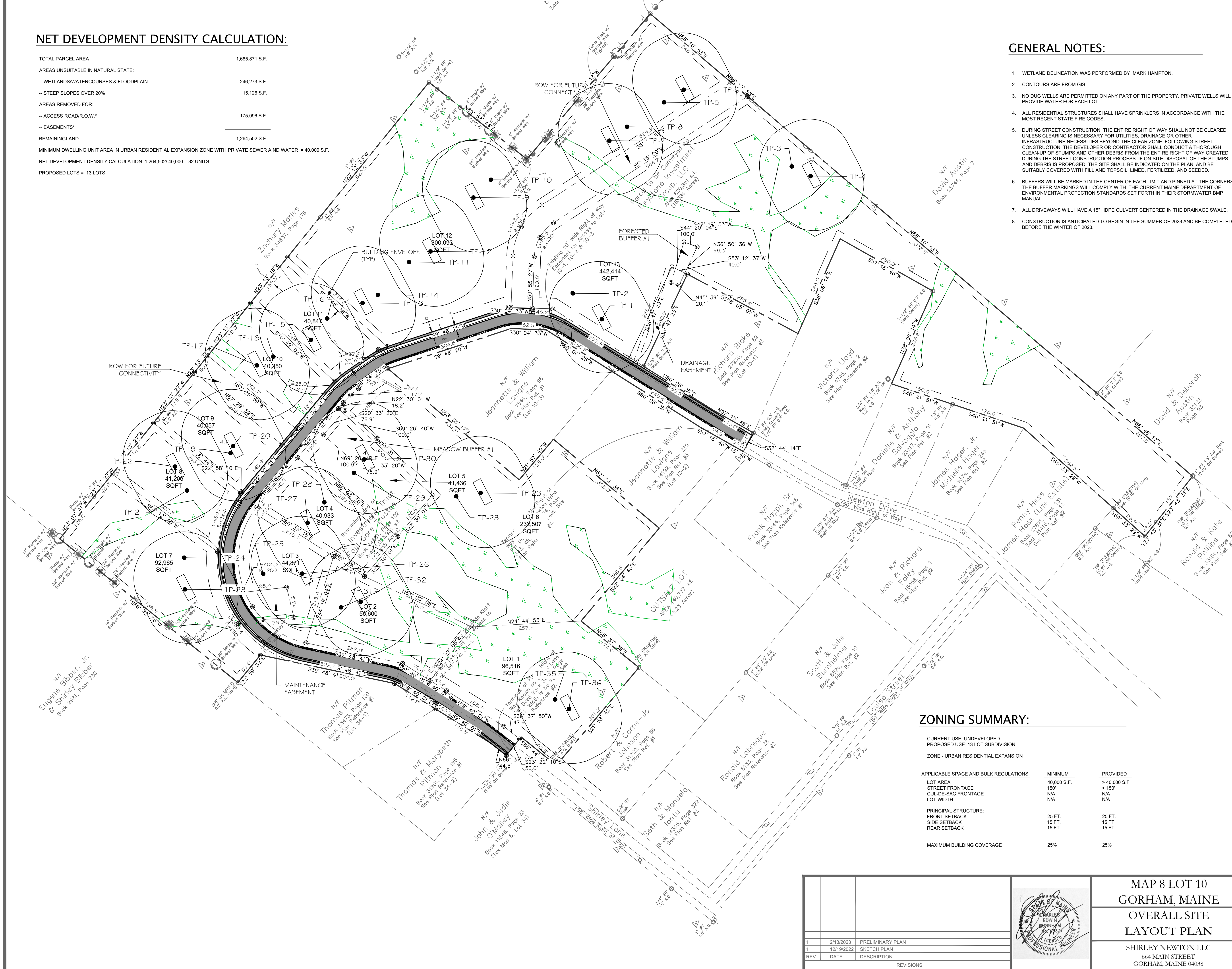


NET DEVELOPMENT DENSITY CALCULATION:

TOTAL PARCEL AREA	1,685,871 S.F.
AREAS UNSUITABLE IN NATURAL STATE:	
-- WETLANDS/WATERCOURSES & FLOODPLAIN	246,273 S.F.
-- STEEP SLOPES OVER 20%	15,126 S.F.
AREAS REMOVED FOR:	
-- ACCESS ROAD/R.O.W.'	175,096 S.F.
-- EASEMENTS*	
REMAINING LAND	1,264,502 S.F.
MINIMUM DWELLING UNIT AREA IN URBAN RESIDENTIAL EXPANSION ZONE WITH PRIVATE SEWER AND WATER = 40,000 S.F.	
NET DEVELOPMENT DENSITY CALCULATION: 1,264,502 / 40,000 = 32 UNITS	
PROPOSED LOTS = 13 LOTS	

GENERAL NOTES:

1. WETLAND DELINEATION WAS PERFORMED BY MARK HAMPTON.
2. CONTOURS ARE FROM GIS.
3. NO DUG WELLS ARE PERMITTED ON ANY PART OF THE PROPERTY. PRIVATE WELLS WILL PROVIDE WATER FOR EACH LOT.
4. ALL RESIDENTIAL STRUCTURES SHALL HAVE SPRINKLERS IN ACCORDANCE WITH THE MOST RECENT STATE FIRE CODES.
5. DURING STREET CONSTRUCTION, THE ENTIRE RIGHT OF WAY SHALL NOT BE CLEARED UNLESS CLEARING IS NECESSARY FOR UTILITIES, DRAINAGE OR OTHER INFRASTRUCTURE NECESSITIES BEYOND THE CLEAR ZONE. FOLLOWING STREET CONSTRUCTION, THE DEVELOPER OR CONTRACTOR SHALL CONDUCT A THOROUGH CLEAN-UP OF STUMPS AND OTHER DEBRIS FROM THE ENTIRE RIGHT OF WAY CREATED DURING THE STREET CONSTRUCTION PROCESS. IF ON-SITE DISPOSAL OF THE STUMPS AND DEBRIS IS PROPOSED, THE SITE SHALL BE INDICATED ON THE PLAN, AND BE SUITABLY COVERED WITH FILL AND TOPSOIL, LIMED, FERTILIZED, AND SEED.
6. BUFFERS WILL BE MARKED IN THE CENTER OF EACH LIMIT AND PINNED AT THE CORNERS. THE BUFFER MARKINGS WILL COMPLY WITH THE CURRENT MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS SET FORTH IN THEIR STORMWATER BMP MANUAL.
7. ALL DRIVEWAYS WILL HAVE A 15" HDPE CULVERT CENTERED IN THE DRAINAGE SWALE.
8. CONSTRUCTION IS ANTICIPATED TO BEGIN IN THE SUMMER OF 2023 AND BE COMPLETED BEFORE THE WINTER OF 2023.

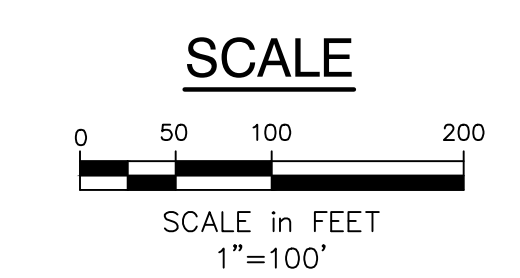


ZONING SUMMARY:

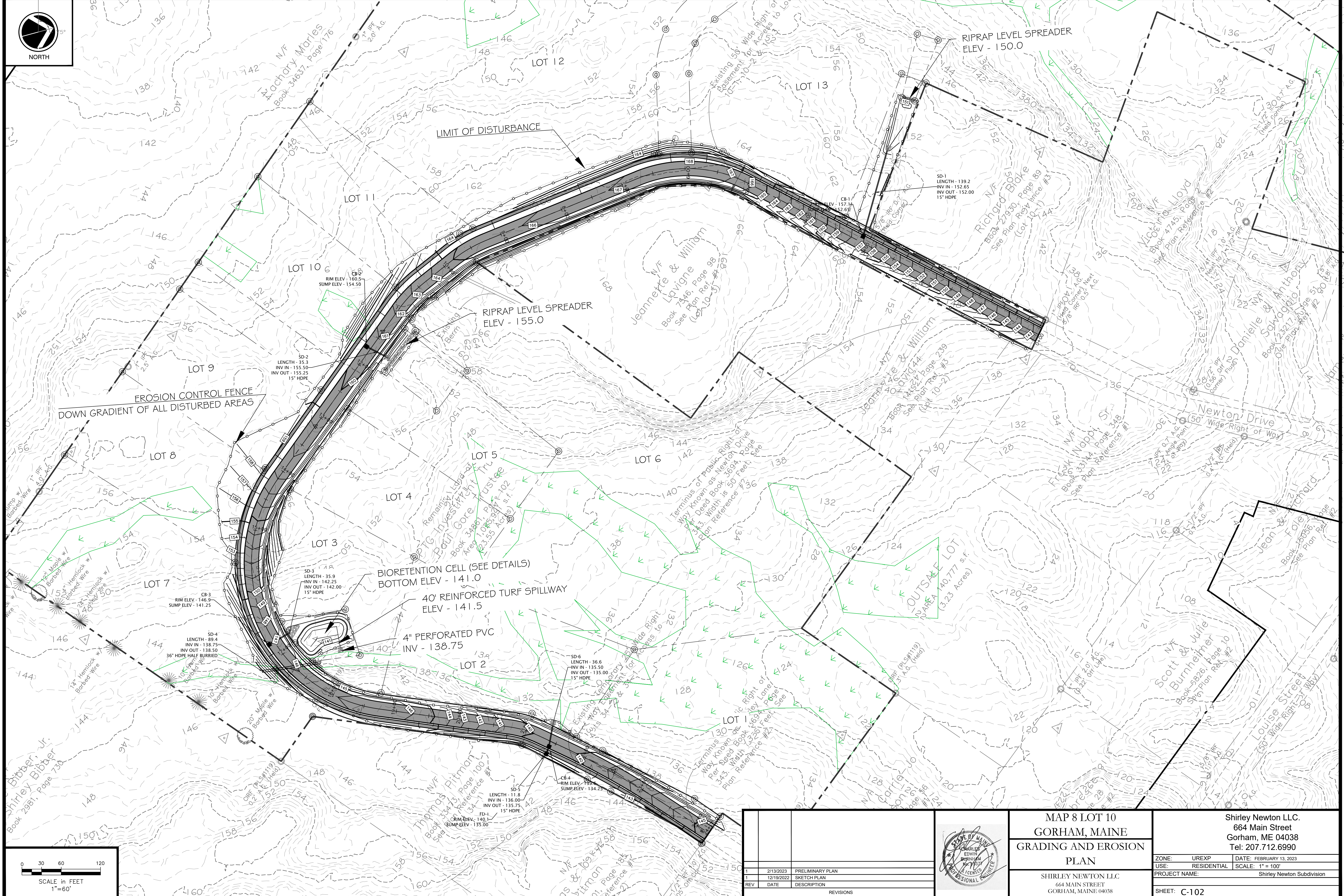
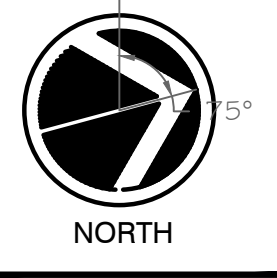
CURRENT USE: UNDEVELOPED
 PROPOSED USE: 13 LOT SUBDIVISION
 ZONE - URBAN RESIDENTIAL EXPANSION

APPLICABLE SPACE AND BULK REGULATIONS	MINIMUM	PROVIDED
LOT AREA	40,000 S.F.	> 40,000 S.F.
STREET FRONTAGE	150'	> 150'
CUL-DE-SAC FRONTAGE	N/A	N/A
LOT WIDTH	N/A	N/A
PRINCIPAL STRUCTURE:		
FRONT SETBACK	25 FT.	25 FT.
SIDE SETBACK	15 FT.	15 FT.
REAR SETBACK	15 FT.	15 FT.
MAXIMUM BUILDING COVERAGE		
	25%	25%

SUBMITTED FOR PRELIMINARY PLAN REVIEW



	<p>MAP 8 LOT 10 GORHAM, MAINE OVERALL SITE LAYOUT PLAN</p> <p>SHIRLEY NEWTON LLC 664 MAIN STREET GORHAM, MAINE 04038</p>	<p>Shirley Newton LLC. 664 Main Street Gorham, ME 04038 Tel: 207.712.6990</p>	<p>ZONE: UREXP DATE: FEBRUARY 13, 2023 USE: RESIDENTIAL SCALE: 1" = 100' PROJECT NAME: Shirley Newton Subdivision SHEET: C-101</p>															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>2/13/2023</td> <td>PRELIMINARY PLAN</td> </tr> <tr> <td>1</td> <td>12/19/2022</td> <td>SKETCH PLAN</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	REV	DATE	DESCRIPTION	1	2/13/2023	PRELIMINARY PLAN	1	12/19/2022	SKETCH PLAN									
REV	DATE	DESCRIPTION																
1	2/13/2023	PRELIMINARY PLAN																
1	12/19/2022	SKETCH PLAN																



EROSION CONTROL FENCE
DOWN GRADIENT OF ALL DISTURBED AREAS

LIMIT OF DISTURBANCE

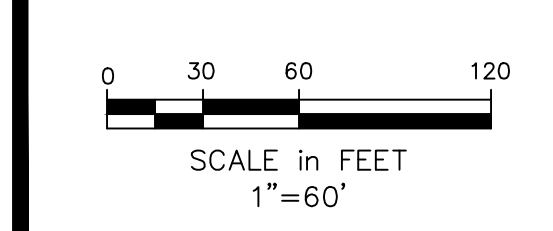
RIPRAP LEVEL SPREADER
ELEV - 155.0

RIPRAP LEVEL SPREADER
ELEV - 150.0

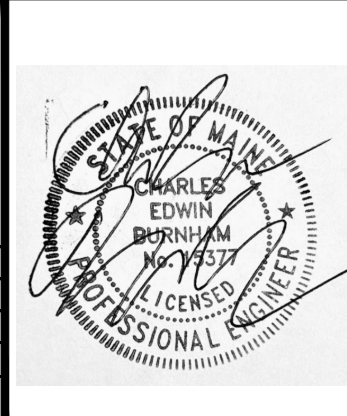
BIORETENTION CELL (SEE DETAILS)
BOTTOM ELEV - 141.0

40' REINFORCED TURF SPILLWAY
ELEV - 141.5

4" PERFORATED PVC
INV - 138.75



REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY PLAN
1	12/19/2022	SKETCH PLAN
REV	DATE	DESCRIPTION

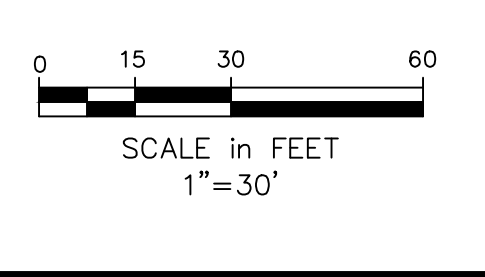
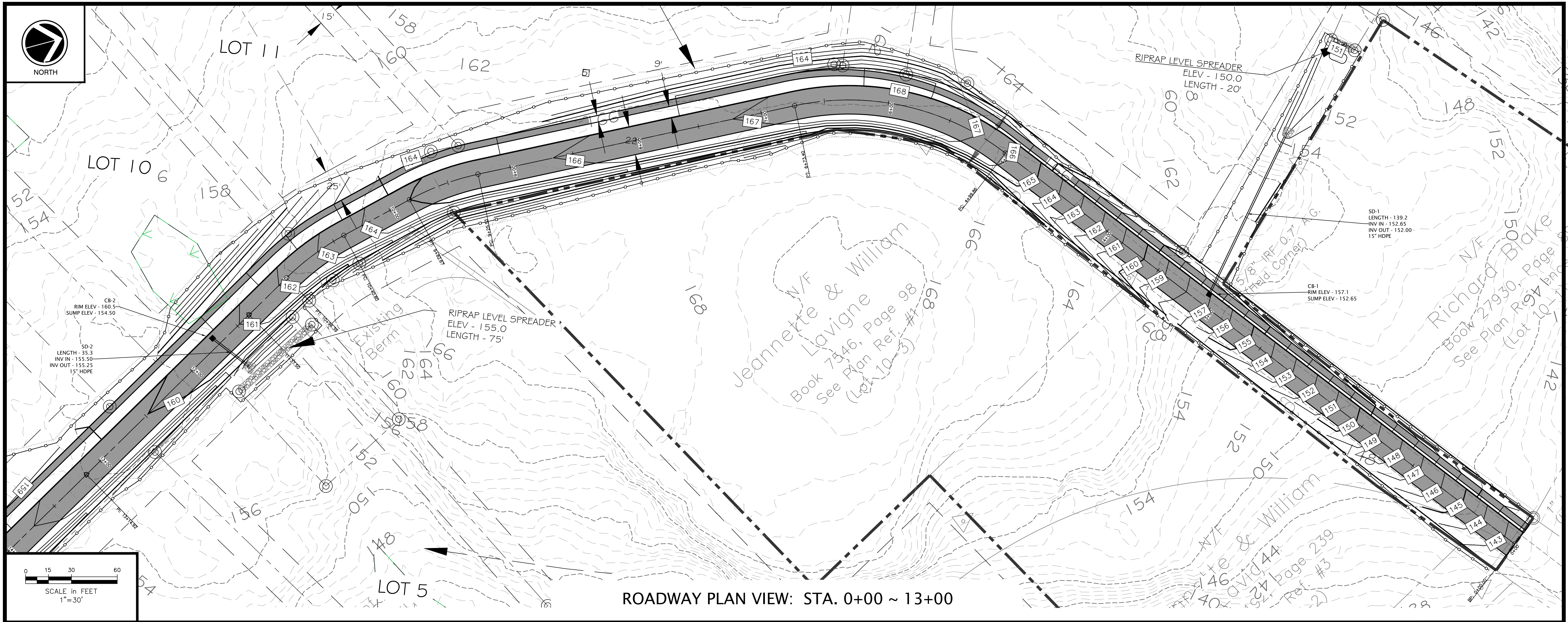


MAP 8 LOT 10
GORHAM, MAINE
GRADING AND EROSION
PLAN

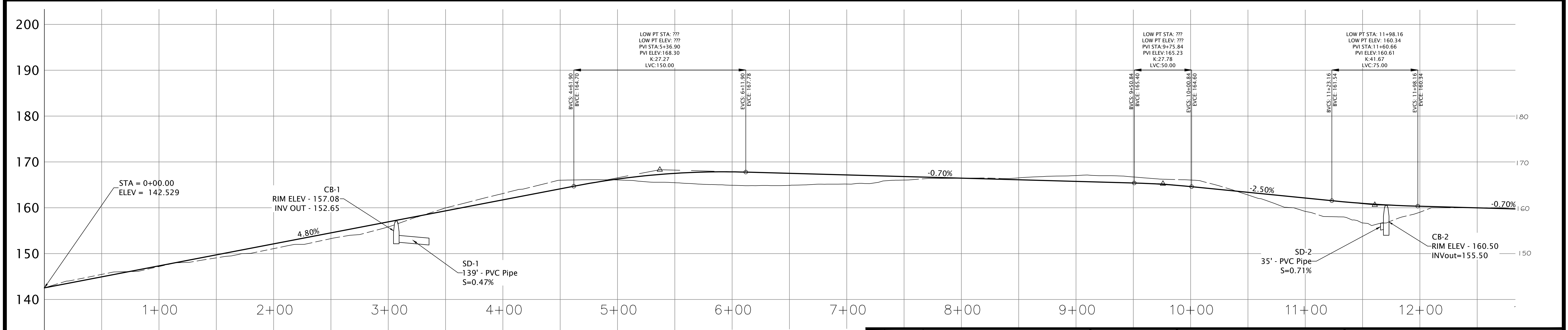
SHIRLEY NEWTON LLC
664 MAIN STREET
GORHAM, MAINE 04038

Shirley Newton LLC.
664 Main Street
Gorham, ME 04038
Tel: 207.712.6990

ZONE: UREXP DATE: FEBRUARY 13, 2023
USE: RESIDENTIAL SCALE: 1" = 100'
PROJECT NAME: Shirley Newton Subdivision
SHEET: C-102



ROADWAY PLAN VIEW: STA. 0+00 ~ 13+00

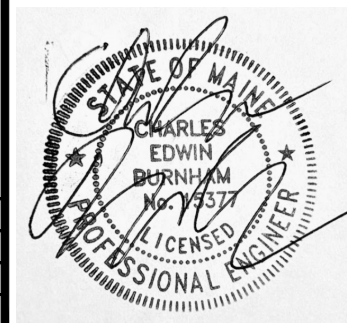


ROADWAY PROFILE VIEW: STA. 0+00 ~ 13+00

SCALE
VERTICAL - 1" = 5'
HORIZONTAL - 1" = 20'

