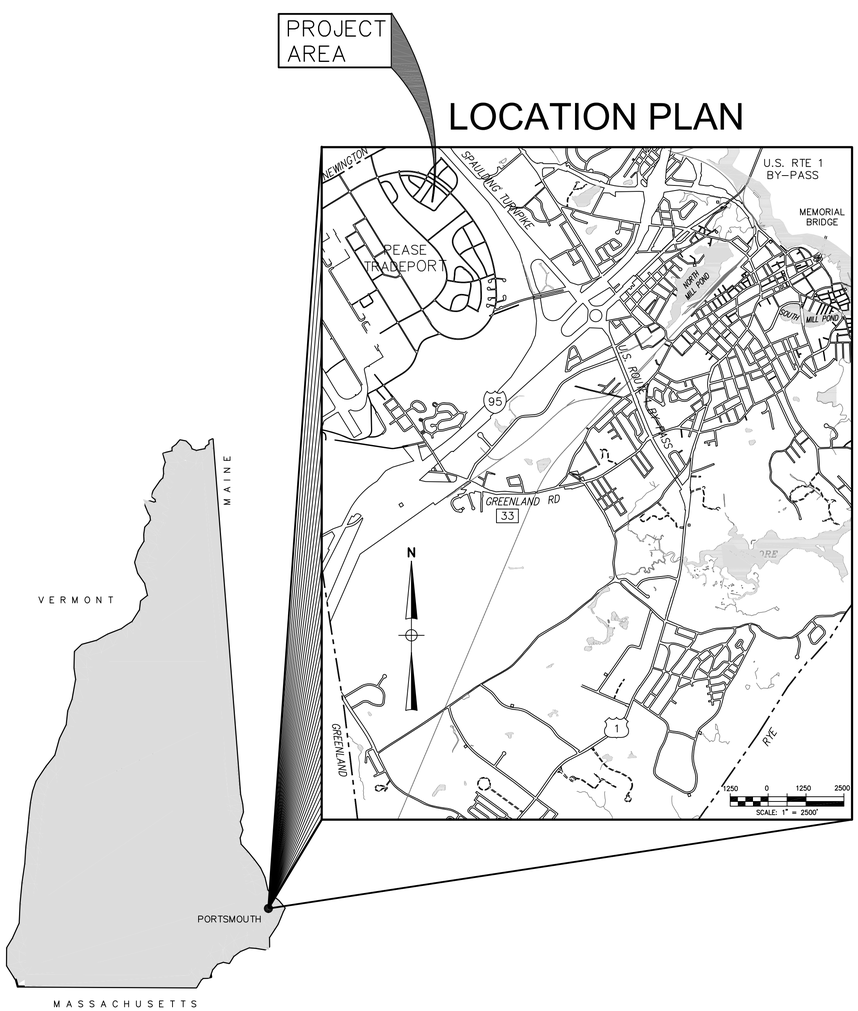
CITY OF PORTSMOUTH, NEW HAMPSHIRE

FOR CONSTRUCTION

CORPORATE DRIVE AND GOOSE BAY DRIVE SEWER IMPROVEMENTS

CITY BID No. 47-18

LOCATION PLAN



PREPARED BY

UNDERWOOD ENGINEERS, INC.

PORTSMOUTH, NEW HAMPSHIRE

FEBRUARY 8, 2018

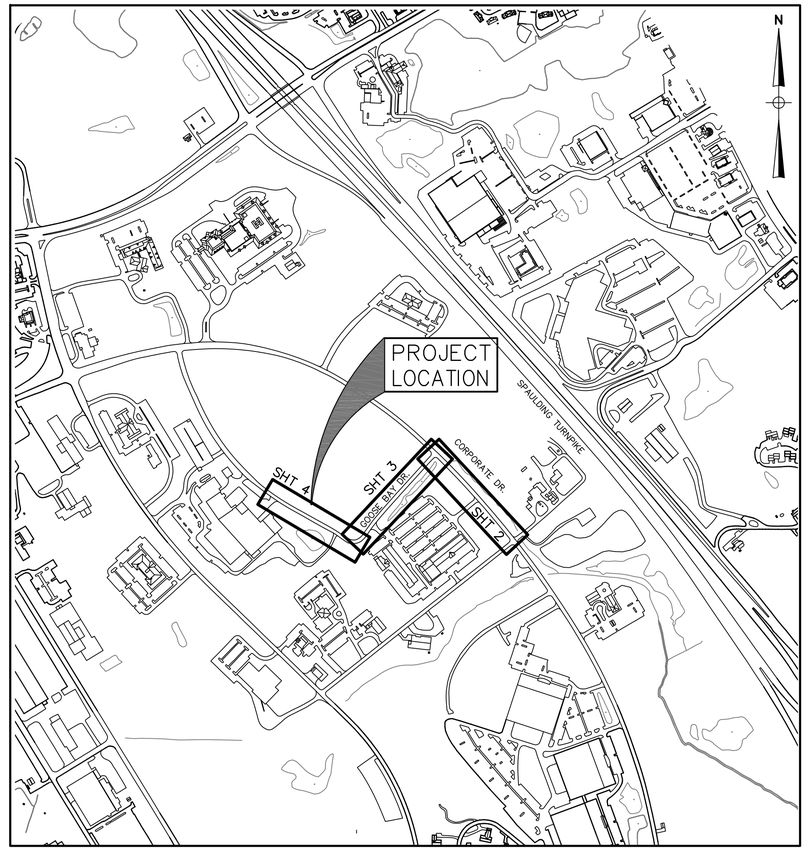
STATE OF NEW HAMPSHIRE DANIEL J. ROCHETTE No. 13457 LICENSED PROFESSIONAL ENGINEER

STATE OF NEW HAMPSHIRE KEITH A. PRATT No. 8531 LICENSED PROFESSIONAL ENGINEER

PLAN INDEX

TABLE OF CONTENTS

VICINITY MAP



UE #2097

UNDERWOOD engineers

ABBREVIATIONS:

APPROX	APPROXIMATE
B	BORING
BC	BITUMINOUS CURB
BLDG	BUILDING
CB	CATCH BASIN
CI	CAST IRON PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONST	CONSTRUCT
CPE	CORRUGATED POLYETHYLENE
CPP	CORRAGATED PLASTIC PIPE
D	DRAIN
DI	DUCTILE IRON
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMH	DRAINAGE MANHOLE
DYL	DOUBLE YELLOW LINE
EL	ELEVATION
EMER	EMERGENCY
ENGR	ENGINEER
EOP,EP	EDGE OF PAVEMENT
EXIST	EXISTING
FM	FORCE MAIN
FT	FOOT OR FEET
GAS	PROPANE GAS
GC	GRANITE CURB
GND	GROUND
FM	FORCE MAIN
IN	INCH
INV	INVERT ELEVATION
LF	LINEAR FEET
LGT	LIGHT
LP	LIGHT POLE
MJ	MECHANICAL JOINT
MW	MUNICIPAL WATER
NA OR N/A	NOT APPLICABLE
NGVD	NATIONAL GEODETIC VERTICAL DATUM
N/F	NOW OR FORMERLY
N/R	NO REFUSAL
OD	OUTSIDE DIAMETER
ORN	ORNAMENTAL TREE
OS	OUTLET STRUCTURE
PK	SURVEYOR'S NAIL
PL	PROPERTY LINE
PSNH	PUBLIC SERVICE COMPANY OF N.H.
PVC	POLYVINYL CHLORIDE SDR 35
PVMT	PAVEMENT
R	REFUSAL
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RD	ROAD
REF	REFER OR REFERENCE
REQD	REQUIRED
ROW	RIGHT OF WAY
S	MUNICIPAL SEWER OR SEPTIC TANK
S	SLOPE (I.E., FT. PER FT.) IN PROFILES
SCH	SCHEDULE
SHT	SHEET
SMH	SEWER MANHOLE
ST	STEEL
STA	STATION
STD	STANDARD
TBM	TEMPORARY BENCH MARK
TRANS	TRANSFORMER
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
U/P	UTILITY POLE
VCD	VC DRAIN
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
W	WATER
WD	WOOD
W/	WITH

1. THIS IS A STANDARD LEGEND SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.

2. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THESE DRAWINGS.

BYPASS PUMPING REQUIREMENTS:

1. CONTRACTOR RESPONSIBLE FOR PROVIDING THE UNINTERRUPTED FLOW OF SANITARY SEWAGE INCLUDING THE PLACEMENT, MAINTENANCE AND REMOVAL OF PUMPING SYSTEMS.

2. ALL NECESSARY ARRANGEMENTS FOR POWER ARE TO BE COORDINATED AND PAID BY THE CONTRACTOR.

3. NO UNTREATED EFFLUENT SHALL BE DISCHARGED ANYWHERE OTHER THAN A FUNCTIONAL SANITARY SEWER FACILITY.

4. PROVIDE A MINIMUM OF TWO OPERABLE PUMPS (ONE DUTY, ONE STANDBY), EACH CAPABLE OF HANDLING PEAK FLOWS AS DESCRIBED IN EXISTING FLOWS DIAGRAM ON SHEET 4 OF THESE DRAWINGS. PROVIDE DISCHARGE PIPING, FREE OF LEAKS, TO CARRY THE EFFLUENT TO AN ADEQUATE SANITARY DISCHARGE POINT.

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR (IF DAMAGED) OF ALL EXISTING UTILITY MAINS AND SERVICES. THE LOCATIONS OF KNOWN UTILITIES MAINS AND SERVICES SHOWN ON THESE DRAWINGS, ARE APPROXIMATE. NOTIFY DIG-SAFE PRIOR TO COMMENCING CONSTRUCTION. (1-888-344-7233). CONTRACTOR SHALL GIVE ADEQUATE NOTICE TO THE ENGINEER OF CONFLICTS OF PROPOSED WORK WITH MARKED UTILITIES PRIOR TO CONSTRUCTING THE PROPOSED WORK.

2. EXISTING ELECTRIC DUCT BANK IS ASSUMED TO HAVE 2' TO 2.5' OF COVER. CONTRACTOR TO VERIFY DEPTH AT CROSSING PRIOR TO CONSTRUCTION.

3. DETOURS AROUND THE CONSTRUCTION AREA MAY BE AUTHORIZED THROUGH A TRAFFIC CONTROL PLAN APPROVED BY BOTH THE CITY OF PORTSMOUTH AND THE PEASE DEVELOPMENT AUTHORITY (PDA). THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY WHEN POSSIBLE. TRAFFIC CONTROL WARNING DEVICES SHALL BE IN ACCORDANCE WITH MUTCD REQUIREMENTS AND SECTION 01570 OF THE PROJECT MANUAL.

