHIN THE LIMITS OF AREAS TO RECEIVE NEW LOAM BORROW. THE CONTRACTOR SHALL FURNISH ALL REQUIRED LOAM BORROW, FROM OFF-SITE SOURCES, AS NECESSARY, TO COMPLETE THE PROJECT.

4) SCREENED LOAM SHALL BE "FINE SANDY LOAM" OR "SANDY LOAM" DETERMINED BY MECHANICAL ANALYSIS (ASTM D-422) AND BASED ON THE "USDA CLASSIFICATION SYSTEM". SCREENED LOAM SHALL HAVE THE FOLLOWING MECHANICAL ANALYSIS:

TEXTURAL CLASS PERCENTAGE	PERCENTAGE OF TOTAL WEIGHT	AVERAGE PERCENTAGE
SAND (0.05 – 2.0 MM)	45 – 75	60
SILT (0.002 – 0.05 MM)	5 – 35	25
CLAY (LESS THAN 0.002 MM)	5 – 20	15

5) SCREENED LOAM SHALL BE A NATURAL PRODUCT CONSISTING PRIMARILY OF NATURAL TOPSOIL, FREE FROM SUBSOIL, AND OBTAINED FROM AN AREA THAT HAS NEVER BEEN STRIPPED BEFORE. SCREENED LOAM SHALL NOT CONTAIN LESS THAN FIVE PERCENT (5%) NOR MORE THAN TEN PERCENT (10%) ORGANIC MATTER. TO ADJUST ORGANIC MATTER CONTENT, THE SOIL MAY BE AMENDED, PRIOR TO SITE DELIVERY, BY THE ADDITION OF COMPOSTED LEAF MOLD OR PEAT MOSS. NO MIXING OR AMENDING OF LOAM IS PERMITTED ON SITE.

6) THE LOAM SHALL NOT BE DELIVERED IN A WET OR FROZEN CONDITION.

7) SCREENED LOAM SHALL CONSIST OF FERTILE, FRIABLE, LOAM CAPABLE OF SUSTAINING VIGOROUS PLANT GROWTH. LOAM SHALL BE WITHOUT ADMIXTURE OF SUBSOIL AND REFUSE. IT SHALL BE A HOMOGENEOUS MATERIAL FREE OF STONES GREATER THAN ONE-HALF (1/2) INCH IN THE LONGEST DIMENSION; FREE OF LUMPS, PLANTS, GRASS, ROOTS, STICKS, EXCESSIVE STONE CONTENT, DEBRIS, AND EXTRANEEOUS MATTER AS DETERMINED BY THE OWNER.

8) SCREENED LOAM SHALL BE WITHIN THE PH RANGE OF 6.0 TO 6.5. IT SHALL BE UNCONTAMINATED BY SALT WATER, FOREIGN MATTER, AND SUBSTANCES HARMFUL TO PLANT GROWTH. THE MAXIMUM SOLUBLE SALT INDEX SHALL BE 100. SCREENED LOAM SHALL NOT HAVE LEVELS OF ALUMINUM GREATER THAN 200 PARTS PER MILLION.

9) SEE TURFGRASS NOTES FOR LIME AND FERTILIZER REQUIREMENTS FOR LAWN AREAS.

10) TOPSOIL STRUCTURE SHALL NOT BE DESTROYED THROUGH EXCESSIVE AND UNNECESSARY HANDLING OR COMPACTION. INAPPROPRIATE HANDLING LEADING TO THE COMPACTION OF DETERIORATION OF SOIL STRUCTURE WILL RESULT IN REJECTION OF TOPSOIL FOR USE.

11) AT NO TIME SHALL EQUIPMENT OR MATERIAL REST ON THE SOIL.

12) THE CONTRACTOR SHALL FURNISH AND SPREAD LOAM TO A MINIMUM 6-INCH DEPTH (AFTER SOIL SETTLEMENT) IN ALL LAWN AND PLANT BED AREAS. THE TOP OF THE SETTLED LOAM BORROW LAYER SHALL BE TO GRADES SPECIFIED ON THE DRAWINGS. NO COMPACTION SHALL BE REQUIRED BEYOND THAT EXTENT NECESSARY TO PLACE SOD OR OR TO PLANT TREES AND SHRUBS TO ENSURE AGAINST UNEVENNESS OR SETTLING BELOW ACCEPTED GROWTH LINES.