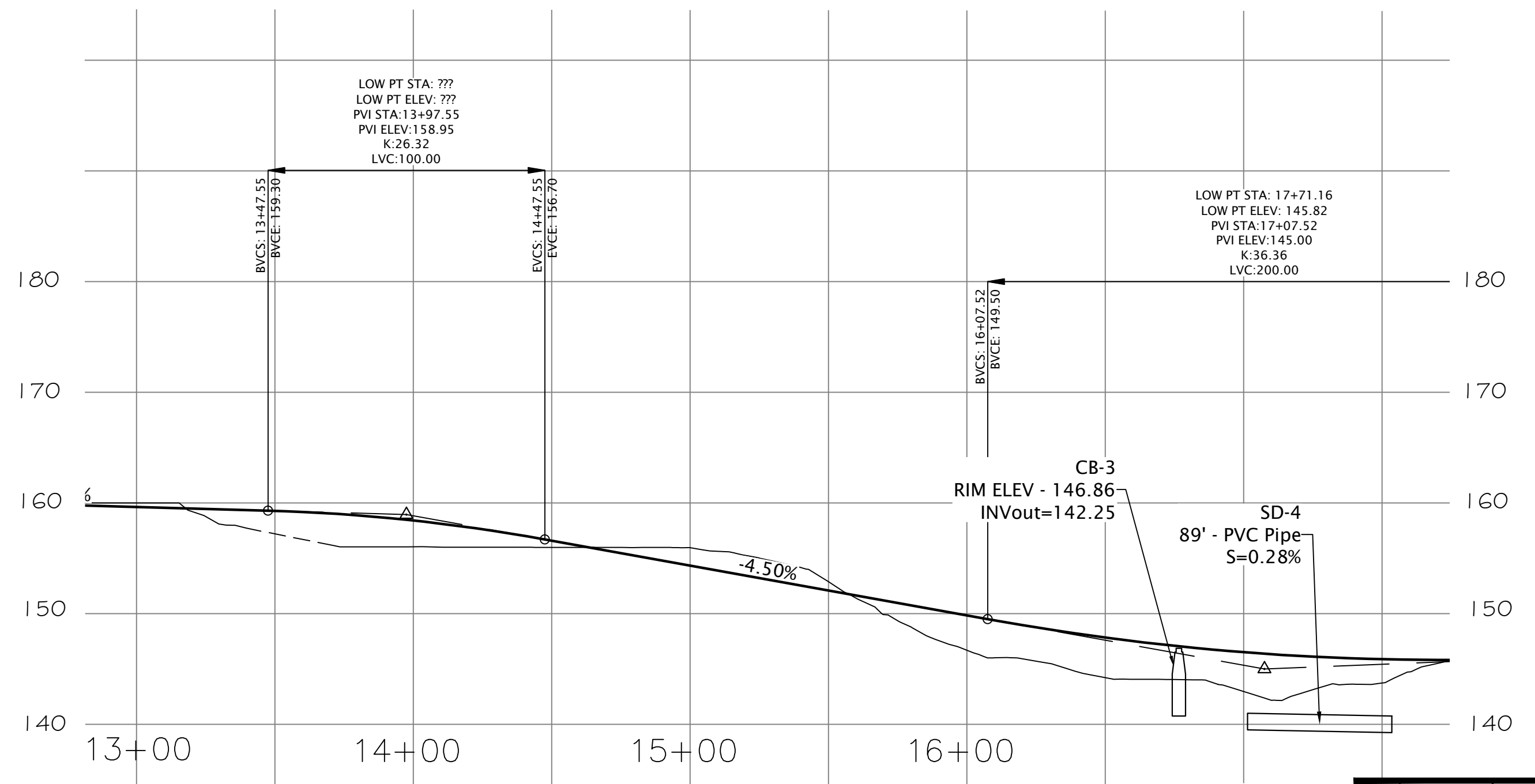
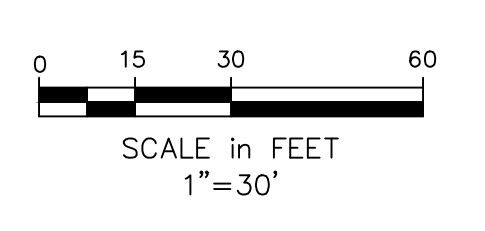
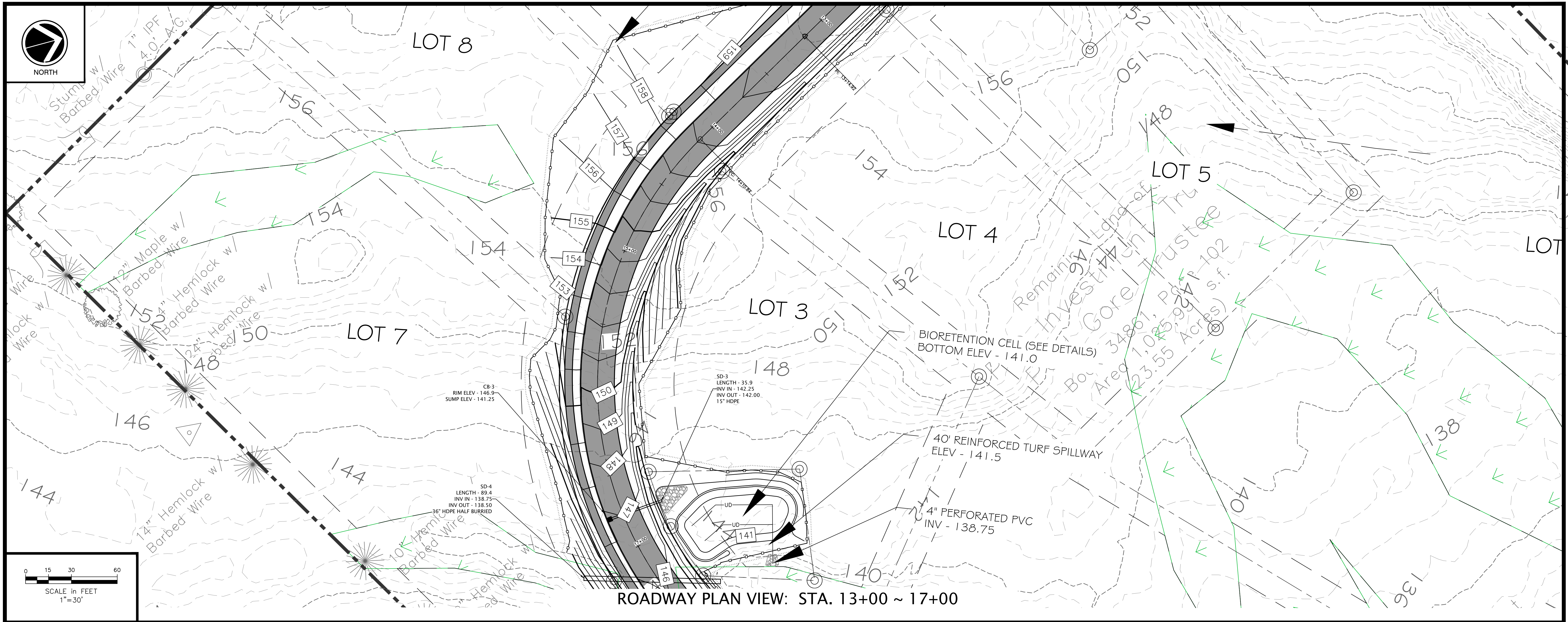
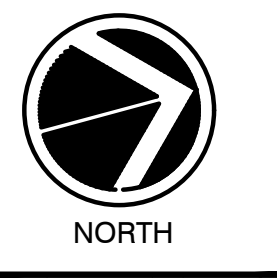
**SUBMITTED FOR
PRELIMINARY PLAN
REVIEW**

REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY PLAN
1	12/19/2022	SKETCH PLAN



MAP 8 LOT 10
GORHAM, MAINE
PLAN AND PROFILE
PLAN
SHIRLEY NEWTON LLC
664 MAIN STREET
GORHAM, MAINE 04038

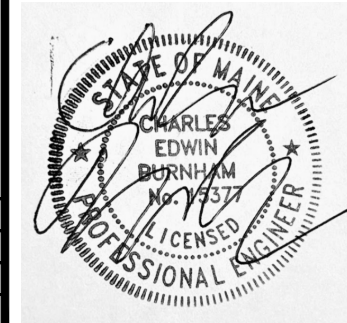
Shirley Newton LLC.
664 Main Street
Gorham, ME 04038
Tel: 207.712.6990
ZONE: UREXP DATE: FEBRUARY 13, 2023
USE: RESIDENTIAL SCALE: 1" = 100'
PROJECT NAME: Shirley Newton Subdivision
SHEET: C-200



SUBMITTED FOR
PRELIMINARY PLAN
REVIEW

ROADWAY PROFILE VIEW: STA. 13+00 ~ 17+00

REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY PLAN
1	12/19/2022	SKETCH PLAN



MAP 8 LOT 10
GORHAM, MAINE
PLAN AND PROFILE
PLAN II

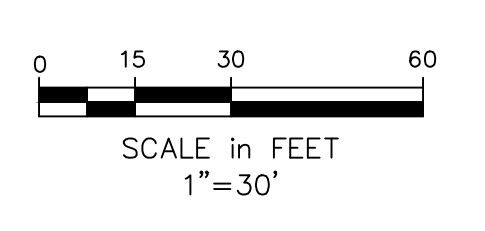
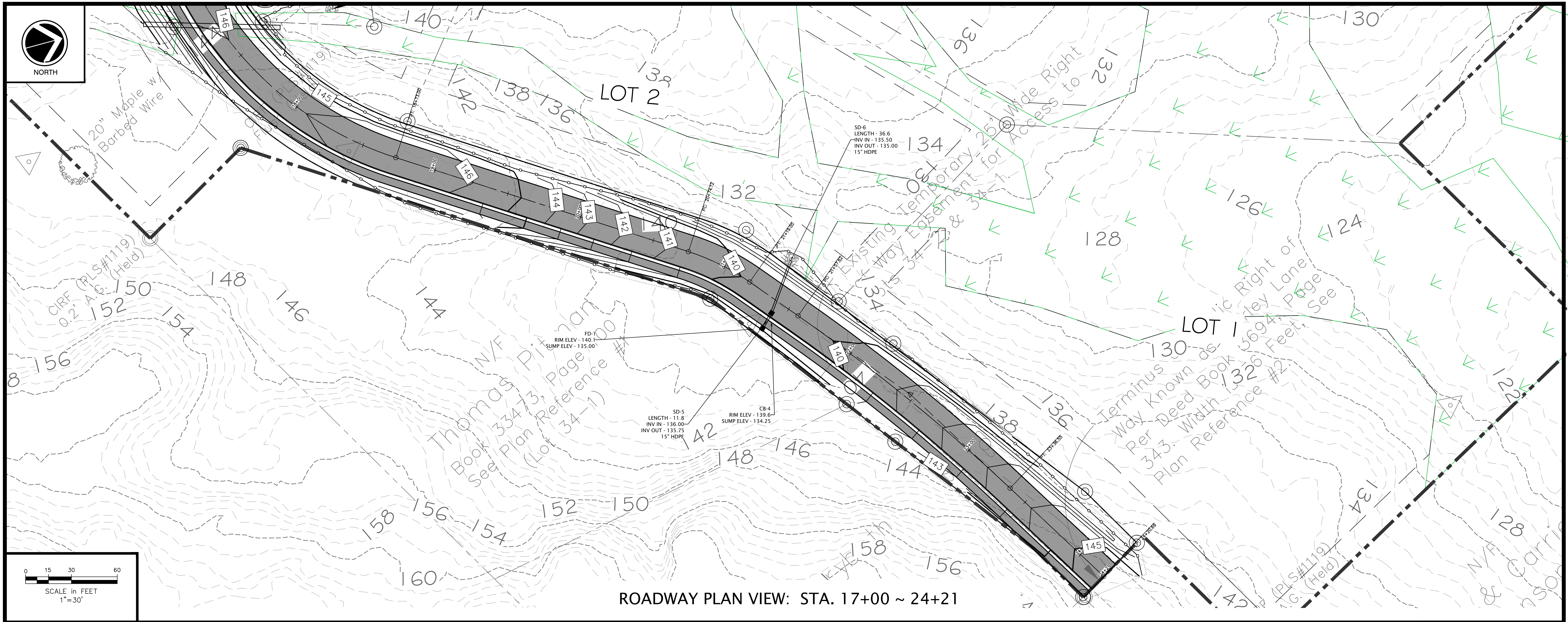
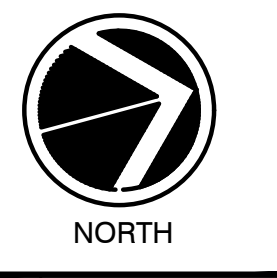
SHIRLEY NEWTON LLC
664 MAIN STREET
GORHAM, MAINE 04038

Shirley Newton LLC.
664 Main Street
Gorham, ME 04038
Tel: 207.712.6990

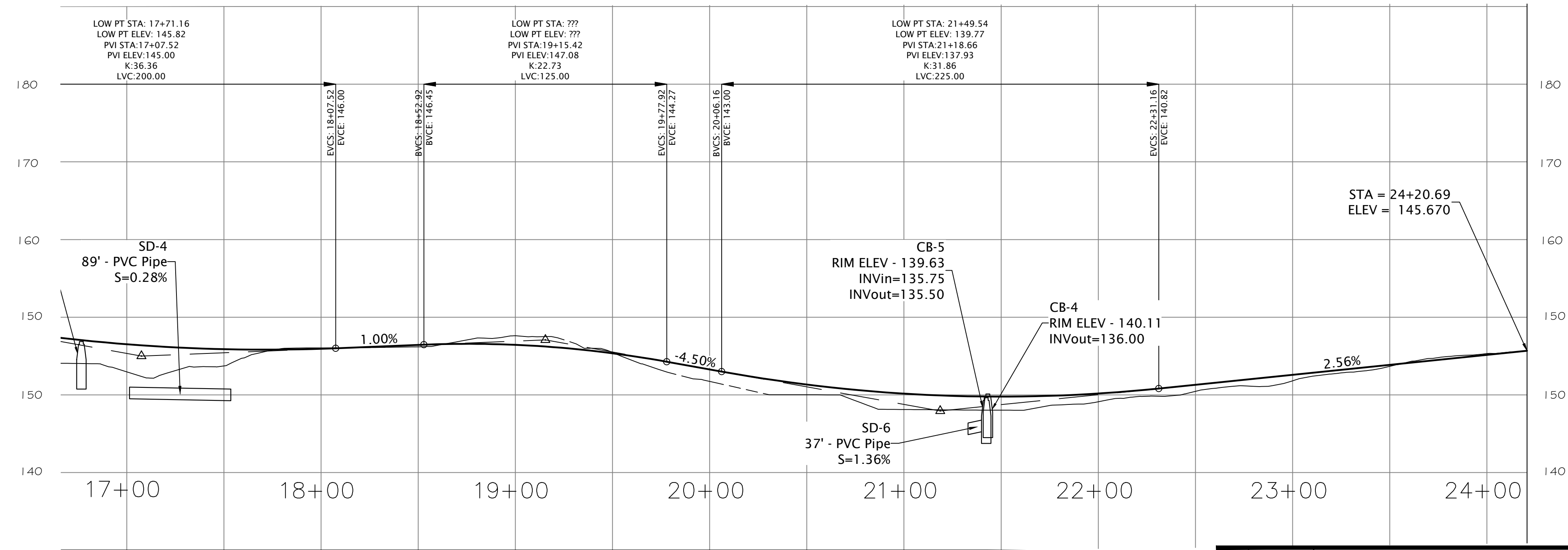
ZONE: UREXP DATE: FEBRUARY 13, 2023
USE: RESIDENTIAL SCALE: 1" = 100'

PROJECT NAME: Shirley Newton Subdivision

SHEET: C-201



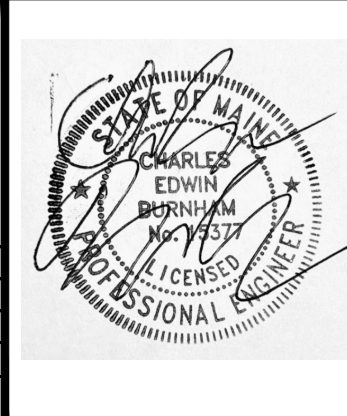
ROADWAY PLAN VIEW: STA. 17+00 ~ 24+21



ROADWAY PROFILE VIEW: STA. 17+00 ~ 24+21

SUBMITTED FOR
PRELIMINARY PLAN
REVIEW

REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY PLAN
1	12/19/2022	SKETCH PLAN



MAP 8 LOT 10
GORHAM, MAINE
PLAN AND PROFILE
PLAN III

SHIRLEY NEWTON LLC
664 MAIN STREET
GORHAM, MAINE 04038

Shirley Newton LLC.
664 Main Street
Gorham, ME 04038
Tel: 207.712.6990

ZONE:	UREXP	DATE:	FEBRUARY 13, 2023
USE:	RESIDENTIAL	SCALE:	1" = 100'
PROJECT NAME:	Shirley Newton Subdivision		
SHEET:	C-202		

A. SOIL EROSION AND SEDIMENT CONTROL NOTES

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, SILTATION FENCE, EROSION CONTROL MIX, STONE CHECK DAMS, HAY BALE BARRIERS, CATCH BASIN SEDIMENT COLLECTION BAGS, EROSION CONTROL BLANKET, AND TEMPORARY SEEDING AND MULCHING AS REQUIRED. PERMANENT DEVICES INCLUDE THE USE OF RIP RAP AT EXPOSED STORM DRAIN AND CULVERT INLETS AND OUTLETS, AND PERMANENT VEGETATION.

GENERAL

- IT IS ANTICIPATED THAT CONSTRUCTION MAY BEGIN AS SOON AS POSSIBLE FOLLOWING RECEIPT OF NECESSARY PERMITS.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION & SEDIMENT CONTROL BMPs - MANUAL FOR DESIGNERS AND ENGINEERS (2016), OR AS CURRENTLY REVISED OR U.S. ENVIRONMENTAL PROTECTION AGENCY PUBLICATION 832/R-92-005 (SEPTEMBER, 1992) STORM WATER MANAGEMENT FOR CONSTRUCTION, CHAPTER 3, WHICHEVER IS MORE STRINGENT.
- ANY ADDITIONAL EROSION AND SEDIMENTATION CONTROL DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERSONNEL AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/ REPLACEMENT/ MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF ACCEPTABLE PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:
 - FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.
 - FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.
 - FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.
 - FOR AREAS STABILIZED WITH RIP RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP RAP. STONE MUST BE SIZED APPROPRIATELY.
 - PAVED AREAS: FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.
 - FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIP RAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

B. EROSION AND SEDIMENTATION CONTROL MEASURES

- PRIOR TO THE BEGINNING OF CONSTRUCTION, THE TEMPORARY SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE, OR ENGINEER. SILT FENCE SHALL BE INSTALLED ALONG THE DOWNGRADIENT SIDE OF CONSTRUCTION WORK AREAS. WITH LOCATIONS BEING ADJUSTED ALONG WITH THE CONSTRUCTION PHASING AREAS. THE CONTRACTOR MAY USE EROSION MIX IN PLACE OF SINGLE SILT FENCE BARRIER. IN AREAS WHERE THE GRADE IS STEEPER THAN 8% SILT FENCE AND EROSION CONTROL MIX SHOULD BE USED.
- THE SILT FENCE SHALL BE INSTALLED PER THE DETAIL PROVIDED IN THE PLAN SET AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL. AND AT LEAST WEEKLY IN THE ABSENCE OF SIGNIFICANT RAINFALL. ANY REQUIRED REPAIRS WILL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE SILT BARRIERS. THIS SEDIMENT WILL BE SPREAD AND STABILIZED IN AREAS OF THE SITE NOT SUBJECT TO EROSION. THE CONTRACTOR SHALL MAKE REPAIRS IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE. IF SUCH EROSION IS OBSERVED, THE CONTRACTOR SHALL TAKE PROACTIVE ACTION TO IDENTIFY THE CAUSE OF THE EROSION AND TAKE ACTION TO AVOID ITS REOCCURRENCE. PROPER PLACEMENT OF STAKES AND KEYING THE BOTTOM OF THE FABRIC INTO THE GROUND IS CRITICAL TO THE FENCE'S EFFECTIVENESS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPONDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM AND MEASURES TAKEN TO AVOID THE CONCENTRATION OF FLOWS NOT INTENDED TO BE DIRECTED TO THE SILT FENCE. SILT FENCE SHALL BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION.
- TEMPORARY SEDIMENT SUMPS WILL PROVIDE SEDIMENTATION CONTROL FOR STORMWATER RUNOFF FROM DISTURBED AREAS DURING CONSTRUCTION UNTIL STABILIZATION HAS BEEN ACHIEVED.
- A CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED AT ALL ACCESS POINTS ONTO THE SITE TO PREVENT TRACKING OF SOIL ONTO ADJACENT LOCAL ROADS AND STREETS.
- SILT LOGS MAY BE INSTALLED IN LIEU OF STONE CHECK DAMS PROVIDED THE DEVICES ARE WELL ANCHORED, AND IF PRIOR APPROVAL IS RECEIVED FROM THE PROJECT ENGINEER.
- SILTSACKS™ WILL BE UTILIZED IN CATCH BASINS IN OR NEAR WORK AREAS AT RISK FROM RECEIVING TRANSPORTED SEDIMENT.
- ALL CATCH BASINS AND FIELD INLETS, NEW OR EXISTING, THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS MUST BE PROTECTED DURING CONSTRUCTION.
- REMOVAL OF SOD, TREES, BUSHES AND OTHER VEGETATION AND SOIL DISTURBANCE WILL BE KEPT TO A MINIMUM WHILE ALLOWING PROPER SITE DEVELOPMENT.
- GRUBBINGS AND ANY UNSUABLE TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN AN APPROVED MANNER.
- ANY SUITABLE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR REUSE IN FINAL GRADING. TOPSOIL WILL BE STOCKPILED IN A MANNER SUCH THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE WILL RESULT. IF A STOCKPILE IS NECESSARY, THE SIDE SLOPES OF THE TOPSOIL STOCKPILE WILL NOT EXCEED 2:1. TOPSOIL STOCKPILES WILL BE TEMPORARILY SEEDED WITH AROOSTOOK RYE, ANNUAL OR PERENNIAL RYE GRASS WITHIN 7 DAYS OF FORMATION, OR TEMPORARILY MULCHED IF SEEDING CANNOT BE DONE WITHIN THE RECOMMENDED SEEDING DATES.
- TEMPORARY DIVERSION BERMS AND DRAINAGE SWALES SHALL BE CONSTRUCTED AS NECESSARY TO PREVENT OFF-SITE DRAINAGE FROM ENTERING THE WORK AREA.
- TEMPORARY STABILIZATION SHALL BE CONSTRUCTED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS. PRIOR TO ANY RAIN EVENT, AND PRIOR TO ANY WORK SHUT DOWN LASTING MORE THAN ONE DAY. TEMPORARY STABILIZATION INCLUDES SEED, MULCH, OR OTHER NON-ERODABLE COVER.
- TEMPORARY SEEDING SPECIFICATIONS: WHERE SEEDBEDS HAVE BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME, AND SEED. APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND 10-10-10 (N-P205-K20) FERTILIZER AT A RATE OF 600 LBS PER ACRE (18.8 LB. PER 1,000 SQUARE FEET). UNIFORMLY APPLY SEED AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRES, AND ANCHOR AS NECESSARY. RECOMMENDED TEMPORARY SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:

AROOSTOOK RYE: RECOMMENDED SEEDING DATES: 8/15 -10/1
APPLICATION RATE: 112 LBS/ACRE
ANNUAL RYE GRASS: RECOMMENDED SEEDING DATES: 4/1 - 7/1
APPLICATION RATE: 40 LBS/ACRE
PERENNIAL RYE GRASS: RECOMMENDED SEEDING DATES: 8/15 - 9/15
APPLICATION RATE: 40 LBS/ACRE

14. PERMANENT SEEDING SPECIFICATION. IF A LANDSCAPE PLAN HAS BEEN PREPARED FOR THE PROJECT, SOIL PREPARATION AND SEED SPECIFICATIONS OF THAT PLAN SHALL SUPERSEDE THESE GENERAL PERMANENT SEEDING REQUIREMENTS. IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND JUNE 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 15 SHALL BE SEEDDED WITH AROOSTOOK RYE OR MULCHED AT RATES PREVIOUSLY SPECIFIED. SEE WINTER CONDITIONS NOTES FOR SEEDING STABILIZATION AFTER NOVEMBER 1.

