



**LEGEND**

EXISTING		PROPOSED
	BUILDING	
	PROPERTY LINE	
	RIGHT-OF-WAY LINE	
	ADJACENT PROPERTY LINE	
	SETBACK LINE	
	EASEMENT LINE	
	WOOD FENCE	
	CONCRETE	
	RIP RAP	
	BIT. CONC. PAVEMENT	
	SIGN	
	BOLLARD	
	SPOT ELEVATION	
	CONTOUR	
	WATER LINE DOMESTIC	
	SANITARY SEWER	
	STORM SEWER	
	OVERHEAD ELECTRIC	
	UNDERGROUND GAS	
	UTILITY POLE	
	SANITARY MANHOLE	
	SANITARY SEWER CLEANOUT	
	STORM DRAIN MANHOLE	
	STORM DRAIN INLET	
	STORM DRAIN FLARED END SECTION	
	STORM DRAIN CLEANOUT	
	FIRE HYDRANT	
	WATER VALVE	
	TREE LINE	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	CONSTRUCTION ENTRANCE	
	SILT SACK	
	EROSION CONTROL	
	HANDICAP MARKING	
	DETECTABLE WARNING STRIP	
	STONE BOUND	

**FLOOD ZONE INFORMATION**

BY GRAPHIC PLOTTING ONLY. SUBJECT PARCEL IS LOCATED IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY-PANEL NUMBER 25009C0217F WHICH BEARS AN EFFECTIVE DATE OF JULY 3, 2012. NO FIELD ELEVATION SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION.

**SURVEYOR NOTES**

- THE LOCUS IS SHOWN ON TOWN OF ANDOVER ASSESSOR'S MAP 18 LOT 104A, LOCATED IN ZONING DISTRICT OP - OFFICE PARK AND IS KNOWN AS 140 HAVERHILL STREET.
- DEED REFERENCE: BOOK 16214 PAGE 202, ESSEX NORTH REGISTRY OF DEEDS.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE.
- THE BASIS OF BEARING FOR THIS PLAN IS THE MASSACHUSETTS STATE PLANE COORDINATES

**REFERENCE DEEDS:**

- BOOK 16214 PAGE 202 ESSEX NORTH REGISTRY OF DEEDS

**REFERENCE PLANS:**

- PL-8987
- PL-15440

**EASEMENTS AND ENCUMBRANCES:**

EXISTING 25' SEWER EASEMENT  
BOOK 16214 PAGE 202  
PLAN BOOK PL-8987

EXISTING 25' RIGHT OF WAY  
BOOK 16214 PAGE 202  
PLAN BOOK PL-8987

EXISTING DRAINAGE EASEMENT  
BOOK 16214 PAGE 202  
PLAN BOOK PL-8987

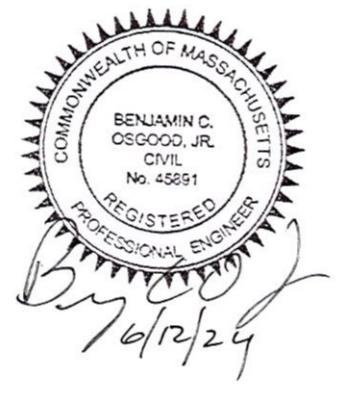
**CONSTRUCTION NOTES:**

- CONSTRUCTION**
  - TOPSOIL:**  
EXISTING TOPSOIL AND SUBSOIL SHALL BE REMOVED FROM ROADWAY AND BUILDING AREAS AND STOCKPILED.
  - TREES AND STUMPS:**  
TREES AND STUMPS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN APPROVED MANNER. STUMPS SHALL NOT BE BURIED ON SITE.
- MATERIALS**
  - BITUMINOUS CONCRETE PAVEMENT:**  
**PARKING AREAS:**  
SURFACE COURSE: 1-1/2 INCHES CLASS I BITUMINOUS CONCRETE PAVEMENT, TYPE I-1 WEARING COURSE  
BINDER COURSE: 2-1/2 INCHES CLASS I BITUMINOUS CONCRETE PAVEMENT, TYPE I-1 BINDER COURSE  
GRAVEL BASE COURSE: 4 INCHES COMPACTED DENSE GRADED CRUSHED STONE FOR SUB-BASE (M 2.01.7)  
8 INCHES COMPACTED SUB-BASE, M1.030 TYPE C
  - LANDSCAPE AREAS:**  
DISTURBED AREAS NOT COVERED BY STRUCTURES OR PAVEMENT AND NOT OTHERWISE SPECIFIED ON THE LANDSCAPE PLAN SHALL RECEIVE 6 INCHES OF TOPSOIL. THESE AREAS ARE TO BE SEEDED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. LANDSCAPE AREAS ADJACENT TO THE BUILDING SHALL BE FINISHED WITH 3" OF 1-1/2" RIVER ROCK.
  - TRAFFIC CONTROLS:**  
ALL SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.)
  - ADA CONFORMANCE:**  
ALL HANDICAPPED ACCESSIBLE RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB), WHICHEVER IS MORE RESTRICTIVE.
- UTILITIES**
  - EXISTING UTILITIES:**  
THE LOCATION AND ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON THE SURVEY NOTED ABOVE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND PRIOR TO ORDERING STRUCTURES.
  - PRIVATE UTILITIES:**  
THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE OR ELECTRIC). FINAL DESIGN AND LOCATIONS AT THE BUILDING WILL BE PROVIDED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE UTILITY CONNECTIONS WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO ANY UTILITY CONSTRUCTION OR DEMOLITION.
  - STORM DRAINAGE:**  
STORM DRAIN PIPING SHALL BE MIN 12" HIGH DENSITY POLYETHYLENE PIPE (HDPE) WITH CORRUGATED EXTERIOR, SMOOTH LINED (n=0.013) WITH SOIL TIGHT JOINTS OR REINFORCED CONCRETE PIPE.  
  
THE PROJECT'S STORMWATER MANAGEMENT SYSTEM SHALL COMPLY WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S (DEP) STORMWATER MANAGEMENT POLICY AND REQUIREMENTS OF TOWN OF ANDOVER DEPARTMENT OF PUBLIC WORKS STREET OPENING/UTILITY CONNECTION RULES AND REGULATIONS.  
  
THE STORM WATER BMPs WILL BE INSPECTED BY DESIGN ENGINEER AND CERTIFIED THAT HAS BEEN BUILT IN COMPLIANCE WITH PLANS. DOCUMENTATION INCLUDING PHOTOS, FIELD BOOKS ENTRIES, AND ENGINEER'S DAILY REPORTS SHALL BE PROVIDED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY  
  
STORMWATER SYSTEMS SHALL BE THE PROPERTY OF THE PROPERTY OWNER WHO IS RESPONSIBLE FOR COMPLETING THE REQUIRED ANNUAL INSPECTIONS, REPAIRS, AND MAINTENANCE OF THE SYSTEM.
  - PROPOSED STRUCTURES:**  
RIM ELEVATIONS OF PROPOSED DRAINAGE MANHOLES AND ASSOCIATED STRUCTURES ARE APPROXIMATE; FINAL ELEVATIONS, ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLAN. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE WITHIN LIMITS OF WORK.
  - WATER**
    - ANY WATER METER GREATER THAN 5/8" WILL NEED TO BE PROPERLY RIGHT-SIZED AND THE CALCULATIONS SHOULD BE SUBMITTED BASED ON AWWA M22 STANDARDS TO SHOW THAT THE EXISTING OR PROPOSED WATER METER IS SIZED PROPERLY.
    - THE INSTALLATION OF THE WATER METER SHOULD BE INSTALLED IN A LOCATION THAT IS UN-OBSTRICTED AND EASILY ACCESSIBLE.
    - PRIOR TO THE ISSUANCE OF ANY UTILITY PERMIT, THE METER CONFIGURATION DIAGRAM MUST BE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
    - THE DPW OFFICE MUST APPROVE ANY BACKFLOW PREVENTION DEVICE FOR IRRIGATION SYSTEMS, FIRE SUPPRESSION SYSTEMS, CHEMICAL INJECTION SYSTEMS, OR ANY OTHER CASE WHICH BACKFLOW PREVENTION IS REQUIRED.
    - ALL NEW WATER LINES WILL NEED TO BE PRESSURE TESTED TO THE TOWN OF ANDOVER STANDARDS.
    - PROPOSED WATER MAIN MUST BE CONSTRUCTED TO A MINIMUM DEPTH OF 5' OF COVER.
- SEWER**
  - SEWER LINES SHALL BE CONSTRUCTED OF SDR 35 PVC OR CEMENT LINED DUCTILE IRON PIPE AS INDICATED ON THE PLANS.

**GENERAL NOTES**

- AS-BUILT PLANS SHOULD BE SUBMITTED ON MYLAR UPON COMPLETION OF THE PROJECT, PRIOR TO THE CERTIFICATE OF COMPLIANCE.
- THE LONG TERM AND PERPETUAL CARE OF THE DUMPSTER, INCLUDING THE EMPTYING, AND THE ENCLOSURE WILL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
- ANY WORK THAT TAKES PLACE IN THE TOWN RIGHT OF WAY WILL REQUIRE BOTH A STREET OPENING AND TRENCH PERMIT.
- APPLICANT MUST SCHEDULE PRE-CONSTRUCTION MEETING WITH THE DPW/ ENGINEERING DIVISION PRIOR TO THE START OF WORK.

**Ranger Engineering Group, Inc.**  
130 Main Street, Suite 202  
Salem NH, 03079  
Tel: 978-208-1762  
rangereng.com



**SITE PLAN**  
140 HAVERHILL STREET  
ANDOVER MA, 01810

**NOTES AND LEGEND**

**MEDICO 140, LLC**  
355 MIDDLESEX AVE. SUITE 7  
WILMINGTON, MA 01887

NO.	DATE	REVISIONS	BY

PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1"= 40'
DRAWN BY	OMR
APPROVED BY	BCO

**CS0002**  
SHEET 2 OF 18

PLOTTED: 6/12/2024 4:12 PM BY: Sumaha Katar PROJECT STATUS: PLOT STYLE: Ranger.rvt WINDOW: ANCELOT-Header.ctb\\samba.kumar\overhead\2024\19-152\CS0002.dwg

TOP ELEV=90.5 ESHGW = 88.33

TP1				
DEPTH	SOIL HORIZON	SOIL TEXTURE	SOIL COLOR	SOIL MOTTLING
0"-88"	LOAM FILL			
88"-108"	B	S.LL	6Y 4/5 0	
108"-120"	C	S.L	10 YR 3/6	H20 @ 80"

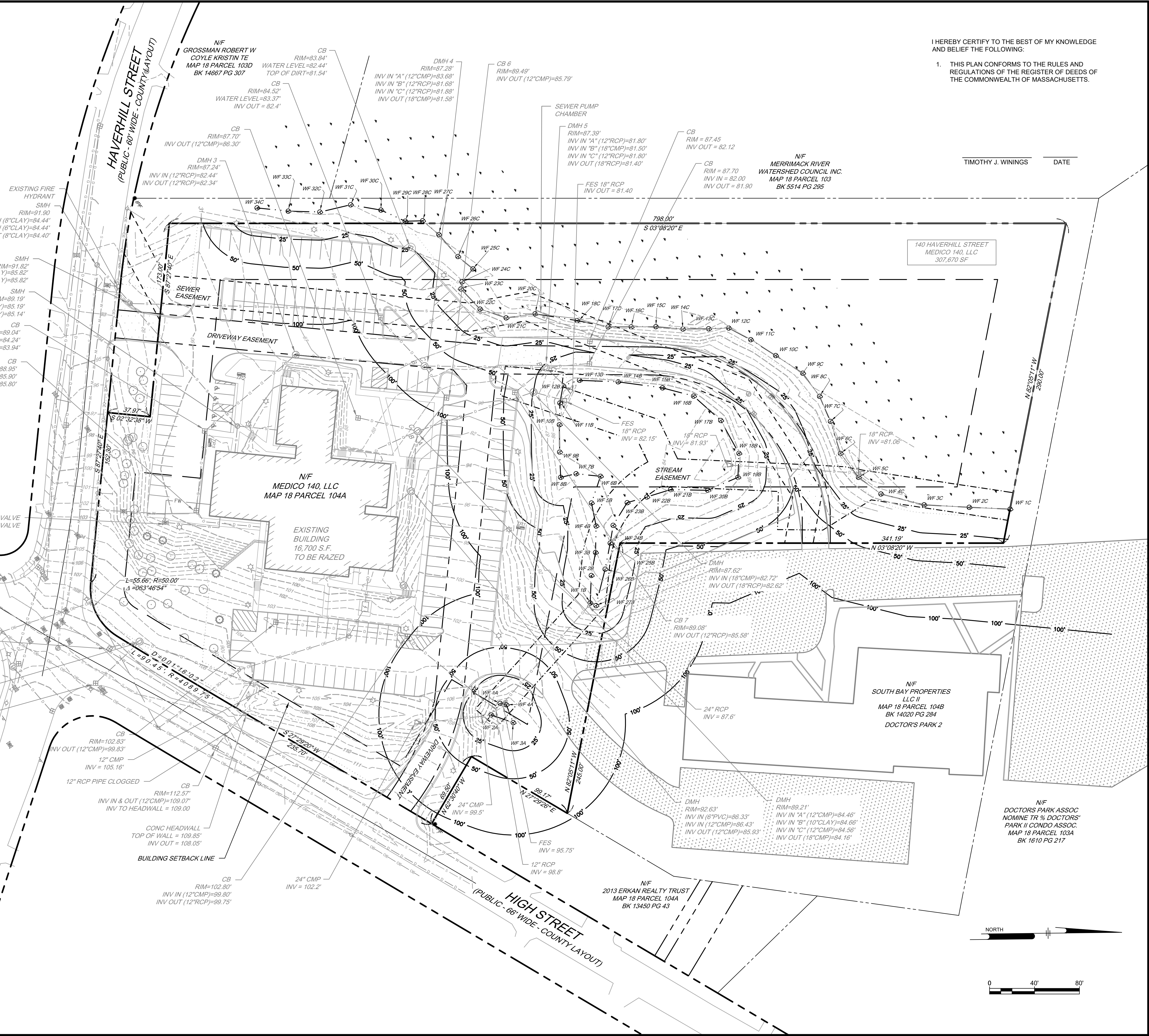
TOP ELEV=89.5 ESHGW = 87.16

TP2				
DEPTH	SOIL HORIZON	SOIL TEXTURE	SOIL COLOR	SOIL MOTTLING
0"-12"	A	S.L	10 YR 3/2	
12"-22"	FILL	L.S	VARIES	
22"-32"	B	L.S	2.5Y 4/4	928 10 YR 5/6
32"-72"	C	L.S	5Y 5/4	

TOP ELEV=90.0 ESHGW = 87.33

TP3				
DEPTH	SOIL HORIZON	SOIL TEXTURE	SOIL COLOR	SOIL MOTTLING
0"-10"	A	S.L	10 YR 3/2	
10"-34"	FILL	VARIES		
34"-64"	C	L.S	2.5Y 4/4	932 10 YR 5/8

**SOIL TESTING DATA:**  
 PERFORMED ON 09/28/2021 BY BENJAMIN C OSGOOD, JR.  
 CERTIFIED SOIL EVALUATOR NOV. 1995 LIC # SE1818



I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FOLLOWING:

- THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

TIMOTHY J. WININGS DATE



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 Salem NH, 03079  
 Tel: 978-208-1762  
 rangergroup.com

**SITE PLAN**  
 140 HAVERHILL STREET  
 ANDOVER MA, 01810

**EXISTING CONDITIONS PLAN**

MEDICO 140, LLC  
 355 MIDDLESEX AVE SUITE 7  
 WILMINGTON, MA 01897

NO.	DATE	REVISIONS	BY

PROJECT 19-152  
 DATE JUNE 12, 2024  
 DRAWING SCALE 1"= 40'  
 DRAWN BY OMR  
 APPROVED BY BCO

**CS0201**  
 SHEET 3 OF 18

PLOTTED: 6/12/2024 4:14 PM BY: Subhanshu Kulkarni PROJECT STATUS: PLOT STYLE: Ranger.dwg

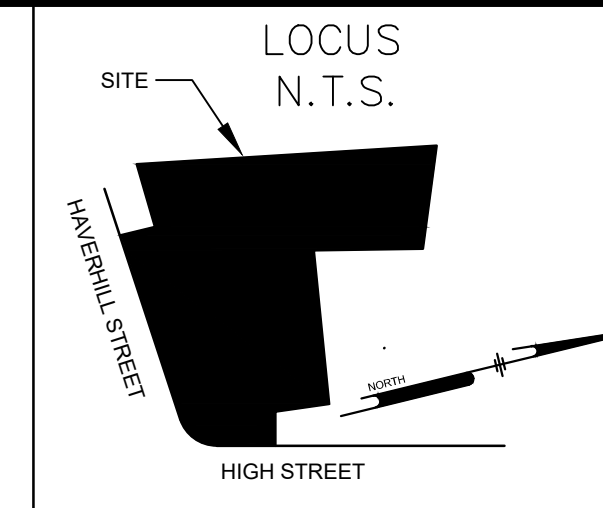
**APPROVAL UNDER THE SUBDIVISION  
CONTROL LAW NOT REQUIRED**

TOWN OF ANDOVER PLANNING BOARD

NAME \_\_\_\_\_ DATE \_\_\_\_\_

THE PLANNING BOARD'S ENDORSEMENT OF THE PLANS AS NOT REQUIRING APPROVAL UNDER THE SUBDIVISION CONTROL LAW IS NOT A DETERMINATION AS TO CONFORMANCE WITH THE TOWN OF ANDOVER ZONING BYLAW REGULATIONS

140 HAVERHILL STREET LAND USAGE TABLE - OP (OFFICE PARK)		
	REQUIRED	LOT 1
MIN LOT AREA	43,560 SF	307,670 SF
MIN FRONTAGE	180'	180.13'
CONTIGUOUS UPLAND AREA	-	307,850.13 SF
FRONT SETBACK	30'	
SIDE SETBACK	50'	
REAR SETBACK	50'	
MAX STORIES	3	
MAX HEIGHT	40'	
MAX BUILDING COVERAGE	33.33%	



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**SITE PLAN**  
140 HAVERHILL STREET  
ANDOVER MA, 01810

**FORM A PLAN**  
MEDICO 140, LLC  
355 MIDDLESEX AVE, SUITE 7  
WILMINGTON, MA 01887

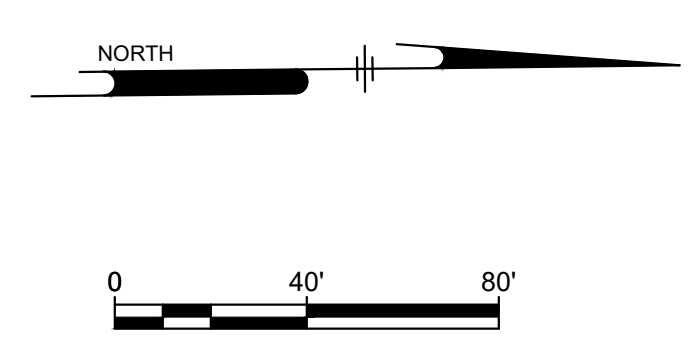
- NOTES:**
- THE LOCUS IS SHOWN ON TOWN OF ANDOVER ASSESSOR'S MAP 18 LOT 104A, LOCATED IN ZONING DISTRICT OP - OFFICE PARK, AND IS KNOWN AS 140 HAVERHILL STREET.
  - THE BASIS OF BEARING FOR THIS PLAN IS THE MASSACHUSETTS STATE PLANE COORDINATES.
  - NO PORTION OF BUILDING IS LOCATED IN A FLOOD HAZARD ZONE AS MAPPED BY FEMA. (ESSEX COUNTY, MASSACHUSETTS, FIRM MAP NO. 25009C0217F, EFFECTIVE DATE JULY 3, 2012).
  - THE PURPOSE OF THIS PLAN IS TO DIVIDE THE EXISTING PROPERTY INTO TWO PARCELS.
  - SEE PLANS ON FILE AT THE TOWN OF ANDOVER PLANNING BOARD.
  - THE PROPOSED UTILITY EASEMENTS OVER LOT 1 ARE FOR THE BENEFIT OF LOT 2 AND THE UTILITY EASEMENTS OVER LOT 2 ARE FOR THE BENEFIT OF LOT 1.
  - THE WETLANDS SHOWN HAVE BEEN DELINEATED BY NORSE ENVIRONMENTAL IN NOVEMBER 2019.
  - EXISTING DRIVEWAY, STREAM, AND SEWER EASEMENTS TAKEN FROM PLAN #15440 ESSEX COUNTY NORTH REGISTRY OF DEEDS

- REFERENCE DEEDS:**
- BOOK 16214 PAGE 202 ESSEX NORTH REGISTRY OF DEEDS (OWNER OF RECORD FOR THE SUBJECT PARCEL)

- REFERENCE PLANS:**
- PL-8987
  - PL-15440

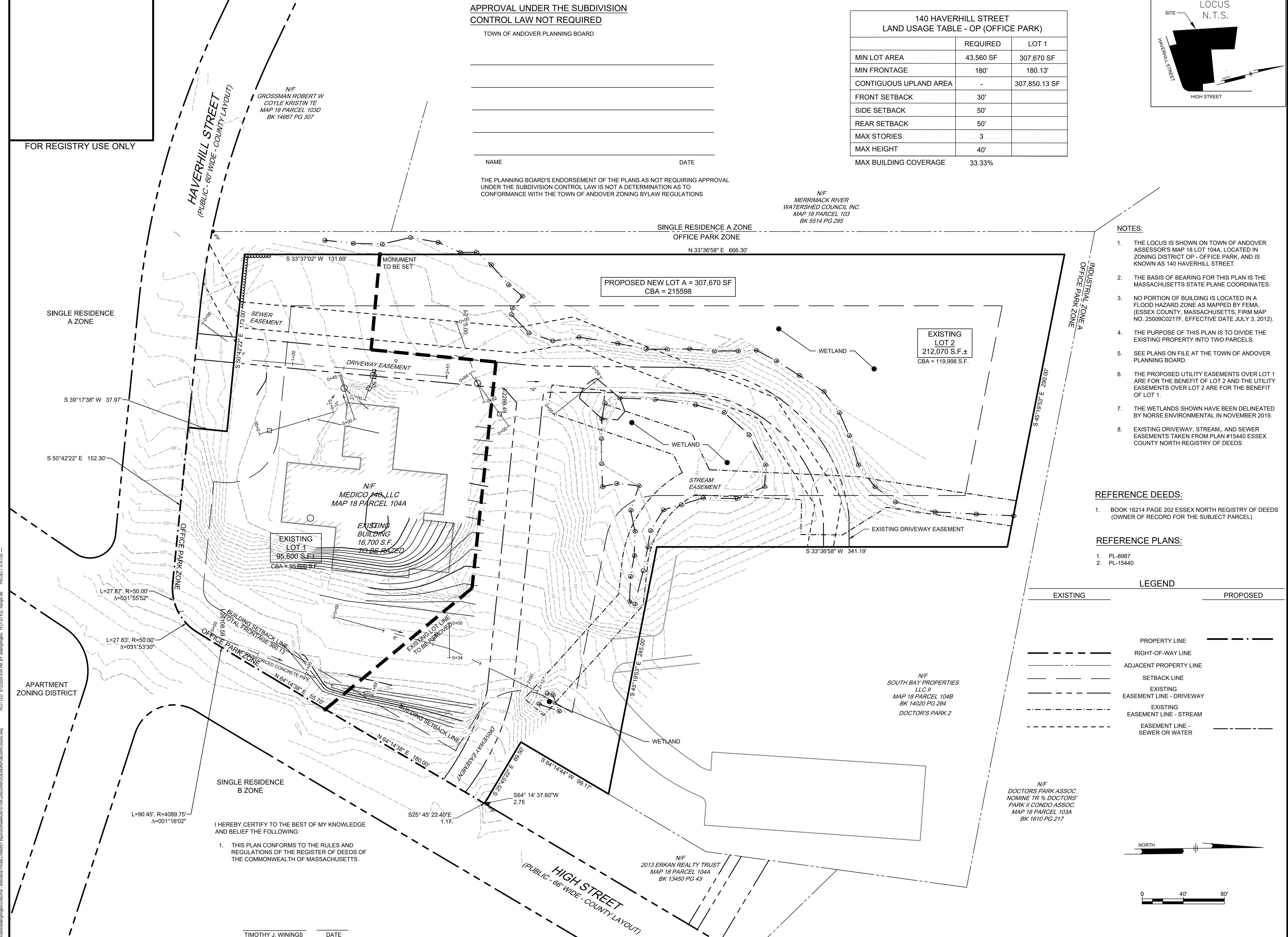
**LEGEND**

EXISTING	PROPOSED
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FOR REGISTRY USE ONLY

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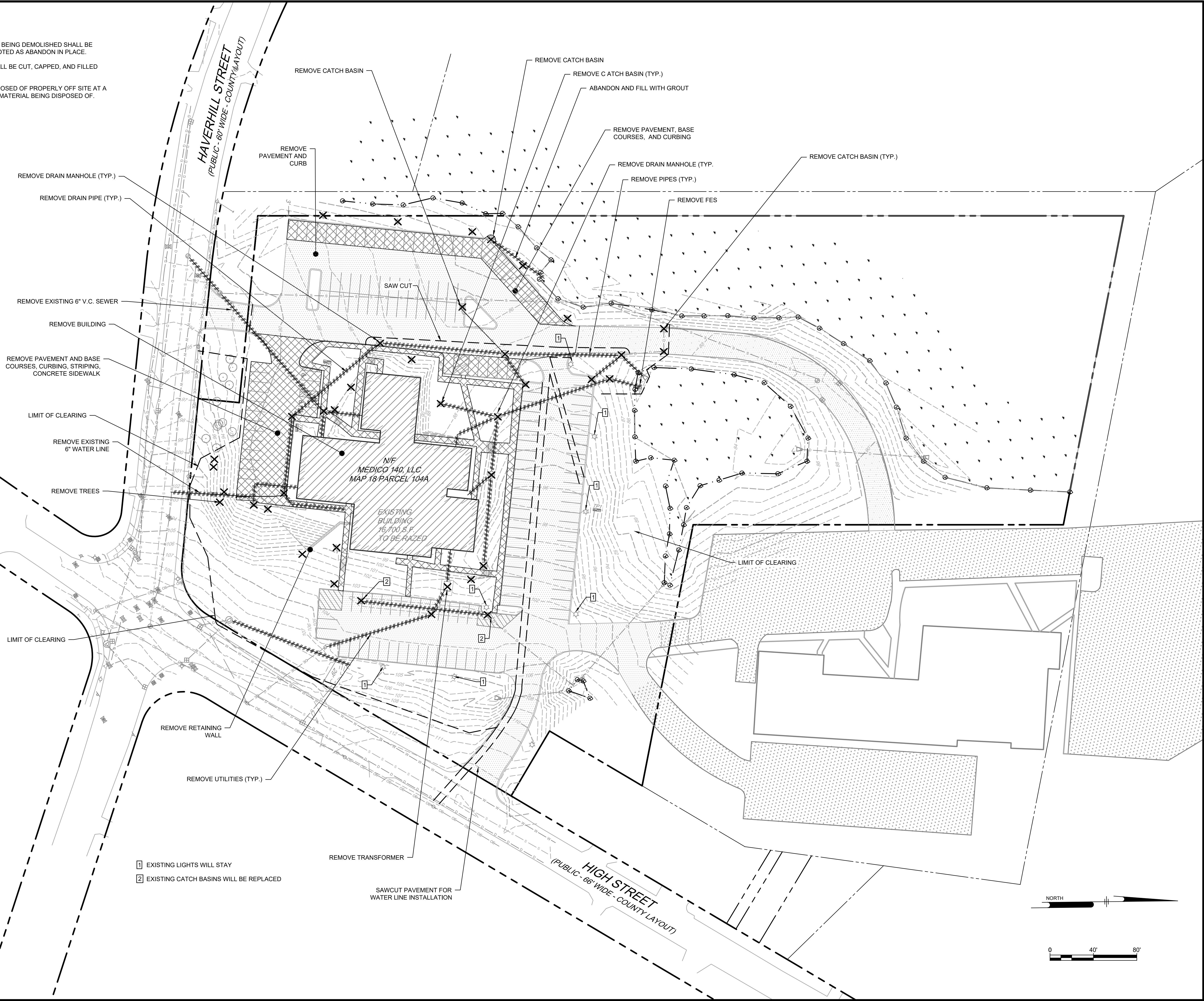
- THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTER OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

TIMOTHY J. WININGS \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1"= 40'
DRAWN BY	OMR
APPROVED BY	BCO
<b>CS0202</b>	
SHEET	4 OF 18

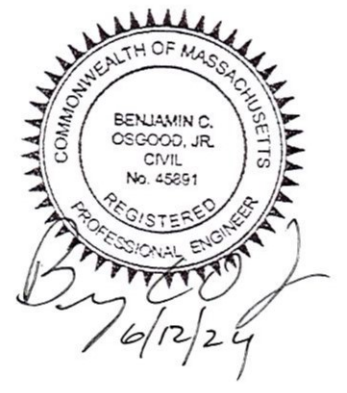
**NOTES:**

1. DRAIN AND SEWER LINES SHOWN AS BEING DEMOLISHED SHALL BE REMOVED, UNLESS SPECIFICALLY NOTED AS ABANDON IN PLACE.
2. UTILITIES ABANDONED IN PLACE SHALL BE CUT, CAPPED, AND FILLED WITH GROUT.
3. ANY ITEMS REMOVED SHALL BE DISPOSED OF PROPERLY OFF SITE AT A FACILITY LICENSED TO ACCEPT THE MATERIAL BEING DISPOSED OF.



