# **INTERSECTION IMPROVEMENT PROJECT**

# INDEX

# SHEET NO.

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# **U.S. ROUTE 1 AT ANDREW JARVIS DRIVE** IN THE CITY OF PORTSMOUTH

# **ROCKINGHAM COUNTY STATE OF NEW HAMPSHIRE**





# **PORTSMOUTH BID NO. 35-18**

LENGTH OF PROJECT = 1593 FEET = 0.30 MILES



XISTING	PROPOSED	DESCRIPTION
JB	JB	
⊕ ⊞ CB	CB	CATCH BASIN CURB INLET
I FP	Ø FP	FLAG POLE
G GP	G GP	GAS PUMP
⊐ MB		MAIL BOX POST SQUARE
$\bigcirc$	0	POST CIRCULAR
WELL	⊕ WELL	
O EHH	• EHH O	FENCE GATE POST
D GG	O GG	GAS GATE
BHL # · MW #	● BHL # → MW #	BORING HOLE MONITORING WELL
TP #	Φ TP#	TEST PIT
		HYDRANT
·朱 CO.BD.	*	COUNTY BOUND
$\bigcirc \triangle$		GPS POINT
$\odot$	©	
(D) (E)	(E)	ELECTRIC MANHOLE
G	©	GAS MANHOLE
(M)	()	
(T)	(5) (7)	TELEPHONE MANHOLE
W	Ŵ	WATER MANHOLE
GB	■ GB	GRANITE BOUND
SB		STONE BOUND
TB		TOWN OR CITY BOUND
A Or CLIV		TRAVERSE OR TRIANGULATION STATION
HTP		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
UPDL Liit	-∽- UPDL _ג_ ווו ד	UTILITY POLE WITH DOUBLE LIGHT UTILITY POLE W / 1 LIGHT
- UPL	UPL	UTILITY POLE
C F & TVDF		BUSH
O NIPE		STUMP
		SWAMP / MARSH
• WG • PM	• WG • PM	WATER GATE PARKING METER
I IVI	- I <sup>-</sup> IVI	- OVERHEAD CABLE/WIRE
00		
<i>99</i>		- CONTOURS (UN-THE-GROUND SURVEY DATA) - CONTOURS (PHOTOGRAMMETRIC DATA)
		- UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		- UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
- S		– UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
T		- UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER) BALANCED STONE WALL
	<u> </u>	- GUARD RAIL - STEEL POSTS
X	v	- GUARD RAIL - WOOD POSTS
	X	- WOOD FENCE
· • • • • • • • • • • • • • • • • • • •	O · O · O · O · O · O · O · O · O ·	· HAY BALES/SILT FENCE/COMPOST FILTER TUBES
		TREE LINE
		- TOP OR BOTTOM OF SLOPE
		- LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM BORDER OF WETLAND
		100 FT WETLAND BUFFER
· ·		200 FT RIVERFRONT BUFFER
		- STATE HIGHWAY LAYOUT - TOWN OR CITY LAYOUT
		- COUNTY LAYOUT
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		- EASEMENT
1'_0"		
$\sqrt{(TYP.)}$	_	12" SSLY @ 45°
	<u> </u>	
		GORE AREA DETAIL



\* BROKEN LANE LINES TO BE 10' IN LENGTH WITH 30' GAP (TYP.) \*\* DASHED LINES TO BE 2' IN LENGTH WITH 6' GAP (TYP.)





SHARED LANE "SHARROW" MARKING DETAIL NOT TO SCALE

# BICYCLE LANE MARKING DETAIL NOT TO SCALE



GENER	RAL ABBREVIATIONS	<b>GPT</b> Greenman-Pedersen, Inc.
ABAN	ABANDON ASPHALT COATED CORRUGATED METAL PIPE	21 Daniel Street, Second Floor, Portsmouth, NH 03801 Tel: (603) 891-2213 Fax: (978) 658-3044 http://www.gpinet.com
ADJ APPROX	ADJUST APPROXIMATE BOTTOM OF CURB	
BD BIT CONC	BOUND BITUMINOUS CONCRETE	
BO BM	BY OTHERS BENCH MARK	
BW CC	BOTTOM OF WALL CEMENT CONCRETE	NEW HAMD
CCB	CAPE COD BERM CURB INLET CAST JEON DIRE	PAUL JOHNSON
CIT	CAST IRON PIPE CHANGE IN TYPE CLEARANCE	No. 11554
CLF CLDI	CHAIN LINK FENCE CEMENT LINED DUCTILE IRON	EN STONAL EN THINK
CMP CONST	CORRUGATED METAL PIPE CONSTRUCTION	11/1000000 2122/17
CP CPP	CENTER POINT CORRUGATED PLASTIC PIPE	
DIP	CONDULT DUCTILE IRON PIPE	
ELEV OR EL	ELEVATION FDGE OF PAVEMENT	
ĒTW EXIST	EDGE OF TRAVELED WAY EXISTING	CITY OF PORTSMOUTH
F&C F&G	FRAME AND COVER FRAME AND GRATE	DEPT. OF PUBLIC WORKS
FDN FND	FOUNDATION FOUND	PORTSMOUTH, NH 03801
GRAN HMA	GRANITE HOT MIX ASPHALT	
HOR HP	HORIZONTAL HIGH POINT	
HYD INV	HYDRANT INVERT	⊢ш
LB LO	LEACHING BASIN LAYOUT	
MAX MIN		
MUN NIC NGVD	NONUMENT NOT IN CONTRACT NATIONAL GEODETIC VERTICAL DATUM	
N/F OHW	NOW OR FORMERLY OVERHEAD WIRE	L L L L L L L
PC PCC	POINT OF CURVATURE POINT OF COMPOUND CURVATURE	
PGL PI	PROFILE GRADE LINE POINT OF INTERSECTION	
PRC	POINT ON CURVE POINT OF REVERSE CURVATURE PROPOSED	
PT PVC	POINT OF TANGENCY POINT OF VERTICAL CURVATURE	
PVCC PVCP	POINT OF VERTICAL COMPOUND CURVATURE POLYVINYLCHLORIDE PIPE	
PVI PVMT	POINT OF VERTICAL INTERSECTION PAVEMENT	
PVRC PVT	POINT OF VERTICAL REVERSE CURVATURE POINT OF VERTICAL TANGENCY	
R R R&D	PAVED WATERWAT RADIUS REMOVE AND DISPOSE	
R&R R&S	REMOVE AND RESET REMOVE AND STACK	
REM REMOD	REMOVE REMODEL	
RCP RET POW	REINFORCED CONCRETE PIPE RETAIN RICHT OF WAY	
RR SB	RAILROAD STONE BOUND	<u>  O ~ よか</u>
SB/DH SHLD	STONE BOUND/DRILL HOLE SHOULDER	
SHLO SSD	STATE HIGHWAY LAYOUT STOPPING SIGHT DISTANCE STATION	
STL TBM	STATION STEEL TEMPORARY BENCH MARK	
TC TOS	TOP OF CURB TOP OF SLOPE	
TS TSV & B	TRAFFIC SIGNAL TAPPING SLEEVE, VALVE AND BOX	
TYP TW	TYPICAL TOP OF WALL UNDER CONSTRUCTION	도양 듯빌
USGS UP	U.S. GEOLOGICAL SURVEY UTILITY POLE	
VCP VERT	VITRIFIED CLAY PIPE VERTICAL	
WCR	WHEELCHAIR RAMP	REVISIONS