- APPLY TOPSOIL TO A MINIMUM DEPTH OF 4 INCHES. MIX TOPSOIL WITH THE SUBSOIL TO A MINIMUM DEPTH OF 6 INCHES.
 - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND GRANULAR, COMMERCIAL-GRADE, 10-10-10 (N-P205-K20) FERTILIZER AT A RATE OF 800 LBS PER ACRE (18.4 LBS PER 1,000 SQUARE FEET).
 - UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRES, AND ANCHOR AS NECESSARY.
 - THE SEED MIXTURE FOR LAWN AND FILTRATION BASIN AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:
 - 30% CREEPING RED FESCUE
 - 50% KENTUCKY BLUEGRASS
 - 20% ITALIAN/PERENNIAL RYE GRASS
- NOTE: SEED MIXTURE SHALL CONSIST OF AT LEAST TWO VARIETIES OF EACH TYPE OF GRASS. WHEN USED IN A FILTER BASIN, STORMWATER SHALL NOT BE DIRECTED TO THE BASIN UNTIL THE GRASS IS ESTABLISHED.

15. MULCH ALL AREAS SEEDDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE.

- DITCH LININGS, STONE CHECK DAMS, AND RIP RAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF CULVERT.
- RIP RAP REQUIRED AT CULVERTS AND STORM DRAIN INLETS AND OUTLETS SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE.
- EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 15%, IN THE BASE OF DITCHES NOT OTHERWISE PROTECTED, AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (E.G. WETLANDS AND WATER BODIES). EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

C. SPECIAL MEASURES FOR SUMMER CONSTRUCTION

- DURING DRY SUMMER CONDITIONS, THE CONTRACTOR SHALL:
- IMPLEMENT A PROGRAM TO APPLY DUST CONTROL MEASURES ON A DAILY BASIS EXCEPT THOSE DAYS WHERE PRECIPITATION IS SUFFICIENT TO SUPPRESS DUST FORMATION. THIS PROGRAM SHALL EXTEND TO AND INCLUDE SWEEPING OF ADJACENT STREETS.
 - SPRAY ANY MULCHES WITH WATER AFTER ANCHORING TO DAMPEN THE SOIL AND ENCOURAGE EARLY GROWTH. SPRAYING MAY BE REQUIRED SEVERAL TIMES. TEMPORARY SEED MAY BE REQUIRED UNTIL THE LATE SUMMER SEEDING SEASON.
 - COVER STOCKPILES OF FINE-GRAINED MATERIALS, OR EXCAVATED SOILS WHICH ARE SUSCEPTIBLE TO EROSION TO PROTECT FROM THE INTENSE, SHORT-DURATION STORMS WHICH ARE MORE PREVALENT IN THE SUMMER MONTHS.
 - TAKE ADDITIONAL STEPS NEEDED, INCLUDING WATERING, OR COVERING EXCAVATED MATERIALS TO CONTROL FUGITIVE DUST EMISSIONS TO MINIMIZE REDUCTIONS IN VISIBILITY AND THE AIRBORNE DISBURSEMENT OF FINE-GRAINED SOILS. THIS IS PARTICULARLY IMPORTANT GIVEN THE POTENTIAL PRESENCE OF SOIL CONTAMINANTS, AND THEIR PROXIMITY ALONG THE ADJACENT STREETS AND PROPERTIES.
 - THESE MEASURES MAY ALSO BE REQUIRED IN THE SPRING AND FALL DURING THE DRIER PERIODS OF THESE SEASONS.

D. WINTER CONDITIONS

- "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1ST THROUGH APRIL 15TH. IF AREAS WITHIN THE CONSTRUCTION ACTIVITY ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15TH, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS. NO MORE THAN ONE ACRE OF THE SITE MAY BE WITHOUT STABILIZATION AT ONE TIME.
- SILT FENCE: IN LIEU OF PROVIDING THE 4" X 4" TRENCH, FOR FROZEN GROUND, STONY SOIL, THE PRESENCE OF LARGE ROOTS, OR OTHER PROHIBITIVE CONDITIONS, THE BOTTOM 8" TO 12" OF THE FABRIC MAY BE LAID ON EXISTING GRADE AND BACK FILLED WITH STONE ANCHORING MATERIAL, AS SHOWN ON THE DRAWINGS.
- HAY MULCH SHALL BE APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.
- AFTER NOVEMBER 1ST OR THE FIRST KILLING FROST FOR THE REGION AND BEFORE SNOWFALL, ALL EXPOSED AND DISTURBED AREAS NOT TO UNDERGO FURTHER DISTURBANCE ARE TO HAVE DORMANT SEEDING. THE DORMANT SEEDING METHOD: PREPARE THE SEEDBED, LIME AND FERTILIZE, APPLY THE SELECTED PERMANENT SEED MIXTURE AT DOUBLE THE REGULAR SEEDING RATE, AND MULCH AND ANCHOR. DORMANT SEEDINGS NEED TO BE ANCHORED EXTREMELY WELL ON SLOPES, DITCH BASES AND AREAS OF CONCENTRATED FLOWS. DORMANT SEEDING REQUIRES INSPECTION AND RESEEDING AS NEEDED IN THE SPRING. ALL AREAS WHERE COVER IS INADEQUATE MUST BE IMMEDIATELY RESEEDED AND MULCHED AS SOON AS POSSIBLE.
- ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1ST, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

E. HOUSEKEEPING

- SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON-SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORM WATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
- GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN INFILTRATION AREA IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
- FUGITIVE SEDIMENT AND DUST: ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.
- DEBRIS AND OTHER MATERIAL: LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER, MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
- COMPLY WITH ALL LOCAL AND STATE REGULATIONS FOR THE REMOVAL AND DISPOSAL OF CONSTRUCTION DEBRIS AND WASTE.
- TRENCH OR FOUNDATION DE-WATERING: THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED AREAS THAT ARE SPECIFICALLY DESIGNATED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFER DAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE.
- NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE.

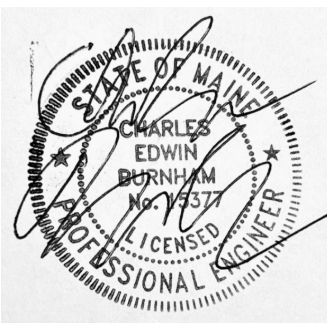
F. INSPECTION AND MAINTENANCE

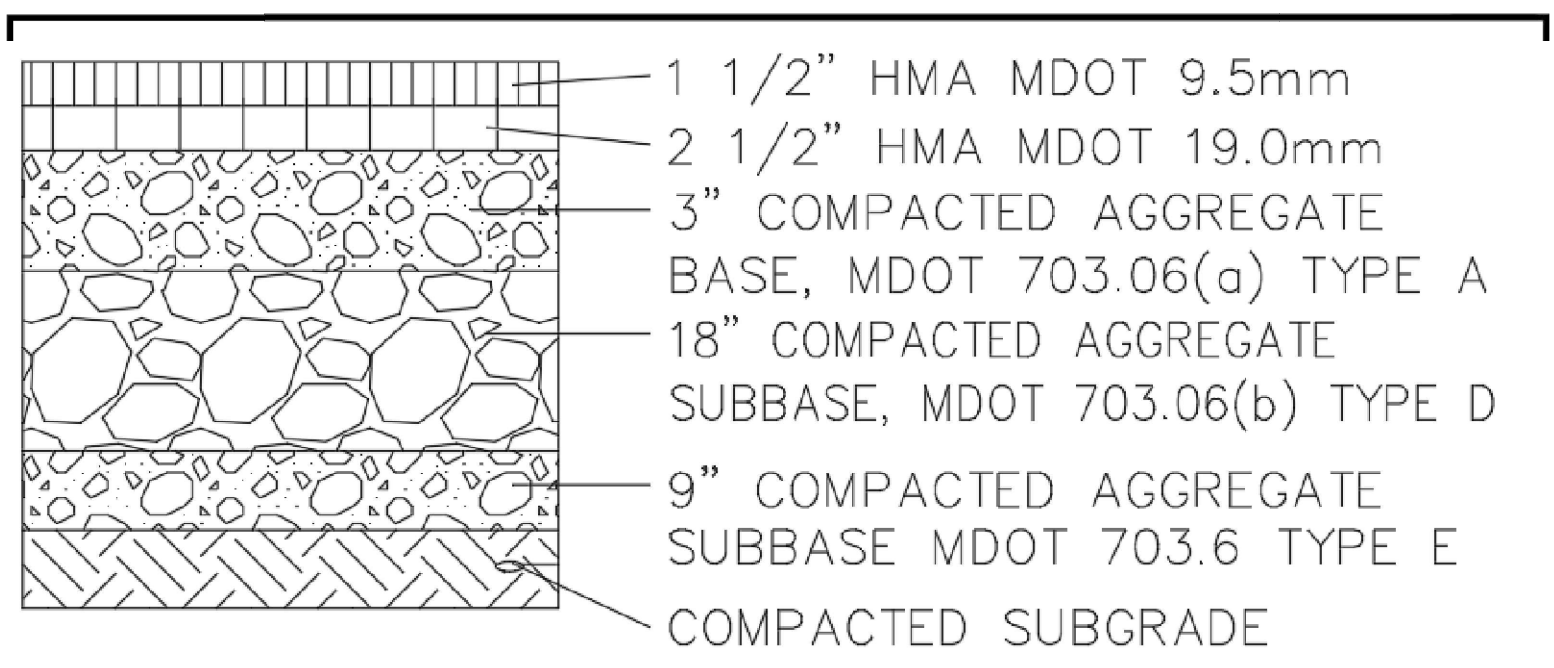
- INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORM WATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE A WEEK AND BEFORE AND AFTER A STORM EVENT, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORM WATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT AND ANY DEP OR MUNICIPAL COMPANION DOCUMENTS, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPs) NEED TO BE MODIFIED OR IF ADDITIONAL BMPs ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
- AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME AND QUALIFICATIONS OF THE PERSON PERFORMING THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES.
- INSPECTION OF THE PROJECT WORK SITE SHALL INCLUDE:
 - IDENTIFICATION OF PROPER EROSION CONTROL MEASURE INSTALLATION IN ACCORDANCE WITH THE EROSION CONTROL DETAIL SHEET.
 - DETERMINE WHETHER EACH EROSION CONTROL MEASURE IS PROPERLY OPERATING. IF NOT, IDENTIFY DAMAGE TO THE CONTROL DEVICE AND DETERMINE REMEDIAL MEASURES.
 - IDENTIFY AREAS WHICH APPEAR VULNERABLE TO EROSION AND DETERMINE ADDITIONAL EROSION CONTROL MEASURES WHICH SHOULD BE USED TO IMPROVE CONDITIONS.
 - INSPECT AREAS OF RECENT SEEDING TO DETERMINE PERCENT CATCH OF GRASS. A MINIMUM CATCH OF 90 PERCENT IS REQUIRED PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
- IF INSPECTION OF THE SITE INDICATES A CHANGE SHOULD BE MADE TO THE EROSION CONTROL PLAN, TO EITHER IMPROVE EFFECTIVENESS OR CORRECT A SITE-SPECIFIC DEFICIENCY, THE INSPECTOR SHALL IMMEDIATELY IMPLEMENT THE CORRECTIVE MEASURE AND NOTIFY THE OWNER OF THE CHANGE.
- ALL CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS PREPARED BY THE INSPECTOR(S) SHALL BE FILED WITH THE OWNER, AND THE PERMIT FILE CONTAINED ON THE PROJECT SITE. ALL WRITTEN CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS MUST BE FILED WITHIN ONE (1) WEEK OF THE INSPECTION DATE.
- THE PERMITTEE SHALL RETAIN COPIES OF THE ESC PLAN AND ANY FORMS, SUBMISSIONS, REPORTS, OR OTHER MATERIALS REQUIRED BY THE GENERAL PERMIT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE COMPLETION OF PERMANENT STABILIZATION.
- THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION/SEDIMENT CONTROL REPORT, INCLUDING CONTROL OF FUGITIVE DUST, AND SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

C. CONSTRUCTION SCHEDULE & SEQUENCE

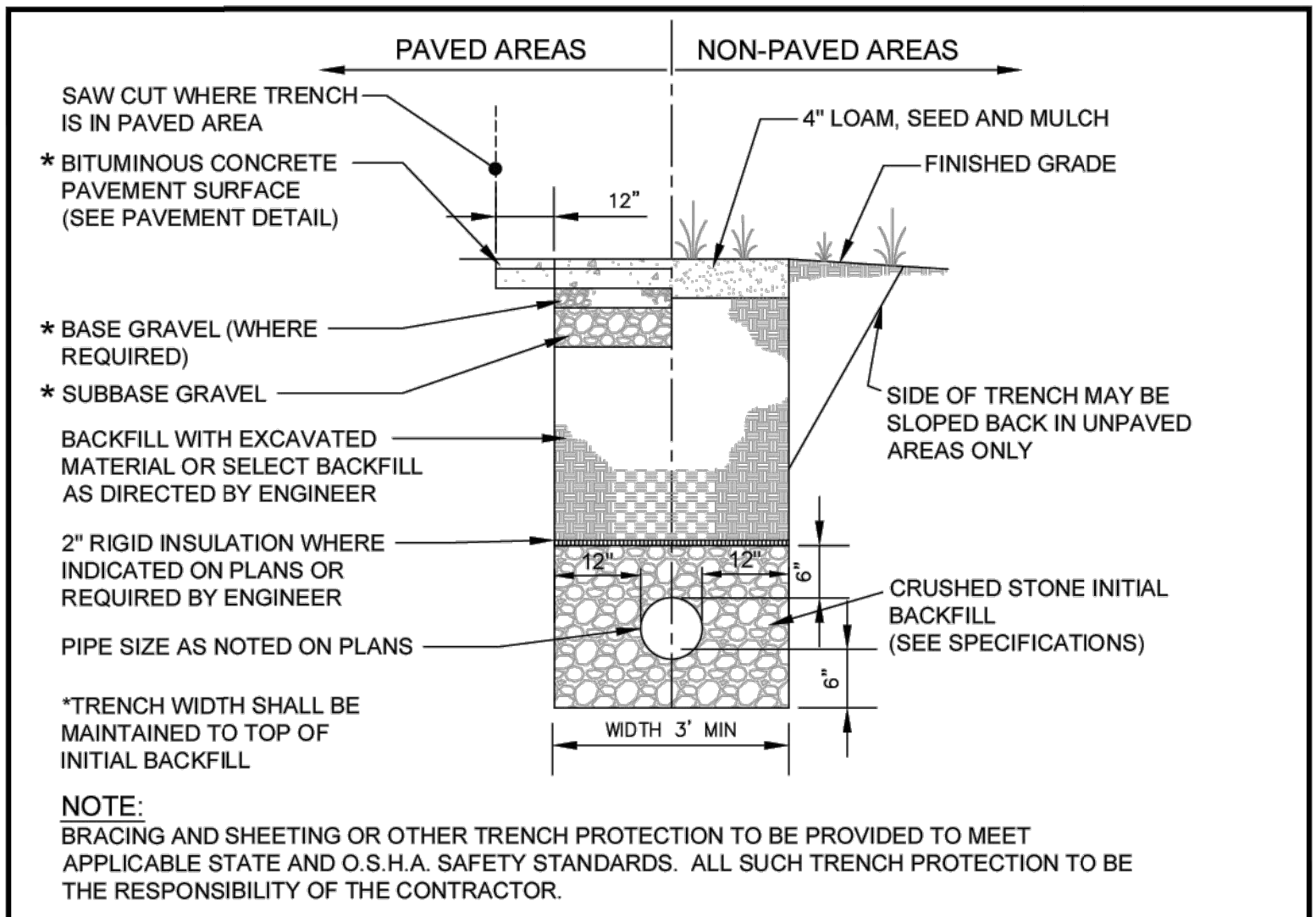
(TIMELINES ARE APPROXIMATE AND WILL BE DEPENDENT ON WEATHER AND SITE CONDITIONS).

- PRE-CONSTRUCTION CONFERENCE:** PRIOR TO ANY CONSTRUCTION AT THE SITE, REPRESENTATIVES OF THE CONTRACTOR, THE ARCHITECT, THE OWNER, AND THE SITE DESIGN ENGINEER SHALL MEET TO DISCUSS THE SCHEDULING OF THE SITE CONSTRUCTION AND THE DESIGNATION OF THE RESPONSIBLE PARTIES FOR IMPLEMENTING THE PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE MEETING. PRIOR TO THE MEETING, THE CONTRACTOR WILL PREPARE A DETAILED SCHEDULE AND A MARKED-UP SITE PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL CONDUCT A MEETING WITH EMPLOYEES AND SUB-CONTRACTORS TO REVIEW THE EROSION CONTROL PLAN, THE CONSTRUCTION TECHNIQUES WHICH WILL BE EMPLOYED TO IMPLEMENT THE PLAN AND PROVIDE A LIST OF ATTENDEES AND ITEMS DISCUSSED AT THE MEETING TO THE OWNER. THREE COPIES OF THE SCHEDULE, THE CONTRACTOR'S MEETING MINUTES, AND MARKED-UP SITE PLAN SHALL BE PROVIDED TO THE OWNER.
- THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO INSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES IS OPTIMIZED.
 - INSTALL SAFETY AND CONSTRUCTION FENCE TO SECURE THE SITE FOR DEMOLITION.
 - INSTALL ALL PERIMETER SILTATION FENCE AND EROSION CONTROL BARRIERS. PARTICULAR ATTENTION SHALL BE PAID TO AREAS UPSTREAM OF PROTECTED NATURAL RESOURCES. SIGNS SHALL BE ERRECTED PERIODICALLY ALONG THESE PERIMETER BARRIERS INDICATING THAT THE DOWNSTREAM AREAS ARE OFF LIMITS TO ALL CONSTRUCTION ACTIVITIES.
 - INSTALL CONSTRUCTION ENTRANCES.
 - MAINTAIN EXISTING PAVED AREAS FOR LAYDOWN AND ACCESS DURING INITIAL CONSTRUCTION ACTIVITIES.
 - CONSTRUCT ACTIVITIES ON THE SITE TO OPTIMIZE THE HANDLING OF MATERIALS AND RESTRICT THE DENUEDED AREAS TO THE TIME STIPULATED.
 - CONSTRUCT STABILIZED PADS FOR FOUNDATION AND BUILDING CONSTRUCTION.
 - MAINTAIN STABILIZED SITE ACCESS AND WORKING AREAS DURING BUILDING CONSTRUCTION.
 - INSTALL STORWATER BMPs
 - REMOVE EXISTING PAVEMENT AND INSTALL NEW PAVEMENT BASE GRAVEL MATERIALS TO RAISE THE SITE TO THE DESIGN SUBGRADE ELEVATION.
 - INSTALL BINDER PAVEMENT.
 - LANDSCAPE (LOAM AND SEED).
 - INSTALL SURFACE PAVEMENTS.
 - INSTALL STRIPING, SIGNAGE, AND MISCELLANEOUS SITE IMPROVEMENTS.
 - REVIEW AND PUNCH THE SITE.
 - REMOVE ANY TEMPORARY EROSION CONTROL MEASURES.
- THE CONTRACTOR MUST MAINTAIN AN ACCURATE SET OF RECORD DRAWINGS INDICATING THE DATE WHEN AN AREA IS FIRST DENUEDED, THE DATE OF TEMPORARY STABILIZATION, AND THE DATE OF FINAL STABILIZATION. ON OCTOBER 1 OF ANY CALENDAR YEAR, THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN FOR STABILIZING THE SITE FOR THE WINTER AND A DESCRIPTION OF WHAT ACTIVITIES ARE PLANNED DURING THE WINTER.