4. ALL STREET OPENINGS SHALL BE BACKFILLED AT THE END OF EACH DAYS OPERATIONS TO ENSURE SAFE VEHICULAR AND PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL MAINTAIN SAFE PASSAGE FOR 2-LANES OF TRAFFIC AT THE END OF EACH WORK DAY. ROAD CLOSURES WILL BE PERMITTED FOR SELECT PORTIONS OF WORK AS IDENTIFIED IN SECTION 01000 – PROSECUTION OF WORK OF THE PROJECT MANUAL. THE CONTRACTOR SHALL MAINTAIN SAFE PASSAGE FOR PEDESTRIANS FOR ROADWAY RACES SCHEDULED THROUGH THE PEASE DEVELOPMENT AUTHORITY AS DETAILED IN THE PROJECT MANUAL.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL IN ACCORDANCE TO SECTION 01562 OF THE PROJECT MANUAL. DUST CONTROL WILL BE INCIDENTAL TO THE CONTRACT AND EXCEPT WHERE A SEPARATE ITEM IS PROVIDED.

6. THIS SET OF PLANS HAS BEEN CREATED TO BE USED IN CONJUNCTION WITH A PROJECT MANUAL ENTITLED "PROJECT MANUAL, CORPORATE DRIVE AND GOOSE BAY DRIVE SEWER IMPROVEMENTS, PORTSMOUTH, NH".

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL SURPLUS EARTH, LEDGE, CURB, PIPE AND SEWER OR DRAIN STRUCTURES EXCAVATED DURING CONSTRUCTION, UNLESS MATERIALS ARE CLAIMED BY THE OWNER OR OTHERWISE INDICATED IN THE PROJECT MANUAL OR THE DRAWINGS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROPERTY RESTORATION. UTILITIES DAMAGED AS A RESULT OF THE CONTRACTORS OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

9. TEMPORARY AND OR PERMANENT PAVING REPAIRS SHALL MAINTAIN EXISTING LINE AND GRADE UNLESS INDICATED OTHERWISE OR OTHERWISE DIRECTED BY THE ENGINEER.

10. PAVEMENT REPAIRS TO DRIVEWAYS OR OTHER AREAS OUTSIDE LIMITS OF PAYMENT, AS DEFINED ON THE DRAWINGS, IS SUBSIDIARY AND WILL NOT BE MEASURED FOR PAYMENT.

11. THE PLAN LINE WORK REPRESENTING THE EXISTING UNDERGROUND STRUCTURES AND PIPES IS BASED ON A LIMITED FIELD SURVEY. THE ENGINEER/SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ON THE PLANS COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE ENGINEER/SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

12. OVERHEAD WIRES AND WIRE DROPS TO BUILDINGS ARE NOT SHOWN. THE CONTRACTOR SHALL ANTICIPATE THEIR EXISTENCE IN ALL OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR BRACING EXISTING UTILITY POLES, AS NECESSARY FOR THE INSTALLATION OF NEW WORK.

13. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ALL PAVEMENT STRIPINGS (TEMPORARY AND PERMANENT).

14. INSTALL PIPE IN DRY CONDITIONS TO THE ELEVATIONS SHOWN ON DRAWINGS.

15. EXISTING GRANITE CURBING DISTURBED OUTSIDE OF THE LIMITS SHOWN SHALL BE REMOVED AND RESET AT NO ADDITIONAL COST TO THE OWNER. (6/D2)

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND PROTECTION OF ALL CONTROL POINTS, BASELINES, AND PROPOSED WORK AS SHOWN ON THE DRAWINGS. UPON REQUEST, THE ENGINEER WILL MAKE AVAILABLE THE CONSTRUCTION DRAWINGS IN ELECTRONIC (CAD) FORMAT UPON EXECUTION BY THE CONTRACTOR OF AN ELECTRONIC FILE TRANSFER RELEASE FORM PROVIDED BY THE ENGINEER.

17. EXCAVATION OF THE TRENCH SHALL BE PERFORMED WITH A SMOOTH-EDGED BUCKET.

18. THE EXISTING SOILS ARE MOISTURE SENSITIVE. IT IS INTENDED THAT THE EXISTING MATERIAL WILL BE REUSED AS BACKFILL. THE CONTRACTOR WILL NEED TO EXERCISE SPECIAL CARE IN HANDLING AND MANAGING THE EXISTING SOILS FOR REUSE AS BACKFILL AND TO MEET COMPACTION REQUIREMENTS, REFER TO SECTION 01000.

SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL PHASE UTILITY WORK SO AS TO MINIMIZE DISRUPTIONS TO SEWER FLOWS. BYPASS PUMPING, SHALL BE USED AS NECESSARY TO MAINTAIN ACTIVE SEWER.

2. SERVICE CONNECTIONS TO THE SEWER, DETERMINED TO BE YARD DRAINS, FOUNDATION DRAINS OR ROOF LEADERS THAT DO NOT CARRY SANITARY SEWER FLOWS, SHALL NOT BE CONNECTED TO THE NEW SANITARY SEWER. THE CONTRACTOR IS TO NOTIFY THE ENGINEER IMMEDIATELY OF POTENTIAL STORM DRAINS OR SUBSURFACE DRAINS ENCOUNTERED DURING CONSTRUCTION.

3. SEWER CONSTRUCTION SHALL PROCEED FROM THE LOWEST POINT UPWARD UNLESS OTHERWISE APPROVED BY THE ENGINEER.

4. SMH RIMS SHALL BE SET 1/8" TO 1/4" BELOW GRADE WHEN IN PAVEMENT OR GRAVEL ROADS (I.E., PLOWED AREAS). RIMS SHALL BE SET AT GRADE IN NON-PLOWED AREAS UNLESS OTHERWISE INDICATED. ALL SEWER MANHOLES ARE 4' INSIDE DIAMETER UNLESS OTHERWISE NOTED.

5. MAINTAIN A MINIMUM 10 FEET HORIZONTAL DISTANCE BETWEEN NEW SEWER PIPING AND WATER MAIN. MAINTAIN A MINIMUM VERTICAL SEPARATION OF 18" (1.5 FT) BETWEEN THE OUTSIDE OF NEW SEWER PIPE AND EXISTING WATER MAIN. WATER MAIN SHALL ALWAYS BE ABOVE THE NEW SEWER. NOTIFY ENGINEER OF ANY DISCREPANCIES.

6. EXISTING SEWER MAIN TO BE ABANDONED SHALL BE FILLED WITH FLOWABLE FILL. ABANDON SEWER SERVICES IN PLACE. ALL MANHOLES TO BE ABANDONED SHALL HAVE THE FRAME, COVER AND CONE SECTION REMOVED TO A MINIMUM OF 3-FT BELOW EXISTING GRADE AND MANHOLE FILLED WITH 12" LIFTS OF SAND COMPACTED TO 95% PROCTOR DENSITY OR FLOWABLE FILL 5' BELOW GRADE AND SAND TO 3' BELOW GRADE. FRAMES AND COVERS TO BE DELIVERED BY CONTRACTOR TO THE PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT PEVERLY HILL ROAD.

7. ABANDON EXISTING SEWER MAIN FOLLOWING TESTING AND ACCEPTANCE OF NEW SEWER MAIN AND CONNECTION OF EXISTING SEWERS TO THE NEW SEWER.

EROSION CONTROL NOTES:

1. DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

2. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. EXPOSURE SHALL BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME.

3. TEMPORARY EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND KEPT CLEAN UNTIL ALL EXPOSED AREAS HAVE A HEALTHY STAND OF GRASS COVER, AT WHICH TIME TEMPORARY MEASURES ARE TO BE REMOVED.

4. AREAS TO BE SEEDED SHALL BE ROUGH GRADED AND COVERED WITH LOAM 4 INCHES DEEP AFTER LIGHT ROLLING AND CONFORMING WITH EXISTING LINE AND GRADES.

5. SHALLOW SLOPES (SHALLOWER THAN 3:1), NOT SHOWN TO BE OTHERWISE COVERED, SHALL BE SEEDED WITH PARK MIXTURE SECTION 02935.

6. STEEP SLOPES (STEEPER THAN 3:1), NOT SHOWN TO BE OTHERWISE COVERED, SHALL BE EITHER SODDED, OR SEEDED WITH A SLOPE MIXTURE, SECTION 02935.

7. AFTER SEEDING, STEEP SLOPES SHALL BE MULCHED WITH EXCELSIOR OR EQUAL AND A CHEMICAL TACKIFIER SHALL BE APPLIED TO ALL SIDE SLOPES STEEPER THAN 3:1. RATE OF APPLICATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

WATER DISTRIBUTION SYSTEM NOTES:

1. WATER SERVICE SHALL BE MAINTAINED TO ALL CUSTOMERS THROUGHOUT THE CONSTRUCTION PERIOD EXCEPT DURING SCHEDULED SHUTDOWNS. THE CONTRACTOR SHALL PROVIDE BYPASS PIPING AS NECESSARY TO MAINTAIN WATER FLOW. BYPASS PIPING IS INCIDENTAL TO THE WORK. THE CONTRACTOR SHALL GIVE 48 HOURS VERBAL AND WRITTEN NOTICE TO AFFECTED CUSTOMERS AND THE PORTSMOUTH PUBLIC WORKS DEPARTMENT FOR SERVICE INTERRUPTIONS.

2. NOTIFY THE PORTSMOUTH PUBLIC WORKS DEPARTMENT PRIOR TO OPERATING ANY EXISTING SYSTEM VALVES. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING VALVES TO THEIR ORIGINAL POSITION.

3. EXISTING WATER MAIN IS ASSUMED TO HAVE 5' OF COVER. CONTRACTOR TO VERIFY DEPTH AT CROSSING PRIOR TO CONSTRUCTION.

PLAN REFERENCES:

1. REFERENCE: GOOSE BAY DRIVE & CORPORATE DRIVE (PORTIONS OF)
PEASE INTERNATIONAL TRADEPORT
PORTSMOUTH, NH

2. BASE PLAN FROM TOPOGRAPHIC SURVEY BY DOUCET SURVEY INC., NEWMARKET, NH, DATED 12/2007. THE VERTICAL DATUM IS NGVD 1929. THE HORIZONTAL DATUM IS BASED ON NH STATE GRID.

3. THE INTENT OF THIS PLAN IS TO PROVIDE TOPOGRAPHIC INFORMATION, NO BOUNDARY SURVEY WAS PERFORMED.

4. UTILITY MARKINGS LOCATED BY DOUCET SURVEY, INC. WERE PROVIDED BY DIG-SAFE.

5. SITE VISIT BY UNDERWOOD ENGINEERS, INC. MARCH 2017, TO VERIFY SIZE AND INVERT INFORMATION OF DRAINAGE CROSSING AT STA 13+80.