TECHNICAL NOTES FOR TURFGRASS SEEDING:

1) SCOPE OF WORK: FOR THIS PROJECT, THE WORK SHALL INCLUDE SEEDING ALL DENUDED AREAS, EXCEPT WHERE PLANT BEDS ARE INSTALLED.

2) ALL AREAS SHALL BE SEEDDED WITHIN 30 DAYS AFTER FINISHED GRADES ARE ESTABLISHED AND OTHER ELEMENTS INCLUDED IN THIS CONTRACT ARE CONSTRUCTED.

3) SEED SPECIFICATIONS:

A) AREAS RECEIVING FULL SUN OR PART SHADE:

FESCUE/BUEGRASS/PERENNIAL RYEGRASS MIXTURE:

MIXTURE REQUIREMENTS ARE AS FOLLOWS (WITH APPROXIMATE PERCENTAGES):

35% FINE FESCUE (ENDOPHYTIC)
35% KENTUCKY BLUEGRASS
30% PERENNIAL RYEGRASS (ENDOPHYTIC)

B) AREAS RECEIVING MOSTLY SHADE:

FESCUE/PERENNIAL RYEGRASS MIXTURE:

MIXTURE REQUIREMENTS ARE AS FOLLOWS (WITH APPROXIMATE PERCENTAGES):

90% FINE FESCUE (ENDOPHYTIC)
10% PERENNIAL RYEGRASS (ENDOPHYTIC)

C) ANY PROPOSED SUBSTITUTIONS SHALL BE PRESENTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO SEEDING.

D) ALL SEED SHALL HAVE A MINIMUM PURITY OF 98 PERCENT AND A GERMINATION RATE OF 85 PERCENT.

E) ALL SEED SHALL BE LABELED TO SHOW THAT IT IS WITHIN THE REQUIREMENTS OF THE USDA AS TO PURITY, GERMINATION, AND PRESENCE OF RESTRICTED OR PROHIBITED WEEDS.

4) BED PREPARATION FOR AREAS TO BE SEEDDED: A ROTOVATOR, CHISEL PLOW, OR CULTIVATOR SHALL BE USED TO WORK THE SOIL TO A DEPTH OF SIX INCHES. AFTER THIS OPERATION, REMOVE AND DISPOSE OF STICKS, STONES OVER 1 INCH DIAMETER, AND RUBBISH TO A MINIMUM DEPTH OF TWO INCHES.

5) LIME AND NUTRIENTS: LIME SHALL BE GROUND DOLOMITIC LIMESTONE, APPLIED AT THE RATE OF 50 POUNDS PER 1000 SQUARE FEET. LIME SHALL BE WELL-MIXED INTO THE TOP THREE INCHES OF LOAM.

6) FERTILIZER: FERTILIZER SHALL BE A COMMERCIAL GRADE WITH A MINIMUM OF 50 PERCENT OF THE NITROGEN COMPONENT IN A CONTROLLED RELEASE FORM LABELED TO RELEASE NITROGEN FOR A MINIMUM OF SIX WEEKS. FERTILIZER SHALL HAVE AN N/P/K RATIO IN THE RANGE OF 1:1:1 TO 1:2:2. IT SHALL BE APPLIED AT A RATE WHICH ACHIEVES ONE POUND OF NITROGEN PER 1000 SQUARE FEET.

7) SEEDING PROCEDURE FOR TURFGRASS: SOWING OF SEED SHALL BE DONE ONLY AFTER THE PREPARED SOIL, TO WHICH LIME AND FERTILIZER HAVE BEEN ADDED AS SPECIFIED, HAS BEEN THOROUGHLY SETTLED BY RAINFALL OR ARTIFICIAL WATERING. IMMEDIATELY BEFORE ANY SEED IS SOWN, THE GROUND SHALL BE SCARIFIED AS SPECIFIED. LAWN AREAS SHALL BE SEEDDED EVENLY WITH A MECHANICAL SPREADER. SEED MIXTURES SHALL BE SOWN AT A RATE OF 5 POUNDS PER 1000 SQUARE FEET. AFTER SEEDING, THE LAWN SHALL BE LIGHTLY RAKED, ROLLED WITH A 200-POUND ROLLER, AND WATERED WITH A FINE SPRAY. THIS METHOD OF SEEDING MAY BE VARIED AT THE DISCRETION OF THE CONTRACTOR ON HIS OWN RESPONSIBILITY TO ESTABLISH A SMOOTH, UNIFORMLY GRASSED LAWN.

8) SEED FOR PERMANENT TURFGRASS SHALL ONLY BE SOWN FROM THE THIRD WEEK IN APRIL THROUGH JUNE AND DURING THE MONTH OF SEPTEMBER.