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 PROJECT STATUS:

**Ranger Engineering Group, Inc.**  
 130 Main Street, Suite 202  
 Salem NH, 03079  
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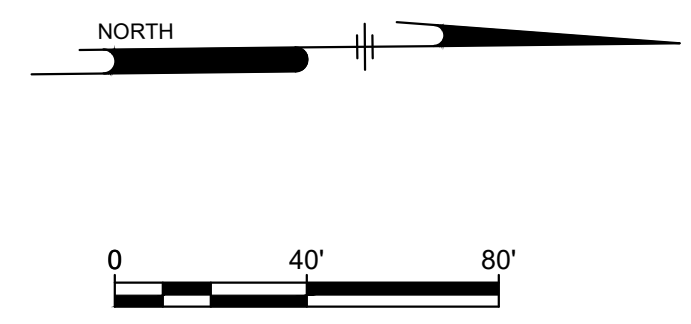
**SITE PLAN**  
 140 HAVERHILL STREET  
 ANDOVER MA, 01810

**DEMOLITION PLAN**  
 MEDICO 140, LLC  
 355 MIDDLESEX AVE SUITE 7  
 WILMINGTON, MA 01887

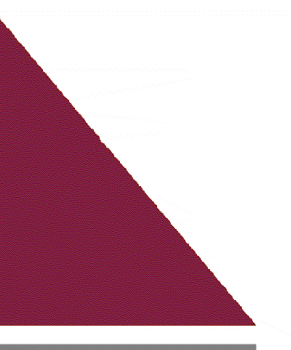
NO.	DATE	REVISIONS	BY

PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1"= 40'
DRAWN BY	OMR
APPROVED BY	BCO

**CS0501**  
 SHEET 5 OF 18







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**SITE PLAN**

140 HAVERHILL STREET  
 ANDOVER MA, 01810

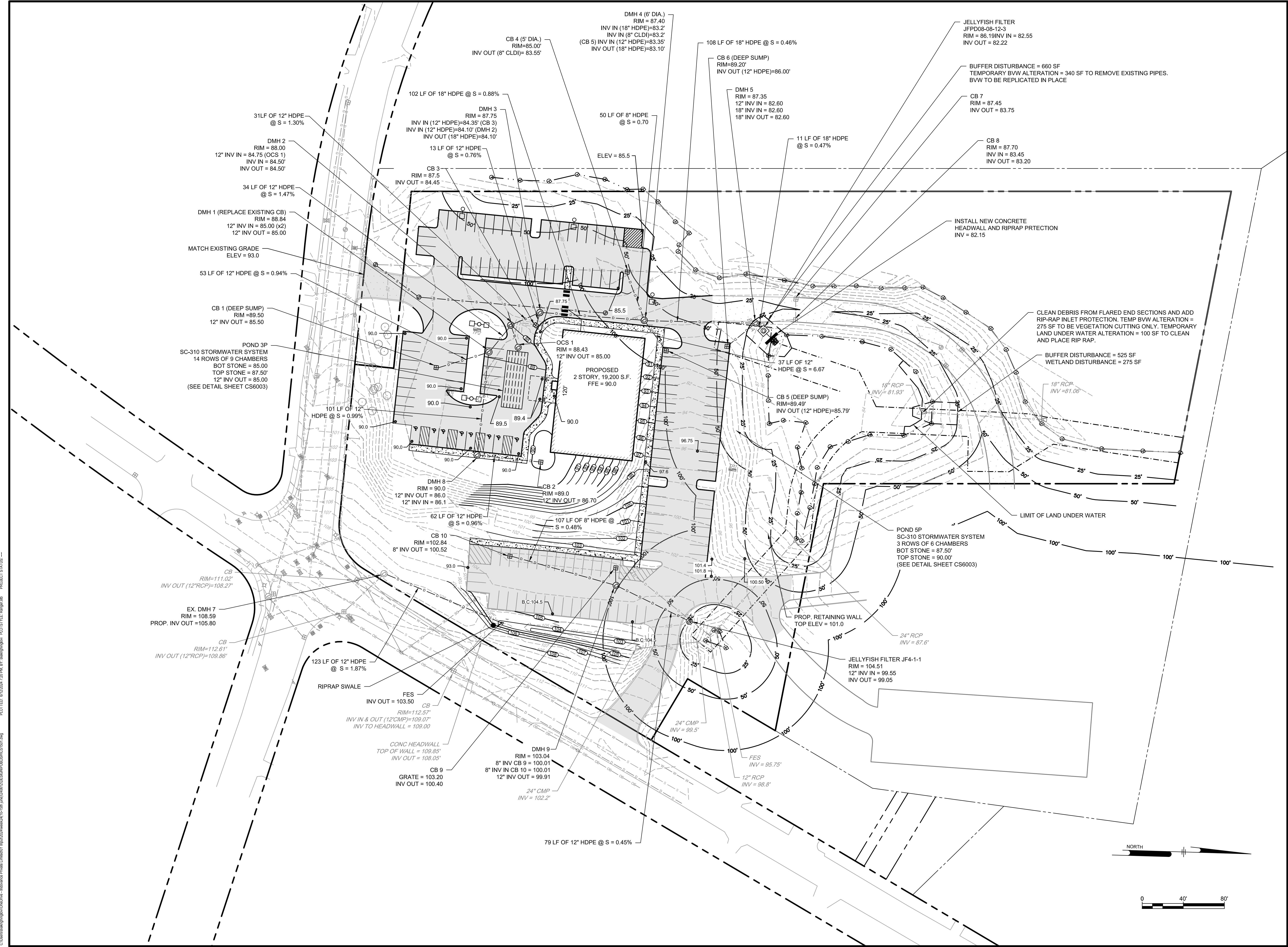
**GRADING AND DRAINAGE PLAN**

MEDICO 140, LLC  
 355 MIDDLESEX AVE SUITE 7  
 WILMINGTON, MA 01897

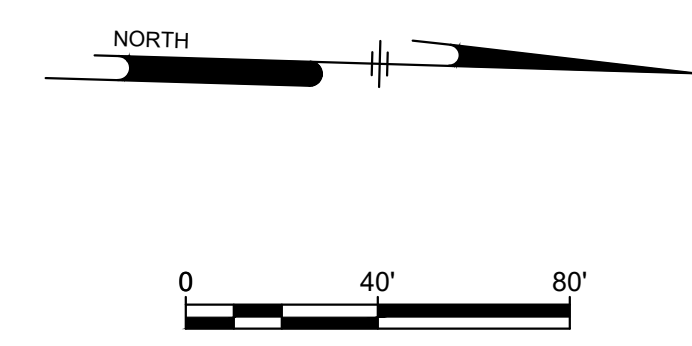
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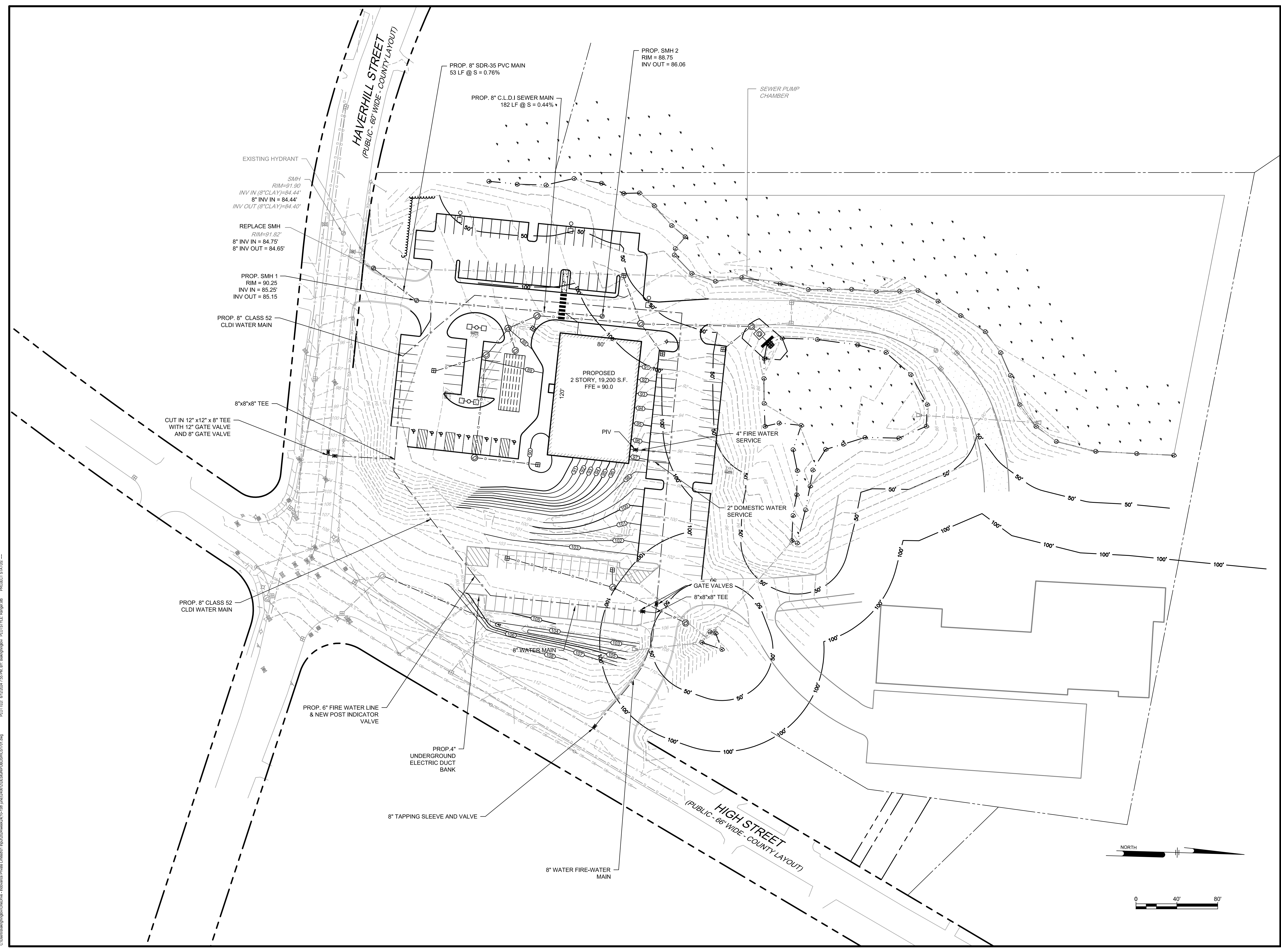
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DATE	JUNE 12, 2024
DRAWING SCALE	1" = 40'
DRAWN BY	OMR
APPROVED BY	BCO

**CS1501**  
 SHEET 7 OF 18

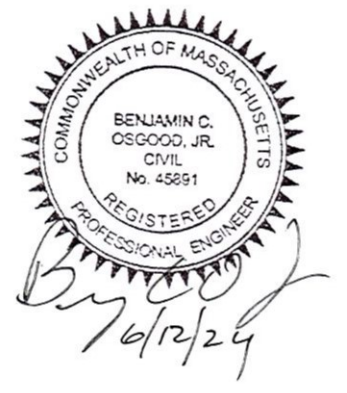


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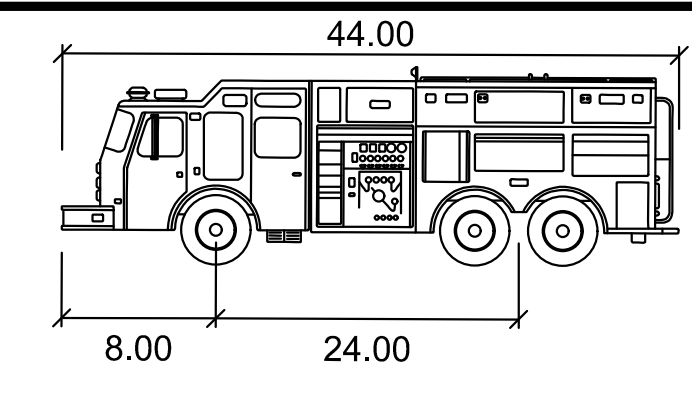
**SITE PLAN**  
 140 HAVERHILL STREET  
 ANDOVER MA, 01810

**UTILITY PLAN**  
 MEDICO 140, LLC  
 355 MIDDLESEX AVE SUITE 7  
 WILMINGTON, MA 01897

NO.	DATE	REVISIONS	BY

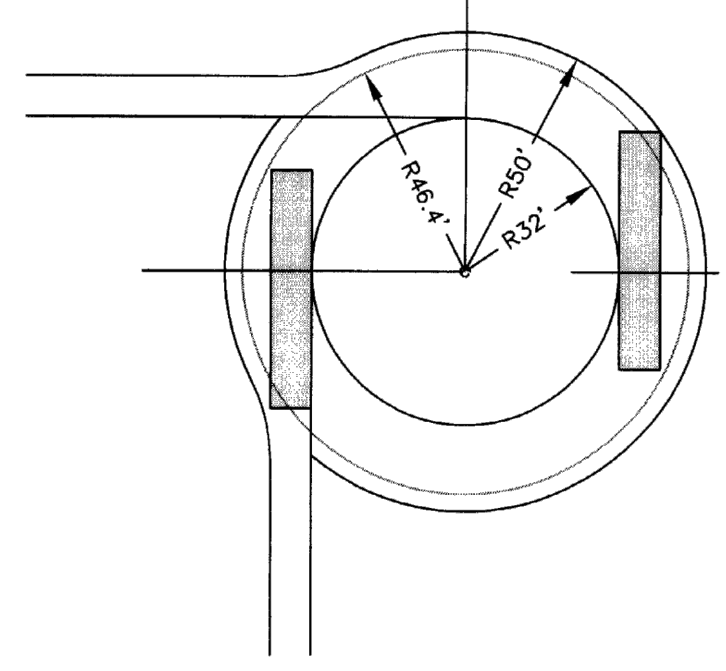
PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1" = 40'
DRAWN BY	OMR
APPROVED BY	BCO

Town of Andover, Massachusetts  
 Fire Truck Turning Radius  
 Scale 1 inch = 40 feet



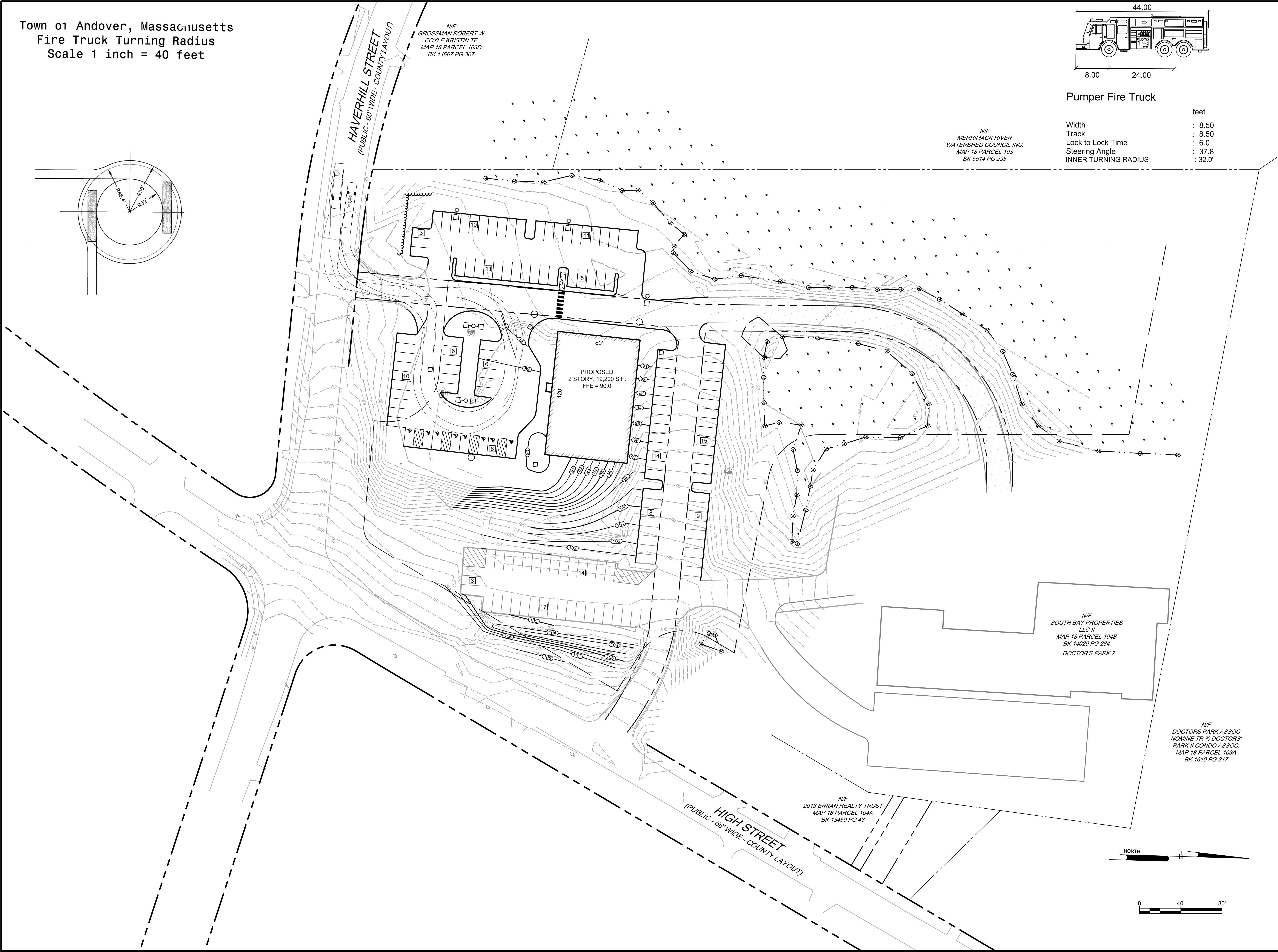
**Pumper Fire Truck**

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 37.8
INNER TURNING RADIUS	: 32.0'



N/F  
 GROSSMAN ROBERT W  
 COYLE KRISTIN TE  
 MAP 18 PARCEL 103D  
 BK 14667 PG 307

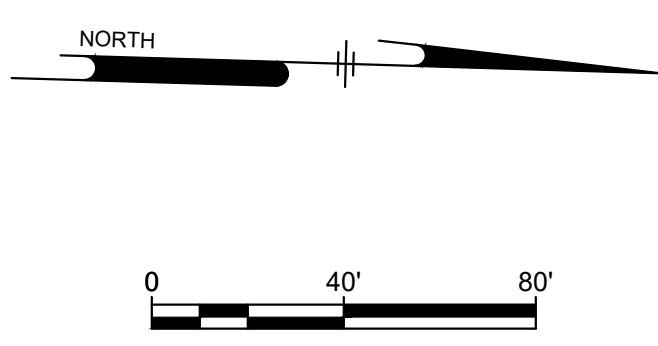
N/F  
 MERRIMACK RIVER  
 WATERSHED COUNCIL INC.  
 MAP 18 PARCEL 103  
 BK 5514 PG 295



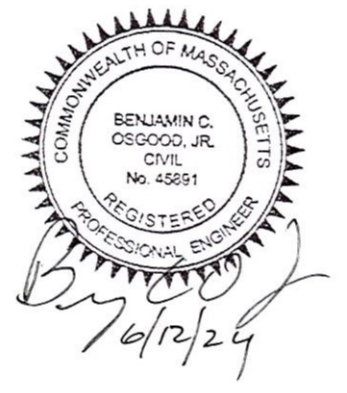
N/F  
 SOUTH BAY PROPERTIES  
 LLC II  
 MAP 18 PARCEL 104B  
 BK 14020 PG 284  
 DOCTOR'S PARK 2

N/F  
 DOCTORS PARK ASSOC  
 NOMINE TR 1/2 DOCTORS'  
 PARK II CONDO ASSOC.  
 MAP 18 PARCEL 103A  
 BK 1610 PG 217

N/F  
 2013 ERKAN REALTY TRUST  
 MAP 18 PARCEL 104A  
 BK 13450 PG 43



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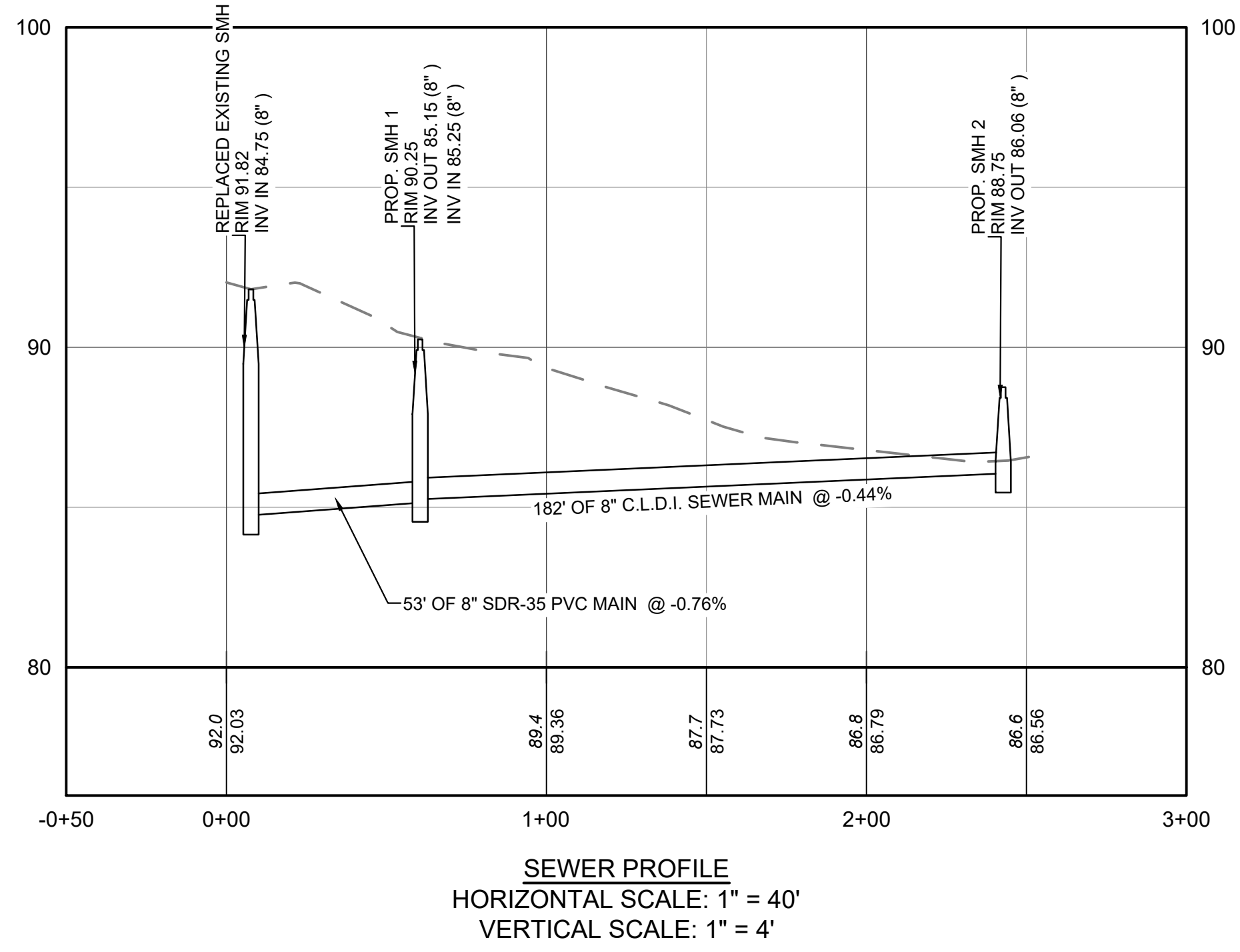
**SITE PLAN**  
 140 HAVERHILL STREET  
 ANDOVER MA, 01810

**TURNING PLAN**  
 MEDICO 140, LLC  
 355 MIDDLESEX AVE SUITE 7  
 WILMINGTON, MA 01887

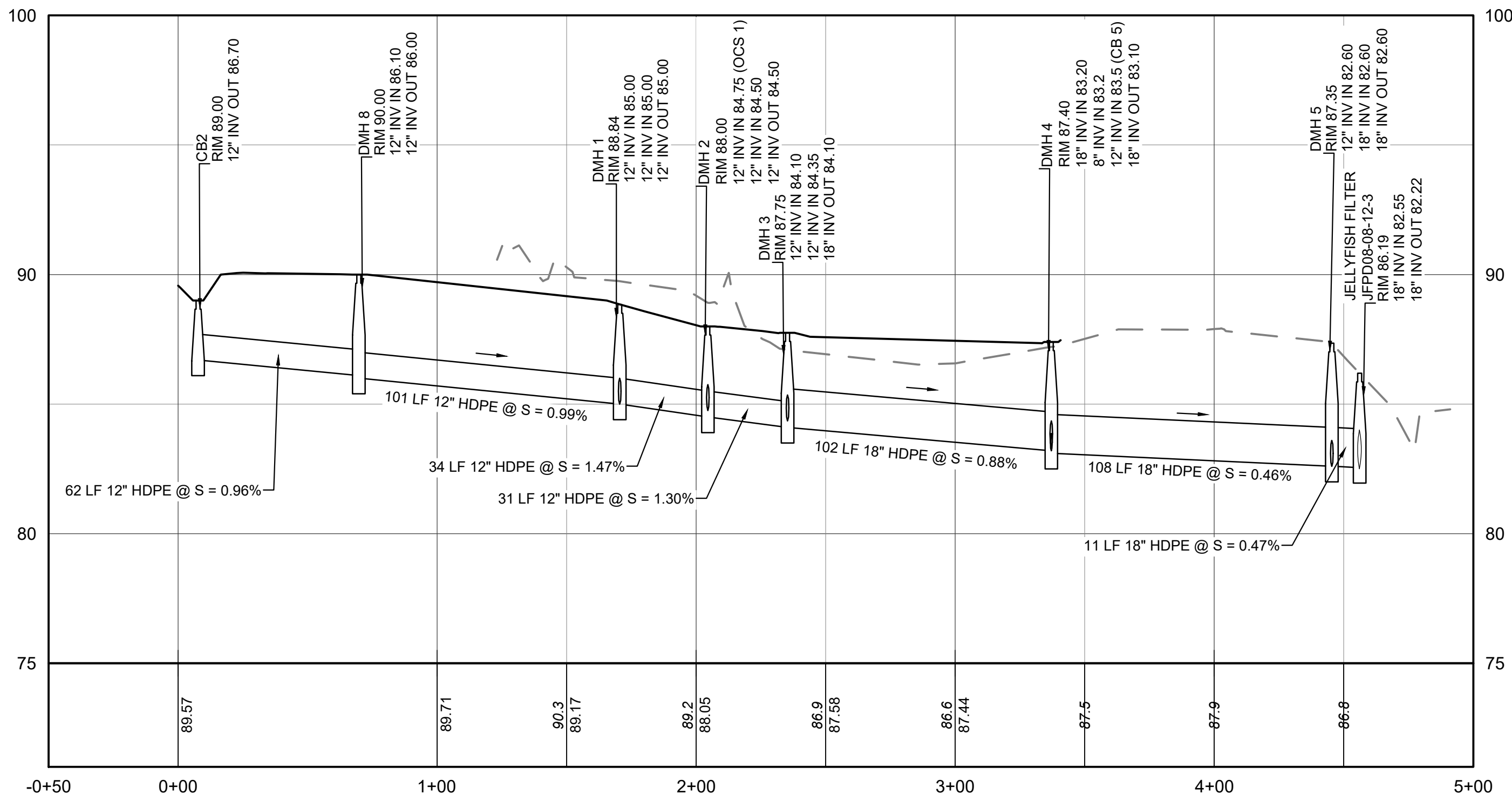
NO.	DATE	REVISIONS	BY

PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1" = 40'
DRAWN BY	OMR
APPROVED BY	BCO