NO.	REVISION		DATE
	12/22	/17	
DRAV	VN/DESIGN BY	CHEC	KED BY
	CLS	JF	၁၂
AE	LEGEI BBREVI	ND 8 ATIC	2 DNS
SCAL	.⊨: N.T.§	S.	
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2. DRAINAGE CONSTRUCTION WILL START AT THE LOW POINT OF THE SYSTEM UNLESS APPROVED BY THE ENGINEER. 3. DRAIN MANHOLE COVERS AND CATCH BASINS GRATES SHALL BE SET 1/4 OF AN INCH BELOW GRADE.

6. SAWCUTTING AND EXCAVATION OF THE EXISTING CONCRETE SLAB WITHIN THE LIMITS OF ROUTE ONE WILL BE PAID FOR UNDER ITEM 206.2 ROCK STRUCTURE EXCAVATION. REPLACEMENT OF THE SLAB WILL BE PAID FOR UNDER 520.2. THE EXISTING SLAB SHALL BE SAWCUT AND REMOVED WITHOUT CAUSING EXCESSIVE DAMAGE TO THE SURROUNDING ROADWAY.

2.

5.

6.

7.

GENERAL NOTES

- 1. EXISTING CONDITIONS INFORMATION IS BASED ON SURVEY COLLECTED BY: GREENMAN PEDERSEN, INC., 21 DANIEL STREET, PORTSMOUTH, NH 03801, (603) 891-2213.
- THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS DATED 2016, CURRENT STANDARD PLANS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL. THESE PLANS HAVE BEEN CREATED TO BE USED TOGETHER WITH THE CONTRACT AND SPECIFICATIONS TO CREATE ONE COMPLETE BID AND CONSTRUCTION DOCUMENT.
- CONTRACTOR SHALL TAKE SPECIAL CARE IN NOT DISTURBING EXISTING MONUMENTS, BOUNDS, AND/OR BENCHMARKS WITHOUT FIRST MAKING PROVISIONS FOR RELOCATION.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES AND SERVICES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE CITY OF PORTSMOUTH OR GREENMAN-PEDERSEN, INC. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE AND LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO LOCATE EXACTLY AND TO PRESERVE ANY AND ALL UNDERGROUND UTILITIES. CALL "DIG-SAFE" 1-888-DIGSAFE (344-7233) AT LEAST 72 HOURS PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION. STRUCTURES SHOWN MAY HAVE MULTIPLE SERVICES AND MAY HAVE OLD CONNECTIONS THAT MAY NOT HAVE BEEN PROPERLY ABANDONED. NO EXTRA PAYMENTS WILL BE MADE FOR EXPLORATION OF DEFUNCT UTILITIES LEFT IN THE GROUND.
- WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- 6. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS, OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE & RESET" (R & R).
- 9. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS NOTED OTHERWISE.
- 10. ALL SYMBOLS, WORDS, TRANSVERSE MARKINGS (STOP BARS AND CROSSWALK LINES), AS NOTED ON THE PAVEMENT MARKING LEGEND ON SHEET 2, SHALL BE THERMOPLASTIC.
- 11. THE CONTRACTOR SHALL CONTACT THE PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT 427-1530 ONE WEEK PRIOR TO PAVEMENT MARKING
- 12. ALL EXISTING STATE, COUNTY, CITY AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED. ALL PROPERTY LINES BETWEEN ABUTTERS ARE APPROXIMATE ONLY.
- 13. ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL HAVE LOAM AND SEED PLACED WITH MULCH AND TACKIFIERS. THE LOAM SHALL HAVE A MINIMUM DEPTH OF 6 INCHES AND SHALL BE PLACED FLUSH WITH THE TOP OF THE ADJACENT CURB, EDGING, BERM OR PAVEMENT SURFACE.
- 14. THE LIMIT OF WORK AREA SHALL BE THE STREET RIGHT OF WAY UNLESS SHOWN OTHERWISE.
- 15. PRIOR TO THE START OF ANY NEW UTILITY WORK, ALL ELEVATIONS OF EXISTING UTILITIES IN THOSE AREAS ARE TO BE VERIFIED. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY SHOULD ANY DISCREPANCIES OCCUR.
- 16. ALL CASTINGS (BESIDES DRAINAGE MANHOLE COVERS AND DRAINAGE GRATES) SHALL BE SET FLUSH WITH FINISHED GRADE.
- 17. ALL GATE BOXES, SERVICE BOXES AND PUBLICLY OWNED MANHOLE FRAMES AND COVERS SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR. ADJUSTMENT OF THESE CASTINGS SHALL BE INCLUDED IN THE RESPECTIVE CONTRACT ITEMS.
- 18. THE CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS TO BE USED ON THIS PROJECT. THE CONTRACTOR SHALL NOT PURCHASE ANY MATERIALS UNTIL THEY HAVE BEEN APPROVED FOR USE BY THE OWNER.
- 19. UTILITIES DAMAGED AS A RESULT OF THE CONTRACTORS OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 20. TEMPORARY AND OR PERMANENT PAVING REPAIRS SHALL MAINTAIN EXISTING LINE AND GRADE UNLESS INDICATED OTHERWISE (SEE PROFILES AND CROSS SECTIONS) OR OTHERWISE DIRECTED BY THE ENGINEER.
- 21. AS BUILT RED-LINE DRAWINGS NEED TO BE FURNISHED BY THE CONTRACTOR PRIOR TO FINAL PAYMENT. THE PREPARATION OF THESE AS BUILTS IS CONSIDERED SUBSIDIARY TO THE PROJECT.
- 22. OVERHEAD WIRES ARE SHOWN ON THE DRAWINGS BUT THE CITY MAKES NO WARRANTY TO THEIR COMPLETENESS OR THAT HEIGHT IS SUFFICIENT TO COMPLETE THE WORK. POLES THAT NEED TO BE HELD UP BY THE UTILITY COMPANY WILL BE PAID FOR BY THE CONTRACTOR WITH NO ADDITIONAL COST PASSED ON TO THE OWNER.
- 23. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY UNTIL THE OWNER HAS SIGNED A MEMORANDUM OF UNDERSTANDING WITH THE CITY.
- 24. ALL EXISTING STRUCTURES ABANDONED IN PLACE SHALL BE REMOVED TO 3' BELOW GRADE AND FILLED WITH COMPACTED GRAVEL OR CRUSHED STONE. PIPES SHALL BE PLUGGED AT ALL OPEN AREAS AND ANY ABANDONED PIPE LARGER THAN 8" SHALL BE FILLED WITH PUMPED FLOWABLE FILL.
- 25. SAWCUTTING AND EXCAVATION OF THE EXISTING CONCRETE SLAB WITHIN THE LIMITS OF ROUTE ONE MAY BE REQUIRED TO COMPLETE THE WORK. DISTURBANCE TO THE EXISTING SLAB SHALL BE MINIMIZED TO THE EXTENT POSSIBLE. CONCRETE TO BE REMOVED SHALL BE SAWCUT AND REMOVED WITHOUT CAUSING EXCESSIVE DAMAGE TO THE SURROUNDING ROADWAY.