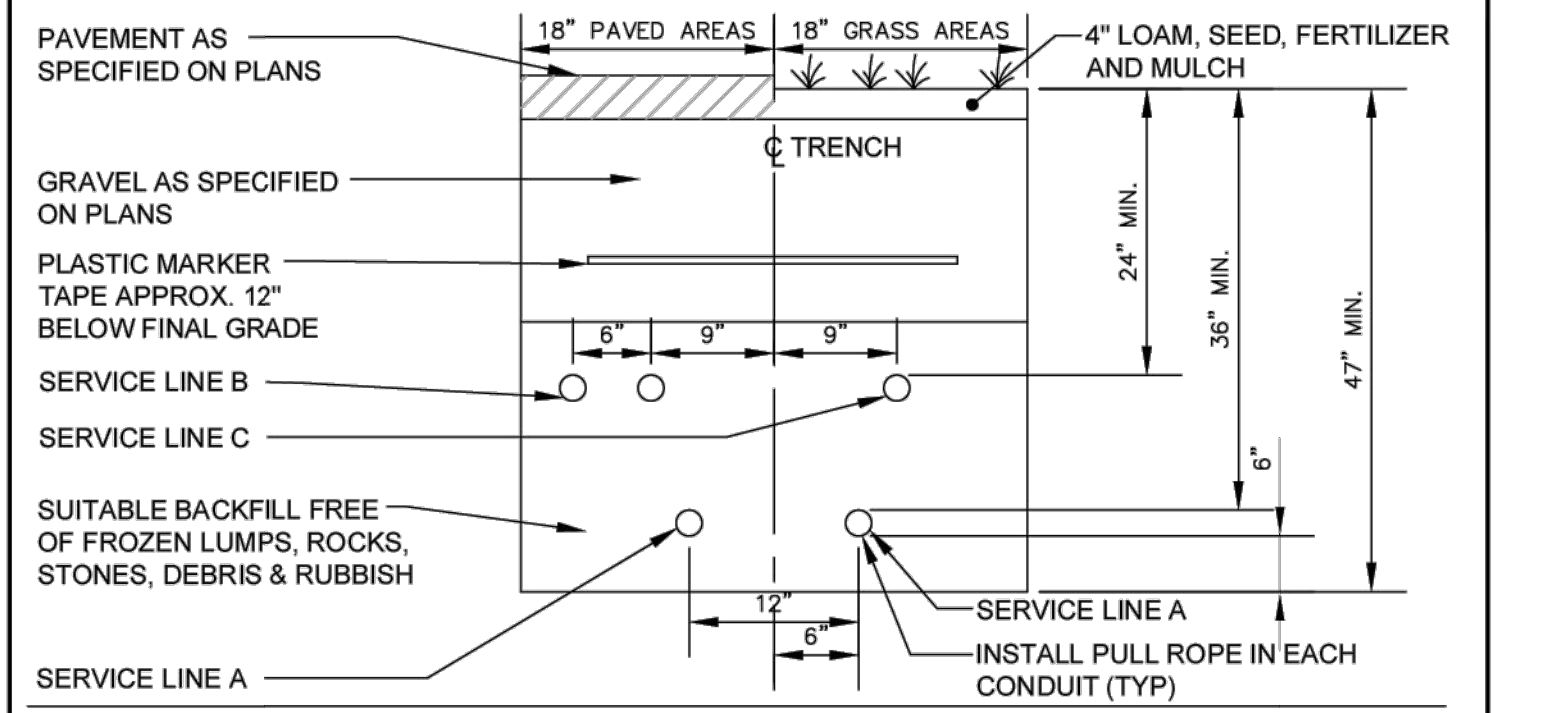
		MAP 8 LOT 10 GORHAM, MAINE										
		EROSION CONTROL NOTES										
SHIRLEY NEWTON LLC 664 MAIN STREET GORHAM, MAINE 04038		Grange Engineering LLC 241 Rowe Station Road New Gloucester, ME 04260 Tel: 207.712.6990										
<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2/13/2023</td> <td>PRELIMINARY SUBMISSION</td> </tr> <tr> <td>REV</td> <td></td> <td>DESCRIPTION</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	2/13/2023	PRELIMINARY SUBMISSION	REV		DESCRIPTION	ZONE: UREXP DATE: FEBRUARY 13, 2023 USE: RESIDENTIAL SCALE: NA PROJECT NAME: Shirley Newton Subdivision SHEET: C-300	
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1	2/13/2023	PRELIMINARY SUBMISSION										
REV		DESCRIPTION										



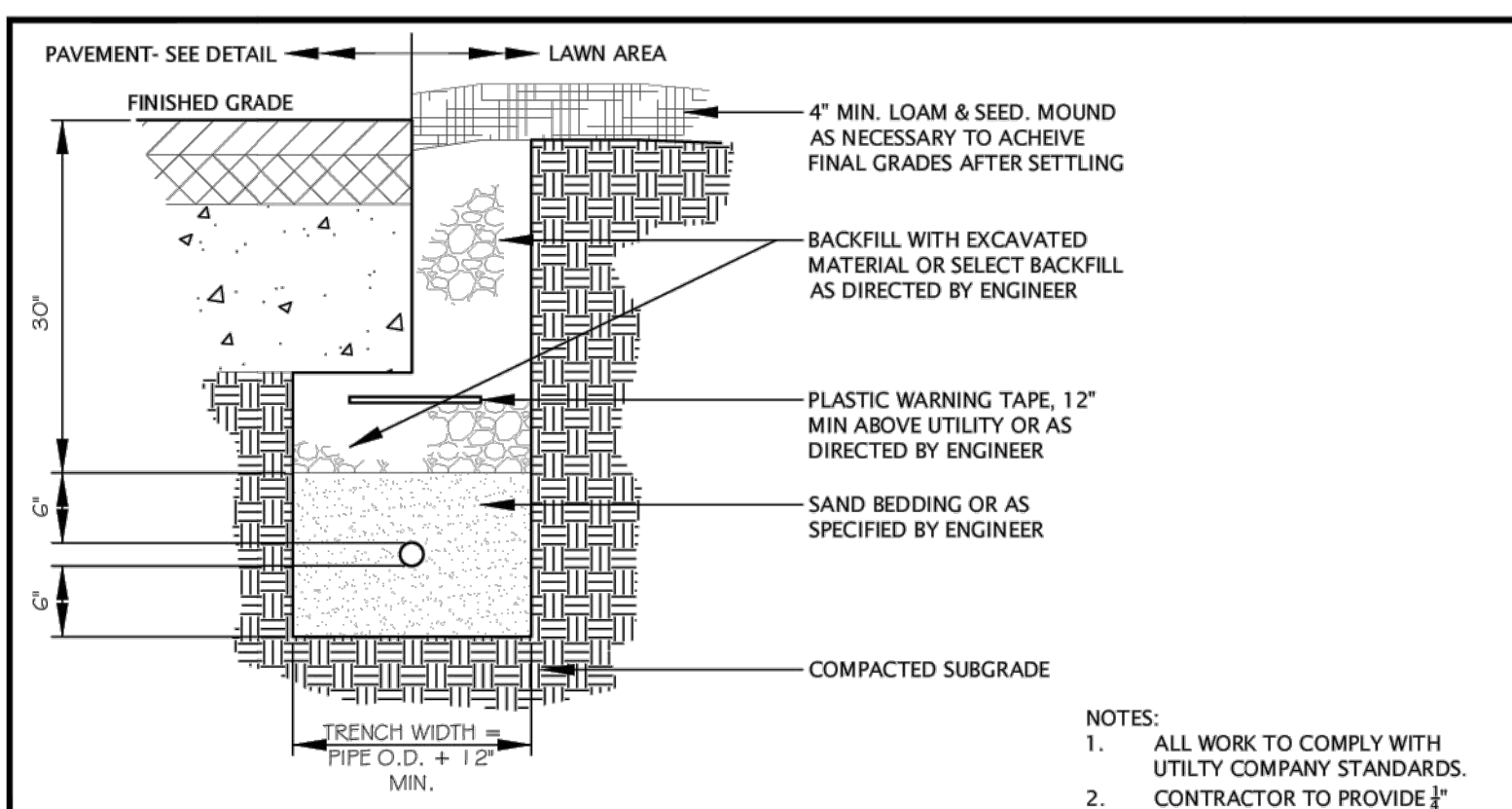
A NEW PAVEMENT DETAIL
N.T.S.



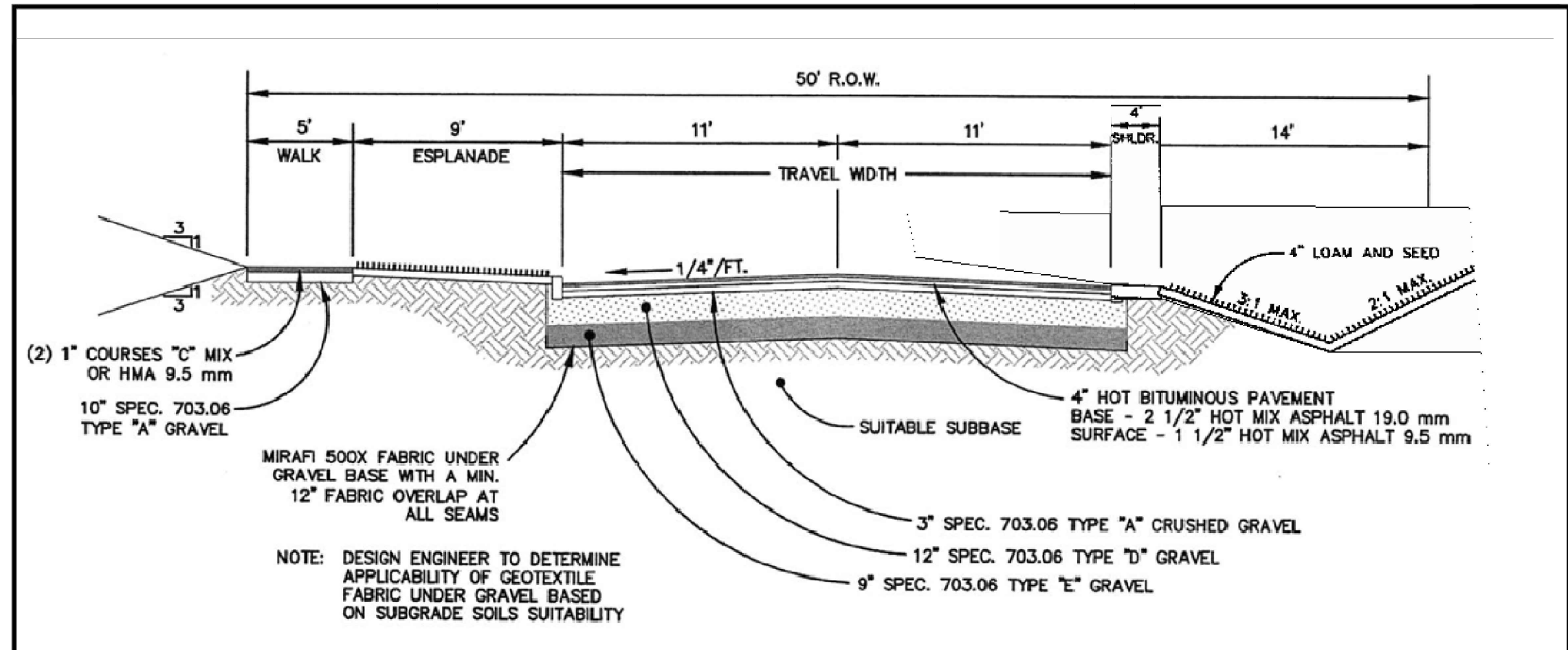
B TYPICAL SEWER AND STORM DRAIN TRENCH DETAIL
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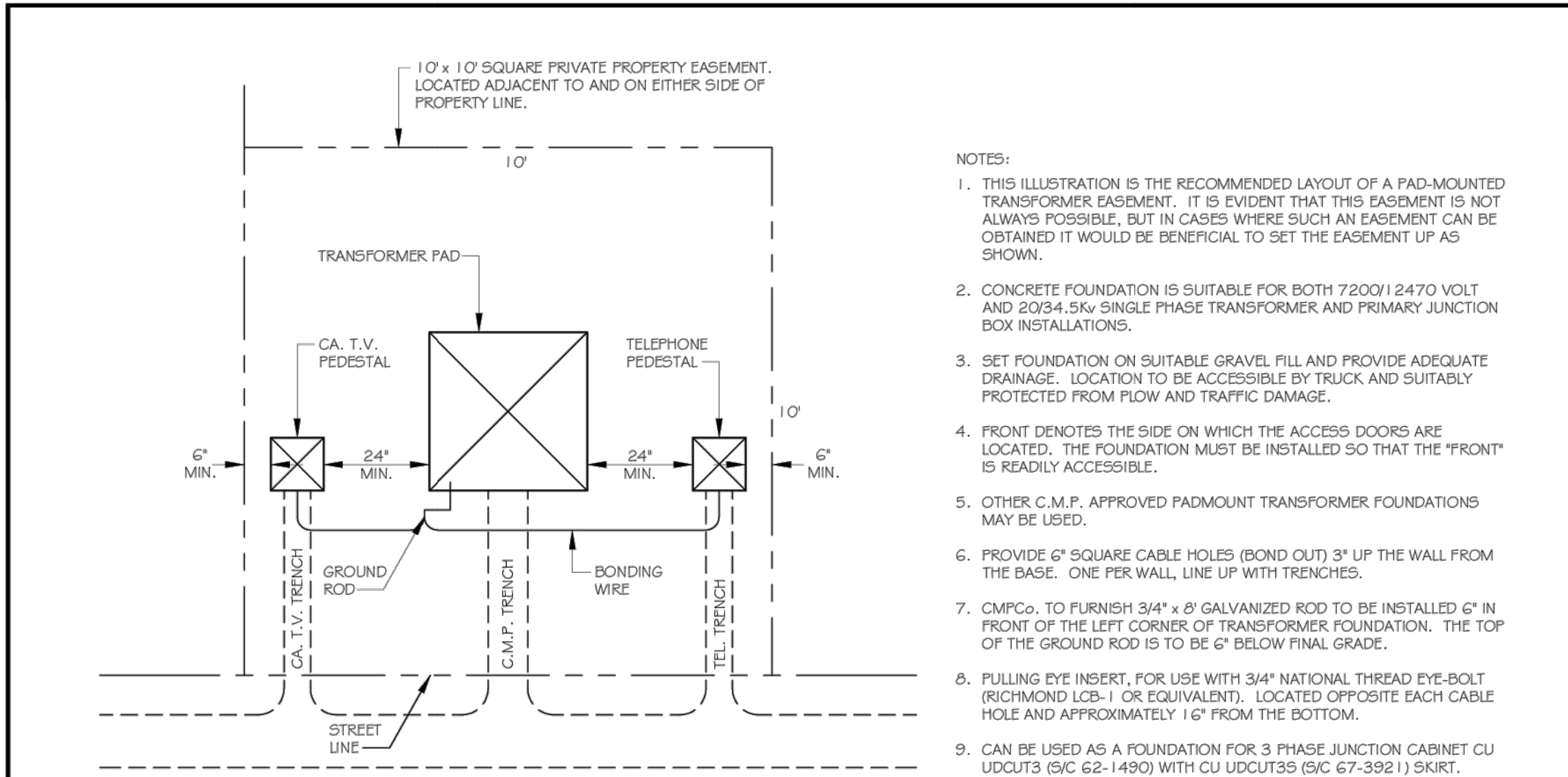
C COMBINED UTILITY TRENCH DETAIL
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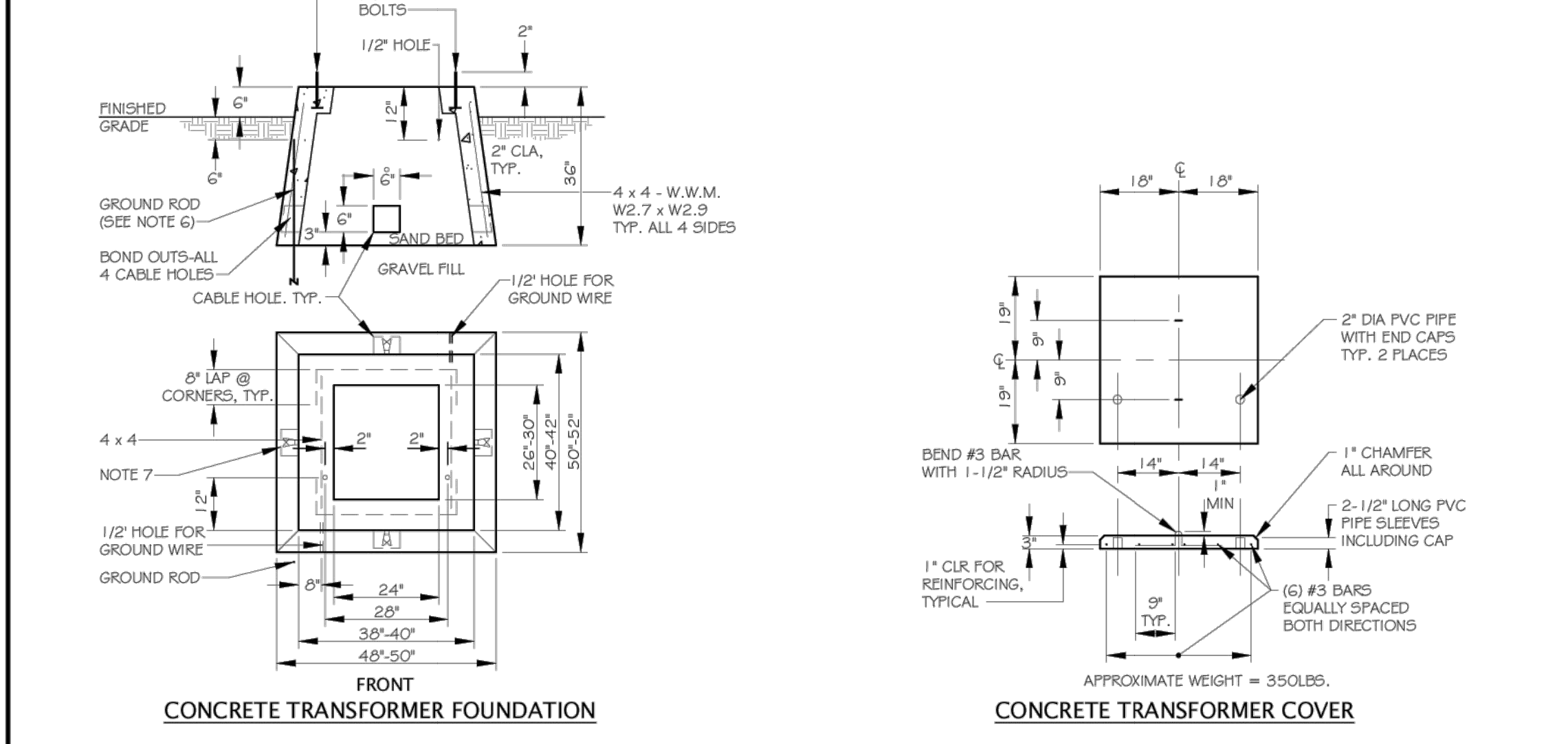
D ELECTRIC UTILITY TRENCH DETAIL
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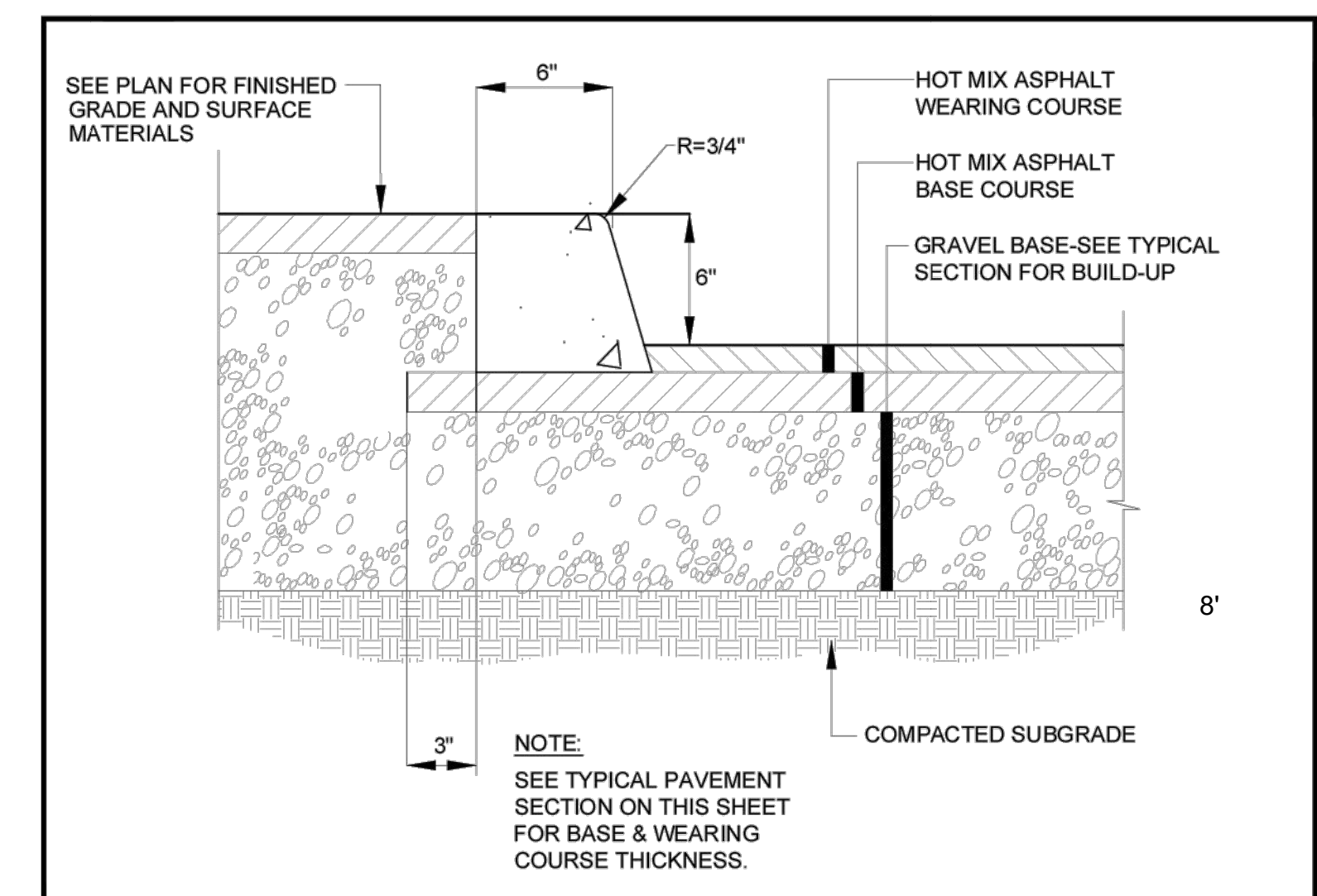
E TYPICAL ROADWAY SECTION
N.T.S.



