

"SETTLER'S GLEN"

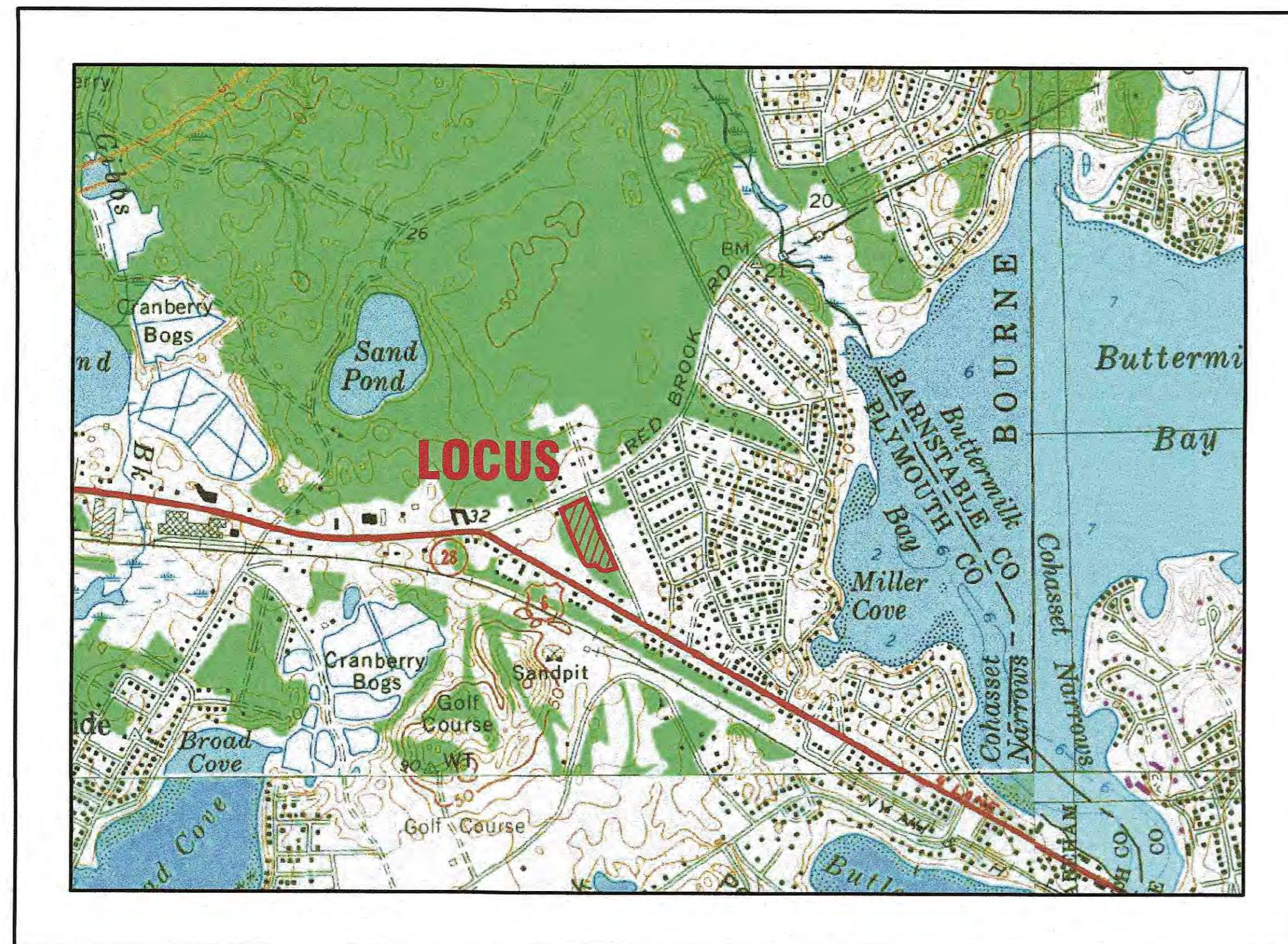
COMPREHENSIVE PERMIT PLAN

RED BROOK ROAD

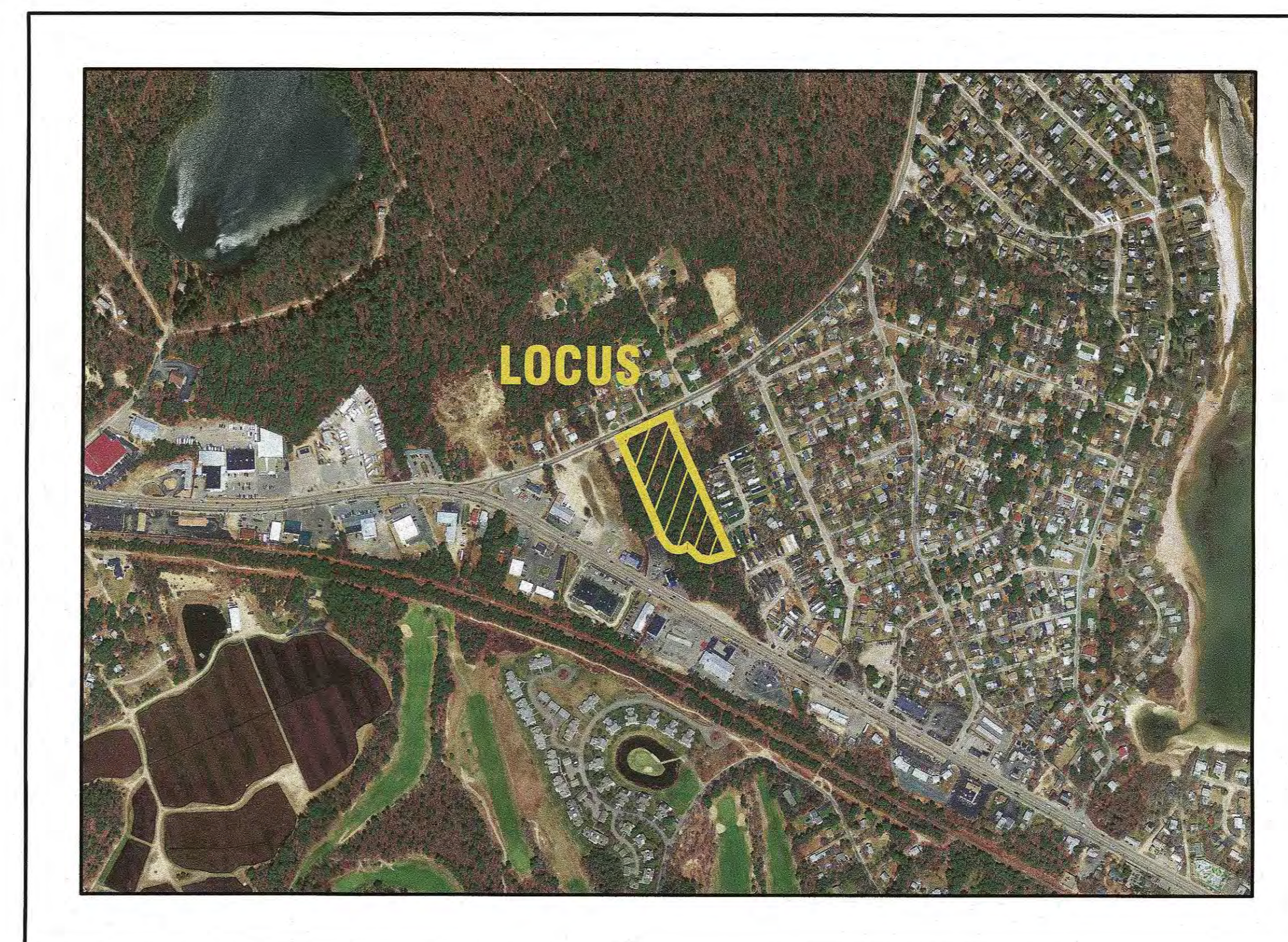
WAREHAM, MASSACHUSETTS

OWNER: TGCI EMNACA, LLC
 c/o GROSSMAN COMPANY, INC.
 1266 FURNACE BROOK PARKWAY, SUITE 100
 QUINCY, MA 02169

APPLICANT: TGCI EMNACA, LLC
 c/o GROSSMAN COMPANY, INC.
 1266 FURNACE BROOK PARKWAY, SUITE 100
 QUINCY, MA 02169



— U.S.G.S. LOCUS PLAN —
 SCALE: 1"=1000'



— AERIAL OVERVIEW —
 SCALE: 1"=500'

SITE DATA:

ASSESSORS MAP: 8 / LOT 1007C
 ADDRESS: 3128B CRANBERRY HIGHWAY
 ZONING DISTRICT: MULTIPLE RESIDENCE 30
 (MR-30)
 OVERLAY DISTRICT: GROUND WATER
 PROTECTION OVERLAY DISTRICT
 WATER SUPPLY: TOWN WATER
 SANITARY SEWER: TOWN SEWER

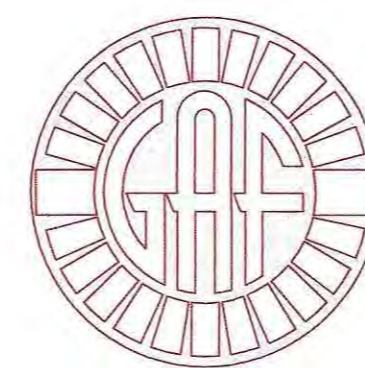
ZONING DATA:

ZONING DISTRICT	MR-30	MR-30	PROVIDED
	(1 FAMILY DWELLING)	(2 FAMILY DWELLING)	
MIN. LOT AREA:	30,000 S.F.*	45,000 S.F.*	156,708 S.F.
MIN. FRONTAGE:	150'	200'	247.66'
MIN. FRONT SETBACK:	20'	20'	21'
MIN. SIDE SETBACK:	10'	10'	16'
MIN. REAR SETBACK:	10'	10'	110'
MAX. BLDG. HEIGHT:	35'	35'	REFER TO PLANS BY OTHERS
MAX. BLDG. COVERAGE:	25%	25%	19.9%
MAX. IMPERV. COVERAGE:	NR	NR	43.2%

* (80% OF THE MINIMUM REQUIRED LOT AREA MUST BE CONTIGUOUS UPLAND)

FLOOD ZONE DATE:

THE PROJECT IS LOCATED WITHIN FLOOD ZONE X. REFER TO THE F.E.M.A. FLOOD INSURANCE RATE MAP PANEL NUMBER 25023C0494J, DATED JULY 17, 2012.



G.A.F. ENGINEERING, INC.
 PROFESSIONAL ENGINEERS & LAND SURVEYORS
 266 MAIN STREET, WAREHAM, MA 02571
 TEL: (508) 295-6600 FAX: (508) 295-6634
 E-MAIL: gaf@gaf-eng.com
 JANUARY 12, 2021

PLAN INDEX:

SHEET NO.:	DESCRIPTION:
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	EXISTING CONDITIONS PLAN
4	OVERVIEW PLAN
5	LAYOUT & UTILITIES
6	GRADING & DRAINAGE
7	PLAN & ROADWAY PROFILE-1
8	PLAN & ROADWAY PROFILE-2
9	DETAIL SHEET 1
10	DETAIL SHEET 2
11	DETAIL SHEET 3
LSP-1	LANDSCAPE PLAN

PARKING DATA:

REQUIRED: 2 PARKING SPACES FOR EACH DWELLING UNIT
 20 DWELLING UNITS=40 PARKING SPACES
 TOTAL REQUIRED=40 PARKING SPACES

PROVIDED:
 40 PARKING SPACES
 20 (2) CAR GARAGES=40 PARKING SPACES
 TOTAL PROVIDED=80 PARKING SPACES

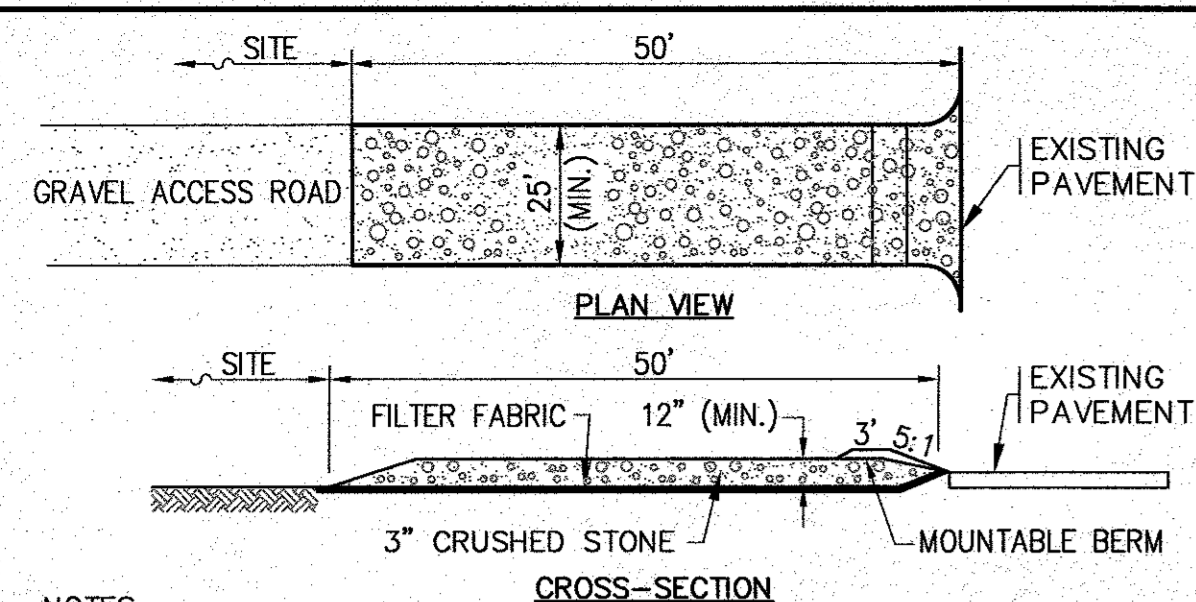
DATE: JAN. 12, 2021	JMP				
DRAWN BY:	JMP				
CHECKED BY:	WFM				
JOB NO.:	18-9247				
SCALE:	AS NOTED				
APPROVED BY:					
APPROVED BY:					
DATE:	4/26/21				
REV.:	1				
DATE:					
BY:					
APP'D:					
PER TOWN & PEER REVIEW COMMENTS:					
DESCRIPTION:					

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PREPARED FOR:
TGCI EMNACA, LLC
 1266 FURNACE BROOK PARKWAY
 QUINCY, MA 02169

PERMIT SET
 (NOT FOR CONSTRUCTION)

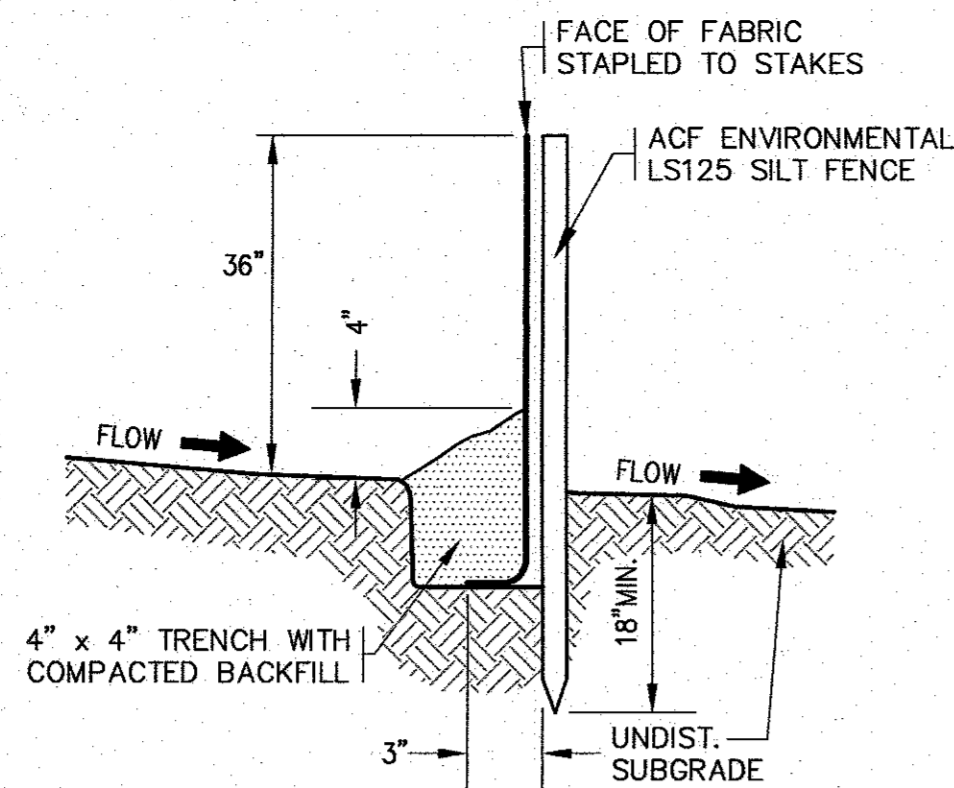
JOB NO.: 18-9247
 DWG. 1 OF 11



NOTES:

- ENTRANCE WIDTH SHALL BE 25 FEET 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.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



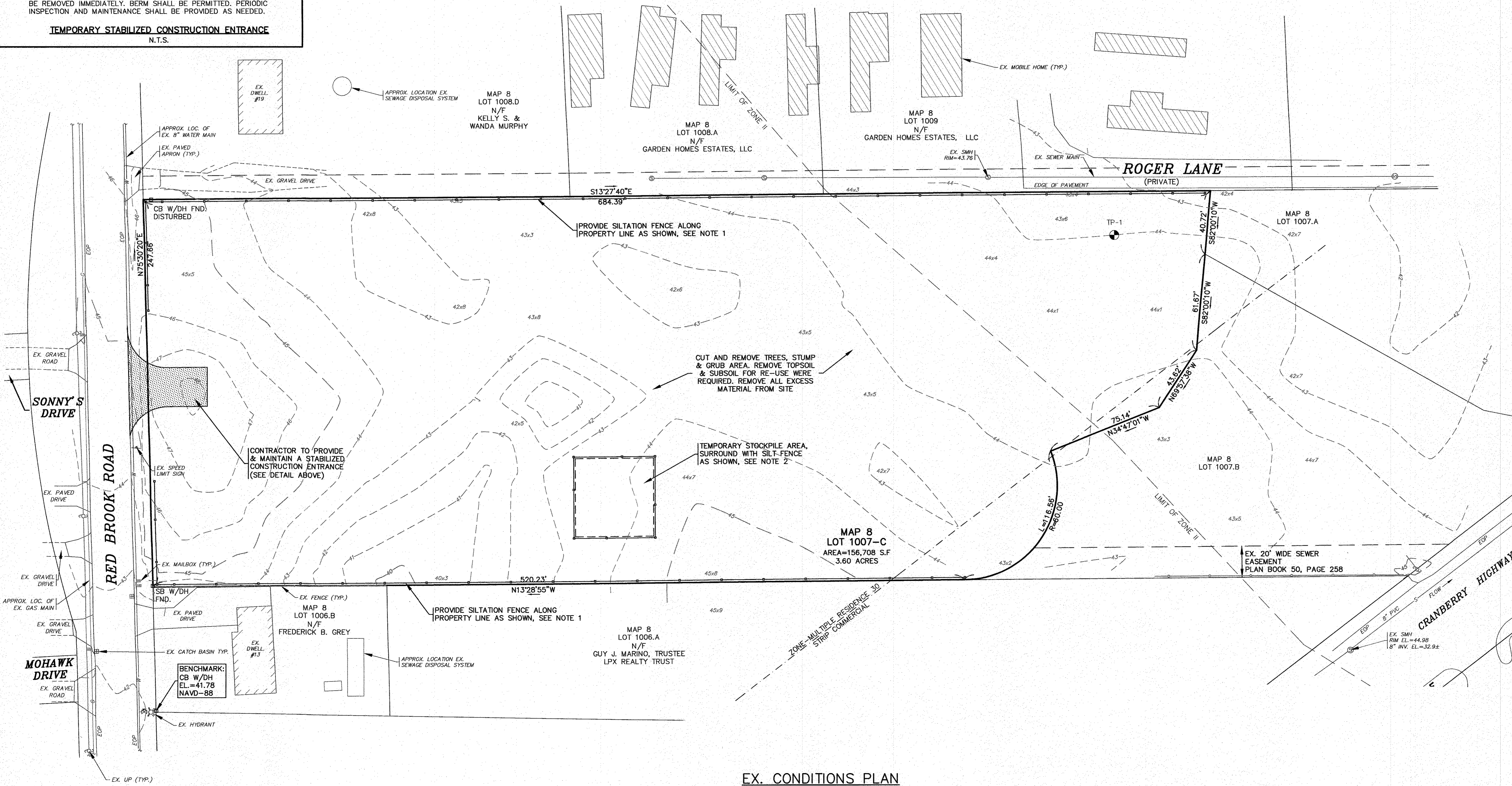
NOTES:

- SILTATION FENCE SHALL BE ACF ENVIRONMENTAL LS125 SILT FENCE OR AN APPROVED EQUAL.
- SILTATION FENCING SHALL BE INSTALLED DOWNSLOPE OF ALL PROPOSED AND EXISTING DISTURBED AREAS, OR AS SHOWN ON THE PLANS.
- EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL VEGETATIVE OR STABILIZED COVER HAS BEEN FIRMLY ESTABLISHED.
- EROSION CONTROL MEASURES SHALL FOLLOW THE PERFORMANCE STANDARDS OF THE USDA SOIL CONSERVATION SERVICE, AND ANY APPLICABLE STATE/LOCAL CONSERVATION AUTHORITY.

EROSION CONTROL BARRIER
N.T.S.

NOTES:

- CONTRACTOR SHALL PROVIDE AND MAINTAIN STAKED SILTATION FENCING EROSION CONTROL BARRIER AS SHOWN ON THE PLANS. SEE DETAIL.
- FINAL LOCATION OF STOCKPILE AREA SHALL BE DETERMINED BY THE CONTRACTOR AT TIME OF CONSTRUCTION. CONTRACTOR SHALL RELOCATE STOCKPILE AREA DURING CONSTRUCTION NEEDED.



