

SITE DATA

LOT AREA (LOT 2-1):	11.03± AC. (480,379± SF)
DEVELOPMENT AREA (LOT 2-1)	7.95 AC. (346,416± SF)
PARCEL "A"	3.08 AC. (133,963± SF)
WATER SUPPLY:	PUBLIC WATER SUPPLY
APPROXIMATE WATER USE:	1,600 GPD
SEWAGE DISPOSAL:	ONSITE SEWAGE DISPOSAL SYSTEM
APPROXIMATE SEWAGE FLOW:	1,600 GPD
ZONING DISTRICT:	COMMERCIAL - C
OVERLAY DISTRICT:	WIRELESS COMMUNICATION
PROPOSED GFA:	
BUILDING A	29,998 SF
BUILDING B	8,000 SF
BUILDING C	8,000 SF
TOTAL	45,998 SF (13.2% OF 346,416 SF)

GENERAL NOTES

- LOCATIONS OF EXISTING UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS SHOWN HEREON ARE APPROXIMATE ONLY. ALL UTILITIES/OBSTRUCTIONS/SYSTEMS MAY NOT BE SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES/OBSTRUCTIONS/SYSTEMS, WHETHER OR NOT SHOWN HEREON.
- UNLESS OTHERWISE SHOWN, ALL NEW UTILITIES SHALL BE UNDERGROUND.
- BURIED UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THEIR RESPECTIVE COMPANY SPECIFICATIONS.
- CONSTRUCTION LAYOUT OF BUILDING AND SITE IMPROVEMENTS SHALL BE PERFORMED BY A LICENSED PROFESSIONAL LAND SURVEYOR. LOCATIONS OF EXISTING FEATURES OR PROPOSED IMPROVEMENTS DERIVED BY SCALING DRAWINGS MAY NOT BE ACCURATE. PROPERTY LINES SHOWN HEREON ARE APPROXIMATE. SEE PLAN REFERENCE HEREON.
- SAFETY MEASURES, CONSTRUCTION METHODS, AND CONTROL OF WORK SHALL BE RESPONSIBILITY OF CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ANY EXISTING UTILITY OR STRUCTURE DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED FOR DEMOLITION AND/OR REMOVAL HEREON. DAMAGED UTILITY OR STRUCTURE SHALL BE REPAIRED TO THE SATISFACTION OF THEIR RESPECTIVE OWNERS.
- ANY INTENDED REVISION OF THE HORIZONTAL AND/OR VERTICAL LOCATION OF IMPROVEMENTS TO BE CONSTRUCTED AS SHOWN HEREON SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION.
- CONTRACTOR SHALL NOTIFY ENGINEER UPON COMMENCEMENT OF CONSTRUCTION IN ORDER TO ENSURE THAT REQUIRED INSPECTIONS ARE PERFORMED IN A TIMELY AND EFFICIENT MANNER.
- CONTRACTOR SHALL PROMPTLY NOTIFY ENGINEER UPON DISCOVERY OF ANY UNFORESEEN SURFACE OR SUBSURFACE CONDITIONS THAT MAY IMPACT SITE CONSTRUCTION.
- FINISH RIM ELEVATIONS SHOULD MATCH PAVEMENT, GRADING OR LANDSCAPING, UNLESS SPECIFICALLY INDICATED OTHERWISE.
- WHERE EXISTING UTILITY LINES/STRUCTURES ARE TO BE CUT/BROKEN DOWN/ABANDONED, LINES/STRUCTURES SHALL BE PLUGGED/CAPPED/FILLED IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS.
- EROSION CONTROL MEASURES, SUCH AS SILT FENCE OR STRAW WATLES AS MAY BE SHOWN HEREON, SHALL BE INSTALLED BEFORE EARTH DISTURBANCE OCCURS WITHIN BUFFER ZONE, AND SHALL SERVE AS THE LIMIT OF WORK.
- WHERE THE WORD "INSTALL" IS USED HEREIN, IT IS INTENDED TO DIRECT CONTRACTOR TO "FURNISH, INSTALL, AND PLACE IN OPERATION" THE COMPONENT REFERRED TO.
- LIMITS OF WORK SHALL BE STAKED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ALL STORM DRAIN PIPE TO BE SMOOTH INTERIOR HDPE PIPE, 2.0 PSI GASKETED JOINT, UNLESS OTHERWISE NOTED.
- WHERE SHOWN, CONSTRUCTION NOTES ARE INTENDED TO SUMMARIZE AND CLARIFY MAJOR ITEMS OF WORK. THESE NOTES SHOULD NOT BE CONSTRUED AS AN EXHAUSTIVE LISTING OF ALL WORK REQUIRED. CONTRACTOR SHOULD CONTACT ENGINEER WHEN FURTHER CLARIFICATION OF DEPICTED WORK IS DESIRED.
- CONSTRUCTION OF FIRE WATER SUPPLY IMPROVEMENTS SHALL CONFORM TO TOWN OF HARVARD REQUIREMENTS.
- CONSTRUCTION OF DOMESTIC WATER SUPPLY IMPROVEMENTS SHALL CONFORM TO UTILITY OWNER REQUIREMENTS.
- WHERE DIMENSIONS INVOLVE CURB, DIMENSIONS ARE TO FACE OF CURB. WHERE SLOPED GRANITE CURB OR CAPE COD BERM SPECIFIED, FACE OF CURB IS EDGE OF FINISH PAVEMENT AT TOE OF CURB.
- NO DEBRIS, JUNK, RUBBISH OR OTHER NON-BIODEGRADABLE MATERIALS, FILL CONTAINING HAZARDOUS MATERIALS OR WASTES, OR STUMPS SHALL BE BURIED ON ANY LAND ON THIS SITE, OR LEFT ON ANY LOT OR ON THE STREET RIGHT OF WAY.

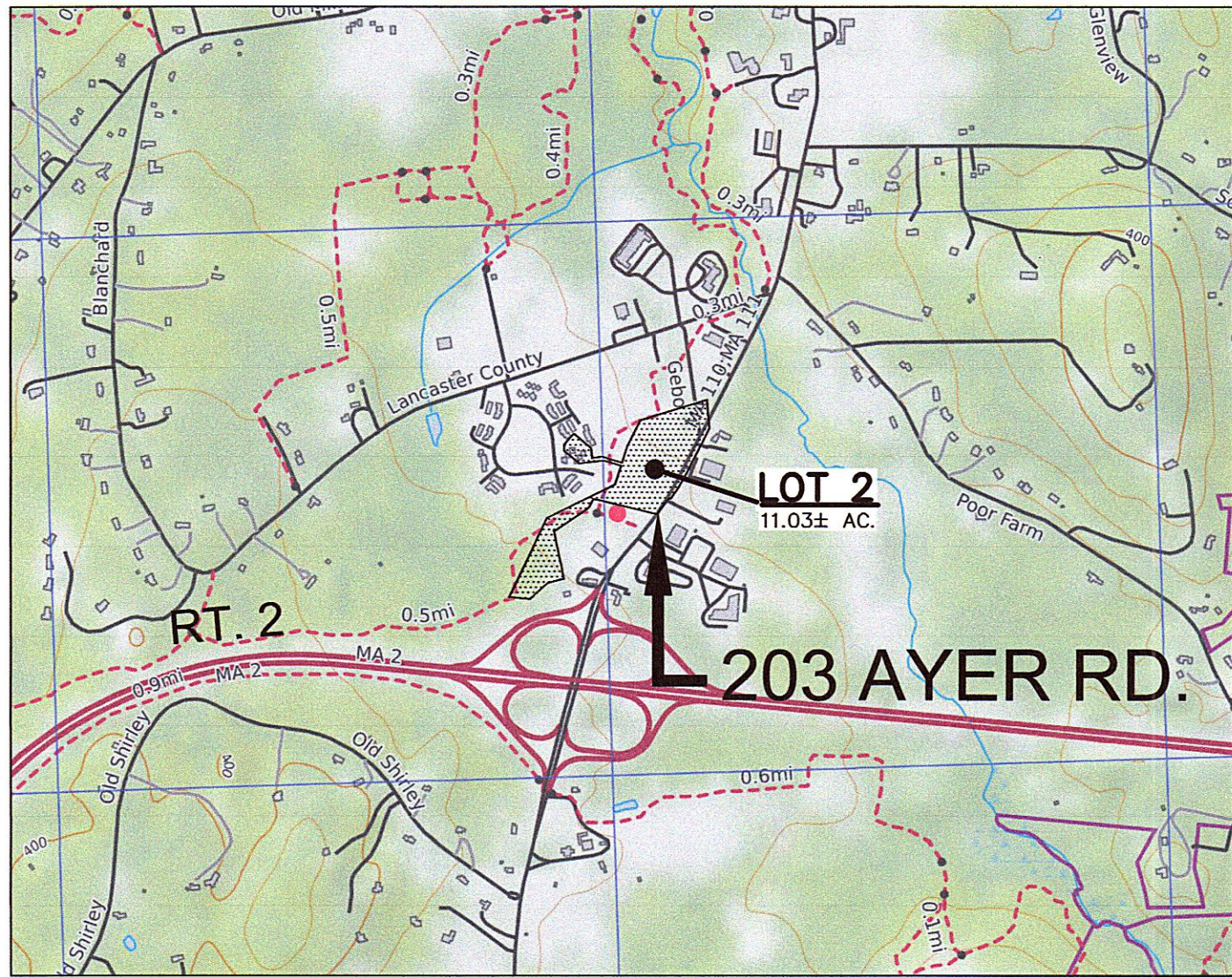
REGULATORY NOTES

- CONTRACTOR SHALL CONTACT DIG-SAFE FOR UNDERGROUND UTILITY MARKING AT 888.344.7233 AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL GIVE TWENTY-FOUR (24)-HOUR NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK IN THE FIELD.
- CONTRACTOR SHALL COORDINATE AND OBTAIN ALL CONSTRUCTION PERMITS REQUIRED BY REGULATORY AUTHORITIES.
- CONTRACTOR SHALL BE AWARE OF ALL CONSTRUCTION REQUIREMENTS, CONDITIONS, AND LIMITATIONS IMPOSED BY PERMITS AND APPROVALS ISSUED BY REGULATORY AUTHORITIES PRIOR TO COMMENCEMENT OF ANY WORK.
- ALL WORK OUTSIDE OF BUILDING THAT IS LESS THAN 10 FEET FROM THE INSIDE FACE OF BUILDING FOUNDATION SHALL CONFORM WITH THE UNIFORM STATE PLUMBING CODE OF MASSACHUSETTS, 248 CMR 2.00.
- GENERAL COMPLIANCE WITH 28 CFR PART 36 – 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND 521 CMR PART C, EXTERIOR OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD REGULATIONS IS INTENDED. CONTRACTOR SHALL VERIFY COMPLIANCE DURING CONSTRUCTION AND SHALL NOTIFY THE OWNER OF ANY NON-COMPLIANCE ISSUES AS SOON AS DISCOVERED.

PLAN REFERENCES

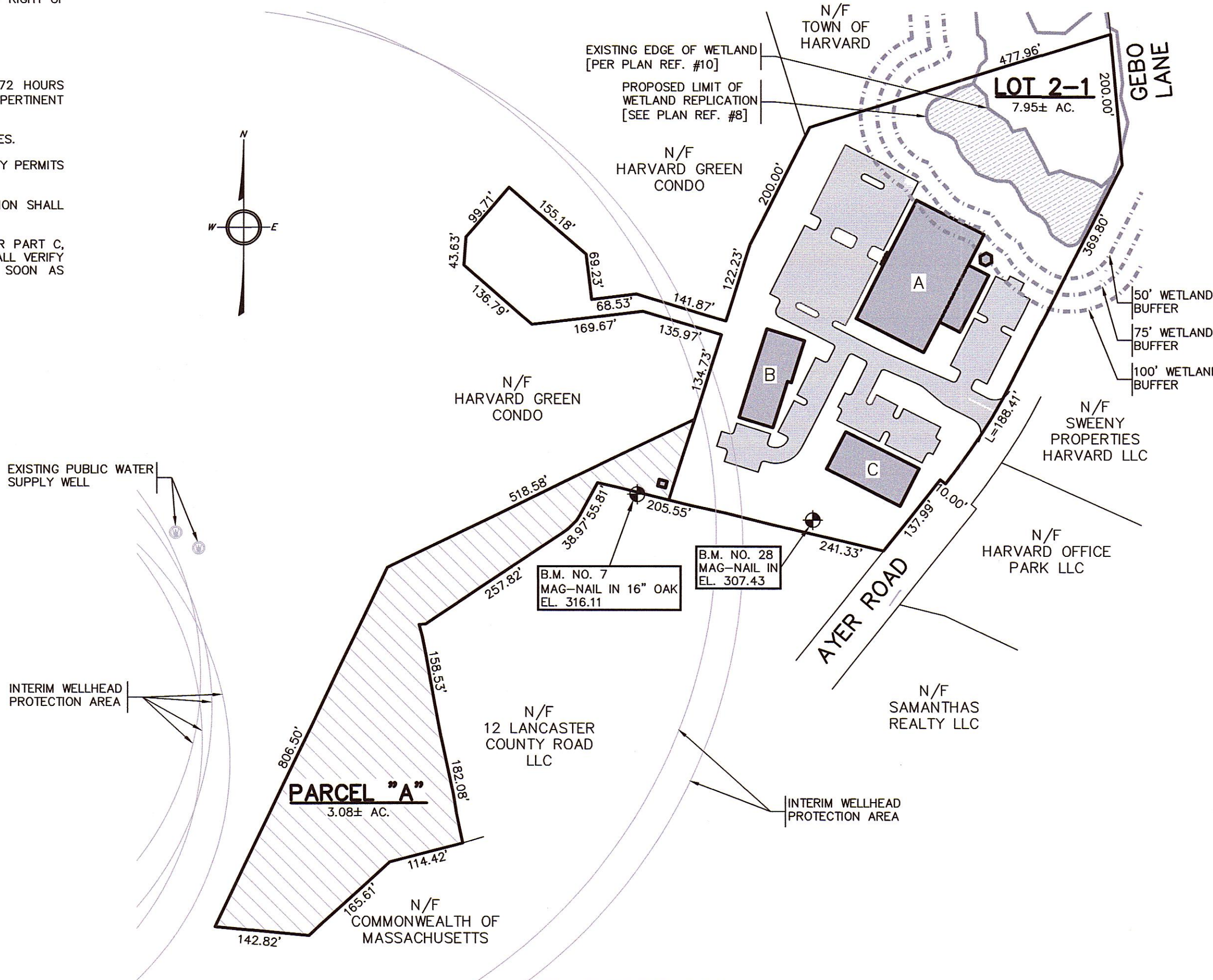
- "SUBSURFACE SEWAGE DISPOSAL SYSTEM-UPGRADE-203 AYER ROAD, HARVARD, MA" PREPARED FOR WHEELER REALTY TRUST BY GOLDSMITH, PREST & RINGWALL, INC. DATED FEBRUARY 2022. GPR JOB #201009A.
- "SUBSURFACE SEWAGE DISPOSAL SYSTEM FOR: LOT 2 AYER ROAD, HARVARD MA" DESIGNED FOR GEBU LANE REALTY TRUST & BERNICE TAVERAS. BY GOLDSMITH, PREST & RINGWALL, INC. DATED MARCH 1998. GPR JOB #97-264.
- "LOT 2, AYER ROAD, SEWAGE DISPOSAL WORKS CONSTRUCTION PERMIT" ISSUED BY THE HARVARD BOARD OF HEALTH, OWNED BY BERNICE TAVERAS & GEBU LANE REALTY TRUST. DATED JULY 10, 1998.
- "PARTIAL CONSTRUCTION RECORD PLAN-SUBSURFACE SEWAGE DISPOSAL SYSTEM-LOT 2 AYER ROAD, HARVARD, MA" PREPARED FOR GEBU LANE REALTY TRUST & BERNICE TAVERAS BY GOLDSMITH, PREST & RINGWALL, INC. DATED NOVEMBER 1998. GPR JOB #97-264.
- "SUBSURFACE SEWAGE DISPOSAL SYSTEM-CONSTRUCTION RECORD PLAN" PREPARED FOR HARVARD GREEN DEVELOPMENT CORP. BY GOLDSMITH, PREST & RINGWALL, INC. DATED MARCH 18, 1997. REVISED THROUGH 7/2/98.
- "PLAN OF LAND, HARVARD, MASSACHUSETTS" PREPARED FOR HARVARD GREEN DEVELOPMENT CORP. BY DILLUS & MISCHKE, INC., SCALE 1" = 80'. DATED SEPTEMBER 1997. APPROVED ON 9/22/97.
- "SUBSURFACE SEWAGE DISPOSAL SYSTEM" PREPARED FOR HARVARD GREEN DEVELOPMENT CORP. BY GOLDSMITH, PREST & RINGWALL, INC., PLAN NO. 96-507:SDS01, DATED MARCH 1997, REVISED JUNE 23, 1997.
- "COMMERCIAL DEVELOPMENT - NOTICE OF INTENT - 203 AYER ROAD, HARVARD, MA" PREPARED FOR YVONNE CHERN AND WHEELER REALTY TRUST BY GOLDSMITH, PREST & RINGWALL, INC. DATED MARCH 2022. GPR JOB #211009.
- "COMMERCIAL DEVELOPMENT-203 AYER ROAD, HARVARD, MA" PREPARED FOR WHEELER REALTY TRUST BY GOLDSMITH, PREST & RINGWALL, INC. DATED JULY 2021. REVISED THROUGH 09/09/21. GPR JOB #211009A.
- "WPA FROM 5-ORDER OF CONDITIONS-203 AYER ROAD, HARVARD MA" PREPARED FOR WHEELER TRUST BY THE HARVARD CONSERVATION COMMISSION. DATED 09/30/21. MASS DEP FILE #177-0707.
- "BACKWASH DISPOSAL SITE PLAN - 196 AYER ROAD HARVARD, MA 01451" PREPARED FOR AYER ROAD PROPERTIES, LLC, BOWERS BROOK, LLC AND WHEELER REALTY TRUST BY PROVENCHER ENGINEERING, LLC. DATED AUGUST 19, 2013. REVISED 08/19/13.