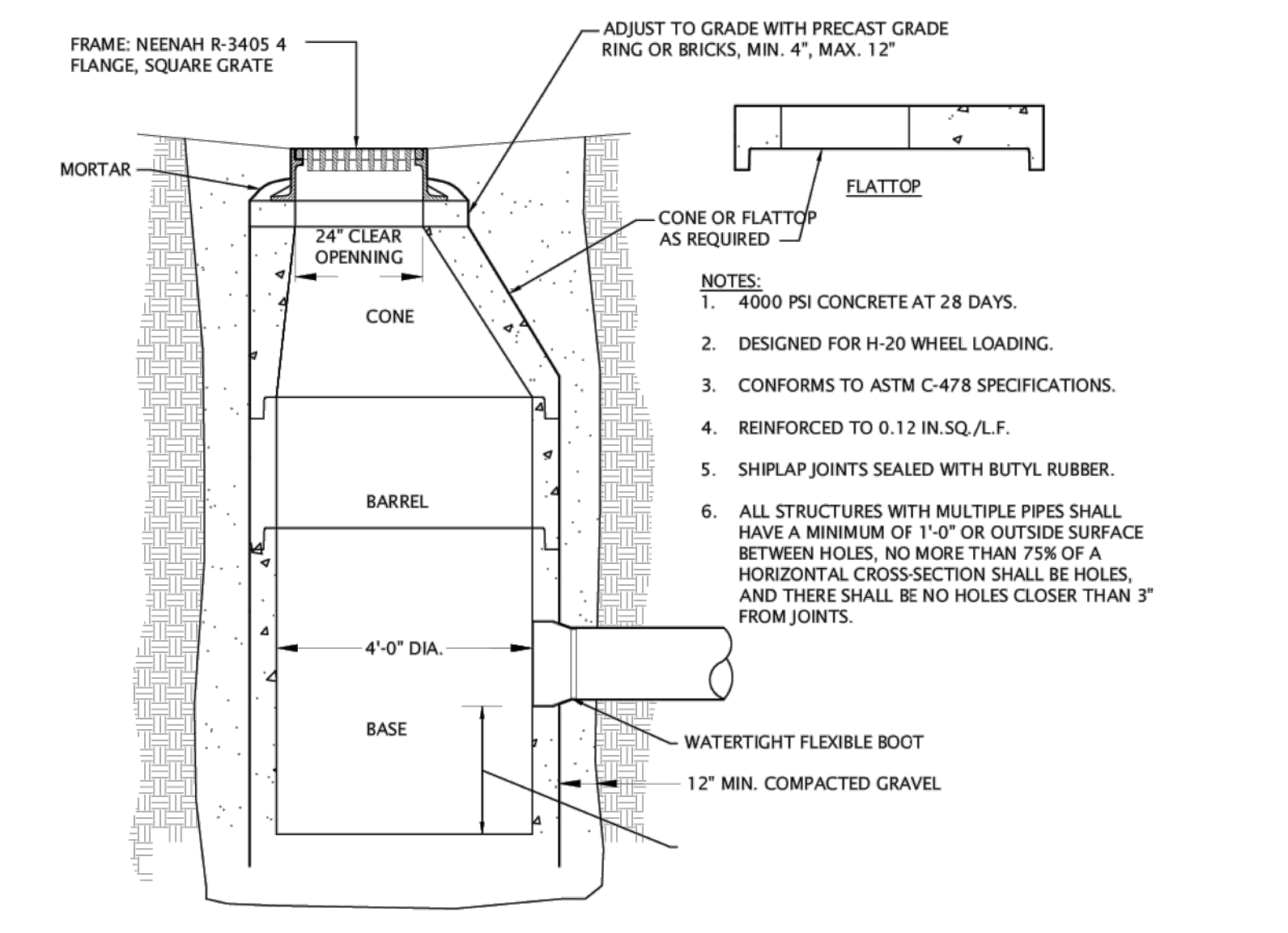
F CENTRAL MAINE POWER TRANSFORMER PAD
NOT TO SCALE



G SLIPFORM CONCRETE CURB DETAIL
N.T.S.

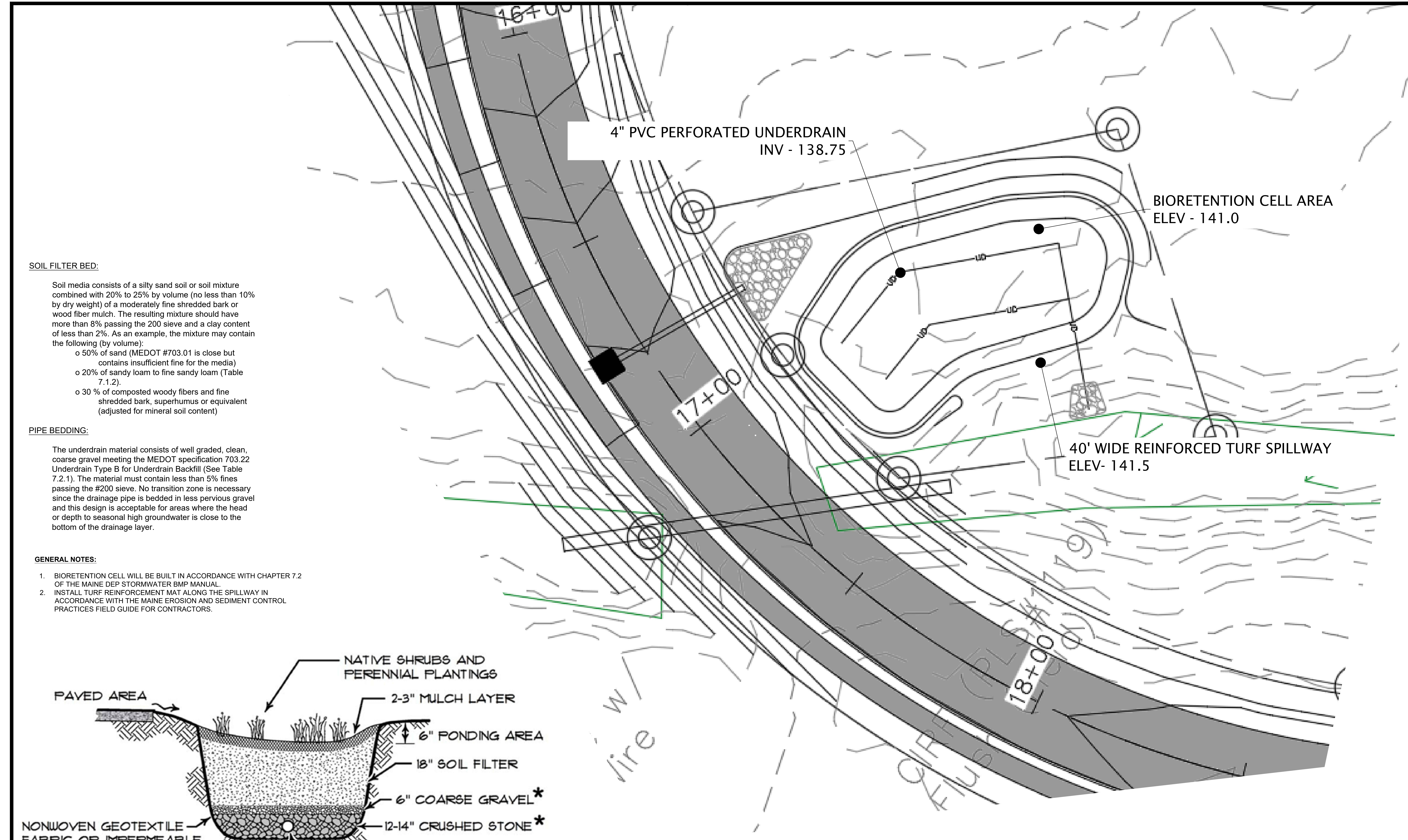


H DRY HYDRANT NOTES:
THE DRY HYDRANT WILL BE CONSTRUCTED IN ACCORDANCE WITH THE TOWN STANDARDS AND ALL CONNECTIONS AND MATERIALS WILL BE APPROVED BY THE FIRE CHIEF PRIOR TO INSTALLATION.



I CONCRETE TRANSFORMER COVER

		MAP 8 LOT 10 GORHAM, MAINE CIVIL DETAILS II	Grange Engineering LLC 241 Rowe Station Road New Gloucester, ME 04260 Tel: 207.712.6990
5 4 3 2 1	2/13/2023 DATE	PRELIMINARY SUBMISSION DESCRIPTION	SHIRLEY NEWTON LLC 664 MAIN STREET GORHAM, MAINE 04038
REVISIONS		PROJECT NAME: Shirley Newton Subdivision	SHEET: C-302



SOIL FILTER BED:

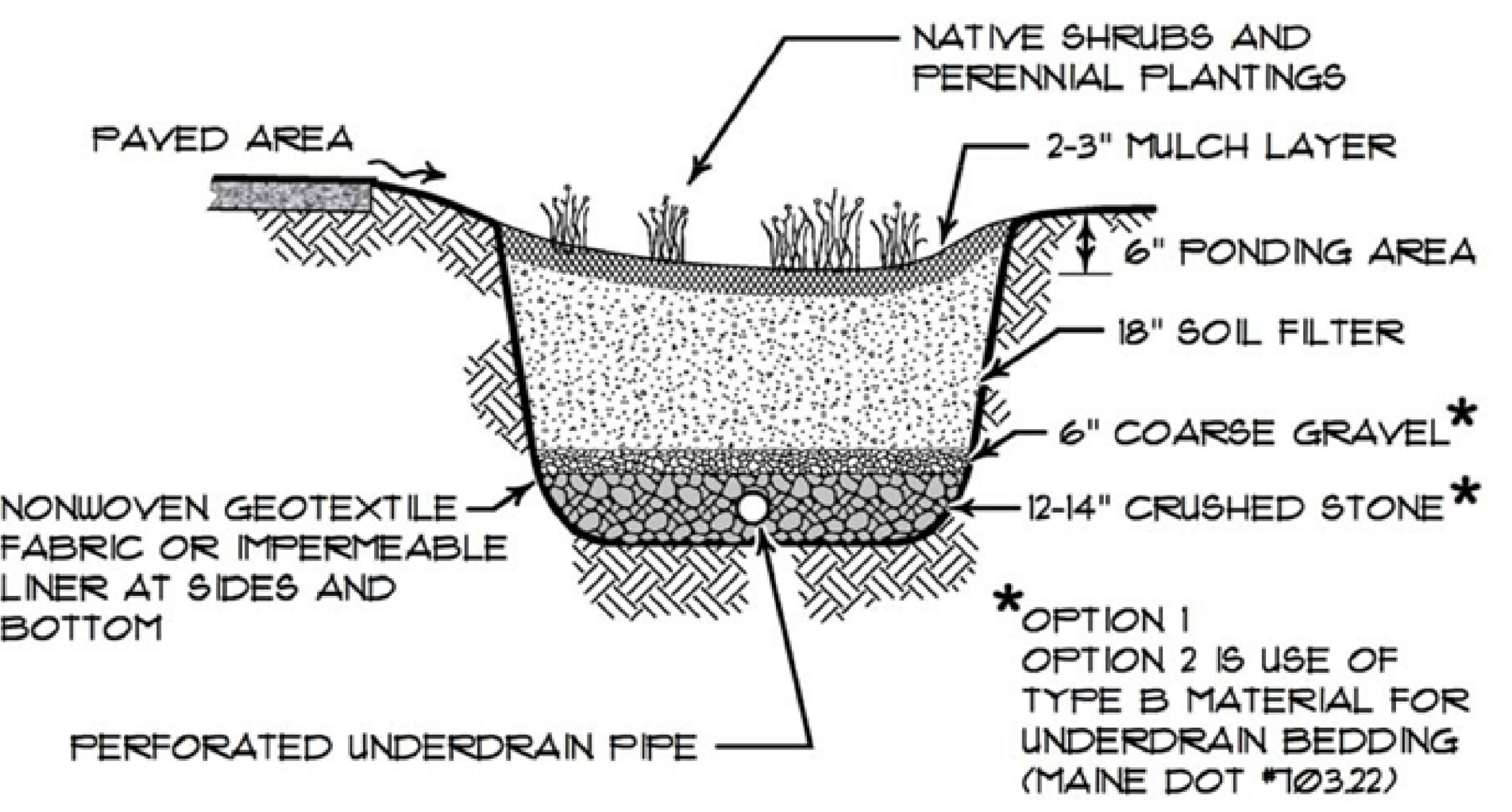
Soil media consists of a silty sand soil or soil mixture combined with 20% to 25% by volume (no less than 10% by dry weight) of a moderately fine shredded bark or wood fiber mulch. The resulting mixture should have more than 8% passing the 200 sieve and a clay content of less than 2%. As an example, the mixture may contain the following (by volume):

- o 50% of sand (MEDOT #703.01 is close but contains insufficient fine for the media)
- o 20% of sandy loam to fine sandy loam (Table 7.1.2).
- o 30 % of composted woody fibers and fine shredded bark, superhumus or equivalent (adjusted for mineral soil content)

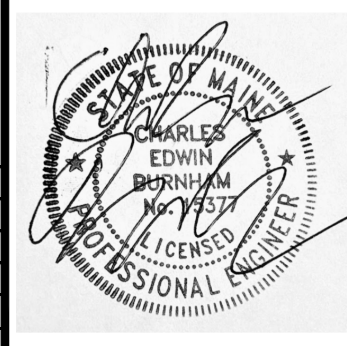
PIPE BEDDING:

The underdrain material consists of well graded, clean, coarse gravel meeting the MEDOT specification 703.22 Underdrain Type B for Underdrain Backfill (See Table 7.2.1). The material must contain less than 5% fines passing the #200 sieve. No transition zone is necessary since the drainage pipe is bedded in less pervious gravel and this design is acceptable for areas where the head or depth to seasonal high groundwater is close to the bottom of the drainage layer.

- GENERAL NOTES:**
1. BIORETENTION CELL WILL BE BUILT IN ACCORDANCE WITH CHAPTER 7.2 OF THE MAINE DEP STORMWATER BMP MANUAL.
 2. INSTALL TURF REINFORCEMENT MAT ALONG THE SPILLWAY IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS.



REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY SUBMISSION
2		
3		
4		
5		

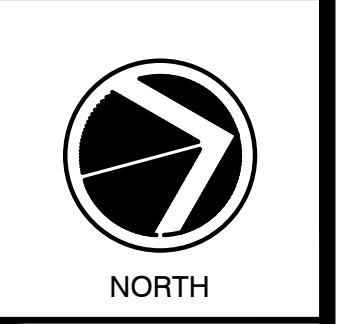


MAP 8 LOT 10
 GORHAM, MAINE
 BIORETENTION CELL
 DETAILS

SHIRLEY NEWTON LLC
 664 MAIN STREET
 GORHAM, MAINE 04038

Grange Engineering LLC
 241 Rowe Station Road
 New Gloucester, ME 04260
 Tel: 207.712.6990

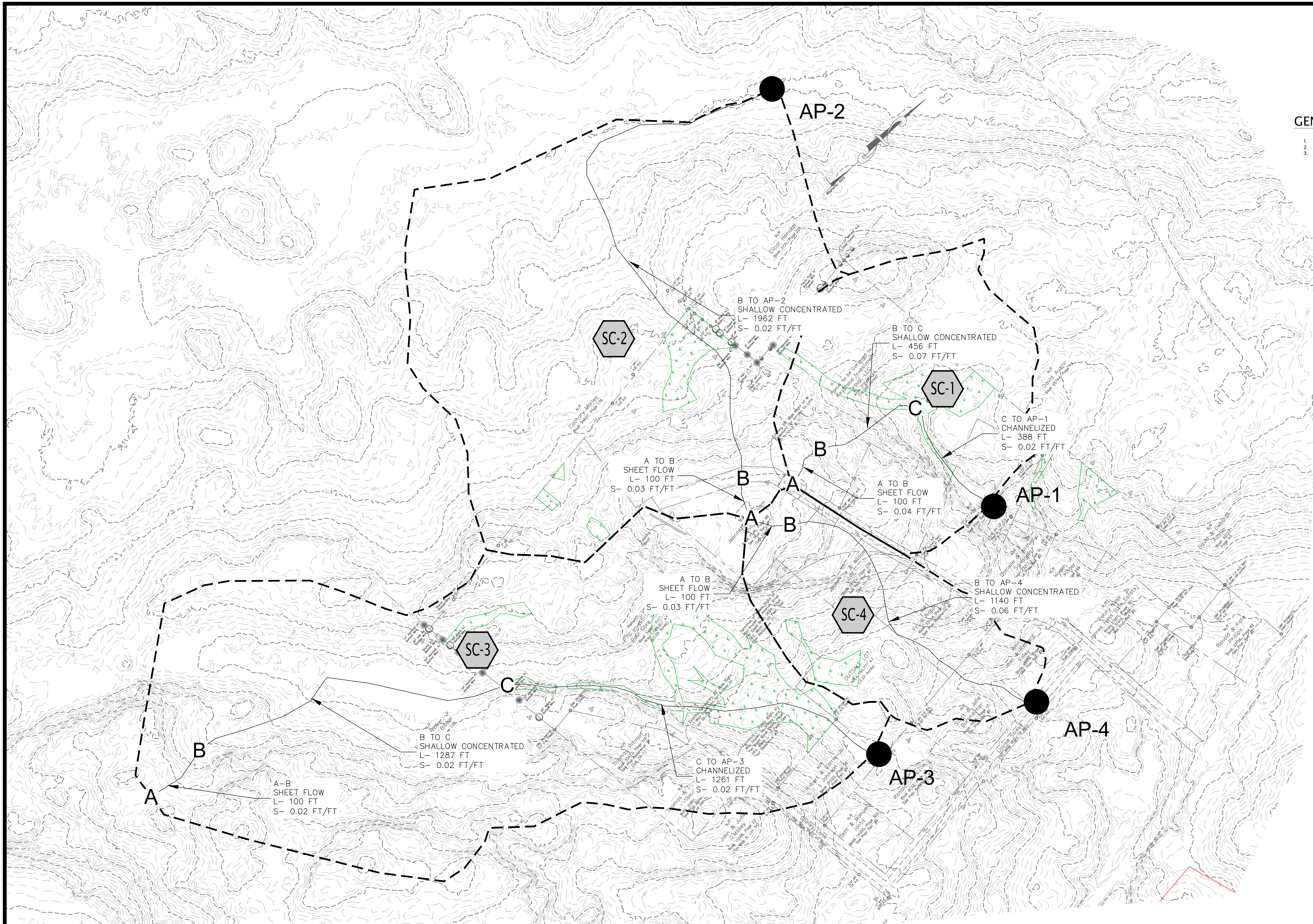
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 USE: RESIDENTIAL SCALE: NA
 PROJECT NAME: Shirley Newton Subdivision
 SHEET: C-303



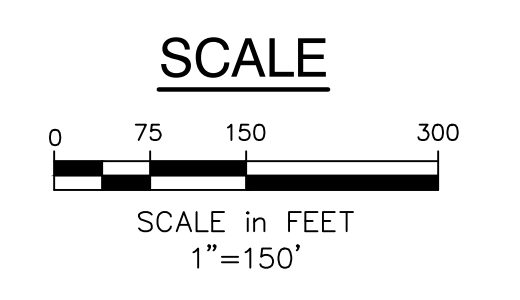
NORTH

GENERAL NOTES:

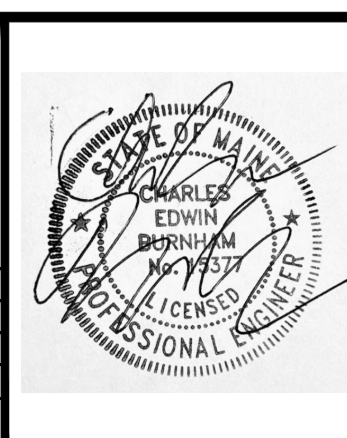
1. WETLAND DELINEATION PERFORMED BY MARK HAMPTON.
2. BOUNDARY SURVEY PROVIDED BY BHM.
3. TOPOGRAPHIC INFORMATION TAKEN FROM GIS.