EX. CONDITIONS PLAN

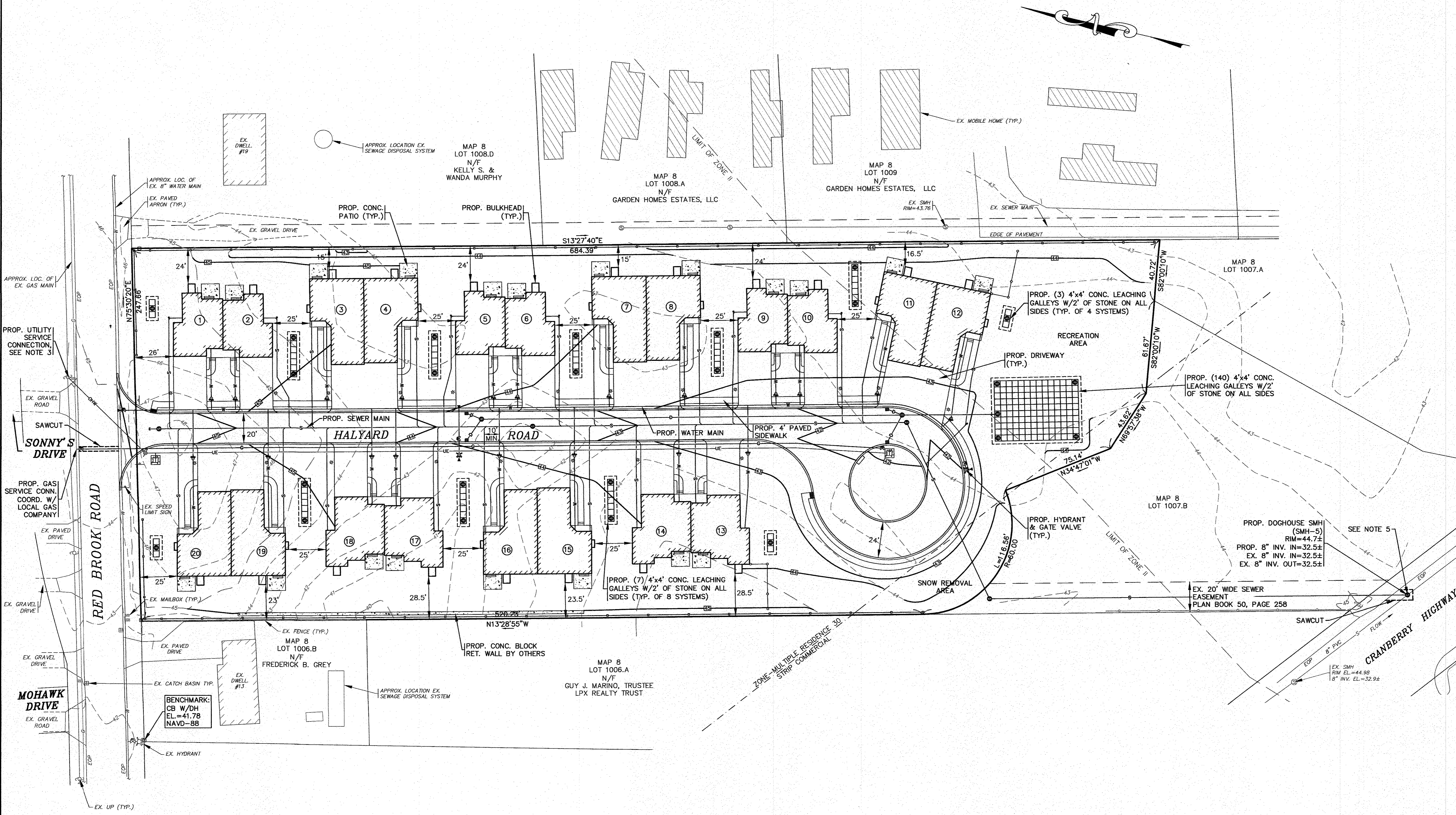
SCALE: 1"=30'



DATE: JAN. 12, 2021	APPROVED BY:	
DRAWN BY: JMP	APPROVED BY:	
CHECKED BY: WFM	DATE: 4/26/21	G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 286 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: gaf@gaf-inc.com
JOB NO.: 18-9247	DATE: 4/26/21	
SCALE: 1" = 30'	REV: 1	"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN EXISTING CONDITIONS PLAN RED BROOK ROAD WAREHAM, MA
	DATE: 4/26/21	
	BY: JMP	TCCI EMNACA, LLC 1266 FURNACE BROOK PARKWAY QUINCY, MA
	BY: WFM	
	DATE: 4/26/21	JOB NO.: 18-9247 PERMIT SET (NOT FOR CONSTRUCTION) DWG. 3 OF 11
	DATE: 4/26/21	

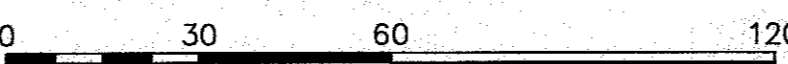
NOTES:

- REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED DWELLING DIMENSIONS, CONSTRUCTION NOTES AND DETAILS.
- ALL SEWER WORK SHALL BE DONE IN ACCORDANCE WITH THE TOWN OF WAREHAM SEWER COMMISSIONERS RULES AND REGULATIONS.
- CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY PRIOR TO CONNECTION.
- REFER TO PAVEMENT SAWCUT/TRENCH REPAIR DETAIL ON SHEET 10.
- CONTRACTOR SHALL CONFIRM EXISTING SEWER ELEVATION PRIOR TO CONSTRUCTION.



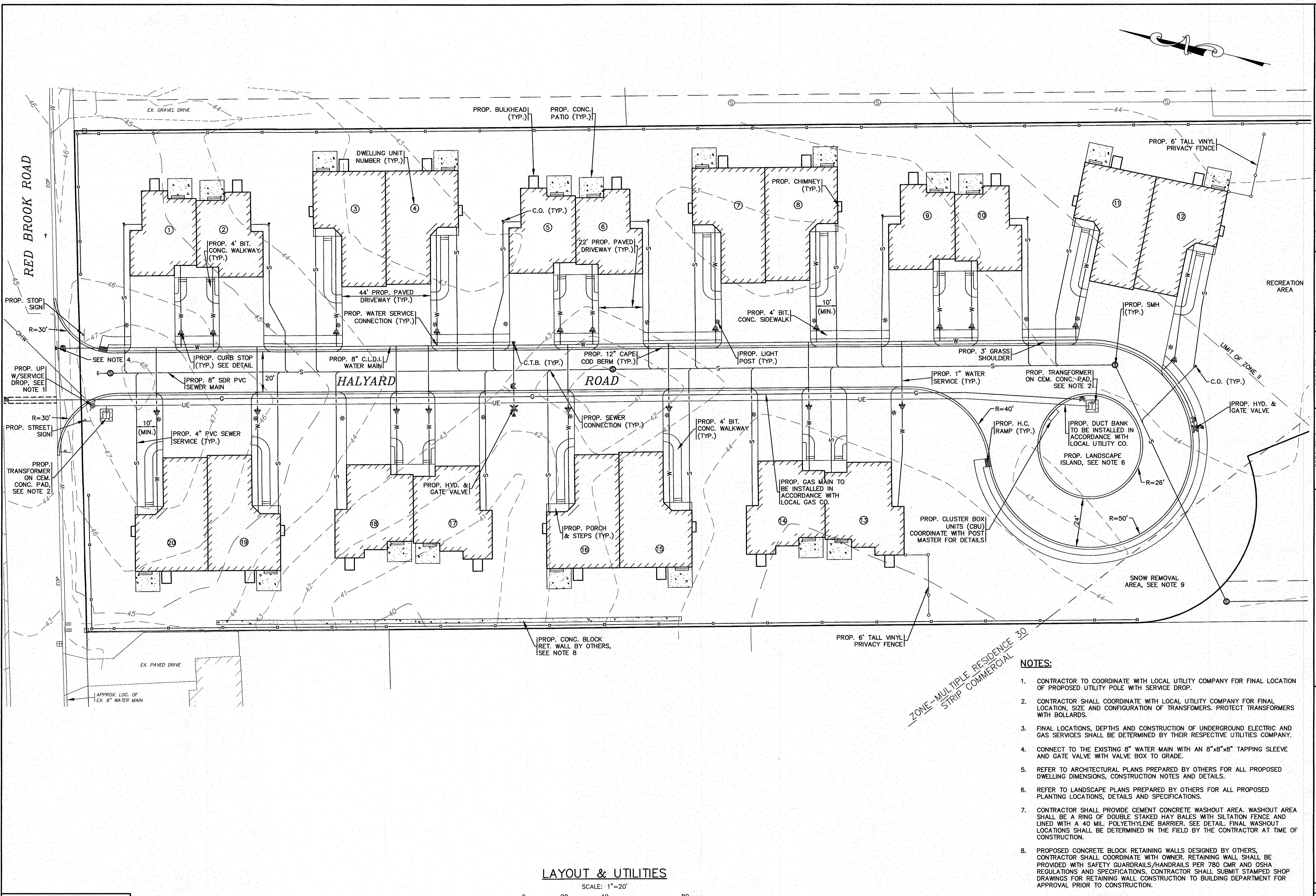
OVERVIEW PLAN

SCALE: 1"=30'



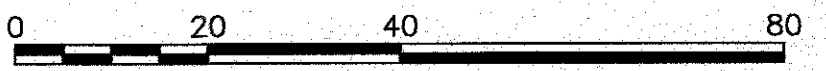
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G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 286 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: gaf@gaf-eng.com		"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN OVERVIEW PLAN RED BROOK ROAD WAREHAM, MA		TCCI EMNACA, LLC 1266 FURNACE BROOK PARKWAY QUINCY, MA		PREPARED FOR:		DWG. 4 OF 11	
REVISIONS		REV. DATE		BY		APP'D		PER TOWN & PEER REVIEW COMMENTS	
1		4/26/21		JMP		WFM			

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LAYOUT & UTILITIES

SCALE: 1"=20'



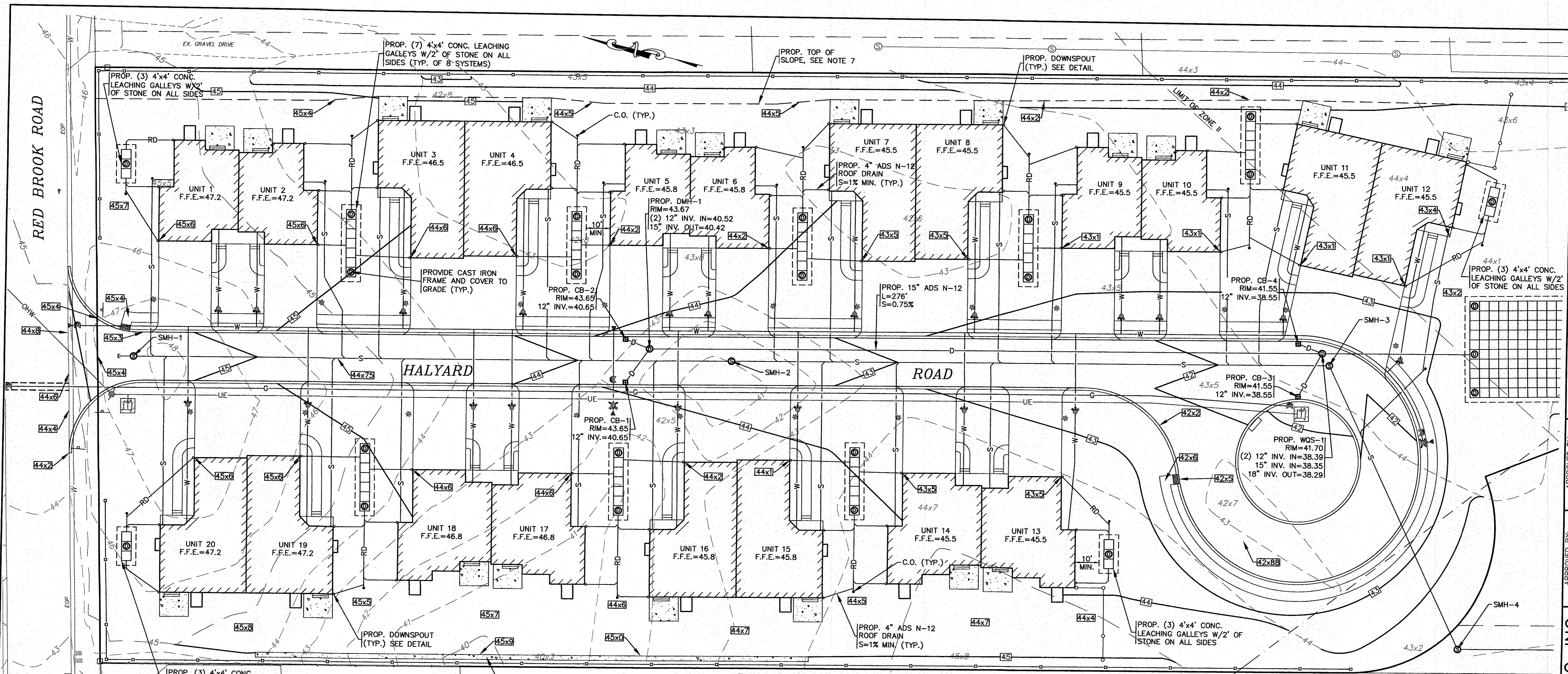
NOTES:

1. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR FINAL LOCATION OF PROPOSED UTILITY POLE WITH SERVICE DROP.
2. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR FINAL LOCATION, SIZE AND CONFIGURATION OF TRANSFORMERS. PROTECT TRANSFORMERS WITH BOLLARDS.
3. FINAL LOCATIONS, DEPTHS AND CONSTRUCTION OF UNDERGROUND ELECTRIC AND GAS SERVICES SHALL BE DETERMINED BY THEIR RESPECTIVE UTILITIES COMPANY.
4. CONNECT TO THE EXISTING 8" WATER MAIN WITH AN 8"x8"x8" TAPPING SLEEVE AND GATE VALVE WITH VALVE BOX TO GRADE.
5. REFER TO ARCHITECTURAL PLANS PREPARED BY OTHERS FOR ALL PROPOSED DWELLING DIMENSIONS, CONSTRUCTION NOTES AND DETAILS.
6. REFER TO LANDSCAPE PLANS PREPARED BY OTHERS FOR ALL PROPOSED PLANTING LOCATIONS, DETAILS AND SPECIFICATIONS.
7. CONTRACTOR SHALL PROVIDE CEMENT CONCRETE WASHOUT AREA. WASHOUT AREA SHALL BE A RING OF DOUBLE STAKED HAY BALES WITH SILTATION FENCE AND LINED WITH A 40 MIL. POLYETHYLENE BARRIER. SEE DETAIL. FINAL WASHOUT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AT TIME OF CONSTRUCTION.
8. PROPOSED CONCRETE BLOCK RETAINING WALLS DESIGNED BY OTHERS. CONTRACTOR SHALL COORDINATE WITH OWNER. RETAINING WALL SHALL BE PROVIDED WITH SAFETY GUARDRAILS/HANDRAILS PER 780 CMR AND OSHA REGULATIONS AND SPECIFICATIONS. CONTRACTOR SHALL SUBMIT STAMPED SHOP DRAWINGS FOR RETAINING WALL CONSTRUCTION TO BUILDING DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.
9. CONFIRM FINAL SNOW REMOVAL AREA WITH OWNER.

PERMIT SET
(NOT FOR CONSTRUCTION)

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<p>DATE: JAN. 12, 2021 DRAWN BY: JIMP CHECKED BY: WFM JOB NO.: 18-9247 SCALE: 1" = 20'</p>	<p>APPROVED BY:</p>	<p>G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 286 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: gafi@gafe-inc.com</p>
<p>DATE: JAN. 12, 2021 DRAWN BY: JIMP CHECKED BY: WFM JOB NO.: 18-9247 SCALE: 1" = 20'</p>	<p>APPROVED BY:</p>	<p>"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN LAYOUT & UTILITIES</p> <p>WAREHAM, MA PREPARED FOR: TGCI EMINACA, LLC 1266 FURNACE BROOK PARKWAY QUINCY, MA</p>
<p>DATE: JAN. 12, 2021 DRAWN BY: JIMP CHECKED BY: WFM JOB NO.: 18-9247 SCALE: 1" = 20'</p>	<p>APPROVED BY:</p>	<p>JOB NO.: 18-9247 DWG. 5 OF 11</p>



NOTES:

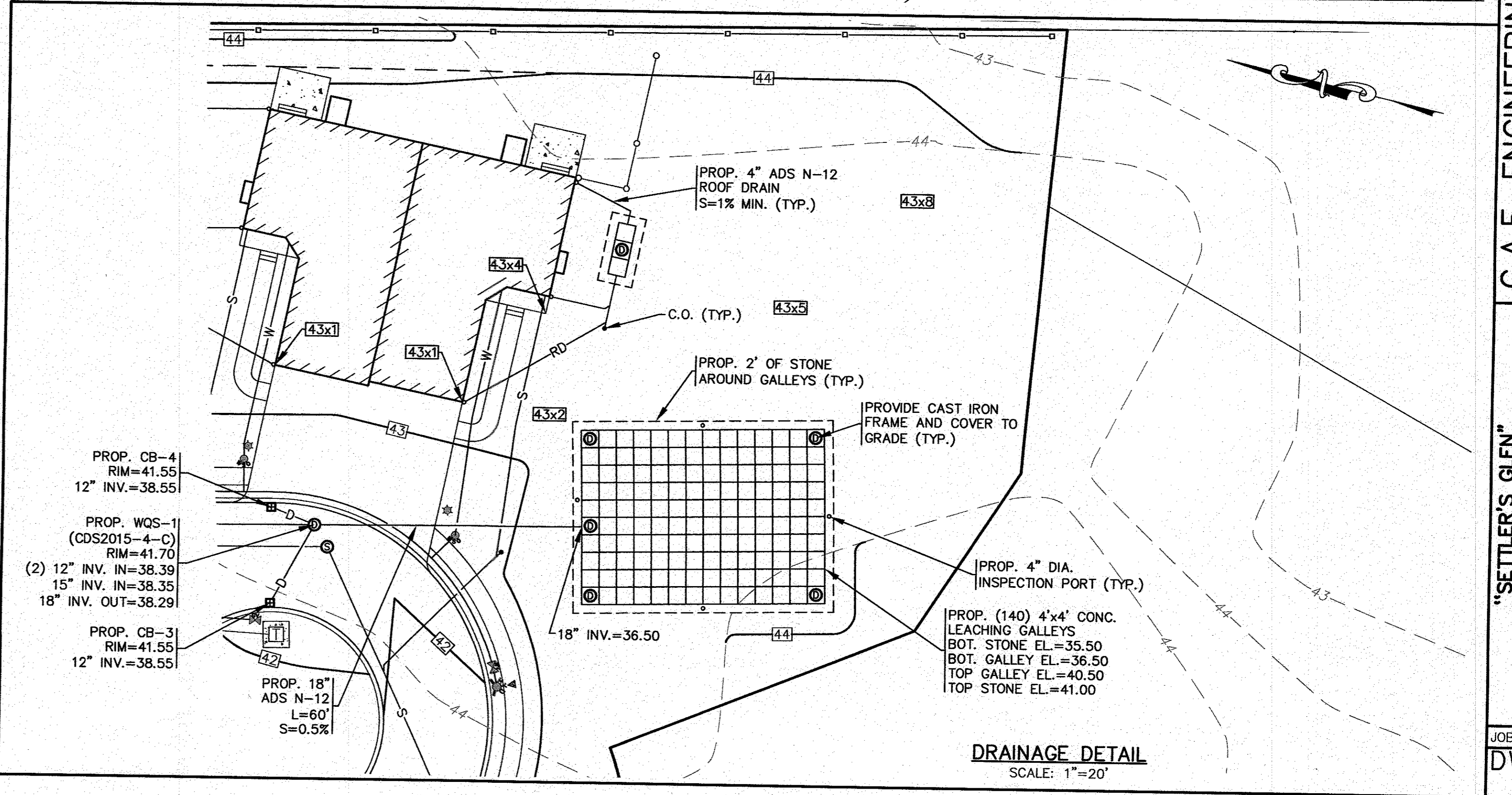
- ALL PROPOSED CATCH BASINS SHALL HAVE A TEMPORARY SILT SACK OR AN APPROVED EQUAL INSTALLED IN THEM AS SOON AS THE STRUCTURE IS SET. CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SILT SACKS AT THE COMPLETION OF CONSTRUCTION.
- WATER MAIN/SERVICES SHALL BE INSTALLED A MINIMUM OF 1' BELOW ALL PROPOSED DRAINAGE LINES.
- PROPOSED WQS-1 SHALL BE A CDS2015-4-C UNIT FROM CONTECH ENGINEERED SOLUTIONS LLC.
- PROPOSED CONCRETE BLOCK RETAINING WALLS DESIGNED BY OTHERS, CONTRACTOR SHALL COORDINATE WITH OWNER. RETAINING WALL SHALL BE PROVIDED WITH SAFETY GUARDRAILS/HANDRAILS PER 780 CMR AND OSHA REGULATIONS AND SPECIFICATIONS. CONTRACTOR SHALL SUBMIT STAMPED SHOP DRAWINGS FOR RETAINING WALL CONSTRUCTION TO BUILDING DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.
- FOR COMPLETE DRAINAGE OPERATION AND MAINTENANCE NOTES SEE SHEET 2.
- ALL DWELLING UNITS TO BE PROVIDED WITH DOWNSPOUTS AND 4" ADS ROOF DRAIN PIPING TO GALLEY SYSTEMS. REFER TO ARCHITECTURAL PLANS FOR FINAL DOWNSPOUT LOCATIONS AND DETAILS.
- THE INTENT OF THE GRADING DESIGN IS TO DIRECT ALL YARD RUNOFF TO THE STREET.