9) TEMPORARY SEEDING FOR EROSION CONTROL: IN THE EVENT THAT THE CONTRACT IS SUSPENDED, TEMPORARY SEEDING SHALL BE USED ON ANY BARE AREAS THAT MAY BE SUBJECT TO EROSION AND WHERE TEMPORARY VEGETATION CAN BE USED TO RETARD EROSION FROM 2 TO 12 MONTHS. THE SEED TYPE USED FOR TEMPORARY COVER SHALL BE 100 PERCENT TALL FESCUE APPLIED AT A RATE OF 300 POUNDS PER ACRE.

10) MAINTENANCE: MAINTAIN THE TURFGRASS FROM TIME OF INSTALLATION UNTIL THE FINAL INSPECTION IMMEDIATELY PRIOR TO THE BEGINNING OF THE GUARANTEE PERIOD. MAINTENANCE SHALL INCLUDE WATERING OF TURF AREAS, REPAIRS TO TURF AREAS, AND OTHER NECESSARY OPERATIONS. THE MAINTAINED TURF AREAS SHALL BE MOWED TO A UNIFORM HEIGHT OF APPROXIMATELY TWO AND ONE-HALF INCHES. MOWING SHALL BE PROVIDED AS REQUIRED SO THAT THE TURF NEVER EXCEEDS FOUR INCHES IN HEIGHT. TURF SHALL BE PROTECTED AND REPLANTED AS NECESSARY TO ESTABLISH A UNIFORM STAND OF THE SPECIFIED TURF AND UNTIL ACCEPTANCE. SCATTERED BARE SPOTS, NONE OF WHICH IS LARGER THAN ONE SQUARE FOOT, WILL BE ALLOWED UP TO A MAXIMUM OF THREE PERCENT OF ANY TURF AREA. WHEN TURF AREAS ARE READY FOR FINAL INSPECTION, THE MAINTAINED TURF AREAS SHALL BE NEATLY MOWED TO THE UNIFORM HEIGHTS AS NOTED ABOVE. THE LAWNS SHALL BE CONSIDERED ESTABLISHED ONLY WHEN THE SPECIFIED GRASS IS VIGOROUS AND GROWING WELL. IN ADDITION TO MEETING THE OTHER REQUIREMENTS SPECIFIED. AT THE TIME OF ACCEPTANCE FOLLOWING FINAL INSPECTION, THE CONTRACTOR IS RELIEVED OF ROUTINE MAINTENANCE RESPONSIBILITIES FOR THE TURF UNDER THIS CONTRACT.

11) FINAL INSPECTION, CLEANUP AND COMPLETION: FINAL INSPECTION SHALL BE FOR THE COMPLETED LANDSCAPE AND SHALL BE MADE AT THE CONCLUSION OF THE LANDSCAPE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL EQUIPMENT AND OTHER ARTICLES USED. ALL EXCESS SOIL, STONES, AND DEBRIS SHALL BE REMOVED FROM THE SITE. ALL WORK AREAS SHALL BE LEFT IN A CLEAN AND NEAT CONDITION. ALL DAMAGE TO EXISTING CONSTRUCTION CAUSED BY THE LANDSCAPING OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

12) GUARANTY AND REPLACEMENT: IF A SATISFACTORY STAND OF MAINTAINED TURF HAS BEEN PRODUCED AT THE TIME OF FINAL INSPECTION, IT SHALL BE GUARANTEED THROUGH ONE COMPLETE GROWING SEASON. IF RENOVATION AND/OR RESEEDING ARE REQUIRED AT THE END OF THE GUARANTEE PERIOD, THIS WORK SHALL BE DONE IN CONFORMANCE WITH THE REQUIREMENTS NOTED ABOVE. IF A SATISFACTORY STAND OF MAINTAINED TURF HAS NOT BEEN PRODUCED AT THE TIME OF FINAL INSPECTION, NECESSARY REPAIRS SHALL BE PERFORMED IN CONFORMANCE WITH THE REQUIREMENTS NOTED ABOVE. UPON COMPLETION OF THESE REPAIRS, THE TURF GRASS SHALL BE GUARANTEED AS NOTED ABOVE.

TECHNICAL NOTES FOR TREE, SHRUB, AND GROUND COVER PLANTINGS:

1) NOMENCLATURE: THE NAMES OF PLANTS REQUIRED UNDER THIS CONTRACT SHALL CONFORM TO THOSE GIVEN IN STANDARDIZED PLANT NAMES, 1942 EDITION, PREPARED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF VARIETIES NOT INCLUDED THEREIN SHALL CONFORM GENERALLY WITH NAMES ACCEPTED IN THE NURSERY TRADE.