SUBMITTED FOR PRELIMINARY PLAN REVIEW



REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY PLAN
1	12/19/2022	SKETCH PLAN



MAP 8 LOT 10
GORHAM, MAINE
EXISTING DRAINAGE
PLAN

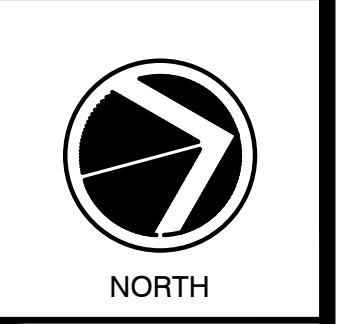
SHIRLEY NEWTON LLC
664 MAIN STREET
GORHAM, MAINE 04038

Shirley Newton LLC.
664 Main Street
Gorham, ME 04038
Tel: 207.712.6990

ZONE: UREXP DATE: FEBRUARY 13, 2023
USE: RESIDENTIAL SCALE: 1" = 100'

PROJECT NAME: Shirley Newton Subdivision

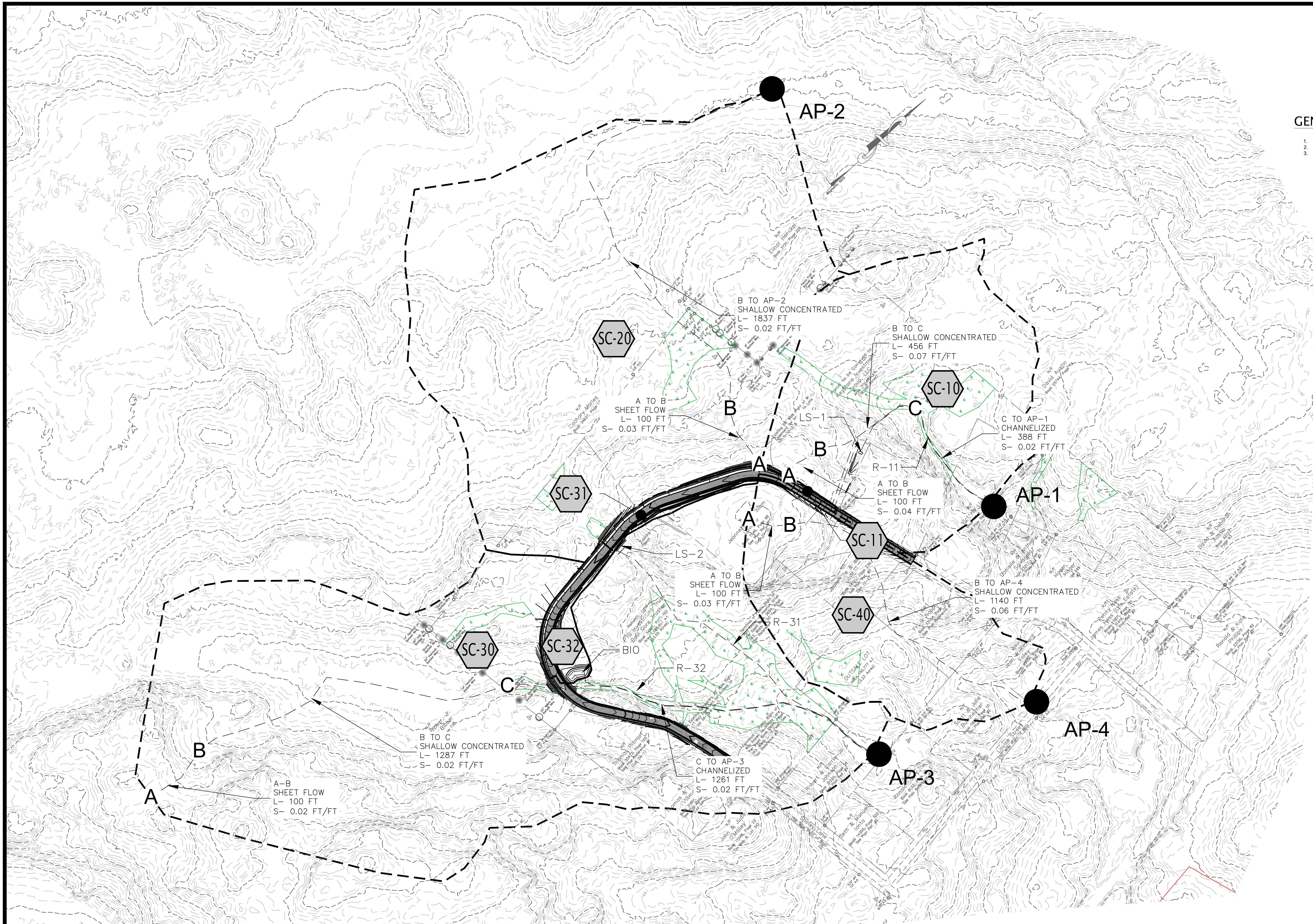
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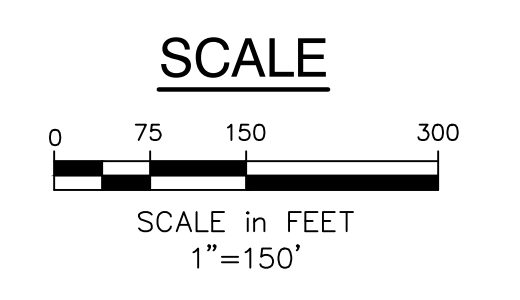
NORTH

GENERAL NOTES:

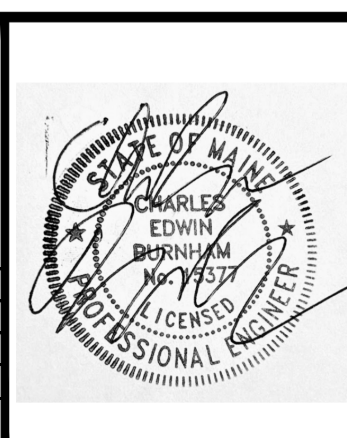
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3. TOPOGRAPHIC INFORMATION TAKEN FROM GIS.



SUBMITTED FOR PRELIMINARY PLAN REVIEW



REV	DATE	DESCRIPTION
1	2/13/2023	PRELIMINARY PLAN
1	12/19/2022	SKETCH PLAN



MAP 8 LOT 10
GORHAM, MAINE
PROPOSED DRAINAGE
PLAN

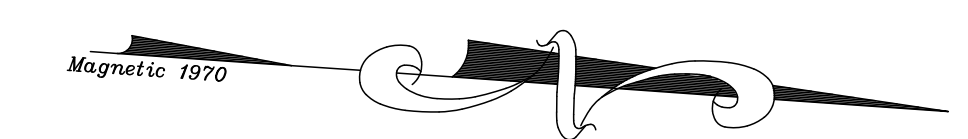
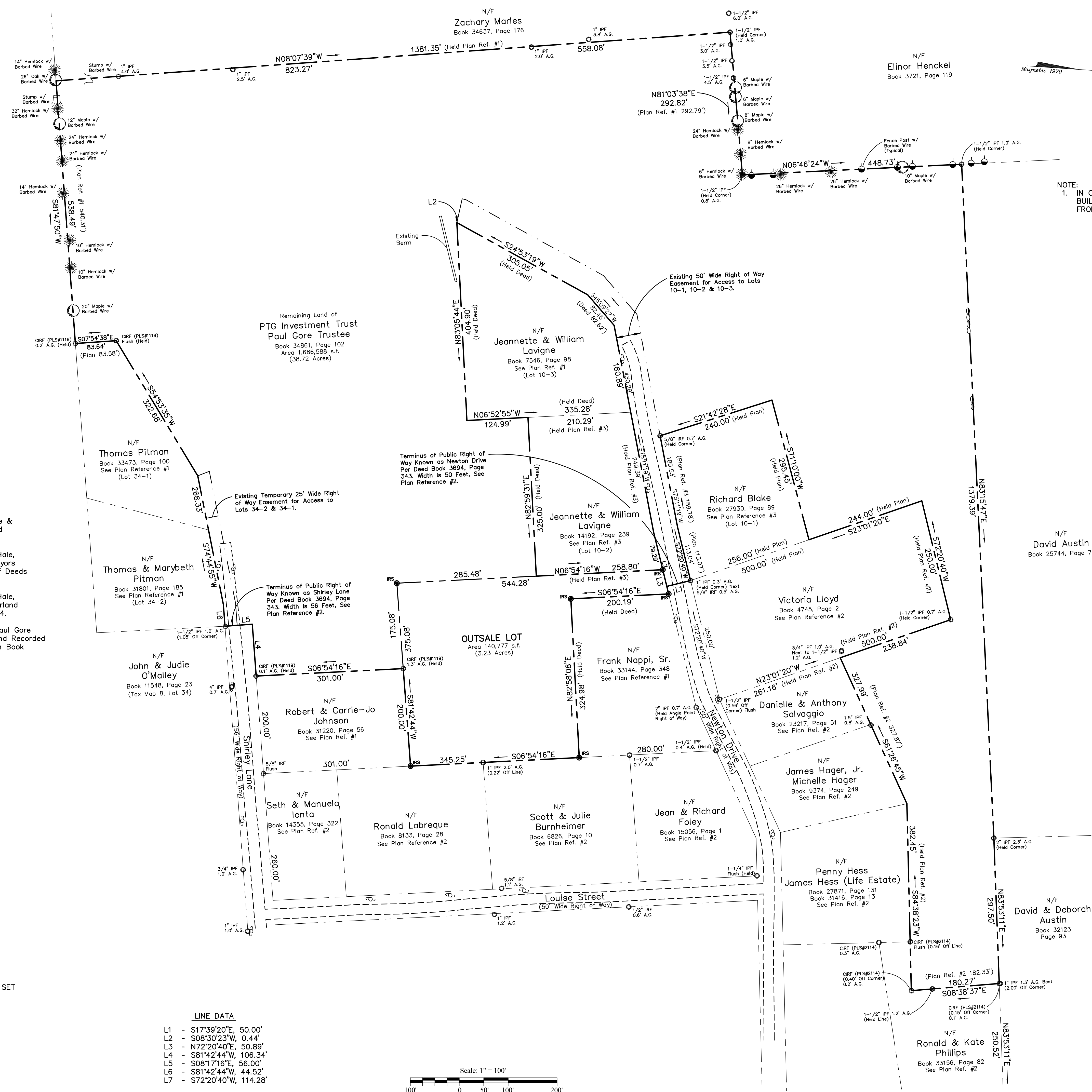
SHIRLEY NEWTON LLC
664 MAIN STREET
GORHAM, MAINE 04038

Shirley Newton LLC.
664 Main Street
Gorham, ME 04038
Tel: 207.712.6990

ZONE: UREXP DATE: FEBRUARY 13, 2023
USE: RESIDENTIAL SCALE: 1" = 100'

PROJECT NAME: Shirley Newton Subdivision

SHEET: D-101

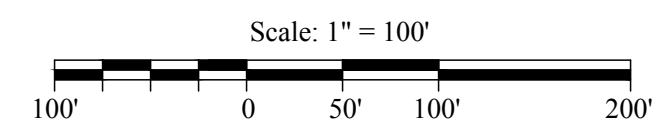


NOTE:
1. IN ORDER FOR THE OUTSALE LOT TO BE A BUILDABLE LOT THE TOWN OF GORHAM FRONTAGE REQUIREMENTS WILL NEED TO BE MET.

- Plan References:**
- Final Plan, Hemlock Ridge Subdivision, For Paul Gore & Joseph Esposito, Shirley Lane, Gorham, Maine, Dated September 1987, By BH2M (Job No. 87-054).
 - Plan of Property in Gorham, Maine, For Robert W. Hale, Dated September 1970, By H.I. & E.C. Jordan Surveyors and Recorded in the Cumberland County Registry of Deeds in Plan Book 86, Page 14.
 - Plan of Property in Gorham, Maine, For Robert W. Hale, Dated August 11, 1976 and Recorded in the Cumberland County Registry of Deeds in Plan Book 114, Page 24.
 - Amended Plan of Property in Gorham, Maine, For Paul Gore and Joseph Esposito, Dated June 1987, By BH2M and Recorded in the Cumberland County Registry of Deeds in Plan Book 164, Page 70.

SYMBOL	DESCRIPTION
□ GMP	GRANITE MONUMENT FOUND
○ IPF/RF	IRON PIPE/IRON ROD FOUND
○ CRF	CAPPED IRON ROD FOUND
○ IRS	5/8" IRON ROD W/ CAP TO BE SET
○ U	UTILITY POLE
○ F	FENCE POST WITH BARBED WIRE
○ T	DECIDUOUS TREE
○ C	CONIFEROUS TREE
—	EXISTING STONEWALL
—	EDGE OF PAVEMENT
—	PROPERTY LINE
—	EXISTING EASEMENT
—	ABOVE GROUND
—	NOW OR FORMERLY

LINE DATA	DESCRIPTION
L1	S17°39'20"E, 50.00'
L2	S08°30'23"W, 0.44'
L3	N72°20'40"E, 50.89'
L4	S81°42'44"W, 106.34'
L5	S08°17'16"E, 56.00'
L6	S81°42'44"W, 44.52'
L7	S72°20'40"W, 114.28'



NO.	DATE	REVISION DESCRIPTION
1	1/9/21	Draft to Client for Review

BH2M
 Barry, Huff, McDonald, Milfigan, Inc.
 Engineers, Surveyors
 380 B Main Street
 Gorham, Maine 04038
 Tel: (207) 839-2771
 Fax: (207) 839-8250

FOR
 Paul Gore
 664 Main Street
 Gorham, Maine 04038

LOT DIVISION
 LAND OF
 P.T.G. INVESTMENT TRUST
 SHIRLEY LANE & NEWTON LANE
 GORHAM, MAINE

I CERTIFY THAT THIS SURVEY CONFORMS TO THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS TECHNICAL STANDARDS OF PRACTICE FOR A STANDARD BOUNDARY SURVEY WITH THE FOLLOWING EXCEPTIONS:

- NO SURVEYORS REPORT

STATE OF MAINE
 ROBERT C. LIBBY, JR.
 REGISTERED LAND SURVEYOR

DESIGNED	DATE
R. Libby, Jr.	Jan. 2021
DRAWN	SCALE
R. Libby, Jr.	1" = 100'
CHECKED	JOB. NO.
A. Morrell	20245

SHEET
1

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SHIRLEY NEWTON SUBDIVISION

**TOWN OF GORHAM, MAINE
PRELIMINARY APPLICATION**

**PREPARED FOR:
SHIRLEY NEWTON LLC**

**PREPARED BY:
CHARLIE BURNHAM P.E.
241 ROWE STATION ROAD
NEW GLOUCESTER, MAINE
04260**

February 2023

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Application Form

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Attachment C – Erosion and Sedimentation Control Plan

Attachment D – Stormwater Management Report

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Attachment F – Financial and Technical Capacity

Attachment G – Plan Set

- C-100 Existing Conditions
- C-101 Overall Site Layout Plan
- C-102 Grading and Erosion Control Plan
- C-200 Plan and Profile 1
- C-201 Plan and Profile 2
- C-300 Erosion Control Notes
- C-301 Civil Details 1
- C-302 Civil Details 2
- C-303 Civil Details 3
- D-100 Existing Stormwater Plan
- D-101 Proposed Stormwater Plan



**Community Development
Planning Division**

Thomas M. Poirier, *Director of Community Development*

tpoirier@gorham.me.us

Carol Eyerman, *Town Planner*

ceyerman@gorham.me.us

GORHAM MUNICIPAL CENTER, 75 South Street, Gorham, ME 04038

Tel: 207-222-1620

SUBDIVISION APPLICATION

<input checked="" type="checkbox"/> PRELIMINARY SUBDIVISION	<input type="checkbox"/> FINAL SUBDIVISION	<input type="checkbox"/> SUBDIVISION AMENDMENT
---	--	--

IF THIS PROJECT HAS SUBMITTED FOR PRE-APPLICATION REVIEW AND PAID THE \$300.00 FEE PLEASE CHECK THE BOX RELATED TO "CREDIT". THE FUNDS PAID ARE CREDITED TOWARD A SUBSEQUENT APPLICATION.	CREDIT <input type="checkbox"/>
---	------------------------------------

FEEES FOR PLAN REVIEW	PRELIMINARY	
	<input checked="" type="checkbox"/> \$1,500.00 FOR THE FIRST 3 LOTS OR DWELLING UNITS <input checked="" type="checkbox"/> + \$150.00 FOR EACH OF THE NEXT 4 TO 30 LOTS OR DWELLING UNITS: 12 LOTS/DU @ \$150.00 <input type="checkbox"/> + \$100.00 FOR EACH OF THE NEXT 31 OR MORE LOTS OR DWELLING UNITS: _____ LOTS/DU @ \$100.00	\$3300
	FINAL	
	<i>(additional fees will be due if there has been an increase in the number of lots since the application for preliminary review was submitted and fees paid accordingly.)</i>	
	<input type="checkbox"/> + \$150.00 FOR EACH OF THE NEXT 4 TO 30 LOTS OR DWELLING UNITS: _____ LOTS/DU @ \$150.00 <input type="checkbox"/> + \$100.00 FOR EACH OF THE NEXT 31 OR MORE LOTS OR DWELLING UNITS: _____ LOTS/DU @ \$100.00	\$ _____
	AMENDMENT	
<input type="checkbox"/> \$650.00 PER LOT OR REVISION	\$ _____	
ADDITIONAL FEES		
<input checked="" type="checkbox"/> PEER REVIEW AND LEGAL SERVICE ESCROW: \$3,500.00 (\$500.00 PLUS \$3,000.00 ENGINEER'S ESTIMATE - MAY NEED TO BE INCREASED DEPENDING ON PROJECT)	\$3500	

TOTAL APPLICATION FEES:	\$6,800
-------------------------	---------

SUBDIVISION APPLICATION

PROPERTY DESCRIPTION	Parcel ID	Map	8	Lot(s)	10	Zoning District	UREXP	Total Land Area	
	Physical Address/ Location								
PROPERTY OWNER'S INFORMATION	Name	PTG Investment Trust				Mailing Address	664 Main Street Gorham, Maine 04038		
	Phone	207 854 0074							
	Email	paul@portcitygraphics.me							
APPLICANT'S INFORMATION (If different from Owner)	Name	Shirley Newton LLC				Mailing Address	241 Rowe Station New Gloucester, Maine 04260		
	Phone	207 712 6990							
	Email	edwinburnham@gmail.com							

APPLICANT'S AGENT INFORMATION	Name		Name of Business		
	Phone		Mailing Address		
	Email				
PROPERTY DESCRIPTION	Existing Use:	Logging			
	Subdivision Name	Shirley Newton Subdivision			
	Will There be a Homeowner's Association?			<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	Dwelling Units	Single Family	Duplex	Multi-Family	Commercial Units
	Number of Dwelling Units	9	2	2	
YOU MUST COMPLETE THE APPROPRIATE SUPPLEMENT(S) TO THIS APPLICATION IF A DEVELOPMENT TRANSFER OVERLAY AND/OR A CLUSTER DEVELOPMENT IS PROPOSED.					

Proposed Use/ Amendment:	Residential
Required documents that have been or are being submitted with final plan.	<input type="checkbox"/> Proposed Deed Restrictions <input type="checkbox"/> Easement <input type="checkbox"/> Trusteeships <input type="checkbox"/> Homeowners Association Documents <input type="checkbox"/> Conditions of Sale <input type="checkbox"/> Road Maintenance Association

CHECKLIST FOR SUBDIVISION REVIEW

The original signed copy of this form must be accompanied by the required application fee, required number of application forms, plans, and other necessary submissions.
(1 copy of original application/etc., 1 electronic copy, 8 reduced size (11x17) plans, 7 full size (24x36) plans)

Check All That Apply		THE FOLLOWING QUESTIONS MAY APPLY (Answer Yes/No or comment Does Not Apply)	Explain or comment as needed for clarification
YES	NO		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing and proposed elevations are based on State Plane NAD83 , and benchmarks locations and elevations are clearly indicated on the plans.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	An Agent Authorization form has been completed and submitted.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Copies of documents that show 'Right, Title and/or Interest' in the property, or if applicable, contract to purchase or option to lease the property are attached.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	The Owner holds an interest in abutting and/or contiguous property? If yes, please explain.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Documents for conservation provisions such as open space easements, covenants, agreements, etc. are attached.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	All easements are shown and labeled on the property. Copies of all easement deeds are attached.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are waivers requests? If so, is the form attached.	

<input checked="" type="checkbox"/>	<input type="checkbox"/>	All phasing (streets, drainage, utilities, etc.) is clearly indicated on the plans.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	High Intensity Soils Survey with test logs and boring results is complete, and test pit locations are shown on the plans.	
IS THE FOLLOWING INFORMATION SHOWN ON THE PLANS? PROVIDE CALCULATIONS, IF APPLICABLE, ON A SEPERATE SHEET THAT SHOWS HOW THE FOLLOWING IS CALCULATED.			
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Total building area(s) (sq ft):	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lot Coverage Ratio:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Net density calculations:	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lot frontages (ft):	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yard setbacks:	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Buffer Strips:	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Distances between structures (ft):	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Open space or public use areas (sq ft/acres):	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Area(s) reserved for active recreational purposes (sq ft/acres):	
YES	NO	ARE LOCATIONS AND DIMENSIONS OF THE FOLLOWING SHOWN ON THE PLANS?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Driveway entrance points	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Streets/Drives	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Parking areas	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Easements and right-of-ways	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Building height and shape	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Site distances	
YES	NO	ARE WIDTHS AND CROSS SECTIONS, PER CHAPTER 2, SECTION 2-5, SHOWN ON THE PLANS?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Street, drives, curbs and sidewalks	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there proper continuation of streets from adjacent lands?	
YES	NO	STORMWATER MANAGEMENT	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are significant water bodies, wetlands, woodlands, cleared areas; trees with diameter greater than 5"; gullies, ravines and ledge outcroppings shown on the plans?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Are floodplain boundaries and Base flood elevations (BFE) indicated?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are Shoreland zoning overlay districts indicated?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is there an erosion control plan?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are areas of storage designated for snow storage?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If phasing is proposed, is it reflected in the design and construction of the drainage plan?	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Does this comply with Chapter 500?	