SANITARY SEWER STRUCTURE SCHEDULE:

STRUCTURE	RIM EL.	INV. (IN)	INV. (OUT)
SMH-1	45.35	38.46	38.36
SMH-2	43.52	36.52	36.42
SMH-3	41.80	34.57	34.47
SMH-4	43.2±	33.84	33.74
SMH-5	44.7±	32.5±	32.5±

GRADING & DRAINAGE

SCALE: 1"=20'



DRAINAGE DETAIL
SCALE: 1"=20'

PERMIT SET
(NOT FOR CONSTRUCTION)

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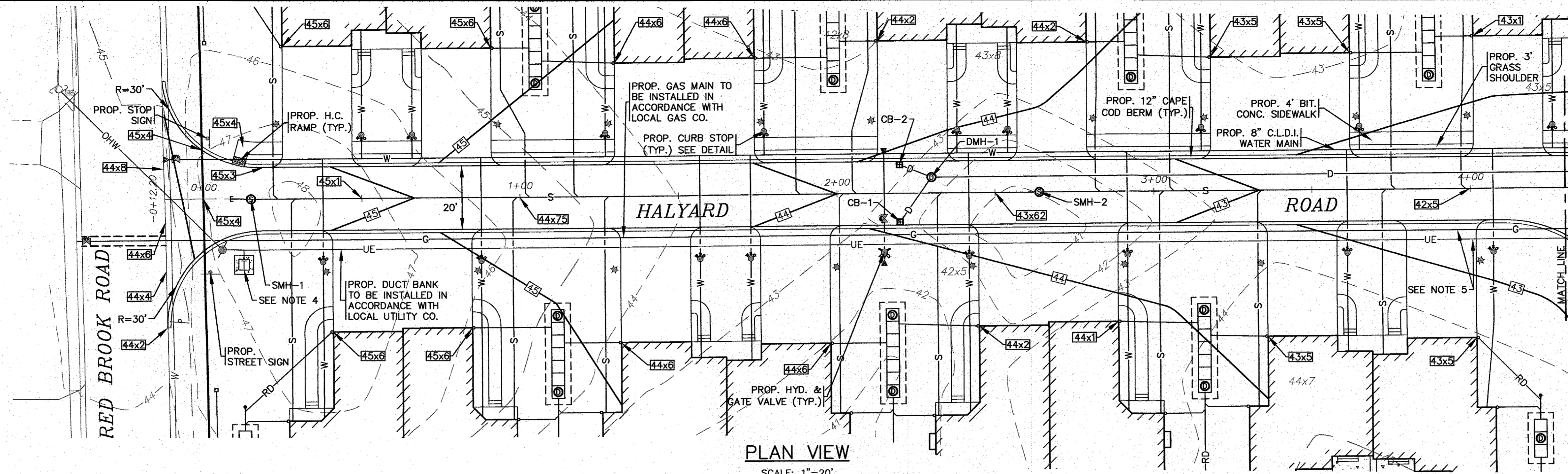
APPROVED BY:

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 266 MAIN STREET - WARHAM, MA 02571
 TEL: (508) 295-6600 FAX: (508) 295-6634
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"SETTLER'S GLEN"
 COMPREHENSIVE PERMIT PLAN
 GRADING & DRAINAGE
 PREPARED FOR:
TGCI EMNACA, LLC
 1266 FURNACE BROOK PARKWAY
 QUINCY, MA

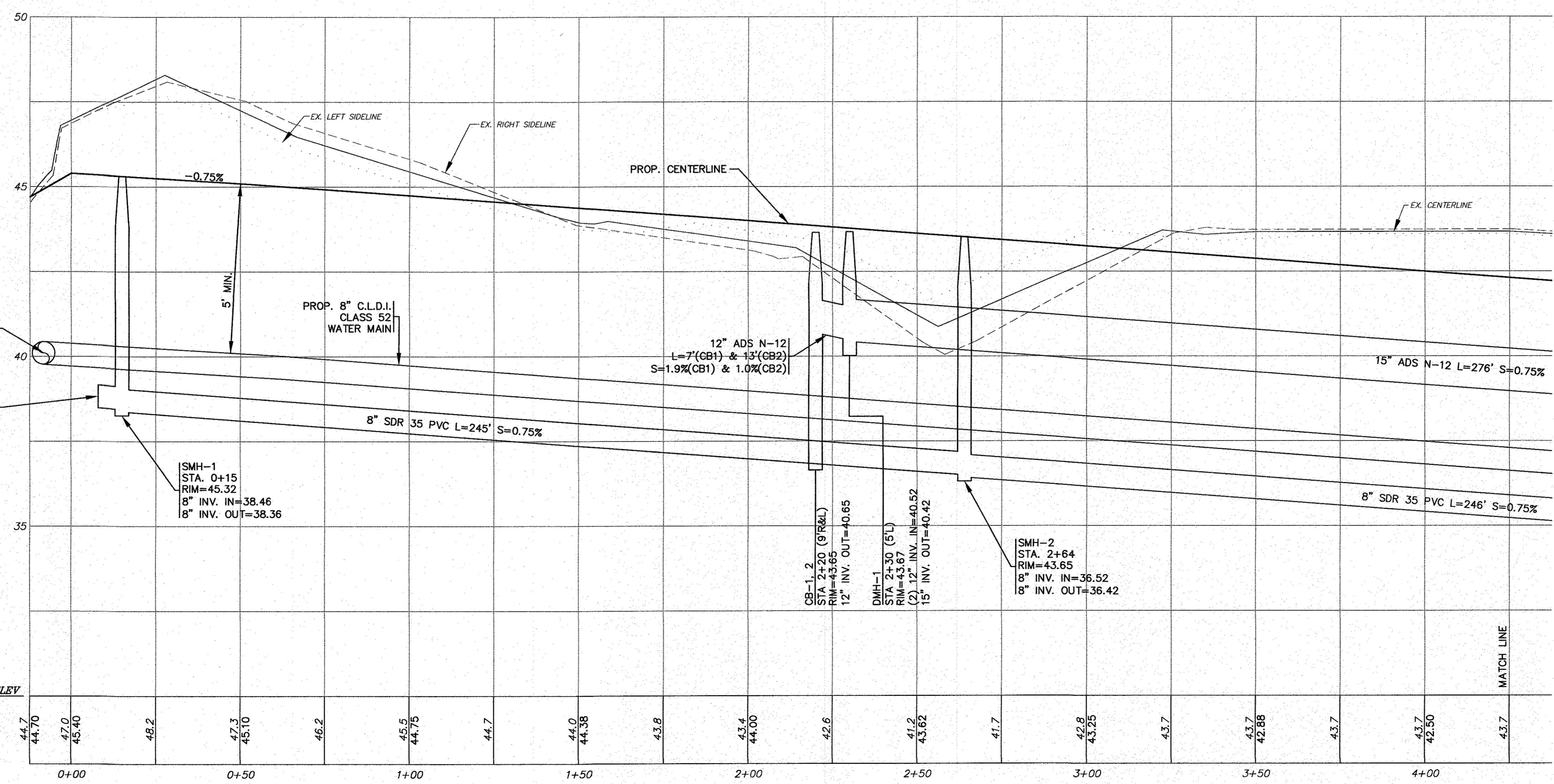
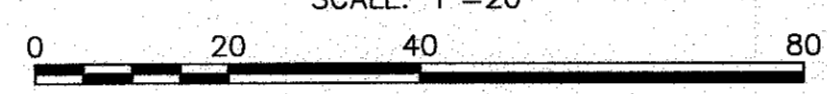
JOB NO.: 18-9247
 DWG. 6 OF 11

REV.	DATE	BY	DESCRIPTION
1	4/26/21	JMP	PER TOWN & PEER REVIEW COMMENTS

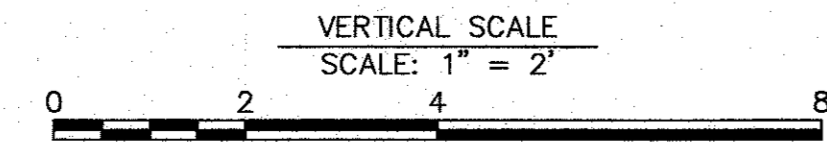


- NOTES:**
- ALL PROPOSED CATCH BASINS SHALL HAVE A TEMPORARY SILT SACK OR AN APPROVED EQUAL INSTALLED IN THEM AS SOON AS THE STRUCTURE IS SET. CONTRACTOR SHALL REMOVE AND DISPOSE OF THE SILT SACKS AT THE COMPLETION OF CONSTRUCTION.
 - WATER MAIN/SERVICES SHALL BE INSTALLED A MINIMUM OF 1' BELOW ALL PROPOSED DRAINAGE LINES.
 - FOR COMPLETE DRAINAGE OPERATION AND MAINTENANCE NOTES SEE SHEET 2.
 - CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY FOR FINAL LOCATION, SIZE AND CONFIGURATION OF TRANSFORMERS. PROTECT TRANSFORMERS WITH BOLLARDS.
 - FINAL LOCATIONS, DEPTHS AND CONSTRUCTION OF UNDERGROUND ELECTRIC AND GAS SERVICES SHALL BE DETERMINED BY THEIR RESPECTIVE UTILITIES COMPANY.
 - REFER TO LANDSCAPE PLANS PREPARED BY OTHERS FOR ALL PROPOSED PLANTING LOCATIONS, DETAILS AND SPECIFICATIONS.

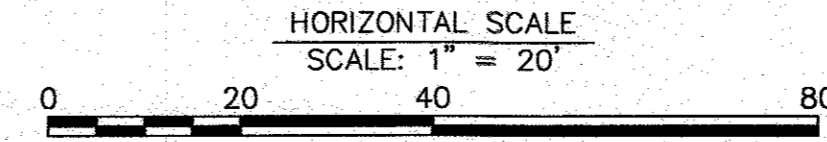
PLAN VIEW
SCALE: 1" = 20'



HALYARD ROAD PROFILE 1



HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



DATE: JAN. 12, 2021	APP'D
DRAWN BY: JIMP	DATE
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REV	DATE
1	4/26/21
JMP	WFM
PER TOWN & PEER REVIEW COMMENTS	DESCRIPTION

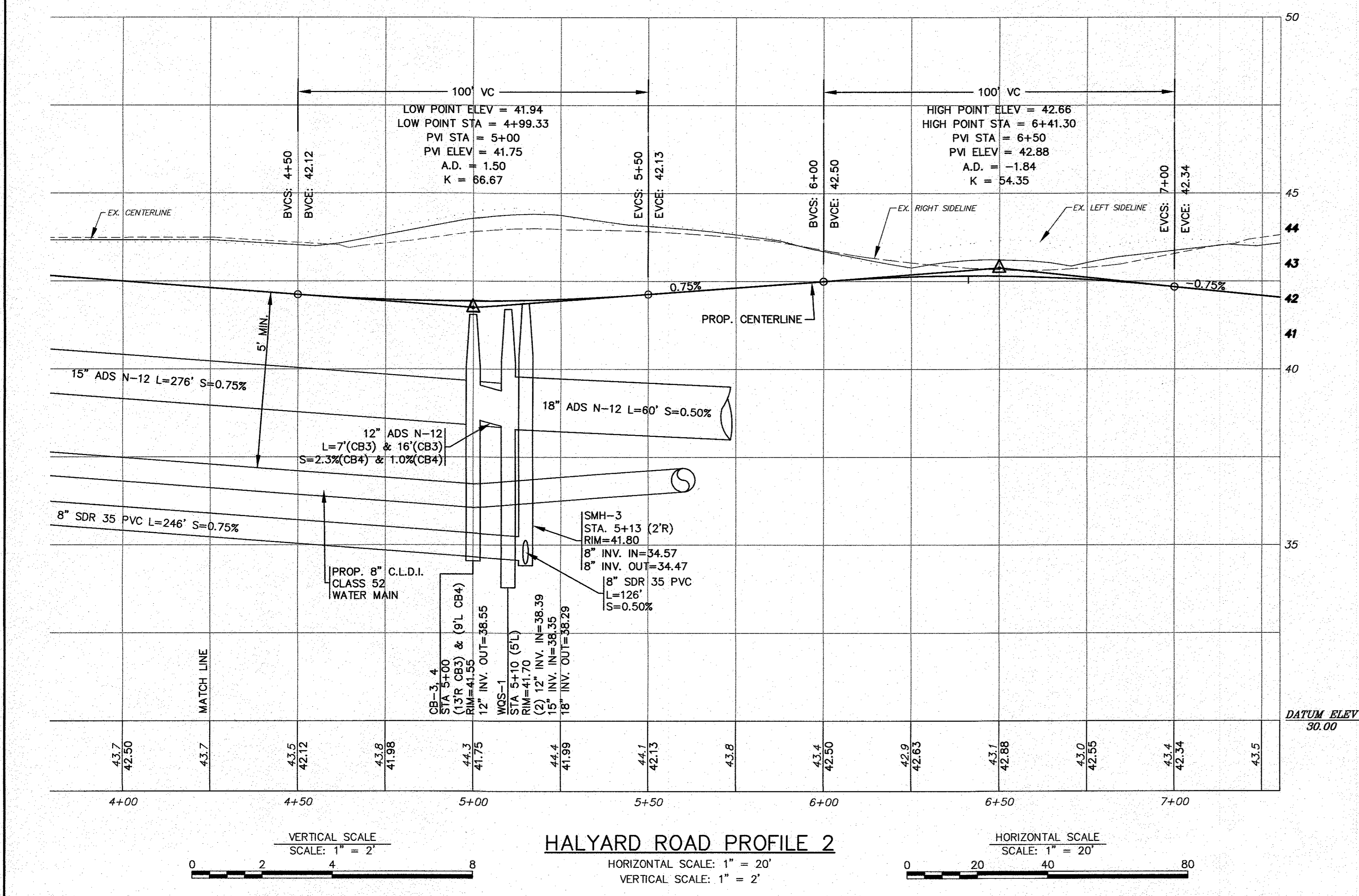
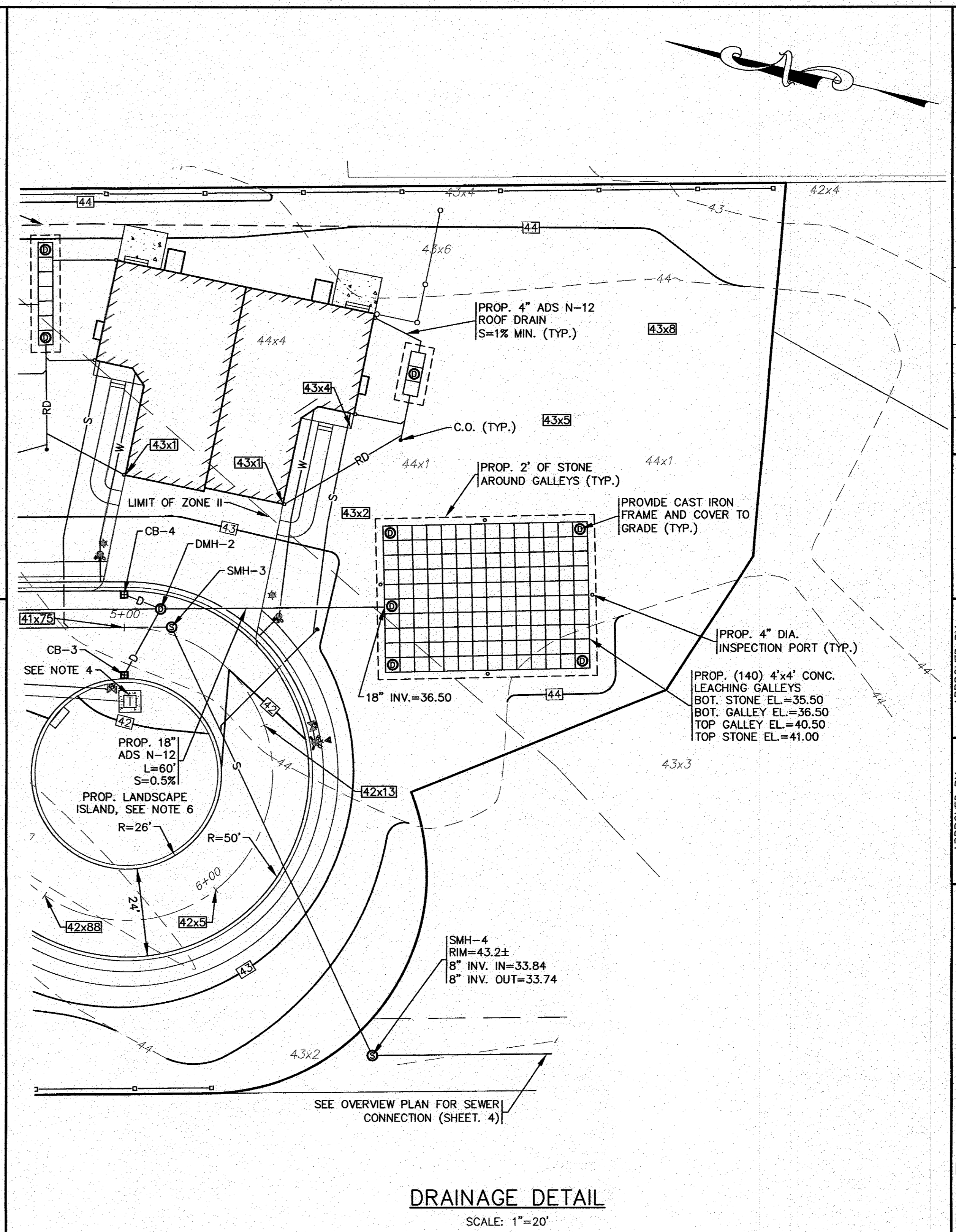
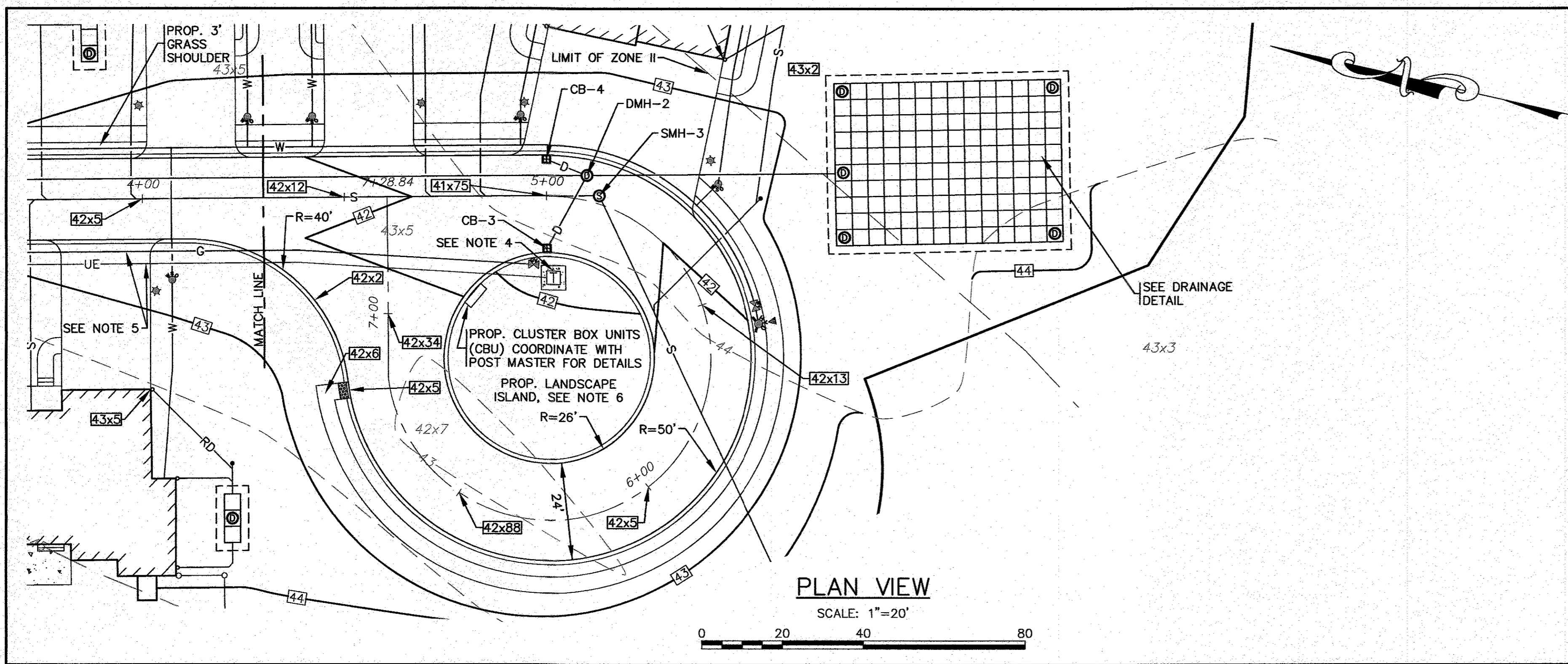
APPROVED BY:

APPROVED BY: *M. H. H. H.*

G.A.F. ENGINEERING, INC.
PROFESSIONAL ENGINEERS & LAND SURVEYORS
286 MAIN STREET - WARREN, MA 02571
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E-MAIL: gaf@gaf-eng.com

"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN & ROADWAY PROFILE SHEET-1
RED BROOK ROAD
PREPARED FOR:
TGCI ENNACA, LLC
1266 FURNACE BROOK PARKWAY
QUINCY, MA

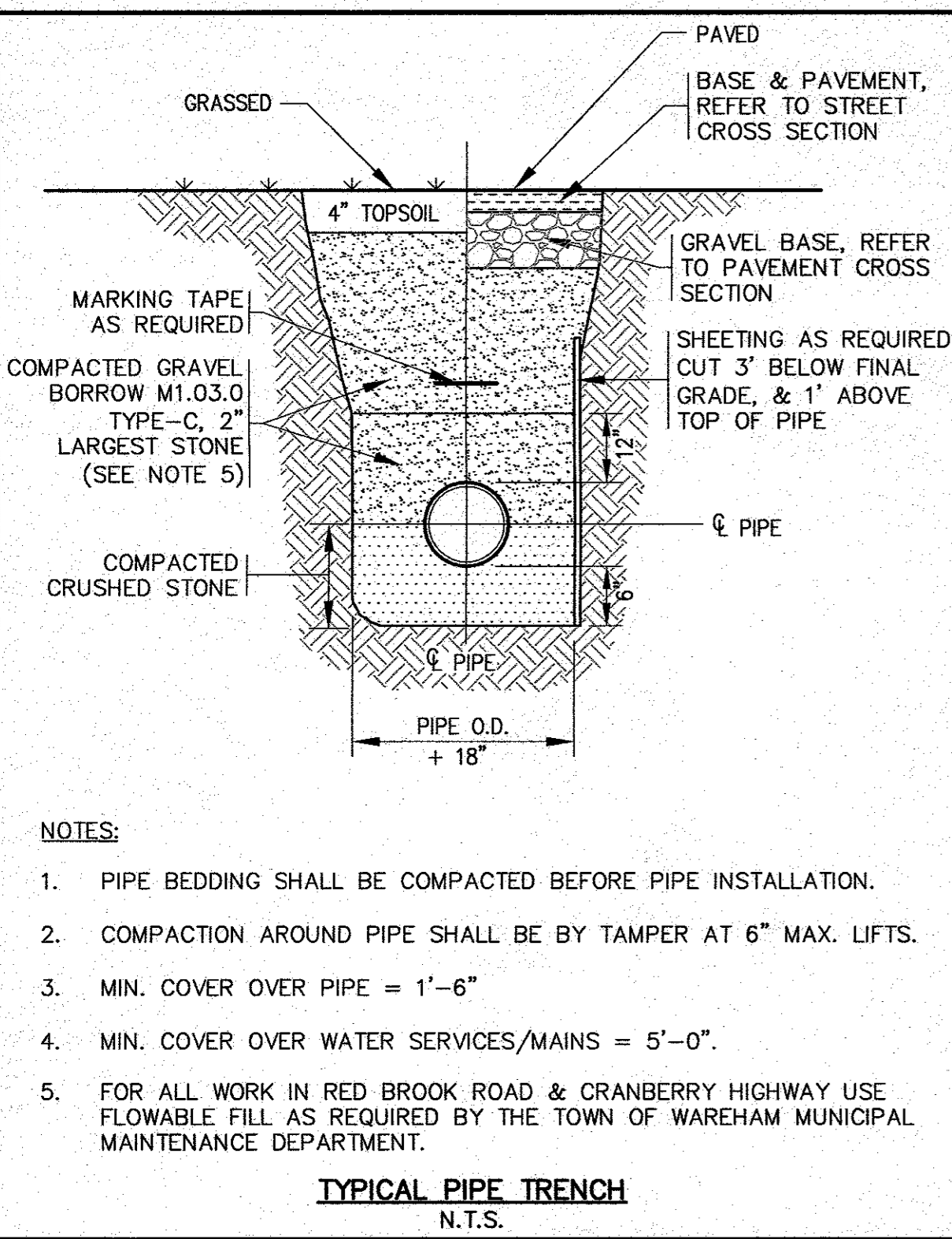
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NOTES:

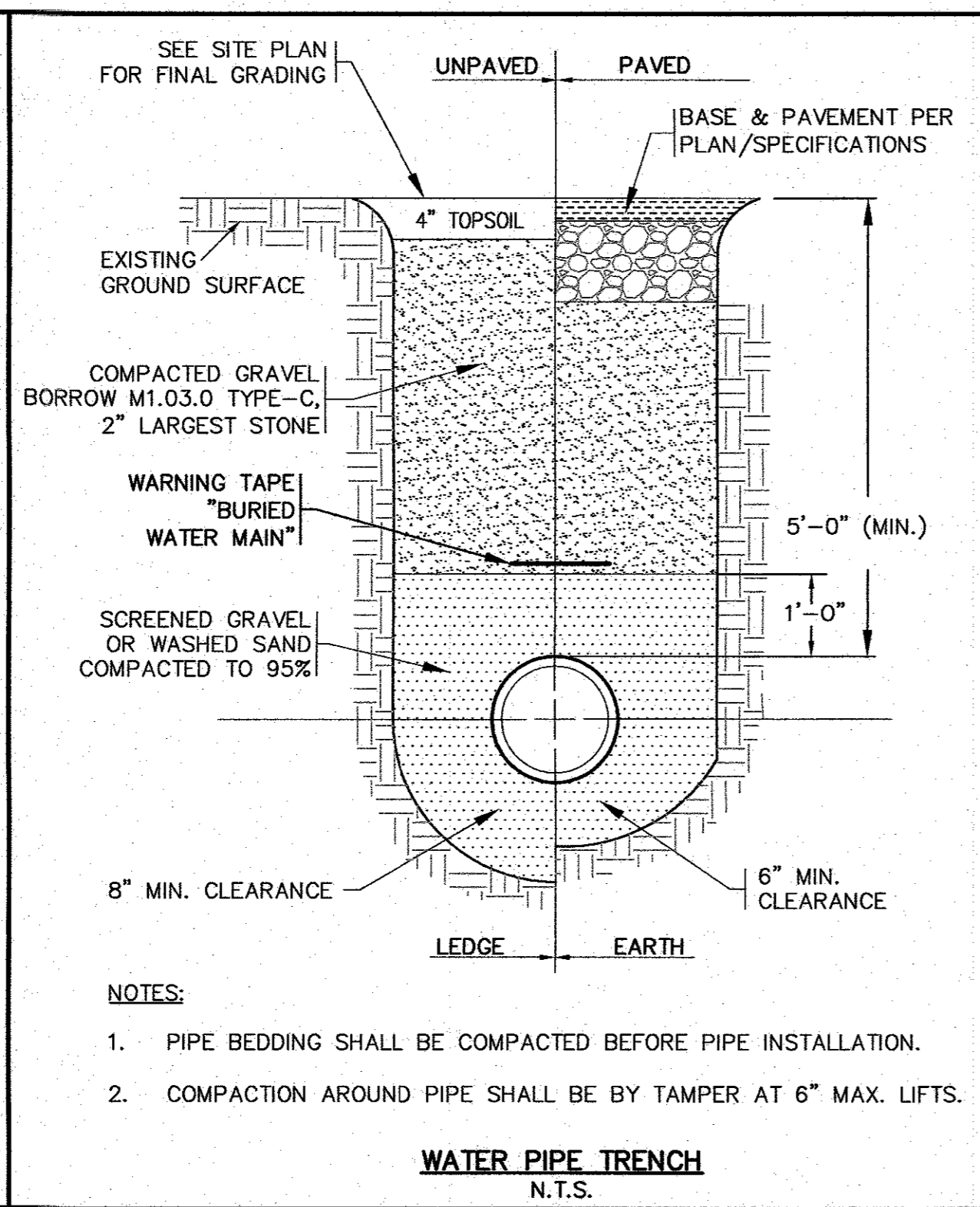
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- FINAL LOCATIONS, DEPTHS AND CONSTRUCTION OF UNDERGROUND ELECTRIC AND GAS SERVICES SHALL BE DETERMINED BY THEIR RESPECTIVE UTILITIES COMPANY.
- REFER TO LANDSCAPE PLANS PREPARED BY OTHERS FOR ALL PROPOSED PLANTING LOCATIONS, DETAILS AND SPECIFICATIONS.

DATE: JAN. 12, 2021	DRAWN BY: JMP	CHECKED BY: WFM	JOB NO.: 18-9247	SCALE: 1" = 20'
APPROVED BY:				
G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 286 MAIN STREET WAREHAM, MA 02571 TEL: (508) 298-6600 FAX: (508) 295-6654 WWW.GAF-ENG.COM				
"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN PLAN & ROADWAY PROFILE SHEET-2 RED BROOK ROAD WAREHAM, MA PREPARED FOR: TGCI EMINACA, LLC 1266 FURNACE BROOK PARKWAY QUINCY, MA				
JOB NO.: 18-9247				PER TOWN & PEER REVIEW COMMENTS
DATE: 4/26/21				BY: JWP
REV: 1				APP'D:



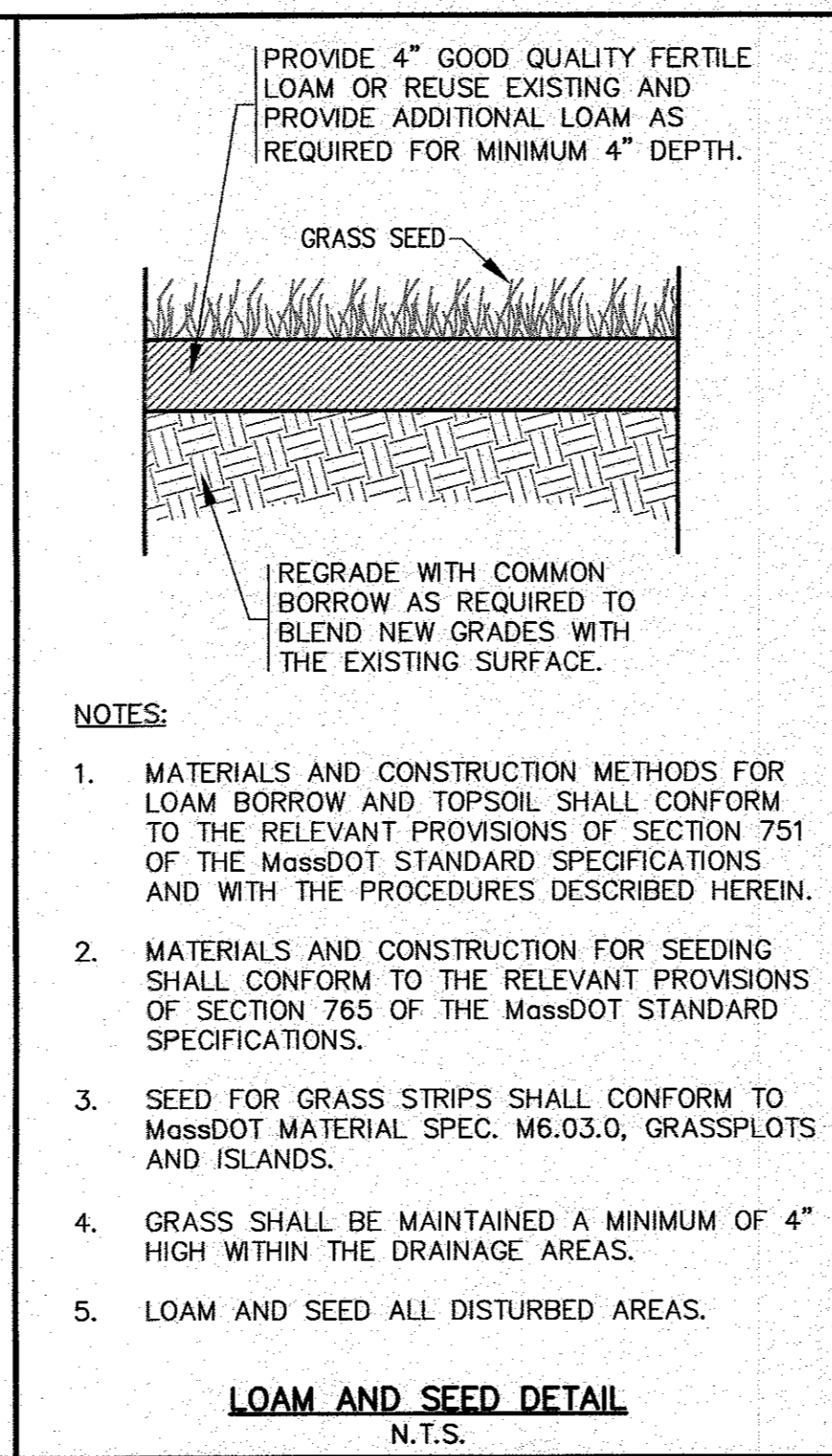
- NOTES:**
- PIPE BEDDING SHALL BE COMPACTED BEFORE PIPE INSTALLATION.
 - COMPACTION AROUND PIPE SHALL BE BY TAMPER AT 6" MAX. LIFTS.
 - MIN. COVER OVER PIPE = 1'-6"
 - MIN. COVER OVER WATER SERVICES/MAINS = 5'-0"
 - FOR ALL WORK IN RED BROOK ROAD & CRANBERRY HIGHWAY USE FLOWABLE FILL AS REQUIRED BY THE TOWN OF WAREHAM MUNICIPAL MAINTENANCE DEPARTMENT.

TYPICAL PIPE TRENCH
N.T.S.



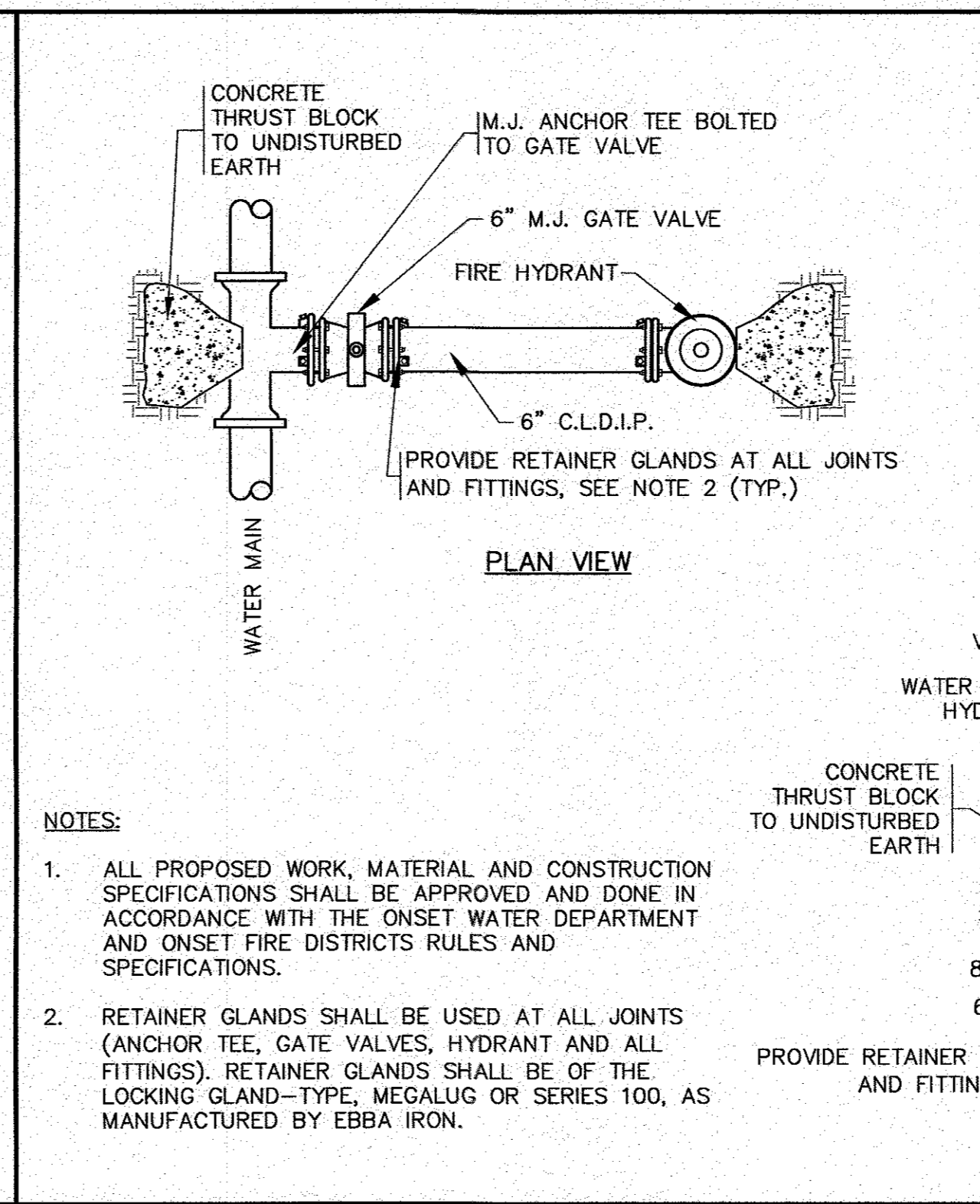
- NOTES:**
- PIPE BEDDING SHALL BE COMPACTED BEFORE PIPE INSTALLATION.
 - COMPACTION AROUND PIPE SHALL BE BY TAMPER AT 6" MAX. LIFTS.

WATER PIPE TRENCH
N.T.S.

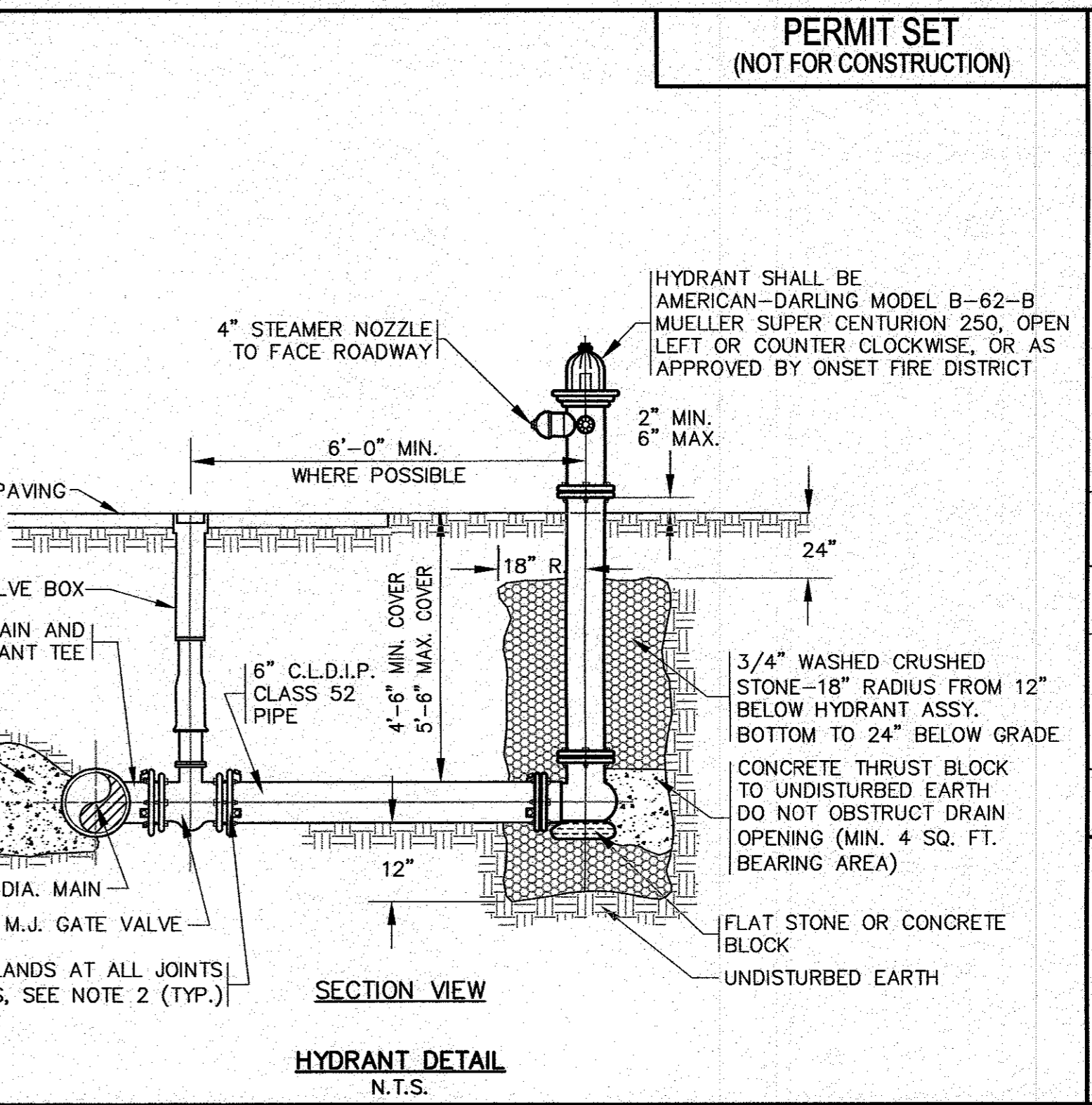


- NOTES:**
- MATERIALS AND CONSTRUCTION METHODS FOR LOAM BORROW AND TOPSOIL SHALL CONFORM TO THE RELEVANT PROVISIONS OF SECTION 751 OF THE MASSDOT STANDARD SPECIFICATIONS AND WITH THE PROCEDURES DESCRIBED HEREIN.
 - MATERIALS AND CONSTRUCTION FOR SEEDING SHALL CONFORM TO THE RELEVANT PROVISIONS OF SECTION 765 OF THE MASSDOT STANDARD SPECIFICATIONS.
 - SEED FOR GRASS STRIPS SHALL CONFORM TO MASSDOT MATERIAL SPEC. M6.03.0, GRASSPLOTS AND ISLANDS.
 - GRASS SHALL BE MAINTAINED A MINIMUM OF 4" HIGH WITHIN THE DRAINAGE AREAS.
 - LOAM AND SEED ALL DISTURBED AREAS.

LOAM AND SEED DETAIL
N.T.S.



- NOTES:**
- ALL PROPOSED WORK, MATERIAL AND CONSTRUCTION SPECIFICATIONS SHALL BE APPROVED AND DONE IN ACCORDANCE WITH THE ONSET WATER DEPARTMENT AND ONSET FIRE DISTRICTS RULES AND SPECIFICATIONS.
 - RETAINER GLANDS SHALL BE USED AT ALL JOINTS (ANCHOR TEE, GATE VALVES, HYDRANT AND ALL FITTINGS). RETAINER GLANDS SHALL BE OF THE LOCKING GLAND-TYPE, MEGALUG OR SERIES 100, AS MANUFACTURED BY EBBA IRON.

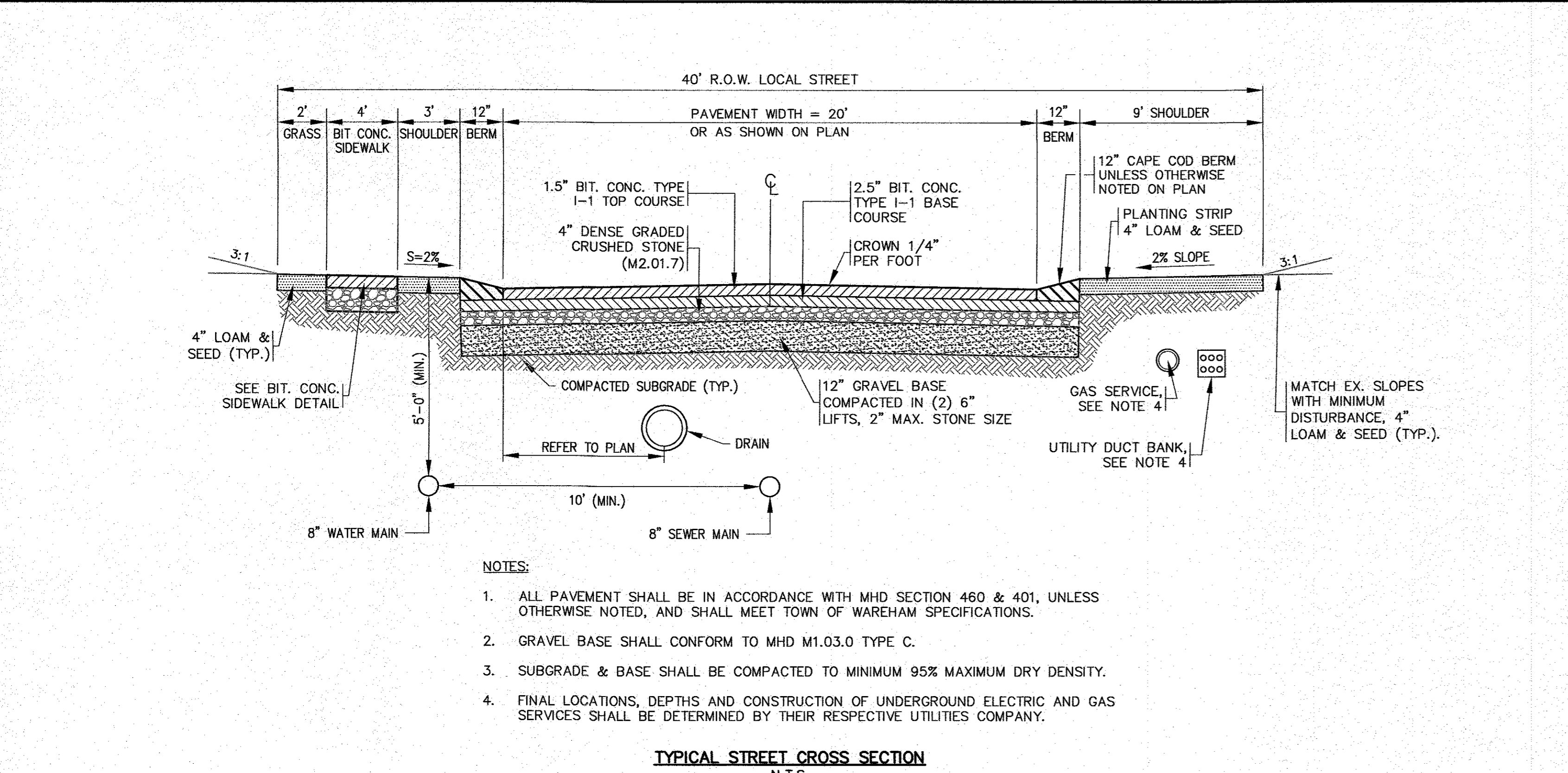


- NOTES:**
- HYDRANT SHALL BE AMERICAN-DARLING MODEL B-62-B MUELLER SUPER CENTURION 250, OPEN LEFT OR COUNTER CLOCKWISE, OR AS APPROVED BY ONSET FIRE DISTRICT

HYDRANT DETAIL
N.T.S.