2) QUALITY AND SIZE: PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THE SPECIES AND SHALL BE SOUND, HEALTHY, VIGOROUS, AND FREE FROM INSECT PESTS, PLANT DISEASES, AND INJURIES. ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMUM ACCEPTABLE SIZES. THEY SHALL BE MEASURED BEFORE PRUNING IS DONE AT TIME OF PLANTING. REQUIREMENTS FOR THE MEASUREMENTS, BRANCHING, GRADING, QUALITY, BALLING, AND BURLAPPING OF PLANTS IN THE PLANT LIST SHALL FOLLOW THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN ASSOCIATIONS OF NURSERYMEN, INC., IN THE AMERICAN STANDARD FOR NURSERY STOCK.

3) SUBSTITUTIONS: SUBSTITUTIONS WILL BE PERMITTED ONLY UPON SUBMISSION OF PROOF THAT ANY PLANT AS SPECIFIED IS NOT OBTAINABLE DURING THE SCHEDULED PLANTING SEASON. WRITTEN AUTHORIZATION BY THE LANDSCAPE ARCHITECT SHALL BE REQUIRED FOR ANY SUBSTITUTION. THE NEAREST EQUIVALENT SIZE OR VARIETY OF PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS SHALL BE USED.

4) BALLED AND BURLAPPED MATERIALS: PLANTS DESIGNATED "B&B" IN THE PLANT LIST SHALL BE BALLED AND BURLAPPED. THEY SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. MATERIAL SHALL BE IN A CONDITION WHERE THE NATURAL ROOT COLLAR OF THE PLANT IS WITHIN APPROXIMATELY TWO (2) INCHES OF THE SOIL LEVEL OF THE BALL. BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP OR SIMILAR MATERIAL AND BOUND WITH TWINE, CORD, OR WIRE MESH. NO SYNTHETIC FABRIC IS ALLOWED. WHERE NECESSARY TO PREVENT BREAKING OR CRACKING OF THE BALL DURING THE PROCESS OF PLANTING, THE BALL MAY BE SECURED TO A PLATFORM. BALLS SHALL BE KEPT MOIST AND SHADED UNTIL THEY ARE PLANTED. REMOVE ALL BALL TIES OR STRAPPING FROM ROOT BALL PRIOR TO PLANTING. PLANT IN ACCORDANCE WITH TREE AND SHRUB PLANTING DETAILS.

5) CONTAINER-GROWN MATERIALS: PLANTS NOT DESIGNATED OTHERWISE IN THE PLANT LIST MAY BE PURCHASED AS CONTAINER-GROWN OR BALLED/BURLAPPED. CONTAINER-GROWN PLANTS, IF STORED ON THE SITE, SHALL BE WATERED THOROUGHLY AT LEAST ONCE EVERY 48 HOURS. ROOT SYSTEMS OF CONTAINER-GROWN PLANTS SHALL BE WELL-DEVELOPED BUT NOT IN "POT-BOUND" CONDITION OF DENSE, ENCIRCLING ROOTS. THE ROOT BALL OF THE PLANT SHALL BE LOOSENED TO ALLEVIATE ENCIRCLING ROOTS AND TO PROVIDE AN INCREASED ROOT INTERFACE WITH THE FILL SOIL. PLANT IN ACCORDANCE WITH TREE, SHRUB, AND GROUND COVER PLANTING DETAILS.

6) PROTECTION OF PLANTS PRIOR TO INSTALLATION: THE ROOT ZONE OF ALL PLANTS NOT YET INSTALLED SHALL BE PROTECTED FROM FREEZING, DRYING, AND DIRECT SUNLIGHT.

7) MULCHING: DOUBLE-SHREDDED HARDWOOD MULCH SHALL BE USED AS THE MULCH FOR ALL PLANT BEDS INDICATED ON THE LANDSCAPE PLAN, INCLUDING AREAS SURROUNDING THE PLANTS AS SHOWN ON THE TREE, SHRUB, AND GROUND COVER PLANTING DETAILS.