6. LONZA BIOLOGICS, INC. CT EXPANSION, SITE PLANS BY TIGHE & BOND CONSULTING ENGINEERS, REVISION DATED OCTOBER 22,2015, SHEET #C-4A.

KEY NOTES:

1. FURNISH & INSTALL CCFRPM SEWER PIPE (SIZE AND ELEVATION SHOWN IN PROFILE). PAY AS ITEMS 1.1.XX (18" OR 27" PER DRAWINGS).
2. FURNISH & INSTALL 4' DIA. SEWER MANHOLE, EPOXY LINED. PAY AS ITEM 1.5.4. (TYP.)
3. FURNISH & INSTALL 5' DIA. SEWER MANHOLE, EPOXY LINED. PAY AS ITEM 1.5.5.
4. ABANDON EXISTING SEWER MANHOLE AS REQUIRED. PAY AS ITEM 1.10.
5. ABANDON EXISTING SEWER PIPE. FURNISH AND INSTALL FLOWABLE FILL. PAY AS ITEM 1.11.
6. RESET GRANITE CURB WHERE SHOWN OR AS DIRECTED. DETAIL (6/D2), ITEM 5.4

STORM SEWER NOTES:

1. EXISTING CATCH BASINS AND DRAINAGE PIPE STRUCTURES ARE TO REMAIN, UNLESS SHOWN OTHERWISE.

2. CONTRACTOR TO MAINTAIN ALL EXISTING DRAINAGE PIPES CROSSING SEWER TRENCH, INCIDENTAL.

3. CONTRACTOR SHALL PROVIDE STORMWATER INLET PROTECTION ON ALL CATCH BASINS, ITEM 6.8B.

EXIST. SEWER & STORM DRAINAGE STRUCTURE TABLE

SMH #1107
RIM ELEV.=44.8'
CL CHANNEL=37.1'

DMH #1118
RIM ELEV.=42.0'
(1) 24" R.C.P.=37.2'
(2) 24" R.C.P.=37.1'

CB #1121
RIM ELEV.=40.5'
H2O UP TO RIM

DMH #1141
RIM ELEV.=39.7'
(1) PIPE=35.5'
(2) 24" R.C.P.=35.4'
(3) H2O ELEV.=38.5'

CB #1142
RIM ELEV.=39.2'
H2O UP TO RIM

SMH #1173
RIM ELEV.=41.1'
CL CHANNEL=35.6'

SMH #1174
RIM ELEV.=39.9'
CL CHANNEL=34.1'

SMH #1175
RIM ELEV.=41.0'
CL CHANNEL=33.2'

SMH #1176
RIM ELEV.=41.9'
CL CHANNEL=32.4'

CB #1177
RIM ELEV.=40.7'
(1) 18" R.C.P.=36.8'
(2) 18" R.C.P.=36.8'

CB #1180
RIM ELEV.=42.2'
(1) 12" R.C.P.=38.4'

CB #1181
RIM ELEV.=42.3'
(1) 12" R.C.P.=37.6'
(2) 12" R.C.P.=37.6'

CB #1182
RIM ELEV.=40.2'
(1) 12" R.C.P.=38.4'

SMH #1197
RIM ELEV.=62.2'
(1) 12" PVC IN=53.0'
(WITH ELBOW DOWN)
(2) 12" PVC OUT=51.7'

SMH #1198
RIM ELEV.=61.5'
12' PVC=50.8' (CL CHANNEL)
(1) 8" PVC IN=52.8'

DMH #1212
RIM ELEV.=62.8'
(1) 24" CPP=58.2'
(2) 24" CPP=56.8'

CB #1230
RIM ELEV.=58.9'
(1) 6" P.V.C.=54.5'
(2) 12" CPP IN=52.4'
(3) 18" CPP OUT=52.3'

SMH #1332
RIM ELEV.=57.7'
8" PVC=50.1' (CL CHANNEL)
(1) 8" PVC IN=50.6'

SMH #1371
RIM ELEV.=50.0'
(1) 8" METAL IN=43.5'
(2) 8" METAL IN=43.5'
(3) 8" METAL OUT=43.2'
(4) POSSIBLE CLOGGED PIPE

CB #1372
RIM ELEV.=49.7'
FULL OF DIRT
POSSIBLY CONNECTS TO
18" RCP ACROSS THE STREET

SMH #1428
RIM ELEV.=63.0'
(1) 6" PVC IN=55.0'
8" PVC=54.9' (CL CHANNEL)

DMH #1451
RIM ELEV.=42.8'
H2O ELEV.=38.6'
PIPES RECESSED
NO ACCESS

CB #1452
RIM ELEV.=39.2'
H2O UP TO THE RIM

SMH #1617
RIM ELEV.=37.1'
CL CHANNEL=31.8'

SMH #1618
RIM ELEV.=37.0'
(1) INV.=31.7'
(2) INV.=31.2'
(3) INV.=31.4'
(4) INV.=31.1'

SMH #1620
RIM ELEV.=40.3'
CL CHANNEL=32.0'

SMH #1624
RIM ELEV.=41.7'
CL CHANNEL=32.0'

SMH #1625
RIM ELEV.=43.1'
CL CHANNEL=32.5'

CB #1626
RIM ELEV.=41.8'
(1) 12" R.C.P.=36.9'

CB #1627
RIM ELEV.=42.0'
(1) 12" R.C.P.=36.7'
(2) 12" R.C.P.=36.4'
POSSIBLE TEE INTO
BOX CULVERT

CB #1628
RIM ELEV.=41.3'
(1) 12" R.C.P.=36.6'
(2) 12" R.C.P.=36.6'

CB #1629
RIM ELEV.=41.2'
(1) 12" R.C.P.=36.7'

CB #1630
RIM ELEV.=40.1'
(1) 12" R.C.P.=36.0'

CB #1631
RIM ELEV.=39.9'
(1) 12" R.C.P.=35.6'
(2) 12" R.C.P.=35.5'

SMH #1632
RIM ELEV.=38.9'
CL CHANNEL=32.0'

CB #1633
RIM ELEV.=38.6'
12" R.C.P.=35.2'

CB #1634
RIM ELEV.=38.5'
(1) 12" R.C.P.=34.5'
(2) 12" R.C.P.=34.2'

SMH #1635
RIM ELEV.=39.0'
H2O ELEV.=37.4'

CB #1636
RIM ELEV.=39.0'
(1) 12" R.C.P.=35.1'
(2) 12" R.C.P.=34.5'

CB #1637
RIM ELEV.=38.9'
(1) 12" R.C.P.=35.1'
(2) 12" R.C.P.=35.1'

CB #1638
RIM ELEV.=38.8'
(1) 15" R.C.P.=33.5'

CB #1639
RIM ELEV.=38.5'
(1) 15" R.C.P.=33.5'
(2) 15" R.C.P.=33.4'

SMH #1764
RIM ELEV.=40.5'
CL CHANNEL=33.0'

DMH #1765
RIM ELEV.=39.4'
(1) 18" R.C.P.=35.0'
(2) 12" R.C.P.=35.3'
(3) 18" R.C.P.=35.0'

CB #1766
RIM ELEV.=42.5'
FILLED W/SILT

CB #1767
RIM ELEV.=42.5'
FILLED W/SILT

CB #1768
RIM ELEV.=39.2'
FILLED W/SILT

DMH 5748
RIM ELEV.=56.3'
(1) 12" PVC IN=50.7'
(2) 12" PVC IN=50.7'
(3) 18" CPP IN=51.0'
(4) 24" CPP OUT=51.0'

CB 5791
RIM ELEV.=59.9'
(1) 12" PVC IN=53.3'
(2) 12" PVC OUT=53.2'

LEGEND:

EXISTING	PROPOSED	
		STRUCTURES/BUILDINGS
		APPROXIMATE PROPERTY LINE
		APPROXIMATE RIGHT OF WAY
dyl		DOUBLE YELLOW LINE
		PAVED ROAD/DRIVE
		CURB
		DELINEATES CONCRETE
		GRAVEL ROAD/DRIVE/TRAIL
		RETAINING WALL
		CHAINLINK FENCE
		POST AND RAIL FENCE
		STOCKADE FENCE
		GUARD RAIL
□		STONE MONUMENT (FOUND)
○		IRON PIN/PIPE (FOUND)
		UTILITY POLE & GUY WIRE
		LIGHT POLE (ONE ARM)
		FIRE HYDRANT
WV		WATER VALVE
		WATER SHUT-OFF
S	●	SEWER MANHOLE
D		DRAIN MANHOLE
E		ELECTRIC MANHOLE
T		TELEPHONE MANHOLE
□	■	CATCH BASIN
		SIGN
		HYDRANT
		TRANSFORMER ON CONC. PAD
		SEWER FLOW DIRECTION
		DRAINAGE FLOW DIRECTION
		BUSH
		CONIFEROUS TREE
		DECIDUOUS TREE
△		TRAVERSE STATION
		CONCRETE BOX CULVERT DRAIN
D	D	DRAIN LINE < 24"
		DRAIN LINE ≥ 24"
S	S	GRAVITY SEWER
W		WATER LINE
FM		FORCE MAIN
OHU		OVERHEAD UTILITIES
E		UNDERGROUND ELECTRIC LINE
		MAILBOX
G		EDGE OF WATER
		GAS LINE
		EXISTING GRADE (PROFILE)
○		BOLLARD
B-1 P-1		BORING/PROBE
MW		MONITORING WELL
S/F		SILT FENCE
50		MAJOR CONTOUR LINE
46		MINOR CONTOUR LINE
R		SUBSURFACE REFUSAL
N/R		SUBSURFACE NO REFUSAL
W		SUBSURFACE GROUNDWATER
		TEST PIT
	J	PLUG
		INSULATION

ISSUE FOR
APPROVAL
Date 01/09/18 By DJR
CONSTRUCTION
Date 02/08/18 By DJR
RECORD DRAWING
Date - By -

NO.	REVISIONS	APP'D

Drawn/Chk. MAH
Designed DJR
Checked PJM
Approved -
Date 02/08/18
Book No. -
Project No. 2097
Dwg. ID 2097_notes.dwg
Scale AS SHOWN