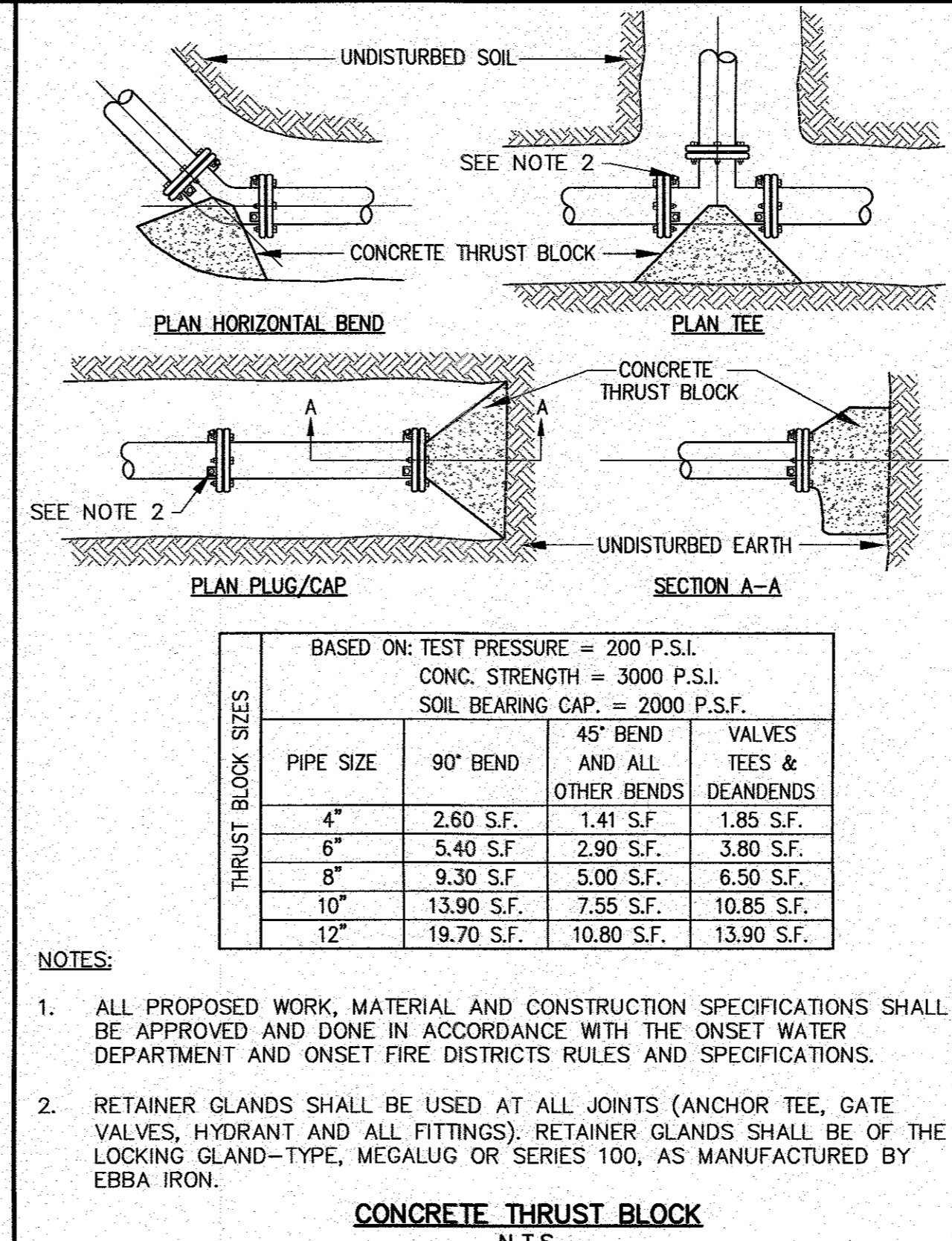
PERMIT SET
(NOT FOR CONSTRUCTION)

DATE	BY	DESCRIPTION
JAN. 12, 2021	JMP	DRAWN BY
	WFM	CHECKED BY
	JMP	JOB NO. 18-9247
	N.T.S.	SCALE
		REV. DATE
		PER TOWN & PEER REVIEW COMMENTS
		WFM
		JMP
		BY APP'D



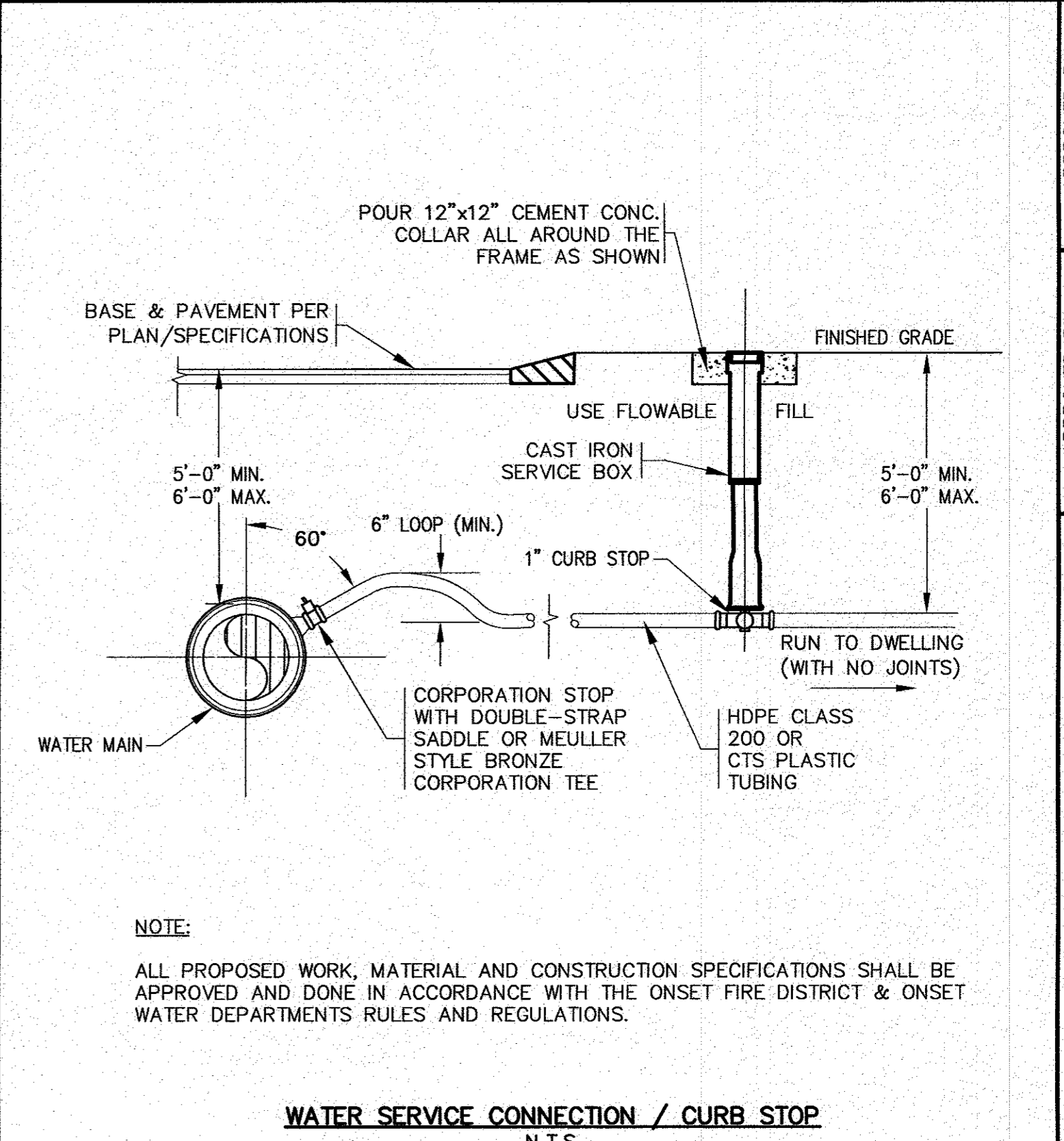
- NOTES:**
- ALL PAVEMENT SHALL BE IN ACCORDANCE WITH MHD SECTION 460 & 401, UNLESS OTHERWISE NOTED, AND SHALL MEET TOWN OF WAREHAM SPECIFICATIONS.
 - GRAVEL BASE SHALL CONFORM TO MHD M1.03.0 TYPE C.
 - SUBGRADE & BASE SHALL BE COMPACTED TO MINIMUM 95% MAXIMUM DRY DENSITY.
 - FINAL LOCATIONS, DEPTHS AND CONSTRUCTION OF UNDERGROUND ELECTRIC AND GAS SERVICES SHALL BE DETERMINED BY THEIR RESPECTIVE UTILITIES COMPANY.

TYPICAL STREET CROSS SECTION
N.T.S.



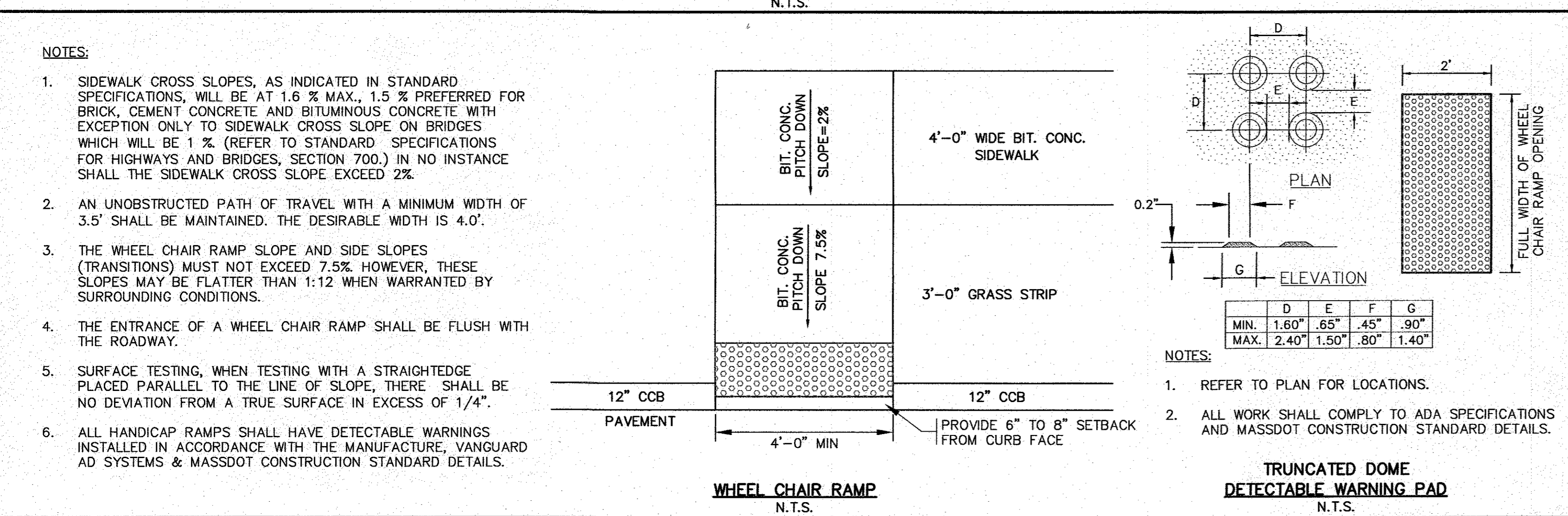
- NOTES:**
- ALL PROPOSED WORK, MATERIAL AND CONSTRUCTION SPECIFICATIONS SHALL BE APPROVED AND DONE IN ACCORDANCE WITH THE ONSET WATER DEPARTMENT AND ONSET FIRE DISTRICTS RULES AND SPECIFICATIONS.
 - RETAINER GLANDS SHALL BE USED AT ALL JOINTS (ANCHOR TEE, GATE VALVES, HYDRANT AND ALL FITTINGS). RETAINER GLANDS SHALL BE OF THE LOCKING GLAND-TYPE, MEGALUG OR SERIES 100, AS MANUFACTURED BY EBBA IRON.

CONCRETE THRUST BLOCK
N.T.S.



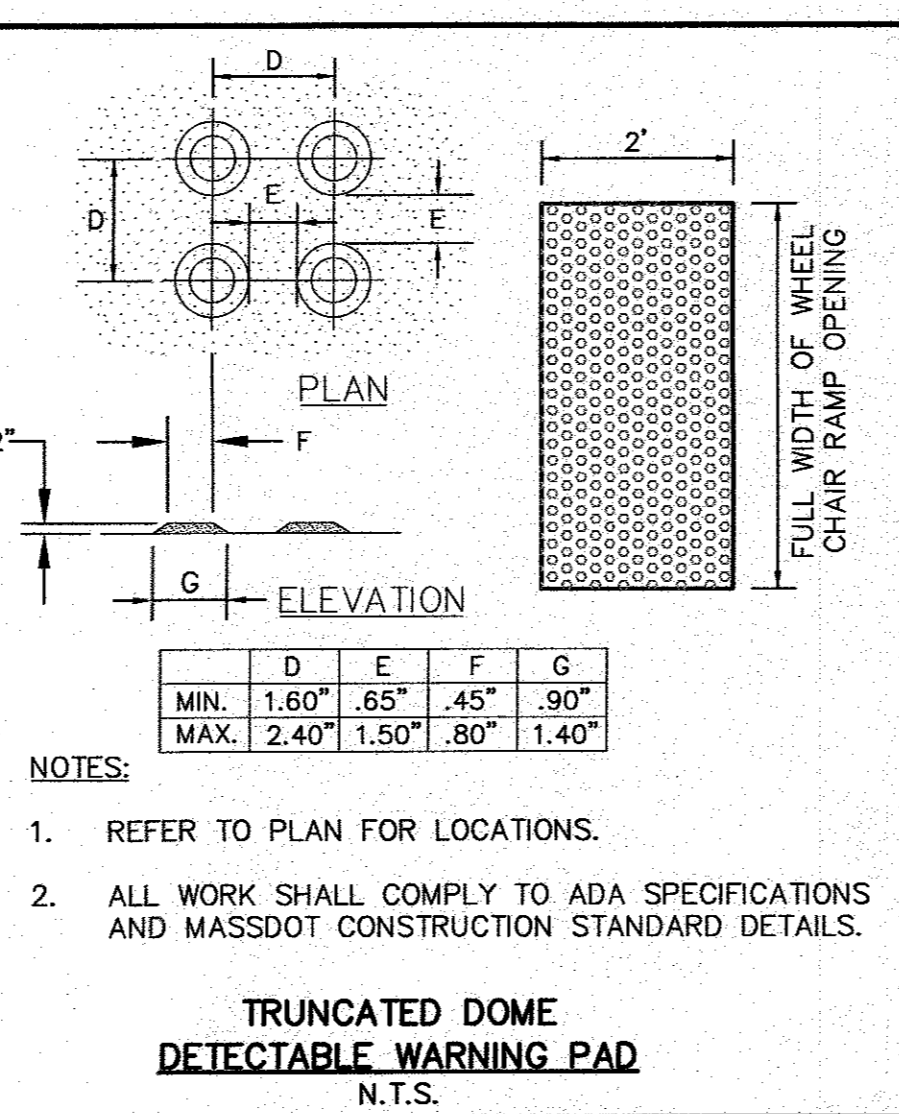
- NOTE:**
- ALL PROPOSED WORK, MATERIAL AND CONSTRUCTION SPECIFICATIONS SHALL BE APPROVED AND DONE IN ACCORDANCE WITH THE ONSET FIRE DISTRICT & ONSET WATER DEPARTMENTS RULES AND REGULATIONS.

WATER SERVICE CONNECTION / CURB STOP
N.T.S.



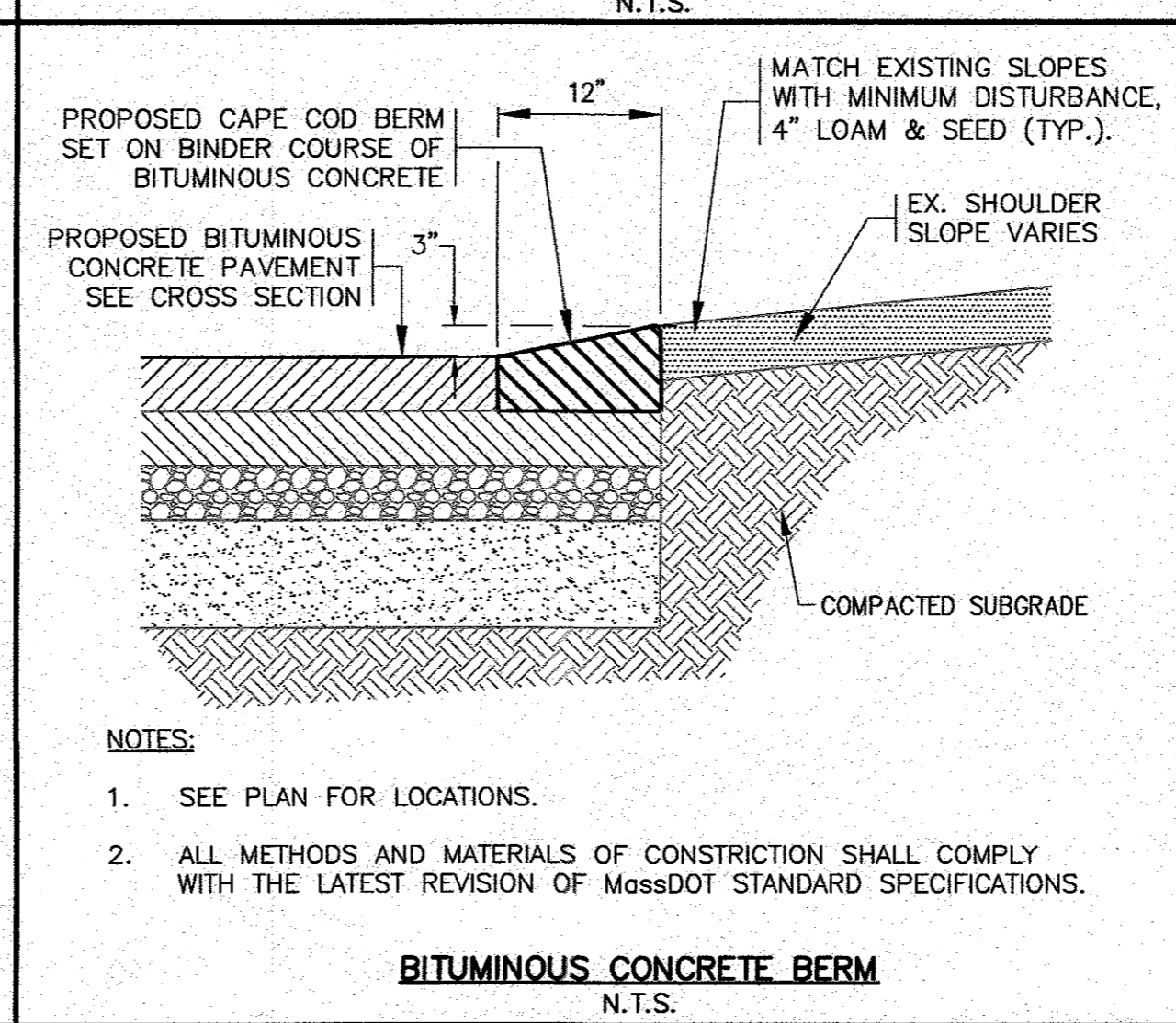
- NOTES:**
- SIDEWALK CROSS SLOPES, AS INDICATED IN STANDARD SPECIFICATIONS, WILL BE AT 1.6% MAX., 1.5% PREFERRED FOR BRICK, CEMENT CONCRETE AND BITUMINOUS CONCRETE WITH EXCEPTION ONLY TO SIDEWALK SLOPE ON BRIDGES WHICH WILL BE 1% (REFER TO STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, SECTION 700.) IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 2%.
 - AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3.5' SHALL BE MAINTAINED. THE DESIRABLE WIDTH IS 4.0'.
 - THE WHEEL CHAIR RAMP SLOPE AND SIDE SLOPES (TRANSITIONS) MUST NOT EXCEED 7.5% HOWEVER, THESE SLOPES MAY BE FLATTER THAN 1:12 WHEN WARRANTED BY SURROUNDING CONDITIONS.
 - THE ENTRANCE OF A WHEEL CHAIR RAMP SHALL BE FLUSH WITH THE ROADWAY.
 - SURFACE TESTING, WHEN TESTING WITH A STRAIGHTEDGE PLACED PARALLEL TO THE LINE OF SLOPE, THERE SHALL BE NO DEVIATION FROM A TRUE SURFACE IN EXCESS OF 1/4".
 - ALL HANDICAP RAMPS SHALL HAVE DETECTABLE WARNINGS INSTALLED IN ACCORDANCE WITH THE MANUFACTURE, VANGUARD AD SYSTEMS & MASSDOT CONSTRUCTION STANDARD DETAILS.

WHEEL CHAIR RAMP
N.T.S.



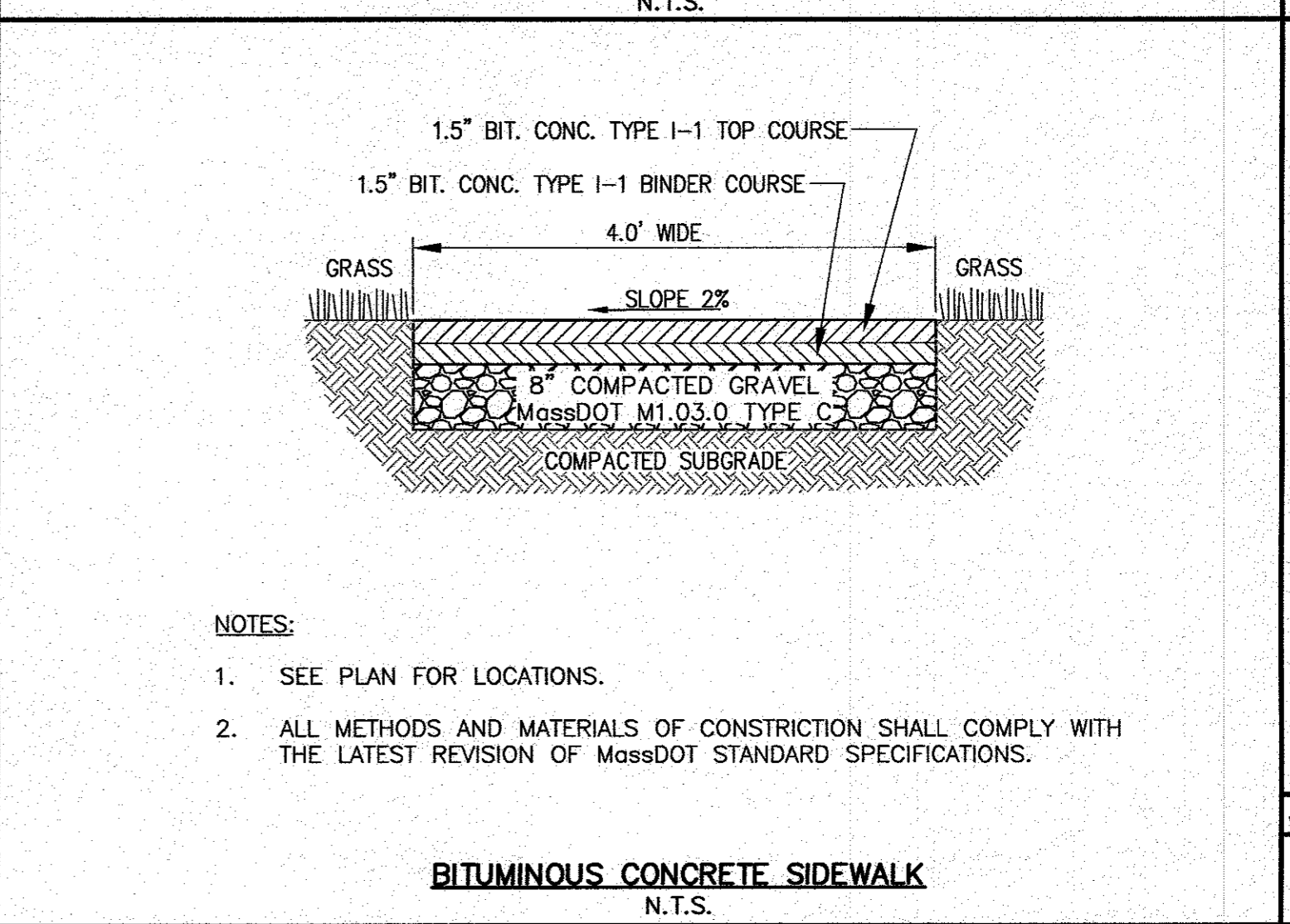
- NOTES:**
- REFER TO PLAN FOR LOCATIONS.
 - ALL WORK SHALL COMPLY TO ADA SPECIFICATIONS AND MASSDOT CONSTRUCTION STANDARD DETAILS.