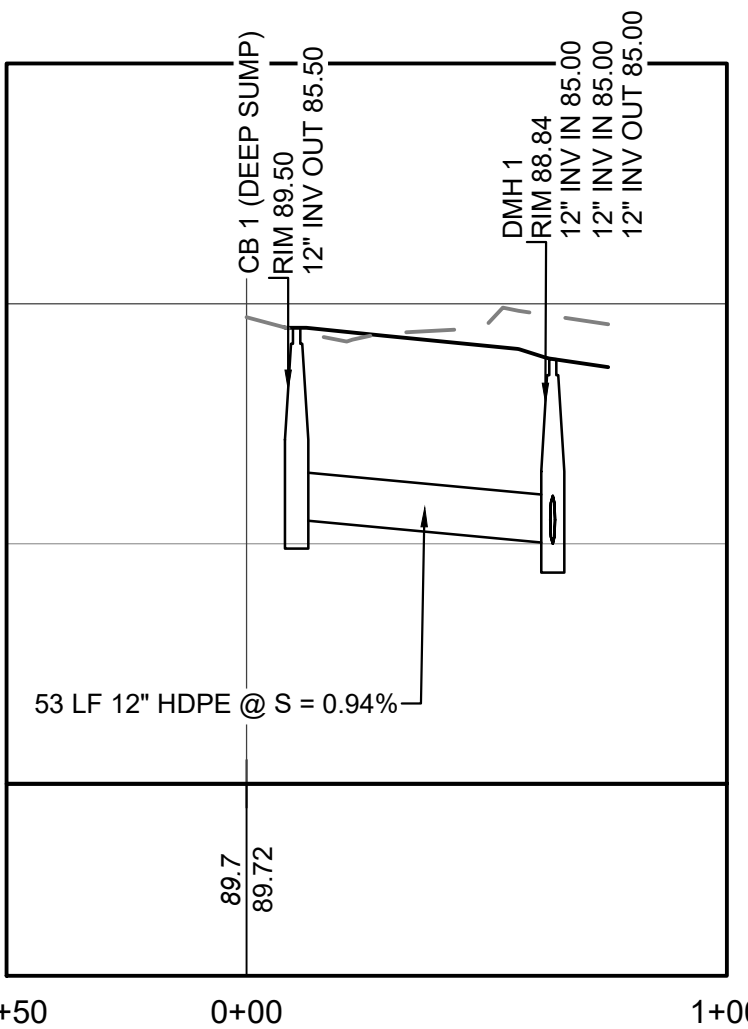
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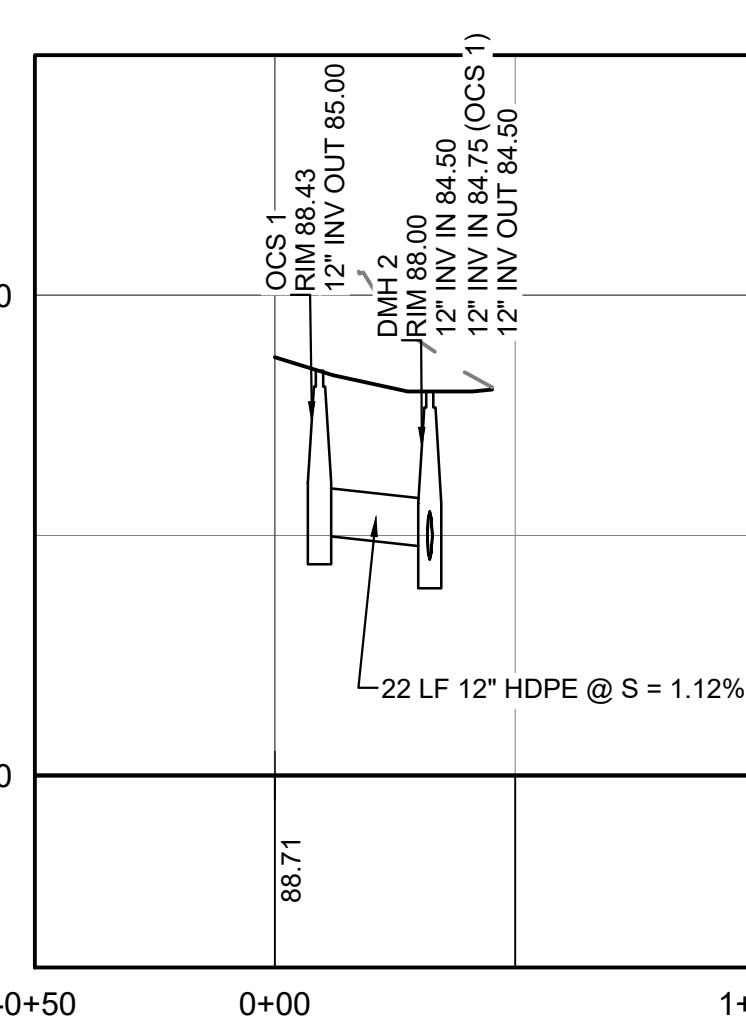
SEWER PROFILE  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



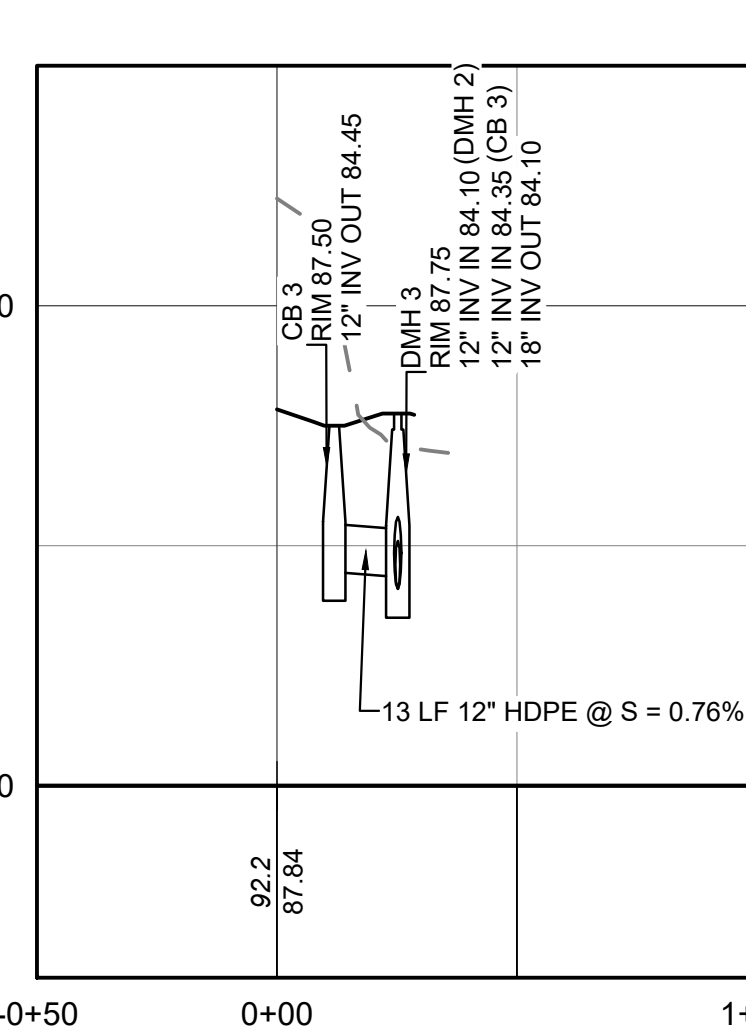
STORM DRAIN PROFILE  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



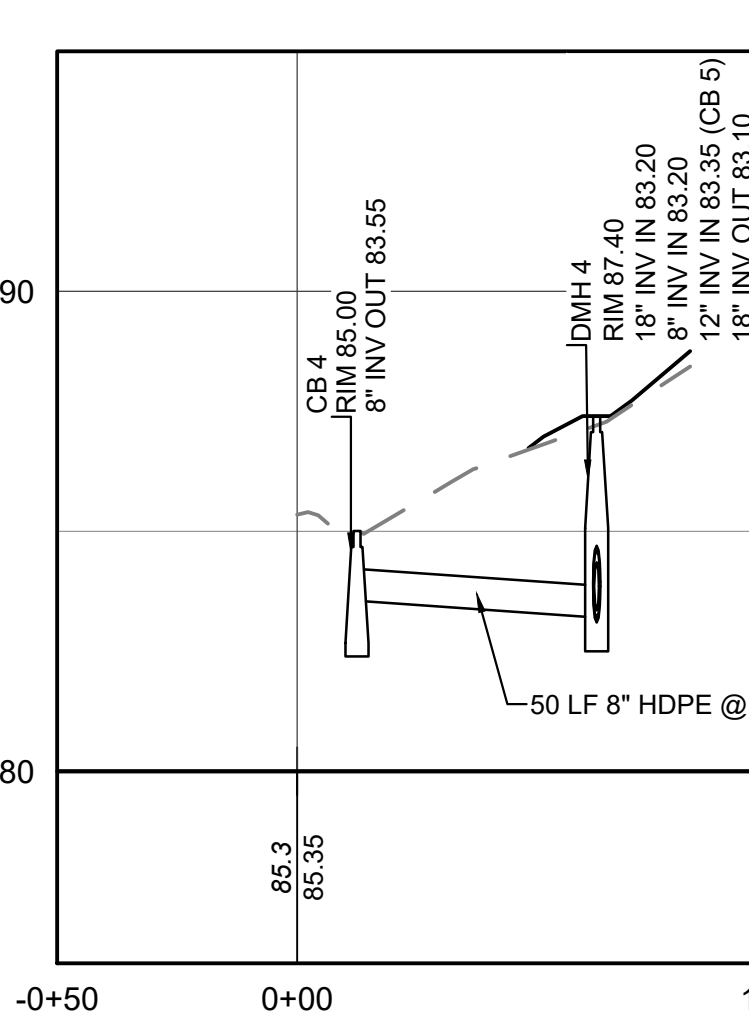
DRAIN LINE A  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



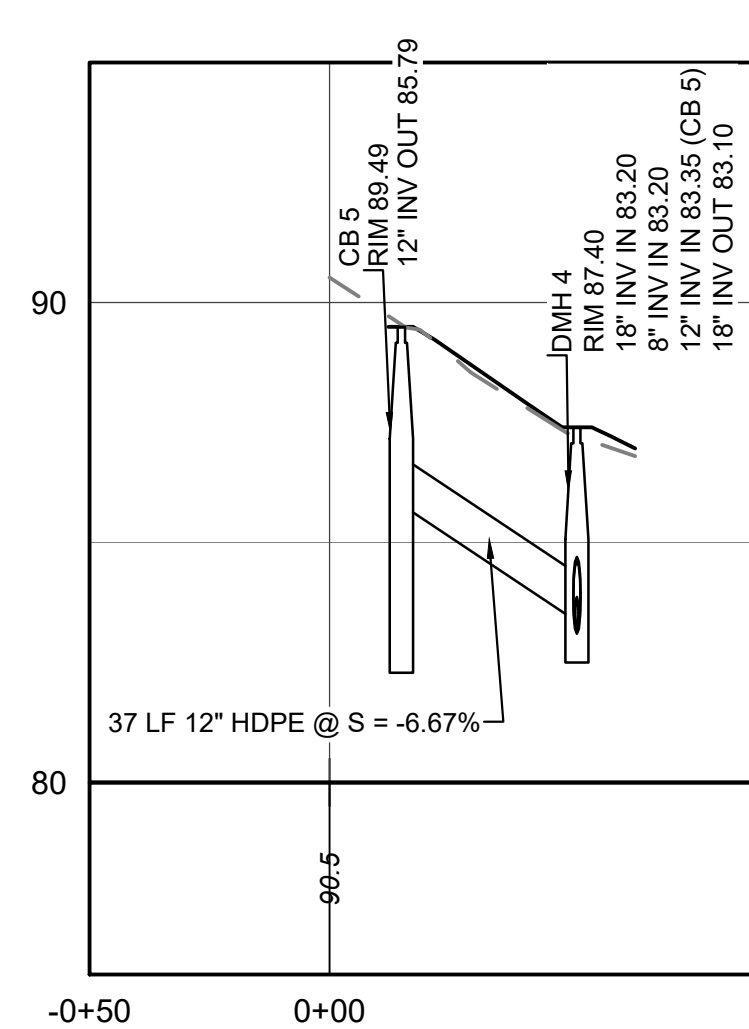
DRAIN LINE B  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



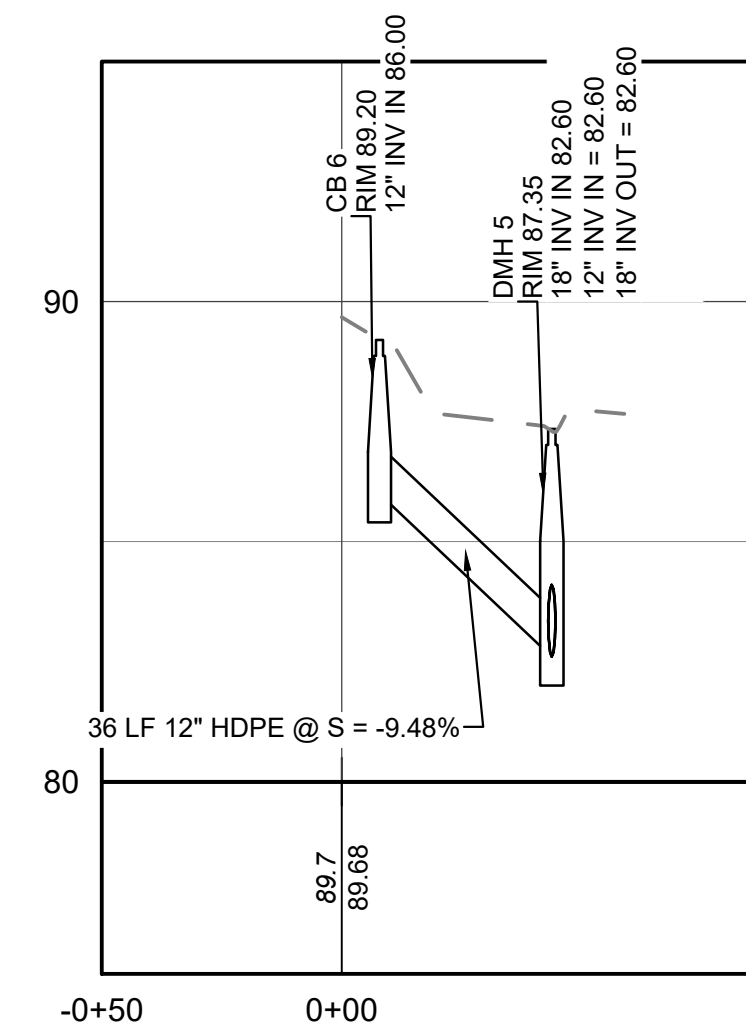
DRAIN LINE C  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



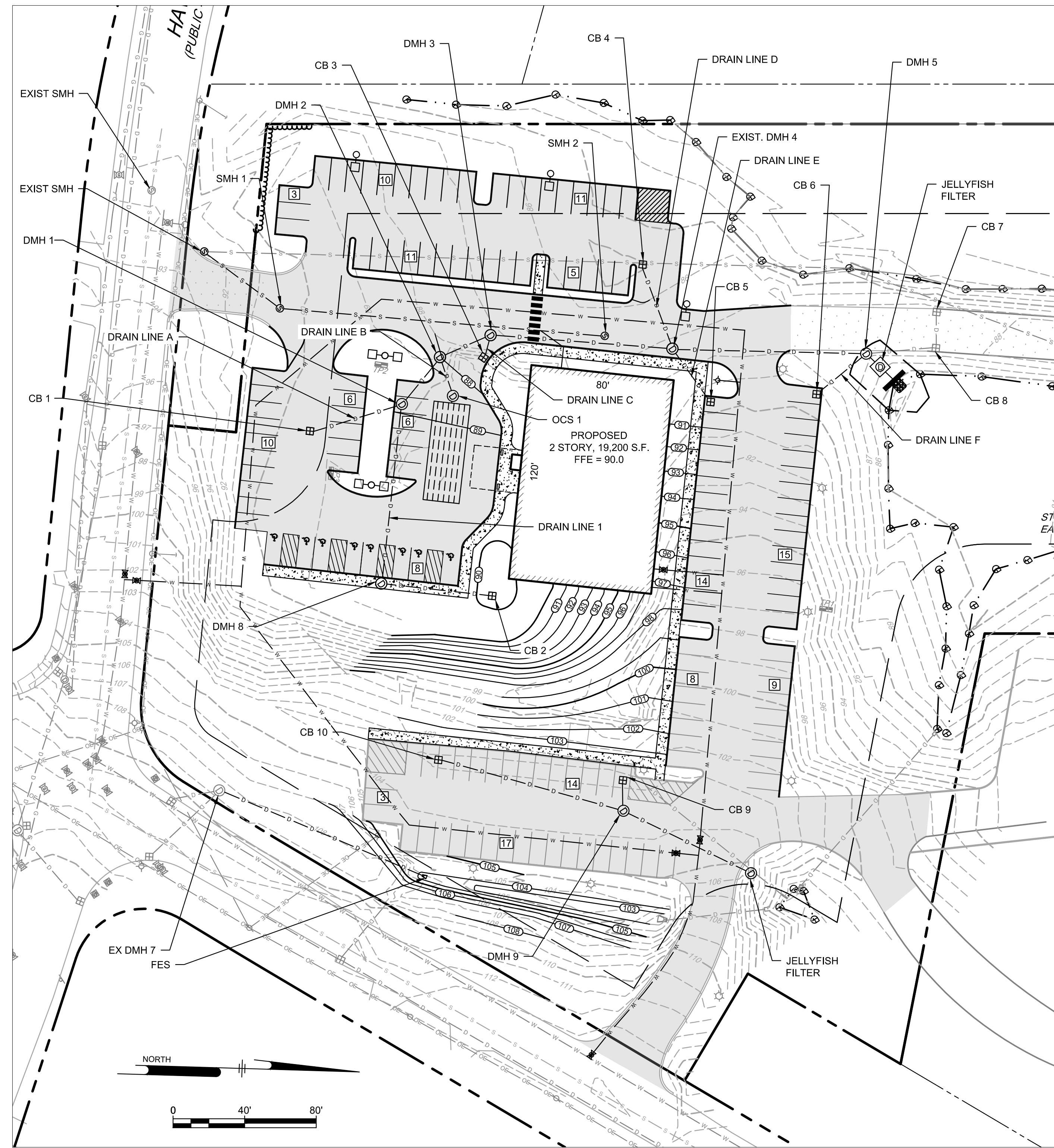
DRAIN LINE D  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



DRAIN LINE E  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



DRAIN LINE F  
HORIZONTAL SCALE: 1" = 40'  
VERTICAL SCALE: 1" = 4'



Ranger Engineering Group, Inc.  
130 Main Street, Suite 202  
Salem NH, 03079  
Tel: 978-208-1762  
rangereng.com



SITE PLAN  
140 HAVERHILL STREET  
ANDOVER MA, 01810

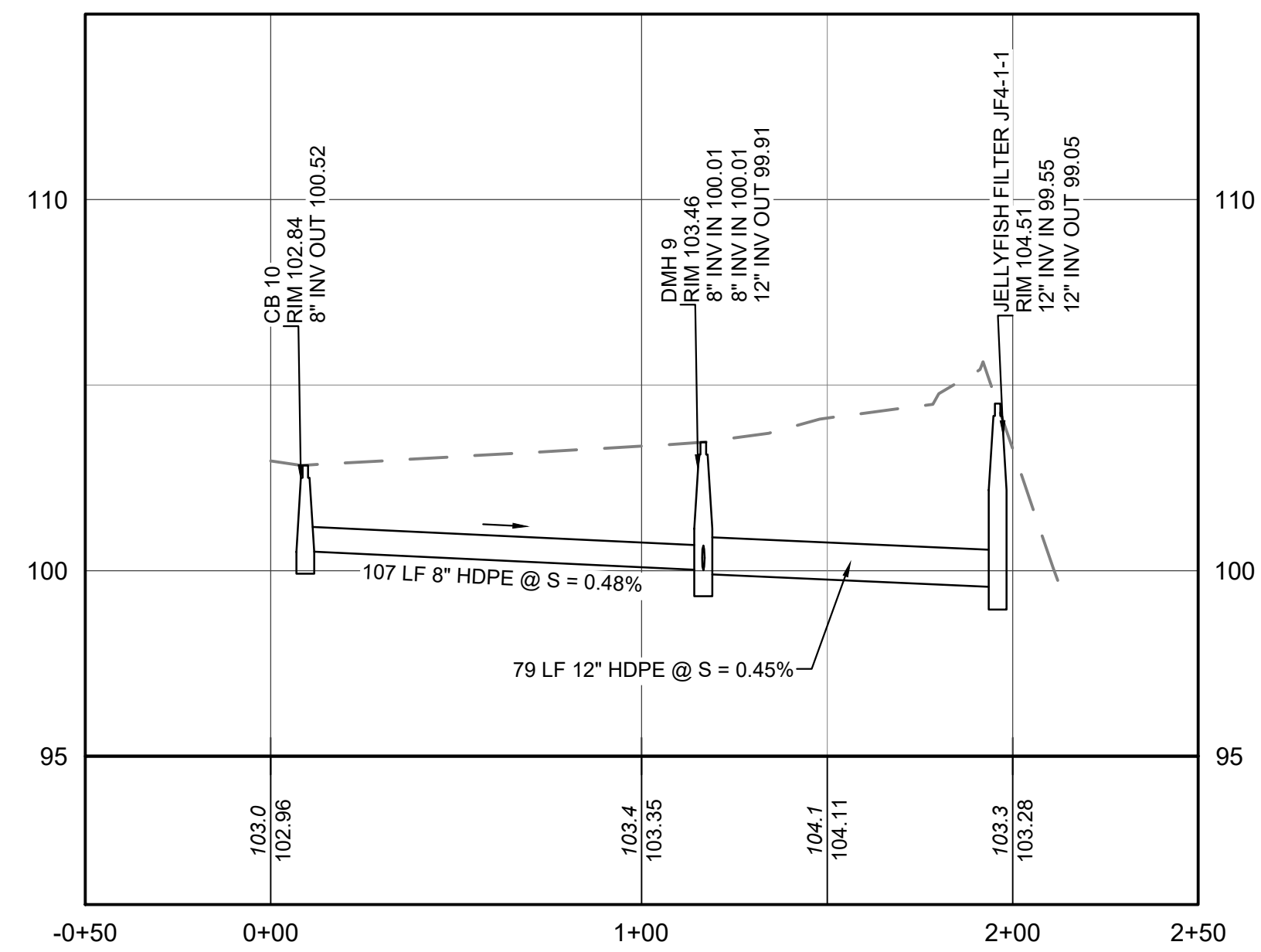
SEWER AND DRAIN PROFILES  
MEDICO 140, LLC  
355 MIDDLESEX AVE SUITE 7  
WILMINGTON, MA 01887

NO.	DATE	REVISIONS	BY

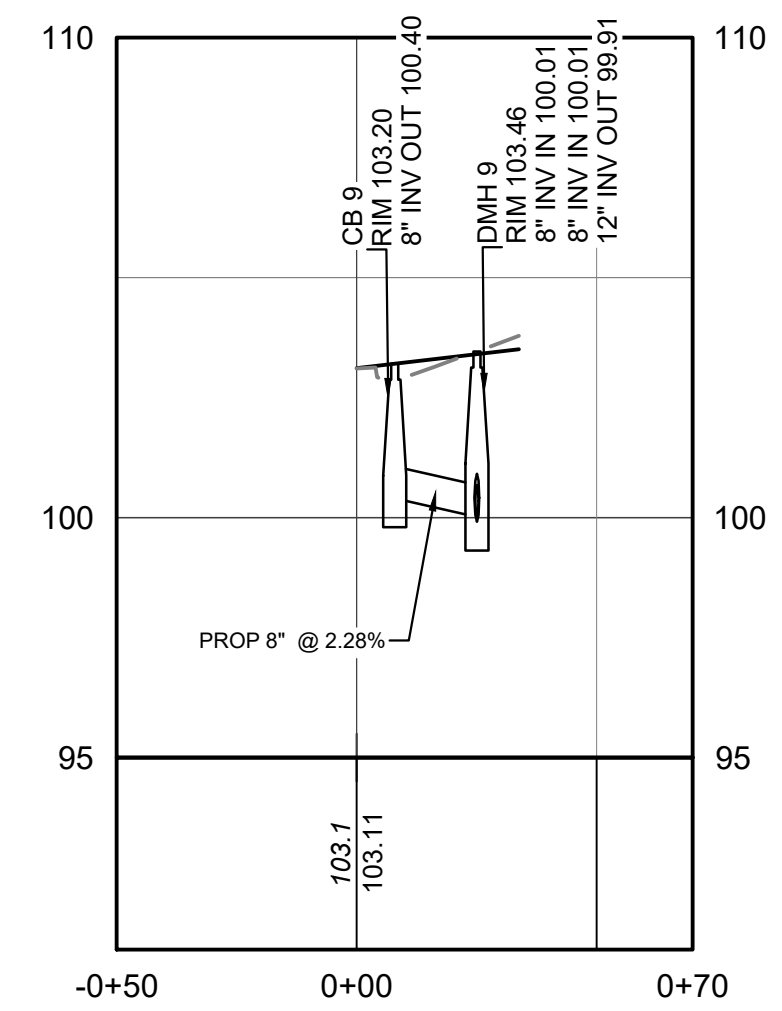
PROJECT 19-152  
DATE JUNE 12, 2024  
DRAWING SCALE 1" = 40'  
DRAWN BY OMR  
APPROVED BY BCO