NEW HAMPSHIRE – STATE OF – PROFESSIONAL ENGINEER – LICENSED
PRATT No. 8831

NEW HAMPSHIRE – STATE OF – PROFESSIONAL ENGINEER – LICENSED
ROCHETTE No. 13457

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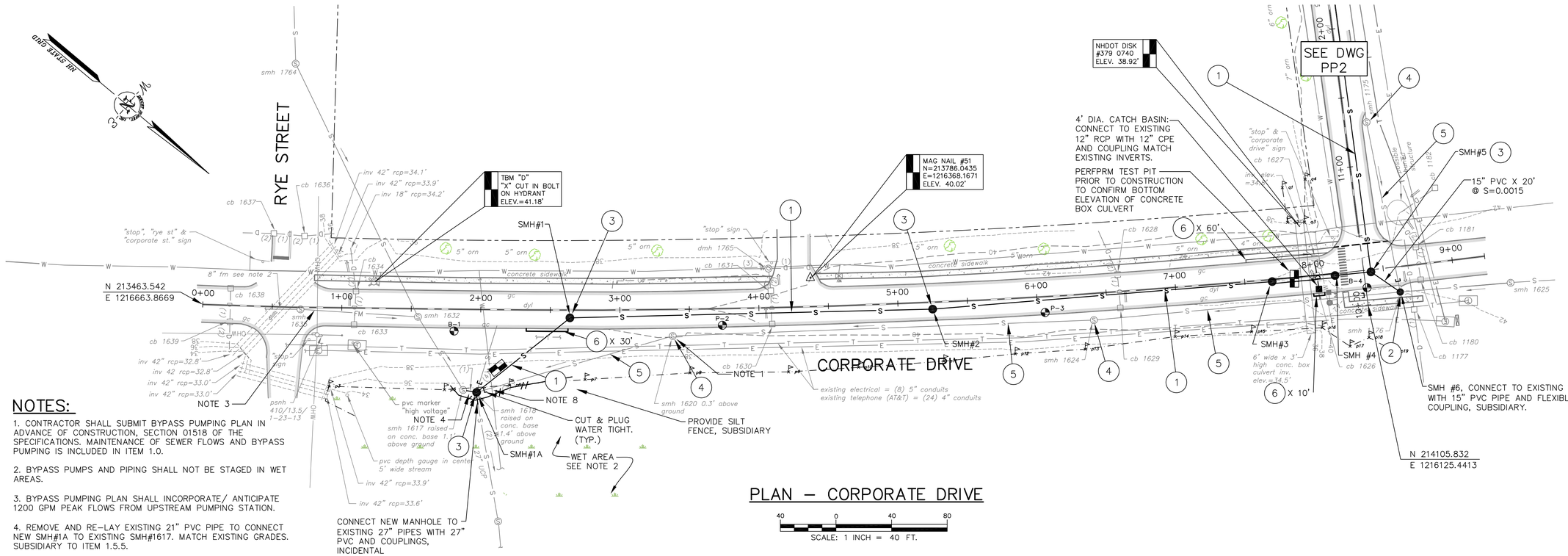
GENERAL NOTES & LEGEND

CORPORATE DR. & GOOSE BAY DR. SEWER IMPROVEMENTS

CITY OF PORTSMOUTH
PORTSMOUTH, NH

DWG NO G1

SHEET 1 OF 6



NOTES:

1. CONTRACTOR SHALL SUBMIT BYPASS PUMPING PLAN IN ADVANCE OF CONSTRUCTION, SECTION 01518 OF THE SPECIFICATIONS. MAINTENANCE OF SEWER FLOWS AND BYPASS PUMPING IS INCLUDED IN ITEM 1.0.

2. BYPASS PUMPS AND PIPING SHALL NOT BE STAGED IN WET AREAS.

3. BYPASS PUMPING PLAN SHALL INCORPORATE/ ANTICIPATE 1200 GPM PEAK FLOWS FROM UPSTREAM PUMPING STATION.

4. REMOVE AND RE-LAY EXISTING 21" PVC PIPE TO CONNECT NEW SMH#1A TO EXISTING SMH#1617. MATCH EXISTING GRADES. SUBSIDIARY TO ITEM 1.5.5.

5. SEWER PIPE SHALL BE CONSTRUCTED SO THAT JOINTS ARE NOT LOCATED BENEATH EXISTING BOX CULVERT TO REMAIN. USE FLOWABLE FILL TO BACKFILL EXCAVATIONS BENEATH BOX CULVERT. ITEM 1.11. FLOW FILL BACKFILL SHALL EXTEND 2' (MIN.) BEYOND EDGE OF CULVERT ON CULVERT ON EITHER SIDE (REFER TO PROSECUTION OF WORK AND GEOTECHNICAL EVALUATION INCLUDED IN PROJECT MANUAL).

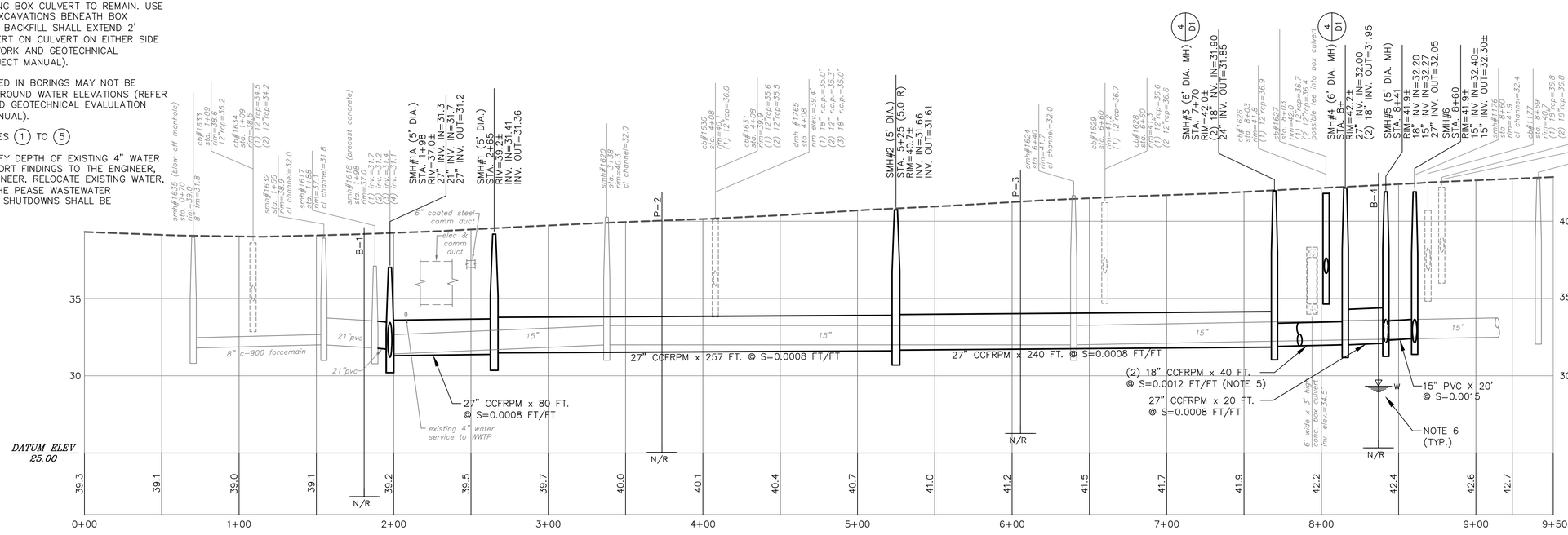
6. WATER ELEVATIONS OBSERVED IN BORINGS MAY NOT BE REPRESENTATIVE OF ACTUAL GROUND WATER ELEVATIONS (REFER TO PROSECUTION OF WORK AND GEOTECHNICAL EVALUATION INCLUDED IN THE PROJECT MANUAL).

7. SEE DWG. G1 FOR KEY NOTES (1) TO (5)

8. PERFORM TEST PIT TO VERIFY DEPTH OF EXISTING 4" WATER AT SEWER CROSSING AND REPORT FINDINGS TO THE ENGINEER, ITEM 6.4. IF DIRECTED BY ENGINEER, RELOCATE EXISTING WATER, ITEM 3.1. 4" WATER SERVES THE PEASE WASTEWATER TREATMENT FACILITY AND ANY SHUTDOWNS SHALL BE COORDINATED WITH THE CITY.

PLAN – CORPORATE DRIVE

40 0 40 80
SCALE: 1 INCH = 40 FT.



PROFILE – CORPORATE DRIVE

40 0 40 80
4 0 4 8
HORIZ: 1 INCH = 40 FT.
VERT: 1 INCH = 4 FT.

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Designed DJR
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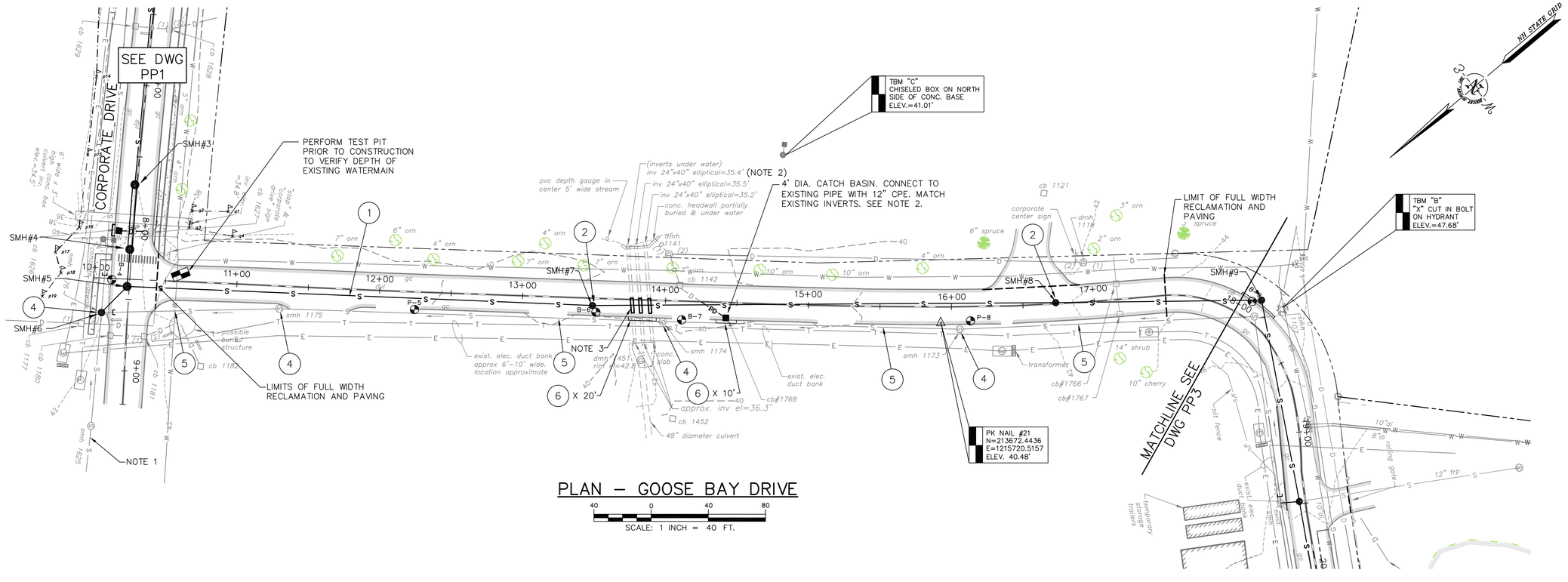
Dwg. ID 2097_base.dwg
Scale AS SHOWN