# STORM DRAINAGE SYSTEM NOTES

1. THE CONTRACTOR SHALL PHASE THE CONSTRUCTION OF THE DRAIN TO MINIMIZE DISRUPTION TO THE EXISTING SYSTEM. THE SYSTEM SHALL NOT BE SURCHARGED AND ANY DAMAGE CAUSED BY A SURCHARGE WILL BE PAID FOR BY THE CONTRACTOR. MAINTENANCE OF THE DRAINAGE FLOWS IS SUBSIDIARY TO THE WORK.

4. DRAIN MANHOLES AND CATCH BASINS FRAMES, COVERS AND GRATES SHALL BE IN CONFORMANCE WITH CITY OF PORTSMOUTH AND NHDOT STANDARDS.

5. ALL CATCH BASINS, DRAIN MANHOLES & DRAIN LINES SHALL BE CLEANED PRIOR TO ACCEPTANCE.

## WATER CONSTRUCTION NOTES

 TEST PITS TO LOCATE EXISTING UTILITIES ARE REQUIRED AS NOTED ON THE PLANS. ADDITIONAL TEST PITS MAY BE ORDERED BY THE ENGINEER. DRAINAGE MATERIALS SHALL NOT BE ORDERED UNTIL TEST PITS HAVE BEEN COMPLETED AND POTENTIAL CONFLICTS HAVE BEEN RESOLVED.

STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WATER WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.

3. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

4. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS

EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER. WATER SERVICE SHALL NOT BE INTERRUPTED WITHOUT 72 HOUR NOTICE AND PRIOR APPROVAL OF THE OWNER.

ALL HYDRANTS REMOVED SHALL BE SALVAGED AND DELIVERED TO A LOCATION TO BE DETERMINED BY THE OWNER. SURFACE RESTORATION SHALL BE IN KIND UNLESS OTHERWISE NOTED.

ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED AND APPROVED BAG.

# **EROSION & SEDIMENT CONTROL NOTES**

- ENTERING THE DRAINAGE SYSTEM.

- REMOVAL OF THE EROSION CONTROL DEVICES.
- AND DETAILS AS SHOWN ON THESE PLANS.

- BLANKETS HAVE BEEN INSTALLED.

- **BID ITEMS.**
- IS SUBMITTED AND ACCEPTED BY THE OWNER.
- INSTALL INLET PROTECTION. a.
- PERFORM PROJECT IMPROVEMENTS.
- STABILIZE ALL DISTURBED AREAS.

1. ALL EROSION AND SEDIMENT CONTROLS SHALL MEET THE REQUIREMENTS ON THE NH STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION, 2008.

2. THIS PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

3. PRIOR TO CONSTRUCTION INSTALL SILT SACKS IN EXISTING CATCH BASINS TO PREVENT SEDIMENT FROM

4. THE SMALLEST PRACTICABLE AREA SHALL BE DISTURBED DURING CONSTRUCTION, AND ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINAL GRADE.

5. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF INCH OF RAINFALL.

6. THE ENTIRE PROJECT AREA SHALL BE SWEPT UPON COMPLETION OF CONSTRUCTION AND PRIOR TO

7. THE CONTRACTOR SHALL COMPLY WITH THE GENERAL EROSION AND SEDIMENTATION CONTROL NOTES

8. ALL AREAS DISTURBED BY THE CONTRACTORS OPERATIONS SHALL BE RESTORED TO A MINIMUM OF 6 INCHES OF TOPSOIL, GRASS SEED, FERTILIZER AND MULCH UNLESS OTHERWISE NOTED.

9. THE CONTRACTOR SHALL CLEAN OUT ALL DRAINAGE STRUCTURES IDENTIFIED FOR INSTALLATION OF SILT SACKS DURING CONSTRUCTION, UPON COMPLETION OF WORK.

10. AN AREA SHALL BE CONSIDERED STABLE ONCE BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED, A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED, A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL, SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED OR EROSION CONTROL

11. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE

12. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

13. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15 OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

14. ALL INCOMPLETE ROADWAY SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER, SHALL BE PROTECTED WITH A MINIMUM OF 4 INCHES OF "WINTER" BINDER

15. CONTRACTOR SHALL PROVIDE POSITIVE METHODS AND APPLY DUST CONTROL MATERIALS TO MINIMIZE RAISING DUST FROM CONSTRUCTION OPERATIONS. PROVIDE POSITIVE MEANS TO PREVENT AIR-BORNE DUST FROM DISPERSING INTO THE ATMOSPHERE. DUST CONTROL SHALL BE INCIDENTAL TO THE CONTRACT

16. A NPDES PERMIT FOR CONSTRUCTION ACTIVITIES IS REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS REQUIRED TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND TO SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA TO FULFILL PROJECT REQUIREMENTS. THE SWPPP MUST BE PREPARED IN ACCORDANCE WITH THE EPA'S REQUIREMENTS. NO WORK IS TO PROCEED UNTIL THE SWPPP AND THE NOI

**17. EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE:** 

ONCE THE SITE HAS BEEN STABILIZED. REMOVE ALL TEMPORARY EROSION CONTROLS.