Ayer Road Village Special Permit  
203 AYER ROAD  
HARVARD, MA



VICINITY MAP

SCALE: 1" = 1,000'



PLOT PLAN

SCALE: 1" = 150'

ZONING

Parameter	Underlying District		Ayer Road Village Special Permit		Remarks
	Zoning Section	Requirement	Zoning Section	Requirement	
Zoning District	125-23	Commercial - C	125-23	Commercial - C	
Overlay District	125-42		125-42		Wireless Communication Overlay District
Proposed Use	125-14.D	Large-scale Commercial Use	125-14.D	Large-scale Commercial Use	Planning Board Special Permit Required for use
	125-12.B	Small-scale Commercial Use	125-12.B		Allowed
	125-12.G	Small-scale Commercial Use	125-12.G		Allowed
Lot Area	125-29.B.(1)	1.5 AC			11.03 AC (480,379 sq ft) [2]
Frontage	125-29.B.(3)	180 FT	125-52.B	300 FT	904 FT of frontage provided
Lot Width	125-29.B.(2)	200 FT at 120 FT from roadway center line	125-52.G.1(a)	permit alt. bldg. siting without regard to lot width circle	867 ft lot width provided
Yard					
Front	125-30.E.(4)	20 FT, 60 ft abutting AR district	125-52.G.1(c)	Alternative structure setbacks	Underlying District setbacks met
	125-30.E.(3)	20 FT, 60 ft abutting AR district	125-52.G.1(c)	Alternative structure setbacks	Underlying District setbacks met
Total Floor Area	125-30.B	10% of land area	125-52.G.2(a)	20% of land area	13.2% Total Floor Area provided [3]
	125-30.C	35 FT, 3 stories Max.			< 35 ft provided
Building Height					Alternativly, 10-ft wide green area every 80 ft of length
Parking	125-39.A(3)	20-ft wide green area every 160 ft			
	125-39.A.(3).(a)	9'x19' stall with 24' isle			
Open Area					
Buffer Strip	125-39.C.(1)	20-ft buffer strip around perimeter			
	125-39.C.(2)	50% of lot area			64.3% Green Area Provided [3]
Wetlands Bylaw	local/bylaw	No Structure within 75 ft, No disturbance within 50 ft within 200 ft of riverbank			from edge of wetlands and water bodies
MEDEP Riverfront Area					none on site
FEIMA Floodplain					none on site
WPA					on site

NOTES:

- [1] Reference to section of The Protective Bylaw, where applicable  
[2] Total Lot Area (Lot 2) = 11.03 AC, Total Development Area (Lot 2-1) = 7.95 AC  
[3] % shown is based on the development area

ABBREVIATIONS:

SF=square feet; FT=feet; AC=acres; PB=Planning Board; ZBA=Zoning Board of Appeals; WPA=interim wellhead protection area; OSPD=Open Space Preservation Development

PARKING COMPUTATIONS

USE	REQUIRED SPACES	PROPOSED SPACES (# OF HANDICAP SPACES)
Building A	N/A	120 (5)
Building B	N/A	24 (1)
Building C	N/A	25 (1)

COVERAGE COMPUTATIONS

PARAMETER	AREA (ACRES)	AREA (SQUARE FEET)	FRACTION OF TOTAL LOT AREA (%)
EXISTING CONDITION			
Lot Area	11.03±	480,379±	100%
Development Area	7.95±	346,416±	72.1%
Building Footprint	0	0	0%
Other Impervious Area	0	0	0%
Total Impervious Coverage	0	0	0%
DEVELOPED CONDITION			
Development Area [SEE NOTE 1]	7.95±	346,416±	100%
Building Footprint	0.99±	42,929±	12.3%
Other Impervious Area	1.86±	80,909±	23.4%
Total Impervious Coverage	2.84±	123,838±	35.7%

NOTE:

[1] Lot Area does not include any area in a "W District".

SHEET INDEX

- C1.1 TITLE SHEET
- C2.1 EXISTING CONDITIONS PLAN
- C3.1 SITE UTILITIES PLAN
- C3.2 SITE LAYOUT PLAN
- C4.1 GRADING AND PAVING PLAN
- C4.2 DRAINAGE PLAN
- C5.1 EROSION AND SEDIMENT CONTROL PLAN
- C6.1 CONSTRUCTION DETAILS
- C6.2 CONSTRUCTION DETAILS
- C6.3 CONSTRUCTION DETAILS
- L-1.01 PLANTING PLAN (BY FISHER DESIGN GROUP)

ASSESSORS REFERENCE

ASSESSORS PARCEL # 008-062-002  
OWNER PER ASSESSOR RECORD:  
WHEELER REALTY TRUST  
200 AYER ROAD  
HARVARD, MA 01451

APPROVED BY THE  
HARVARD PLANNING BOARD

CHAIR  
APPLICATION FILED  
HEARING DATE  
PLAN APPROVED

DRAWING ISSUED FOR:

- ☐ CONCEPT ☐ CONSTRUCTION  
☒ PERMIT ☐ CONSTRUCTION RECORD

THIS DRAWING MAY NOT SHOW CONSTRUCTION DETAILS AND SPECIFICATIONS FOR ALL PROPOSED IMPROVEMENTS, AND MAY NOT IDENTIFY ALL CONSTRUCTION WORK ITEMS/AREAS OF CONTRACTOR JURISDICTION.

PER 250 CMR 5.03(13), THE FOLLOWING ARE EXCLUDED FROM THE PROFESSIONAL ENGINEER'S RESPONSIBILITY: ALL BOUNDARY INFORMATION; LOCATION OF EXISTING STRUCTURES, TREES, UTILITIES, TOPOGRAPHY OR SIMILAR FEATURES; DESIGN OF RETAINING WALLS, PROPRIETARY EQUIPMENT. SEE EXISTING CONDITION NOTES.

NO.	DATE	BY	APP.	REVISION DESCRIPTION

**GPR** Engineering Solutions for Land & Structures

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COMMERCIAL DEVELOPMENT  
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TITLE SHEET

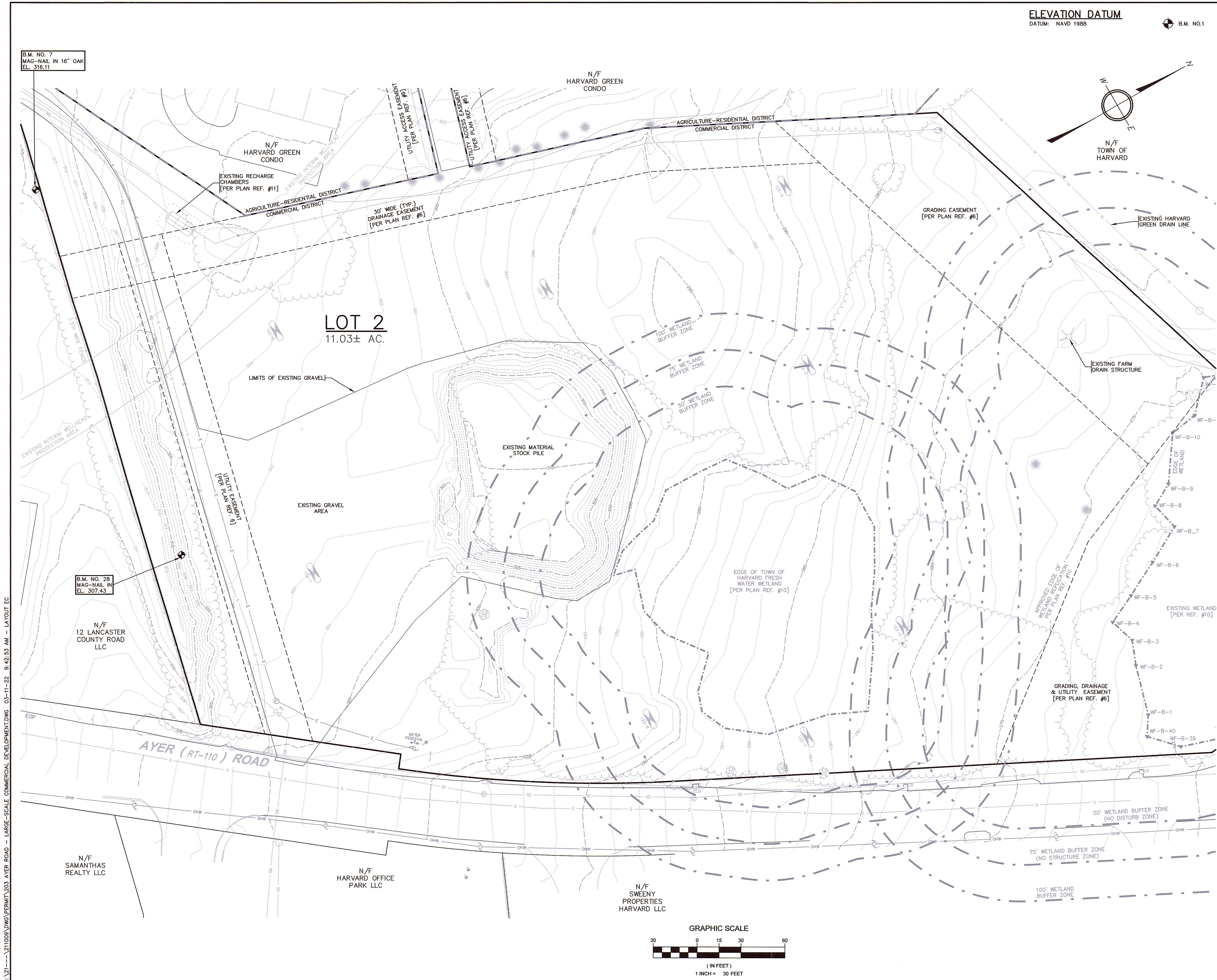
203 AYER ROAD  
HARVARD, MA

PREPARED FOR:  
YVONNE CHERN  
7 GREEN WAY  
WAYLAND, MA 01778

WHEELER REALTY TRUST  
198 AYER ROAD  
HARVARD, MA 01451

DES. BY: MCL	DATE: MARCH 2022	JOB 211009	C1.1
CHK. BY: NMP			





ELEVATION DATUM  
DATUM: NAVD 1988

B.M. NO.1

- LEGEND**
- EXISTING**
- ELEVATION CONTOUR
  - SPOT GRADE
  - PROPERTY LINE
  - WETLAND DELINEATION
  - WETLAND BUFFER ZONE
  - SHORELINE
  - 100-YEAR FLOODPLAIN LIMIT
  - TREE LINE / EDGE OF VEGETATION
  - EDGE OF PAVEMENT
  - CAPE COD BERM CURBING
  - GRANITE CURBING
  - GRAVEL/DIRT ROAD
  - STOCKADE FENCE
  - STONE WALL
  - WATER MAIN
  - WATER SERVICE
  - FIRE SERVICE
  - WATER VALVE
  - FIRE HYDRANT
  - FORCE MAIN
  - GRAVITY SEWER LINE
  - SEWER MANHOLE
  - GAS LINE
  - GAS SERVICE
  - GAS VALVE
  - BURIED POWER LINE
  - OVERHEAD POWER LINE
  - UTILITY POLE
  - GUY WIRE
  - ELECTRIC BOX
  - STORM DRAIN
  - UNDERDRAIN
  - DRAIN
  - FOUNDATION DRAIN
  - CATCH BASIN
  - DRAIN MANHOLE
  - DEEP SOIL OBSERVATION HOLE
  - SITE LUMINAIRE
  - SIGN
  - STONE BOUND
  - DRILL HOLE
  - IRON ROD
- ABBREVIATIONS**
- |      |             |      |                           |
|------|-------------|------|---------------------------|
| EL   | ELEVATION   | HDPE | HIGH DENSITY POLYETHYLENE |
| INV  | INVERT      | PVC  | POLYVINYL CHLORIDE        |
| SF   | SQUARE FEET | RCP  | REINFORCED CONCRETE PIPE  |
| AC   | ACRES       | N/F  | NOW OR FORMERLY           |
| FT   | FEET        | VP   | VERNAL POOL               |
| R    | RADIUS      | WF   | WETLAND FLAG              |
| DIA  | DIAMETER    | TW   | TOP OF WALL               |
| BIT  | BITUMINOUS  | BW   | BOTTOM OF WALL            |
| CONC | CONCRETE    | FG   | FINISH GRADE              |
| L    | LENGTH      | BSMT | BASEMENT                  |
| S    | SLOPE       | FF   | FINISH FLOOR              |

- EXISTING CONDITIONS NOTES:**
- EXISTING CONDITION INFORMATION BASED ON AN ON-THE-GROUND TOPOGRAPHIC SURVEY PERFORMED BY GOLDSMITH, PREST & RINGWALL, INC. DURING JUNE 2021 & SUPPLEMENTED WITH CONSTRUCTION RECORD INFORMATION SHOWN ON PLAN REF. #4 & #5.
  - THE EDGE OF WETLAND DELINEATED BY MATTHEW S. MARRO ENVIRONMENTAL CONSULTING, INC. DATED JUNE 2021. PER ORDER OF CONDITIONS DEP FILE #177-0707 (PLAN REF. #10).
  - SUBSURFACE UTILITIES SHOWN HEREON ARE BASED ON PLAN REF. #11.
  - SEE COVER SHEET FOR PLAN REFERENCES.

**DRAWING ISSUED FOR:**

<input type="checkbox"/> CONCEPT	<input type="checkbox"/> CONSTRUCTION
<input checked="" type="checkbox"/> PERMIT	<input type="checkbox"/> CONSTRUCTION RECORD

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**COMMERCIAL DEVELOPMENT  
SPECIAL PERMIT**

**EXISTING CONDITIONS PLAN**

**203 AYER ROAD  
HARVARD, MA**

PREPARED FOR:  
YVONNE CHERN  
7 GREEN WAY  
WAYLAND, MA 01778

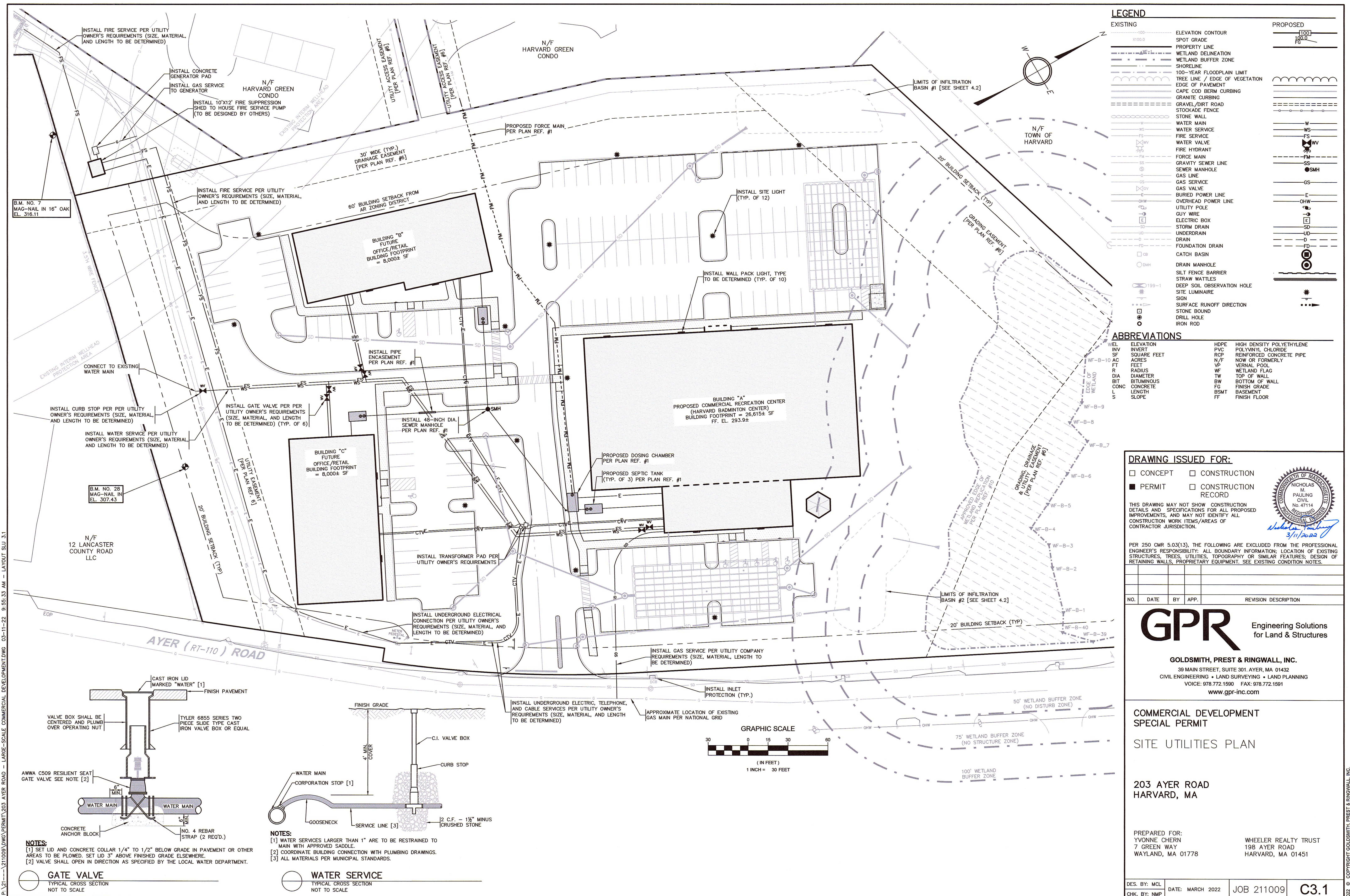
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198 AYER ROAD  
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DES. BY: MCL	DATE: MARCH 2022	JOB 211009	<b>C2.1</b>
CHK. BY: NMP			

P:\211009\211009\DWG\PERMIT\203 AYER ROAD - LARGE-SCALE COMMERCIAL DEVELOPMENT.DWG 03-11-22 9:42:53 AM - LAYOUT EC

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B.M. NO. 7  
MAG-NAIL IN 16" OAK  
EL. 316.11

P:\21-1009\21009 DWS\PERMIT\203 AYER ROAD - LARGE-SCALE COMMERCIAL DEVELOPMENT.DWG 03-11-22 10:03:09 AM - LAYOUT GRP 4.1

B.M. NO. 28  
MAG-NAIL IN  
EL. 307.43

N/F  
12 LANCASTER  
COUNTY ROAD  
LLC

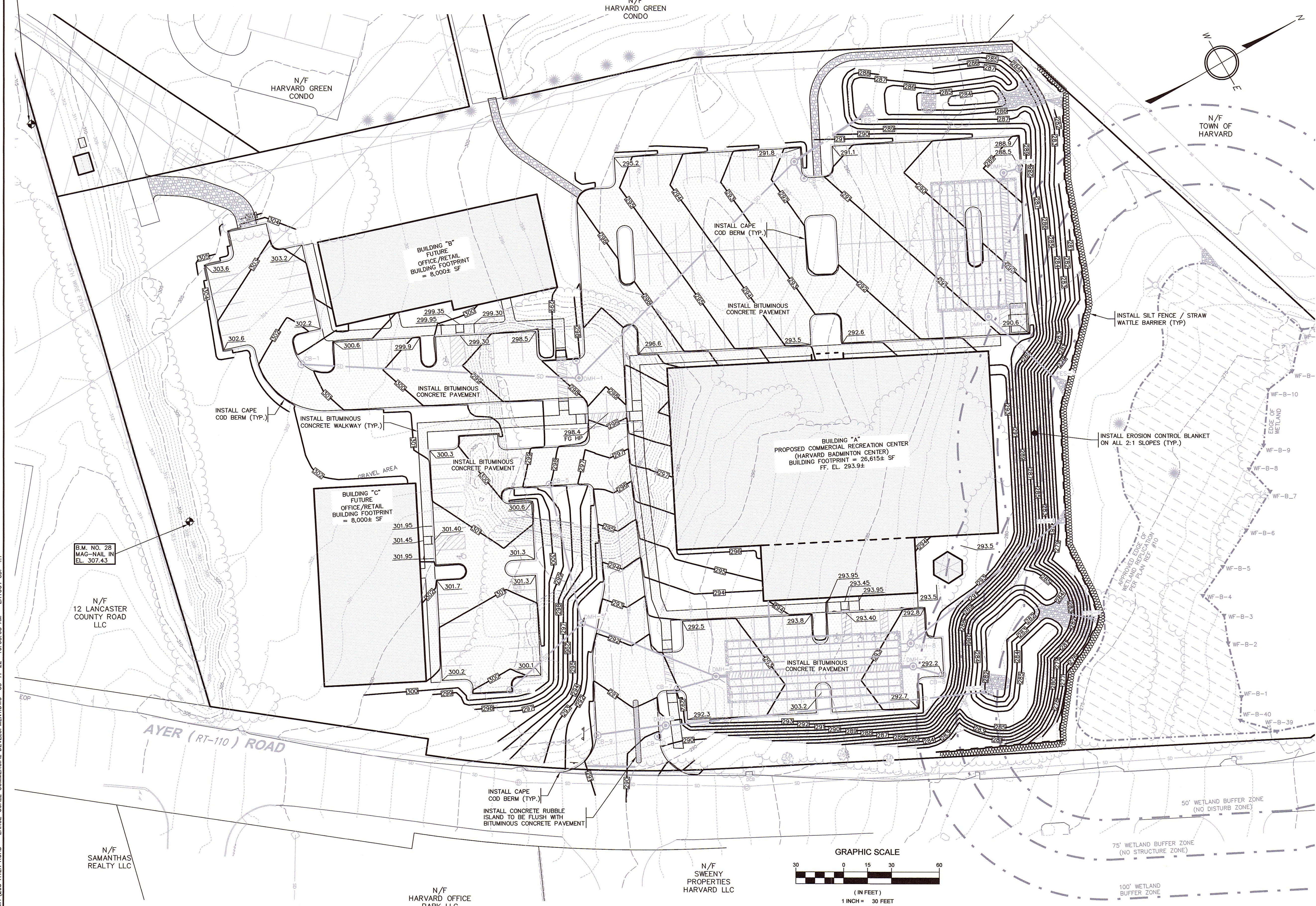
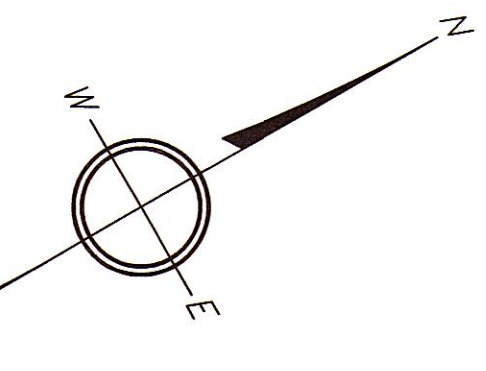
N/F  
SAMANTHAS  
REALTY LLC