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
Tel. 603-436-6192 Fax. 603-431-4733

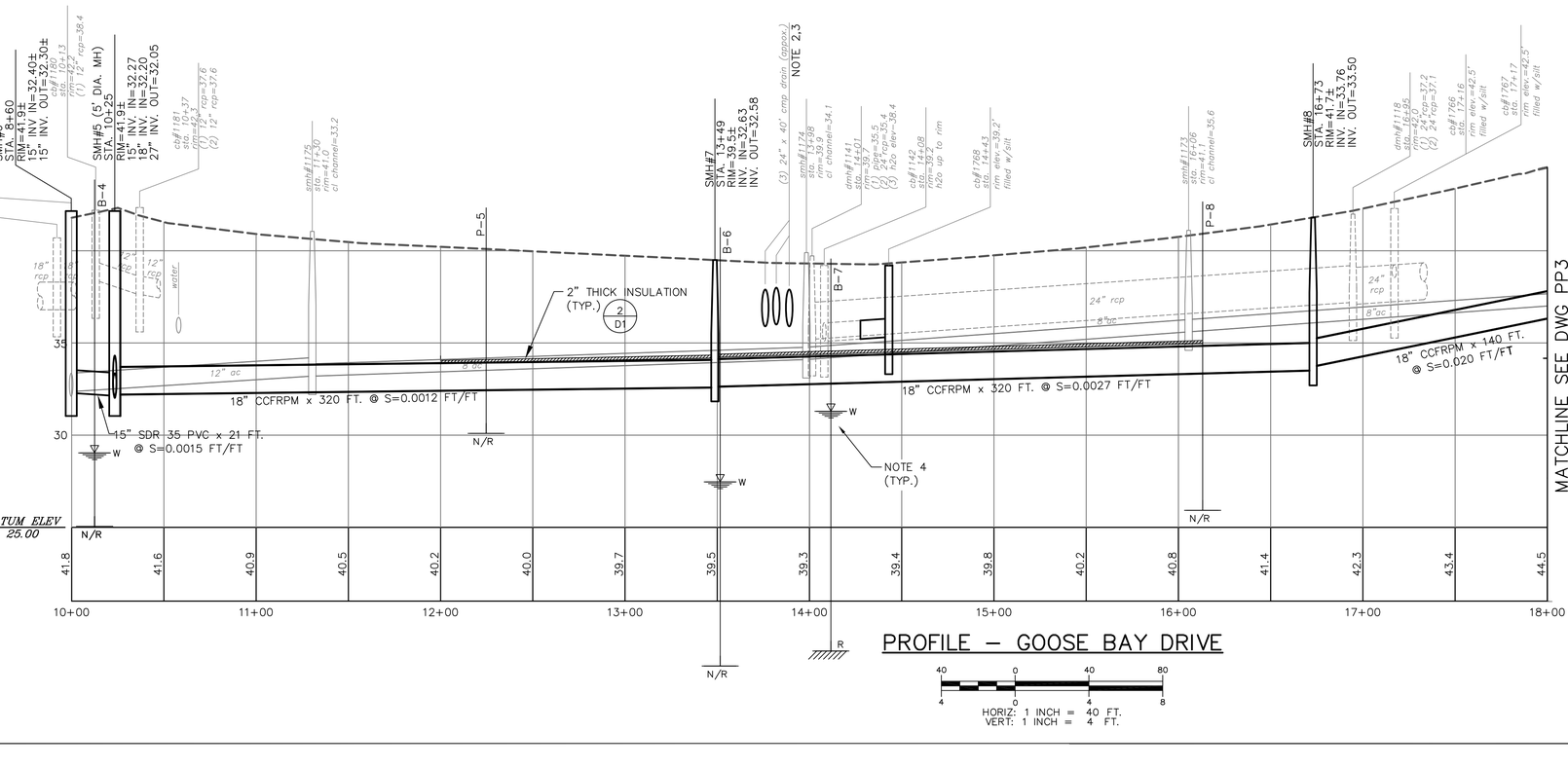
CORPORATE DRIVE PLAN & PROFILE
CORPORATE DR. & GOOSE BAY DR. SEWER IMPROVEMENTS
CITY OF PORTSMOUTH
PORTSMOUTH, NH

DWG NO PP1
SHEET 2 OF 6



PLAN – GOOSE BAY DRIVE

SCALE: 1 INCH = 40 FT.

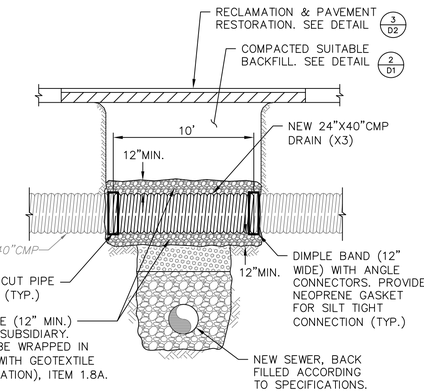


PROFILE – GOOSE BAY DRIVE

HORIZ: 1 INCH = 40 FT.
VERT: 1 INCH = 4 FT.

NOTES:

1. CONTRACTOR SHALL SUBMIT BYPASS PUMPING PLAN IN ADVANCE OF CONSTRUCTION, SECTION 01518 OF THE SPECIFICATIONS. MAINTENANCE OF SEWER FLOWS AND BYPASS PUMPING IS INCLUDED IN ITEM 1.0.
2. EXISTING 3–24"X40" CMP DRAINAGE PIPES AND THE EXISTING DMH 1451 STRUCTURE CAN SURCHARGE TO BETWEEN EL. 37.0 AND EL. 38.4. CONTRACTOR SHOULD ANTICIPATE THE NEED TO DEWATER FOR SEWER INSTALLATIONS.
3. REMOVE 10 LF OF 24"X40" CMP DRAINPIPE (X3) TO FACILITATE INSTALLATION OF NEW 18" CCFRPM SEWER. UPON COMPLETION OF SEWER INSTALLATIONS, REPLACE REMOVED SECTIONS WITH NEW CMP DRAIN PIPE. ITEM 2.1.24X40. SEE DETAIL THIS SHEET.
4. WATER ELEVATIONS OBSERVED IN BORINGS MAY NOT BE REPRESENTATIVE OF ACTUAL GROUND WATER ELEVATIONS.



CMP DRAIN PIPE CROSSING

NOT TO SCALE — ITEM 2.1.24X40

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STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – LICENSED – PRATT No. 8831

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – LICENSED – ROCHETTE No. 13457

UNDERWOOD engineers
25 Vaughan Mall, Portsmouth, N.H. 03801
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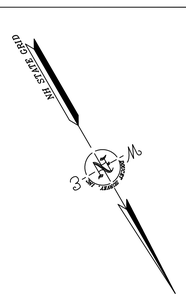
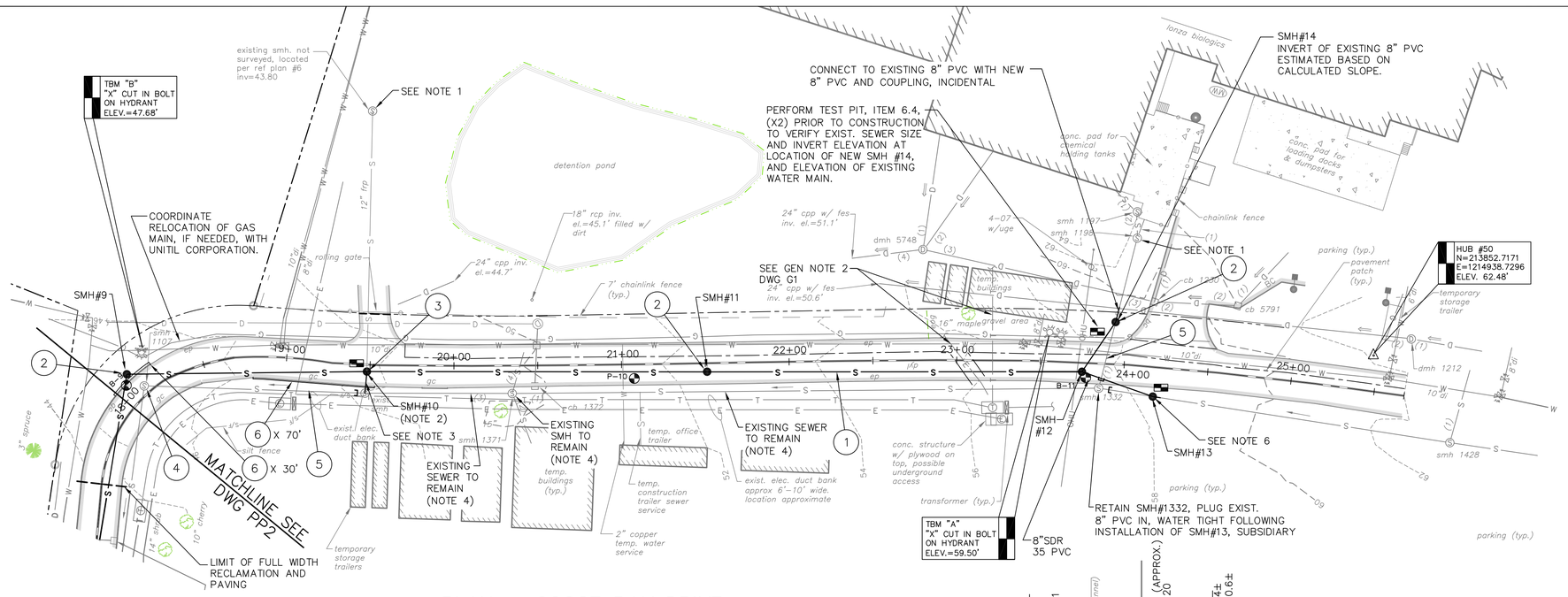
GOOSE BAY DRIVE PLAN & PROFILE
CORPORATE DR. & GOOSE BAY DR. SEWER IMPROVEMENTS
CITY OF PORTSMOUTH
PORTSMOUTH, NH