GPP Greenman-Pedersen, Inc Engineers, Architects, Planners, Construction Engineers & Inspectors
21 Daniel Street, Second Floor, Portsmouth, NH 03801 Tel: (603) 891-2213 Fax: (978) 658-3044 http://www.gpinet.com



PREPARED FOR CITY OF PORTSMOUTH DEPT. OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, NH 03801

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C	ONSTRUCTION SEQUENCE (GENERAL)	ROA
1.	PROVIDE A SCHEDULE, SEQUENCE OF INSTALLATION, AND MATERIAL SUBMITTALS TO THE OWNER FOR REVIEW. MARK OUT AND CALL IN DIG SAFE. PREPARE FOR A PRECONSTRUCTION MEETING TO BE HELD WITH THE ABUTTERS. THE PERSON IN RESPONSIBLE CHARGE FOR THE PROJECT SHOULD PLAN ON ATTENDING THE MEETING.	1. E Z S F
2.	INSTALL AND MAINTAIN TEMPORARY EROSION CONTROL DEVICES THROUGHOUT THE CONSTRUCTION PERIOD (INCLUDING WINTER SHUT DOWN PERIODS AS REQUIRED) AS SHOWN IN THE APPROVED SWPPP, ON THE DRAWINGS, OR AS APPROVED BY THE ENGINEER.	2. A F
3.	INSTITUTE EXPLORATORY EXCAVATION PROGRAM WITH ENGINEER TO IDENTIFY POTENTIAL CONFLICTS AT UTILITY CROSSINGS. ANY EXPLORATORY EXCAVATION COMPLETED OUTSIDE THE LIMITS SHOWN ON THE DRAWINGS WITHOUT PRIOR APPROVAL FROM THE ENGINEER WILL BE AT NO ADDITIONAL COST TO THE OWNER.	3. T F A N
4.	DISPOSE OF SURPLUS AND UNSUITABLE MATERIALS AS THE WORK PROGRESSES. STOCKPILES WILL NOT BE ALLOWED ON SITE UNLESS APPROVED BY THE ENGINEER AHEAD OF TIME. EXCAVATED MATERIALS WILL BE LOADED INTO TRUCKS AND TAKEN AWAY AS WORK PROGRESSES IN ORDER TO KEEP THE ROAD PASSABLE.	4. F E 5. V
5.	CONTRACTOR IS TO MAINTAIN DRY AND STABLE TRENCH CONDITIONS AT ALL TIMES. A DE-WATERING PLAN MUST BE PROVIDED AND APPROVED BY THE ENGINEER.	6. V
6.	IMMEDIATELY STABILIZE DISTURBED AREAS AFTER PIPE INSTALLATION AND REESTABLISH TEMPORARY EROSION CONTROL DEVICES MOVED DURING CONSTRUCTION.	A N 
7.	REPAIR TRENCHES EACH NIGHT WITH EITHER RECLAIMED BASE (IF CONSTRUCTION PHASING ALLOWS), SUITABLE EXCAVATED SUBBASE OR CRUSHED GRAVEL. THE TRENCH(ES) SHALL BE FLAT AND COMPACTED FIRM EACH NIGHT. CONSTRUCT TEMPORARY PAVEMENT REPAIRS AS SOON AS PRACTICAL FOLLOWING UTILITY INSTALLATION AND TESTING. TRENCH REPAIRS SHALL BE PAID FOR UNDER THE ASSOCIATED FINAL PAVING ITEMS AS DETAILED.	7. 7 F N L
8.	RESTORE ROAD DRAINAGE AT NIGHT PRIOR TO LEAVING THE SITE.	C
9.	FINISH GRADING, LOAM AND SEED DISTURBED AREAS AND BACK UP PAVEMENT WITH GRAVEL IMMEDIATELY FOLLOWING PAVEMENT REPAIRS.	9. <i>F</i> 2
10.	. REMOVE ALL TEMPORARY EROSION CONTROL DEVICES AS SOON AS VEGETATION IS ESTABLISHED AND AREAS ARE STABILIZED.	10. F E
11.	. TEMPORARY PAVEMENT (ITEM 403.99) SHALL BE USED FOR THE TOP COURSE OF TRENCH PATCHES PERFORMED PRIOR TO COLD PLANING. THIS ITEM SHALL ALSO BE USED AS NECESSARY AND AS DIRECTED BY THE ENGINEER TO MAINTAIN TEMPORARY DRIVEWAY AND PEDESTRIAN ACCESS.	11. C H F
		12. F /

# **ROAD WORK NOTES**

EXISTING SIDEWALKS SHALL BE MAINTAINED PROVIDED THEY DO NOT CONFLICT WITH THE WORK ZONE. IF A SIDEWALK IS NOT PASSABLE, OR A PORTION IS WITHIN A WORK ZONE, THE SIDEWALK SHALL BE SIGNED AS 'CLOSED' IN ADVANCE SO THAT A PEDESTRIAN CAN CHOOSE AN ALTERNATIVE ROUTE.

AFTER THE INSTALLATION OF UTILITIES, EXISTING GRANITE CURBING SHALL BE REMOVED AND ANY PIECES 4' OR LONGER SHALL BE RETAINED FOR REUSE ON THE PROJECT.

IT IS THE INTENT OF THIS PROJECT TO RECLAIM THE EXISTING ASPHALT ALONG ANDREW JARVIS DRIVE PRIOR TO THE INSTALLATION OF ASSOCIATED UTILITY WORK. THESE TRENCHES SHALL BE REPAIRED AS PER THE CONTRACT DOCUMENTS TO PREVENT THE CONTAMINATION OF THE RECLAIMED MATERIAL.

RECLAIMED MATERIAL SHALL BE REMOVED AND REHANDLED IN ORDER TO PERFORM ADDITIONAL EXCAVATION TO ACCOUNT FOR THE DEPTH OF THE PROPOSED PAVEMENT LAYERS.

WHEN NECESSARY, STONE FOR BLENDING WILL BE APPLIED TO THE RECLAIMED SURFACE AND RE-BLENDED WITH THE PREVIOUSLY RECLAIMED MATERIAL TO MEET THE REQUIRED RECLAIMED STABILIZED BASED GRADATION.

WINDROWED OR GRADED RECLAIM PAVEMENT BORROW SHALL BE USED ON THE PROJECT UNDER AREAS OF WIDENING WALKS, DRIVES, FOR LEVELING. REMOVAL OF EXCESS RECLAIMED BASE MATERIAL IS SUBSIDIARY TO RECLAIMED STABILIZED BASE.