N/F  
HARVARD GREEN  
CONDO

N/F  
HARVARD GREEN  
CONDO

N/F  
OFFICE  
PARK LLC

N/F  
SWEENEY  
PROPERTIES  
HARVARD LLC



LEGEND			
EXISTING	PROPOSED		
-----100-----	ELEVATION CONTOUR	-----100-----	ELEVATION CONTOUR
-----X100.0-----	SPOT GRADE	-----100.0-----	SPOT GRADE
-----+-----	PROPERTY LINE	-----+-----	PROPERTY LINE
-----W-----	WETLAND DELINEATION	-----W-----	WETLAND DELINEATION
-----B-----	WETLAND BUFFER ZONE	-----B-----	WETLAND BUFFER ZONE
-----S-----	SHORELINE	-----S-----	SHORELINE
-----F-----	100-YEAR FLOODPLAIN LIMIT	-----F-----	100-YEAR FLOODPLAIN LIMIT
-----T-----	TREE LINE / EDGE OF VEGETATION	-----T-----	TREE LINE / EDGE OF VEGETATION
-----P-----	EDGE OF PAVEMENT	-----P-----	EDGE OF PAVEMENT
-----C-----	CAPE COD BERM CURBING	-----C-----	CAPE COD BERM CURBING
-----G-----	GRAVEL/DIRT ROAD	-----G-----	GRAVEL/DIRT ROAD
-----S-----	STOCKADE FENCE	-----S-----	STOCKADE FENCE
-----W-----	STONE WALL	-----W-----	STONE WALL
-----W-----	WATER MAIN	-----W-----	WATER MAIN
-----WS-----	WATER SERVICE	-----WS-----	WATER SERVICE
-----FS-----	FIRE SERVICE	-----FS-----	FIRE SERVICE
-----WV-----	WATER VALVE	-----WV-----	WATER VALVE
-----FH-----	FIRE HYDRANT	-----FH-----	FIRE HYDRANT
-----FM-----	FORCE MAIN	-----FM-----	FORCE MAIN
-----GS-----	GRAVITY SEWER LINE	-----GS-----	GRAVITY SEWER LINE
-----S-----	SEWER MANHOLE	-----S-----	SEWER MANHOLE
-----G-----	GAS LINE	-----G-----	GAS LINE
-----GS-----	GAS SERVICE	-----GS-----	GAS SERVICE
-----GV-----	GAS VALVE	-----GV-----	GAS VALVE
-----B-----	BURIED POWER LINE	-----B-----	BURIED POWER LINE
-----OHW-----	OVERHEAD POWER LINE	-----OHW-----	OVERHEAD POWER LINE
-----U-----	UTILITY POLE	-----U-----	UTILITY POLE
-----G-----	GUY WIRE	-----G-----	GUY WIRE
-----E-----	ELECTRIC BOX	-----E-----	ELECTRIC BOX
-----SD-----	STORM DRAIN	-----SD-----	STORM DRAIN
-----UD-----	UNDERDRAIN	-----UD-----	UNDERDRAIN
-----D-----	DRAIN	-----D-----	DRAIN
-----FD-----	FOUNDATION DRAIN	-----FD-----	FOUNDATION DRAIN
-----CB-----	CATCH BASIN	-----CB-----	CATCH BASIN
-----DMH-----	DRAIN MANHOLE	-----DMH-----	DRAIN MANHOLE
-----S-----	SILT FENCE BARRIER	-----S-----	SILT FENCE BARRIER
-----W-----	STRAW WATTLES	-----W-----	STRAW WATTLES
-----DSO-----	DEEP SOIL OBSERVATION HOLE	-----DSO-----	DEEP SOIL OBSERVATION HOLE
-----L-----	SITE LUMINAIRE	-----L-----	SITE LUMINAIRE
-----S-----	SIGN	-----S-----	SIGN
-----S-----	SURFACE RUNOFF DIRECTION	-----S-----	SURFACE RUNOFF DIRECTION
-----S-----	STONE BOUND	-----S-----	STONE BOUND
-----D-----	DRILL HOLE	-----D-----	DRILL HOLE
-----I-----	IRON ROD	-----I-----	IRON ROD

ABBREVIATIONS			
EL	ELEVATION	HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT	PVC	POLYVINYL CHLORIDE
SF	SQUARE FEET	RCP	REINFORCED CONCRETE PIPE
AC	ACRES	N/F	NOW OR FORMERLY
FT	FEET	VP	VERNAL POOL
R	RADIUS	WF	WETLAND FLAG
DIA	DIAMETER	TW	TOP OF WALL
BIT	BITUMINOUS	BW	BOTTOM OF WALL
CONC	CONCRETE	FG	FINISH GRADE
L	LENGTH	BSMT	BASEMENT
S	SLOPE	FF	FINISH FLOOR

DRAWING ISSUED FOR:

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203 AYER ROAD  
HARVARD, MA

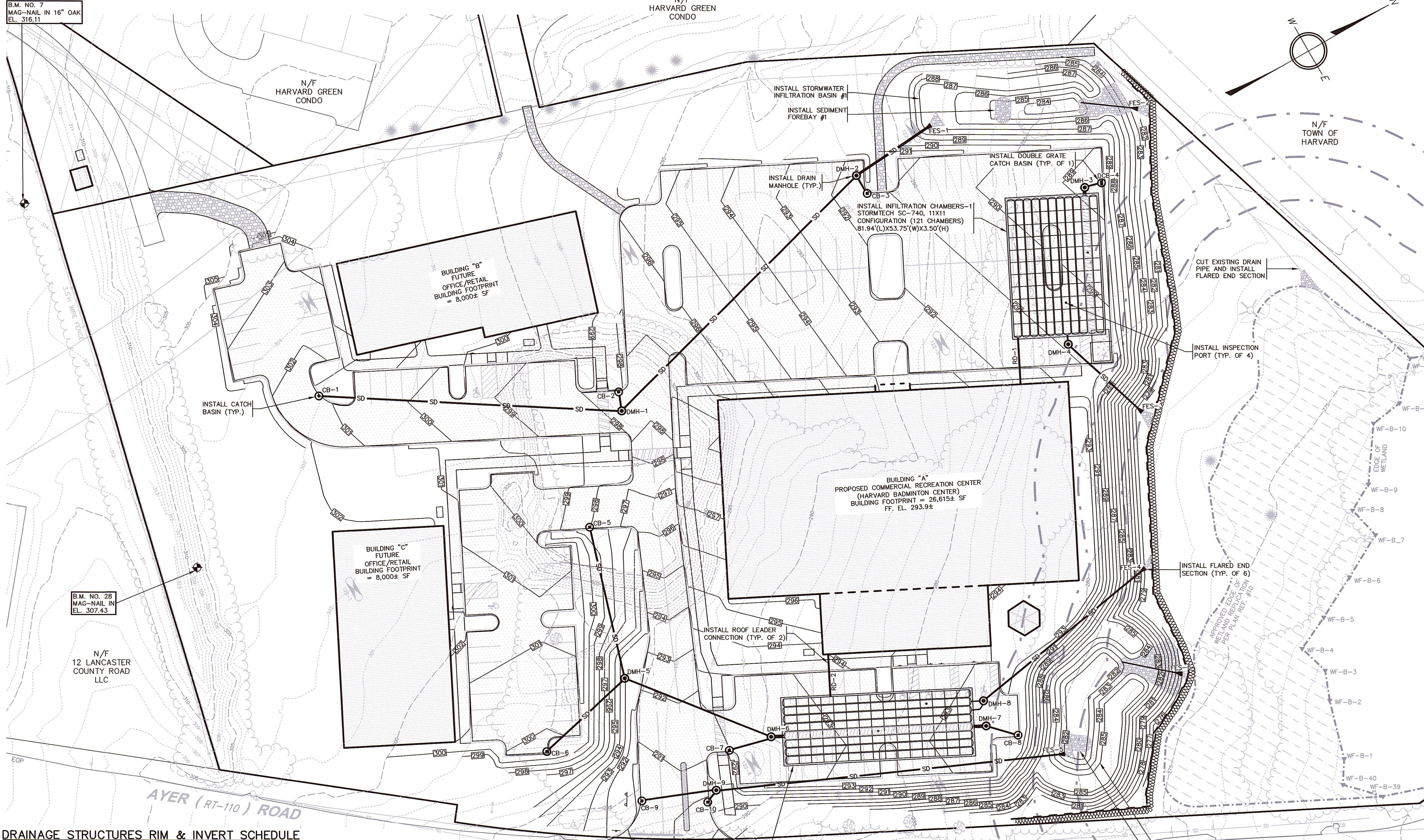
PREPARED FOR:  
YVONNE CHERN  
7 GREEN WAY  
WAYLAND, MA 01778

WHEELER REALTY TRUST  
198 AYER ROAD  
HARVARD, MA 01451

DES. BY: MCL	DATE: MARCH 2022	JOB 211009	C4.1
CHK. BY: NMP			



P:\211009\211009\DWG\PERMIT\203 AYER ROAD - LARGE-SCALE COMMERCIAL DEVELOPMENT.DWG 03-11-22 10:28:55 AM - LAYOUT GDP 4.2



DRAINAGE STRUCTURES RIM & INVERT SCHEDULE

FROM		TO		Pipe Size (in)	Pipe Type	Length (ft)	Slope (ft/ft)	Comments
Structure	Rim	Invert	Structure	Invert				
CB-1	301.50	297.50	DMH-1	293.56	12	HDPE	170.0	Discharge to Sediment Forebay No. 1
CB-2	297.70	293.70	DMH-1	293.56	12	HDPE	7.0	
DMH-1	297.90	293.46	DMH-2	287.40	12	HDPE	188.0	
CB-3	291.50	287.50	DMH-2	287.40	12	HDPE	8.0	
DMH-2	291.70	286.90	FES-1	286.42	18	HDPE	48.0	
IB-1	-	284.50	FES-2	282.50	8	HDPE	30.0	Double grate catch basin Drain manhole with sump Roof drain connection from building
DCB-4	288.50	284.50	DMH-3	284.20	12	HDPE	7.0	
DMH-3	288.70	284.10	IC-1	284.00	24	HDPE	5.0	
RD-1	-	287.00	IC-1	285.25	12	HDPE	27.0	
IC-1	-	286.00	DMH-4	285.80	10	HDPE	5.0	
DMH-4	290.95	285.70	FES-3	279.00	12	HDPE	53.0	Drain manhole with sump Drain manhole with sump Roof drain connection from building (2) 8"HDPE connections
CB-5	298.00	294.00	DMH-5	289.10	12	HDPE	86.0	
CB-6	299.50	295.50	DMH-5	289.10	12	HDPE	58.0	
DMH-5	293.00	289.00	DMH-6	287.70	12	HDPE	88.0	
CB-7	292.00	288.00	DMH-6	287.70	12	HDPE	22.0	
DMH-6	292.40	287.60	IC-2	287.50	24	HDPE	5.0	Discharge to Sediment Forebay No. 2
CB-8	292.20	288.50	DMH-7	288.20	12	HDPE	15.0	
DMH-7	292.40	287.60	IC-2	287.50	24	HDPE	5.0	
RD-2	-	290.00	IC-2	288.75	12	HDPE	25.0	
IC-2	-	288.60	DMH-7	288.40	8	HDPE	5.0	
DMH-8	292.80	288.30	FES-4	279.00	12	HDPE	120.0	Discharge to Sediment Forebay No. 2
CB-9	291.00	287.00	DMH-9	284.80	12	HDPE	69.0	
CB-10	289.00	285.00	DMH-9	284.79	12	HDPE	21.0	
DMH-9	290.50	284.70	FES-5	282.00	15	HDPE	185.0	
IB-2	-	282.50	FES-6	278.50	8	HDPE	37.4	

Abbreviations:  
CB - Catch Basin; DCB - Double Grate Catch Basin; DMH - Drain Manhole; FES - Flared End Section; IC - Infiltration Chambers; RD - Roof Drain

LEGEND

EXISTING		PROPOSED	
100.0	ELEVATION CONTOUR	100.0	ELEVATION CONTOUR
X100.0	SPOT GRADE	100.0	SPOT GRADE
---	PROPERTY LINE	---	PROPERTY LINE
---	WETLAND DELINEATION	---	WETLAND DELINEATION
---	WETLAND BUFFER ZONE	---	WETLAND BUFFER ZONE
---	SHORELINE	---	SHORELINE
---	100-YEAR FLOODPLAIN LIMIT	---	100-YEAR FLOODPLAIN LIMIT
---	TREE LINE / EDGE OF VEGETATION	---	TREE LINE / EDGE OF VEGETATION
---	EDGE OF PAVEMENT	---	EDGE OF PAVEMENT
---	CAPE COD BERM CURBING	---	CAPE COD BERM CURBING
---	GRAVEL/DIRT ROAD	---	GRAVEL/DIRT ROAD
---	STOCKADE FENCE	---	STOCKADE FENCE
---	STONE WALL	---	STONE WALL
---	WATER MAIN	---	WATER MAIN
---	WATER SERVICE	---	WATER SERVICE
---	FIRE SERVICE	---	FIRE SERVICE
---	WATER VALVE	---	WATER VALVE
---	FIRE HYDRANT	---	FIRE HYDRANT
---	FORCE MAIN	---	FORCE MAIN
---	GRAVITY SEWER LINE	---	GRAVITY SEWER LINE
---	SEWER MANHOLE	---	SEWER MANHOLE
---	GAS LINE	---	GAS LINE
---	GAS SERVICE	---	GAS SERVICE
---	GAS VALVE	---	GAS VALVE
---	BURIED POWER LINE	---	BURIED POWER LINE
---	OVERHEAD POWER LINE	---	OVERHEAD POWER LINE
---	UTILITY POLE	---	UTILITY POLE
---	GUY WIRE	---	GUY WIRE
---	ELECTRIC BOX	---	ELECTRIC BOX
---	STORM DRAIN	---	STORM DRAIN
---	UNDERDRAIN	---	UNDERDRAIN
---	DRAIN	---	DRAIN
---	FOUNDATION DRAIN	---	FOUNDATION DRAIN
---	CATCH BASIN	---	CATCH BASIN
---	RAIN MANHOLE	---	RAIN MANHOLE
---	SILT FENCE BARRIER	---	SILT FENCE BARRIER
---	STRAW WATTLIES	---	STRAW WATTLIES
---	DEEP SOIL OBSERVATION HOLE	---	DEEP SOIL OBSERVATION HOLE
---	SITE LUMINAIRE	---	SITE LUMINAIRE
---	SIGN	---	SIGN
---	SURFACE RUNOFF DIRECTION	---	SURFACE RUNOFF DIRECTION
---	STONE BOUND	---	STONE BOUND
---	DRILL HOLE	---	DRILL HOLE
---	IRON ROD	---	IRON ROD

ABBREVIATIONS

EL	ELEVATION	HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT	PVC	POLYVINYL CHLORIDE
SF	SQUARE FEET	RCP	REINFORCED CONCRETE PIPE
AC	ACRES	N/F	NOW OR FORMERLY
FT	FEET	VP	VERNAL POOL
R	RADIUS	WF	WETLAND FLAG
DIA	DIAMETER	TW	TOP OF WALL
BIT	BITUMINOUS	BW	BOTTOM OF WALL
CONC	CONCRETE	FG	FINISH GRADE
L	LENGTH	BSMT	BASEMENT
S	SLOPE	FF	FINISH FLOOR

DRAWING ISSUED FOR:

- ☐ CONCEPT ☐ CONSTRUCTION  
☒ PERMIT ☐ CONSTRUCTION RECORD

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NO.	DATE	BY	APP.	REVISION DESCRIPTION
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COMMERCIAL DEVELOPMENT  
SPECIAL PERMIT

DRAINAGE PLAN

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EROSION AND SEDIMENT CONTROL REQUIREMENTS

PART 1 – GENERAL

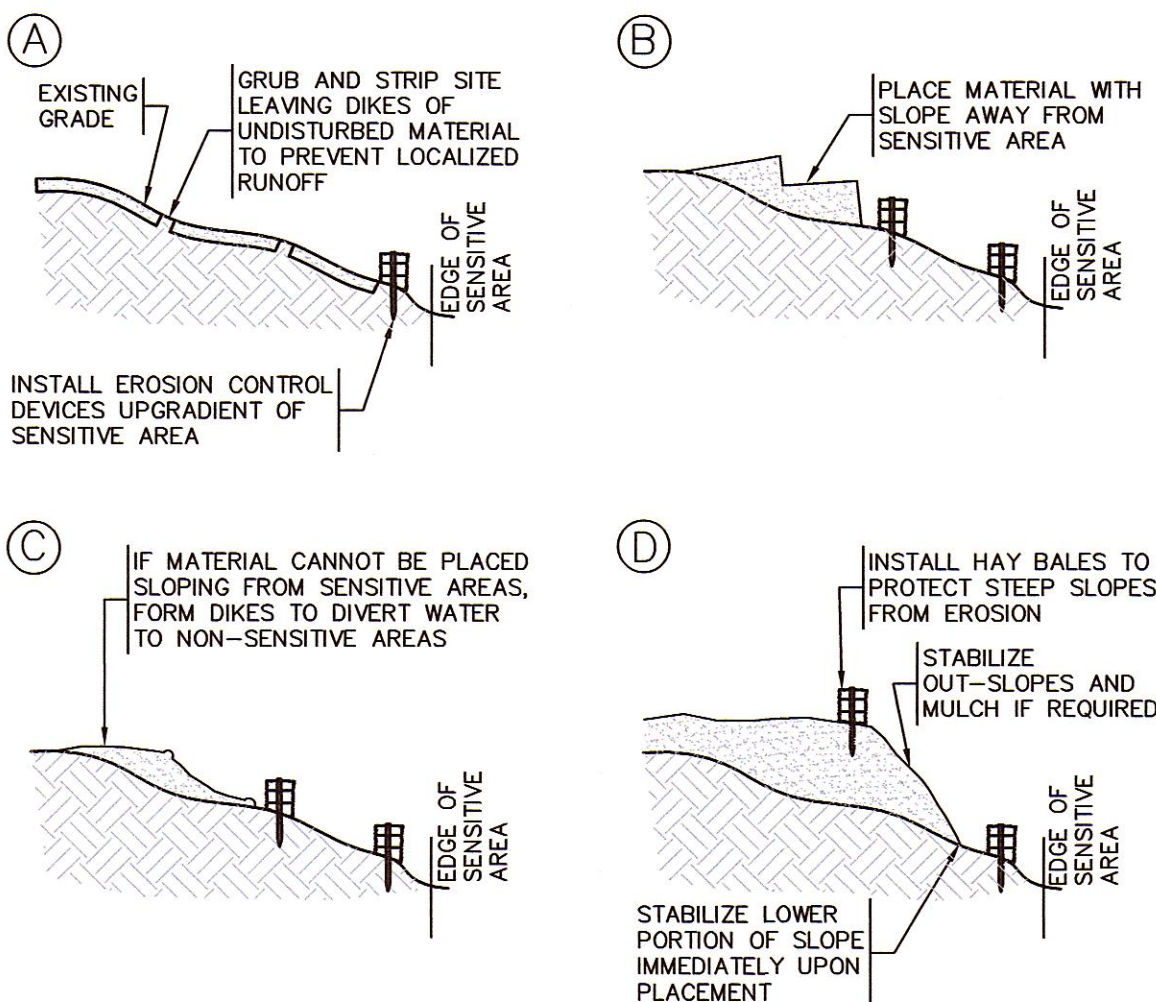
- 1.01 SUMMARY
- A. FURNISH, INSTALL, AND MAINTAIN TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS, BUT NOT NECESSARILY LIMITED TO, STRAW BALE AND SILT FENCE BARRIERS, RIPRAP, DIVERSION CHANNELS AND BERMS, CHECK DAMS, STRATEGICALLY LOCATED STOCKPILES, SEDIMENT BASINS, MULCH, AND 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.
1. REFER TO DRAWINGS FOR LOCATION AND DETAILS OF CONTROL MEASURES REQUIRED TO COMMENCE WORK. THESE 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.
- 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, BOARD OF SELECTMEN, 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 WATTLES: DRY GRASS OR STRAW, MACHINE BOUND WITH JUTE OR WIRE, APPROXIMATE SIZE EACH BALE 9" DIAMETER.
- B. 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.
- C. MULCH: ORGANICS INCLUDING STRAW, PROCESSED PINE / HEMLOCK TWIGS AND NEEDLES.
- D. SEED MIXES: PERENNIAL RYEGRASS, KENTUCKY BLUEGRASS, AND / OR FINE FESCUE, DISEASE RESISTANT. NON-MAINTAINED AREA OPTION – ANNUAL RYEGRASS COMBINED WITH MEDIUM RED CLOVER.
- E. 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 I BLANKET BY AMERICAN EXCELSIOR COMPANY, OR APPROVED EQUAL.
- F. ROCK RIPRAP: SOUND, ANGULAR, 6-INCH MINUS PROCESSED ROCK, BLAST ROCK, OR TAILINGS.
- G. 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 straw 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.
- 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 / BY-PRODUCTS 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.