8) PLANTING SEASON: THE NORMAL PLANTING SEASON IS APRIL THROUGH NOVEMBER. SOME PLANTS SPECIFIED AS BALLED AND BURLAPPED CANNOT BE DUG DURING PORTIONS OF THIS PLANTING SEASON. CHECK WITH NURSERIES FOR SPECIFICS. PLANTING OPERATIONS SHALL BE CONDUCTED UNDER FAVORABLE WEATHER CONDITIONS DURING THE NORMAL PLANTING SEASON.

9) WEATHER CONDITIONS: PLANTING SHALL NOT TAKE PLACE WHEN SOILS ON SITE ARE FROZEN OR WET AND IN POOR TILTH.

10) LAYOUT: NEW PLANTINGS SHALL BE LOCATED ACCORDING TO THE LANDSCAPE PLAN. THE CONTRACTOR SHALL STAKE THE PLANT LOCATIONS, AND SHALL THEN CONTACT THE LANDSCAPE ARCHITECT FOR APPROVAL.

11) SETTING PLANTS: ALL PLANTS SHALL BE PLANTED IN PREPARED SOILS BEDS, AND SET ON FIRM SOIL TO SUCH DEPTH AS INDICATED IN THE PLANTING DETAILS. TREES, SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE SET SO THAT THE PLANT'S NATURAL ROOT COLLAR OR CROWN IS ABOVE FINISHED GRADE AT THE HEIGHTS INDICATED IN THE PLANTING DETAILS. NO BURLAP SHALL BE PULLED FROM UNDER THE BALLS. ROOTS ON BARE-ROOT PLANTS SHALL BE SPREAD IN THEIR NORMAL POSITION. ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY. PREPARED SOIL SHALL BE PLACED AND COMPACTED CAREFULLY TO AVOID INJURY TO ROOTS, TO FILL ALL VOIDS, AND TO MINIMIZE ROCKING OF ROOT BALL. ADD WATER AND TAMP THE BACKFILL UNTIL THE BACKFILL IS COMPLETELY SATURATED. THEN ALLOW IT TO SOAK AWAY. FILL THE HOLE TO FINISHED GRADE, AND FORM A SHALLOW SAUCER AROUND EACH TREE AND SHRUB BY PLACING A RIDGE OF TOPSOIL AROUND THE EDGE OF EACH PIT. AFTER THE GROUND SETTLES, ADDITIONAL SOIL SHALL BE FILLED IN TO THE LEVEL OF THE FINISHED GRADE.

12) STAKING TREES: DO NOT STAKE TREES, UNLESS TREES ARE PLANTED ON STEEP SLOPES, IN WHICH CASE THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT FOR PERMISSION TO STAKE THOSE TREES.

13) MAINTENANCE: MAINTAIN PLANTS AND PLANT BEDS FROM THE TIME OF INSTALLATION UNTIL THE FINAL INSPECTION IMMEDIATELY PRIOR TO COMMENCEMENT OF THE GUARANTEE PERIOD. MAINTENANCE SHALL INCLUDE WATERING AND PROTECTION OF PLANTINGS AND OTHER NECESSARY OPERATIONS.

14) FINAL INSPECTION: WHEN THE TREE AND SHRUB PLANTINGS ARE READY FOR FINAL INSPECTION, ALL MULCHED AREAS SHALL BE FREE FROM WEEDS AND MULCHED TO THE EXTENT INDICATED ON THESE DRAWINGS. PLANT TAGS SHALL BE REMOVED BY THE CONTRACTOR PRIOR TO THE INSPECTION FOR ACCEPTANCE.

15) GUARANTEE: AFTER ACCEPTANCE AT TIME OF FINAL INSPECTION, ALL PLANTS SHALL BE GUARANTEED FOR ONE (1) YEAR. PLANTINGS SHALL BE ALIVE AND IN SATISFACTORY VIGOR AT THE END OF THE GUARANTEE PERIOD.

16) REPLACEMENT: AT THE END OF THE GUARANTEE PERIOD, ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR IN POOR VIGOR SHALL BE REMOVED FROM THE SITE. THESE AND ANY MISSING PLANTS SHALL BE REPLACED AS SOON AS CONDITIONS PERMIT, BUT DURING THE NORMAL PLANTING SEASON. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AS ORIGINALLY PLANTED AND SHALL BE OF SIZE EQUAL TO THAT ATTAINED BY ADJACENT PLANTS OF THE SAME KIND AT THE TIME REPLACEMENT IS MADE. ONLY ONE REPLACEMENT WILL BE REQUIRED FOR EACH PLANT DECLARED DEAD, IN AN UNHEALTHY OR BADLY IMPAIRED CONDITION, OR MISSING AT THE TIME OF FINAL INSPECTION.