ALL EXISTING SUITABLE GRANITE CURBING REMOVED WITHIN THE PROJECT LIMITS WILL BE REUSED FIRST. ADDITIONAL GRANITE WILL BE PURCHASED TO MAKE UP THE DIFFERENCE. ANY EXCESS MATERIAL SHALL REMAIN PROPERTY OF THE CITY AND SHALL BE TRANSPORTED TO A DESIGNATED LOCATION.

ALL DRIVEWAYS SHALL RECEIVE TWO LAYERS OF ASPHALT AS CALLED FOR IN THE PAVEMENT NOTES. DO NOT REMOVE OR PAVE DRIVEWAYS BEYOND THE PROPERTY LINE UNLESS DEPICTED IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE ENGINEER.

ALL SIDEWALKS WILL BE CONSTRUCTED TO ADA STANDARDS AND CROSS SLOPES SHALL NOT EXCEED 2%

PAVEMENT WILL NOT BE PLACED AT SURFACE TEMPERATURES COLDER THAN 40 DEGREES F FOR BINDER COURSE OR 50 DEGREES F FOR WEARING COURSE. IF PAVING IS ALLOWED, IT IS THE CONTRACTORS RESPONSIBILITY TO COMPACT THE ASPHALT PROPERLY BEFORE IT SETS.

CONCRETE SIDEWALKS WILL NOT BE POURED IF FREEZING TEMPERATURES ARE EXPECTED WITHIN 24 HOURS. ALL CONCRETE SIDEWALKS WILL BE COVERED WITH PLASTIC FILM FOR 3 DAYS AFTER PLACEMENT. PLASTIC WILL BE PROPERLY SECURED AS NOT TO BLOW OFF.

PUBLIC SAFETY IS A PRIORITY. THE CONTRACTOR WILL SUPPLY THE PROPER HAZARD WARNINGS AS ADVISED. IT IS THE DUTY OF THE CONTRACTOR'S SAFETY COORDINATOR TO PREVENT PERSONAL INJURY AND/OR DAMAGES TO THE RESIDENTS.

13. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, OR OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES, BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF OF THE SUSPECT MATERIAL TO AVOID FURTHER CONTAMINATION OF ADJACENT MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY, SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

14. THE TERM TO "MEET EXISTING" SHALL MEAN TO MEET BOTH THE EXISTING ALIGNMENT AND ELEVATION.

# TRAFFIC MANAGEMENT NOTES

- FOLLOWING NOTES.

- SUMMER, UNLESS APPROVED BY OWNER.

1. ALL TRAFFIC MANAGEMENT AND WORK ZONE TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.), THE CURRENT NHDOT -"WORK ZONE TRAFFIC CONTROL STANDARD PLANS". THE STANDARD SPECIFICATIONS. AND THE

2. LANE RESTRICTIONS MAY NOT REMAIN OVERNIGHT OR DURING NON-WORKING HOURS. AFTER EACH WORKING DAY, TRAFFIC CONTROL DEVICES THAT ARE NOT REQUIRED SHALL BE MOVED OFF THE ROADWAY OR FULL DEPTH CONSTRUCTION AREA AND PLACED SO AS NOT TO IMPEDE PEDESTRIAN AREAS, ABUTTER ACCESS OR CAUSE CONFUSION TO MOTORISTS. IN CERTAIN CIRCUMSTANCES, AND ONLY WITH THE APPROVAL OF THE CITY AND THE ENGINEER, LANE RESTRICTIONS MAY REMAIN OVERNIGHT. THE STREETS IN THE PROJECT AREA WILL BE PASSABLE AND SAFE IN THE OPINION OF THE ENGINEER PRIOR TO WORK TERMINATING AT THE END OF THE DAY.

3. THE CONTRACTOR SHALL MAINTAIN ONE PASSABLE LANE AND SAFE PASSAGE FOR RESIDENTS TO AND FROM THEIR DWELLINGS IN THE NEIGHBORHOODS. WORK THAT REQUIRES THE COMPLETE SHUT DOWN OF THE STREET HAS TO BE APPROVED BY THE ENGINEER PRIOR TO THE WORK COMMENCING.

4. THE PROJECT SHALL BE SUBSTANTIALLY COMPLETE BY AUGUST 24, 2018.

5. TRAFFIC SIGNAL WORK MAY BE PERFORMED DURING THE SCHOOL YEAR WITHIN THE WINDOW OF TIME BETWEEN THE START OF THE SCHOOL DAY AND 30 MINUTES BEFORE SCHOOL DISMISSAL.

6. ALL OTHER WORK SHALL BE PERFORMED WHILE THE HIGH SCHOOL IS OUT OF SESSION FOR THE





# **PAVEMENT NOTES**

# SURFACE:

BASE:

SUBBASE: 12" GRAVEL (F), ITEM 304.2 (SUITABLE MATERIAL TO REMAIN)

SURFACE: ITEM 403.11 HOT BITUMINOUS PAVEMENT, MACHINE METHOD, HIGH STRENGTH

1 1/2" COLD PLANING 1 1/2" WEARING COURSE, NHDOT  $\frac{3}{8}$ " HIGH STRENGTH

TACK COAT: EXISTING PAVEMENT.

SURFACE:

1  $\frac{1}{2}$ " WEARING COURSE, NHDOT  $\frac{3}{8}$ ", OVER  $3\frac{1}{2}$ " BINDER COURSE, TO BE PLACED IN TWO LAYERS, NHDOT  $\frac{3}{4}$ ", OVER

BASE:

SURFACE:

BASE:

SURFACE:

- SUBBASE:

# CONCRETE SIDEWALK

- SURFACE:
- SUBBASE:
- CONCRETE CURB RAMP
- SURFACE: SUBBASE:

# NOTES:

- NOT COVERED.
- ADJUSTED TO MEET.

- DIRECTED BY THE ENGINEER.
- **REQUIRED FOR BLENDING.**
- RECLAIM QUANTITY IS NOT AVAILABLE.
- EDGING IS NOT PROPOSED.