DWG NO PP2
SHEET 3 OF 6

NOTES:

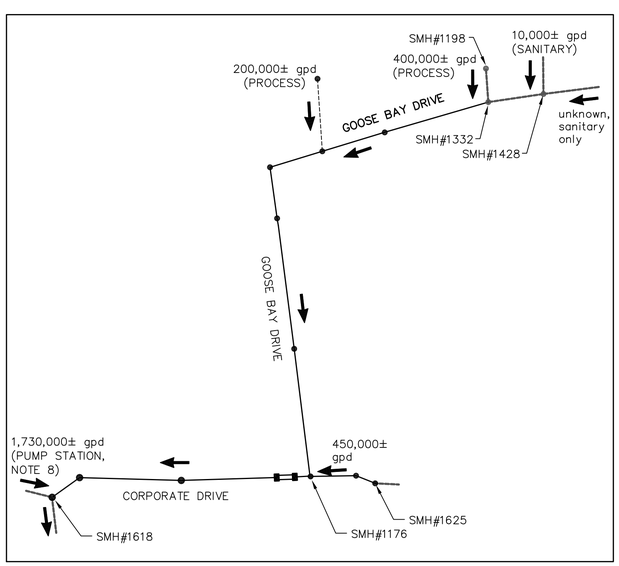
1. CONTRACTOR SHALL SUBMIT BYPASS PUMPING PLAN IN ADVANCE OF CONSTRUCTION, SECTION 01518 OF THE SPECIFICATIONS. MAINTENANCE OF SEWER FLOWS AND BYPASS PUMPING IS INCLUDED IN ITEM 1.0.
2. INVERT ESTIMATED BASED ON CALCULATED SLOPE. COMPLETE TEST PIT (ITEM 6.4) TO VERIFY ELEVATION OF FRP PIPE FROM LONZA. NEW MANHOLE #10 IS TO BE CONSTRUCTED SO THAT THE EXISTING 12" FRP IS DIRECTLY CONNECTED TO THE MANHOLE. EXTENSIONS FOR FRP PIPE CUT TO ACCOMODATE MANHOLE CONNECTION SHALL BE WITH MATERIALS AND JOINING SYSTEMS THAT MATCH IN PLACE FRP MATERIALS. SUBSIDIARY TO ITEM 1.5.4.
3. EXISTING SMH TO REMAIN. REMOVE EXISTING FRP PIPE INLET, PLUG AND CAP PENETRATION. CONSTRUCT FIELD CORE FOR 8" PVC SEWER AT ELEV=40.7± (FIELD VERIFY). RECONSTRUCT MASONRY INVERT FOR NEW 8" PVC OUT. PAY ITEM 1.9.
4. TEMPORARY BUILDINGS ARE TIED INTO THE EXISTING SEWER. SEWER TO BE ABANDONED BY OTHERS UPON REMOVAL OF TEMPORARY BUILDINGS.
5. WATER ELEVATIONS OBSERVED IN BORINGS MAY NOT BE REPRESENTATIVE OF ACTUAL GROUND WATER ELEVATIONS.
6. COMPLETE TEST PIT (ITEM 6.4) TO CONFIRM 8" PVC EL. AT TIE-IN, SMH#13. INVERTS SHOWN ARE APPROX.
7. FLOWS SHOWN ARE PEAK HOUR AND ARE APPROXIMATE, PROVIDED FOR INFORMATION ONLY.
8. CONTRACTOR WILL BE REQUIRED TO COORDINATE MAINTENANCE OF THE PUMP STATION FLOWS WITH THE CITY. THE STATION HAS THE CAPACITY FOR THE PEAK HOUR FLOWS SHOWN. HOWEVER, IT IS REPORTED THAT THE STATION HAS A RUNTIME OF 3.5 MINUTES AT A TYPICAL FLOW RATE OF 600 GPM. TOTAL DAILY RUNTIME IS ESTIMATED TO BE AROUND 30 MINUTES.





PLAN – GOOSE BAY DRIVE

SCALE: 1 INCH = 40 FT.

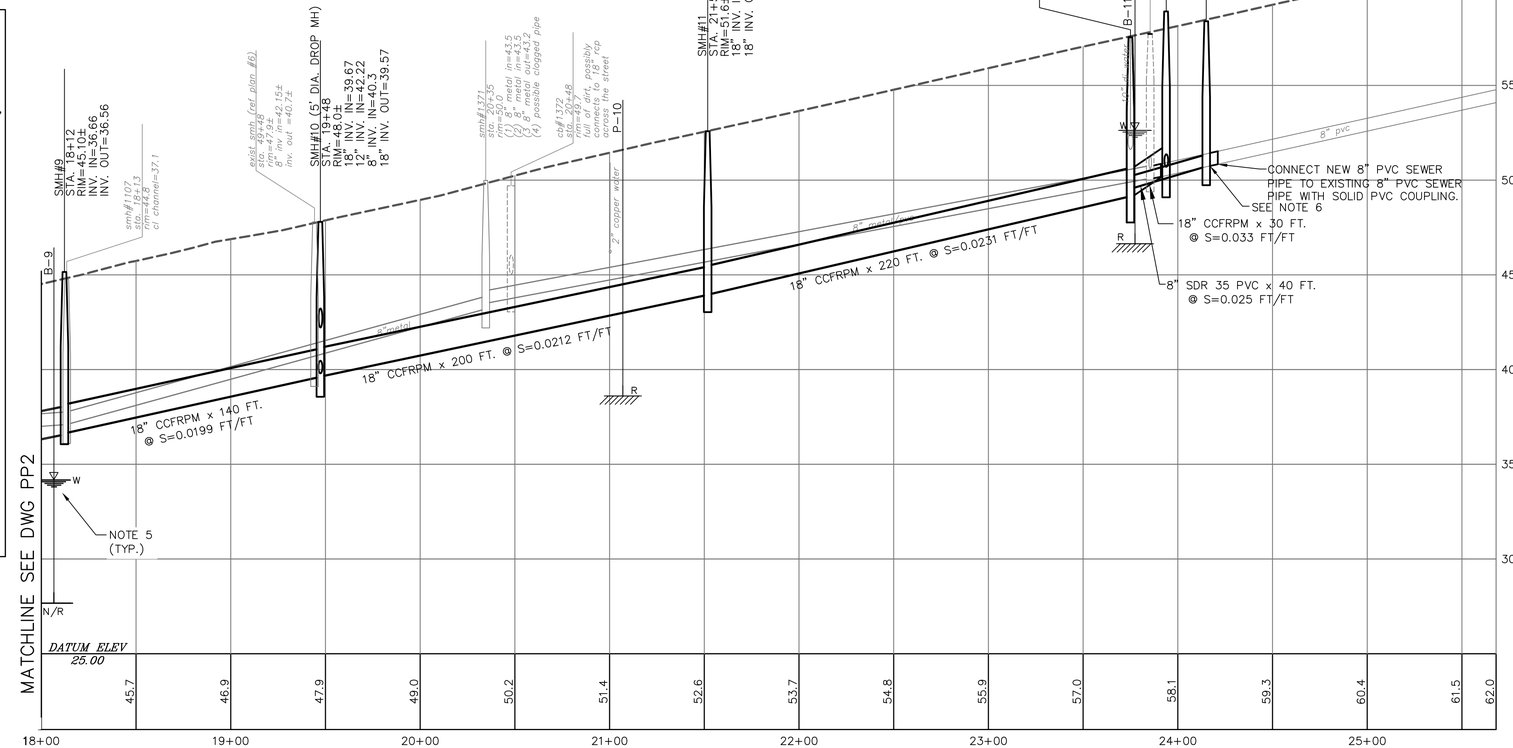


EXISTING SEWERAGE SYSTEM FLOWS

N.T.S.

PROFILE – GOOSE BAY DRIVE

HORIZ: 1 INCH = 40 FT.
VERT: 1 INCH = 4 FT.



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GOOSE BAY DRIVE PLAN & PROFILE
CORPORATE DR. & GOOSE BAY DR. SEWER IMPROVEMENTS
CITY OF PORTSMOUTH
PORTSMOUTH, NH

DWG NO PP3
SHEET 4 OF 6

STANDARD MANHOLE NOTES:

1. GENERAL: SEWER MANHOLES, INCLUDING ALL COMPONENT PARTS, SHALL BE ASSEMBLED OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H–20LOADING) WITHOUT FAILURE, AND TO PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2. BARRELS AND CONE SECTIONS: SHALL BE PRECAST REINFORCED CONCRETE.

3. PRECAST CONCRETE: BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO ASTM C478.

4. LEAKAGE TEST: SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS, PRIOR TO PAVING. INVERT AND SHELF TO BE CONSTRUCTED AFTER MANHOLE TESTING IS SATISFACTORY.

5. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO AN ELEVATION OF 1" ABOVE THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

6. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN, MANUFACTURED IN USA, AND PROVIDE A 30–INCH (MIN.) CLEAR OPENING. A 3–INCH (MINIMUM HEIGHT) LETTER "S" FOR SEWERS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. FRAME AND COVER WILL BE HINGED, ERGO XL BY EAST JORDAN IRON WORKS.

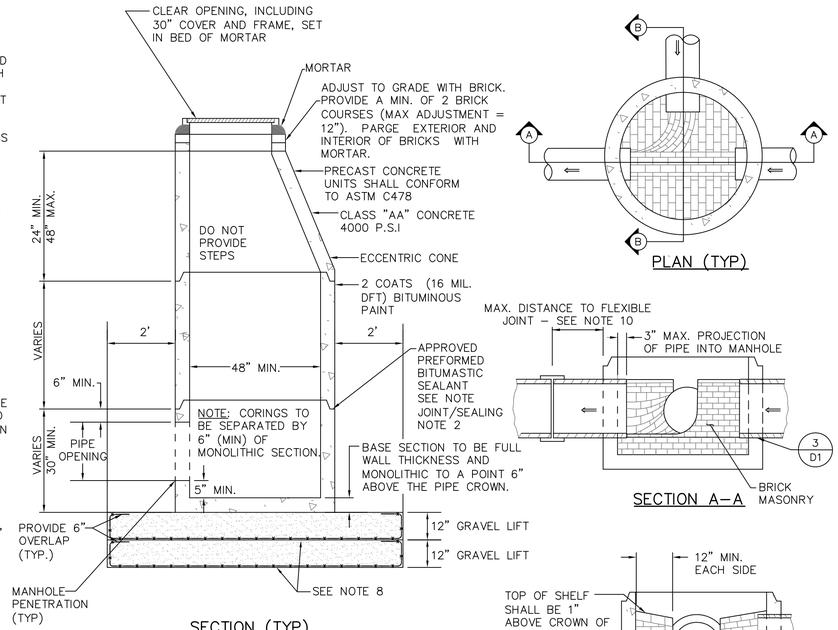
7. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE NO. 67.
   - 100% PASSING 1 INCH SCREEN
   - 90–100% PASSING 3/4 INCH SCREEN
   - 20–55% PASSING 3/8 INCH SCREEN
   - 0–10% PASSING #4 SIEVE
   - 0–5% PASSING #8 SIEVE

8. WHERE THE MATERIAL BELOW MANHOLE STRUCTURE IS SOFT OR YIELDING, AND WHERE DIRECTED BY THE ENGINEER, INSTALL DOUBLE LAYER OF GEOGRID (TENSAR TX160 OR EQUAL). PAY AS ITEM 1.8B (LF×2).

9. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPABLE OF SUPPORTING H–20 LOADS MAY BE USED.

10. FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
RCP AND CI PIPE – ALL SIZES – 48"
AC AND VC PIPE – UP THROUGH 12" DIA. – 18"
AC AND VC PIPE – LARGER THAN 12" DIA. – 36"
DI PIPE – NONE REQUIRED
PVC – UP THROUGH 15" DIA. – NONE REQUIRED
PVC – LARGER THAN 15" DIA. – 48"/60"
ABS (ASTM D2680) – ALL SIZES – SAME AS VC ABOVE.

11. SPECIFICATIONS: ADDITIONAL CONSTRUCTION SPECIFICATIONS ARE INCLUDED IN THE CONTRACT DOCUMENTS. THESE STANDARD MANHOLE DRAWINGS ARE NOT COMPLETE WITHOUT THESE SPECIFICATIONS.

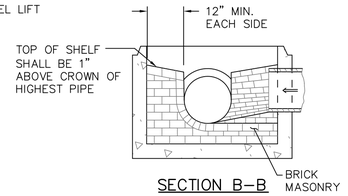


SECTION (TYP)

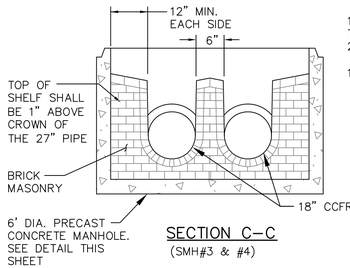
1 D1 SEWER MANHOLE
NOT TO SCALE

PLAN (TYP)

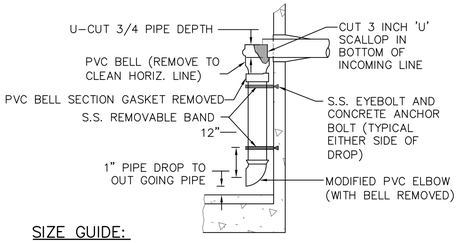
SECTION A–A



SECTION B–B



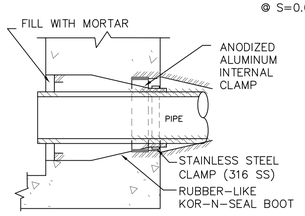
SECTION C–C
(SMH#3 & #4)



SIZE GUIDE:

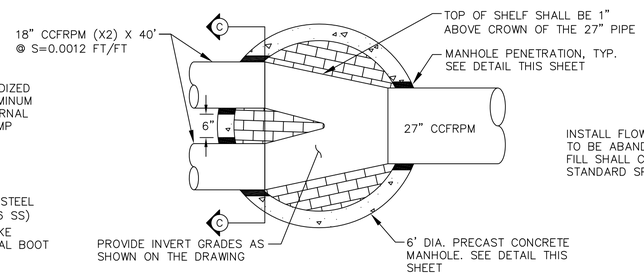
1–8" OR 10" DROP: 4'–0" DIA. M.H. UNLESS OTHERWISE SPECIFIED
2–8" OR 10" DROP: 5'–0" DIA. M.H.
1–12" DROP: 5'–0" DIA. M.H.
1–15" DROP: 5'–0" DIA. M.H.

8 D1 DROP MANHOLE
NOT TO SCALE

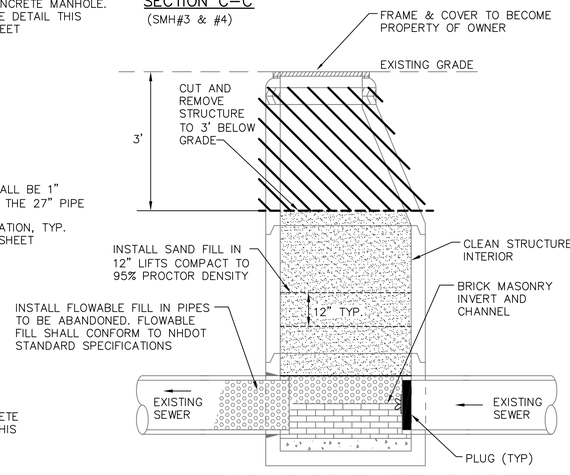


KOR–N–SEAL JOINT SLEEVE
(OR EQUAL)

3 D1 MANHOLE PENETRATIONS
NOT TO SCALE



4 D1 SMH#3 AND SMH#4 DETAIL
NOT TO SCALE SUBSIDIARY TO ITEM 1.5.6



5 D1 ABANDONED STRUCTURE
NOT TO SCALE

GRAVITY SEWER TRENCH NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.

2. BEDDING: SEE NOTE 7 OF STANDARD MANHOLE NOTES. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1–1/2 INCH SHALL BE USED.

3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90–100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR CAST–IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE. FOR CCFRPM PIPE USE CRUSHED STONE BLANKET.

4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER, FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WILL BE PRESERVED.

5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES – DIVISIONS 300 AND 400 RESPECTIVELY.

6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID–DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

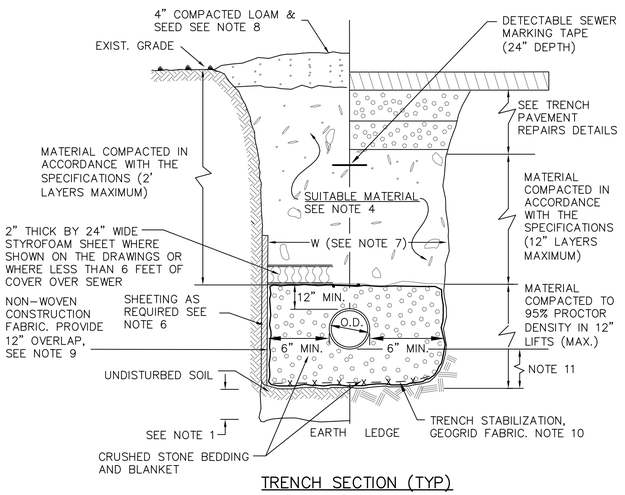
7. W = MAXIMUM ALLOWABLE TRENCH PAYMENT WIDTH FOR ROCK EXCAVATION, FOR ORDERED EXCAVATION BELOW GRADE AND HANDLING OF EXCAVATED CONTAMINATED SOILS. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15" W SHALL BE NO MORE THAN THE PIPE I.D. PLUS 24".

8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

9. ENCLOSE STONE BEDDING AND PIPE IN NONWOVEN GEOTEXTILE FABRIC WRAP (SEPARATION), SECTION 02275, PARAGRAPH 2.5 FOR MATERIAL SPECIFICATION. ITEM 1.8A.

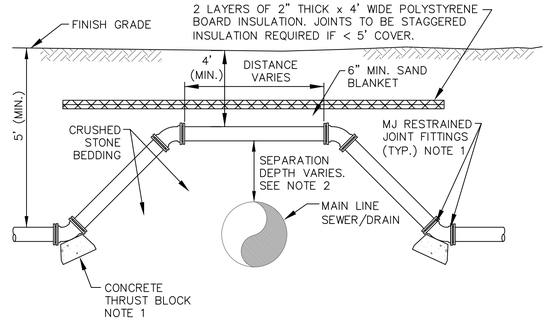
10. INSTALL SINGLE LAYER OF GEOGRID FABRIC (STABILIZATION) ON TRENCH BOTTOM, WHERE DIRECTED. SEE SECTION 02275, PARAGRAPH 2.2 IN THE PROJECT MANUAL FOR MATERIAL SPECIFICATION. ITEM 1.8B.

11. MINIMUM BEDDING DEPTH (IN EARTH) = 6"
BEDDING BEDDING DEPTH (IN LEDGE) = 12"
PAYMENT DEPTH FOR LEDGE EXCAVATION = 12"



TRENCH SECTION (TYP)

2 D1 TRENCH – GRAVITY SEWER
NOT TO SCALE

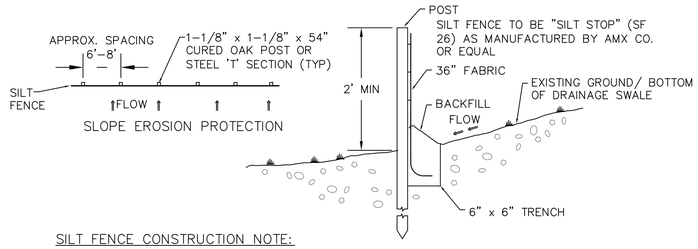


NOTE:

1. AVOID ABRUPT CHANGES IN DEPTH. INSTALL (4) FOUR 45° MJ BENDS WITH RESTRAINED JOINT FITTINGS OR THRUST RESTRAINT WHERE ABRUPT CHANGES IN DEPTH ARE NECESSARY.

2. SEPARATION DEPTH BETWEEN WATER AND SEWER SHALL BE 18" (MIN.) PER NHDES ENV–Wq 704.12. WHERE SEPARATION DEPTH IS LESS THAN 18" IN ORDER TO HAVE 4'–0" (MIN.) COVER OVER WATER MAIN, THEN SEWER SHALL BE PRESSURE PIPE, WHERE INDICATED ON DRAWINGS.

6 D1 WATER MAIN & SEWER CROSSING DETAIL (ITEM 3.1)
NOT TO SCALE



SILT FENCE CONSTRUCTION NOTE:

SILT FENCE TO BE CONSTRUCTED AS NEEDED BEFORE CONSTRUCTION PROCEEDS. FENCE SHALL BE MAINTAINED THROUGHOUT ENTIRE DURATION OF CONSTRUCTION UNTIL GROUND COVER IS ESTABLISHED.