**CS3501**  
SHEET 10 OF 18

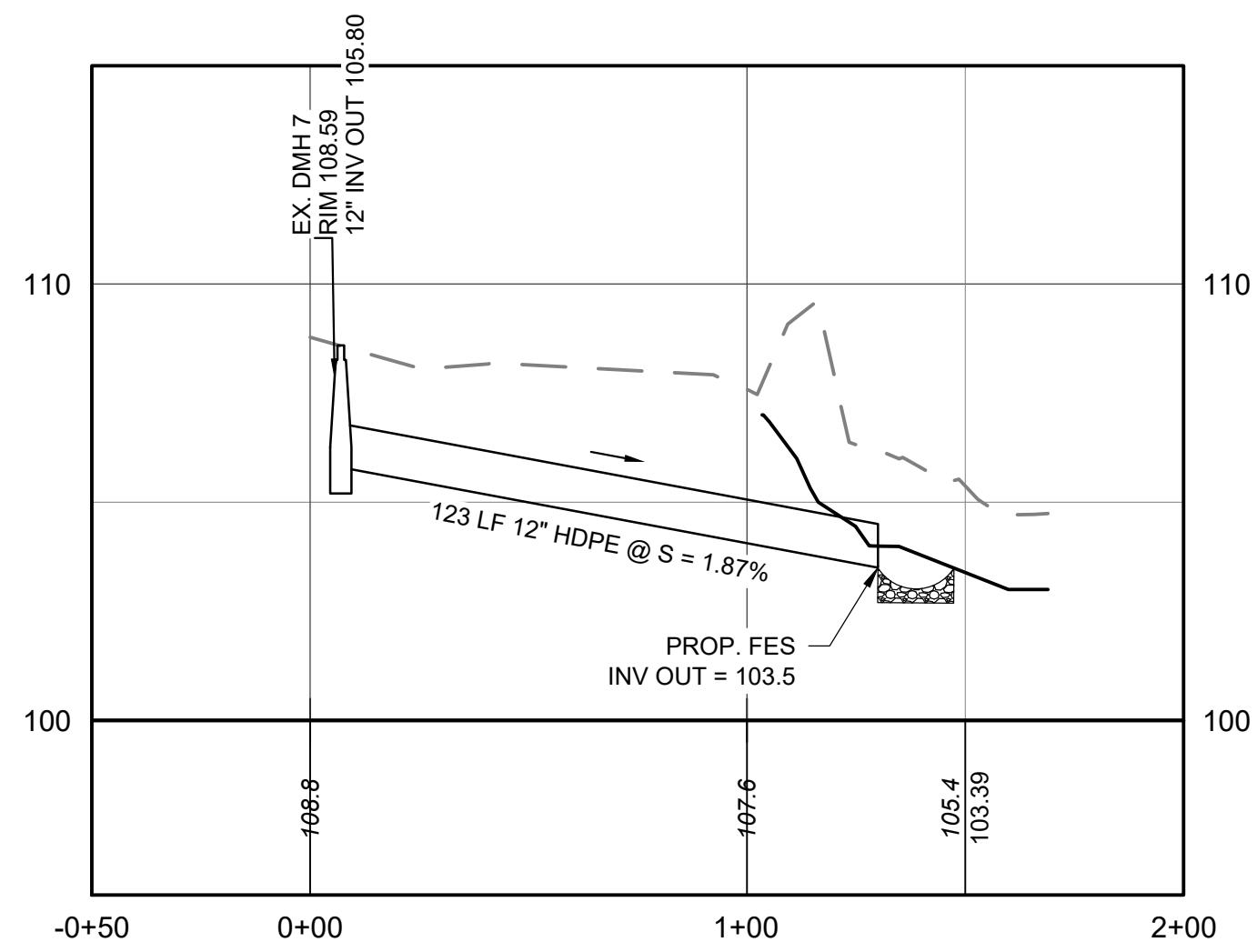
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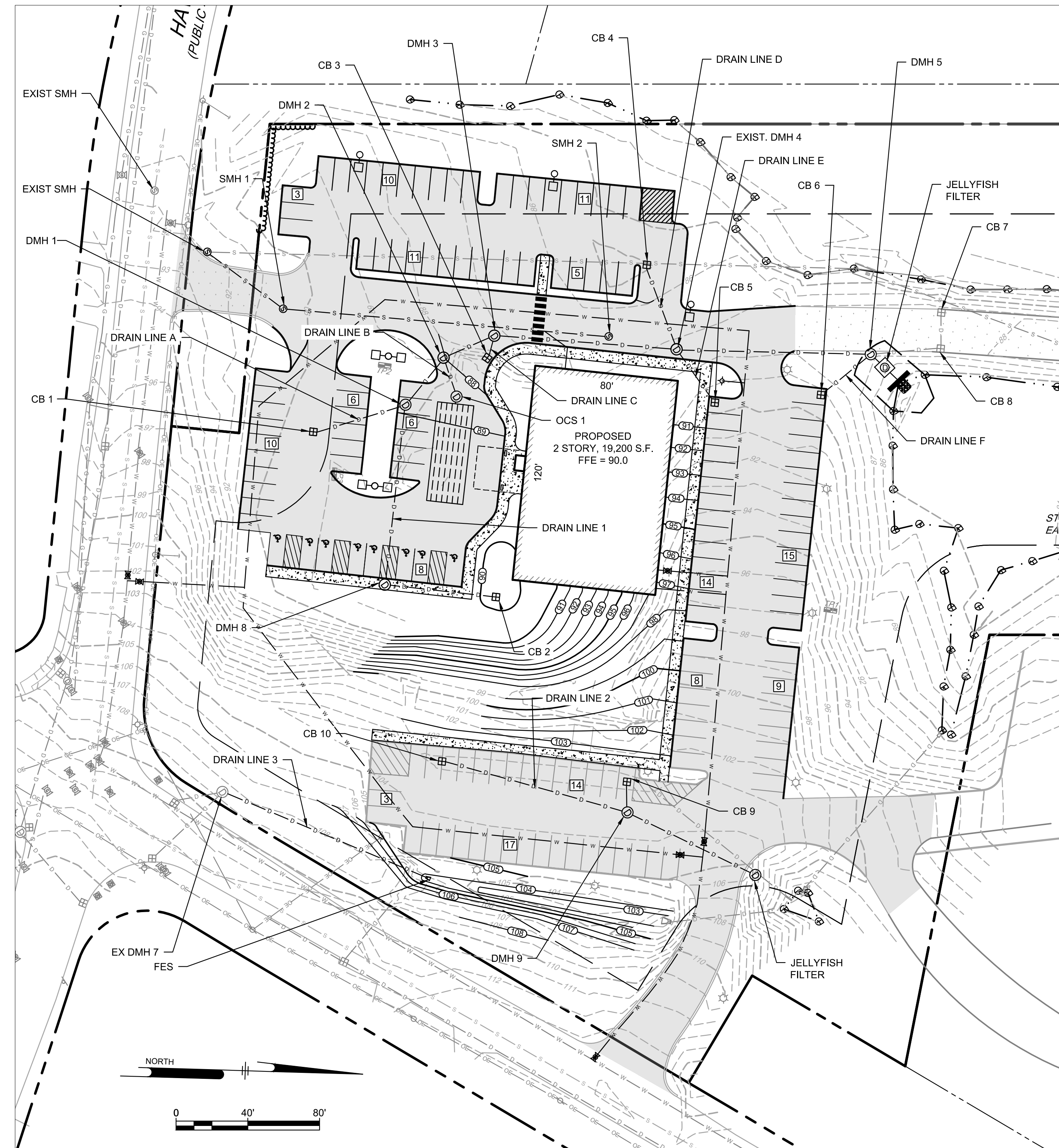
**DRAIN LINE 2**  
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 VERTICAL SCALE: 1" = 4'



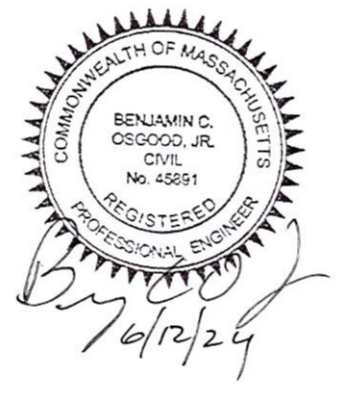
**DRAIN LINE G**  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



**DRAIN LINE 3**  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



**Ranger Engineering Group, Inc.**  
 130 Main Street, Suite 202  
 Salem NH, 03079  
 Tel: 978-208-1762  
 rangereng.com



**SITE PLAN**  
 140 HAVERHILL STREET  
 ANDOVER MA, 01810

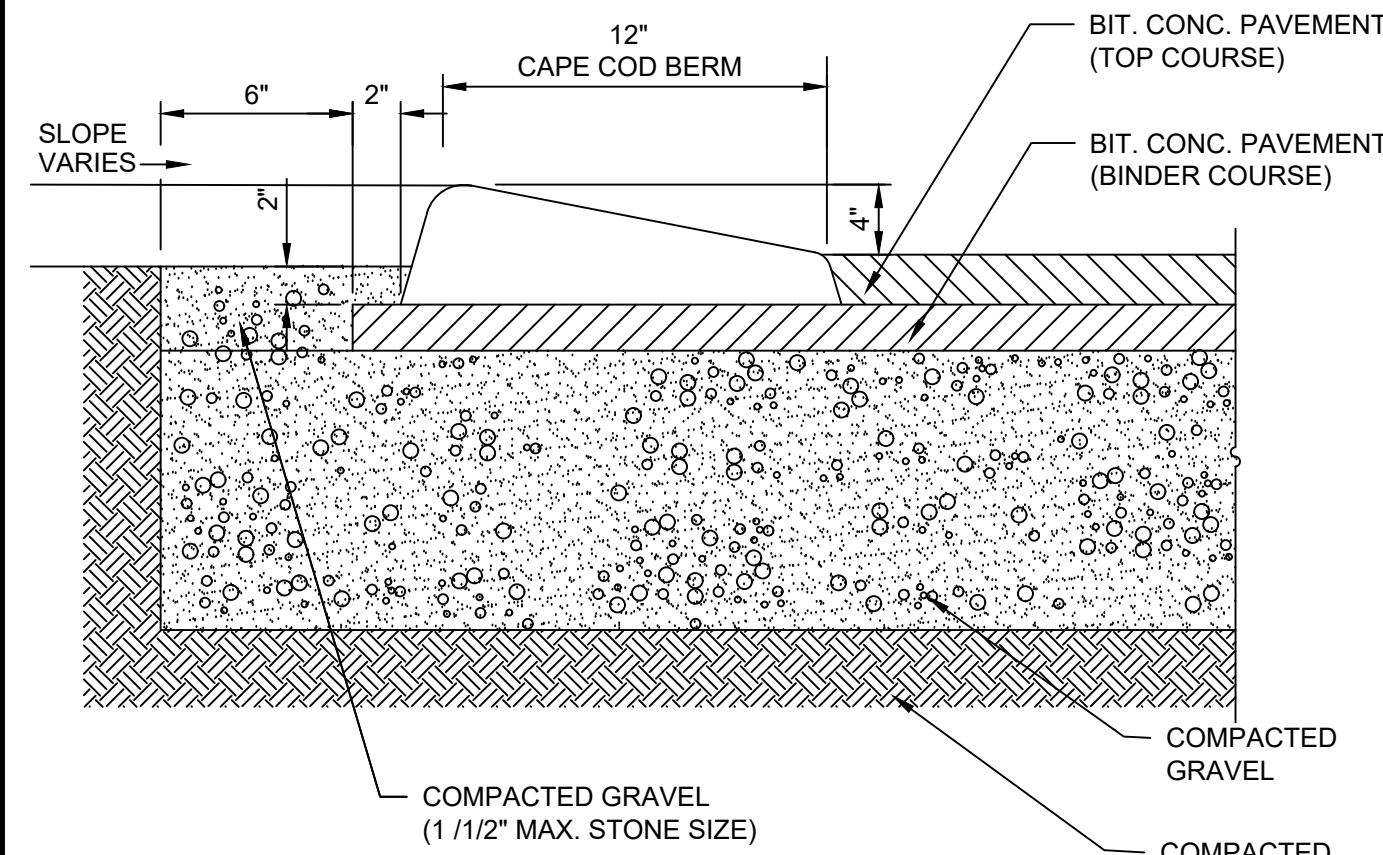
**SEWER AND DRAIN PROFILES**

MEDICO 140, LLC  
 355 MIDDLESEX AVE SUITE 7  
 WILMINGTON, MA 01897

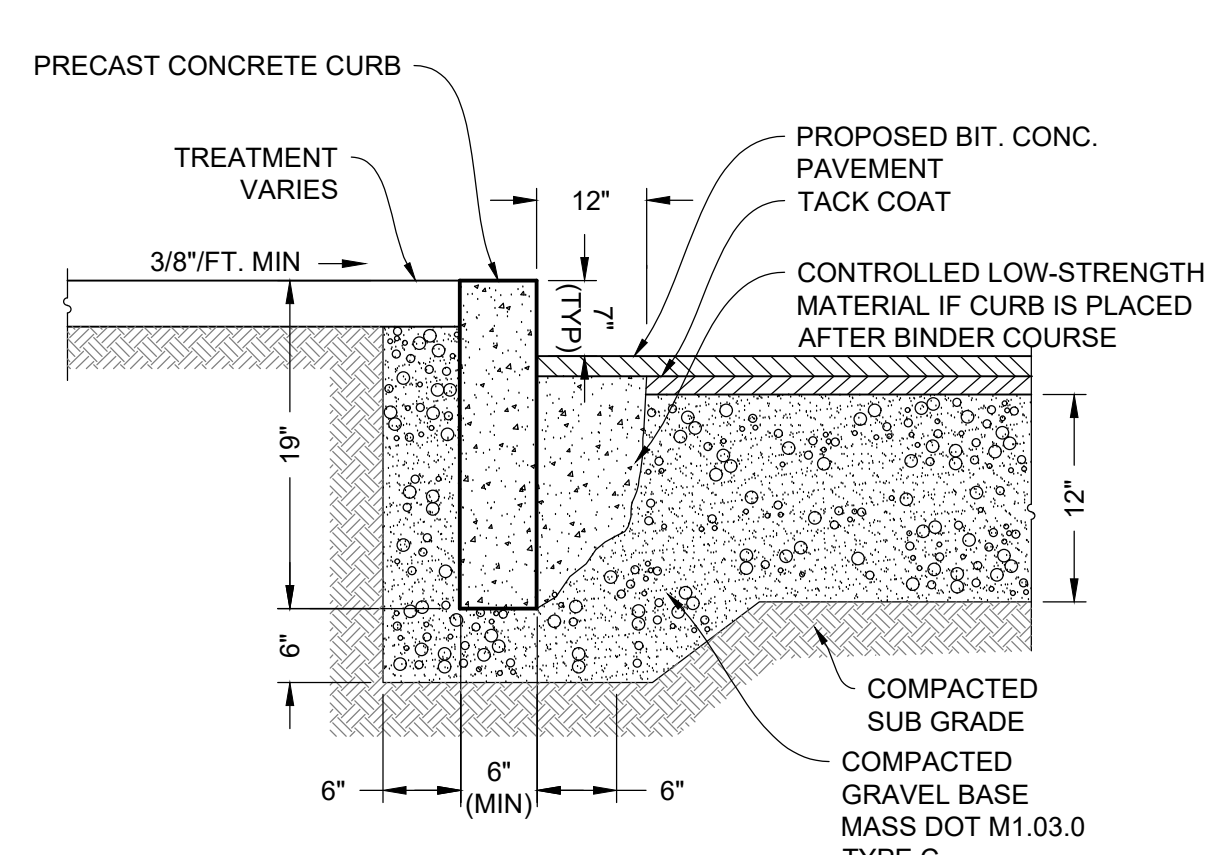
NO.	DATE	REVISIONS	BY

PROJECT: 19-152  
 DATE: JUNE 12, 2024  
 DRAWING SCALE: 1" = 40'  
 DRAWN BY: OMR  
 APPROVED BY: BCO

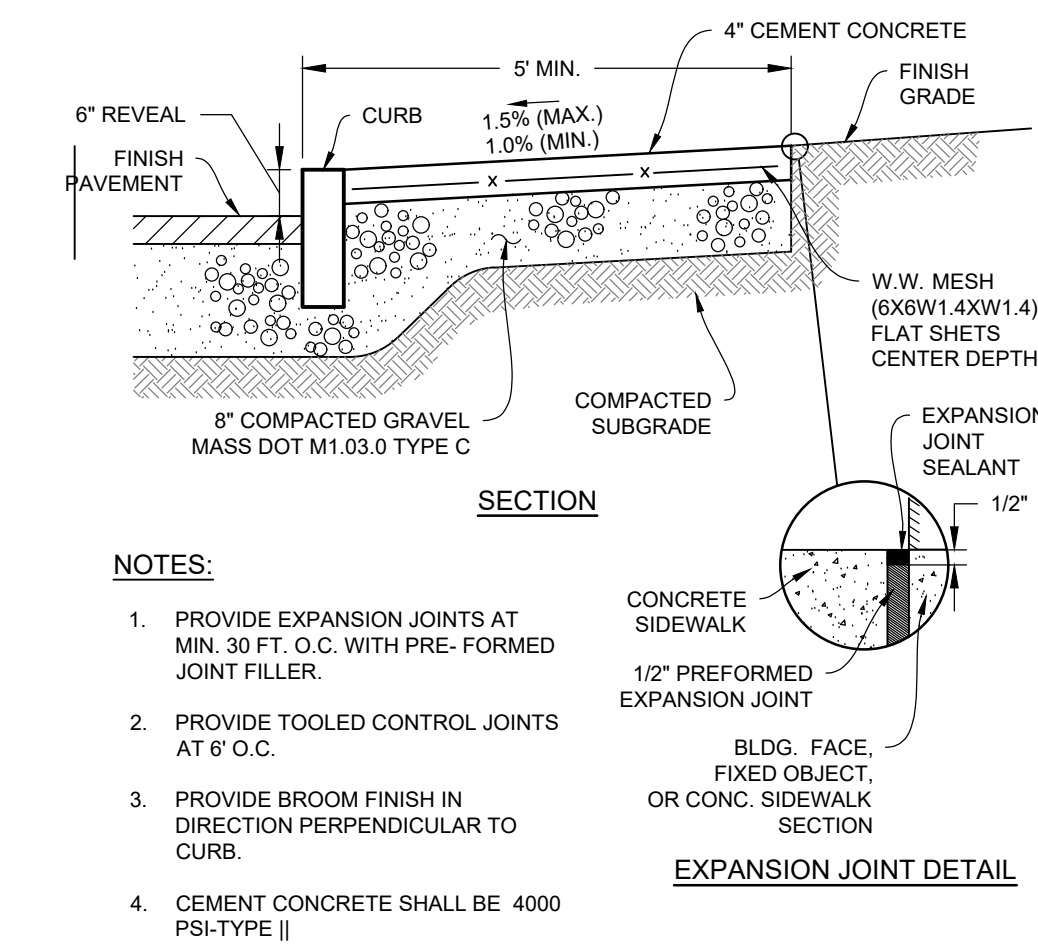
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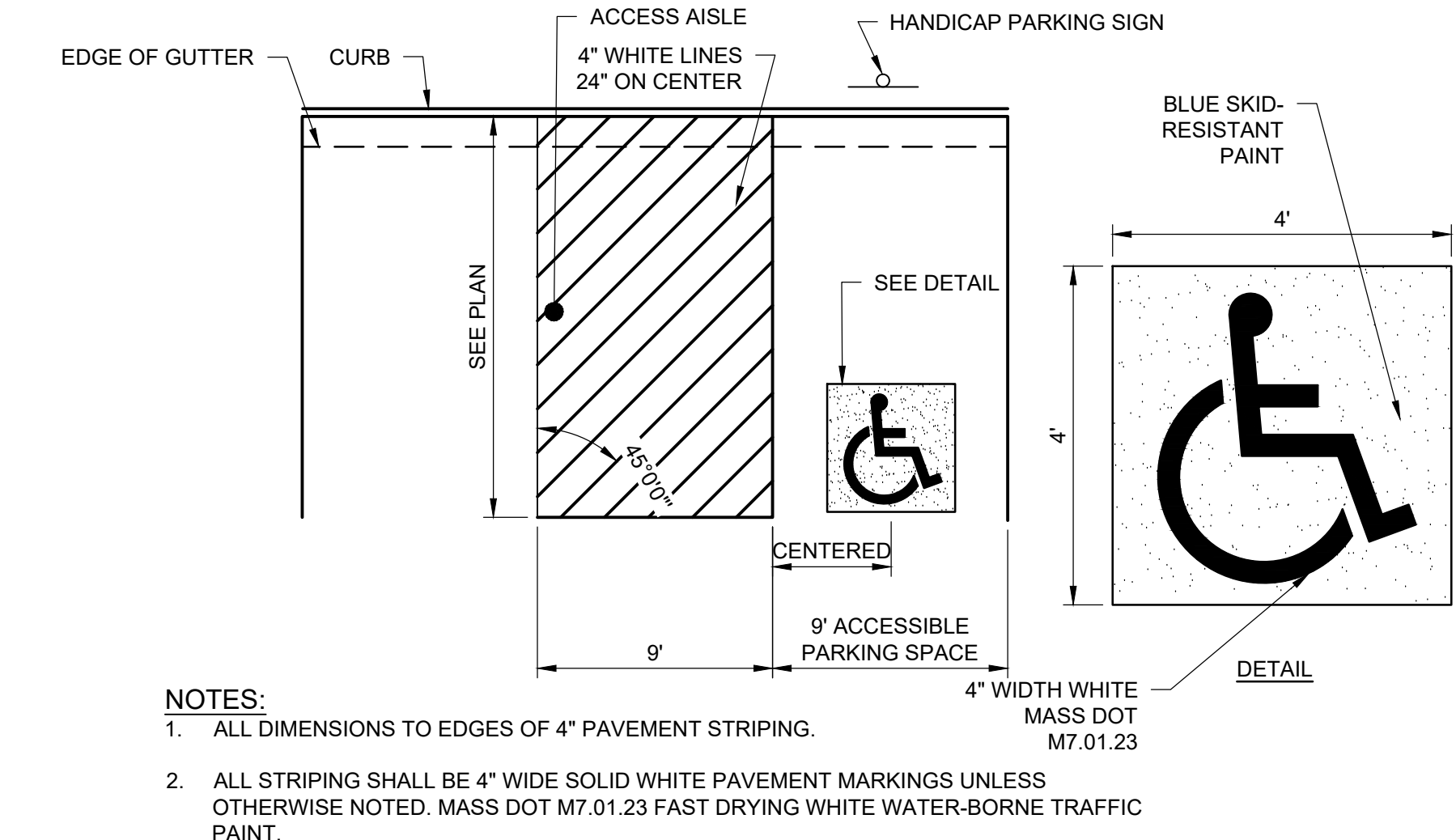
**1 CAPECOD BERM**  
NOT TO SCALE



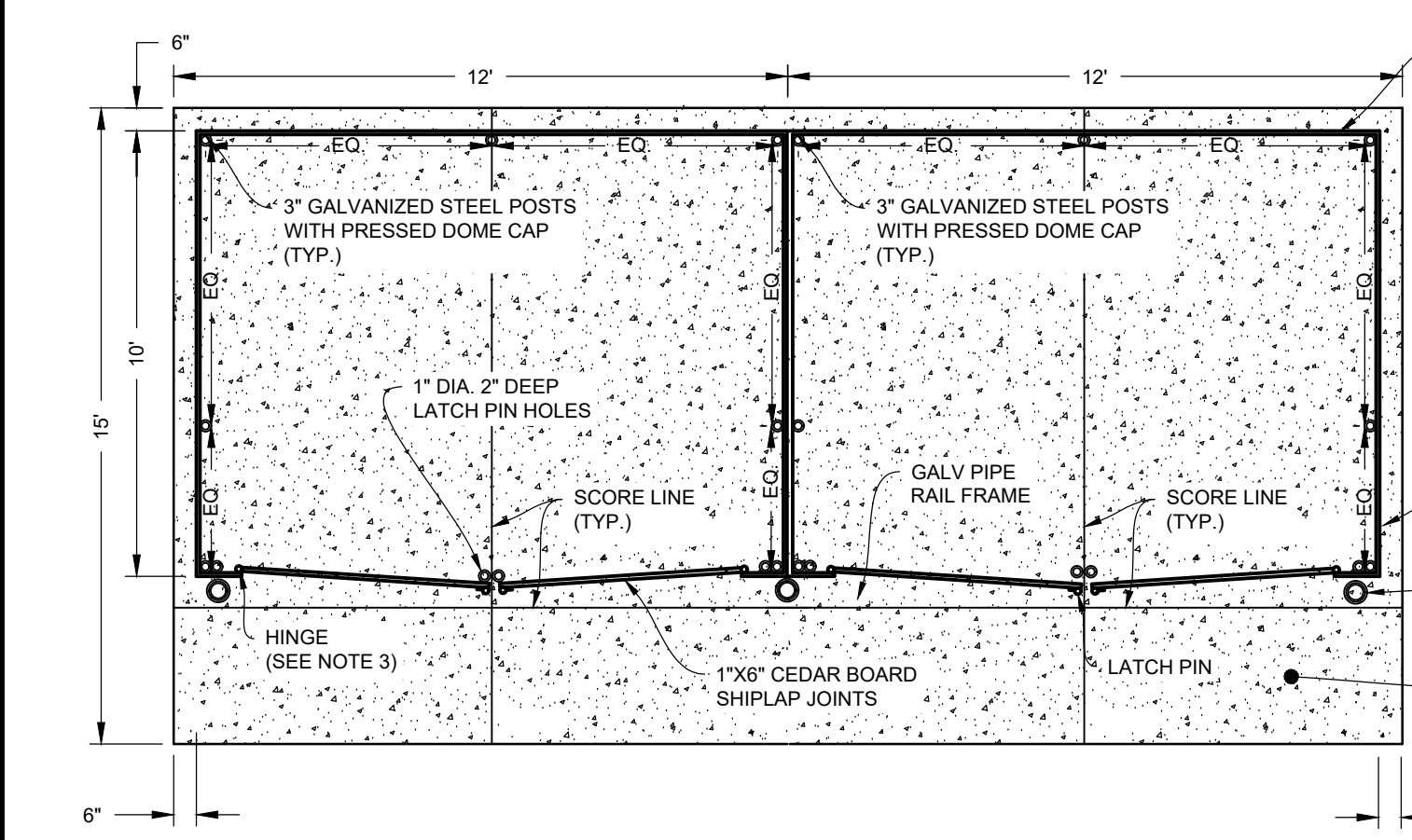
**2 PRECAST CONCRETE CURB**  
NOT TO SCALE



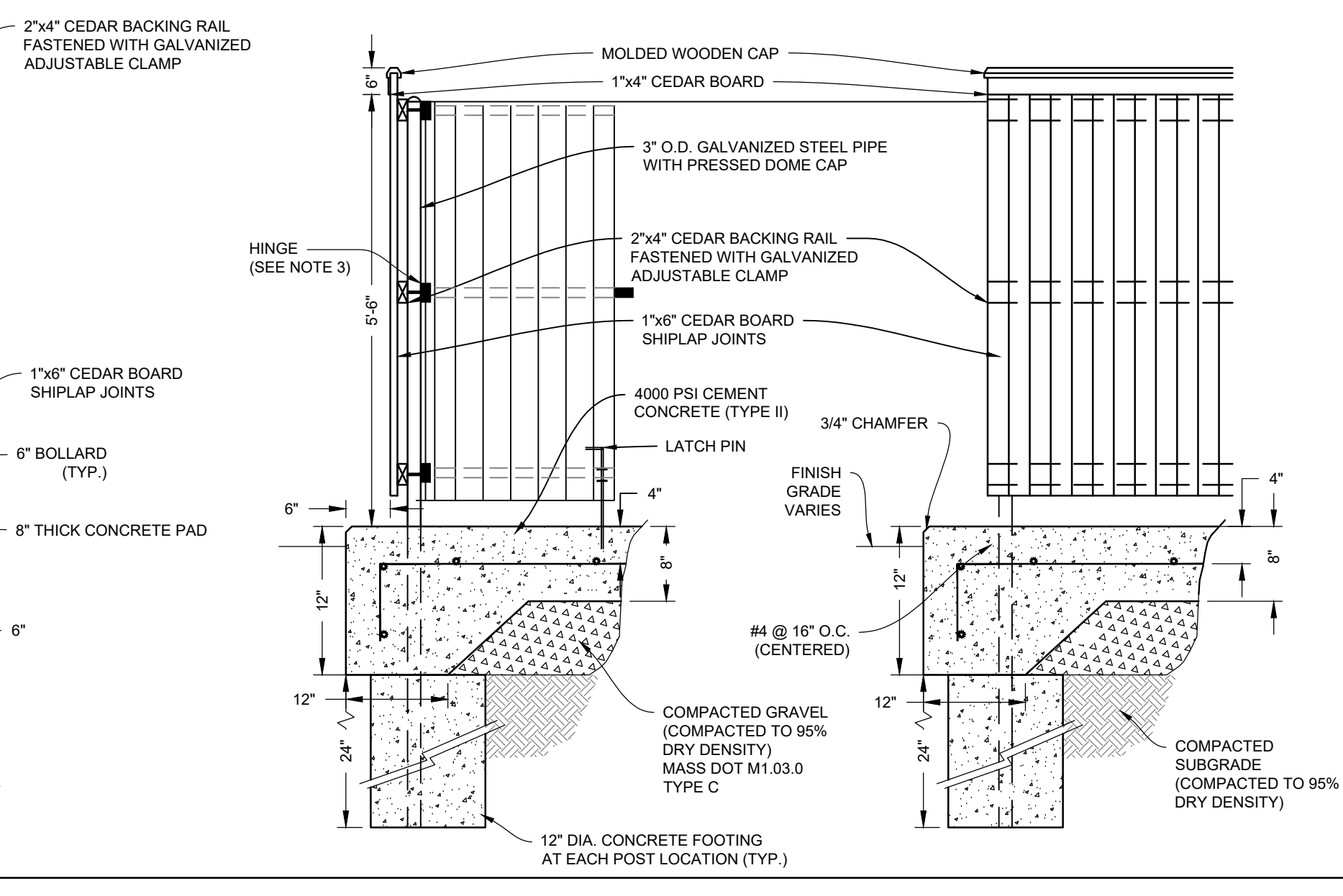
**3 CONCRETE SIDEWALK**  
NOT TO SCALE



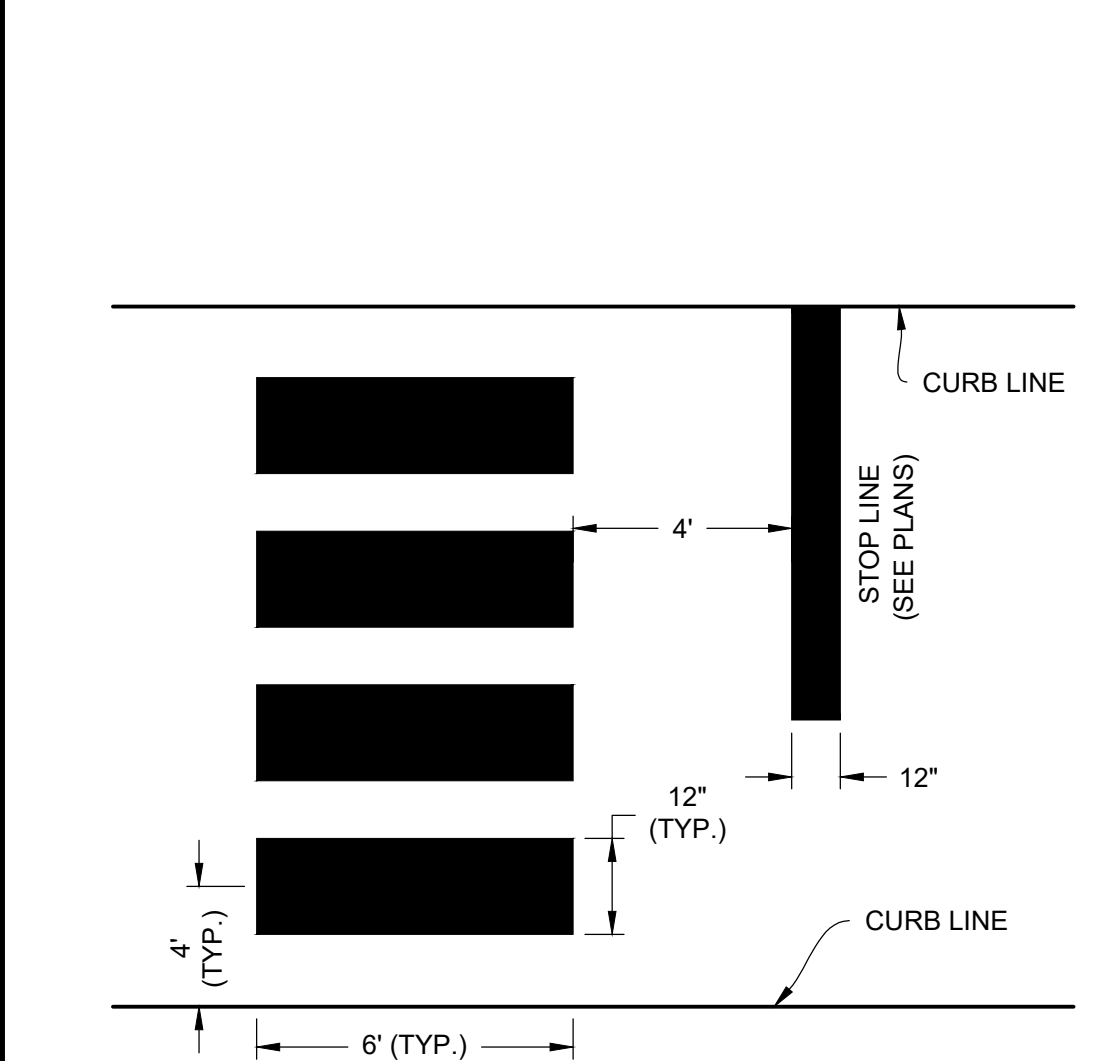
**4 ACCESSIBLE PARKING SPACE**  
NOT TO SCALE