FULL DEPTH HOT BITUMINOUS PAVEMENT WIDENING (LAFAYETTE ROAD - U.S. ROUTE 1)

ITEM 403.11 HOT BITUMINOUS PAVEMENT, MACHINE METHOD, HIGH STRENGTH

1  $\frac{1}{2}$ " WEARING COURSE, NHDOT  $\frac{3}{8}$ " HIGH STRENGTH, OVER  $2\frac{1}{2}$ " BINDER COURSE, NHDOT  $\frac{3}{4}$ ", OVER 3<sup>1</sup>/<sub>2</sub>" BASE COURSE, NHDOT 1", OVER

8" RECLAIMED STABILIZED BASE, OR 8" CRUSHED GRAVEL, ITEM 304.301

HOT BITUMINOUS PAVEMENT OVERLAY (LAFAYETTE ROAD - U.S. ROUTE 1)

EMULSIFIED ASPHALT FOR TACK COAT AT 0.05 GAL/SY OVER

FULL DEPTH HOT BITUMINOUS PAVEMENT WITH RECLAIMED BASE (ANDREW JARVIS DRIVE)

ITEM 403.12 HOT BITUMINOUS PAVEMENT, MACHINE METHOD

8" RECLAIMED STABILIZED BASE

FULL DEPTH HOT BITUMINOUS PAVEMENT WIDENING (ANDREW JARVIS DRIVE)

ITEM 403.12 HOT BITUMINOUS PAVEMENT, MACHINE METHOD

 $1\frac{1}{2}$ " WEARING COURSE, NHDOT  $\frac{3}{8}$ ", OVER  $3\frac{1}{2}$ " BINDER COURSE, TO BE PLACED IN TWO LAYERS, NHDOT  $\frac{3}{4}$ ", OVER 8" RECLAIMED STABILIZED, OR 8" CRUSHED GRAVEL, ITEM 304.301

HOT BITUMINOUS PAVEMENT DRIVEWAY:

ITEM 403.12 HOT BITUMINOUS PAVEMENT, HAND METHOD

1 <sup>1</sup>/<sub>2</sub>" WEARING COURSE, NHDOT <sup>3</sup>/<sub>8</sub>", OVER 2" BINDER COURSE, NHDOT 1/2"

8" CRUSHED GRAVEL. ITEM 304.301 OR 8" RECLAIMED STABILIZED BASE

**4" FIBER REINFORCED CEMENT CONCRETE** 

8" CRUSHED GRAVEL (F), ITEM 304.301 OR 8" RECLAIMED STABILIZED BASE

**6" FIBER REINFORCED CEMENT CONCRETE** 

8" CRUSHED GRAVEL (F), ITEM 304.301

THE SECTIONS OF PROPOSED ROADWAY NOT COVERED IN THE RANGE OF STATIONS ASSOCIATED WITH THE TYPICAL SECTIONS ARE IN AREAS OF TRANSITION AND THEREFORE

2. ASPHALT EMULSION FOR TACK COAT SHALL BE APPLIED AT THE RATE OF 0.03 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES AND 0.05 GALLONS PER SQUARE YARD OVER COLD PLANED SURFACES PER SUPPLEMENTAL SPECIFICATION FOR SECTION 410. 3. PROPOSED SIDEWALK WIDTHS MAY VARY SLIGHTLY FROM DIMENSIONS SHOWN ON THE TYPICAL SECTIONS AND CONSTRUCTION PLANS. WHERE CURBING, WALLS, ETC. ARE LOCATED ALONG THE FRONTAGE OF A PROPERTY, THE SIDEWALK WIDTH SHALL BE

4. ALL SIDEWALKS SHALL PROVIDE MINIMUM 36 INCH CLEARANCE AROUND POINT OBSTRUCTIONS. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING THE ENGINEER WHEN THIS MINIMUM REQUIREMENT CANNOT BE MET FOR RESOLUTION.

ALL PROPOSED SIDEWALKS SHALL BE CONCRETE, UNLESS SPECIFICALLY NOTED ON THE ROADWAY AND PROFILE PLANS TO BE BITUMINOUS. ALL CURB RAMPS SHALL BE CONCRETE. 6. ALL SIDE SLOPES TO BE ESTABLISHED WITH TURF SHALL BE 3:1 MAX. UNLESS OTHERWISE

RECLAIMED STABILIZED BASE SHALL COMPLY WITH NHDOT SECTION 306. 8. RECLAIMED MATERIAL TO BE TESTED TO DETERMINE IF ADDITIONAL STONE WILL BE

9. AT WIDENED AREAS, CRUSHED GRAVEL (ITEM 304.301) SHALL BE USED IF REHANDLED

10. PROVIDE 2' WIDE CRUSHED GRAVEL (ITEM 304.301) SHOULDER WHERE GRANITE CURB OR

11. EXCESS RECLAIMED BASE MATERIAL SHALL BE USED ON THE PROJECT UNDER WALKS. DRIVES, ISLANDS AND FOR LEVELING. REMOVAL OF EXCESS RECLAIMED BASE MATERIAL IS SUBSIDIARY TO RECLAIMED STABILIZED BASE.



GPI Greenman-Pedersen, Ind

ngineers, Architects, Planners, Construction Engineers & Inspec 1 Daniel Street, Second Floor, Portsmouth, NH 0380 Tel: (603) 891-2213 Fax: (978) 658-3044

REPARED FOR CITY OF PORTSMOUTH DEPT. OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, NH 03801



ALE:	1"=4'	
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5 of 33



PROP. LOAM W/ MULCH – & TACKIFIERS (TYP.)



# **TYPICAL SECTION - ANDREW JARVIS DRIVE** SCALE: 1" = 4'

STA. 23+41 TO STA. 28+00

SCALE: 1" = 4'

STA. 20+35 TO STA. 23+41

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SCALE 1" = 4'







**TRAFFIC SIGNAL CONDUIT TRENCH DETAIL** 

(WITHIN ROADWAY LIMITS)

HYDRANT TO BE ADJUSTED TO GRADE AS REQUIRED, ROTATE AS NECESSARY

2'-6" ABOVE GRADE (HYDRANT FLANGE)

- FINISHED GRADE

- UNDISTURBED EARTH

1. ALL WATER GATES & HYDRANTS TO OPEN RIGHT.

2. ALL MECHANICAL RESTRAINT DEVICES, SOLID SLEEVES, STONE, SAND, GRAVEL, ETC. NECESSARY TO INSTALL OR REMOVE AND RESET HYDRANTS ARE INCIDENTAL TO ITEM - PROP. 1.5" WEARING COURSE (ITEM 403.99)

PROP. 4.5" BINDER COURSE

 MATCH EXISTING ROAD GRAVEL THICKNESS (ITEM 304.301) WHERE EXISTING CONCRETE SLAB IS PRESENT, SLAB SHALL BE REPLACED AT THE SAME THICKNESS (ITEM 520.2)

- SUITABLE MATERIAL (THOROUGHLY COMPACTED IN 6" LIFTS)

- COARSE AGGREGATE NO. 4 FOR BEDDING 3" ABOVE PIPE CROWN

LIMITS OF EXCAVATION

- 1. PLACE TACK COAT BETWEEN ALL HMA COURSES AND SAWCUT SURFACES PRIOR TO PLACING HMA. SEE PAVEMENT NOTES-FULL DEPTH HMA CONSTRUCTION FOR DEPTH OF HMA.
- 2. IF UNSUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY THE ENGINEER, ADDITIONAL BEDDING SHALL BE PAID FOR UNDER ITEM 304.4.