YES	NO	EARTHWORK AND STOCKPILING	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The work associated with this project is not subject to the gravel pit provisions of Chapter 2, Sections 2-1 C of the Code.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The volume of earth moving, removal, grading or filling activities for the proposed project is ten thousand (10,000) cubic yards of material or more.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	There will be a temporary stockpile suitable for fill material for future use in construction of the project.	
THE PLANNING BOARD MAY APPROVE TEMPORARY STOCKPILES FOR A PERIOD OF 12 MONTHS FOR CONSTRUCTION OF THE PROPOSED PROJECT. THE PLANNING BOARD WILL NOT APPROVAL TEMPORARY STOCKPILES FOR THE PURPOSE OF RESALE.			
YES	NO	UTILITIES	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Public Sewer: Attach a letter from the Portland Water District (PWD) that verifies that public sewer can be connected to, and that the existing system has available capacity. What is the estimated gallons per day?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sewer mains, related infrastructure and stationing for manholes, cleanouts and individual service connections are shown in plan and profile.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Septic System: Subsurface waste disposal. Attach a copy of the HHE 200 Report.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Public Water: Attach a letter from the PORTland Water District (PWD) that verifies the site can be served for the foreseeable future and that the proposed water plan meets or exceeds design requirements of the PWD.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Potable water will be provided by an on-site well.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the site be served with Natural Gas? If so, who is the supplier?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are mailboxes to be clustered?	
		Power will be: <input checked="" type="checkbox"/> underground <input type="checkbox"/> overhead <input type="checkbox"/> Single Phase <input type="checkbox"/> 2 Phase <input type="checkbox"/> 3 Phase	
		Who is the private hauler for Trash Pick-up?	
		Who will be contracted for the disposal of construction and site debris?	
YES	NO	SIGNAGE	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is there proposed new signage? Attach schematic drawings for EACH proposed sign, indicate the sign area in square feet, and show location on the site plan.	
YES	NO	HISTORIC PRESERVATION	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is the property an important historic or natural site, or adjacent to such a site? If yes, explain:	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is this within a Historic District?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Have you received a certificate of appropriateness from the Historic Preservation Commission? If so, please include in the submission.	
YES	NO	OTHER	

<input checked="" type="checkbox"/>	<input type="checkbox"/>	Erosion Control (see Chapters 2 and 4)	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lighting (see Chapters 2 and 4)	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Landscaping (see Chapters 2 and 4)	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Noise	
<input type="checkbox"/>	<input type="checkbox"/>	Technical and Financial Capacity	
YES	NO	POST CONSTRUCTION STORMWATER MAINTENANCE	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will the construction activity disturb one acre or more?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is the parcel located within the Town of Gorham MS4 area?	
YES	NO	STATE AND LOCAL PERMITS	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is a Maine Department of Environmental Protection (MDEP) Permit required? If so, list the permit.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is an Army Corps of Engineers approval/permit required? If so, list the permit.	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Are there any State or Federal approval required? If so, list the approval.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A Maine Construction General Permit (MCGP) is required where the area of disturbance is greater than one acre. Is an MCGP permit required?	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Is a variance from the Zoning Board of Appeals required? If yes, please describe:	
TRAFFIC: THE PLANNING BOARD MAY REQUEST A TRAFFIC STUDY			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimate the number of vehicle trips entering and exiting the site on a daily basis.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimate the number of vehicles entering and exiting the site during the busiest a.m. hour.	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Estimate the number of vehicles entering and exiting the site during the busiest p.m. hour.	
TYPE OF SUBDIVISION STANDARDS UTILIZED:			
<input checked="" type="checkbox"/> STANDARD - SEE ZONING DIMENSIONAL REQUIREMENTS FOR ZONING DISTRICT <input type="checkbox"/> DEVELOPMENT TRANSFER OVERLAY - SEE CHAPTER 1 SECTION 1-18 AND ADDITIONAL FORM <input type="checkbox"/> CLUSTERED RESIDENTIAL DEVELOPMENT - SEE CHAPTER 2 SECTION 2-4 A AND ADDITIONAL FORM <input type="checkbox"/> PLANNED UNIT DEVELOPMENT - SEE CHAPTER 1A			
ADDITIONAL COMMENTS:			

The undersigned hereby makes application to the Town of Gorham for approval of the proposed project and declares the foregoing to be true and accurate to the best of his/her knowledge.

SIGNATURE: APPLICANT OR APPLICANT'S AGENT

02/13/2023

DATE

Charlie Burnham

PRINT NAME

APPLICANT'S CHECKLIST FOR PLAN REQUIREMENTS

The following checklists includes items generally required for development by the GORHAM LAND USE ORDINANCES and, due to project specifics, are required to provide a complete and accurate set of plans, reports and supporting documentation. Please review Ordinances for complete requirements.

- A) Paper size:
 - No less than 11" X 17" (reduced) or greater than 24" X 36" (full)
- B) Scale size:
 - Under 10 acres: no greater than 1" = 30'
 - 10 + acres: 1" = 50'
- C) Title block:
 - Applicant's name and address
 - Name of preparer of professional consultants with license numbers and professional seals
 - Parcel's tax map identification (map – lot)
 - Date of plan preparation
- D) Boundary survey performed and sealed by licensed surveyor: Identify all existing boundary markers
 - Benchmark based on State Plane NAD83
 - Identify all existing boundary markers
 - Show all proposed boundary monuments (per ordinance)
 - Show all metes and bounds, rights of way and easements
 - Show names of adjacent lot owners and parcel tax map numbers
- E) Provide orientation:
 - Arrow showing true north and magnetic declination
 - Graphic scale
 - Parcel Owners and map and lot
 - Signature block for planning board
- F) Show location and description of:
 - Elevations of dwelling units. If applicable
 - All structures within 50 feet of the project parcel
 - All driveway entrances or accesses within 100 feet
- G) Show parcel data:
 - Zoning District(s)
 - Lots
 - Lot Widths
 - Lot Depths
 - Street frontage
 - Building setback lines
 - Lot Areas
 - Rights-of-way
 - ROW area
 - Exist. & new street names
 - Wetlands
 - Wetland setback
 - Common tracts
 - Easements
 - undisturbed areas
 - Shoreland Zoning setbacks
 - Note on the subdivision plan regarding areas to be taped off and

SUBMITTALS THAT THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PRESENT A CLEAR UNDERSTANDING OF THE PROJECT.

- K) Indicate required landscaping including:
 - Type of plant material
 - Plant/Tree sizes
 - Placement
 - Irrigation systems
- L) Legal Documents:
 - Easements
 - Deed of Covenant
 - PWD Agreement to serve
 - Homeowners' Association
 - Road Maintenance Docs
 - Deed docket & page numbers
- M) Provide a vicinity map at a scale not more than **400 feet to the inch** showing the relation to other properties and geographic features and show:
 - All the area within five hundred (500) feet of the boundary line of the proposed development;
 - Any smaller area between the tract and all existing streets, provided any part of such a street used as part of the perimeter for the locus map is at least five hundred (500) feet from any boundary of the proposed development.
- N) Show the locations of any
 - Parks
 - Preserved Open space
 - Conservation easements
 - Note on the subdivision plan regarding areas to be dedicated for public use and conditions of such dedication.
- O) Include plans, profiles and typical sections of all roads and other paved ways, including all relevant street data.
 - Intersections or
 - Distance to nearest intersection
 - Driveways onsite
 - Distance to nearest driveway
 - Sight visibility lines
- P) Show all existing and proposed lighting
 - Map of all street lighting, attached lighting, and area lighting
 - Location of lighted signs
 - Photo-metrics map
- Q)
 - Indicate the location of any permanently installed machinery likely to cause appreciable noise at the lot lines.
- R) Provide description of these materials stored on the property:
 - Hazardous
 - Toxic
 - Raw Waste
- S)
 - Show existing contours and finished grade elevations onsite

<p>protected until project construction is completed.</p> <p>H) <input checked="" type="checkbox"/> Label all zoning districts abutting the property boundaries.</p> <p>I) <input checked="" type="checkbox"/> Show locations of natural physical features such as water bodies, watercourses, forest cover, and ledge outcroppings.</p> <p>J) Show the location of existing and proposed Utilities and identify which utilities are to be privately owned/ municipally owned:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Overhead Electric <input checked="" type="checkbox"/> underground electric <input type="checkbox"/> Water mains <input type="checkbox"/> Wells <input type="checkbox"/> Gas mains <input type="checkbox"/> Cable TV <input type="checkbox"/> Sewer mains <input checked="" type="checkbox"/> Test pits <input type="checkbox"/> Septic tanks <input type="checkbox"/> Leach field <input checked="" type="checkbox"/> Storm drain lines <input checked="" type="checkbox"/> Catch basins <input checked="" type="checkbox"/> Culverts <input type="checkbox"/> Gutters <input checked="" type="checkbox"/> Stormwater storage basins <input checked="" type="checkbox"/> level spreaders <input type="checkbox"/> Rain gardens <input type="checkbox"/> Nearest fire hydrant 	<p>and sufficiently offsite to demonstrate how the project is situated in the surrounding environment.</p> <p>T) Indicate the location and dimensions of:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Sidewalks <input checked="" type="checkbox"/> Curbs <input checked="" type="checkbox"/> Driveways <input type="checkbox"/> Fences <input type="checkbox"/> Retaining walls <input type="checkbox"/> Other artificial features <p>U) Copies of State and Local permit applications:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify named streams, rivers, ponds on-or-within 250' of site <input type="checkbox"/> Notice of Intent <input type="checkbox"/> NRPA <input type="checkbox"/> Permit by Rule <input type="checkbox"/> All other applicable permits <p>V) <input checked="" type="checkbox"/> Copy of FIRM Map showing the proposed subdivision boundary to scale.</p> <p>W) Other:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Clearly show how the approved plan will be amended. <input type="checkbox"/> Signature blocks for amended approval. <p>NOTE TO APPLICANT: PRIOR TO THE SITE WALK, TEMPORARY MARKERS MUST BE ADEQUATELY PLACED THAT ENABLE THE PLANNING BOARD TO READILY LOCATE AND APPRAISE THE LAYOUT OF THE PROPOSED DEVELOPMENT.</p>
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PROJECT NARRATIVE

The following application is for a thirteen-lot subdivision. The proposed subdivision is the final piece to the original plans for the property. The two existing Roads Shirley Lane and Newton Drive will be connected by a large loop that was previously established during the construction of the two roads. There are existing culverts and drainage ways that we will be replacing and improving with the new environmentally conscious standards (ex 36" half buried wetland crossing). Runoff from the site will enter one of three wetland systems which will provide additional stormwater treatment and peak flow buffering.

The proposed project will have minimal impacts outside of previously disturbed areas. The improved road will provide proper access to any currently non-conforming lots.

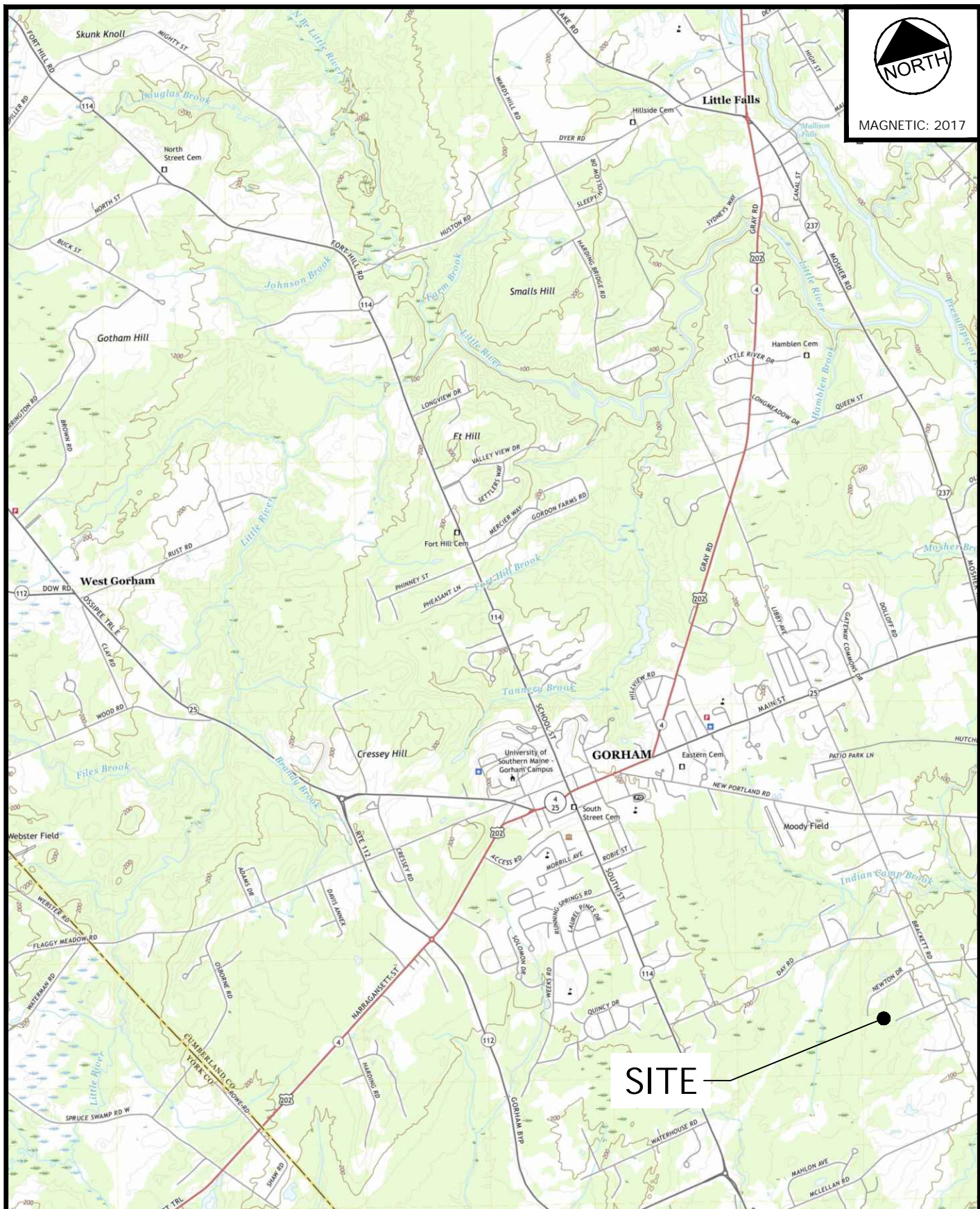
SECTION 6.2 SUBDIVISION REVIEW CRITERIA

1. **Pollution** – The proposed subdivision has been treated to meet the Maine DEP standards. There is an underdrained soil filter and level spreader with buffers that treat 84% of the proposed impervious area (75% is required by DEP). There are no other anticipated sources of pollution associated with the project.
2. **Sufficient Water** – A report from the Maine Geological Survey database shows the wells in the area. The wells shown yielded from 1 gpm to 30 gpm. Most wells in the area are not deeper than 200 feet, which indicates that water was not hard to find. Wells in areas with limited availability can run upwards of 600' deep. It is our opinion that there is sufficient water in the area. A map showing the depths of local wells is included as Attachment A.
3. **Erosion and Sedimentation Control** – An Erosion Control Plan has been provided as Attachment C.
4. **Traffic** – The entrances to the subdivision are extension of existing public streets. The traffic generated by a 13-lot subdivision does not trigger any Traffic Movement permits. Estimated to produce 130 daily trips. The peak hour is expected to be 26 trips between 4-6 pm.
5. **Sewage Disposal** – Individual septic systems are proposed for each lot. Test pits have been dug and the soils were deemed acceptable for subsurface wastewater disposal systems (Attachment B).
6. **Municipal Solid Waste Disposal** – The residents of the Subdivision will be required to enlist the services of a private waste hauler to dispose of any solid waste.
7. **Aesthetic, Cultural, and Natural Values** – The lot is almost entirely clear cut. The proposed subdivision will connect the two existing roads into one cohesive subdivision.
8. **Financial Capacity** – A letter stating the financial capacity of the applicant is still pending and will be provided As Soon As Possible.
9. **Surface Waters** - The proposed subdivision has been treated to meet the Maine DEP standards. There are two underdrained soil filters that treat 84% of the proposed impervious area (75% is required by DEP).
10. **Groundwater** – A report on the wells in the area is included in Attachment A. The size of the lot in relation to the number of proposed lots is insignificant. There are no adverse effects to the groundwater anticipated.
11. **Flood Areas** – The FEMA Panel for the area has been included as Attachment A. The Stormwater Treatment has negligible impacts on the peak runoff from the site during the 2-year, 10-year, and 25-year storm. Stormwater Report is included as Attachment D.
12. **Freshwater Wetlands** – The freshwater wetlands have been mapped and are included on the Attached Plan set. As part of the subdivision there will be less than 2,000 square feet of impact to any wetlands.