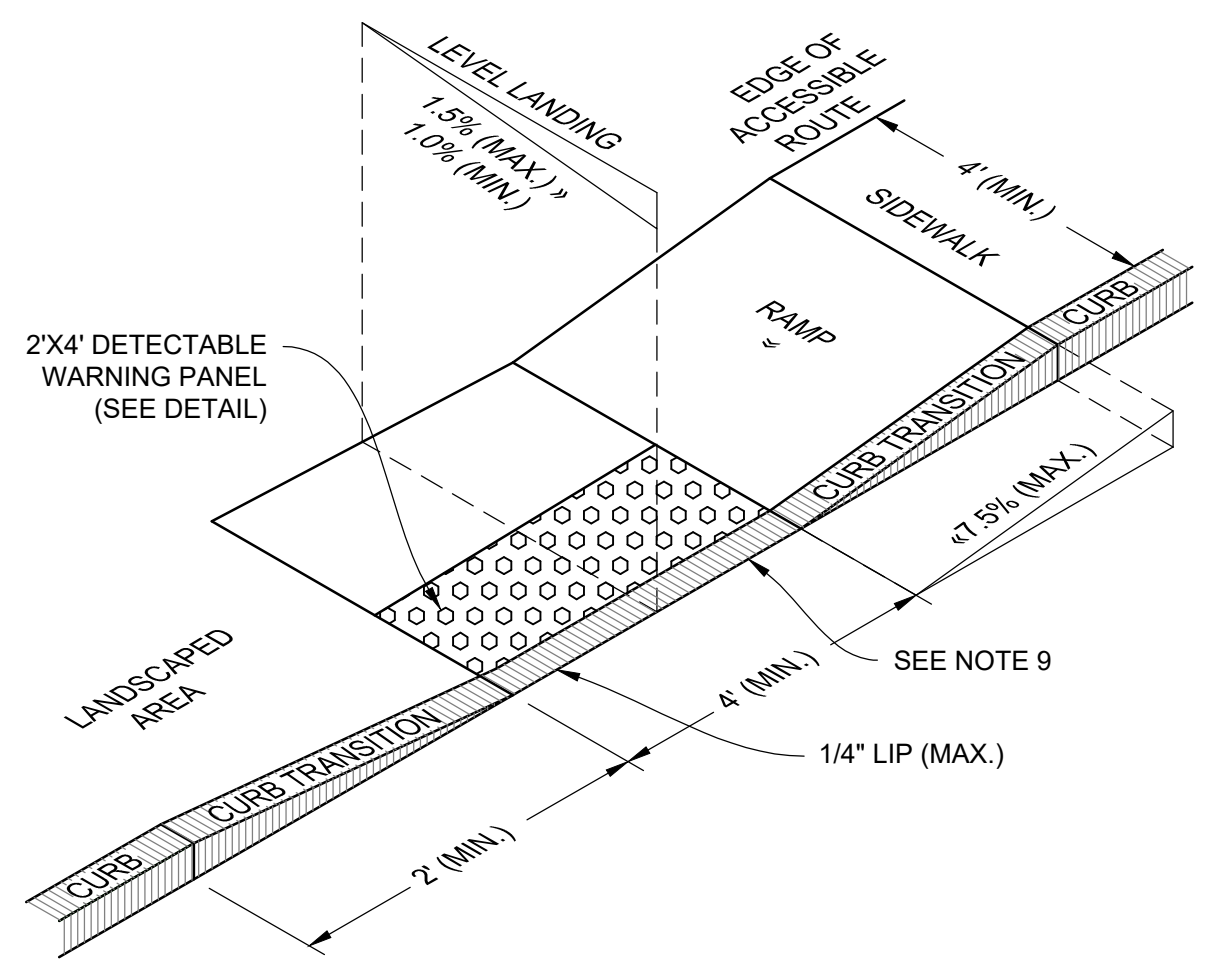
**5 DUMPSTER PAD WITH ENCLOSURE**  
NOT TO SCALE



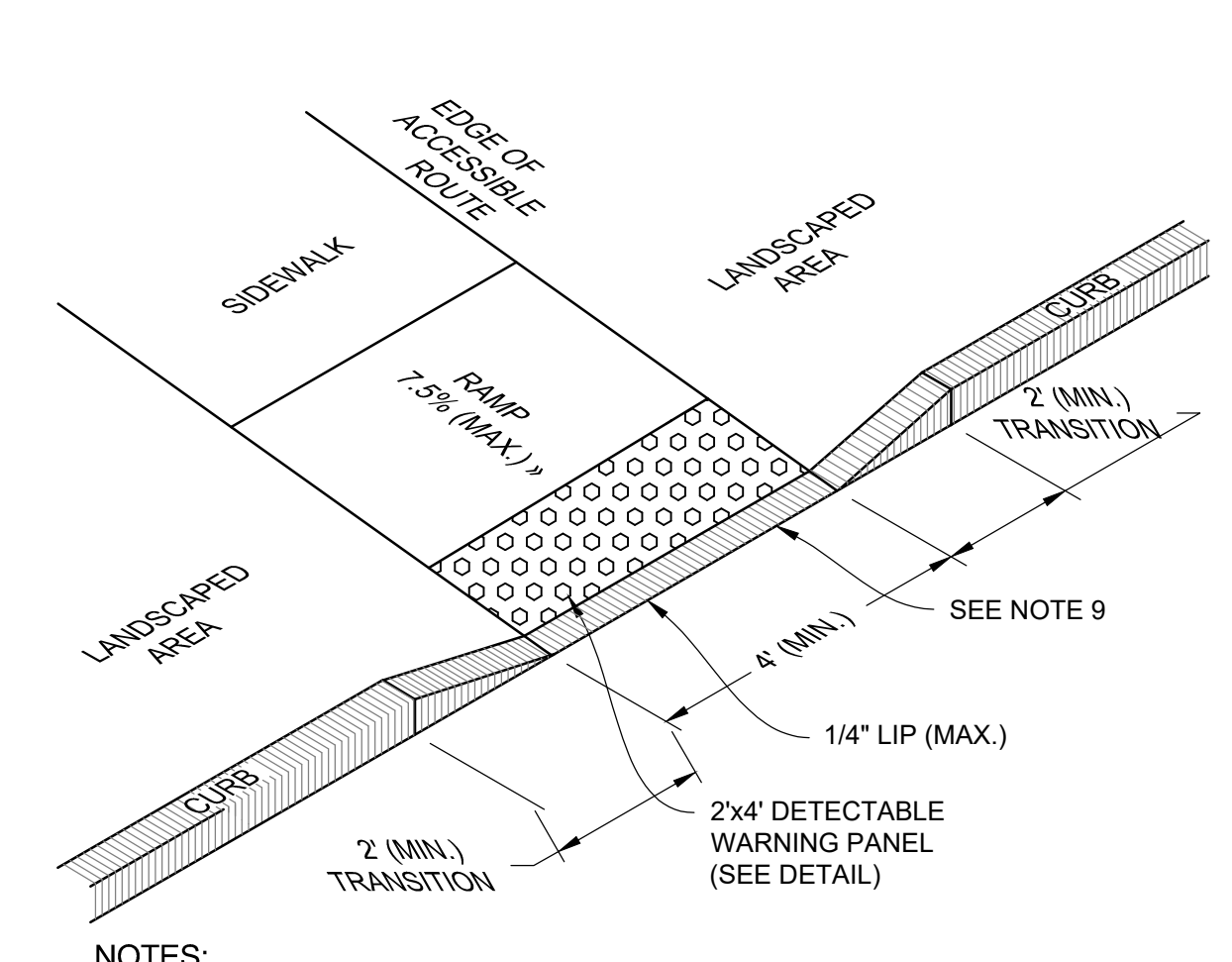
**6 BIT. CONC. PAVEMENT REPAIR DETAIL**  
NOT TO SCALE



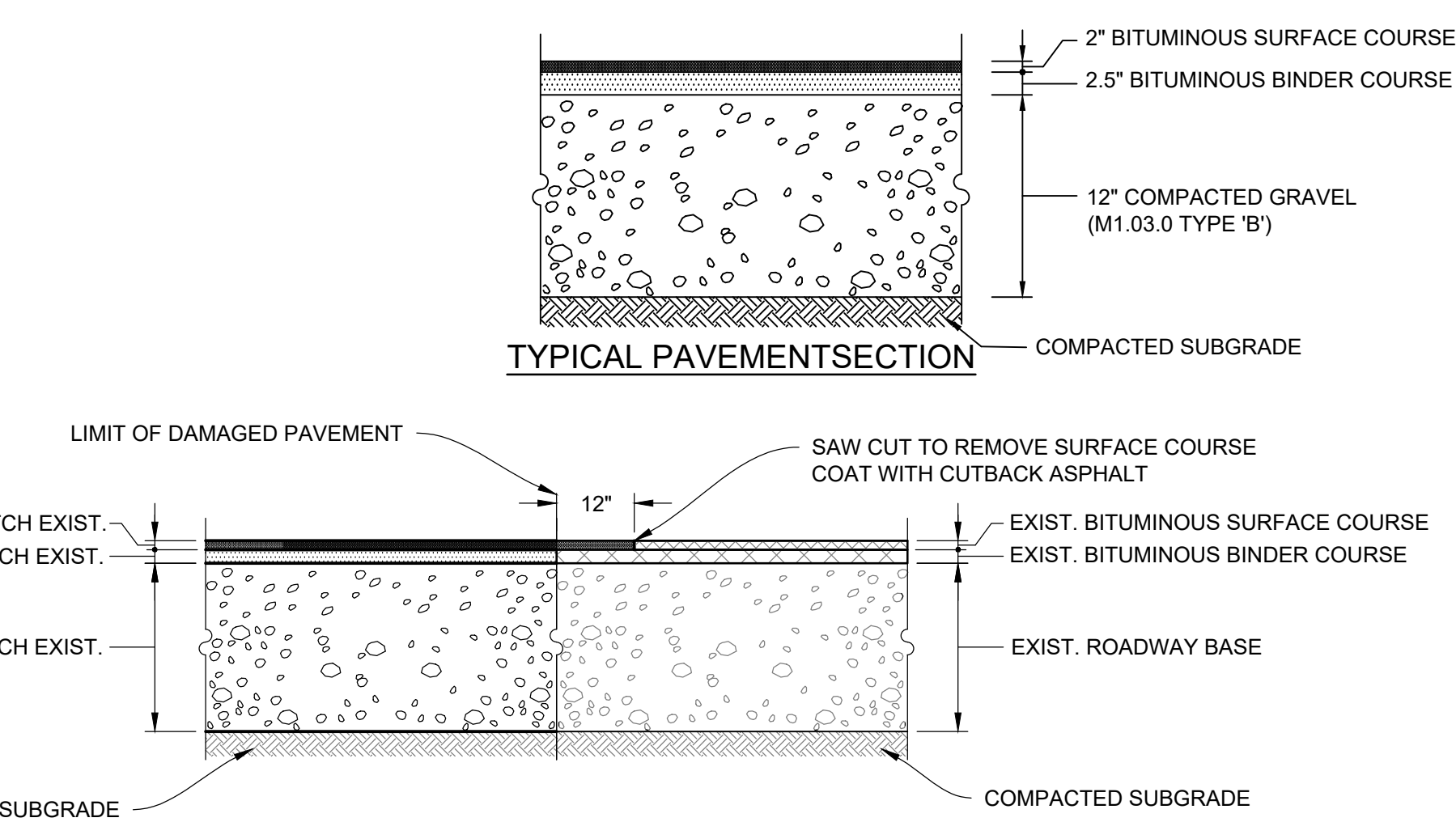
**7 CROSSWALK**  
NOT TO SCALE



**8 ACCESSIBLE CURB RAMP (ACR) - TYPE 'G' W/ DETECTABLE WARNING PANEL**  
NOT TO SCALE



**9 ACCESSIBLE CURB RAMP (ACR) - TYPE 'M' W/ DETECTABLE WARNING PANEL**  
NOT TO SCALE



**10 CHAIN LINK FENCE FOOTING DETAIL**  
NOT TO SCALE



NO.	DATE	REVISIONS	BY

PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1" = 40'
DRAWN BY	OMR
APPROVED BY	BCO

PLOTTED: 8/12/2024 4:38 PM BY: Subhadeb Saha PROJECT STATUS: PLOT STYLE: Ranger.dwt

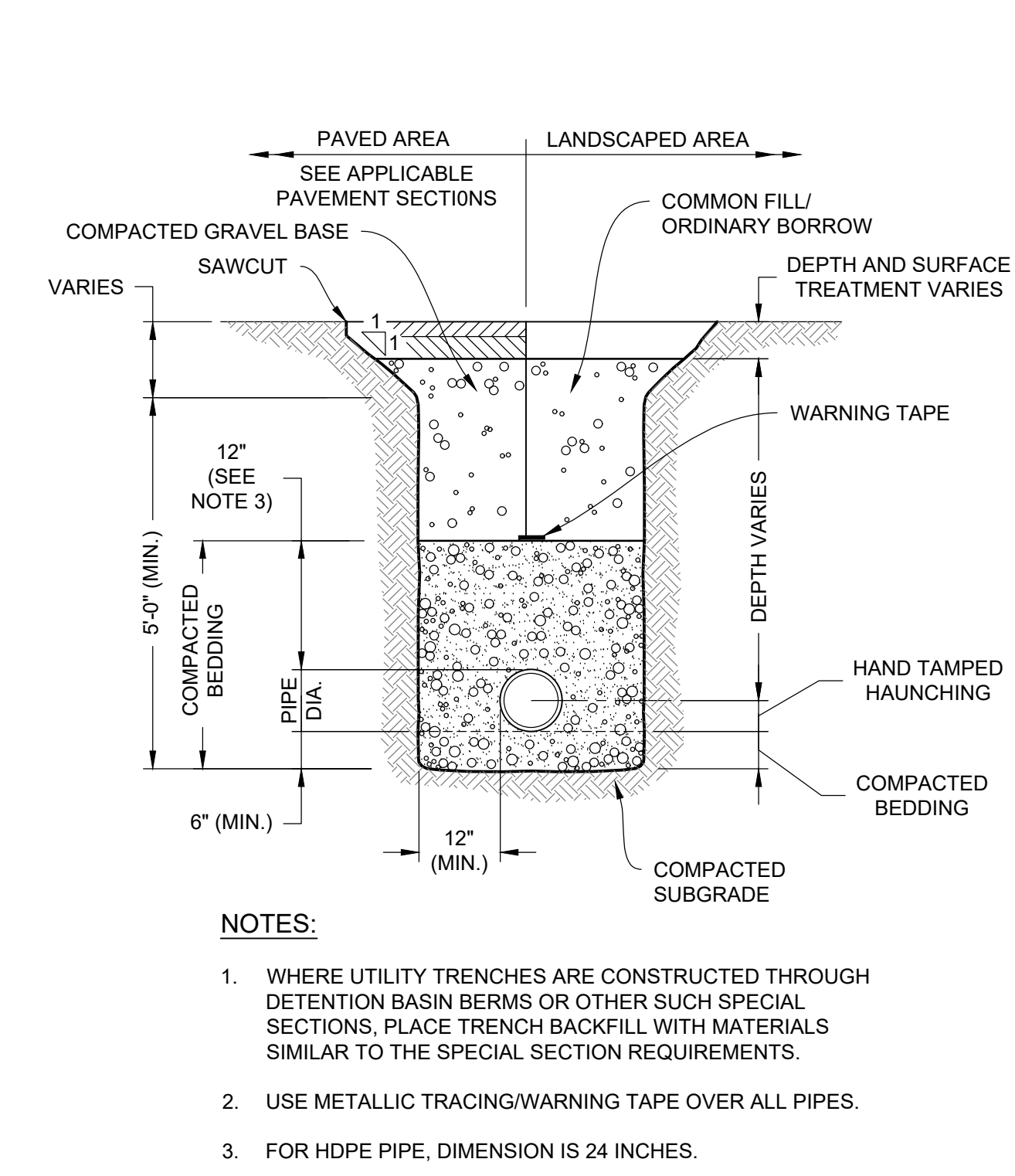




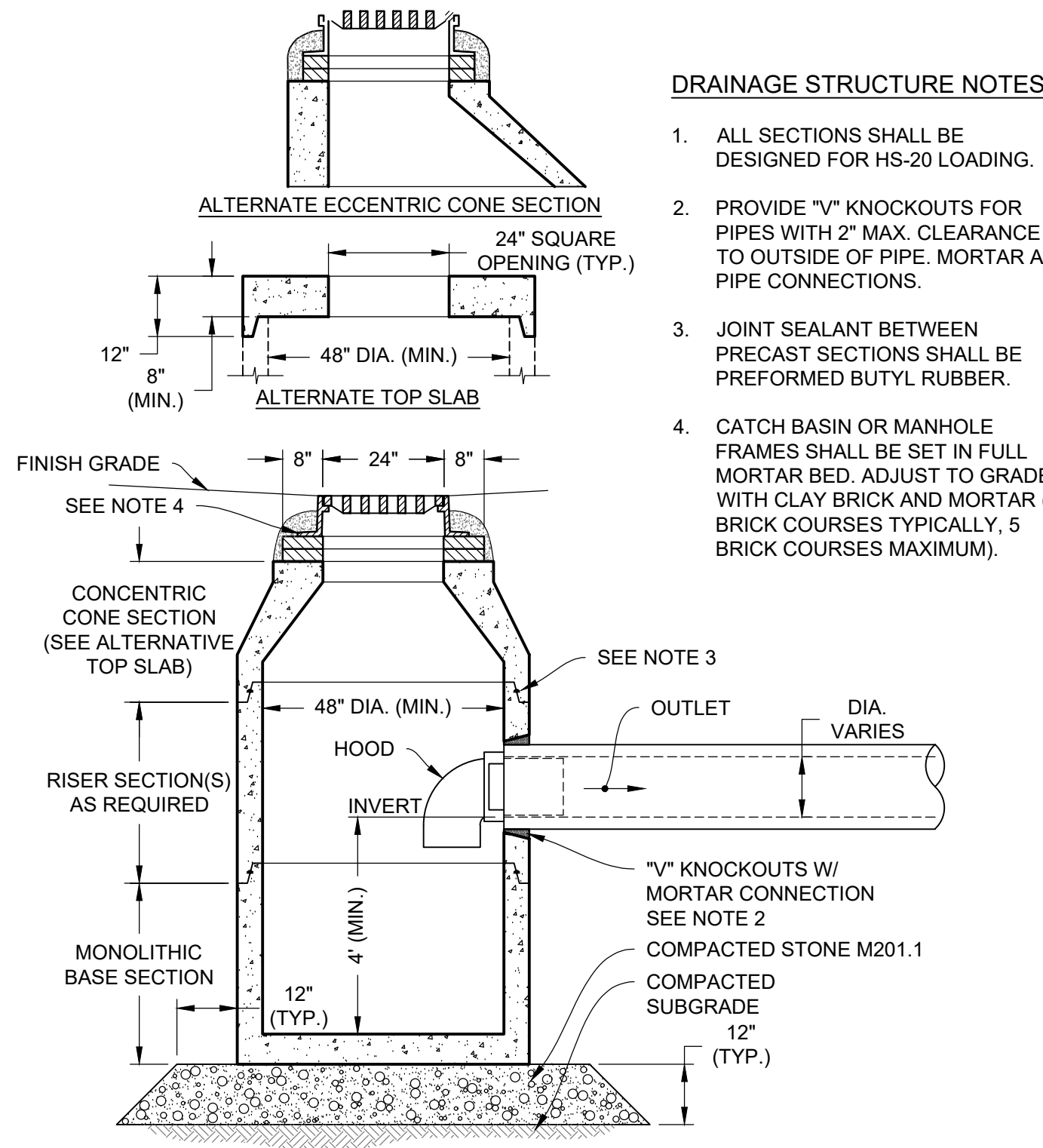
**SITE PLAN**  
 140 HAVERHILL STREET  
 ANDOVER MA, 01810

**DRAINAGE DETAILS**

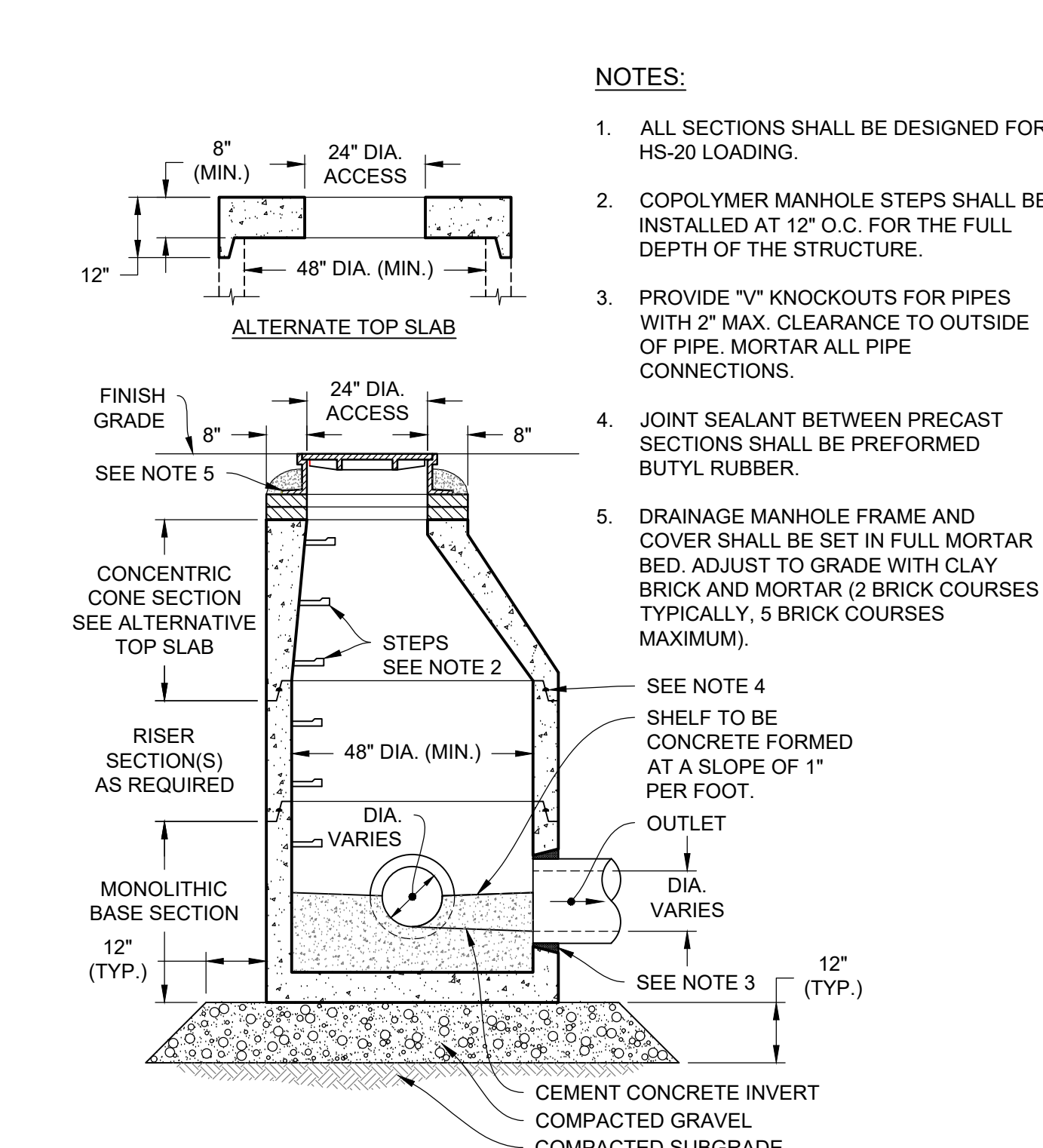
**MEDICO 140, LLC**  
 355 MIDDLESEX AVE. SUITE 7  
 WILMINGTON, MA 01897