PROP. 1.5" WEARING COURSE (ITEM 403.99)

─ PROP. 4.5" BINDER COURSE (ITEM 403.11)

- MATCH EXISTING ROAD GRAVEL THICKNESS (ITEM 304.301) WHERE EXISTING CONCRETE SLAB IS PRESENT, SLAB SHALL BE REPLACED AT THE SAME THICKNESS (ITEM 520.2)

– SUITABLE BACKFILL MATERIAL (THOROUGHLY COMPACTED IN 6" LIFTS)

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JOSEPH PAUL JOHNSON No. 11554 CENSED NO. 11554 12 22 17
PREPARED FOR CITY OF PORTSMOUTH DEPT. OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE CITY OF PORTSMOUTH NEW HAMPSHIRE
REVISIONS
NO.       REVISION       DATE
12/22/17 DRAWN/DESIGN BY CHECKED BY CLS JPJ
CONSTRUCTION DETAILS
SCALE: N.T.S. -

- DRIVEWAY MANUAL.







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## NOTES:

- 1. COAT INTERIOR OF SURFACE WITH APPROVED SALT GUARD FOR ALL
- STRUCTURES HAVING INVERTS LESS THAN ELEVATION 9' ABOVE SEA LEVEL
- 2. ENTIRE STRUCTURE SHALL BE CAPABLE OF WITHSTANDING AN H-20 LOAD. DETAILS OF REINFORCEMENT TO BE FURNISHED BY MANUFACTURER

# **CONCRETE CATCH BASIN**

NOT TO SCALE

## NOTES:

- 1. BARRELS AND TOP SECTIONS SHALL BE PRECAST REINFORCED CONCRETE.
- 2. PRECAST CONCRETE BARREL SECTIONS, CONES, AND BASES SHALL CONFORM TO AS
- 3. 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 TAKE INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE INVERT. INVER SHALL BE LAID ON EDGE. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OU CURVES OF THE LONGEST POSSIBLE TANGENT TO THE CENTERLINE OF THE PIPES. S SHALL BE CONSTRUCTED TO AN ELEVATION OF 1/2 THE PIPE DIA. AND SLOPE TO DRA TOWARD THE FLOWING THOUGH CHANNEL.
- 4. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DE AND PROVIDE A 30-INCH CLEAR OPENING. LETTER "D" OR WORD "DRAIN" IN 3-INCH LET SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
- 5. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, OR MATTER AND MEETING ASTM C33. STONE SIZE NO. 67.
  - 100% PASSING 1 INCH SCREEN 0-10% PASSING #4 SIEVE

  - 90-100% PASSING 3/4 INCH SCREEN 0-5% PASSING #8 SIEVE
  - 20-55% PASSING 3/8 INCH SCREEN
  - WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL ( CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- 6. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE IS LESS THAN 5 FE REINFORCED CONCRETE SLAB COVER HAVING AN ECCENTRIC ENTRANCE AND CAPAE SUPPORTING H-20 LOADS MAY BE USED.

# **TYPICAL DRAINAGE MANHOLE**

NOT TO SCALE

- 32" PAMREX DUCTILE IRON FRAME & COVER H20 LOAD RATING CAST WITH A DRAIN DESIGNATION - FULL MORTAR RING
- ADJUST TO GRADE WITH BRICK OR PRECAST CONCRETE RINGS (12" MAX. ADJUSTMENTS)
- PRECAST CONCRETE UNITS SHALL
- CONFORM TO ASTM C478
- USE FLAT TOP COVER IF NECESSARY
- SEAL JOINTS WITH KENT SEAL

- COAT INTERIOR OF SURFACE WITH APPROVED SALT GUARD FOR ALL STRUCTURES HAVING INVERTS LESS THAN 9' IN ELEVATION ABOVE SEA LEVEL
- CLASS AA CONCRETE, 4000 P.S.I.
- BRICK MASONRY INVERT AND CHANNEL

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# FOUNDATION NOTES:

- 1. IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318), LATEST EDITION. 2013 STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.
- 2. CONTRACTOR REQUIRED TO VERIFY ALL DIMENSIONS SHOWN PRIOR TO CONSTRUCTION.
- 3. MOMENT POST BASE (MPB44Z) SHALL BE INSTALLED USING MANUFACTURER GUIDELINES PER SIMPSON STRONG-TIE WOOD CONSTRUCTION CONNECTORS.
- 4. REINFORCEMENT STEEL SHALL BE EPOXY COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60.
- 5. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI.
- 6. FINAL LOCATION TO BE APPROVED BY OWNER.

- EXIST. WOOD POST (TYP.)

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NAVD 88 <u>BASE ELEV</u> 35.00



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![](_page_15_Figure_0.jpeg)

IDENTIFI-	SIZE O	F SIGN	TEXT	TEXT DIMENSIONS (INCHES)		NUMBER OF		COLOR		POST SIZE AND	UNIT AREA IN	
NUMBER	WIDTH	HEIGHT	ILAI	LETTER VERTICAL HEIGHT SPACING		SIGNS REQUIRED	BACK- GROUND	LEGEND	BORDER	NUMBER REQUIRED	SQUARE FEET	FEET
R3-7L	30"	30"	LEFT LANE MUST TURN LEFT	MUTCD STANDARD		1	WHITE	BLACK	BLACK	U-CHANNEL (1 REQ'D)	6.25	6.25
R3-8(13)	30"	30"		NHE STANI	NHDOT STANDARD		WHITE	BLACK	BLACK	1 ON U-CHANNEL; 1 ON M.A. SHAFT	6.25	12.50
R3-8(15)	30"	30"		NHE STANI	NHDOT STANDARD		WHITE	BLACK	BLACK	1 ON U-CHANNEL; 1 ON M.A. SHAFT	6.25	12.50
R3-8(35)	30"	30"		NHDOT STANDARD		2	WHITE	BLACK	BLACK	U-CHANNEL (2 REQ'D)	6.25	12.50
R3-17	30"	24"	BIKE LANE	MUTCD STANDARD		1	WHITE	BLACK	-	U-CHANNEL (1 REQ'D)	5.00	5.00
R4-11	30"	30"	MAY USE FULL LANE	MUTCD STANDARD		3	WHITE	BLACK	BLACK	U-CHANNEL (2 REQ'D)	6.25	12.50
R7-1	12"	18"	NO PARKING ANY TIME	MUTCD STANDARD		5	WHITE	RED	RED	U-CHANNEL (4 REQ'D)	1.50	6.00
R10-6	24"	36"	STOP HERE ON RED	MUTCD STANDARD		1	WHITE	BLACK	BLACK	MNT ON MAST ARM	6.00	6.00
S1-1	36"	36"		MUTCD STANDARD		1	FLUOR- ESCENT /YELLOW GREEN	BLACK	BLACK	U-CHANNEL (1 REQ'D)	9.00	9.00
S4-3p	24"	8"	SCHOOL	MUTCD STANDARD		2	FLUOR- ESCENT /YELLOW GREEN	BLACK	BLACK	MNT ON EXIST. SCHOOL SPEED LIMIT SIGNS	1.33	2.67