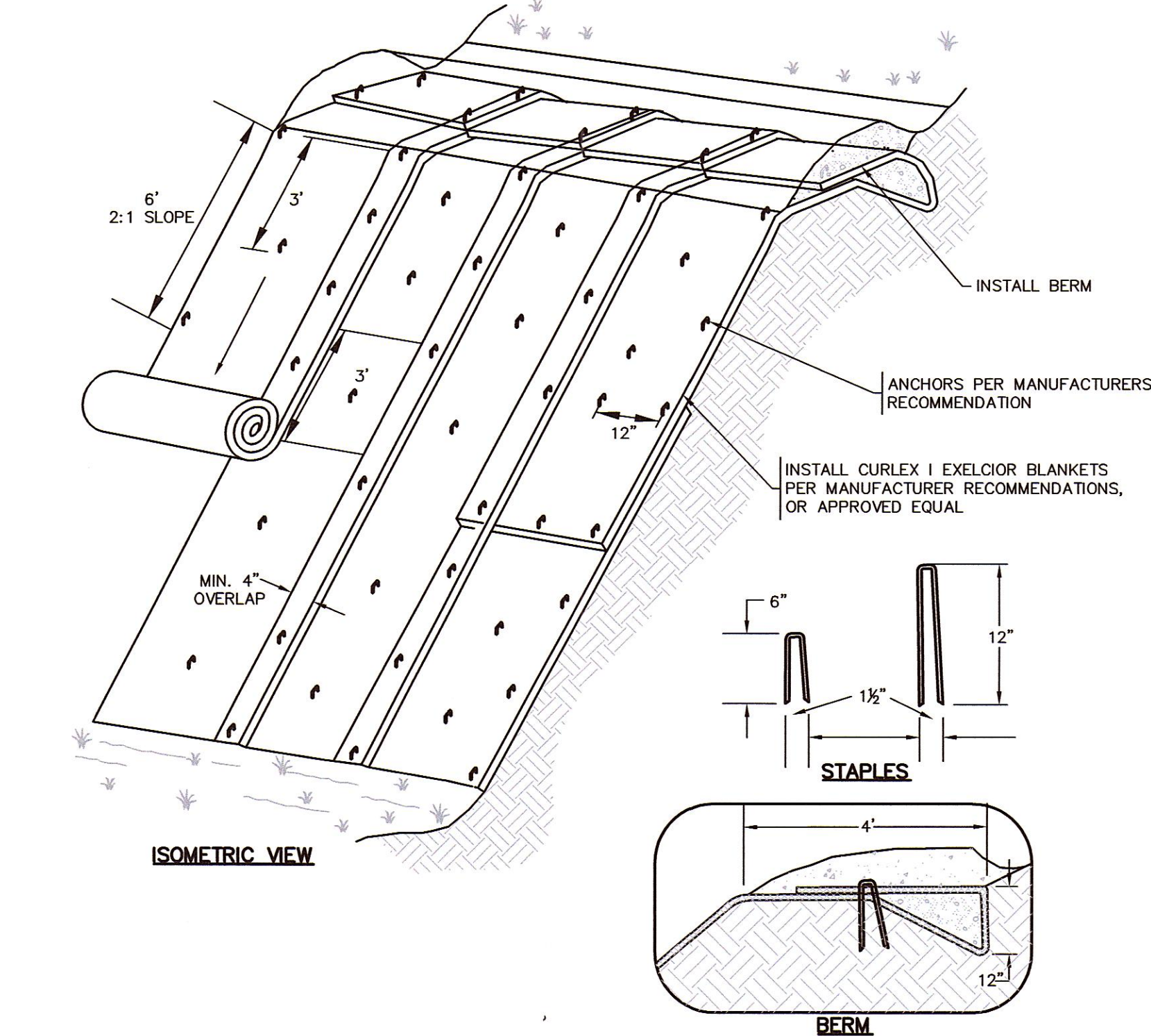


FILL PROCEDURE  
SLOPE PROFILES  
NOT TO SCALE

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

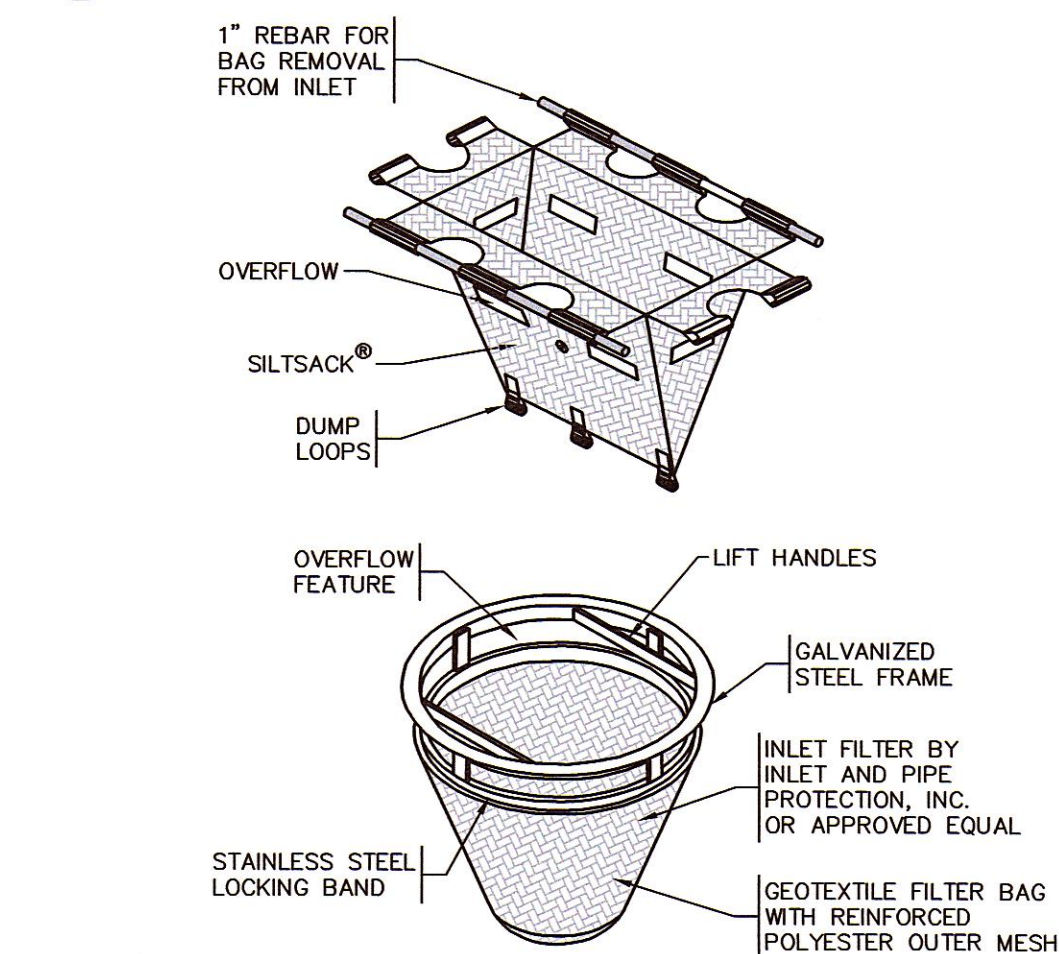
- 3.05 SITE GRADING
- A. WHERE APPLICABLE, FOLLOW EXCAVATION AND FILL PRACTICES SHOWN ON DRAWINGS TO LOCALIZE AND MINIMIZE EROSION.
- B. MONITOR SEDIMENT VOLUME IN TEMPORARY SEDIMENT BASINS AND AT DIVERSION BERMS AND CHECK DAMS. IN ALL AREAS EXCEPT THOSE THAT DO NOT PRESENT POTENTIAL PROBLEMS WITH REGARD TO FUTURE SOIL STABILITY, DRAINAGE, OR BEARING CAPACITY, REMOVE AND PROPERLY DISPOSE OF TRAPPED SEDIMENT BEFORE BRINGING SITE TO FINAL SUBGRADE.
- 3.06 STORMWATER MANAGEMENT SYSTEM
- A. THE STORMWATER MANAGEMENT SYSTEM INCLUDES, BUT IS NOT NECESSARILY LIMITED TO, ALL PERMANENT DETENTION / RETENTION BASINS, DISCHARGE STRUCTURES / WEIRS, CULVERTS, OPEN CHANNELS, CURBS, GUTTERS, PAVED SWALES, CATCH BASINS, DRAIN MANHOLES, DRAINAGE PIPES, ROOF DRAIN MANIFOLDS, WATER QUALITY SWALES, SEPARATORS, AND SIMILAR STORMWATER RUNOFF CONVEYANCE, TREATMENT, AND STORAGE FACILITIES.
- B. INSTALL STORMWATER MANAGEMENT SYSTEM COMPONENTS STARTING AT THE DOWNSTREAM END AND PROCEED UPSTREAM. WHERE POSSIBLE, COMPLETE INSTALLATION OF PERMANENT DETENTION / RETENTION BASINS PRIOR TO BEGINNING WORK ON UPSTREAM SYSTEM COMPONENTS.
- C. INSTALL CONTROL MEASURES AT FINISHED UPSTREAM AND DOWNSTREAM PIPE ENDS AS SOON AS POSSIBLE AFTER COMPLETION OF PIPE RUN. SUCH MEASURES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, RIPRAP, CHECK DAMS, HAY BALE / SILT FENCE BARRIERS, AND VELOCITY DISSIPATORS.
- D. AT THE END OF EACH DAY OR WHEN RAINFALL IS EXPECTED, PLUG UPSTREAM END OF PIPES / DAM OPEN CHANNELS OR OTHERWISE REDIRECT POTENTIAL RUNOFF AND PREVENT FLOW FROM ENTERING PARTIALLY COMPLETED SYSTEM / SYSTEM COMPONENTS.
- E. WHERE PORTIONS OF A NEW SYSTEM ARE TO BE ACTIVATED PRIOR TO COMPLETION OF THE ENTIRE SYSTEM, EMPLOY CONTROL MEASURES TO PREVENT SILT AND DEBRIS FROM ENTERING THE SYSTEM. EMPLOY SILT SACKS OR FABRIC ON CATCH BASIN INLETS, AND PIPE AND CULVERT OPENINGS. EMPLOY CHECK DAMS AND TEMPORARY SEDIMENT BASINS UPSTREAM OF AND ALONG OPEN CHANNELS, SWALES, AND DITCHES TO TRAP SEDIMENT UPGRADIENT OF ENVIRONMENTALLY SENSITIVE AREAS.
- F. REMOVE TRAPPED SEDIMENT AND DEBRIS FROM ALL SYSTEM COMPONENTS AFTER COMPLETION OF INSTALLATION, AND AGAIN AFTER THE ENTIRE SITE IS PERMANENTLY STABILIZED BY ESTABLISHED VEGETATION, FINISH LANDSCAPE MATERIALS, PAVED SURFACES, AND/OR ROOF AREA. REMOVE TRAPPED SEDIMENT AND DEBRIS FROM DETENTION / RETENTION BASIN BOTTOMS SO THAT FINISH BOTTOM MATERIALS / INFILTRATION FUNCTION CONFORM TO DESIGN.

- 3.07 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.



- NOTES:
- [1] SLOPE SURFACE SHALL BE FREE OF ROCK, CLODS, STICKS AND GRASS, MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT
- [2] APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS
- [3] LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH
- [4] MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE
- [5] TAMP SOIL OVER MAT/BLANKET

EROSION BLANKET  
NOT TO SCALE

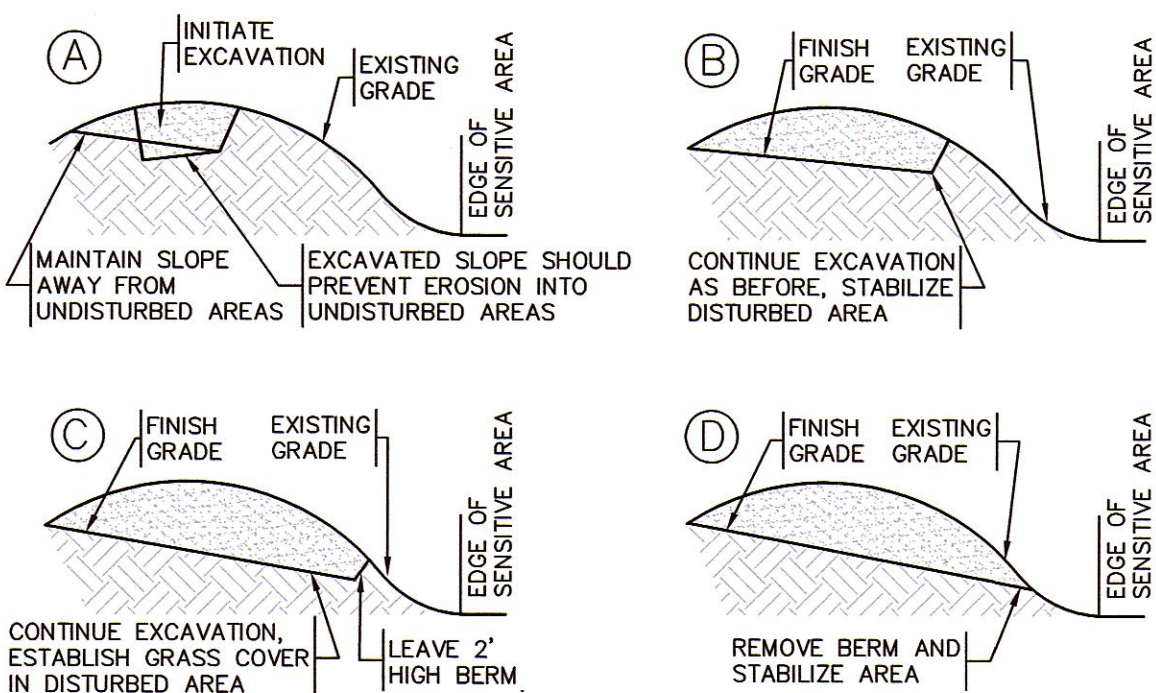


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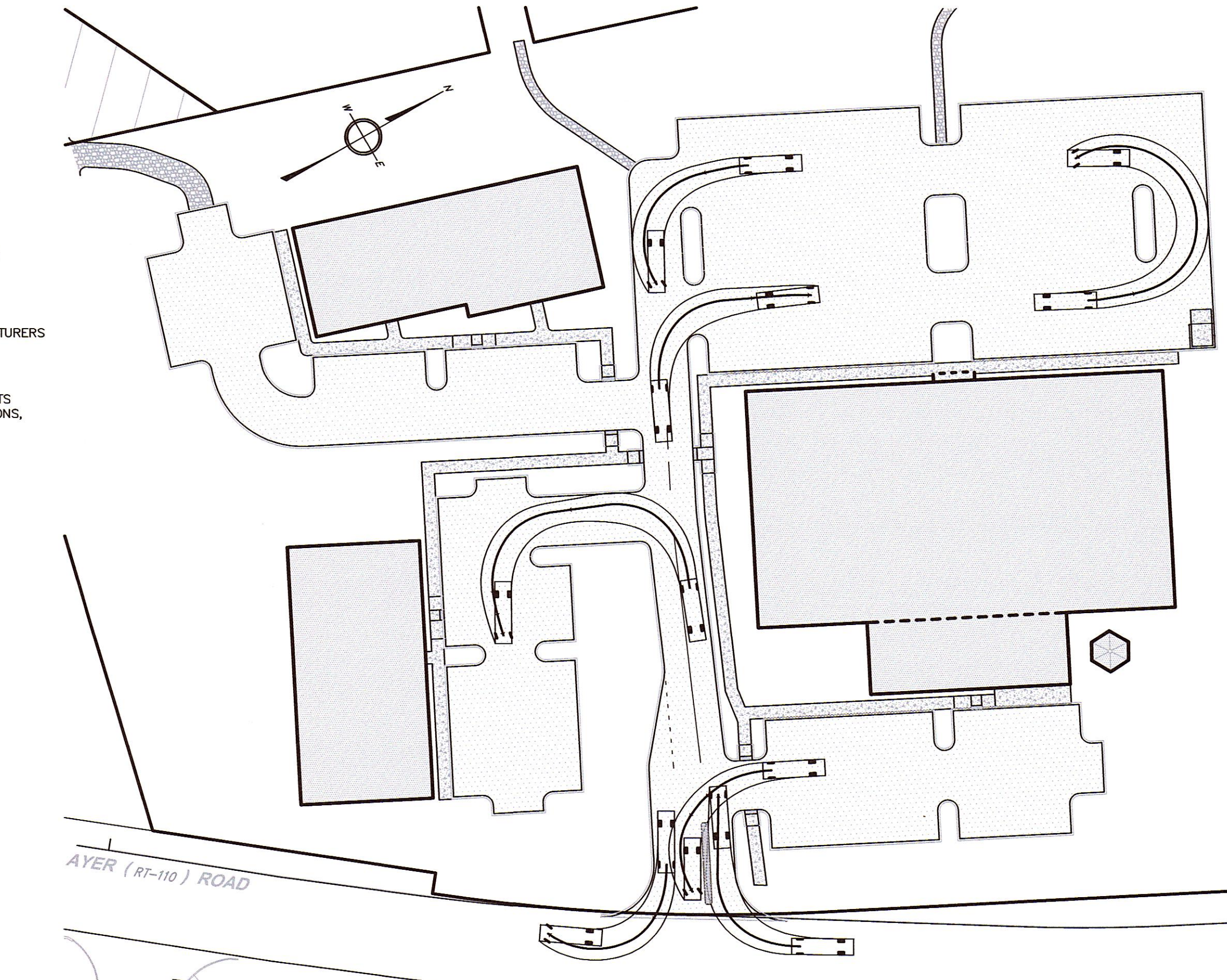
[1] CLEAN INLET PROTECTION WHEN 30% FULL