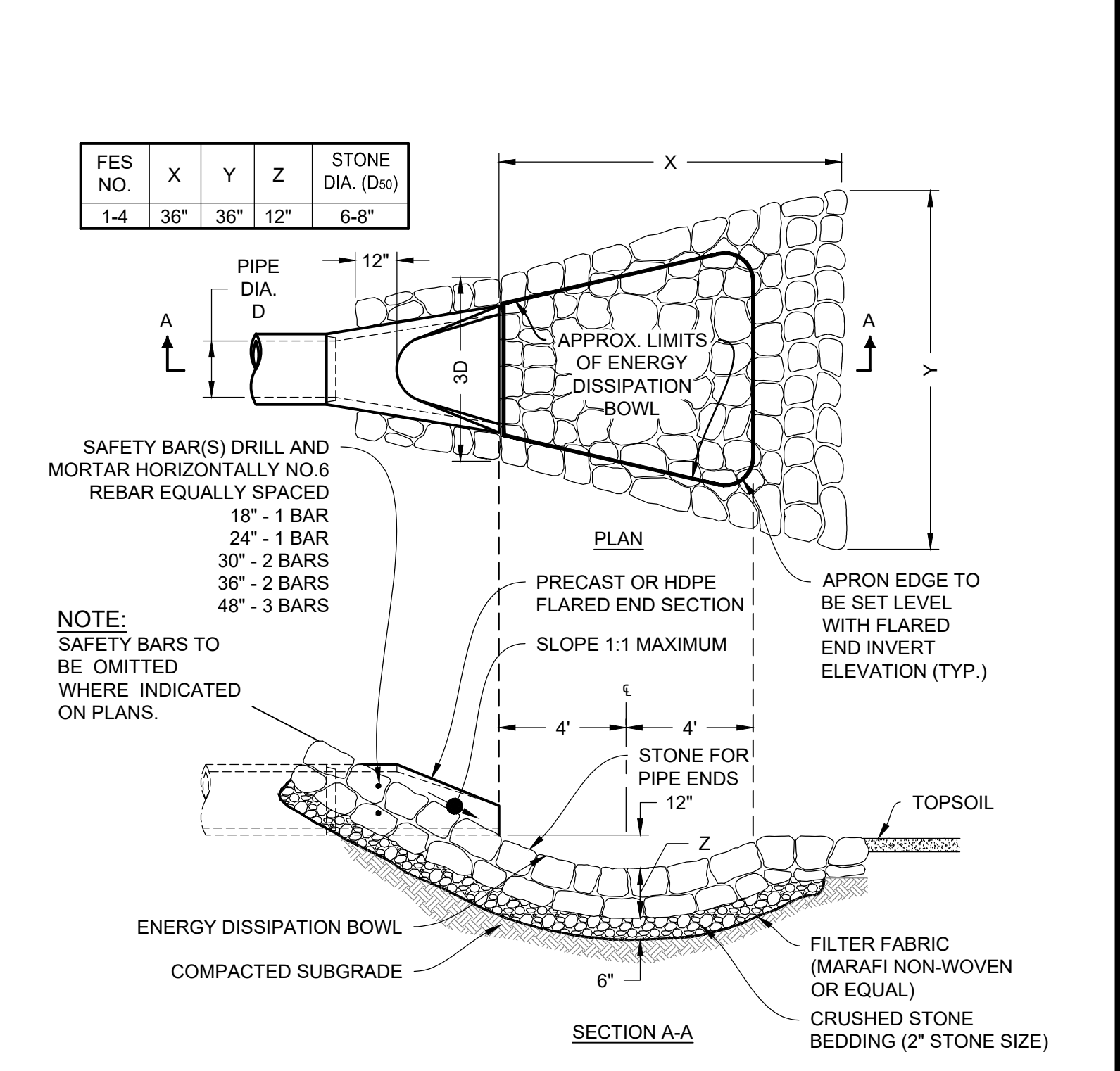
**1 DRAINAGE TRENCH**  
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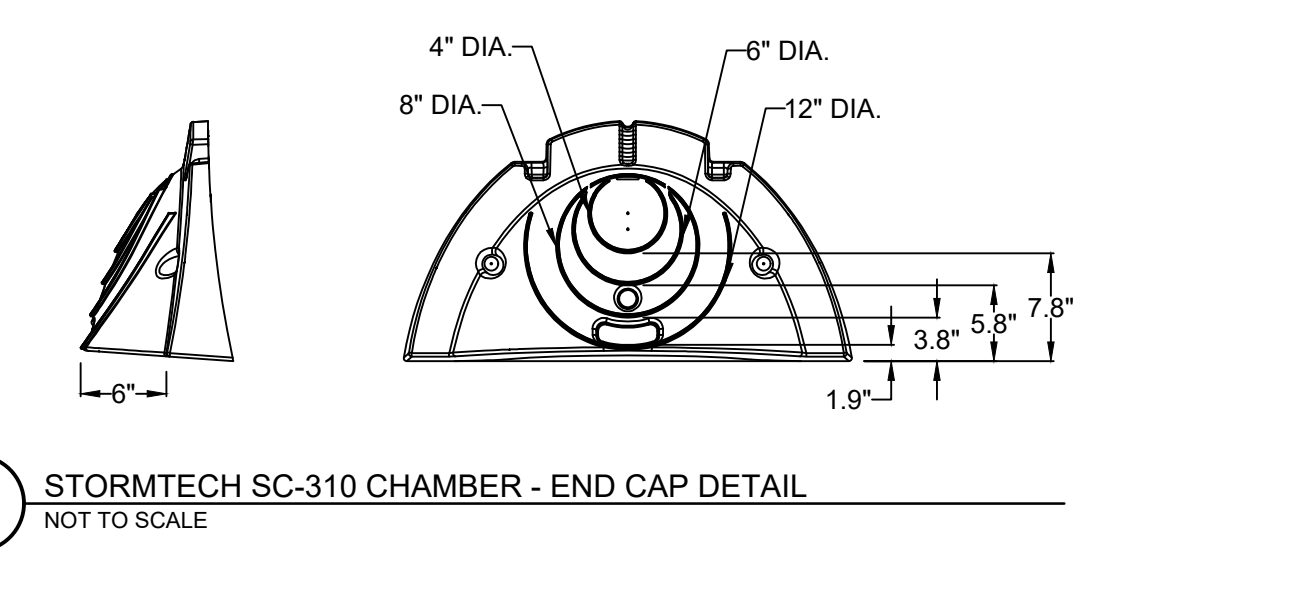
**2 CATCH BASIN (CB) WITH HOOD**  
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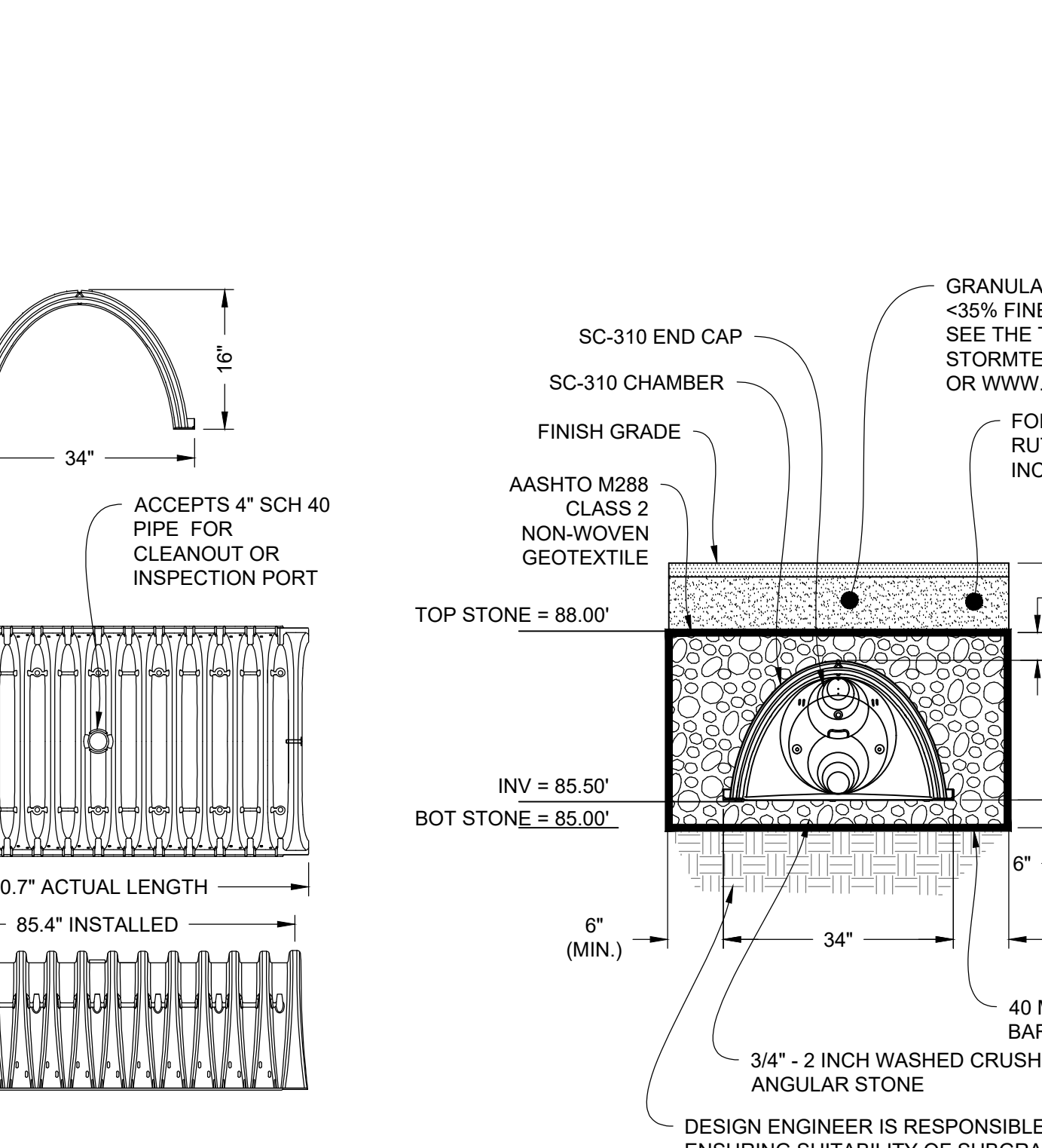
**3 DRAINAGE MANHOLE (DMH)**  
 NOT TO SCALE



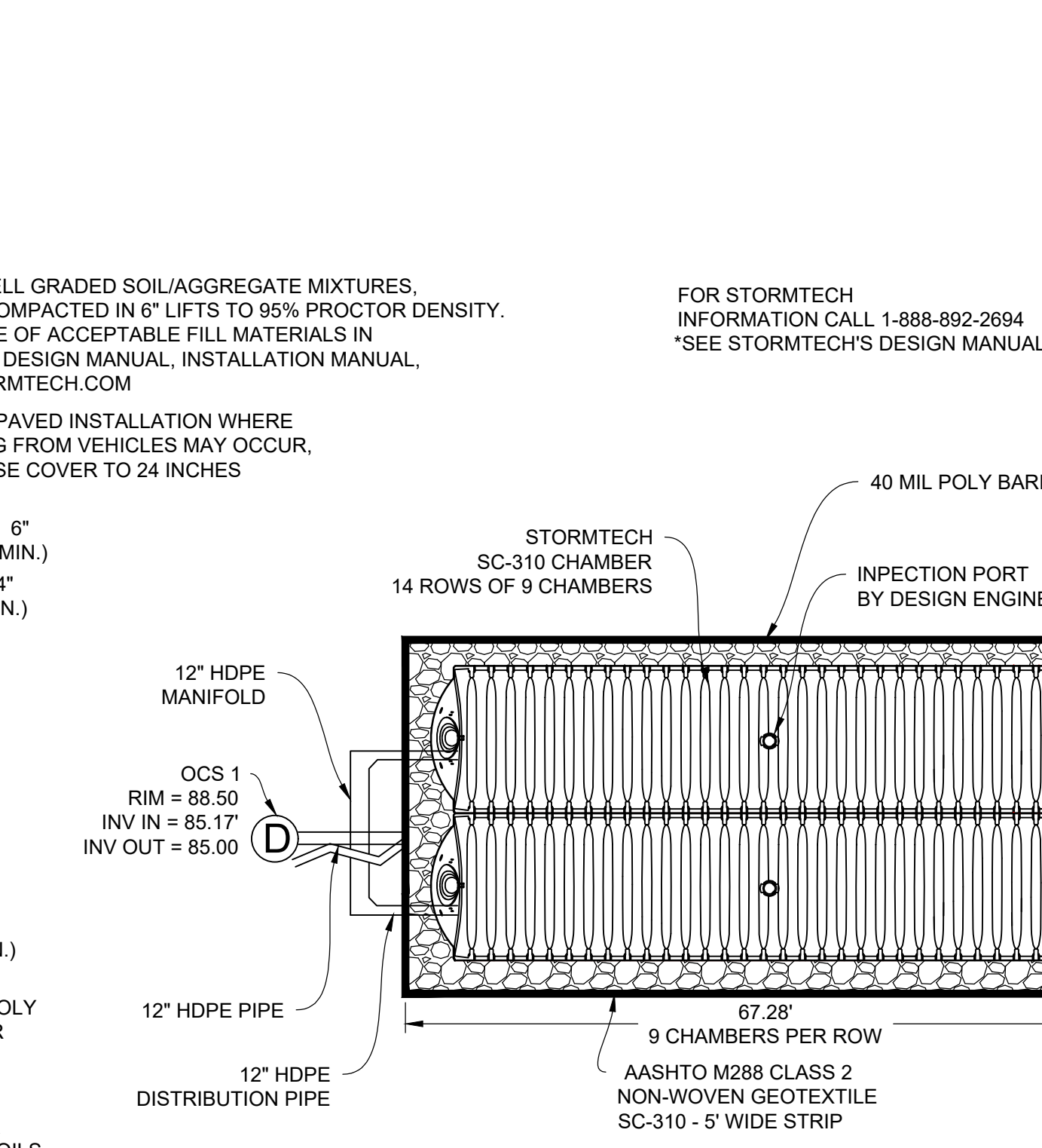
**4 FLARED END SECTION (FES) WITH STONE PROTECTION**  
 NOT TO SCALE



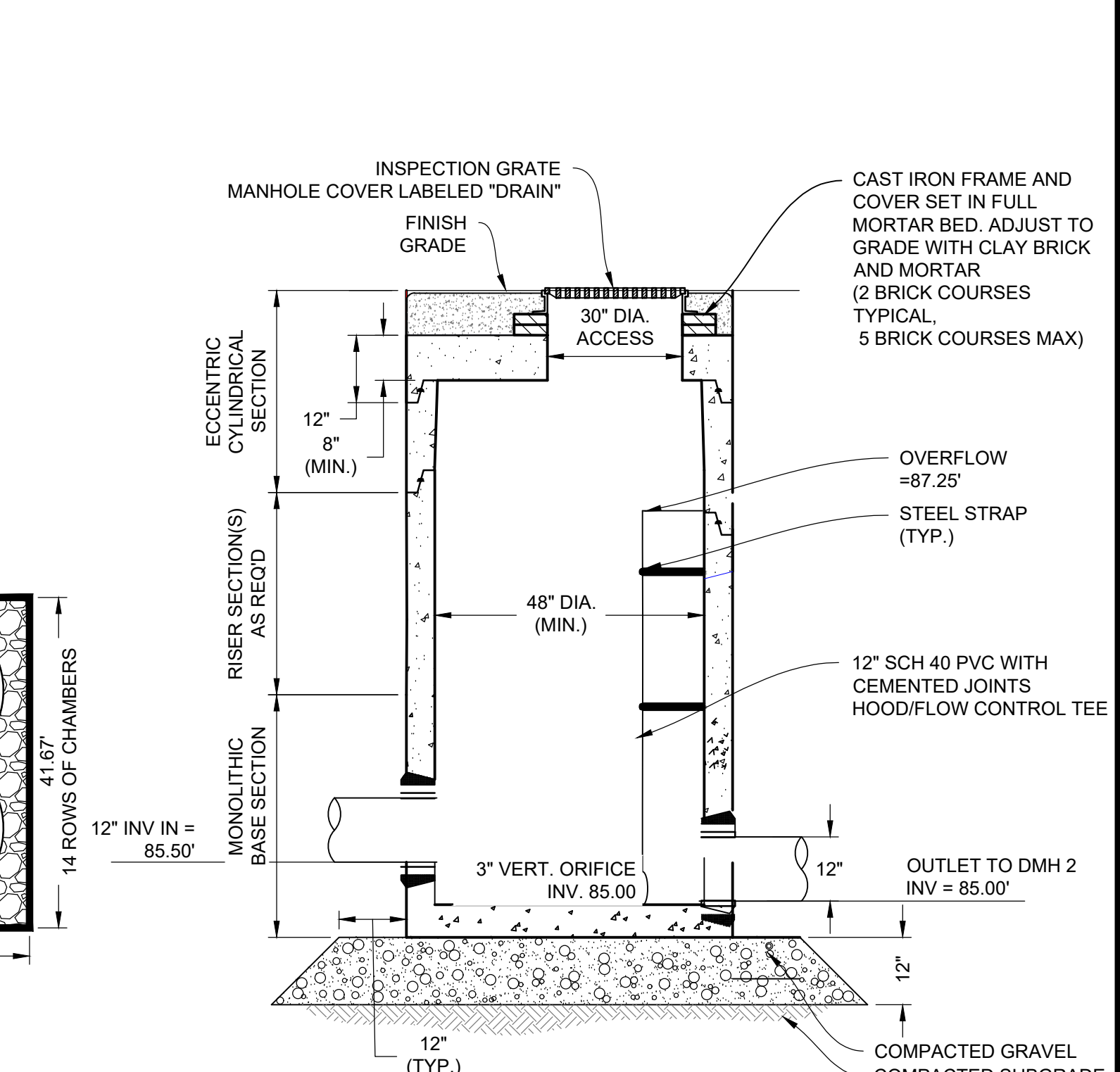
**5 STORMTECH SC-310 CHAMBER - END CAP DETAIL**  
 NOT TO SCALE



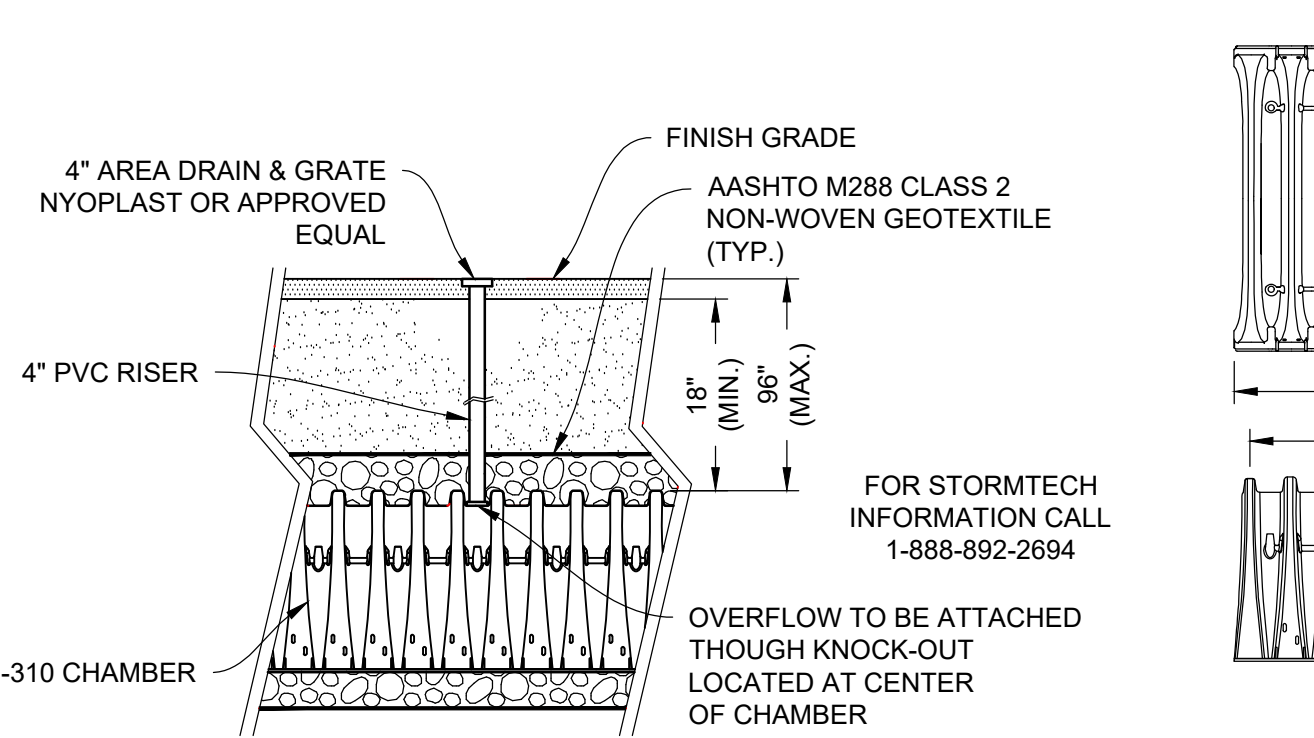
**6 STORMTECH SC-310 CHAMBER - OVERFLOW DETAIL**  
 NOT TO SCALE



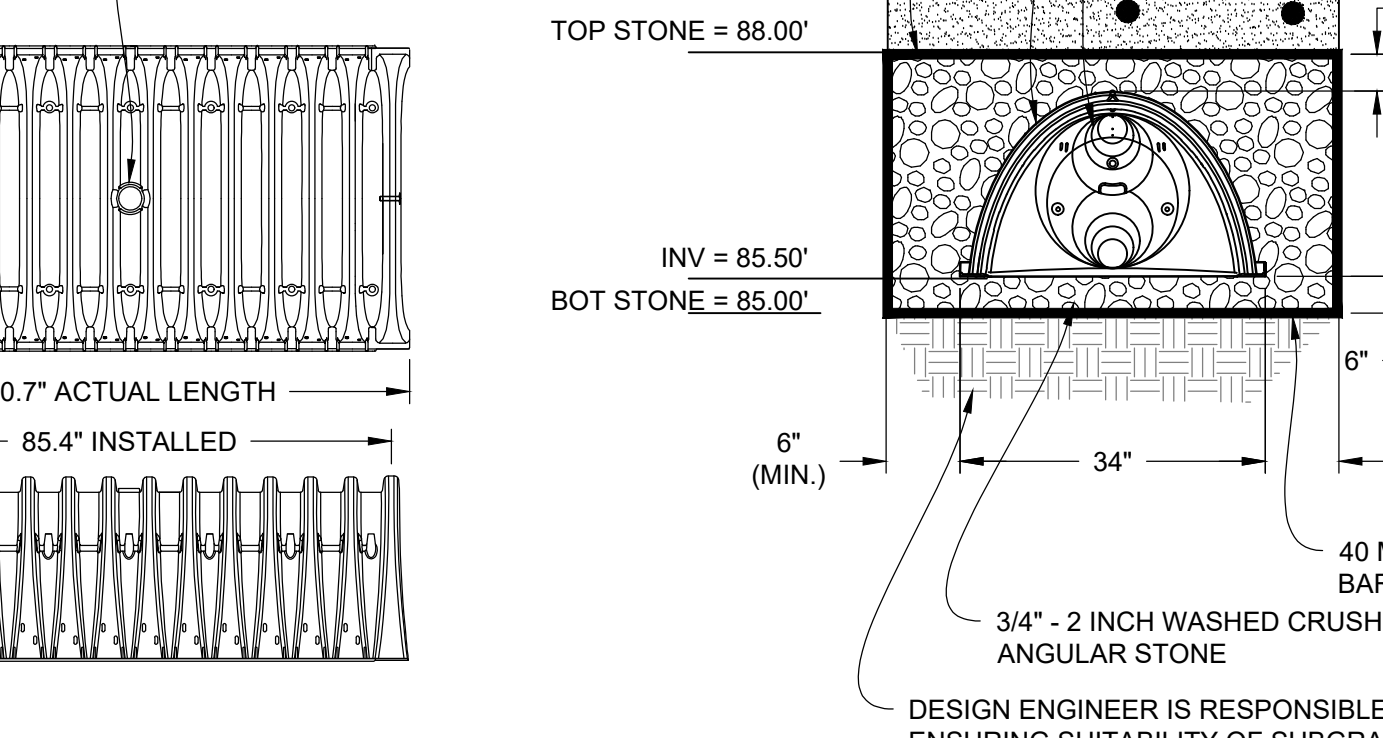
**7 STORMTECH SC-310 CHAMBER DETAIL**  
 NOT TO SCALE



**8 STORMTECH SC-310 CHAMBER SYSTEM - POND 3P**  
 NOT TO SCALE



**9 STORMTECH SC-310 CHAMBER DETAIL (PLAN VIEW) - POND 3P**  
 NOT TO SCALE



**10 OCS 1 - POND 3P**  
 NOT TO SCALE

NO.	DATE	REVISIONS	BY

PROJECT	19-152
DATE	JUNE 12, 2024
DRAWING SCALE	1" = 40'
DRAWN BY	OMR
APPROVED BY	BCO

**CS6003**

SHEET 14 OF 18

PROJECT 19-152  
 DATE JUNE 12, 2024  
 DRAWING SCALE 1" = 40'  
 DRAWN BY OMR  
 APPROVED BY BCO

**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN. Ø48" MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 0.45 CFS. IF THE SITE CONDITIONS EXCEED 0.45 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

**CARTRIDGE SELECTION**

CARTRIDGE DEPTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-5"	5'-3"	4'-2"	3'-2"
FLOW RATE HIGH-FLO / DRAINDOWN (cfs) (per cart)	0.18 / 0.09	0.13 / 0.065	0.09 / 0.045	0.05 / 0.025
MAX. CARTS HIGH-FLO / DRAINDOWN	2 / 1			

- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.ContechES.com](http://www.ContechES.com)
  - JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
  - STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
  - NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.
- INSTALLATION NOTES:**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
  - CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
  - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
  - CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	ID
WATER QUALITY FLOW RATE (cfs)	WQFLOW
PEAK FLOW RATE (cfs)	PEAK
RETURN PERIOD OF PEAK FLOW (yrs)	RETURN
# OF CARTRIDGES REQUIRED (HF / DD)	CART
CARTRIDGE SIZE	SIZE
PIPE DATA:	I.E. MATERIAL DIAMETER
INLET PIPE #1	99.90 HDPE 12"
OUTLET PIPE	99.65 RCP 12"
RIM ELEVATION	103.5
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
	WIDTH HEIGHT
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	ID
WATER QUALITY FLOW RATE (cfs)	WQFLOW
PEAK FLOW RATE (cfs)	PEAK
RETURN PERIOD OF PEAK FLOW (yrs)	RETURN
# OF CARTRIDGES REQUIRED (HF / DD)	CART
CARTRIDGE LENGTH	SIZE
PIPE DATA:	I.E. MATTL DIA SLOPE % HGL
INLET #1	82.55 HDPE 18" 0.5% HGL
OUTLET	82.22 HDPE 18" 0.5% HGL
RIM ELEVATION	86.25
ANTI-FLOTATION BALLAST	WIDTH HEIGHT
	WIDTH HEIGHT
NOTES/SPECIAL REQUIREMENTS:	
* PER ENGINEER OF RECORD	

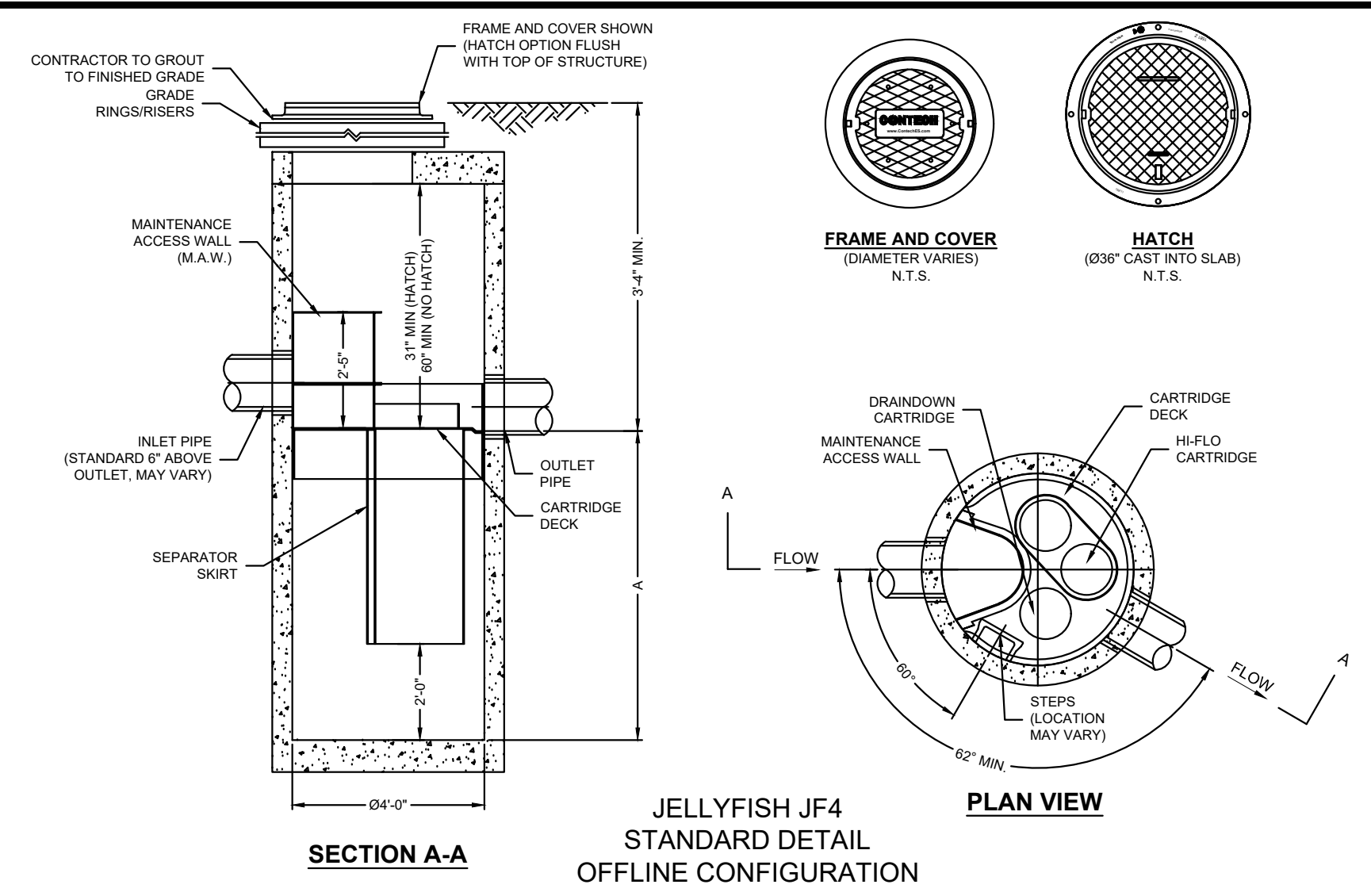
**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