TRUNCATED DOME DETECTABLE WARNING PAD
N.T.S.



- NOTES:**
- SEE PLAN FOR LOCATIONS.
 - ALL METHODS AND MATERIALS OF CONSTRUCTION SHALL COMPLY WITH THE LATEST REVISION OF MASSDOT STANDARD SPECIFICATIONS.

BITUMINOUS CONCRETE BERM
N.T.S.



- NOTES:**
- SEE PLAN FOR LOCATIONS.
 - ALL METHODS AND MATERIALS OF CONSTRUCTION SHALL COMPLY WITH THE LATEST REVISION OF MASSDOT STANDARD SPECIFICATIONS.

BITUMINOUS CONCRETE SIDEWALK
N.T.S.

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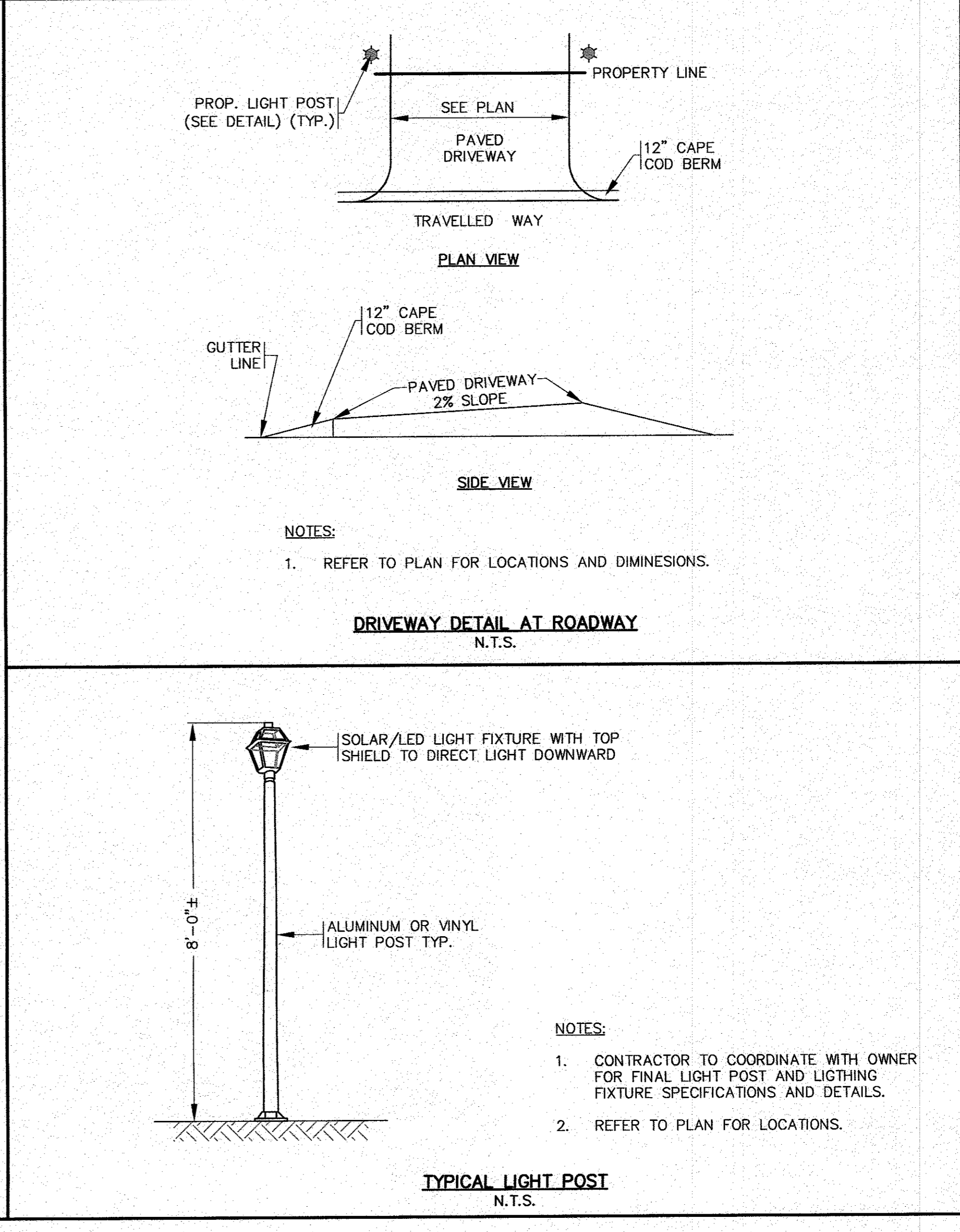
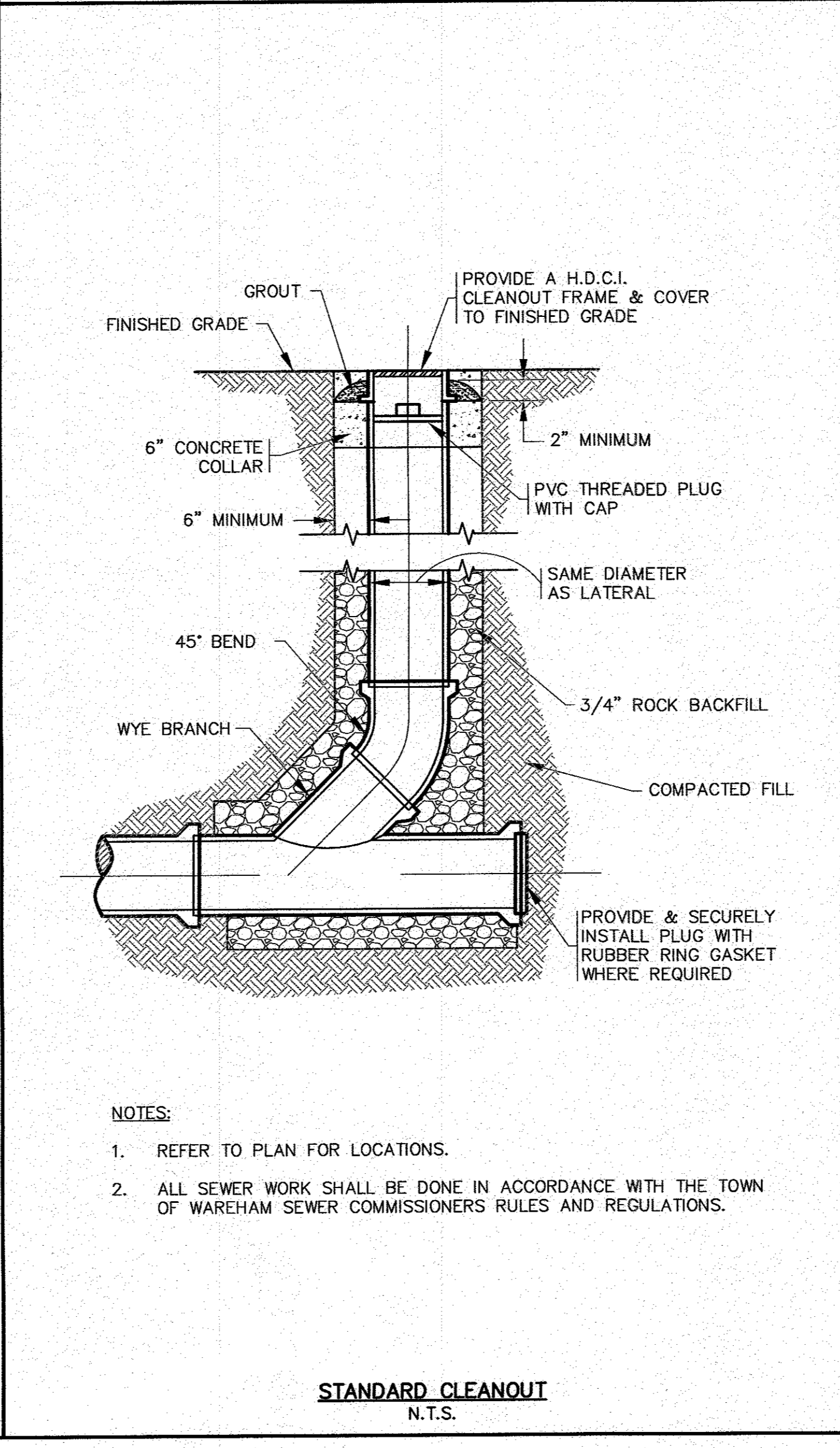
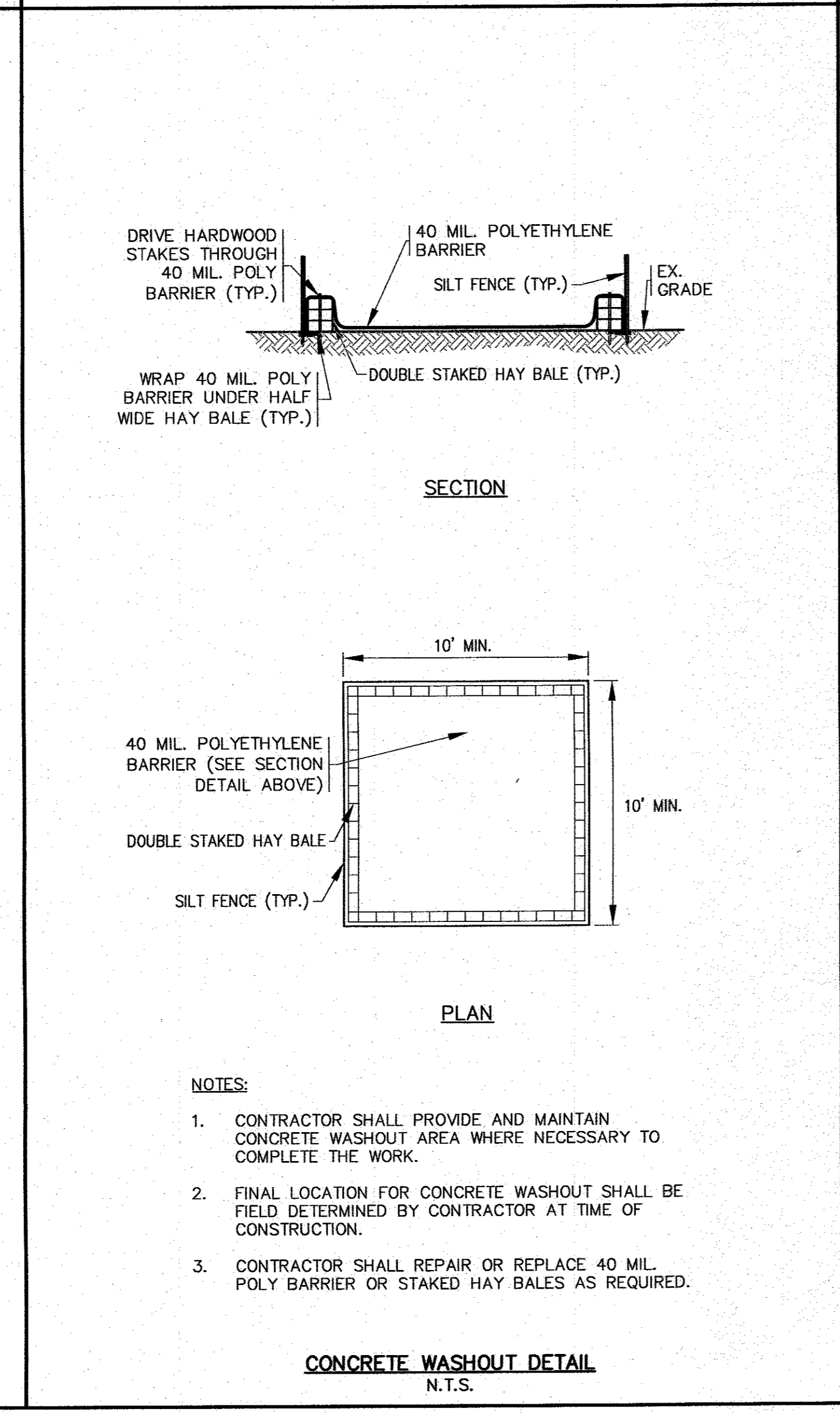
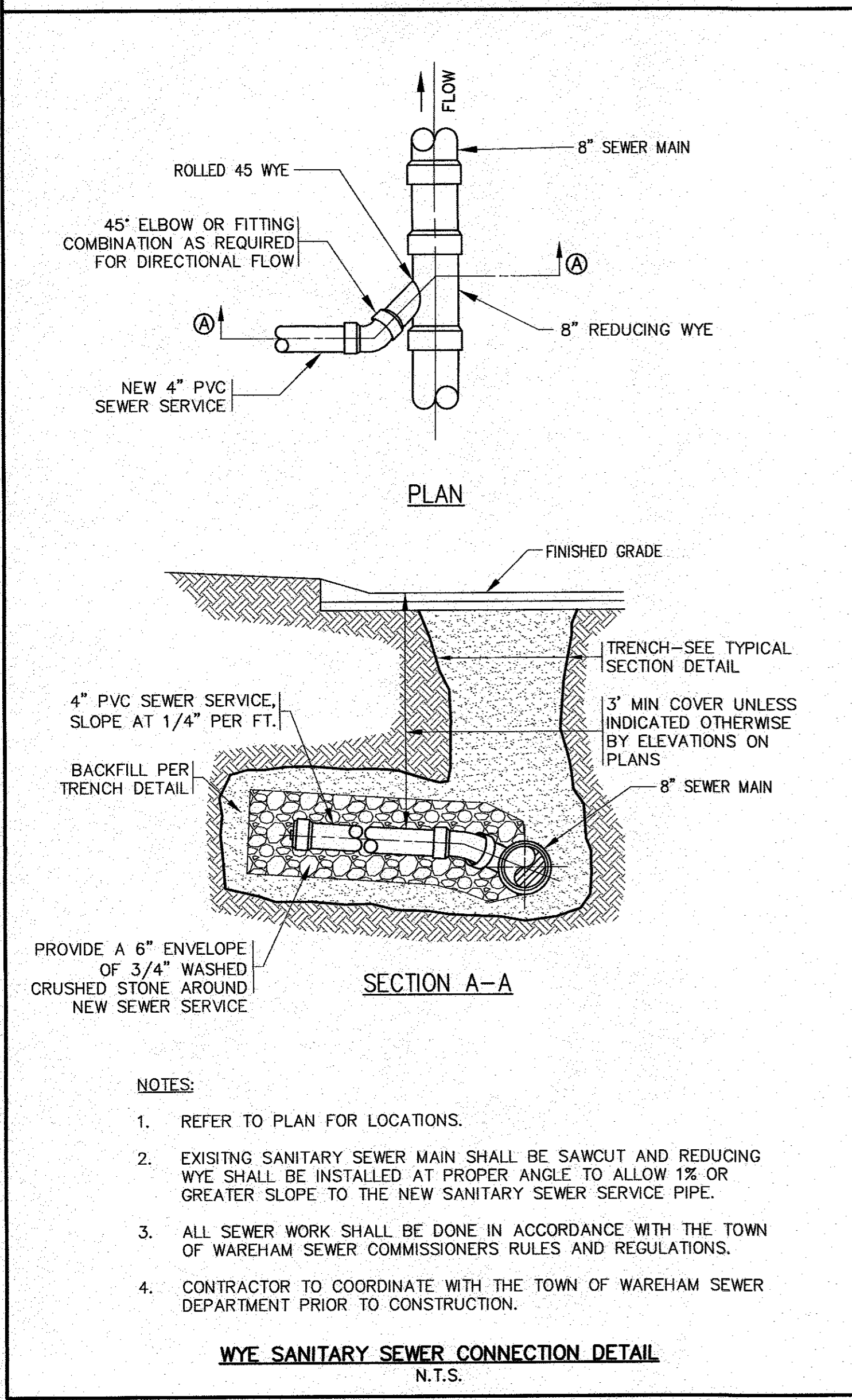
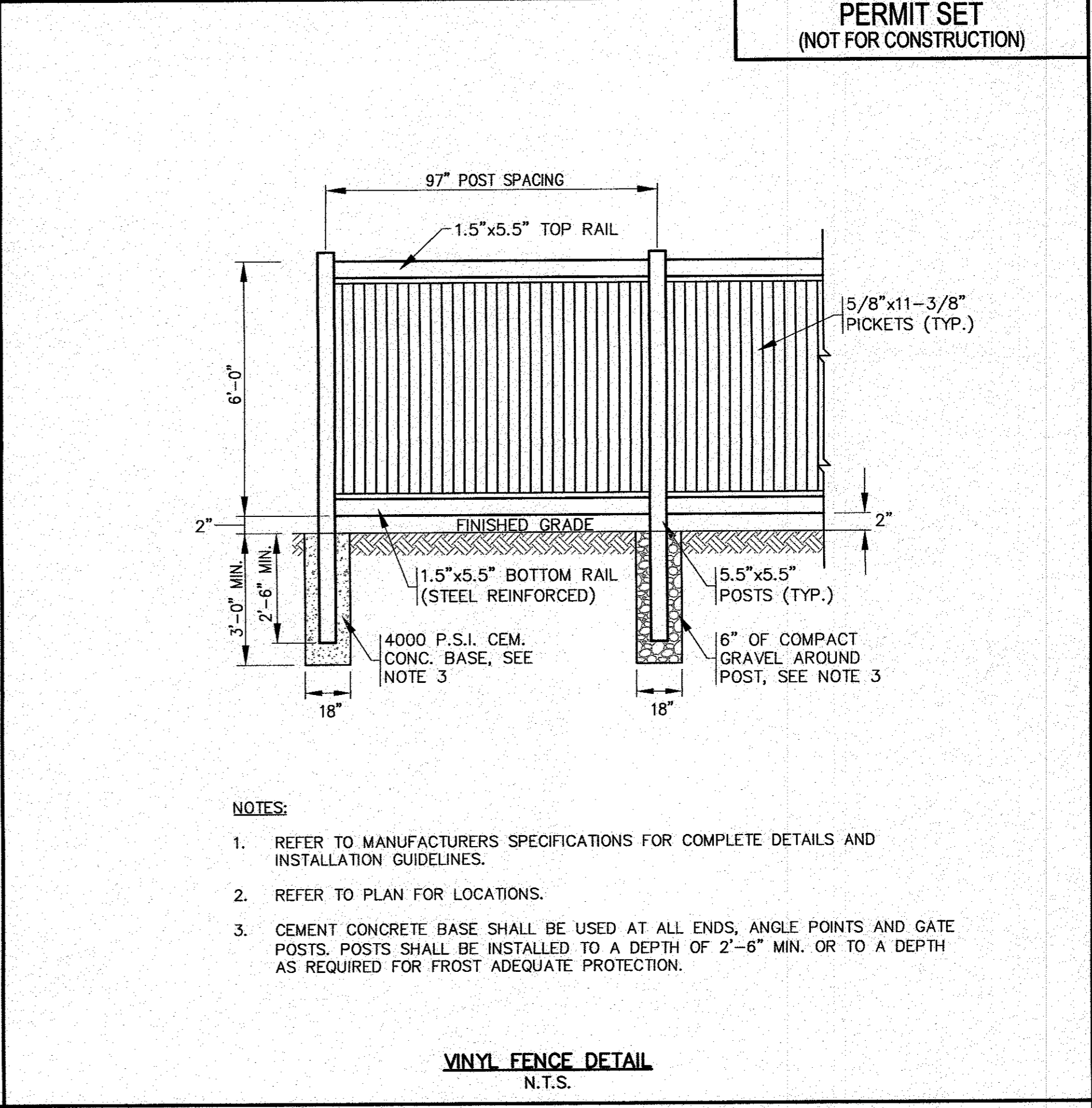
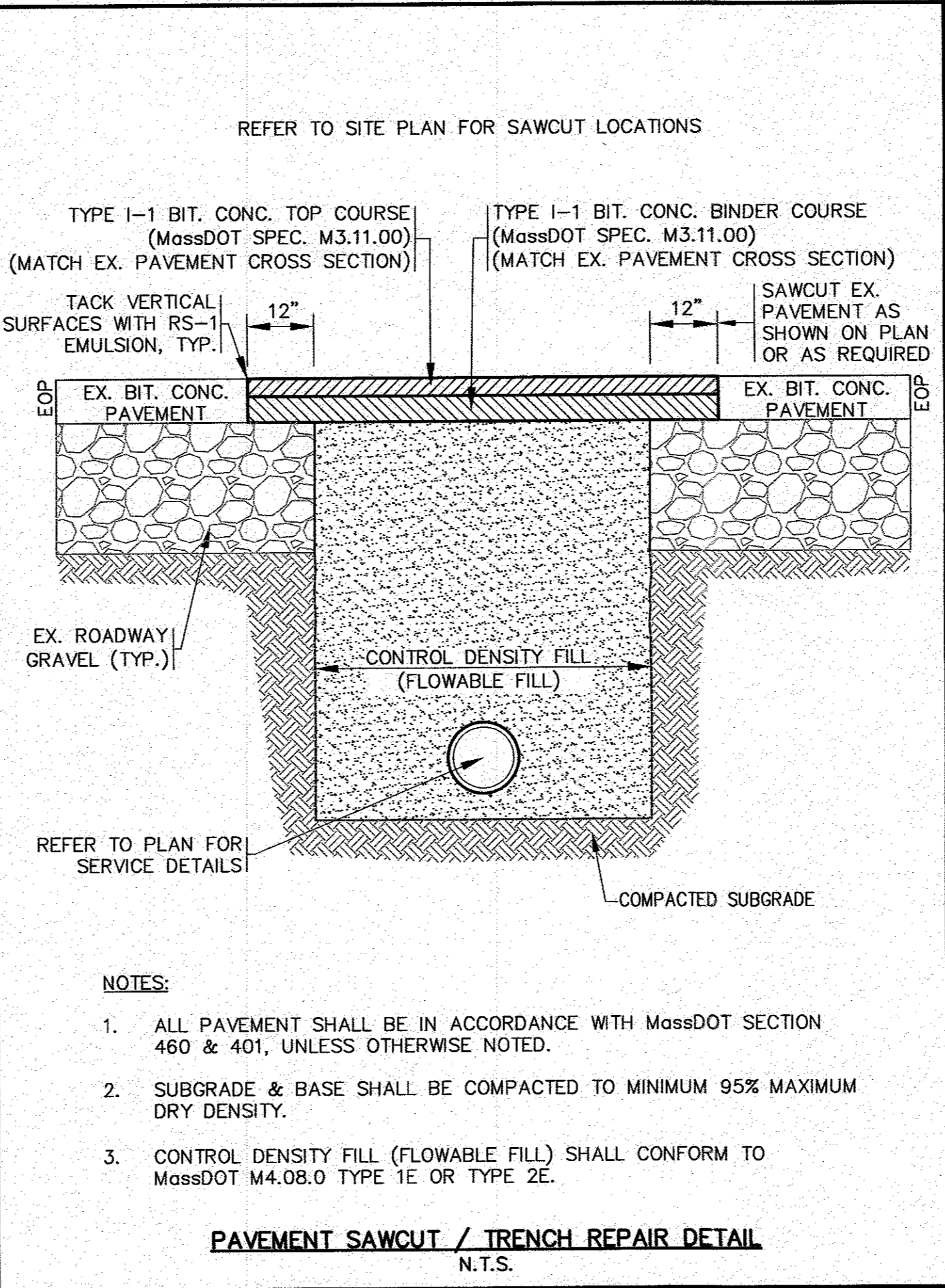
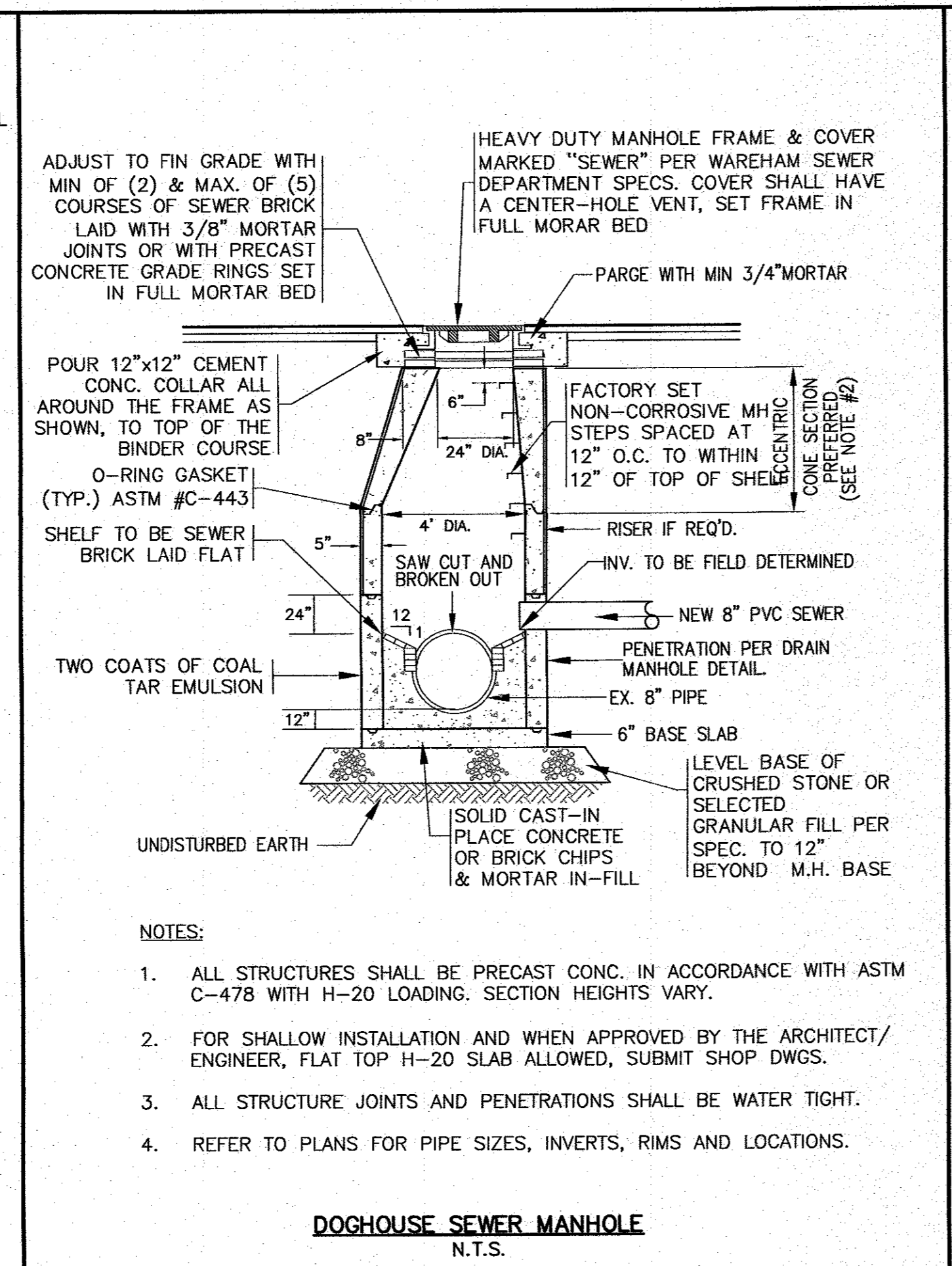
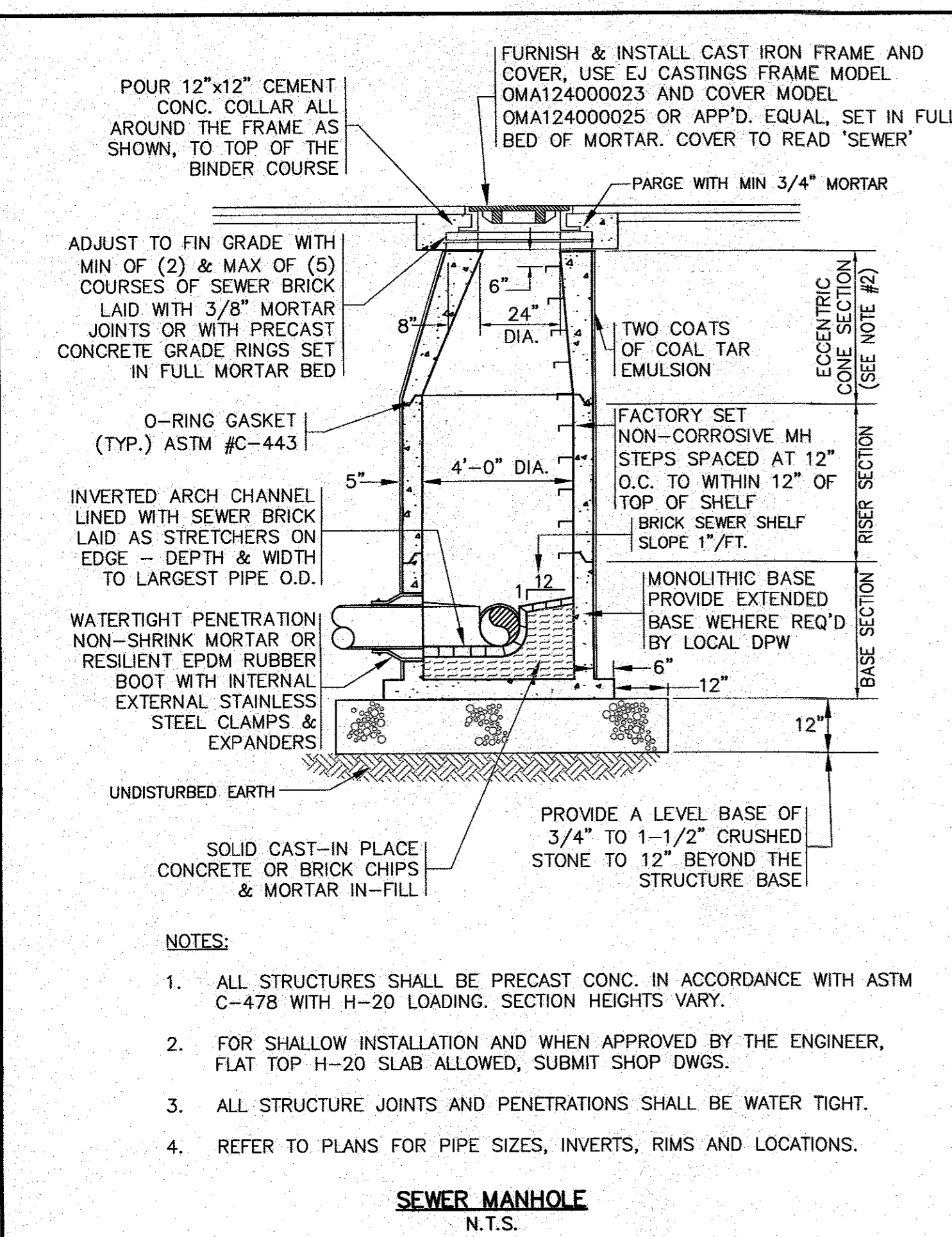
G.A.F. ENGINEERING, INC.
PROFESSIONAL ENGINEERS & LAND SURVEYORS
286 MAIN STREET - WAREHAM, MA 02571
TEL: (508) 295-6600 FAX: (508) 295-6634
E-MAIL: gafe@eng.com