![](_page_16_Figure_0.jpeg)

MAJOR ITEMS REQUIRED				
QUANTITY	DESCRIPTION			
1	TRAFFIC CONTROLLER & CABINET NEMA TS2-TYPE 1 w/FDN. & CONC. PAD			
1	SERVICE CONNECTION (OVERHEAD FROM UTILITY POLE)			
1	40' MAST ARM ASSEMBLY, BASE & FDN.			
1	30' MAST ARM ASSEMBLY, BASE & FDN.			
2	8' SIGNAL POST, PEDESTAL BASE & FDN.			
1	10' SIGNAL POST, PEDESTAL BASE & FDN.			
5	SIGNAL HEAD, 3 SECTION			
1	SIGNAL HEAD, 4 SECTION			
2	SIGNAL HEAD, 5 SECTION (DOGHOUSE)			
4	PEDESTRIAN HOUSING GRAPHIC LED WITH COUNTDOWN TIMER			
3	AUDIBLE & VIBRO-TACTILE PEDESTRIAN PUSH BUTTON (APS TYPE) INTEGRATED R10-3e SIGN & SADDLE w/LED CONFIRMATION LIGHT			
1	360° VIDEO DETECTION SYSTEM			
3	UNIDIRECTIONAL SINGLE CHANNEL OPTICAL DETECTOR (RECEIVER)			
2	PREEMPTION 2-CHANNEL PHASE SELECTOR			
1	PREEMPTION CONFIRMATION STROBE (CLEAR)			
3	14" CONCRETE PULL BOX TYPE A (TRAFFIC SIGNAL)			
PLUS AL TO PRO	L MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY /IDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL.			

![](_page_16_Figure_2.jpeg)

ALL SIGNAL HEADS SHALL BE EQUIPPED WITH CUT TUNNEL

<sup>3.</sup> ALL VEHICLE SIGNAL HEAD BACKPLATES SHALL INCLUDE 2" RETRO-REFLECTIVE BORDER IN ACCORDANCE WITH THE

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	INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE CITY OF PORTSMOUTH NEW HAMPSHIRE
	REVISIONS
	Image: Image
	CROSS SECTIONS
8	-

HOR. SCALE IN FEET 0 VER. SCALE IN FEET

![](_page_23_Figure_0.jpeg)

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	JOSEPH PAUL JOSEPH PAUL JOHNSON No. 11554 CENSED
	PREPARED FOR CITY OF PORTSMOUTH DEPT. OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
	INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE CITY OF PORTSMOUTH NEW HAMPSHIRE
	NO. REVISION DATE
	12/22/17 DRAWN/DESIGN BY CHECKED BY
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	CROSS SECTIONS
8	SCALE: 1"=4'
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8	- 24 of 33

HOR. SCALE IN FEET 0 VER. SCALE IN FEET

![](_page_24_Figure_0.jpeg)

![](_page_24_Figure_1.jpeg)

	GEPE Greenman-Pedersen, Inc. Engineers, Architects, Planners, Construction Engineers & Inspectors 21 Daniel Street, Second Floor, Portsmouth, NH 03801 Tel: (603) 891-2213 Fax: (978) 658-3044 http://www.gpinet.com	
	PREPARED FOR CITY OF PORTSMOUTH DEPT. OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, NH 03801	
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HOR. SCALE IN FEET VER. SCALE IN FEET

![](_page_25_Figure_0.jpeg)

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	CTION IMPROVEMENT PROJECT TE 1 AT ANDREW JARVIS DRIVE ORTSMOUTH PSHIRE	
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IN FEET	Sales Josephine   Sales Josephine   Sales Josephine   Scale: 1"=4'	

HOR. SCALE 0 VER. SCALE I

![](_page_26_Figure_0.jpeg)

![](_page_26_Figure_1.jpeg)

	GCPC Greenman-Pedersen, Inc. Engineers, Architects, Planners, Construction Engineers & Inspectors 21 Daniel Street, Second Floor, Portsmouth, NH 03801 Tel: (603) 891-2213 Fax: (978) 658-3044 http://www.gpinet.com
	PREPARED FOR CITY OF PORTSMOUTH DEPT. OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, NH 03801
	INTERSECTION IMPROVEMENT PROJECT U.S. ROUTE 1 AT ANDREW JARVIS DRIVE CITY OF PORTSMOUTH NEW HAMPSHIRE
	REVISIONS
	NO. REVISION DATE 12/22/17 DRAWN/DESIGN BY CHECKED BY CLS JPJ
	CROSS SECTIONS
5	<sup>SCALE:</sup> 1"=4' - 27 OF 33

HOR. SCALE IN FEET 4 0 VER. SCALE IN FEET

![](_page_27_Figure_0.jpeg)

51\_HD (XS).DWG 10/24/20

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HOR. SCALE IN FEET 0 4 VER. SCALE IN FEET

![](_page_28_Figure_0.jpeg)

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HOR. SCALE IN FEET 0 4 0 4 VER. SCALE IN FEET

![](_page_29_Figure_0.jpeg)

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HOR. SCALE IN FEET 0 4 VER. SCALE IN FEET

![](_page_30_Figure_0.jpeg)

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HOR. SCALE IN FEET 0 4 VER. SCALE IN FEET

![](_page_31_Figure_0.jpeg)

51\_HD (XS).DWG

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HOR. SCALE IN FEET 0 4 VER. SCALE IN FEET

![](_page_32_Figure_0.jpeg)

![](_page_32_Figure_1.jpeg)

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HOR. SCALE IN FEET 0 4 VER. SCALE IN FEET