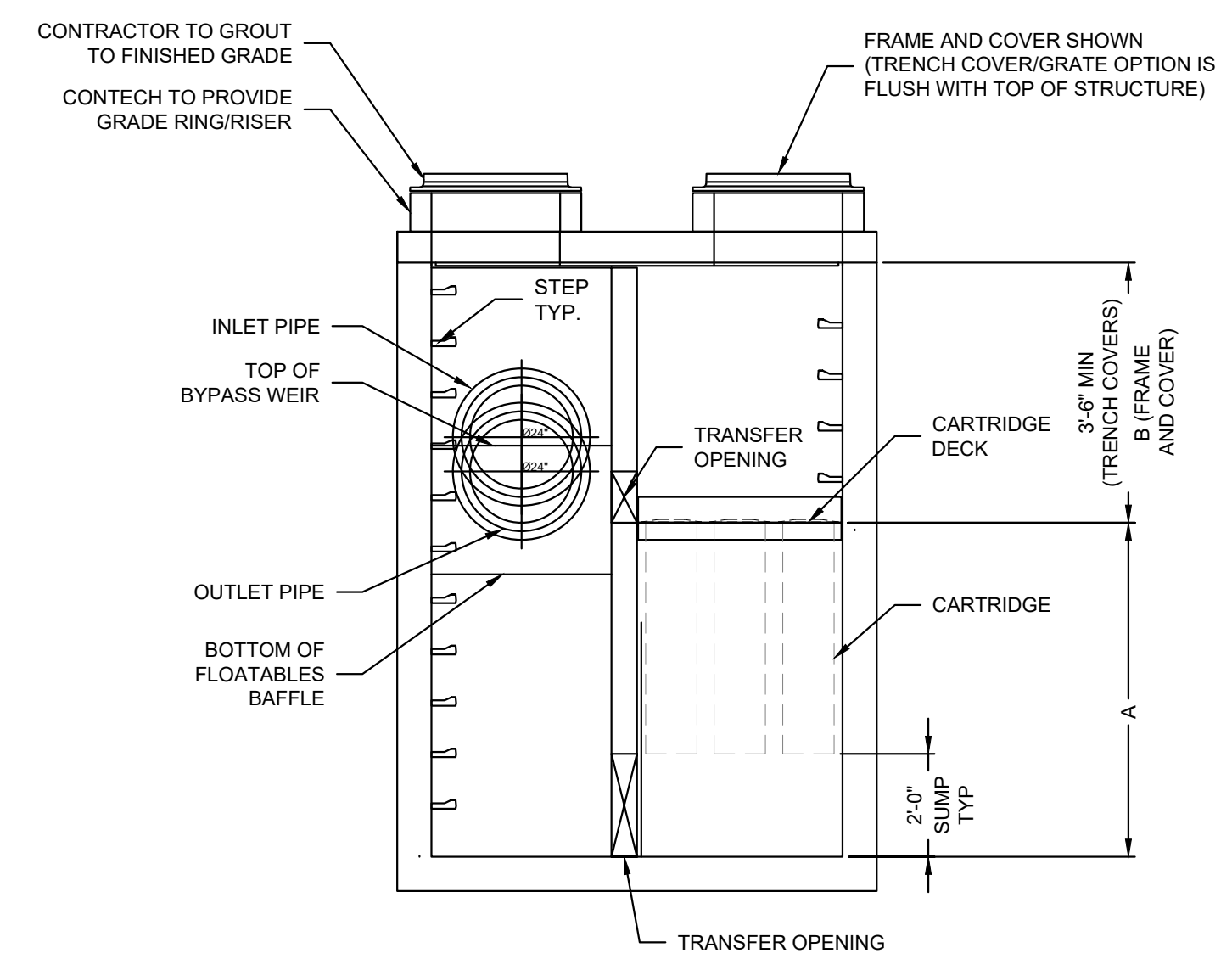
**CARTRIDGE SELECTION**

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	2.94	2.21	1.47	0.81
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00

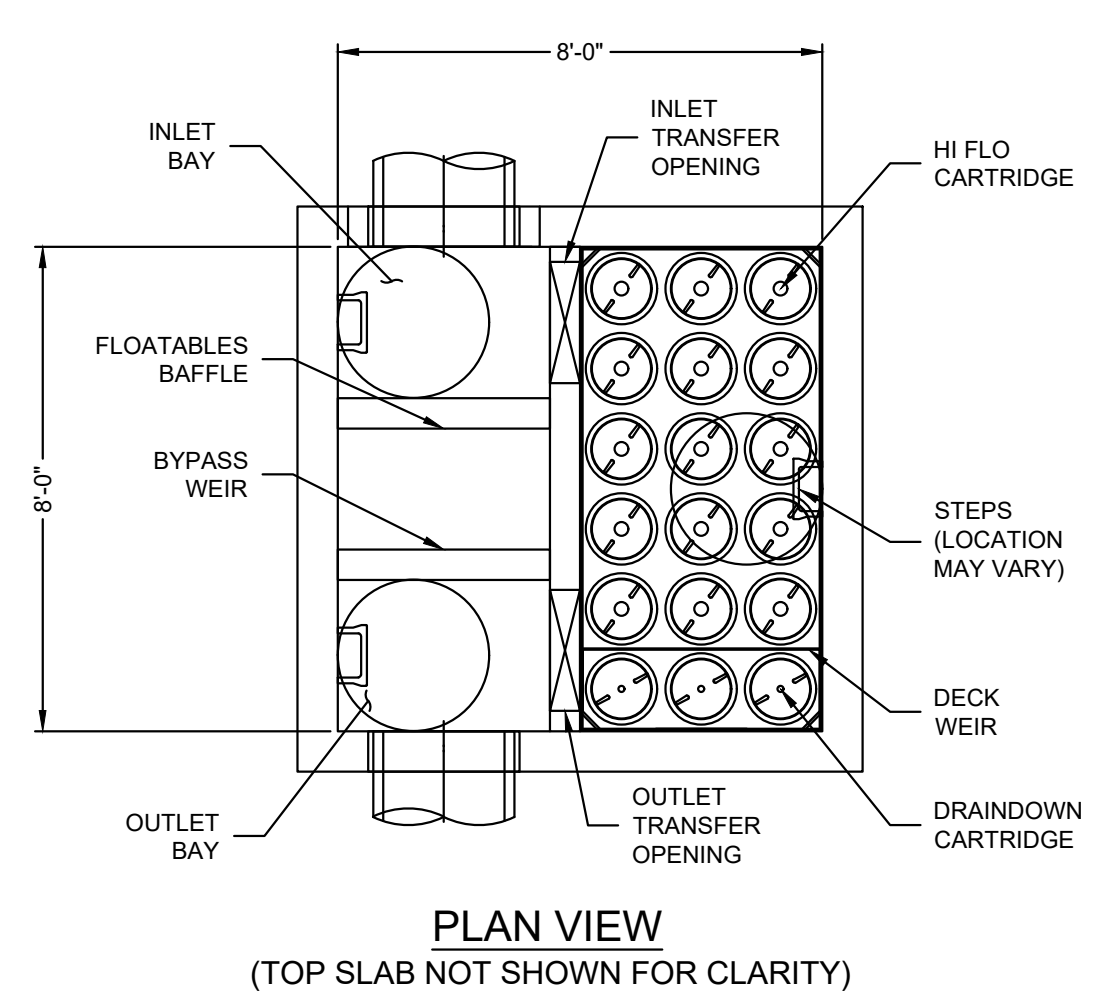
- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  - FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.ContechES.com](http://www.ContechES.com)
  - JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
  - STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
  - STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
  - OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
  - THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
  - NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.
- INSTALLATION NOTES:**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
  - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
  - CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
  - CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.



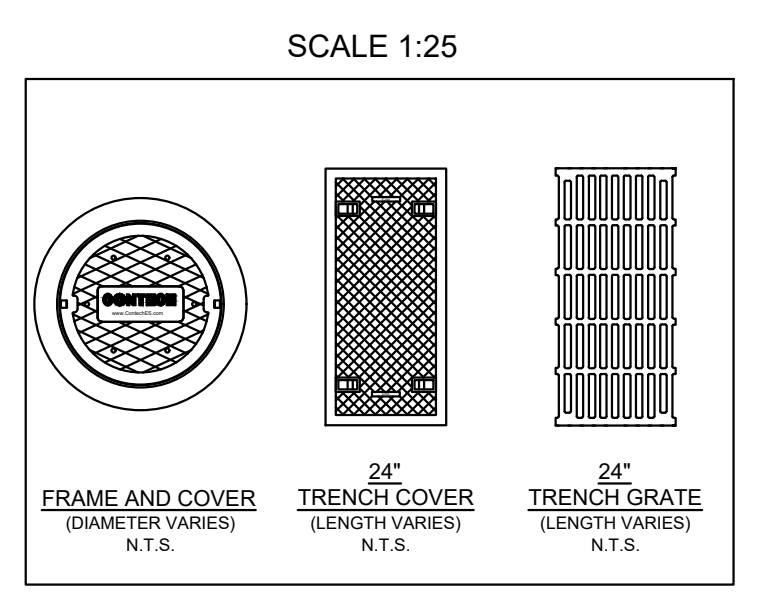
**JELLYFISH JF4  
STANDARD DETAIL  
OFFLINE CONFIGURATION**



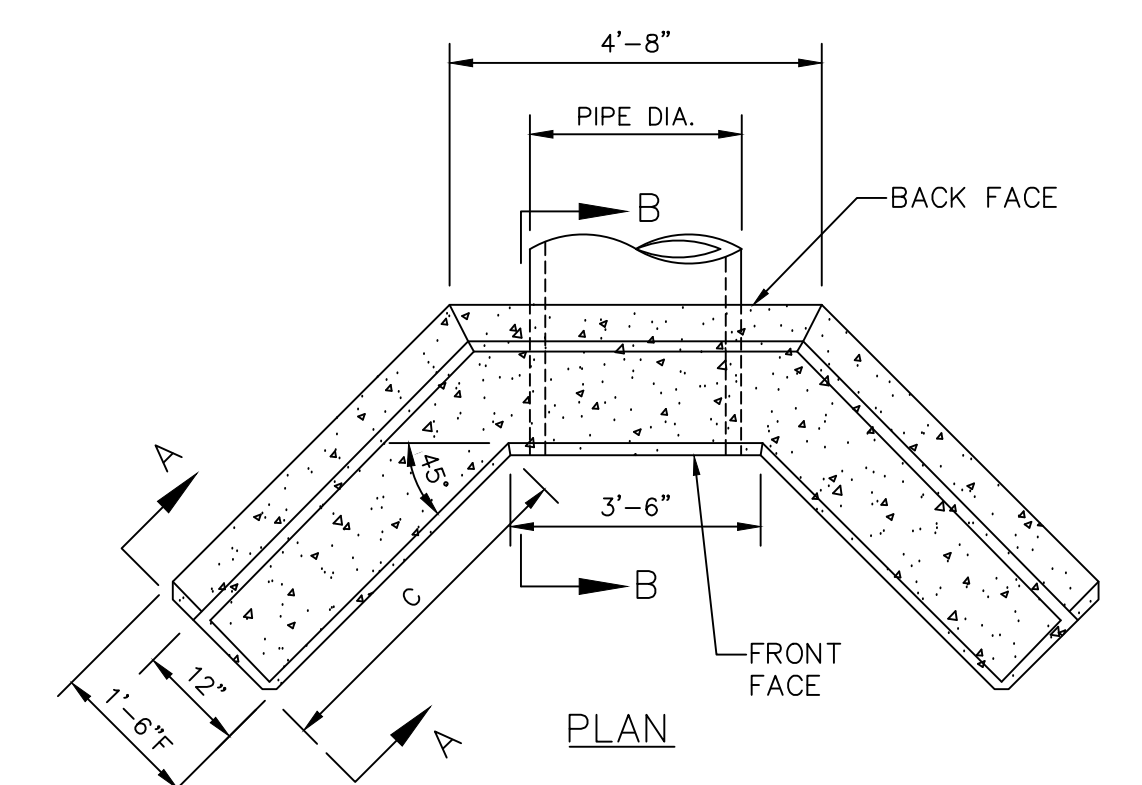
**ELEVATION VIEW**



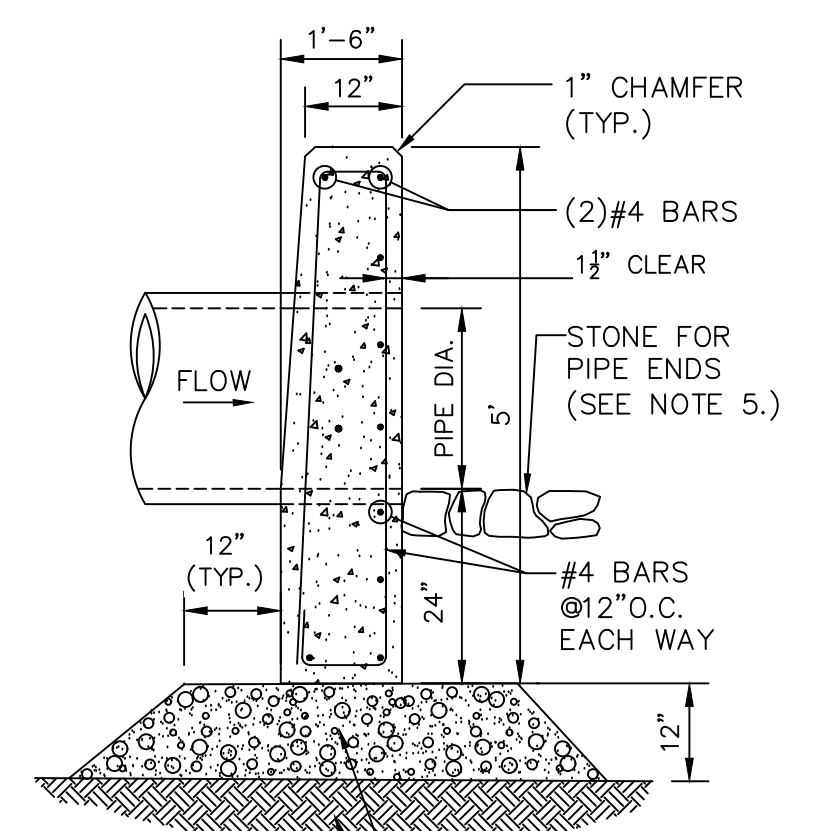
**JELLYFISH JF4  
STANDARD DETAIL  
PEAK DIVERSION CONFIGURATION**



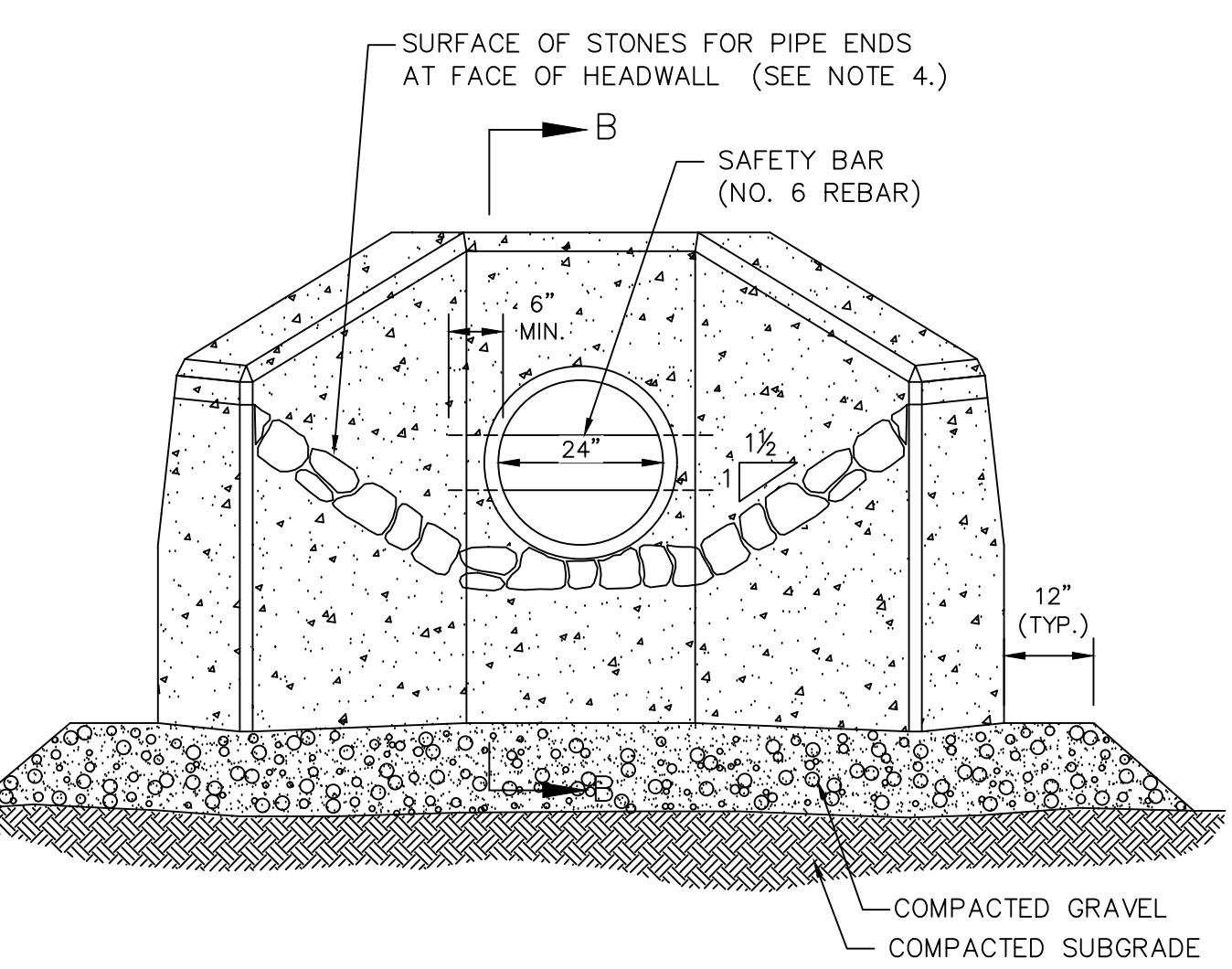
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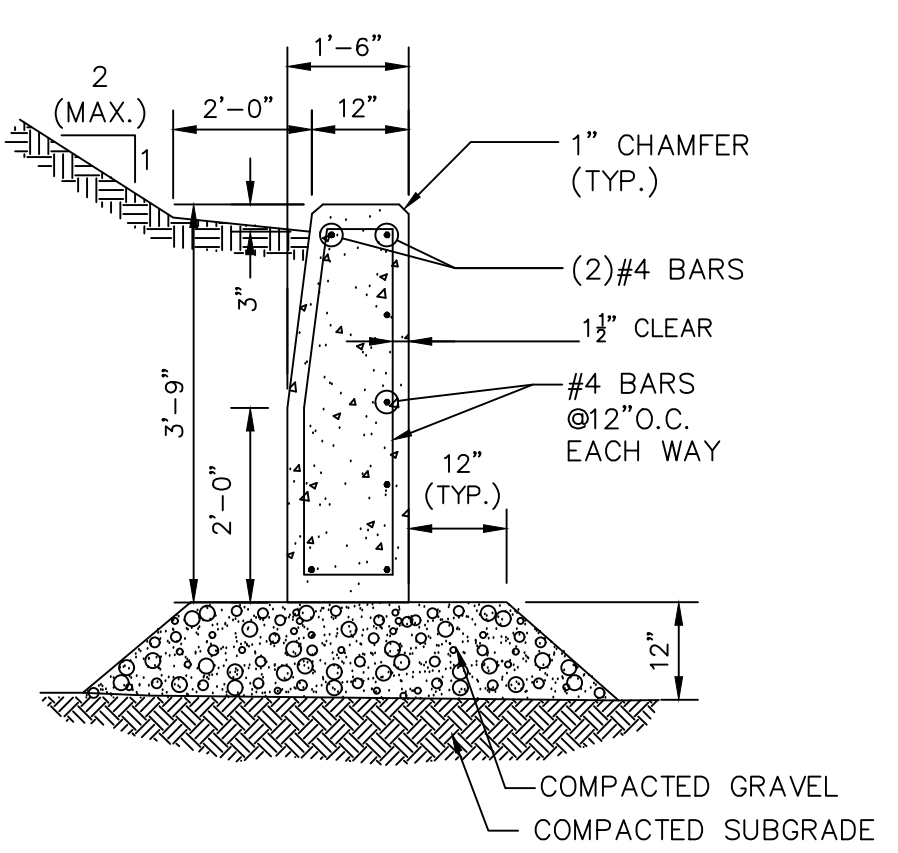
**PLAN**



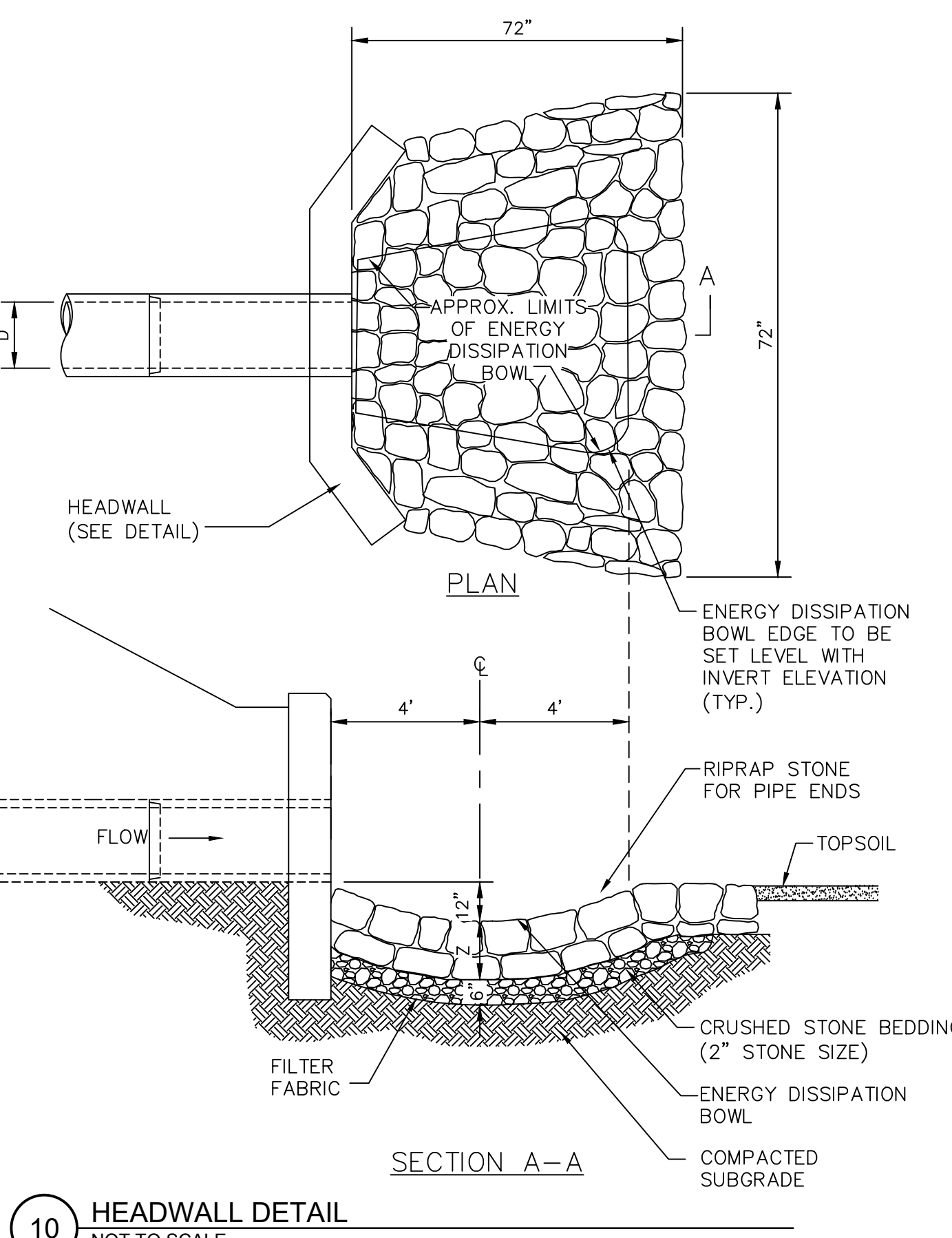
**SECTION B-B**



**FRONT ELEVATION**



**SECTION A-A**



**HEADWALL DETAIL  
NOT TO SCALE**

**Ranger Engineering Group, Inc.**  
130 Main Street, Suite 202  
Salem NH, 03079  
Tel: 978-208-1762  
[rangereng.com](http://rangereng.com)