APPROVED BY: [Signature]

"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN
DETAIL SHEET 1
RED BROOK ROAD WAREHAM, MA
PREPARED FOR: TGGI ENNACA, LLC
1266 FURNACE BROOK PARKWAY QUINCY, MA

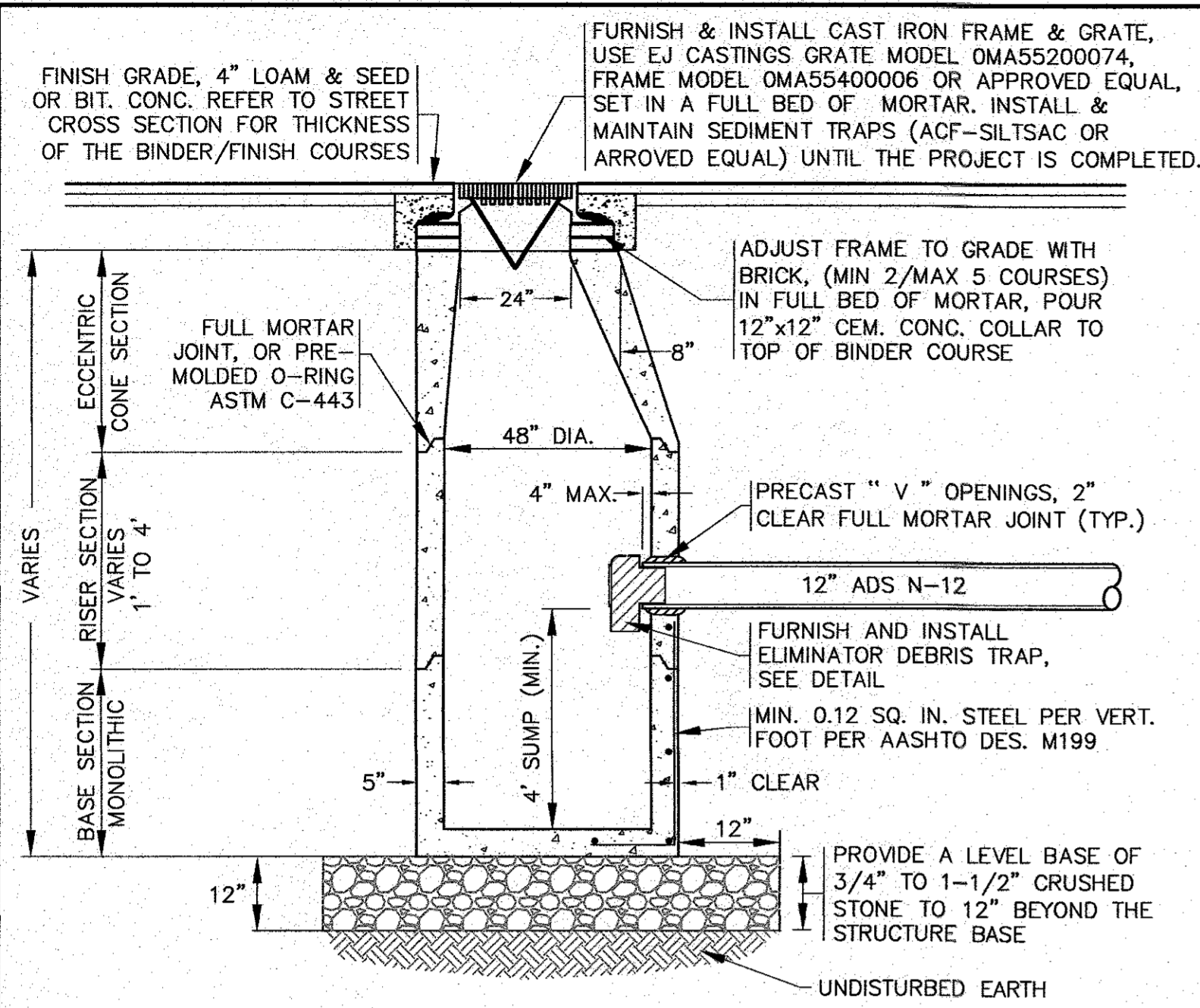
JOB NO.: 18-9247

DWG. 9 OF 11



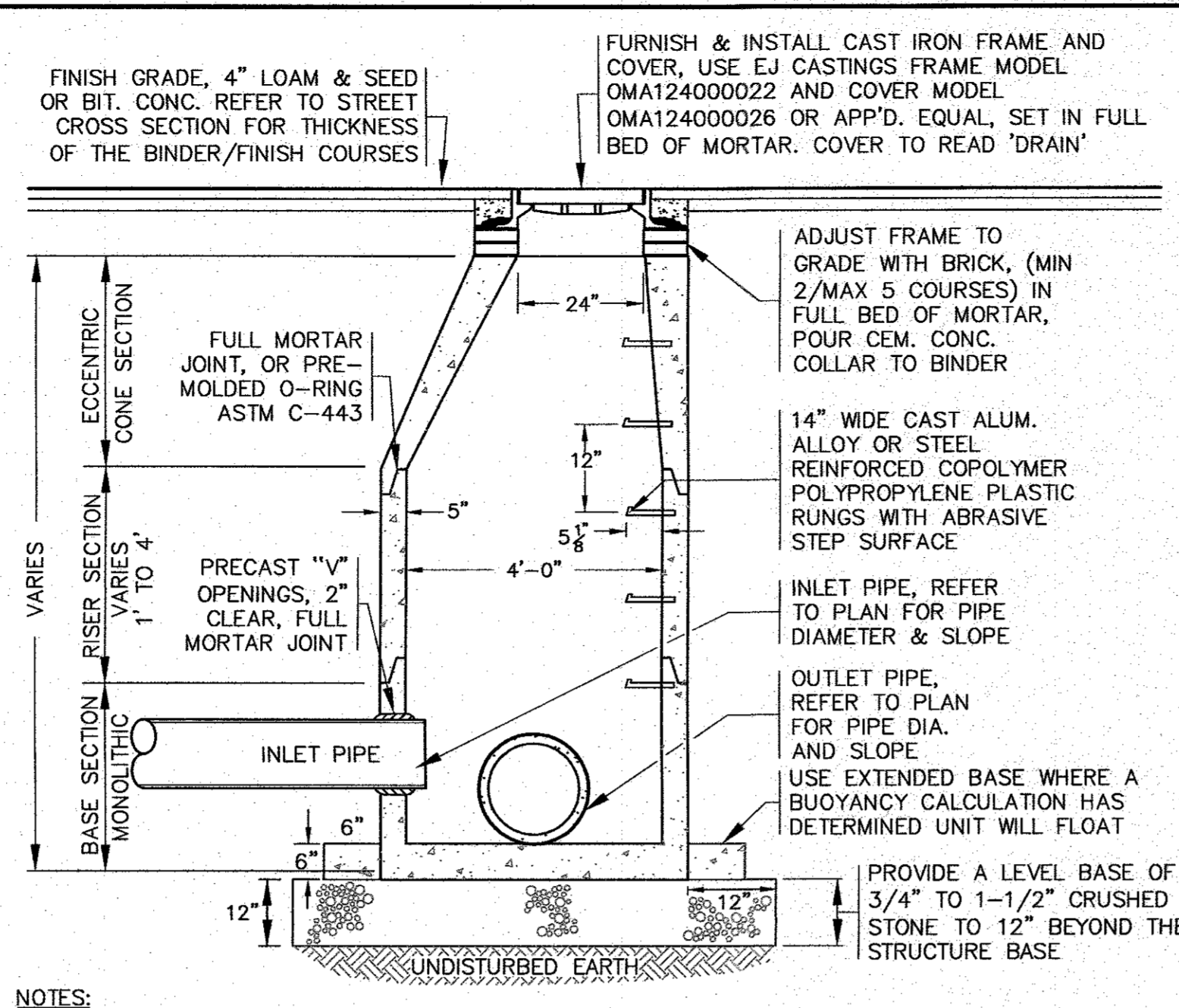
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(NOT FOR CONSTRUCTION)

DATE: JAN. 12, 2021	DATE: 4/26/21	DATE: N.T.S.	DATE: N.T.S.
DRAWN BY: JMP	CHECKED BY: WFM	JOB NO.: 18-9247	SCALE: N.T.S.
APPROVED BY: [Signature]	APPROVED BY: [Signature]	APPROVED BY: [Signature]	APPROVED BY: [Signature]
G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 266 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: gaf@gef-eng.com		"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN DETAIL SHEET 2 RED BROOK ROAD WAREHAM, MA PREPARED FOR: TGC ENNACA, LLC 1266 FURNACE BROOK PARKWAY QUINCY, MA	
DWG. 10 OF 11		JOB NO.: 18-9247	



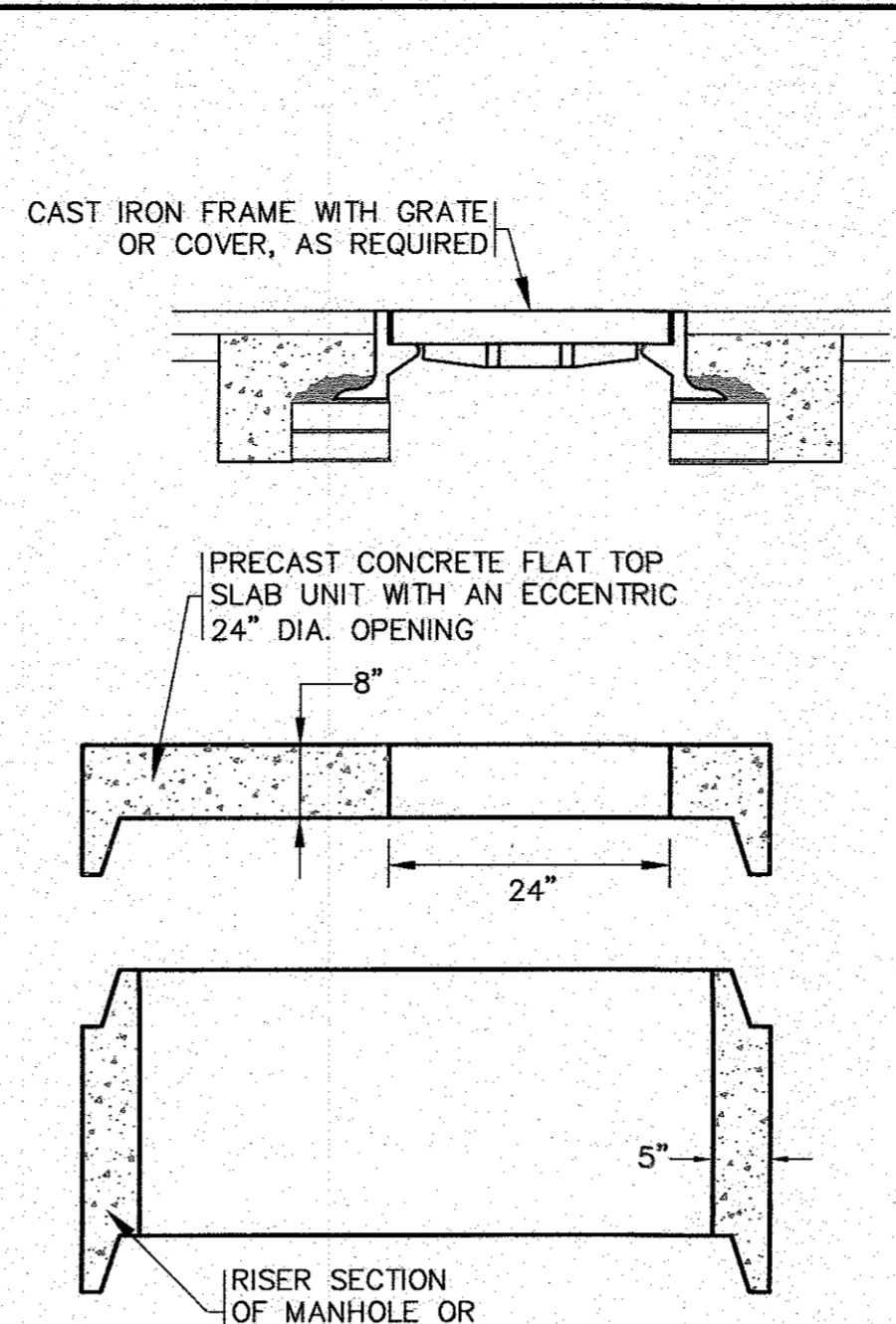
- NOTES:**
- STRUCTURES SHALL BE PRECAST CONCRETE IN ACCORDANCE WITH ASTM C-478, WITH H-20 LOADING, SECTION HEIGHTS VARY. CONCRETE STRENGTH 4000 PSI @ 28 DAYS.
 - FOR SHALLOW INSTALLATION AND WHEN APPROVED BY THE ENGINEER, A FLAT TOP H-20 SLAB WITH A 24" OPENING CAST ECCENTRICALLY MAY BE USED. CONTRACTOR TO SUBMIT SHOP DRAWINGS.
 - ALL STRUCTURE JOINTS AND PENETRATIONS SHALL BE WATER TIGHT.
 - REFER TO PLANS FOR PIPE SIZES, INVERTS, RIMS AND LOCATIONS.

PRECAST CONCRETE CATCH BASIN
N.T.S.