7 D1 SILT FENCE DETAIL
NOT TO SCALE

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SEWER DETAILS

CORPORATE DR. & GOOSE BAY DR. SEWER IMPROVEMENTS

CITY OF PORTSMOUTH
PORTSMOUTH, NH

DWG NO D1

SHEET 5 OF 6

MINIMUM TRENCH PAVEMENT WIDTHS

PIPE I.D.	Wp (INCHES)
8–18 INCHES	108
24 INCHES	120

NOTE:

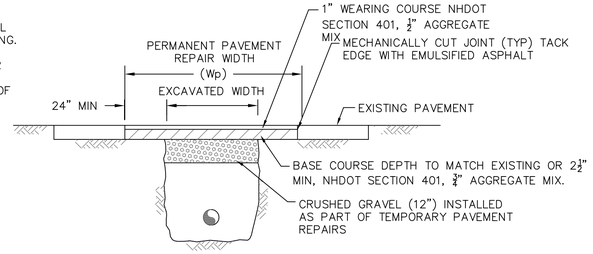
THE DIMENSIONS SHOWN SHALL BE CONSIDERED MAXIMUM PAVEMENT PAYMENT WIDTHS FOR 0–10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'–0" FOR TRENCHES 10' TO 15' AND BY 8'–0" FOR TRENCHES 15' TO 20' IN DEPTH. FOR 2–18" PIPES, Wp SHALL BE 192"

NOTES:

1. ALL PAVEMENT REMOVAL SHALL BE PRECEDED BY MACHINE CUTTING.

2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.

3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.



1/D2 PERMANENT TRENCH PAVEMENT REPAIRS

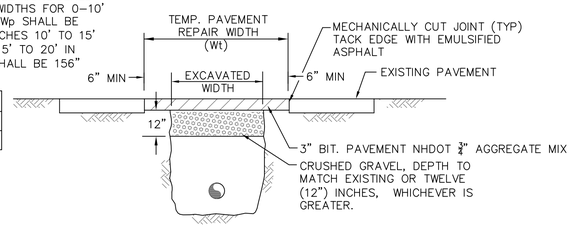
NOT TO SCALE — CORPORATE DRIVE STA 2+50 TO 9+40

MINIMUM TRENCH PAVEMENT WIDTHS

NOTE:

THE DIMENSIONS SHOWN SHALL BE CONSIDERED MAXIMUM PAVEMENT PAYMENT WIDTHS FOR 0–10' DEEP CONSTRUCTION. Wt AND Wp SHALL BE INCREASED BY 4'–0" FOR TRENCHES 10' TO 15' AND BY 8'–0" FOR TRENCHES 15' TO 20' IN DEPTH. FOR 2–18" PIPES, Wt SHALL BE 156"

PIPE I.D.	Wt (INCHES)
8–18 INCHES	72
24 INCHES	84



2/D2 TEMPORARY TRENCH PAVEMENT REPAIR

NOT TO SCALE — CORPORATE DRIVE STA 2+50 TO 9+40; GOOSE BAY DRIVE STA 17+50 TO 24+00

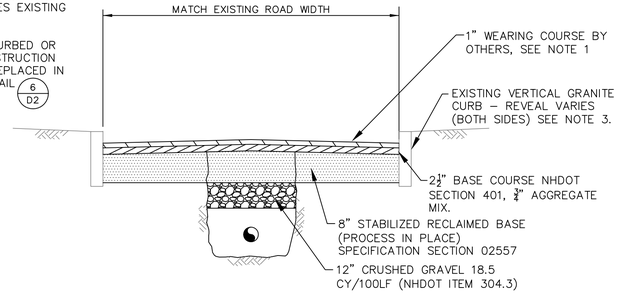
PAVEMENT REPAIRS

NOTES:

1. 1" WEARING COURSE TO BE CONSTRUCTED BY OTHERS. CONTRACTOR SHALL BE RESPONSIBLE FOR WARRANTY PERIOD FOR BASE COURSE.

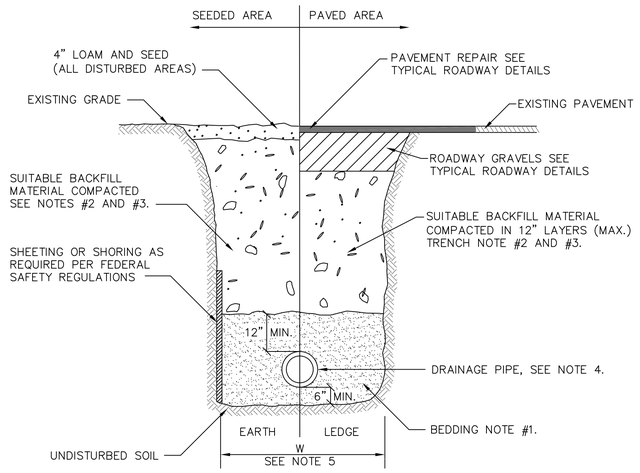
2. BASE COURSE SHALL BE CONSTRUCTED SO THAT WEARING COURSE GRADE MATCHES EXISTING GRADES.

3. EXISTING CURB DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE RESET OR REPLACED IN ACCORDANCE WITH DETAIL 6/D2 INCIDENTAL



3/D2 FULL WIDTH RECLAMATION AND PAVING

NOT TO SCALE — GOOSE BAY DRIVE STA 10+45 TO 17+50



4/D2 TRENCH DETAIL – STORM DRAIN

NOT TO SCALE

TRENCH NOTES – STORM DRAIN

1. BEDDING: BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED GRAVEL SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS.

2. COMPACTION: ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF AASHTO T99, METHOD C.

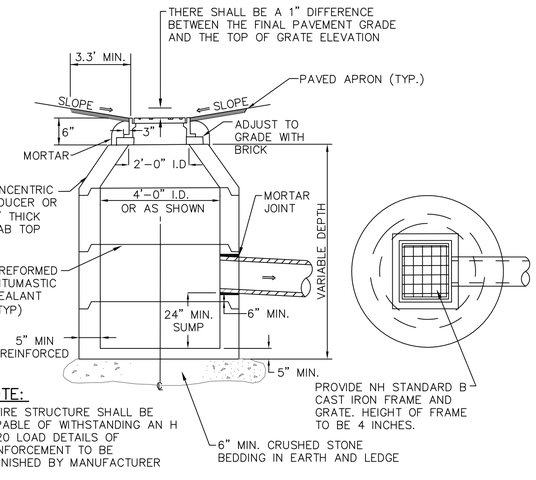
3. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6 INCHES IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN SEEDED AREAS, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, ROCKS UNDER 12", FROZEN EARTH OR CLAY, IF HE/SHE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE PIPE WILL BE PRESERVED.

4. DRAINAGE PIPE: PIPE MATERIALS SHALL BE, CORRUGATED POLYETHYLENE (CPE).

5. W=MAXIMUM ALLOWABLE TRENCH WIDTH: W SHALL BE THE MAXIMUM PAYMENT WIDTH FOR ROCK EXCAVATION (TRENCH) AND FOR ORDERED EXCAVATION BELOW GRADE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (OD).

6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID–DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

7. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

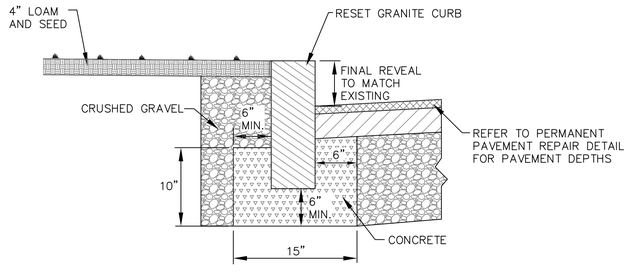


NOTE:

ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H – 20 LOAD DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER

5/D2 CATCH BASIN DETAIL

NOT TO SCALE

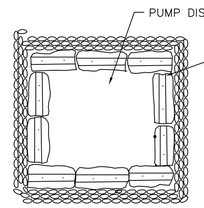


NOTE:

1.) CURB DAMAGED OR IMPACTED BY CONTRACTOR IS TO BE REPLACED AT THE CONTRACTORS EXPENSE.

6/D2 RESET VERTICAL GRANITE CURB DETAIL

NOT TO SCALE



PLAN — EMBEDDING DETAIL

HAY BALE BARRIER CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY BUTTED.

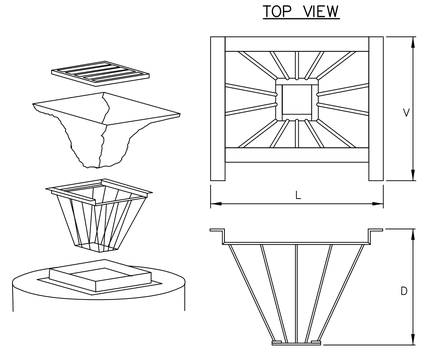
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3".

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE–BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.

4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

7/D2 PUMP DISCHARGE SEDIMENT TRAP

NOT TO SCALE



NOTES:

1. INSTALL APPROPRIATE METAL BASKET.

2. A. GEOTEXTILE FABRIC SHALL BE POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYETHYLENE CHLORIDE MEETING THE FOLLOWING:
   a. GRAB STRENGTH: 45# MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
   b. MULEN BURST STRENGTH: 60 PSI MIN. (ASTM D771)
   B. FABRIC SHALL HAVE AN OPENING NO GREATER THAN A #20 SIEVE AND A MIN. PERMEABILITY OF 120 GPM/SQ. FT.

3. FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND EXTEND AT LEAST 6 INCHES PAST THE FRAME. GRATE INLET SHALL BE PLACED OVER THE BASKET/FRAME AND WILL ANCHOR THE FABRIC.

4. INSPECT BASKET DAILY OR MORE FREQUENTLY DURING STORM EVENTS.

5. SEDIMENT SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE FREQUENTLY TO PREVENT CLOGGING.

6. USE OF INLET FILTER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF MAINTAINING OTHER EROSION CONTROL MEASURES AS MAY BE REQUIRED OR FROM STABILIZING DISTURBED AREAS AS SOON AS PRACTICAL.

8/D2 CATCH BASIN INLET FILTER

NOT TO SCALE

NO.	REVISIONS	APP'D

ISSUE FOR APPROVAL By DJR Date 01/09/18
ISSUE FOR CONSTRUCTION By DJR Date 02/08/18
RECORD DRAWING By – Date –

Drawn/Chk. MAH
Designed DJR
Checked PJM
Approved –
Date 02/08/18
Book No. –
Project No. 2097
Dwg. ID 2097_st6dtls.dwg
Scale AS SHOWN

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER LICENSED – MATTHEW A. PRATT No. 8531

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER LICENSED – DAVID J. ROCHETTE No. 13457

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ROADWAY & DRAINAGE DETAILS

CORPORATE DR. & GOOSE BAY DR. SEWER IMPROVEMENTS

CITY OF PORTSMOUTH PORTSMOUTH, NH

DWG NO D2 — SHEET 6 OF 6