[2] BURLAP IS NOT AN ACCEPTABLE GEOTEXTILE

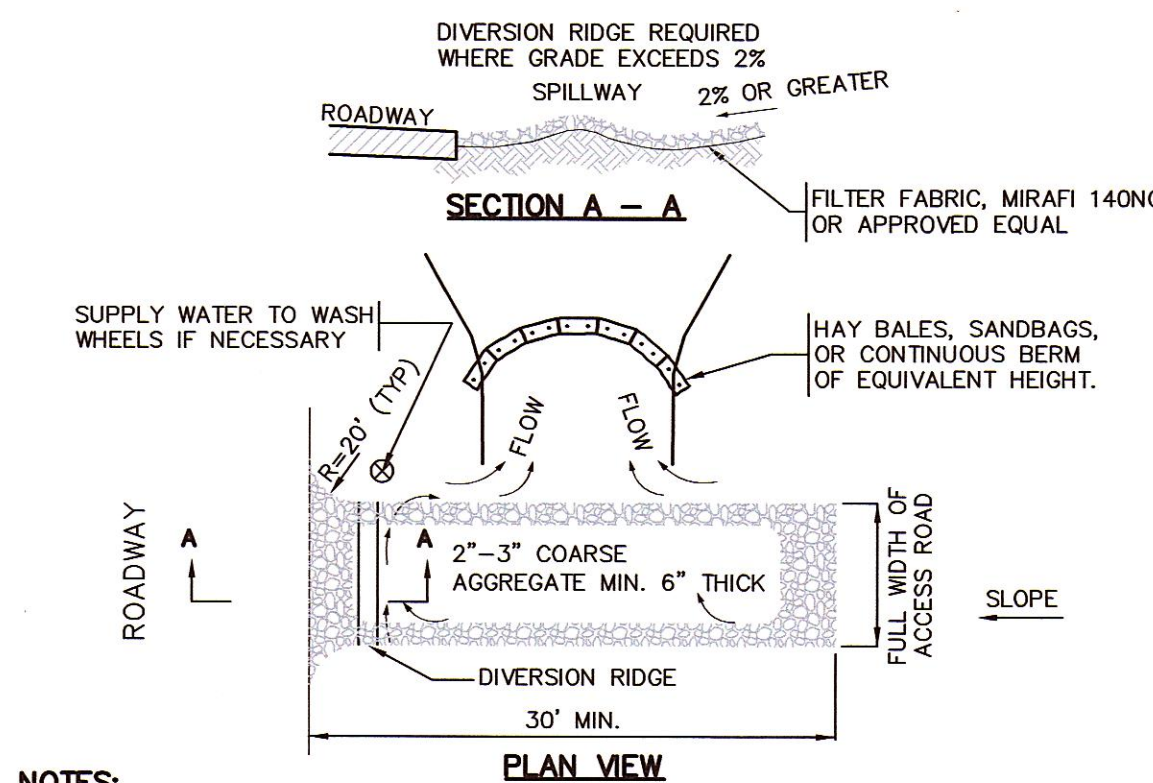
INLET PROTECTION  
TYPICAL CROSS SECTION  
NOT TO SCALE



EXCAVATION PROCEDURE  
TYPICAL CROSS SECTION  
NOT TO SCALE

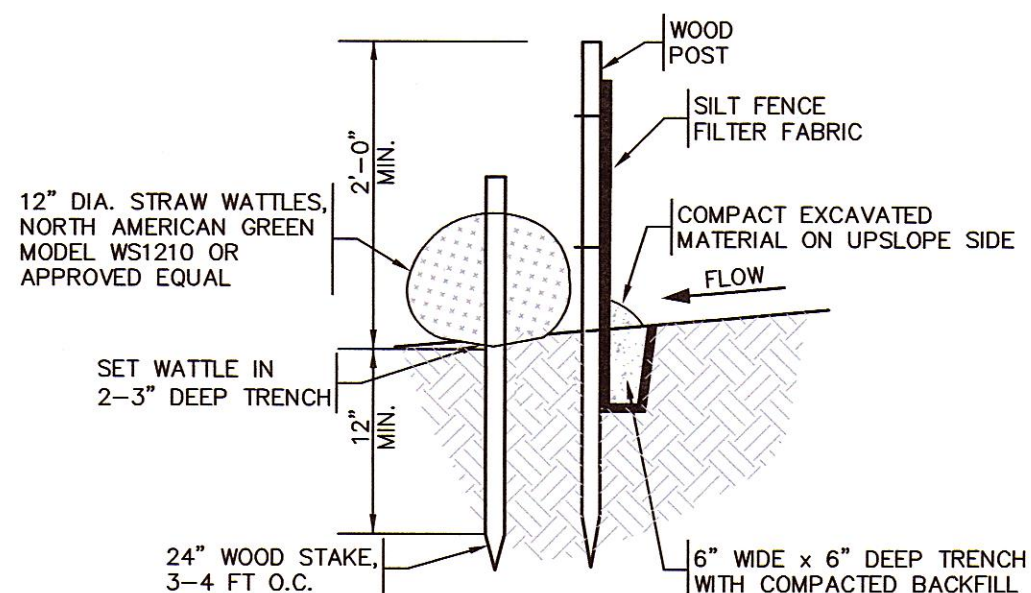


SU-30 TURNING TEMPLATE  
SCALE: 1"=50'



- NOTES:
- [1] THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- [2] WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- [3] WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
- [4] USE SANDBAGS, HAY BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

CONSTRUCTION ENTRANCE  
NOT TO SCALE



- NOTES:
- [1] INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
- [2] TRAPPED SEDIMENT SHALL BE REMOVED TO A NON-SENSITIVE UPLAND AREA.

SILT FENCE / STRAW WATTLE BARRIER  
TYPICAL CROSS SECTION  
NOT TO SCALE

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COMMERCIAL DEVELOPMENT SPECIAL PERMIT

EROSION & SEDIMENT CONTROL PLAN

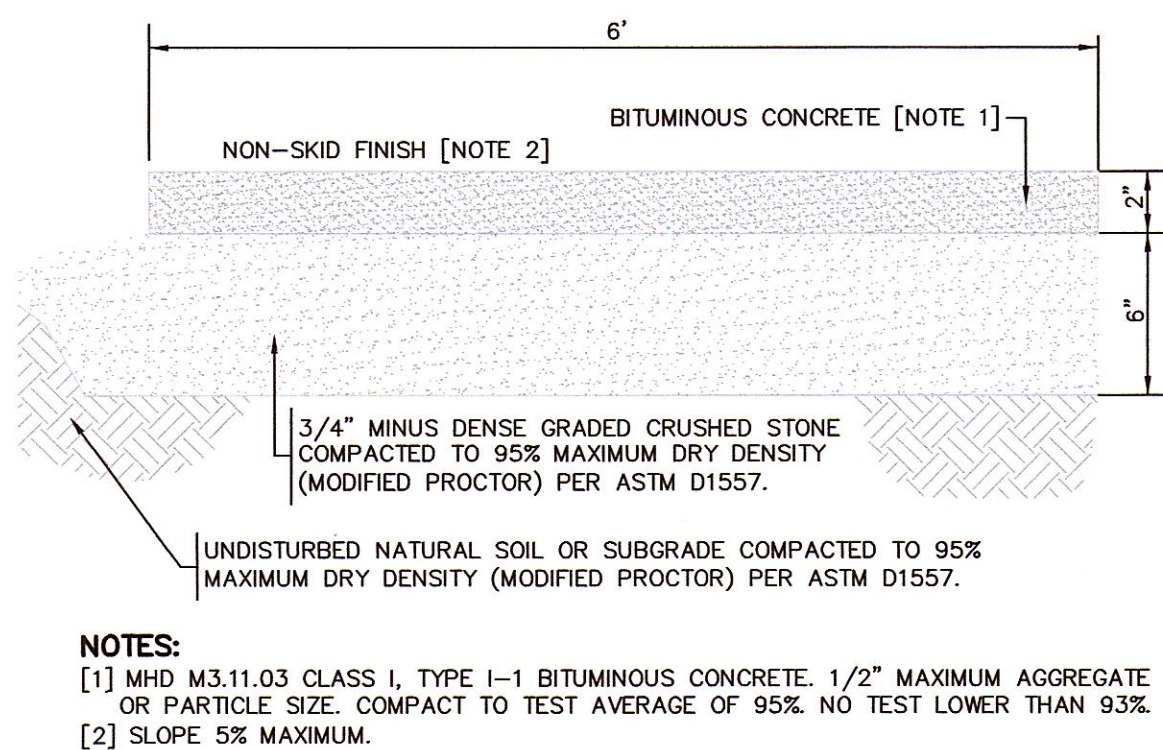
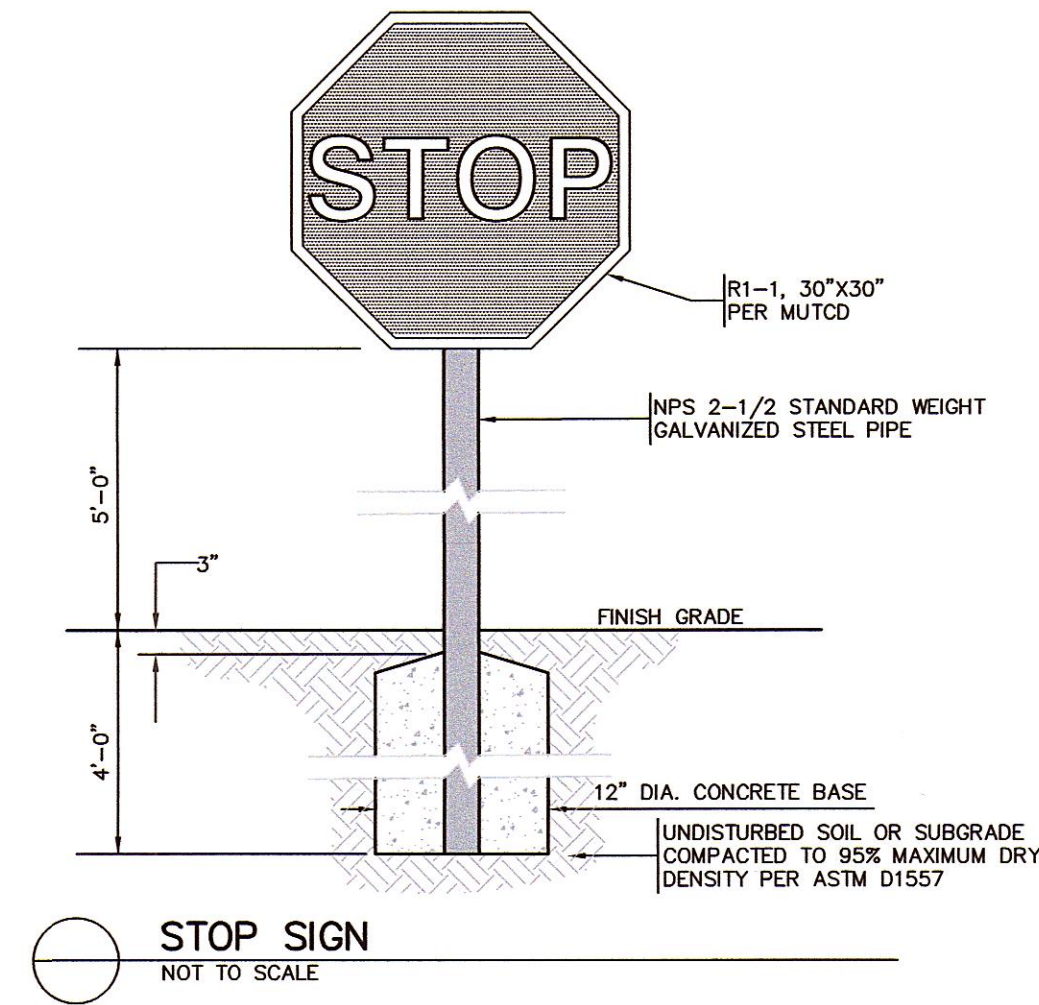
203 AYER ROAD  
HARVARD, MA

PREPARED FOR:  
YVONNE CHERN  
7 GREEN WAY  
WAYLAND, MA 01778

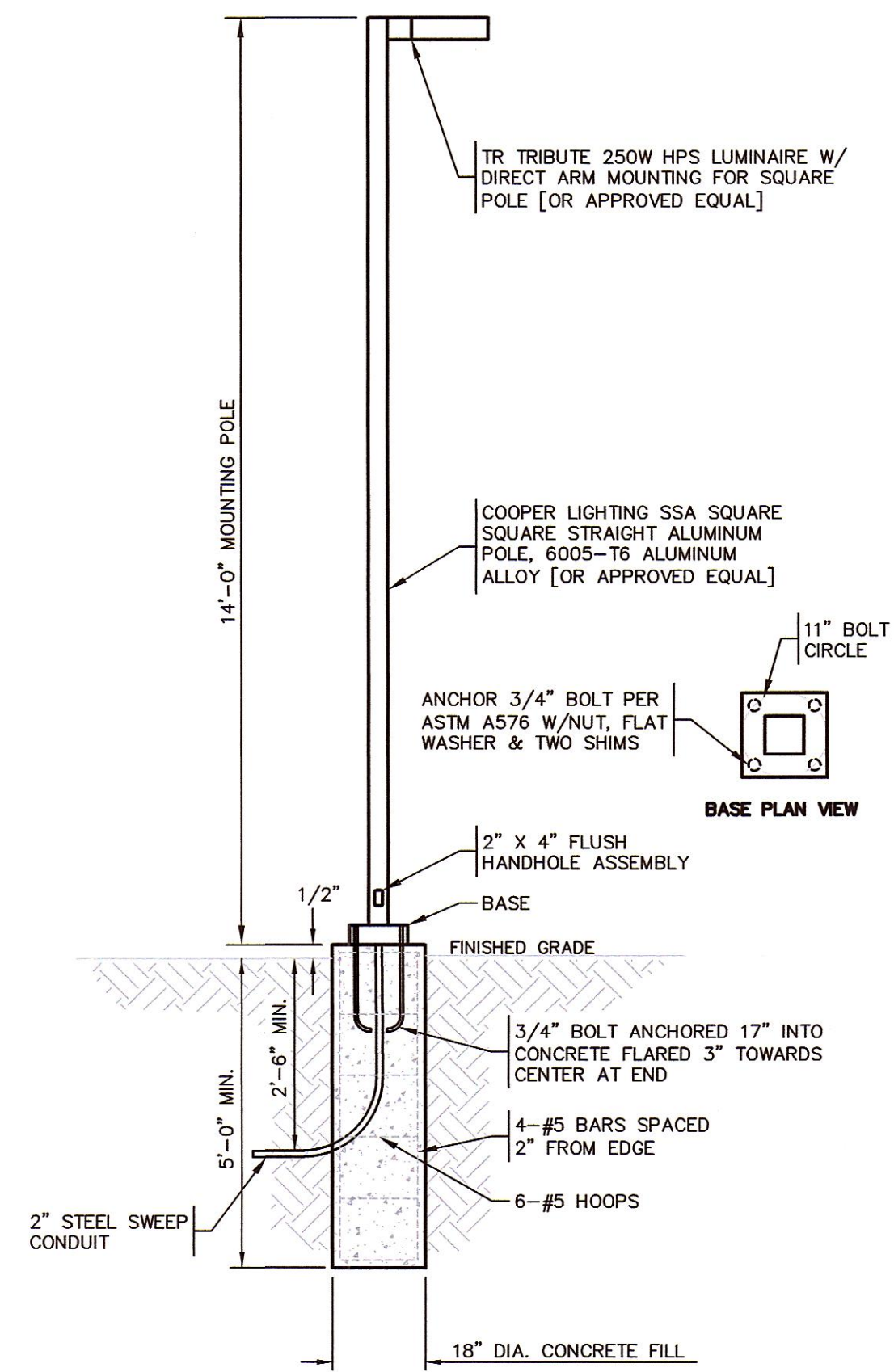
WHEELER REALTY TRUST  
198 AYER ROAD  
HARVARD, MA 01451