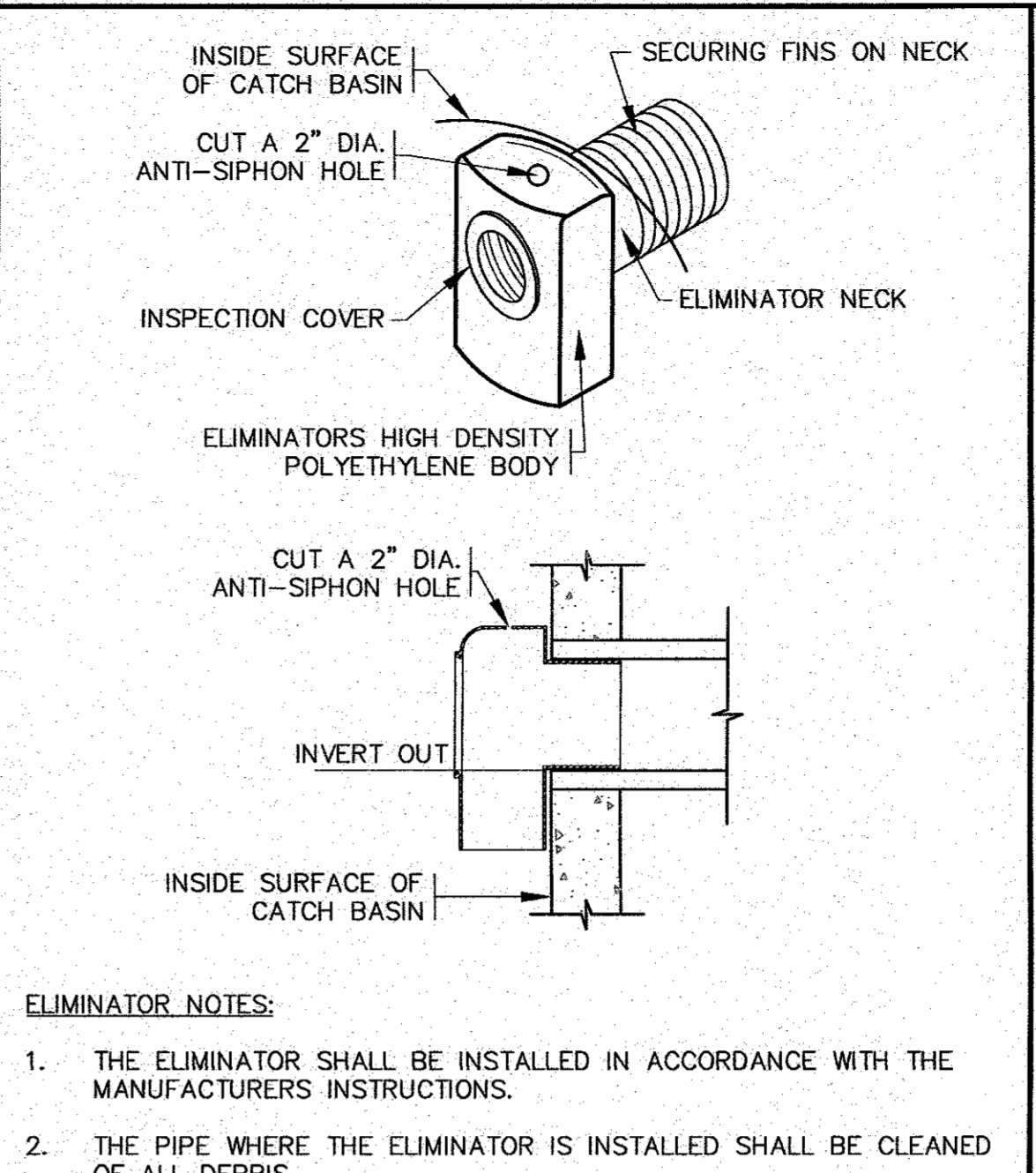
- NOTES:**
- STRUCTURES SHALL BE PRECAST CONCRETE IN ACCORDANCE WITH ASTM C-478, WITH H-20 LOADING, SECTION HEIGHTS VARY. CONCRETE STRENGTH 4000 PSI @ 28 DAYS.
 - FOR SHALLOW INSTALLATION AND WHEN APPROVED BY THE ENGINEER, A FLAT TOP H-20 SLAB WITH A 24" OPENING CAST ECCENTRICALLY MAY BE USED. REFER TO SEPARATE DETAIL HEREON.
 - ALL STRUCTURE JOINTS AND PENETRATIONS SHALL BE WATER TIGHT.
 - REFER TO PLANS FOR PIPE SIZES, INVERTS, RIMS AND LOCATIONS.
 - WHERE REQUIRED PROVIDE "U" SHAPED BRICK INVERT, OR FOR STRAIGHT LINES RUN PIPE THROUGH THE MANHOLE AND CUT THE TOP OF THE PIPE OFF.

PRECAST CONCRETE DRAIN MANHOLE
N.T.S.



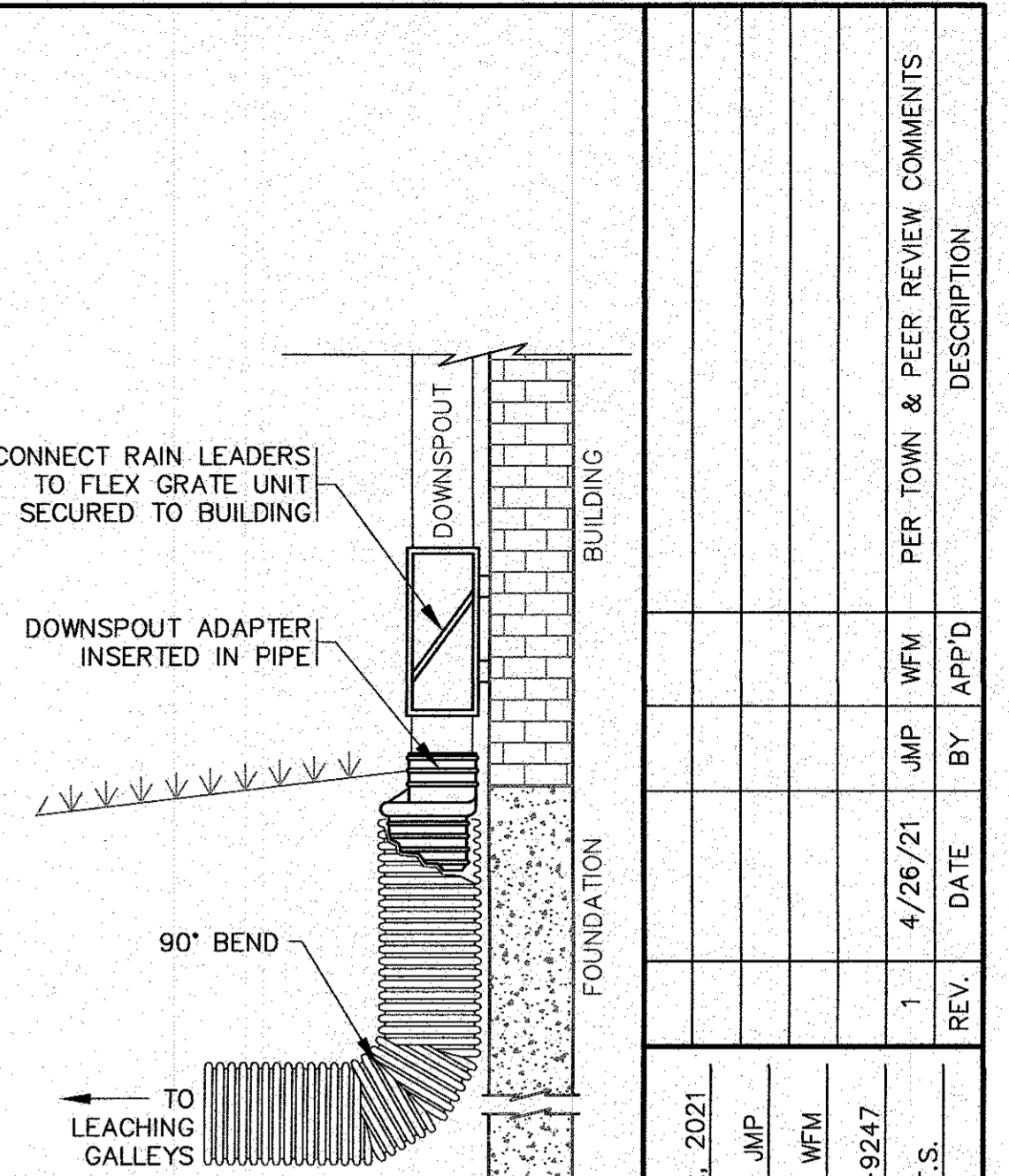
- NOTES:**
- FOR COMPLETE DETAILS REFER TO MANUFACTURER'S SPECIFICATIONS.
 - CONTRACTOR TO SUBMIT SHOP DRAWINGS.

FLAT TOP SLAB
N.T.S.



- ELIMINATOR NOTES:**
- THE ELIMINATOR SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - THE PIPE WHERE THE ELIMINATOR IS INSTALLED SHALL BE CLEANED OF ALL DEBRIS.
 - POSITION THE ELIMINATOR INTO THE OPENING OF THE PIPE, ENSURE THE UNIT IS IN THE UPRIGHT POSITION AND APPLY FORWARD PRESSURE UNTIL THE BACK OF THE UNIT IS FLUSH WITH THE INSIDE WALL OF THE BASIN STRUCTURE.
 - APPLY A LIGHT COATING OF PIPE SOAP TO THE INSPECTION PORT FACE, ALIGN CLEANOUT COVER EARS WITH THE GROOVES IN THE UNIT'S FACE AND TURN CLOCKWISE TO SECURE COVER.
 - HOOD SHALL BE "THE ELIMINATOR" OIL & FLOATING DEBRIS TRAP AS MANUFACTURED BY GROUND WATER RESCUE, INC., QUINCY, MA., TEL. 617-773-1128 ON THE WEB @ WWW.KLEANSTREAM.COM.

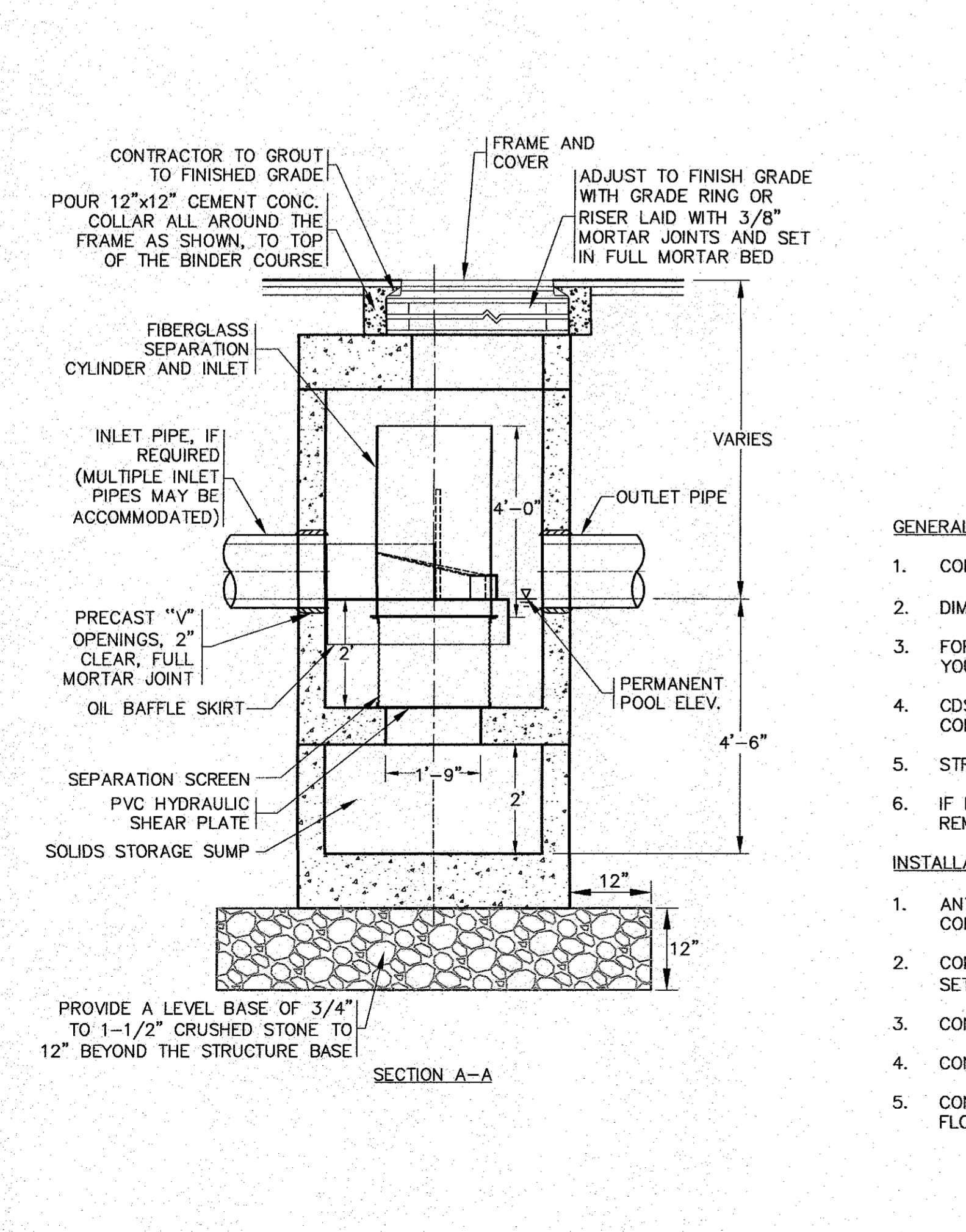
ELIMINATOR DEBRIS TRAP
N.T.S.



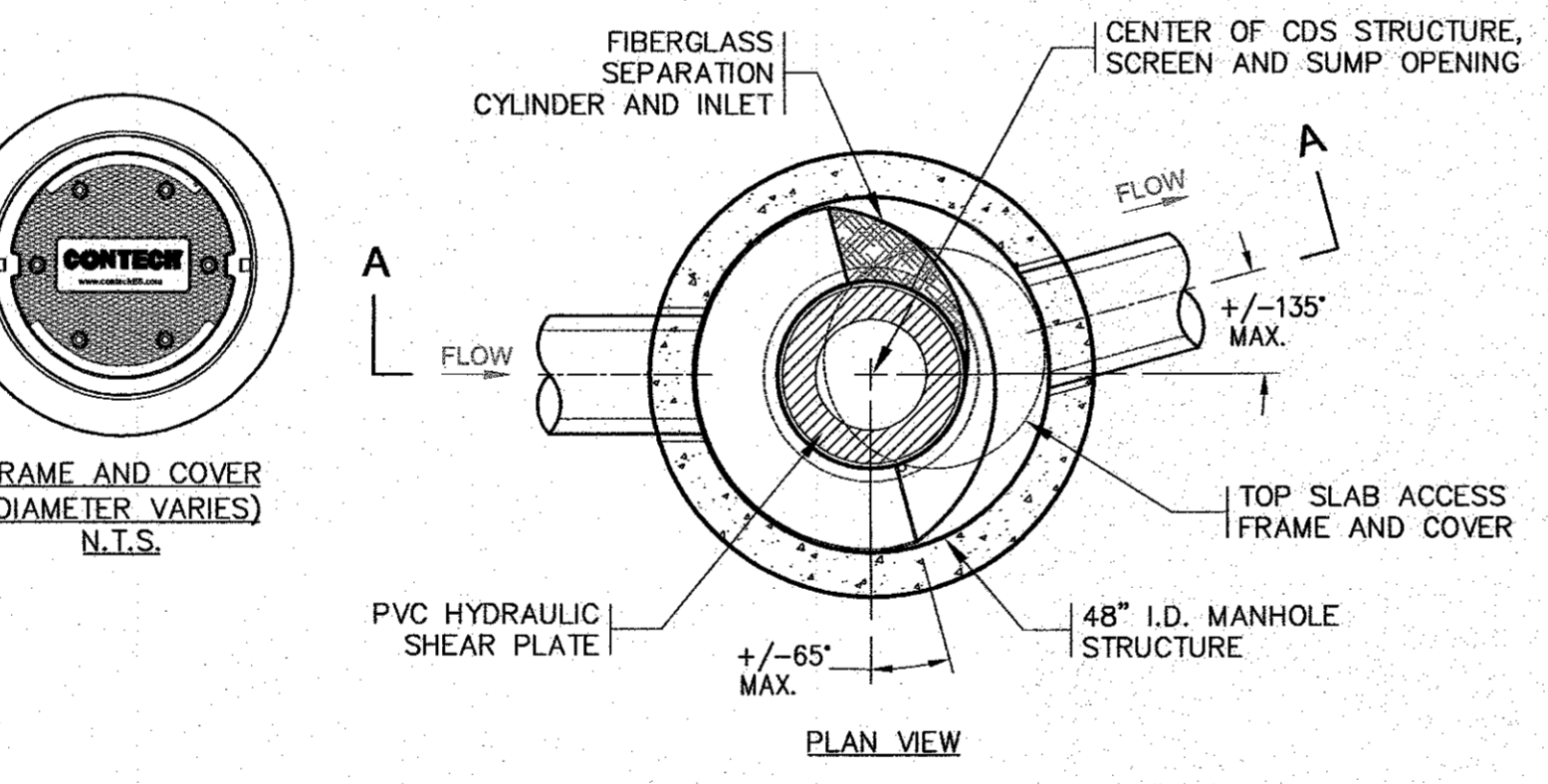
- NOTES:**
- REFER TO SITE PLAN FOR LOCATIONS, PIPE SIZES, INVERTS, ETC.
 - REFER TO ARCHITECTURAL PLANS FOR DOWNSPOUT SIZES AND LOCATIONS.

DOWNSPOUT DETAIL
N.T.S.

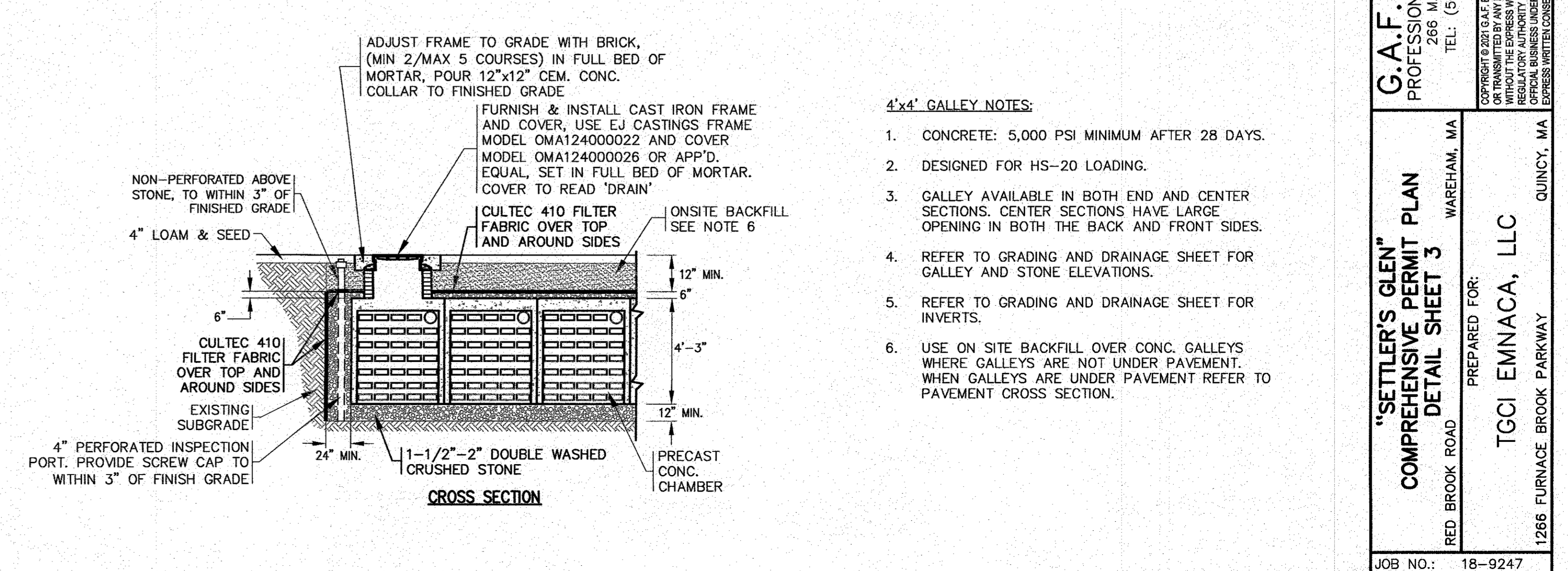
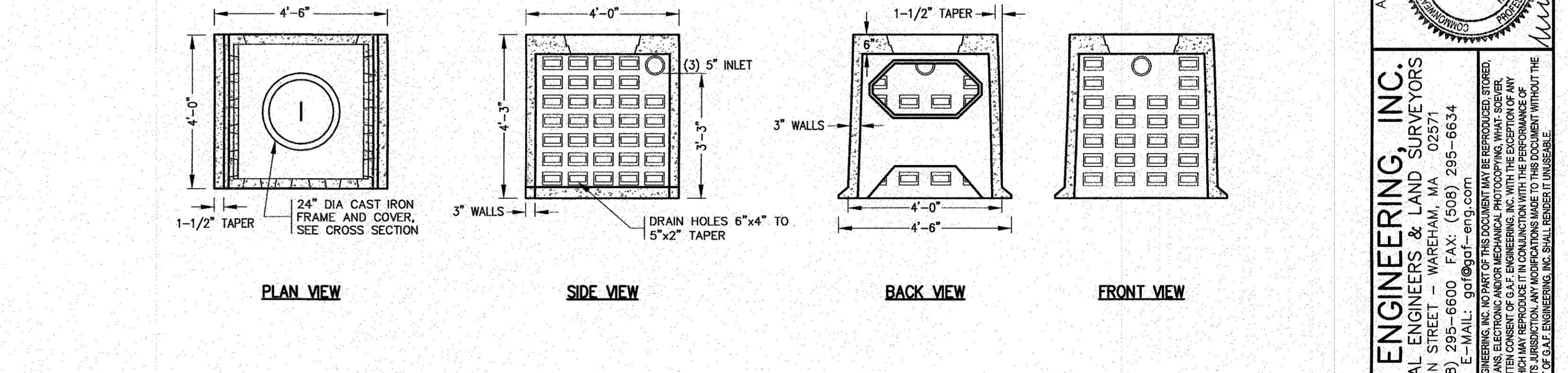
- NOTES:**
- REFER TO SPEC FOR MATERIAL GRADATION AND INSTALLATION.
 - REFER TO PLAN FOR LOCATION, ELEVATIONS AND INVERTS.



PRECAST CONCRETE WATER QUALITY STRUCTURE-1 (CDS2015-4-C)
N.T.S.



- GENERAL NOTES:**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STORMWATER SOLUTIONS REPRESENTATIVE. www.contechstormwater.com
 - CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
 - IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- 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 CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 - CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



PRECAST CONCRETE LEACHING GALLEYS
N.T.S.

DATE: JAN. 12, 2021	APPROVED BY:	 G.A.F. ENGINEERING, INC. PROFESSIONAL ENGINEERS & LAND SURVEYORS 286 MAIN STREET - WAREHAM, MA 02571 TEL: (508) 295-6600 FAX: (508) 295-6634 E-MAIL: gaf@gaf-eng.com			
DRAWN BY: JMP	DATE:				
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SCALE: N.T.S.	REV:	DESCRIPTION:			
	1	4/26/21	JMP	WFM	PER TOWN & PEER REVIEW COMMENTS

RED BROOK ROAD
 WAREHAM, MA
"SETTLER'S GLEN" COMPREHENSIVE PERMIT PLAN DETAIL SHEET 3
 PREPARED FOR:
TGCI EMNACA, LLC
 1266 FURNACE BROOK PARKWAY
 QUINCY, MA

JOB NO.: 18-9247
 DWG. 11 OF 11
 PERMIT SET (NOT FOR CONSTRUCTION)

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