**SITE PLAN**  
140 HAVERHILL STREET  
ANDOVER MA, 01810

**DRAINAGE DETAILS**

**MEDICO 140, LLC**  
355 MIDDLESEX AVE. SUITE 7  
WILMINGTON, MA 01897

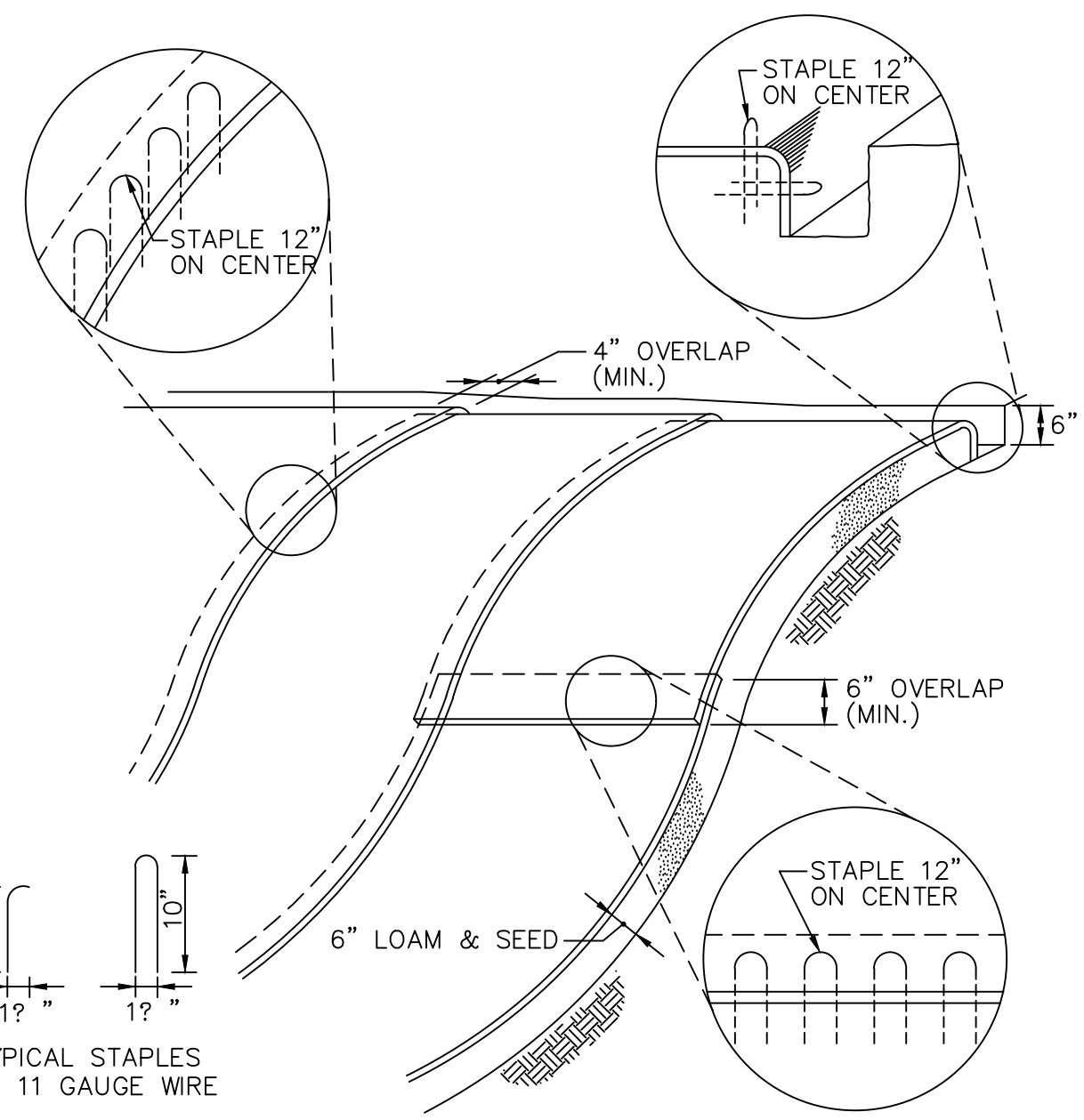
NO.	DATE	REVISIONS	BY

PROJECT: 19-152  
DATE: JUNE 12, 2024  
DRAWING SCALE: 1"= 40'  
DRAWN BY: OMR  
APPROVED BY: BCO

**CS6004**  
SHEET 15 OF 18

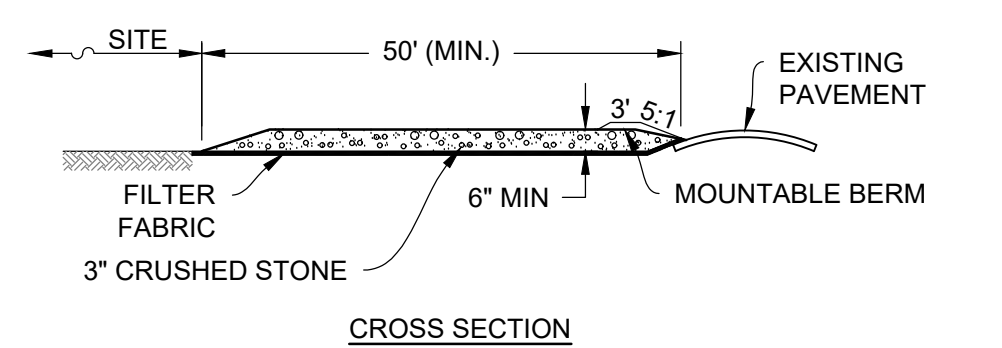
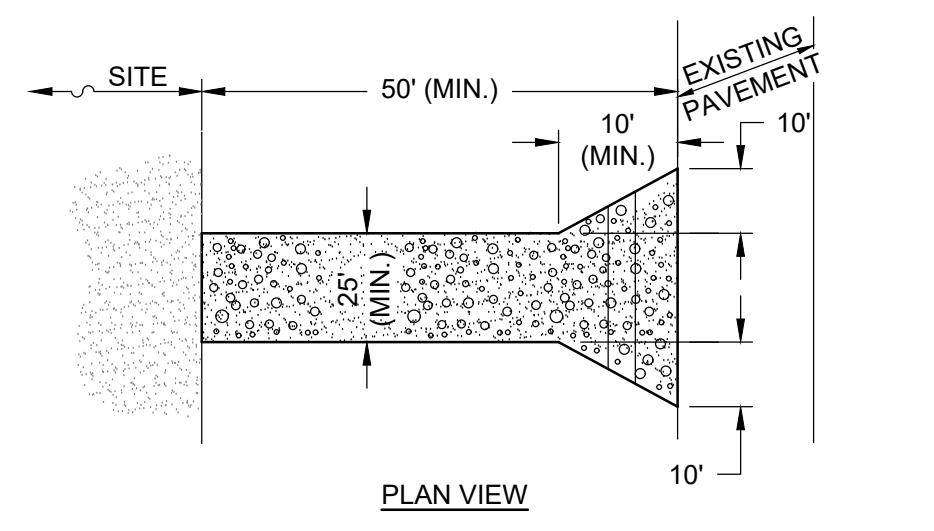
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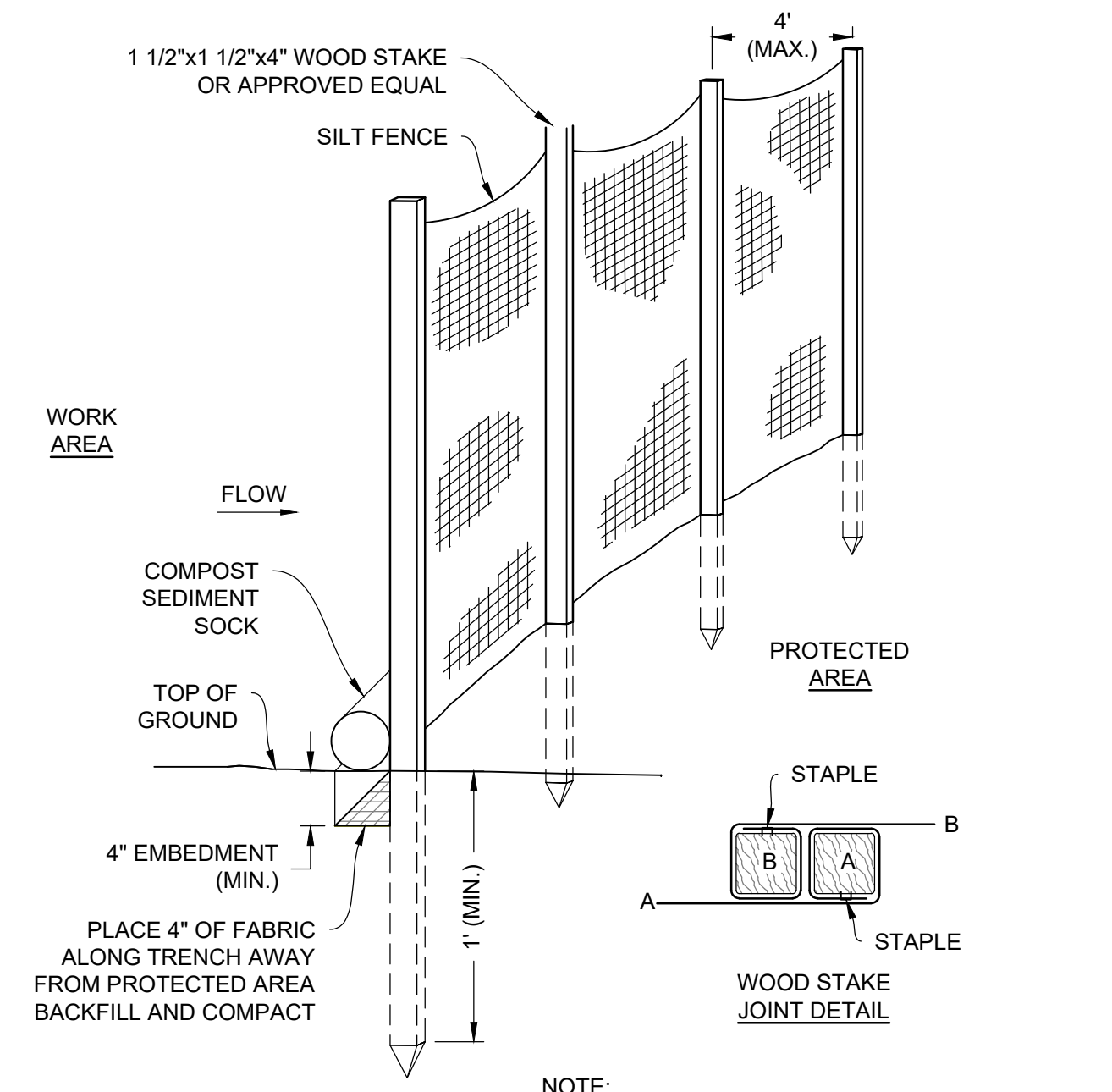
- Notes:**
- BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.
  - ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.
  - WHEN BLANKETS MUST BE SPICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.
  - EROSION CONTROL BLANKET SHALL NOT CONTAIN PLASTIC MESH. NATURAL FIBER BIODEGRADABLE MESH SHALL BE USED
  - HYDRO SEEDING MULCH SHALL BE USED ON ALL DISTURBED AREAS UPON COMPLETION OF ROUGH OR FINAL GRADING ACTIVITIES. GRADING WILL BE CONSIDERED COMPLETE WHEN THE AREA WILL REMAIN UNDISTURBED FOR 30 OR MORE DAYS.
  - EROSION CONTROL BLANKET WILL BE USED TO COVER PROBLEM AREAS WHERE STABILIZATION IS NOT ACHIEVED WITH HYDRO SEED MULCH AND IN THE BOTTOM OF STORMWATER CHANNELS. THE BOTTOM AND SIDE SLOPES WILL BE MULCHED BEFORE THE BLANKET IS APPLIED

**1 EROSION CONTROL BLANKET**  
NOT TO SCALE



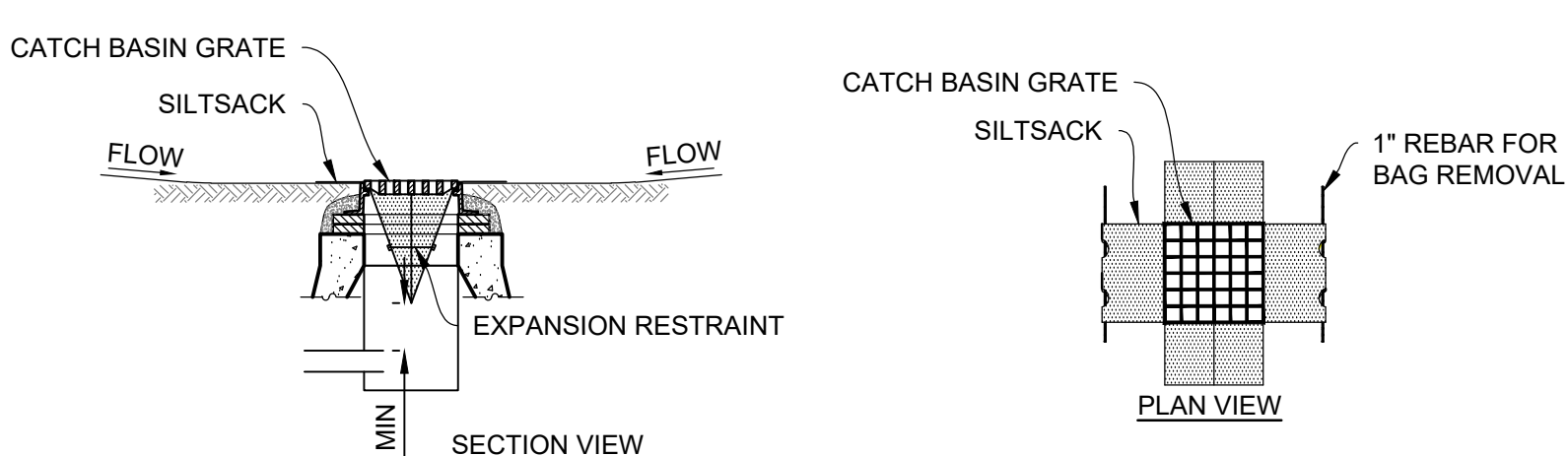
- NOTES:**
- ENTRANCE WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
  - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.

**2 STABILIZED CONSTRUCTION ENTRANCE**  
NOT TO SCALE



- NOTE:**
- SILT FENCE WITH SOCK TO BE USED AROUND STOCKPILES

**3 SILT FENCE BARRIER**  
NOT TO SCALE



- NOTES:**
- INSTALL SILTSAK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
  - GRATE TO BE PLACED OVER SILTSAK.
  - SILTSAK SHALL BE INSPECTED WEEKLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED. MAXIMUM VOLUME OF SILT ALLOWED BEFORE CLEANING OF THE VOLUME OF THE SILT TRAP.
  - MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

**4 SILTSAK SEDIMENT TRAP**  
NOT TO SCALE

**EROSION CONTROL NOTES (DURING CONSTRUCTION)**

- THE CONTRACTOR MUST INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND IN THE DETAILS PRIOR TO STARTING ANY OTHER WORK ON THE SITE. EROSION CONTROL MUST BE INSTALLED AT EVERY INLET STRUCTURE (EXISTING AND PROPOSED) AND MAINTAINED FOR THE DURATION OF THE PROJECT.
- EROSION CONTROLS AS SHOWN ON PLANS SHALL BE INSPECTED, REPAIRED AND/OR MAINTAINED BY THE CONTRACTOR DAILY AND WITHIN 12 HOURS OF EACH STORM EVENT.
- SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THEY REACH A DEPTH OF 1/4 TO 1/2 THE HEIGHT OF THE SILT FENCE OR SEDIMENT SOCK.
- SEDIMENT SHALL BE CONTAINED WITHIN THE CONSTRUCTION SITE. AWAY FROM DRAINAGE STRUCTURES. SEDIMENT REACHING THE PUBLIC WAY SHALL BE REMOVED BY STREET SWEEPING AND NOT BY FLUSHING.
- STABILIZE SLOPES STEEPER THAN 3:1 (HORIZONTAL TO VERTICAL) WITH SEED, SECURED GEOTEXTILE FABRIC, OR ROCK RIP-RAP AS REQUIRED TO PREVENT EROSION DURING CONSTRUCTION.
- CLEAN OUT CATCH BASINS, DRAIN MANHOLES AND STORM DRAIN PIPES AFTER COMPLETION OF CONSTRUCTION.
- LOAM AND SEED ALL DISTURBED AREAS. PERMANENT SEEDING SHALL OCCUR IN THE SPRING FROM LATE MARCH THROUGH MAY AND IN LATE SUMMER OR EARLY FALL BETWEEN AUGUST AND OCTOBER
- DUST SHALL BE CONTROLLED AT THE SITE WITH MECHANICAL WATER SPRAYING AS NECESSARY AND DURING EXTENDED DRY PERIODS.
- UPON ESTABLISHMENT OF PERMANENT VEGETATION OVER DISTURBED AREAS, REMOVE AND DISPOSE OF STRAW WATTLES AND STAKES.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND SUPPLEMENT THE SPECIFIED SEDIMENTATION CONTROLS AS NECESSARY TO PREVENT SEDIMENTATION OF OFF-SITE AREAS AND/OR ANY REGULATED RESOURCE AREAS. FAILURE BY THE CONTRACTOR TO CONTROL EROSION, POLLUTION AND/OR SILTATION SHALL BE CAUSE FOR THE OWNER TO EMPLOY OUTSIDE ASSISTANCE OR TO USE HIS OWN MEANS TO PROVIDE THE NECESSARY CORRECTIVE MEASURE. THE COST OF SUCH ASSISTANCE PLUS PROJECT ENGINEERING COSTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR SHALL CHECK THE CONDITION OF EROSION CONTROLS WEEKLY TO KEEP THEM IN GOOD OPERATING CONDITION. EROSION CONTROLS SHALL ALSO BE INSPECTED, REPAIRED AND MAINTAINED BY THE CONTRACTOR WITHIN 12 HOURS OF ANY STORM EVENT PRODUCING 1/2 INCH OF RAINFALL OR MORE. EROSION CONTROLS SHALL BE REPLACED WHEN DETRIORATED, OR WHEN ORDERED BY THE ENGINEER. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THEY REACH A DEPTH OF 6 INCHES.
- IN ADDITION TO THOSE LOCATIONS SHOWN ON THIS PLAN AND ON THE GRADING AND DRAINAGE PLANS, EROSION CONTROLS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS: TOE OF SLOPE OF EMBANKMENT CONSTRUCTION, TOE OF TEMPORARY EARTHWORK STOCKPILES. STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
- EROSION AND SEDIMENTATION CONTROL SHALL BE IN COMPLIANCE WITH MASSACHUSETTS STORMWATER POLICY.

**CONSTRUCTION SEQUENCE NOTES:**

- INSTALL EROSION AND SEDIMENT CONTROLS AS SHOWN ON PLAN.
- COMMENCE CLEARING, GRUBBING AND EARTHWORK. DEMOLISH EXISTING STRUCTURES AND PAVEMENT/CURBING.
- CUT AND DISPOSE OF ANY DEBRIS PRODUCED DURING EARTHWORK.
- INSTALL BUILDING FOUNDATION.
- INSTALL SITE DRAINAGE AND UTILITIES.
- FILL SITE TO SUBGRADE.
- CONSTRUCT PAVED AREA BASE COURSES.
- STABILIZE SIDE SLOPES. SIDE SLOPES MUST BE FULLY STABILIZED BEFORE ANY STORMWATER DISCHARGE.
- DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF THE ESTABLISHMENT OF FINAL GRADE.
- CONSTRUCT BUILDING.
- FINAL PAVING OF DRIVEWAY AND PARKING AREAS.
- INSPECT ALL SEDIMENT AND EROSION CONTROL MEASURES.
- INSTALL SITE LANDSCAPING AND PERMANENT SEEDING OF ALL DISTURBED AREAS.
- AFTER ALL SEEDED AREAS HAVE ESTABLISHED STABLE GROWTH, ALL TEMPORARY EROSION CONTROL CAN BE REMOVED.
- CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL AUTHORITIES RESPONSIBLE FOR INSPECTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL REQUIRED INSPECTION SIGN-OFFS.

**OPERATION AND MAINTENANCE:**

**CONSTRUCTION PHASE**

- THE BMP'S ASSOCIATED WITH THIS PROJECT WILL BE OWNED BY THE CONTRACTOR, WHO WILL BE RESPONSIBLE FOR INSPECTION, OPERATION AND MAINTENANCE.
- PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL PHYSICALLY MARK THE LIMITS OF NO LAND DISTURBANCE ON THE SITE.
  - THE CONTRACTOR IS TO INSTALL AND MAINTAIN DRAINAGE FACILITIES AS SHOWN ON THE SITE PLANS.
  - PRIOR TO CONSTRUCTION, ALL EROSION/SILTATION CONTROL DEVICES SHOWN ON ABOVE PLAN ARE TO BE INSTALLED. TO PREVENT SILT INTRUSION INTO THE DRAINAGE SYSTEM DURING CONSTRUCTION, THE CONTRACTOR IS TO INSTALL AND MAINTAIN INLET PROTECTION AT ALL CATCH BASINS, AND SET A SILT FENCE OR SEDIMENT SOCK AT ALL SLOPES WHICH MAY ERODE IN THE DIRECTION OF ANY OPEN DRAINAGE FACILITIES. SUCH PREVENTIVE MEASURES ARE TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS. TEMPORARY CONTROLS SHALL BE INSTALLED TO REDUCE DUST AND SEDIMENT TRANSPORT.
  - CONSTRUCTION OF DRAINAGE FACILITIES IS TO BE INSPECTED BY DESIGN ENGINEER. TO VERIFY CONFORMANCE TO THE DESIGN PLAN.
  - THE SEQUENCE OF DRAINAGE CONSTRUCTION SHALL BE AS FOLLOWS:
    - CLEAR, GRUB, EXCAVATE AREAS FOR DRAINAGE SYSTEMS.
    - TRENCH AND INSTALL PIPES, CATCH BASINS MANHOLES
    - INSTALL INLET PROTECTION.
  - EROSION CONTROLS ARE TO BE INSPECTED AND MAINTAINED ON A DAILY BASIS. UPON DISCOVERY OF SILT BUILD-UP IN ANY CATCH BASIN SUMPS, OR ANY OTHER STRUCTURES, THEY ARE TO BE CLEANED.
  - ALL EXPOSED SOILS SHALL BE IMMEDIATELY STABILIZED WITH A LAYER OF MULCH HAY OR JUTE BLANKETS-AS NEEDED FOR SLOPES STEEPER THAN 3:1.
  - PRIOR TO CONSTRUCTION OF IMPERVIOUS AREAS, ALL DRAINAGE STRUCTURES AND PIPES SHALL BE INSTALLED AND INSPECTED FOR PROPER FUNCTION. DURING CONSTRUCTION OF OTHER SITE FEATURES, ALL DRAINAGE FACILITIES SHALL BE INSPECTED ON A WEEKLY BASIS AND CLEANED/REPAIRED IMMEDIATELY UPON DISCOVERY OF SEDIMENT BUILD-UP OR DAMAGE.
  - AFTER PAVING IS INSTALLED, IT SHALL BE SWEEPED CLEAN ON A REGULAR BASIS.
  - IF DEWATERING IS NECESSARY DURING CONSTRUCTION, THE WATER WILL BE TREATED FOR TOTAL SUSPENDED SOLIDS (TSS) REMOVAL PRIOR TO DISCHARGE TO RECEIVING WATER.

**POST-DEVELOPMENT PHASE**

- THE OWNER(S) IS TO BE RESPONSIBLE FOR MAINTENANCE OF ALL DRAINAGE STRUCTURES IN THE PROJECT - INCLUDING ROOF DRAINS, DRAIN PIPES, CATCH BASINS, AND DRAIN MANHOLES.
- REGULAR MAINTENANCE IS TO INCLUDE THE FOLLOWING:
- INSPECTION OF ALL DRAINAGE FACILITIES (CATCH BASINS, PIPES, OUTLET CONTROL STRUCTURES, AND DETENTION BASINS) EVERY THREE MONTHS. DURING THESE INSPECTIONS, THE INSPECTOR (A REGISTERED PROFESSIONAL CIVIL ENGINEER QUALIFIED IN DRAINAGE SYSTEMS) SHALL LOOK FOR EVIDENCE OF THE FOLLOWING: STRUCTURAL DAMAGE, SILT ACCUMULATION (NEAR INLET INVERTS ON CATCH BASINS AND OUTLET CONTROL STRUCTURES), AND IMPROPER FUNCTION. A REPORT ON THE SYSTEM SHALL BE DELIVERED TO THE OWNER.
  - AFTER INSPECTION, IF ANY OF THE ABOVE CONDITIONS EXIST, THE INSPECTOR SHALL NOTIFY THE OWNER, WHO SHALL IMMEDIATELY ARRANGE FOR ALL NECESSARY REPAIRS AND/OR SEDIMENT REMOVAL.
  - THE PAVEMENT AREA IS TO BE SWEEPED CLEAN, AS REQUIRED (I.E., VISUALLY NOTICEABLE DEBRIS BUILD-UP), A MINIMUM OF ONCE PER YEAR.
  - ALL GRADED SLOPES SHALL BE INSPECTED EVERY SPRING FOR EROSION. UPON DISCOVERY OF ANY FAILURE (IE. EROSION), LOAM AND SEED SHALL BE PUT IN PLACE AND NURTURED.
  - DURING THE WINTER MONTHS, ALL SNOW IS TO BE STORED SUCH THAT SNOW MELT IS CONTROLLED WITHIN THE PAVED AREA.

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**EROSION AND SEDIMENT CONTROL DETAILS**

NO.	DATE	REVISIONS	BY

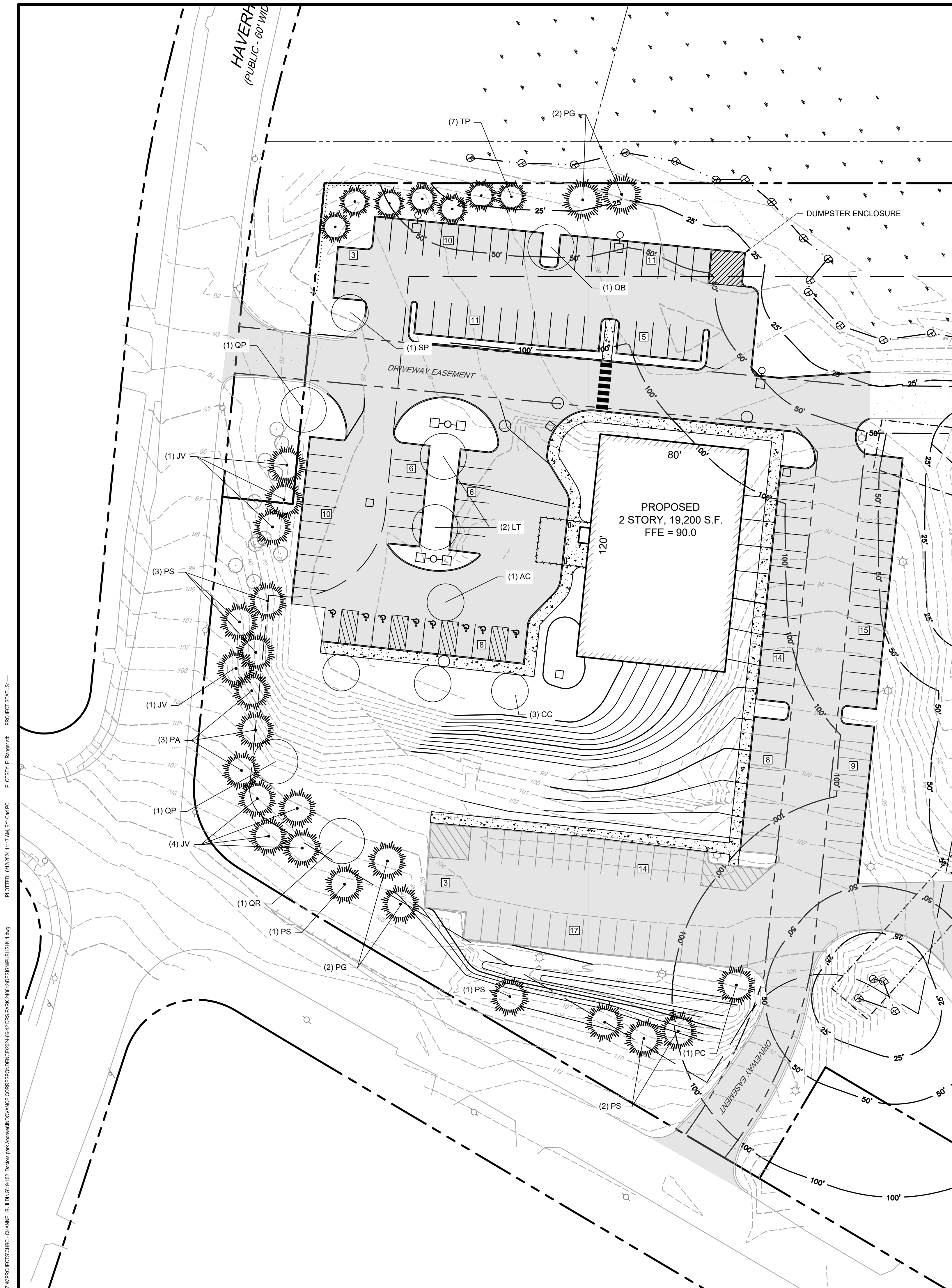
PROJECT: 19-152  
DATE: JUNE 12, 2024  
DRAWING SCALE: 1"= 40'  
DRAWN BY: OMR  
APPROVED BY: BCO

**CS8501**

SHEET 17 OF 18

PLOTTED: 6/12/2024 4:44 PM BY: Subhanshu Kulkarni PROJECT STATUS: PLOT STYLE: Ranger.dwt

Z:\PROJECTS\CHC CHANNEL BUILDING\142 Dotted and Annotations\CORRESPONDENCE\142-01.DWG (REV. 04/25/2024) (RUBEN LAM) PLOTTED: 6/12/2024 11:17 AM BY: CHC/PC PROJECT STATUS: PLANT SCHEDULE



**PLANT SCHEDULE**

**EVERGREEN TREE:**

TREES KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
IV	8	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	5-6' HT
PA	3	PICEA ABIES	NORWAY SPRUCE	5-6' HT
PG	7	PICEA GLAUCA	WHITE SPRUCE	5-6' HT
PS	8	PINUS STROBUS	EASTERN WHITE PINE	5-6' HT
TP	7	THUJA PLICATA	GREEN GIANT ARBORVITAE	5-6' HT

**DECIDUOUS TREE:**

TREES KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AR	1	ACER RUBRUM 'AUTUMN BLAZI	AUTUMN BLAZE MAPLE	3" CAL.
AC	1	AMELANCHIER CAN. 'AUTUMN BRILLIANCE	SHADBLOW SERVICEBERRY	12" B&B
CC	3	CERCIS CANADENSIS 'MINNESOTA STRAIN	MINN. STRAIN EASTERN REDBUD	3" CAL.
CK	1	CLADRASTIS KENTUCKEA	YELLOWWOOD	3" CAL.
CF	2	CORNUS FLORIDA	FLOWERING DOGWOOD	2.5" CAL.
LS	1	LIDQIDAMBAR STYRACIFLUA 'ROTUNDILOBA	FRUITLESS SWEETGUM	3" CAL.
LT	2	LIRIODENDRON TULIPIFERA	TULIPTREE	3" CAL.
NS	1	NYSSA SYLVATICA	WHITE SPRUCE	3" CAL.
OB	4	QUERCUS BICOLOR	SWAMP WHITE OAK	3" CAL.
QP	3	QUERCUS PALUSTRIS	PIN OAK	3" CAL.
QR	1	QUERCUS RUBRA	NORTHERN RED OAK	3" CAL.
SJ	1	SOPHORA JAPONICA	SCHOLAR TREE	2.5" CAL.
SP	1	STEWARTIA PSEUDOCAMELLIA	JAPANESE STEWARTIA	2.5" CAL.

THE EASTERN RED CEDAR WILL GROW TO A MATURE SIZE OF 15-20 WIDE AND 40-50 TALL  
 THE EASTERN WHITE PINE WILL GROW TO A MATURE SIZE OF 20-40 WIDE AND 50-80 TALL.  
 THE NORWAY SPRUCE WILL GROW TO A MATURE SIZE OF 25-30 WIDE AND 40-60 TALL.  
 THE WHITE SPRUCE WILL GROW TO A MATURE SIZE OF 10-20' WIDE AND 40-60 TALL.  
 THE LANDSCAPE INSTALLER SHALL MAKE EVERY EFFORT TO REMOVE INVASIVE SPECIES SUCH AS ORIENTAL BITTERSWEET FROM LANDSCAPE AREAS AND ADJOINING WOODLANDS. THE PROPERTY OWNER SHALL DEVELOP A PLAN TO PERIODICALLY INSPECT AND REMOVE INVASIVE SPECIES THAT RE-EMERGES AS PART OF THE REGULAR LANDSCAPE MANAGEMENT PLAN

**LEGEND**

- LAWN
- POLLINATOR SEED MIX

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**LANDSCAPE AND LIGHTING PLAN**

NO.	DATE	REVISIONS	BY

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