DES. BY: MCL	DATE: MARCH 2022	JOB 211009	C5.1
CHK. BY: NMP			



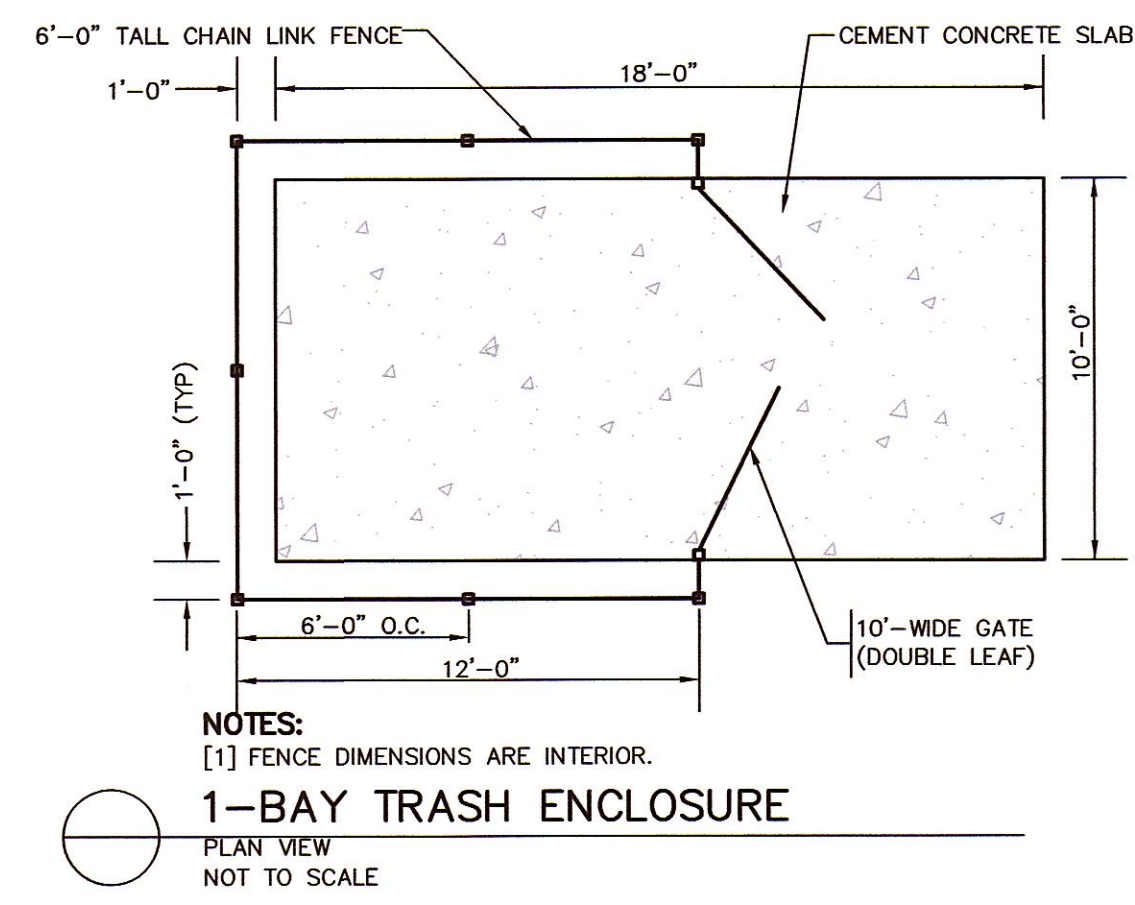


BITUMINOUS CONCRETE WALK  
TYPICAL CROSS SECTION  
NOT TO SCALE



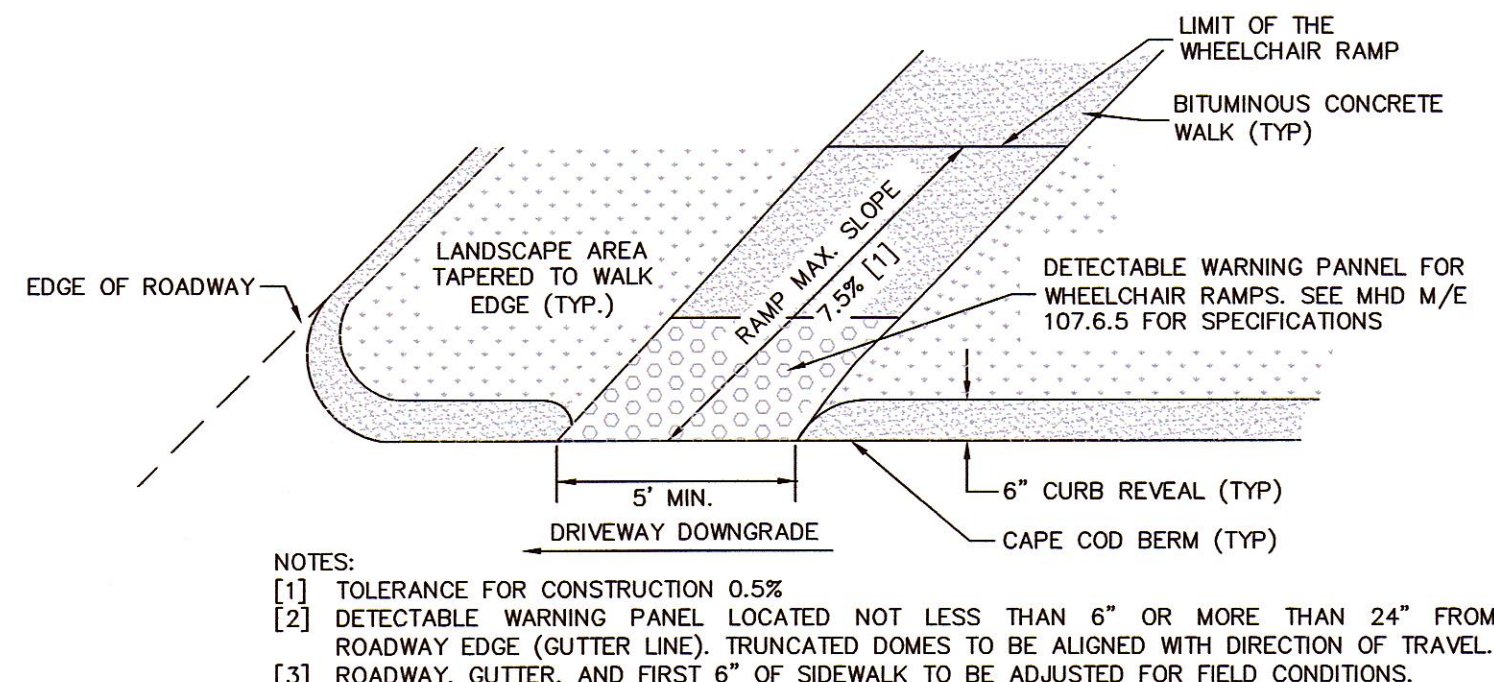
NOTES:  
[1] CONTRACTOR TO CONFIRM WITH MANUFACTURER ON PROPER INSTALLATION OF BALLAST. BALLAST MOUNTING, LIGHT POLE, BASE PLATE & ANCHORING.  
[2] APPROVED EQUALS MAY BE USED IN LUMINAIRE ASSEMBLY PROVIDED IT MEETS MANUFACTURER'S SPECIFICATIONS.

SITE LIGHT  
TYPICAL CROSS SECTION  
NOT TO SCALE

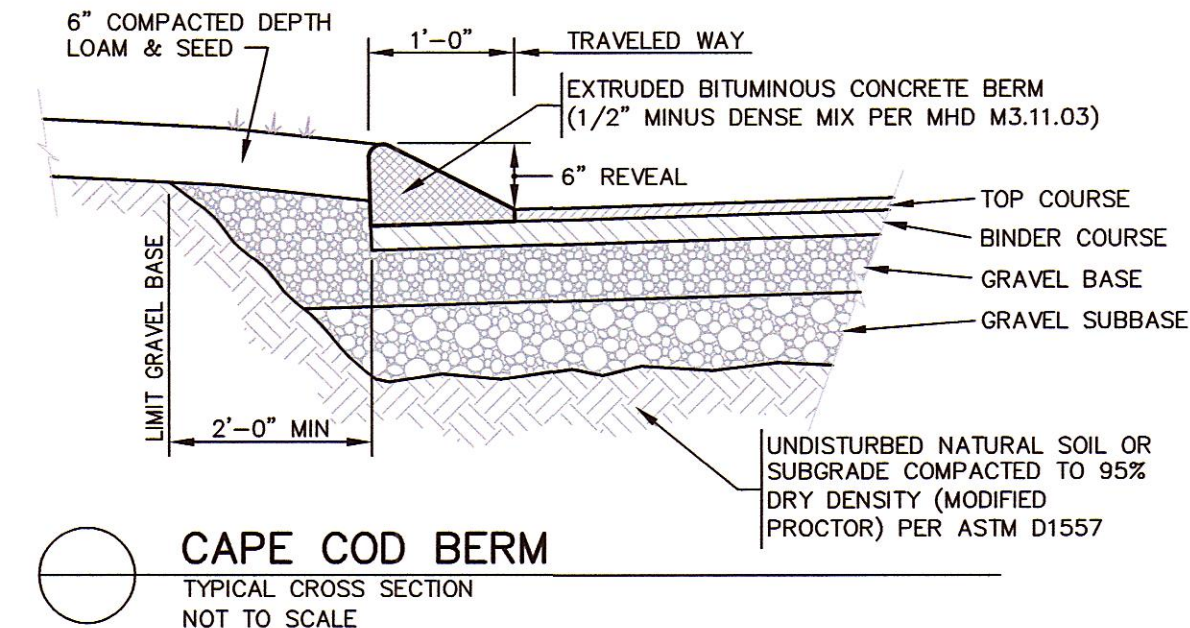


NOTES:  
[1] FENCE DIMENSIONS ARE INTERIOR.

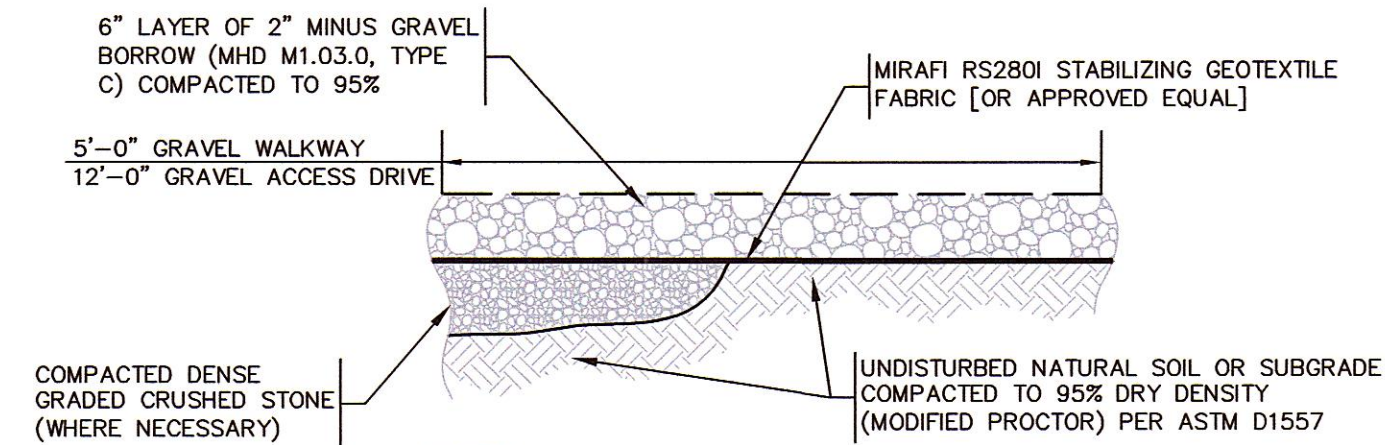
1-BAY TRASH ENCLOSURE  
PLAN VIEW  
NOT TO SCALE



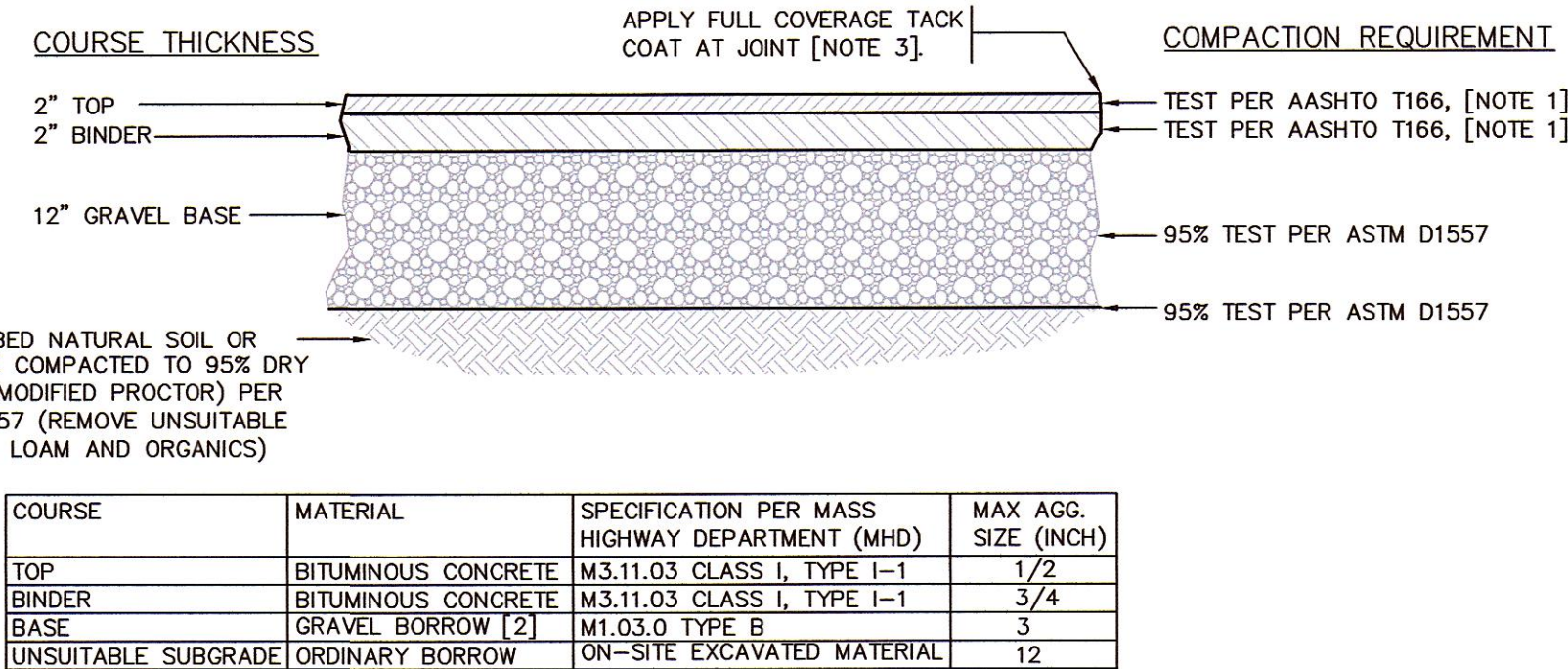
HANDICAP ACCESSIBLE RAMP [TYPE A]  
TYPICAL PLAN VIEW  
NOT TO SCALE



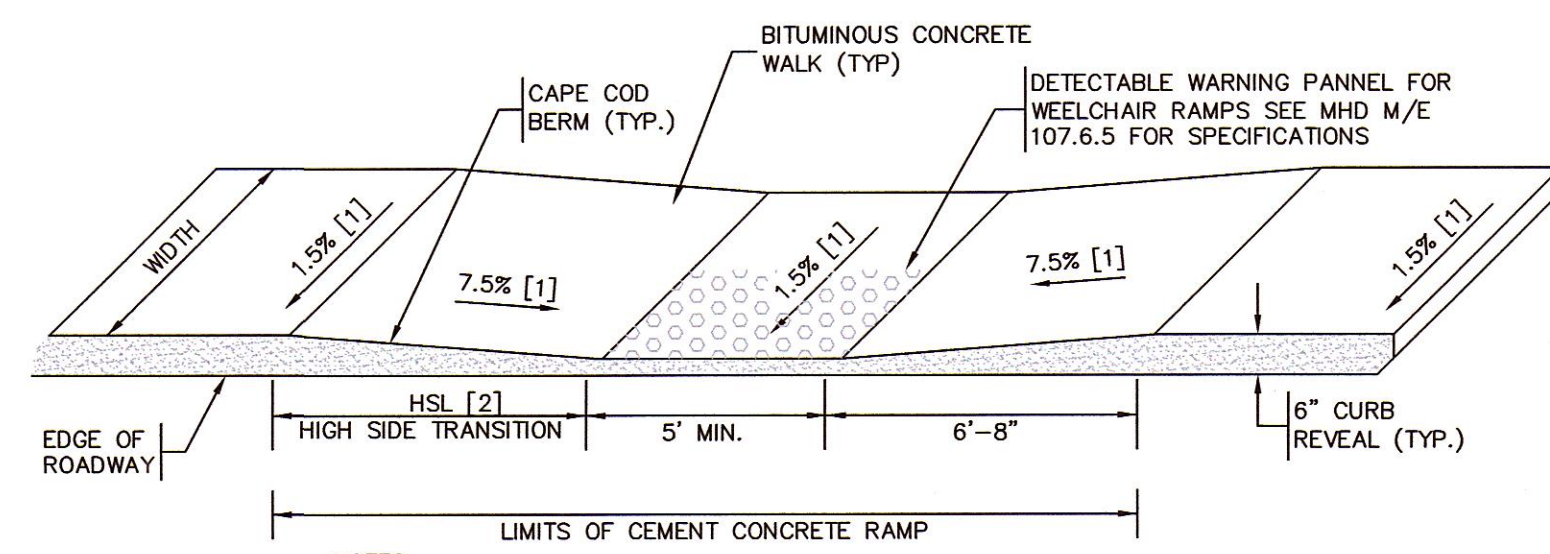
CAPE COD BERM  
TYPICAL CROSS SECTION  
NOT TO SCALE



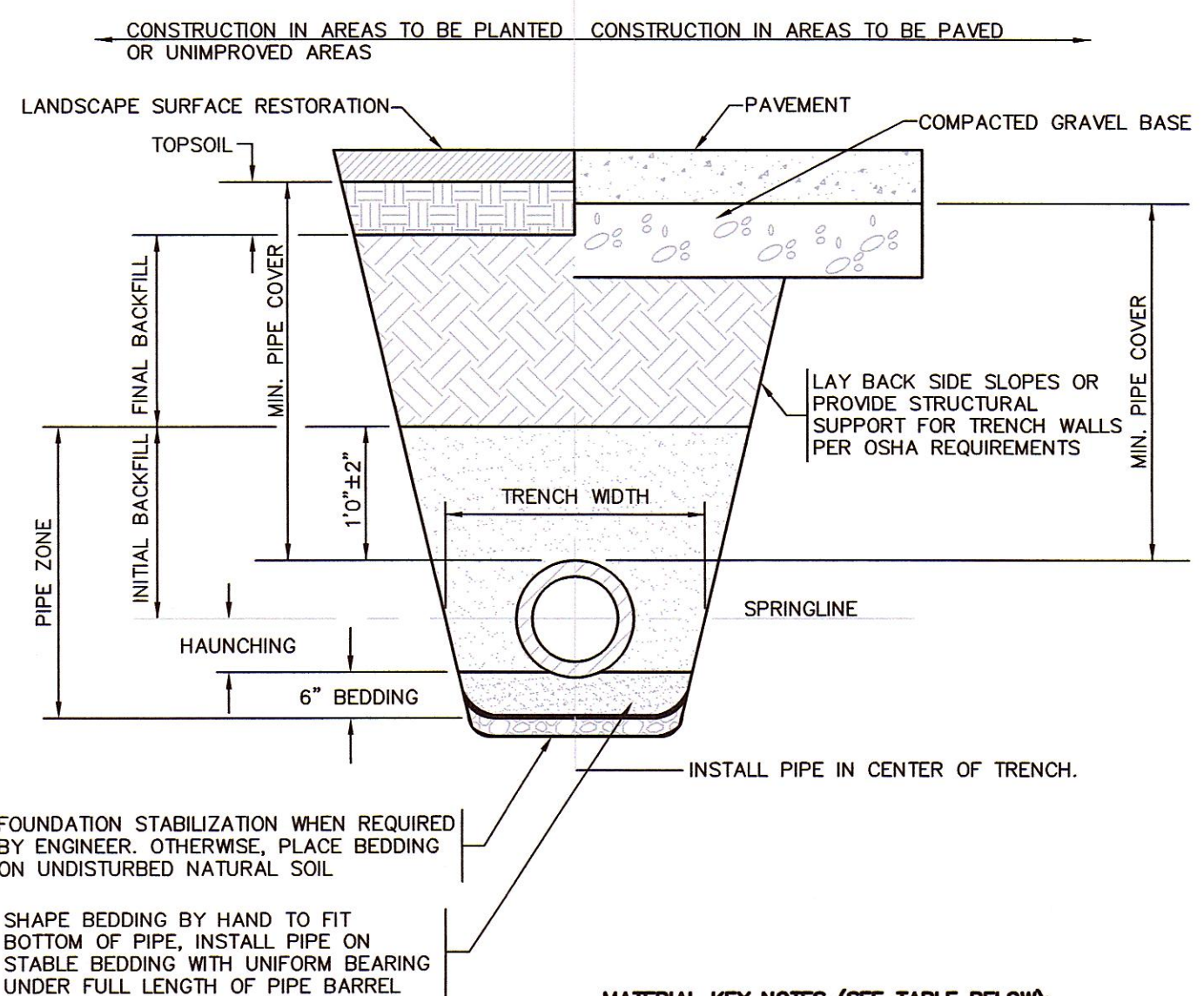
GRAVEL ACCESS DRIVEWAY/WALKWAY  
TYPICAL CROSS SECTION  
NOT TO SCALE



BITUMINOUS CONCRETE PAVEMENT  
TYPICAL CROSS SECTION  
NOT TO SCALE



HANDICAP ACCESSIBLE RAMP [TYPE B]  
TYPICAL PLAN VIEW  
NOT TO SCALE



MATERIAL KEY NOTES (SEE TABLE BELOW):  
[1] PLACE 2" MINUS CRUSHED STONE.  
[2] PLACE 1/2" MINUS SAND BORROW (MHD M1.04.1), AT OPTIMUM MOISTURE IN HORIZONTAL 8" DEEP LOOSE LAYERS, COMPACT TO 95% PER ASTM D-1557 MODIFIED PROCTOR METHOD.  
[3] IN PLANTED OR UNIMPROVED AREAS, USE 2-INCH MINUS ON-SITE EXCAVATED MATERIAL. COMPACT TO 80% PER ASTM D-1557. IN PAVED AREAS, OBTAIN ENGINEER APPROVAL OF 2-INCH MINUS ON-SITE EXCAVATED MATERIALS.

PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 42"	O.D. + 24"
GREATER THEN 42"	O.D. + 30"

PIPE MATERIAL	HDPE, PVC	RC, DI
WATER	5' - 0"	5' - 0"
SEWER	4' - 0"	4' - 0"
DRAIN	2' - 0"	1' - 0"

FOUNDATION, BEDDING AND BACKFILL MATERIALS	HDPE, PVC	RC, DI
FOUNDATION STABILIZATION	[NOTE 1]	[NOTE 1]
BEDDING	[NOTE 2]	[NOTE 2]
HAUNCHING	[NOTE 2]	[NOTE 2]
INITIAL BACKFILL	[NOTE 2]	[NOTE 2]
FINAL BACKFILL	[NOTE 3]	[NOTE 3]

PIPE TRENCH  
TYPICAL CROSS SECTION  
NOT TO SCALE

DRAWING ISSUED FOR:

- ☐ CONCEPT ☐ CONSTRUCTION  
☒ PERMIT ☐ CONSTRUCTION RECORD

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NO.	DATE	BY	APP.	REVISION DESCRIPTION

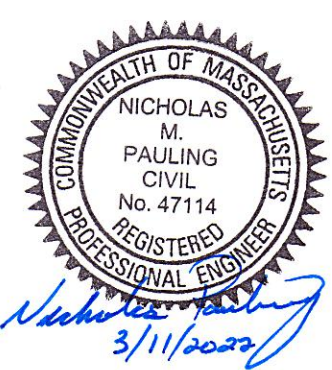
**GPR** Engineering Solutions for Land & Structures

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WAYLAND, MA 01778

WHEELER REALTY TRUST  
198 AYER ROAD  
HARVARD, MA 01451









SOIL EVALUATION SUMMARY

SOIL EVALUATOR: LIMHUOT TIV, GPR, INC.  
SOIL EVALUATOR APPROVED ON: NOVEMBER 02, 2021  
WITNESSED BY: UNWITNESSED  
EVALUATION PERFORMED: 01/13/2022

Deep Observation Hole Log					
Hole # 122-1	NB	14/E-31	Suface EL. 301.9		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-12	A	FSL	10YR 3/3	@42"	
12-42	C1	S	10YR 5/4		
42-85	C2	SL	2.5Y 5/3		
				10YR 6/4	
				2.5Y 6/2	

Parent Material (geologic) Glacial Till Depth to Bedrock: 85"  
Depth to Groundwater: Standing Water in the Hole None Weeping from Pit Face: None  
Estimated Seasonal High Groundwater in the Hole 42"

Deep Observation Hole Log					
Hole # 122-2	NB	14/E-31	Suface EL. 304.0		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-12	A	FSL	10YR 3/3	@50"	
12-50	C1	S	10YR 5/4		
50-91	C2	SL	2.5Y 5/4		
				10YR 6/4	
				2.5Y 6/2	

Parent Material (geologic) Glacial Till Depth to Bedrock: >91"  
Depth to Groundwater: Standing Water in the Hole 88" Weeping from Pit Face: 78"  
Estimated Seasonal High Groundwater in the Hole 50"

Deep Observation Hole Log					
Hole # 122-3	NB	14/E-31	Suface EL. 295.4		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-12	A	FSL	10YR 3/3	@24"	
12-27	C1	S	10YR 6/4		
27-102	C2	FSL	2.5Y 5/4		
				7.5YR 5/6	
				2.5Y 6/2	

Parent Material (geologic) Glacial Till Depth to Bedrock: >102"  
Depth to Groundwater: Standing Water in the Hole 60" Weeping from Pit Face: 30"  
Estimated Seasonal High Groundwater in the Hole 24"

Deep Observation Hole Log					
Hole # 122-4	NB	14/E-31	Suface EL. 289.4		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-12	A	FSL	10YR 3/3	@45"	
12-26	Fill	LS	10YR 6/4		
26-40	Ab	FSL	10YR 4/3		
40-50	C1	FS	2.5Y 6/1		
50-102	C2	FSL	2.5Y 5/4		
				7.5YR 5/6	
				2.5Y 6/2	

Parent Material (geologic) Glacial Till Depth to Bedrock: >102"  
Depth to Groundwater: Standing Water in the Hole 90" Weeping from Pit Face: 48"  
Estimated Seasonal High Groundwater in the Hole 45"

Deep Observation Hole Log					
Hole # 122-5	NB	14/E-31	Suface EL. 288.3		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-40	Fill	FSL	10YR 3/3	@50"	
40-48	C1	S	10YR 5/4		
48-108	C2	FSL	2.5Y 5/4		
				7.5YR 5/6	
				2.5Y 6/2	

Parent Material (geologic) Glacial Till Depth to Bedrock: >108"  
Depth to Groundwater: Standing Water in the Hole 101" Weeping from Pit Face: 52"  
Estimated Seasonal High Groundwater in the Hole 50"

Deep Observation Hole Log					
Hole # 122-6	NB	14/E-31	Suface EL. 281.2		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-15	A	FSL	10YR 3/3	@15"	
15-80	C1	FSL	GLE Y 3/N		
80-108	C2	FLS	2.5Y 4/3		
				7.5YR 5/8	

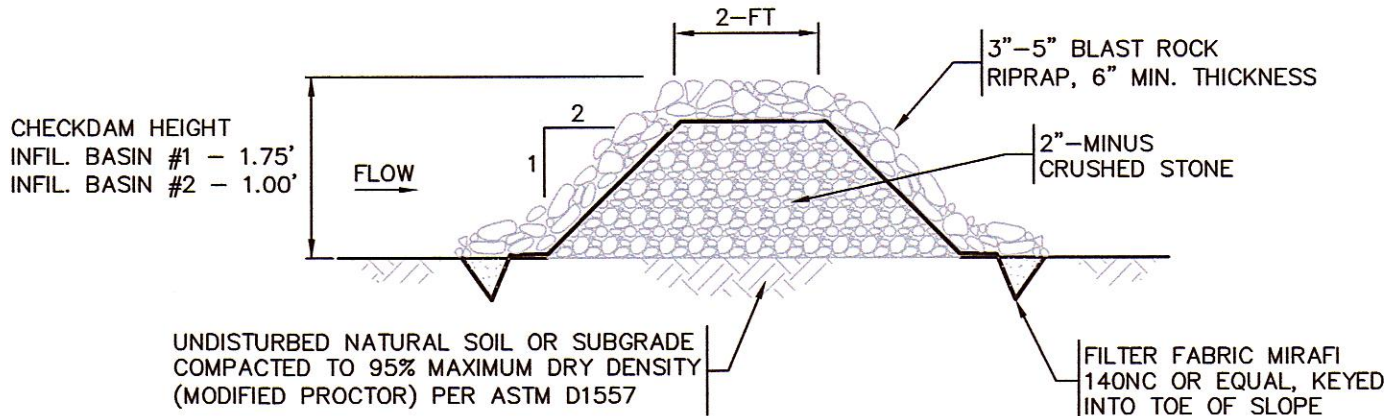
Parent Material (geologic) Glacial Till Depth to Bedrock: >108"  
Depth to Groundwater: Standing Water in the Hole 100" Weeping from Pit Face: 35"  
Estimated Seasonal High Groundwater in the Hole 15"

Deep Observation Hole Log					
Hole # 122-7	NB	14/E-31	Suface EL. 283.8		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-15	A	FSL	7.5YR 2.5/2	@15"	
15-28	C1	S	10YR 4/2		
28-99	C2	FSL	GLE Y 3/N		
				10YR 5/6	

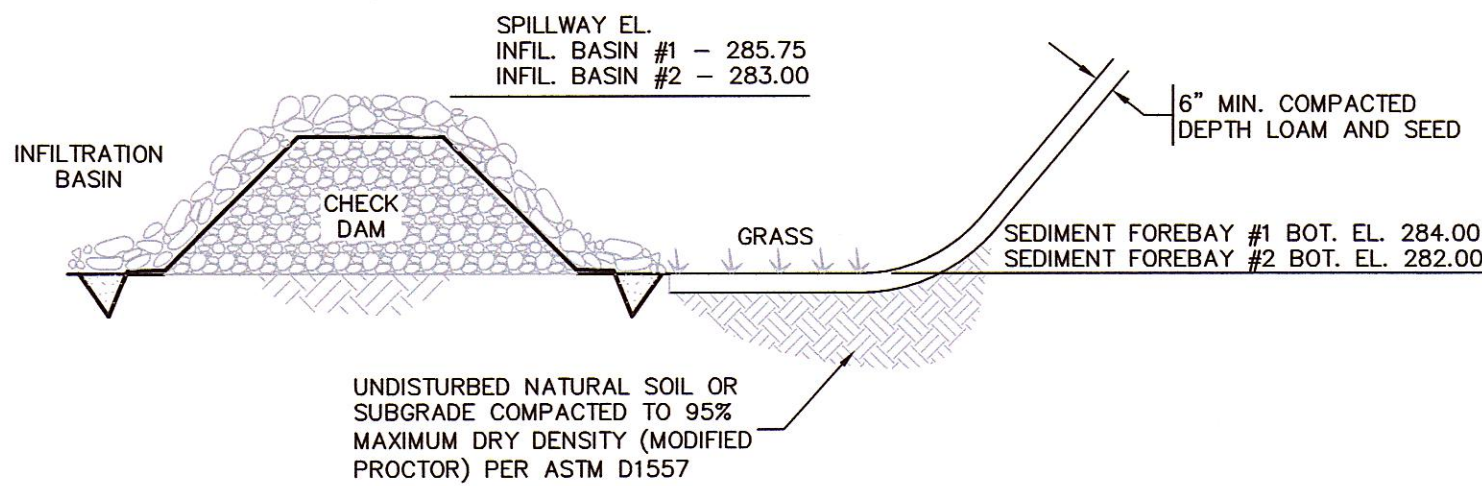
Parent Material (geologic) Glacial Till Depth to Bedrock: >99"  
Depth to Groundwater: Standing Water in the Hole 80" Weeping from Pit Face: 20"  
Estimated Seasonal High Groundwater in the Hole 15"

Deep Observation Hole Log					
Hole # 122-8		NB 14/E-31		Suface EL. 292.5	
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-12	A	FSL	10YR 3/3	@60" 10YR 6/4 2.5Y 6/2	
12-28	C1	LS	10YR 5/4		
28-76	C2	SL	2.5Y 5/3		

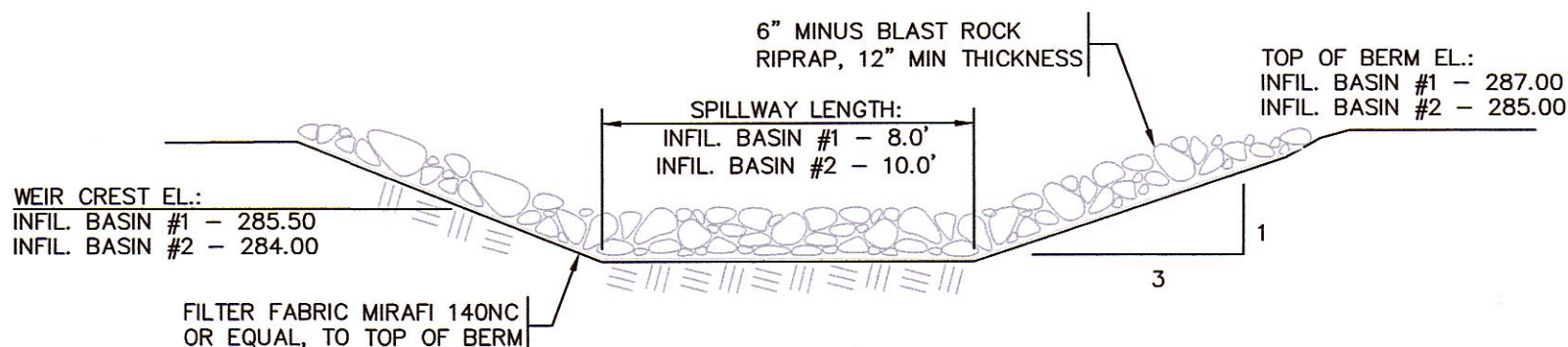
Parent Material (geologic) Glacial Till Depth to Bedrock: >76"  
Depth to Groundwater: Standing Water in the Hole 72" Weeping from Pit Face: 70"  
Estimated Seasonal High Groundwater in the Hole 60"



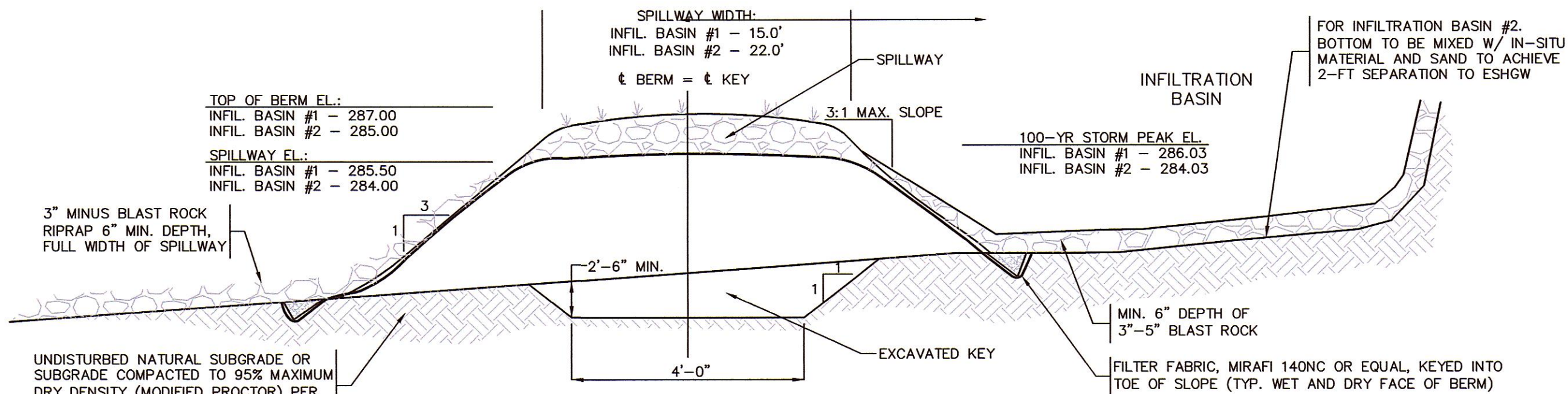
CHECK DAM  
TYPICAL CROSS SECTION  
NOT TO SCALE



SEDIMENT FOREBAY  
TYPICAL CROSS SECTION  
NOT TO SCALE



SPILLWAY  
TYPICAL CROSS SECTION  
NOT TO SCALE



MATERIAL NOTES:

- EMBANKMENT MATERIAL SHALL BE WELL-GRADED, NATURAL TILL MATERIAL, MIN. 30% PASSING NO. 200 SIEVE, UNIFIED CLASSIFICATION SC, ML, OR CL WITH 10% CERTIFIED CLAY CONTENT. NO STONE LARGER THAN 6" LARGEST DIMENSION. GRADATION ANALYSIS OF BACKFILL MUST BE SUBMITTED FOR APPROVAL BY ENGINEER. ENGINEER SHALL APPROVE MATERIAL PRIOR TO PLACEMENT.
- PLACE MATERIAL IN 12" LIFTS AND MECHANICALLY COMPACT TO 95% (MODIFIED PROCTOR).
- PLACE MATERIAL AT OR WITHIN 1% OF OPTIMUM MOISTURE.
- REMOVE UNSUITABLE MATERIALS, LOAM & ORGANICS. CONTACT ENGINEER IF DEPTH OF UNSUITABLE MATERIAL EXCEEDS 3-FT.

INFILTRATION BASIN BERM  
TYPICAL CROSS SECTION  
NOT TO SCALE

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NO. DATE BY APP. REVISION DESCRIPTION

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COMMERCIAL DEVELOPMENT  
SPECIAL PERMIT

CONSTRUCTION DETAILS

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HARVARD, MA

PREPARED FOR:  
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WHEELER REALTY TRUST  
198 AYER ROAD  
HARVARD, MA 01451

DES. BY: MCL  
CHK. BY: NMP  
DATE: MARCH 2022  
JOB 211009  
C6.3



# Commercial Development

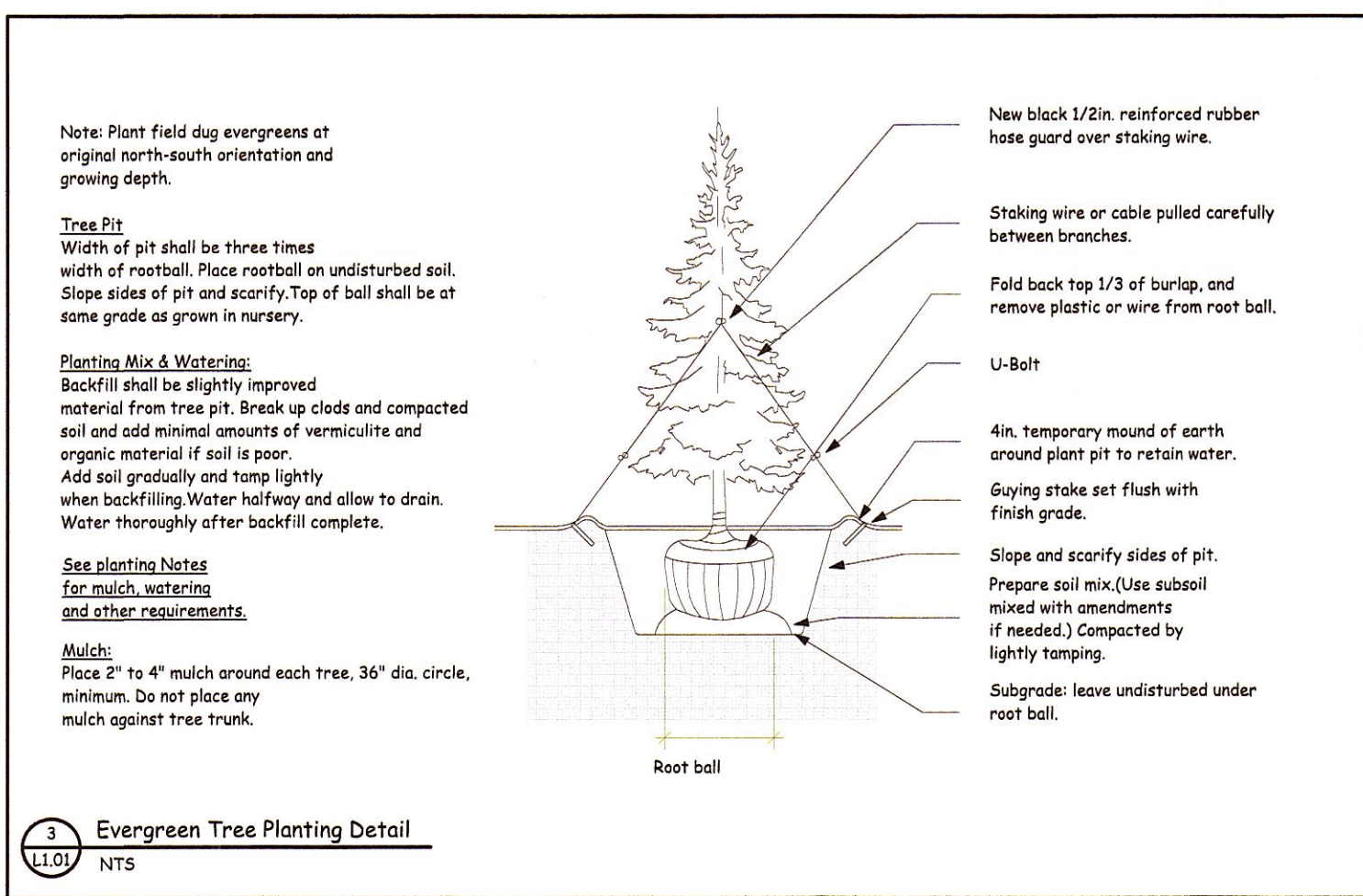
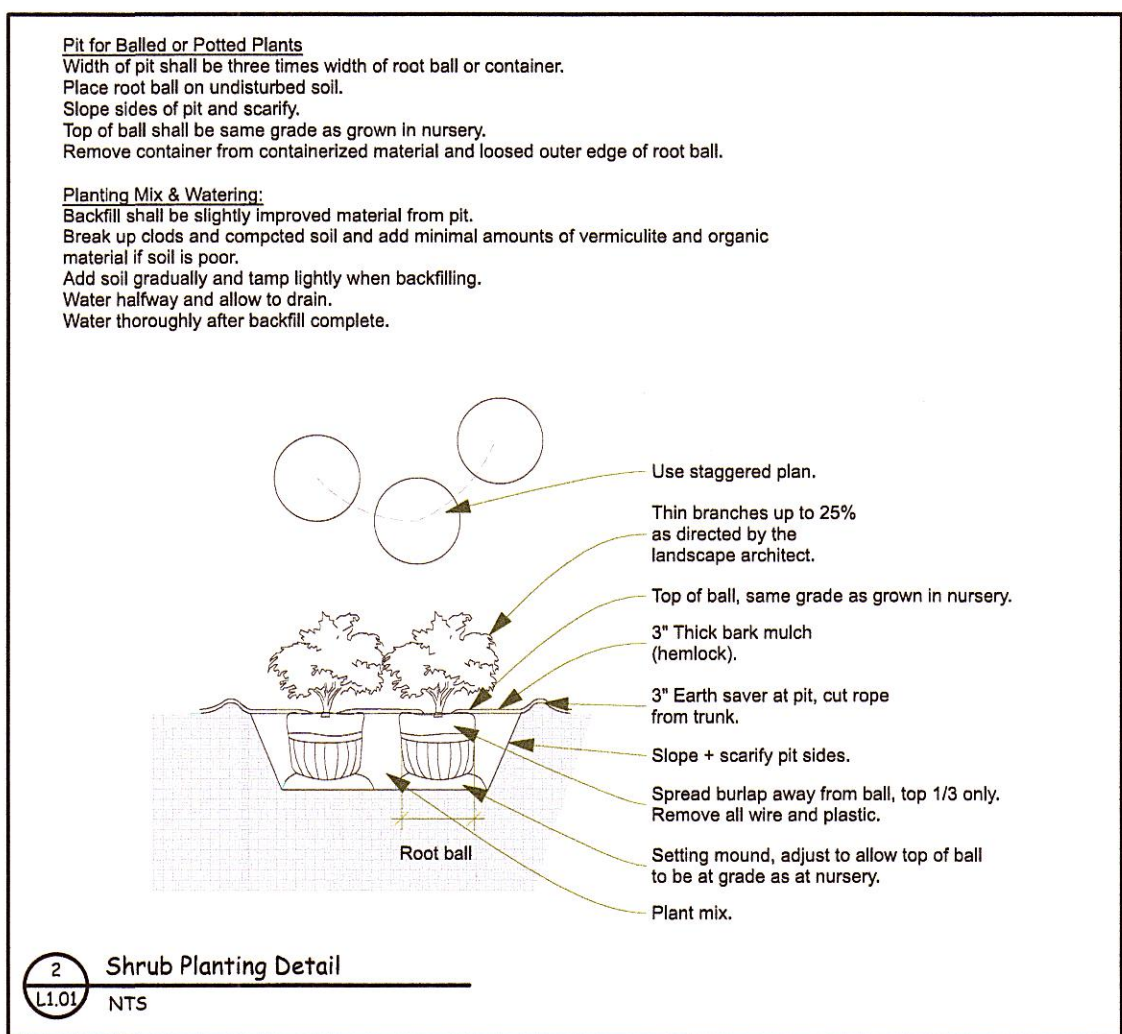
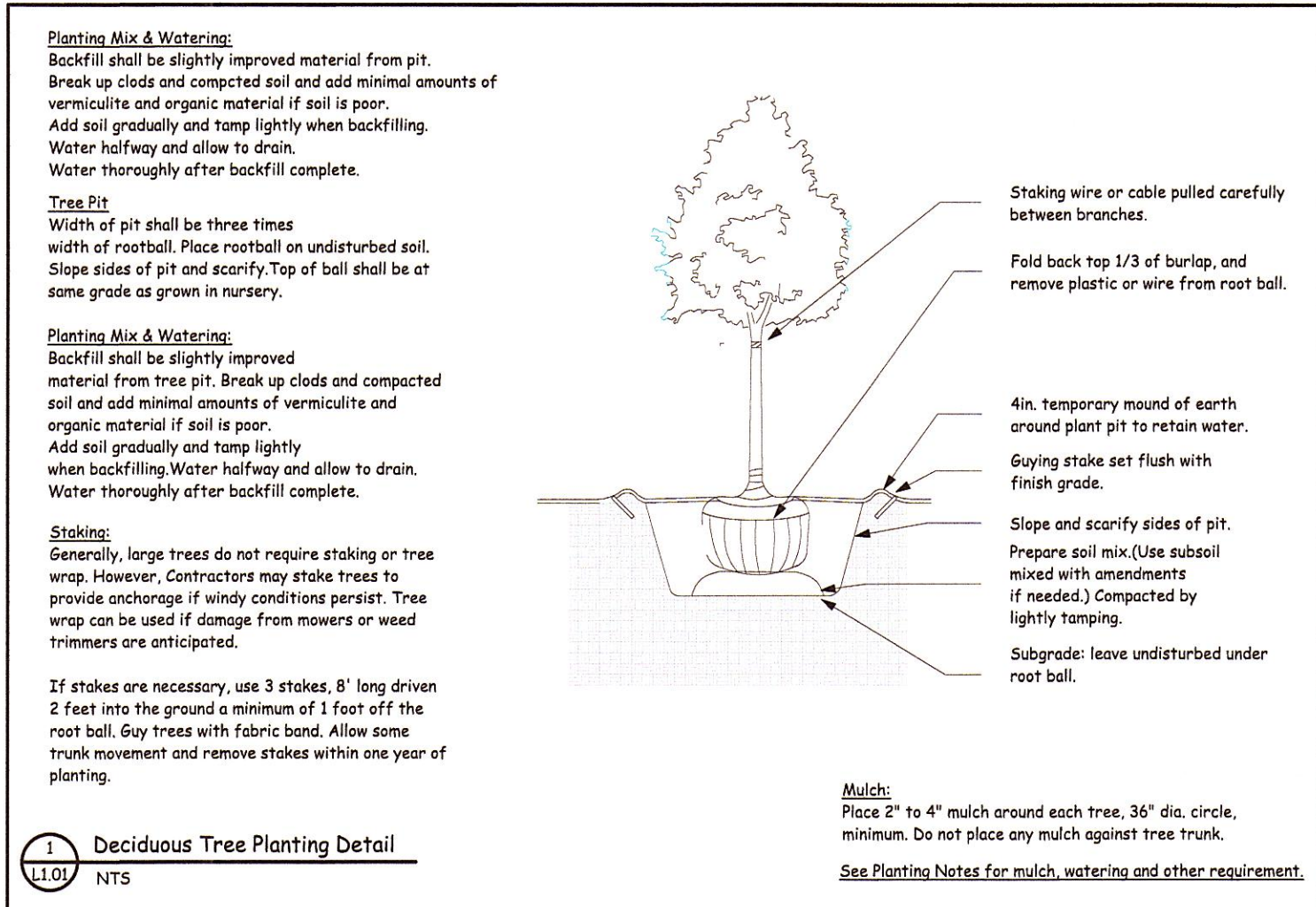
203 Ayer Road  
Harvard, MA



Rev. 3: \_\_\_\_\_  
Rev. 2: \_\_\_\_\_  
Rev. 1: \_\_\_\_\_  
Date: March 10, 2022  
Scale: 1"=40'

Sheet

## L-1.01 Planting Plan



### Landscape Water Use Management

#### New Installations of Trees, Shrubs, and Flowers

1. Provide temporary irrigation to all new plantings. Water with 2" of water to thoroughly soak the soils every day for two weeks following installation.
2. Thereafter, water at 1" two times per week to maintain a moist soil through the first summer into fall.
3. Water well one final time in late November before the ground freezes to improve the plant's ability to tolerate winter desiccation.

#### New Installations of Conservation Seed and Wild Flower Mixes

1. Water with 2" of water (30 mins of aerial irrigation) to thoroughly soak the soils every other day for two weeks following installation.
2. Water at 1" two times per week to maintain a moist soil through the first summer into fall.

#### Recommended Planting Seasons: Zone 5 and 6

Spring Planting	Season Begins	Season Ends
Lawns	April 1-15	May 15-30
Evergreens	April 1-15	May 15-30
Deciduous Plants	April 1-15	May 15-30
Fall Planting	Season Begins	Season Ends
Lawns	August 1-15	September 15-30
Evergreens	September 1-15	November 1-15
Deciduous Plants	October 1-15	November 15-30

### Planting Notes

1. The Contractor is responsible for the legal removal and disposal of all debris from the site and as may be directed by the Owner.
2. Coordinate final locations of Site Improvements with the Civil and Architectural plans.
3. The Contractor shall notify DIG-SAFE (1 888-344-7233) to verify the location of any underground utilities prior to any digging.
4. All plant material and planting procedures shall conform to the "American Standard for Nursery Stock" as published by the American Nursery and Landscape Association.
5. Contractor to stake proposed locations of all new plant material for LA review prior to planting.
6. Plant List governs: Contractor to provide plants on list. Locations and quantities in planting areas are subject to change under the discretion of the LA.
7. The Contractor shall supply all plant materials in quantities sufficient to complete the shown on all drawings.
8. All plant materials are subject to the approval of the Landscape Architect at the Nursery and at the site. All trees shall have single leader, unless otherwise noted. No unapproved substitutions will be accepted. Plants species and cultivar, size and quantity shall not change without the approval of the Landscape Architect.
9. Location of all trees and shrubs shall be marked for the approval of the Landscape Architect the day prior to commencement of planting.
10. All plants shall bear the same relationship to finished grade as original grade before digging. Plants to be transplanted shall be carefully dug, with adequate root balls and surrounding soil and pruned according to ANA standard practices. Trees with root flare covered by more than 1 1/2" of soil will be rejected prior to installation. Set plants plumb.
11. All trees and shrubs shall be balled in burlap or containerized, unless otherwise noted. No root bound container grown stock will be accepted. All plastic root wrapping and metal wire baskets shall be carefully removed at the time planting. Wire directly under root ball can remain.
12. The planting soil mixture shall be a sandy loam modified with organic components of 4-8% organic matter, dry weight, PH range of 5.5 to 6.5 and no coarse fragments over 2". A soil sample from the proposed planting medium shall be sent to the UMass Extension Service, University of Massachusetts, West Experiment Station, Amherst, MA 01003, tel: 413.545.2311, fax: 413.545.1931 to be analyzed for organic matter, acidity, soluble salts, buffer PH, potassium and silt and clay content.
13. Contractor shall place 3" of fine shredded dark brown, aged two years, pine bark mulch in all bed areas. Submit sample to Landscape Architect.
14. All evergreen plant material shall be sprayed in the first Fall after planting with an anti-desiccant the first week of November.
15. Provide temporary irrigation system for all plant material. System to be functional for a spring and a fall planting season. Flood plants thoroughly once immediately after planting and twice during the first 24 hour period after planting.
16. Extreme care shall be taken not to disturb existing plant materials unless the plant is specifically noted to be transplanted or removed. Any plant injured, removed or destroyed without permission, shall be replaced with plant material of equal size and species at the Contractor's expense.
17. Do not wrap trunk of trees.
18. Stake only deciduous trees on windy exposures or steeper slopes. Evergreen trees may be staked at the discretion of the Landscape Architect. Consult with Landscape Architect.
19. Contractor shall maintain the trees for a minimum of 60 days following preliminary acceptance of Landscape Architect. After 6 days, provide Owner with written maintenance instructions.
20. Contractor shall guarantee all plant material for a minimum of one (1) year from the date of final acceptance of the Landscape Architect. The Contractor shall replace any dead or horticulturally damaged trees at his expense during the 1 year guarantee period.
21. Contractor shall provide Jute netting on steep slopes as directed by Civil Engineer to control soil erosion and loss.

#### SEED MIX 1 Non-Mowed/ Annual Mowing Area Seed Mix:

Showy Northeast Native Wildflower & Grass Mix

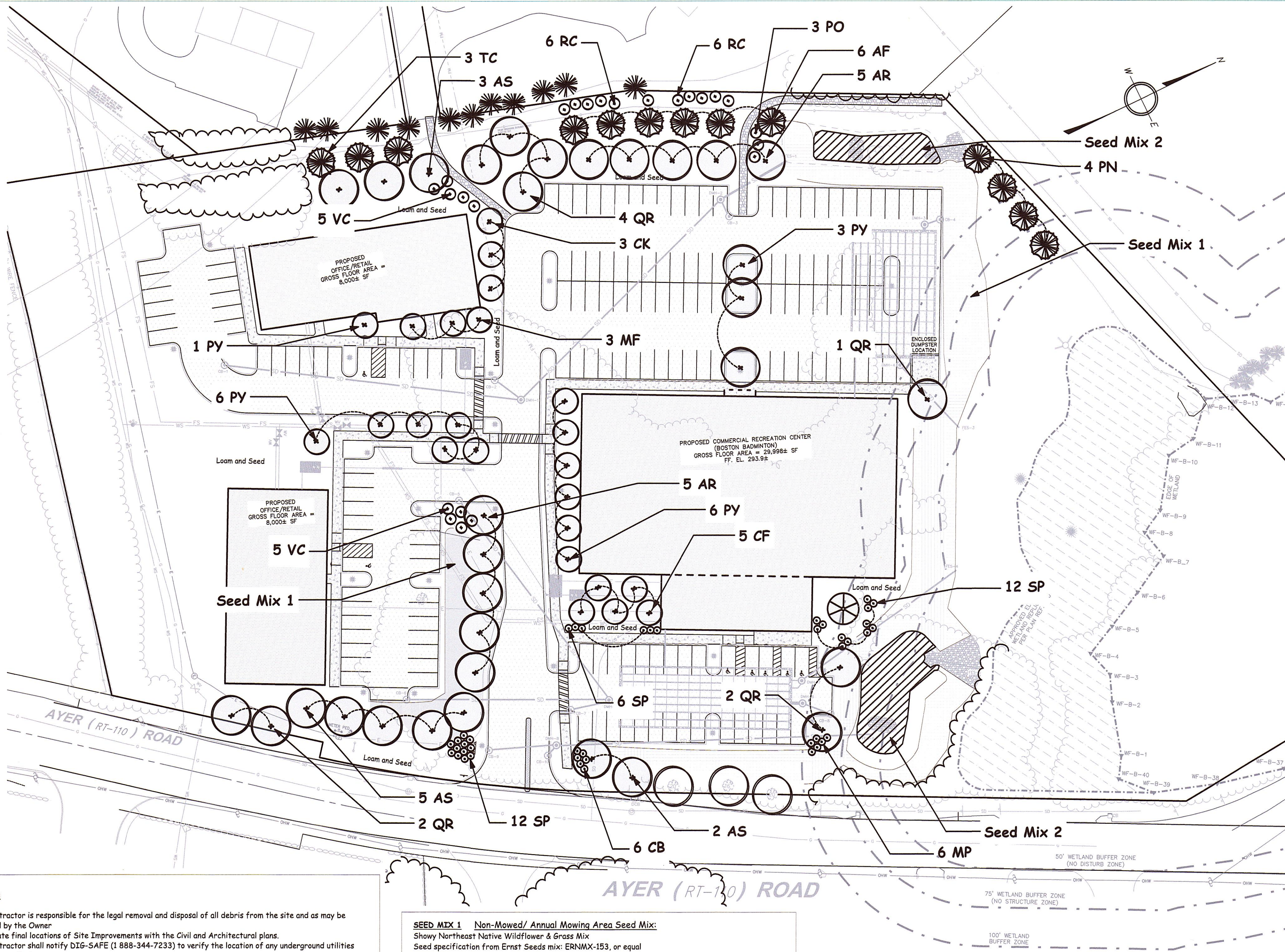
Seed specification from Ernst Seeds mix: ERNMW-153, or equal

31.5%	Little Bluestem, Fort Indiantown Gap-PA Ecotype (Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype)
20%	Sidecoats Grama, 'Butte' (Bouteloua curtipendula, 'Butte')
18%	Virginia Wildrye, PA Ecotype (Elymus virginicus, PA Ecotype)
4%	Tall White Beardtongue, PA Ecotype (Penstemon digitalis, PA Ecotype)
4%	Partridge Pea, PA Ecotype (Chamaecrista fasciculata (Cassia f.), PA Ecotype)
3%	Purple Coneflower (Echinacea purpurea)
2.5%	Marsh (Dense) Blazing Star (Spiked Gayfeather) (Liatris spicata a)
2%	Butterfly Milkweed (Asclepias tuberosa)
2%	Lanceleaf Coreopsis, Coastal Plain NC Ecotype (Coreopsis lanceolata, Coastal Plain NC Ecotype)
2%	Oxeye Sunflower, PA Ecotype (Helianthus annuus, PA Ecotype)
2%	Blackeyed Susan, Coastal Plain NC Ecotype (Rudbeckia hirta, Coastal Plain NC Ecotype)
1.5%	New England Aster (Aster novae-angliae (Symphyotrichum n.)
1.5%	Smooth Blue Aster, NY Ecotype (Aster laevis (Symphyotrichum laevis), NY Ecotype)
1.5%	Ohio Spiderwort, PA Ecotype (Tradescantia ohioensis, PA Ecotype)
1%	Autumn Bentgrass, Albany Pine Bush-NY Ecotype (Agrostis perennans, Albany Pine Bush-NY Ecotype)
0.8%	Brown-eyed Susan, WV Ecotype (Rudbeckia triloba, WV Ecotype)
0.5%	Wild Senna, VA & WV Ecotype (Senna hebecarpa (Cassia h.), VA & WV Ecotype)
0.5%	Wild Bergamot, Fort Indiantown Gap-PA Ecotype (Monarda fistulosa, Fort Indiantown Gap-PA Ecotype)
0.5%	Maryland Senna (Senna marilandica (Cassia m.))
0.5%	Blue False Indigo, Southern WV Ecotype (Baptisia australis, Southern WV Ecotype)
0.5%	Early Goldenrod, VA Ecotype (Solidago juncea, VA Ecotype)
0.2%	Hoary Mountaintop, MD Ecotype (Pycnanthemum incanum, MD Ecotype)
Total: 100%	

#### Seed Mix 2 Detention/ Infiltration Basin Seed Specification

(from Ernst Seeds mix: ERNMW-180 -1, or equal)

46%	River Oats, PA/VA Ecotype Blend (Chasmanthium latifolium)
25%	Fox Sedge, PA Ecotype (Carex vulpinoidea, PA Ecotype)
20%	Virginia Wildrye, PA Ecotype (Elymus virginicus, PA Ecotype)
4%	Autumn Bentgrass, PA Ecotype (Agrostis perennans, PA Ecotype)
3%	Blunt Broom Sedge, PA Ecotype (Carex scoparia)
1%	Soft Rush (Juncus effusus)
1%	Path Rush, PA Ecotype (Juncus tenuis)
Total: 100%	



### PLANT LIST

QTY	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
<b>Deciduous Trees</b>					
10	AR	Acer rubrum 'October Glory'	October Glory Red Maple	4"-5" cal.	NE Native
10	AS	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	4"-5" cal.	NE Native
3	CK	Cornus x Steller Pink	Stellar Pink Dogwood	2.5"-3" cal.	
5	CF	Cornus x Ruth Ellen	Ruth Ellen Dogwood	2.5"-3" cal.	
9	QR	Quercus rubra	Red Oak	4"-5" cal.	NE Native
16	PY	Prunus x yedoensis	Yoshino Cherry	2"-2.5" cal.	
<b>Evergreen Trees</b>					
6	AF	Abies fraserii	Fraser Fir	8'-10' Tall	Native
4	PN	Pinus nigra	Austrian Pine	8'-10' Tall	
3	TC	Tsuga canadensis	Canadian Hemlock	8'-10' Tall	Native
<b>Shrubs</b>					
6	CB	Cornus baileyi	Bailey Red Twig Dogwood	3'-3.5' Tall	Native
6	MP	Myrica pensylvanica	Bayberry	3'-3.5' Tall	Native
3	PO	Physocarpus opulifolius	Common Ninebark	4.5'-5' Tall	Native
12	RC	Rhododendron catawbiense	Catawba Rhododendron	4.5'-5' Tall	Native
30	SP	Syringa meyeri 'Palibin'	Dwarf Korean Lilac		
10	VC	Vaccinium corymbosum	High Bush Blueberry	4.5'-5' Tall	Native