ATTACHMENT A



MAGNETIC: 2017



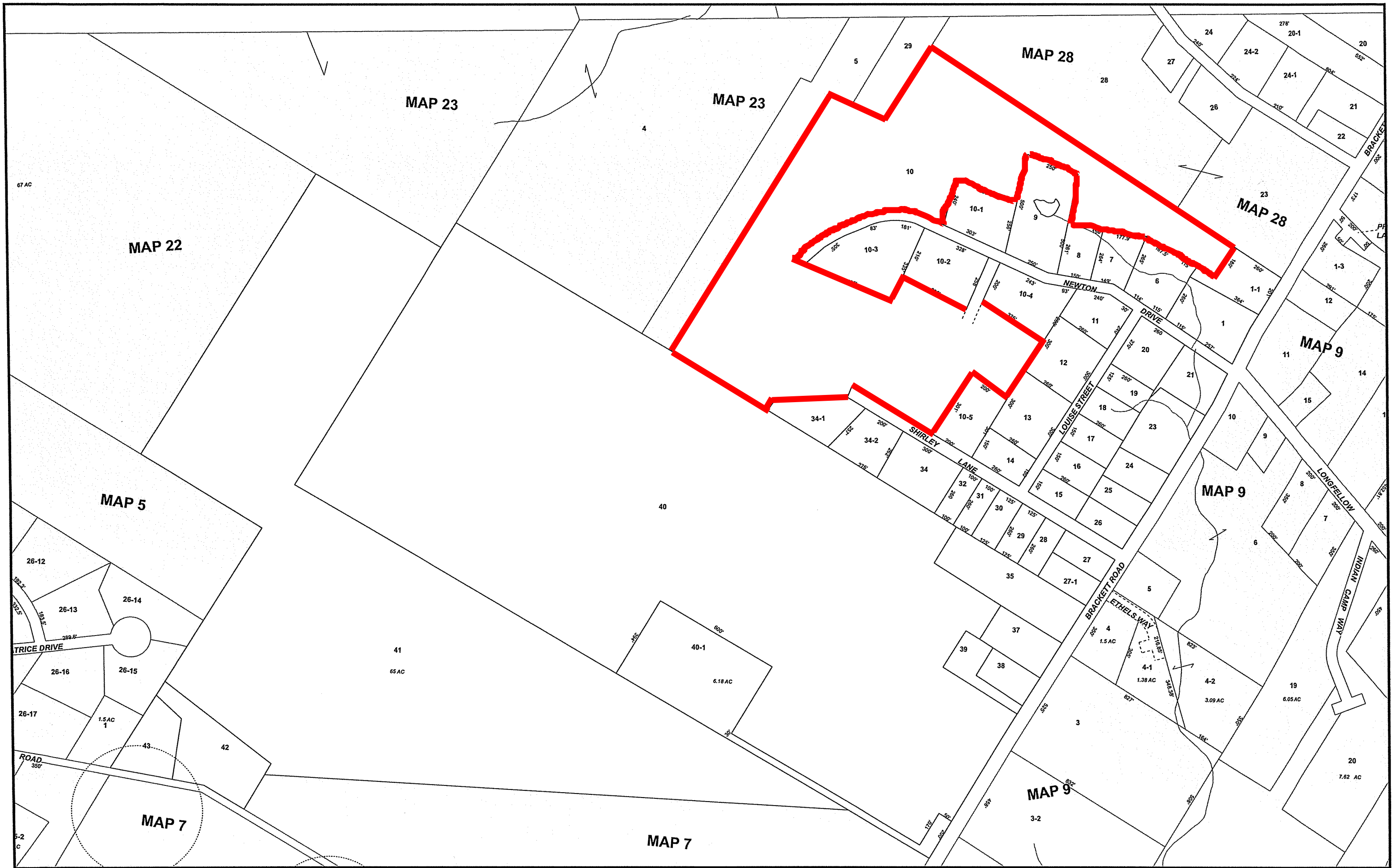
SITE

**SHIRLEY LANE SUBDIVISION
GORHAM, MAINE**

**SITE LOCATION MAP
TAX MAP: 8 LOTS: 10**

DRAWN: CB	DATE: MAY 2021
DESIGNED: CB	SCALE: N/A
CHECKED:	JOB NO. 20-049
FILE NAME: SHIRLEY USGS	

FIGURE
1



For Assessing Purposes Only
as of April 1, 2014

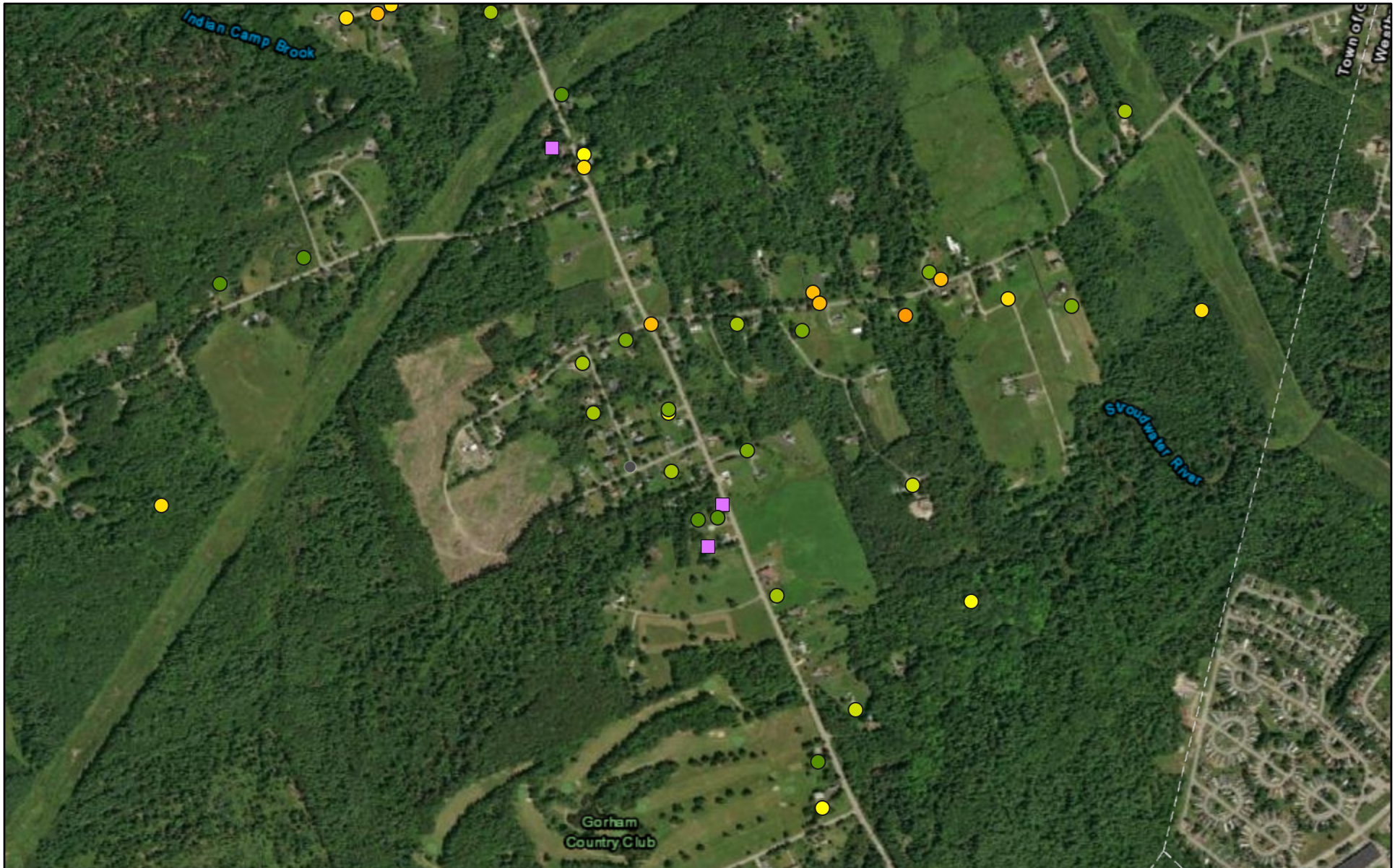
Town of Gorham, Maine



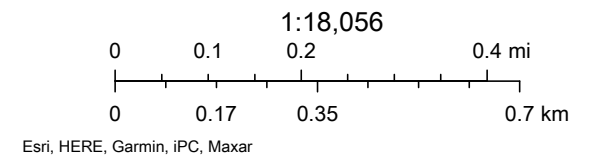
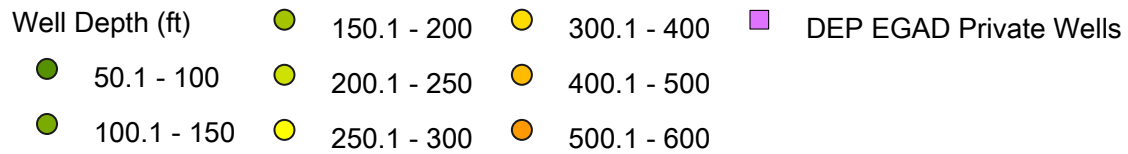
1 inch = 400 feet

MAP: 8

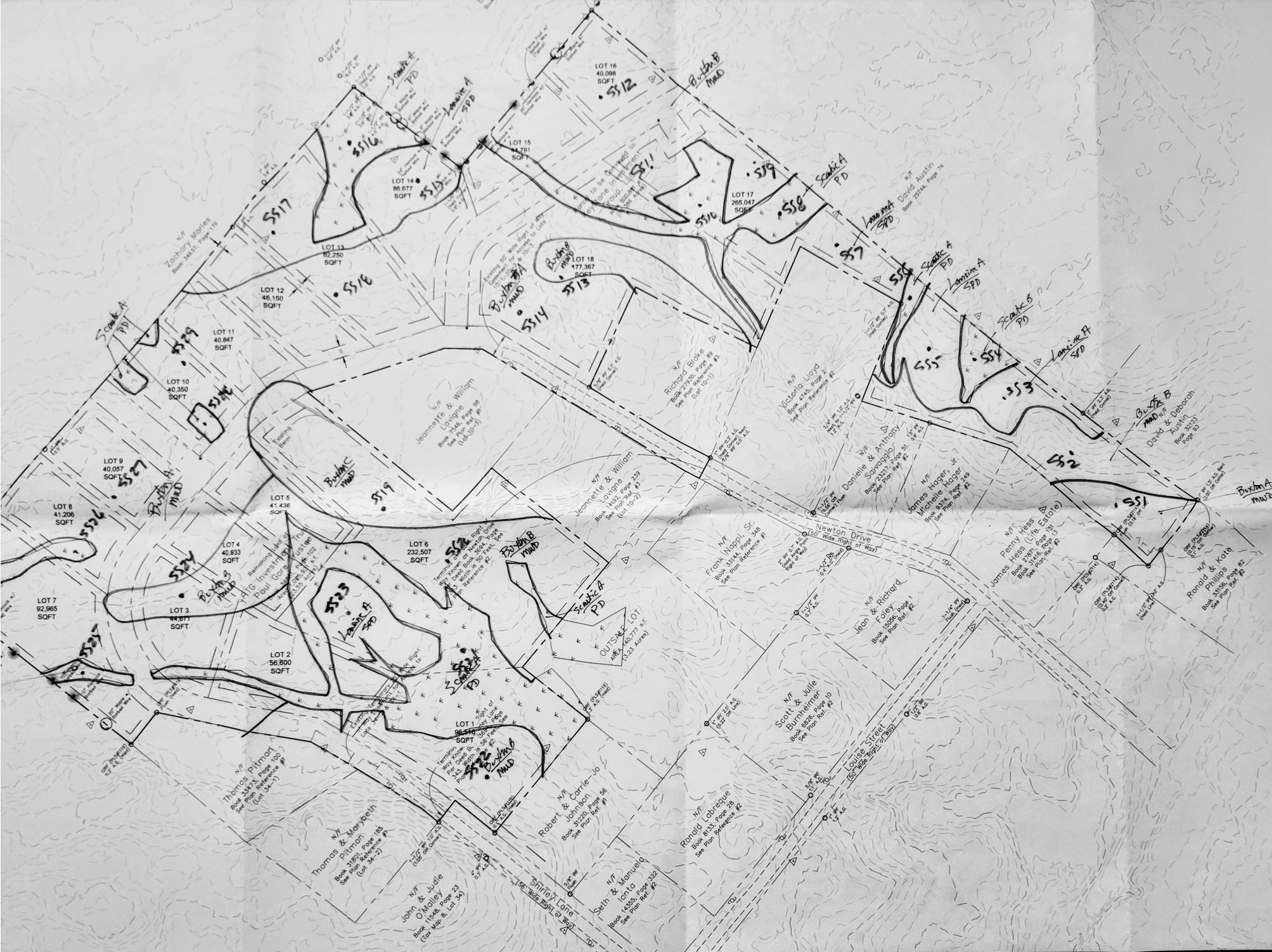
Maine Well Database



2/12/2023, 2:10:04 PM



ATTACHMENT B



MAP 8 LOT 10
GORHAM, MAINE
OVERALL SITE
LAYOUT PLAN

DRAWN: CE
DESIGNED: CE
CHECKED: CE

S
PR



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

6649

Newton Drive Subdivision
Newton Drive and Shirley Lane
Shirley Newton LLC
Gorham, ME

Soil Narrative Report

DATE: Soil Profiles observed on January 22, 2023

BASE MAP: Base plan provided by Shirley Newton LLC scale 1 inch equals 100 feet and one foot contours.

GROUND CONTROL: Soil survey boundaries located by Mark Hampton Associates, Inc. for Class B Soil Survey

Class B-High Intensity Soil Survey (Minimum Standards)

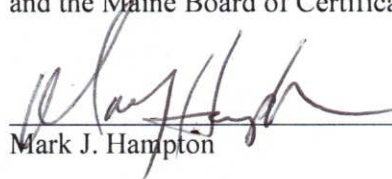
Mapping units of 1 acre or less.
Scale of 1"= 200 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located by means of compass by chaining, pacing or taping from known control points
Base Map –2 foot contour intervals

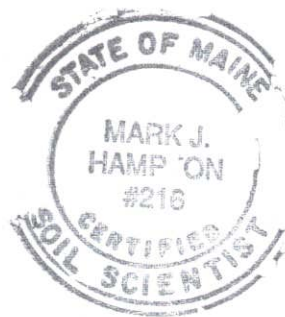
Provided:

Mapping units of 1 acre or less
Base map scale of 1"= 50 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by gps equipment with accuracy to less than 3 feet.
Ground topographic survey with one foot contours and ground control provided.
P.O. BOX 1931 • PORTLAND, ME 04104-1931 • 207-756-2900 • mhampto1@maine.rr.com

Quality services that meet your deadline

The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists, and the Maine Board of Certification of Geologists and Soil Scientists.

 C.S.S. #216, L.S.E. #263 1/22/23
Mark J. Hampton Date





MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

6649

Newton Drive Subdivision
Newton Drive and Shirley Lane
Shirley Newton LLC
Gorham, ME

Buxton

(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%, (C) 8-15%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.
-----------------	--

TYPICAL PROFILE:	<u>Surface Layer:</u>	Dark Brown, fine sandy loam 0-7"
	<u>Subsurface Layer:</u>	Olive brown, silt loam, 8-15"
	<u>Subsoil Layer:</u>	Olive gray silty clay loam, 15-32"
	<u>Substratum:</u>	Gray silty clay loam +32"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 60 inches
HAZARD TO FLOODING:	None

INCLUSIONS (Within Mapping Unit)

CONTRASTING:	Scantic, Lamoine
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USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

6649

Newton Drive Subdivision
Newton Drive and Shirley Lane
Shirley Newton LLC
Gorham, ME

Lamoine
(Aeric Haplaquepts)

SETTING

PARENT MATERIAL: Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM: Coastal lowlands and river valleys
POSITION IN LANDSCAPE: Intermediate positions on landform
SLOPE GRADIENT RANGES: (A) 0-3 %, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Somewhat poorly drained with a perched watertable from 0.5 to 2.0 feet below the surface at some time from November to June or during periods of heavy precipitation.

TYPICAL PROFILE: Surface Layer: Dark Brown, fine sandy loam 0-7"
Subsurface Layer: Lt. Olive brown silt loam, 7-14"
Subsoil Layer: Olive silty clay loam, 14-21"
Substratum: Olive, silty clay loam, 21-65"

HYDROLOGIC GROUP: Group D
SURFACE RUNOFF: Moderate to moderately slow
PERMEABILITY: Slow to very slow
DEPTH TO BEDROCK: Greater than 65 inches
HAZARD TO FLOODING: None

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Scantic

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.





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6649

Newton Drive Subdivision
Newton Drive and Shirley Lane
Shirley Newton LLC
Gorham, ME

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL: Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM: Coastal lowlands and river valleys
POSITION IN LANDSCAPE: Lower positions on landform
SLOPE GRADIENT RANGES: (A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS: Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.

TYPICAL PROFILE:

<u>Surface Layer:</u>	Dark grayish brown, silt loam 0-9"
<u>Subsurface Layer:</u>	Olive gray silt loam, 9-16"
<u>Substratum:</u>	Gray silty clay loam, 16"+

HYDROLOGIC GROUP: Group D
SURFACE RUNOFF: Moderate to moderately slow
PERMEABILITY: Slow to very slow
DEPTH TO BEDROCK: Greater than 65 inches
HAZARD TO FLOODING: None

INCLUSIONS (Within Mapping Unit)

CONTRASTING: Lamoine, Buxton

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.



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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: **Newton Subdivision**

Applicant Name: **Shirley Newton LLC**

Project Location (municipality): **Gorham**

Exploration Symbol # SS-1 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
40 Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: **Buxton** Limiting Factor **16** " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope **2** Percent Hydric Soil: No Yes Hydrologic: _____
 Soil Group: _____

Exploration Symbol # SS-2 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Weak Angular	Very Friable	
10 Bg	Brown	F. Sandy Loam	Sub Ang Blocky	Friable	
20 Bg	Olive Gray	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
40 Cd	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: **Buxton** Limiting Factor **15** " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope **6** Percent Hydric Soil: No Yes Hydrologic: _____
 Soil Group: _____

Exploration Symbol # SS-3 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
30 Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: **Lamoine** Limiting Factor **13** " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope **2** Percent Hydric Soil: No Yes Hydrologic: _____
 Soil Group: _____

Exploration Symbol # SS-4 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Black	Silt Loam	Grand	Friable	
10 Bg1	Gray	Silt Loam	Weak Sub Ang	Firm	Common and Distinct
20 Bg2	Gray Brown	Silty Clay Loam	Thin Platy	Firm	
30 Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: **Scantic** Limiting Factor **6** " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope **4** Percent Hydric Soil: No Yes Hydrologic: _____
 Soil Group: _____

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Newton Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
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Exploration Symbol # SS-5 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable	
10	Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20	Bg2	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
40	Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name: Lamoine	Limiting Factor 13 "	Depth	<input checked="" type="checkbox"/> Groundwater	<input checked="" type="checkbox"/> Restrictive Layer	<input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input checked="" type="checkbox"/> SPD <input type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 2 Percent	Hydric Soil <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	Hydrologic Soil Group		

Exploration Symbol # SS-6 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Black	Silt Loam	Weak Angular	Very Friable	
10	Bg	Gray	Silt Loam	Sub Ang Blocky	Firm	Common and Distinct
20	Bg	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
40	Cd	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name: Scantic	Limiting Factor 6 "	Depth	<input checked="" type="checkbox"/> Groundwater	<input checked="" type="checkbox"/> Restrictive Layer	<input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input type="checkbox"/> SPD <input checked="" type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 2 Percent	Hydric Soil <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Hydrologic Soil Group		

Exploration Symbol # SS-7 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
10	Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20	Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
30	Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Depth below mineral soil horizon (inches)

Soil Series/Phase Name: Lamoine	Limiting Factor 13 "	Depth	<input checked="" type="checkbox"/> Groundwater	<input checked="" type="checkbox"/> Restrictive Layer	<input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input checked="" type="checkbox"/> SPD <input type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 2 Percent	Hydric Soil <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Hydrologic Soil Group		

Exploration Symbol # SS-8 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Black	Silt Loam	Grand	Friable	
10	Bg1	Gray	Silt Loam	Weak Sub Ang	Firm	Common and Distinct
20	Bg2	Gray Brown	Silty Clay Loam	Thin Platy	Firm	
30	Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

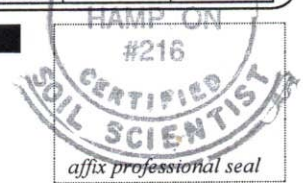
Depth below mineral soil horizon (inches)

Soil Series/Phase Name: Scantic	Limiting Factor 0 "	Depth	<input checked="" type="checkbox"/> Groundwater	<input checked="" type="checkbox"/> Restrictive Layer	<input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input type="checkbox"/> SPD <input checked="" type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 4 Percent	Hydric Soil <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Hydrologic Soil Group		

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Newton Subdivision

Applicant Name: Shirley Newton LLC

Project Location (municipality): Gorham

Exploration Symbol # SS-9 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0	Ap	Dark Brown	F. Sandy Loam	Grand	Very Friable
10	Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable
20	Bg2	Olive Brown	Silty Clay Loam	Fine Grandu	Firm
40	Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm

Soil Series/Phase Name: Buxton Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 4 Percent
 Hydric Soil: No Yes
 Hydrologic: _____
 Soil Group: _____

Exploration Symbol # SS-10 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0	Ap	Black	Silt Loam	Weak Angular	Very Friable
10	Bg	Gray	Silt Loam	Sub Ang Blocky	Firm
20	Bg	Olive Gray	Silty Clay Loam	Thin Platy	Firm
40	Cd	Olive	Silty Clay Loam	Medium Platy	Very Firm

Soil Series/Phase Name: Scantic Limiting Factor 6 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 2 Percent
 Hydric Soil: No Yes
 Hydrologic: _____
 Soil Group: _____

Exploration Symbol # SS-11 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0	Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable
10	Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable
20	Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm
30	Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm

Soil Series/Phase Name: Buxton Limiting Factor 16 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 6 Percent
 Hydric Soil: No Yes
 Hydrologic: _____
 Soil Group: _____

Exploration Symbol # SS-12 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

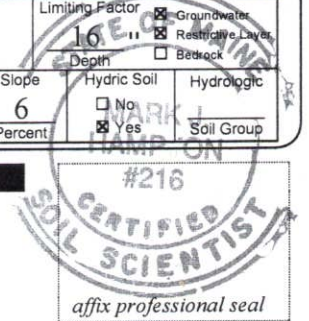
Horizon	Color	Texture	Structure	Consistence	Redox
0	Ap	Dark Brown	F. Sandy Loam	Grand	Friable
10	Bg1	Brown	F. Sandy Loam	Weak Sub Ang	Friable
20	Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm
30	Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm

Soil Series/Phase Name: Buxton Limiting Factor 16 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 6 Percent
 Hydric Soil: No Yes
 Hydrologic: _____
 Soil Group: _____

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: **Newton Subdivision**

Applicant Name: **Shirley Newton LLC**

Project Location (municipality): **Gorham**

Exploration Symbol # SS-13 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
40 Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: **Buxton** Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 4 Percent No Yes Hydric Soil Hydrologic Soil Group

Exploration Symbol # SS-14 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Weak Angular	Friable	
10 Bg	Brown	F. Sandy Loam	Sub Ang Blocky	Firm	
20 Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
40 Cd	Olive Gray	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: **Buxton** Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 2 Percent No Yes Hydric Soil Hydrologic Soil Group

Exploration Symbol # SS-15 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
30 Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: **Lamoine** Limiting Factor 12 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 3 Percent No Yes Hydric Soil Hydrologic Soil Group

Exploration Symbol # SS-16 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

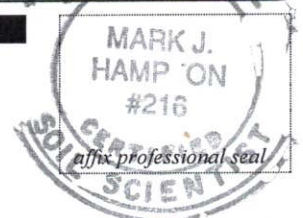
Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Black	Silt Loam	Grand	Friable	
10 Bg1	Gray	Silt Loam	Weak Sub Ang	Firm	Common and Distinct
20 Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
30 Cg	Olive	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: **Scantic** Limiting Factor 6 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 2 Percent No Yes Hydric Soil Hydrologic Soil Group

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Newton Subdivision

Applicant Name: Shirley Newton LLC

Project Location (municipality): Gorham

Exploration Symbol # SS-17 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Fine Grandu	Firm	Common and Distinct
40 Cg	Olive Gray	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: Lamoine Limiting Factor 13 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 2 Percent Hydric Soil No Yes Hydrologic _____
 Soil Group _____

Exploration Symbol # SS-18 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Weak Angular	Friable	
10 Bg	Brown	F. Sandy Loam	Sub Ang Blocky	Firm	
20 Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
40 Cd	Olive Gray	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: Buxton Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 2 Percent Hydric Soil No Yes Hydrologic _____
 Soil Group _____

Exploration Symbol # SS-19 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
30 Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: Buxton Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 13 Percent Hydric Soil No Yes Hydrologic _____
 Soil Group _____

Exploration Symbol # SS-20 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

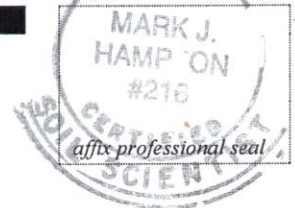
Horizon	Color	Texture	Structure	Consistence	Redox
0 Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
10 Bg1	Brown	F. Sandy Loam	Weak Sub Ang	Friable	
20 Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
30 Cg	Olive	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: Buxton Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 6 Percent Hydric Soil No Yes Hydrologic _____
 Soil Group _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

Signature: Mark J. Hampton
Name Printed: Mark J. Hampton

Date: 1/22/2023
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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: **Newton Subdivision**

Applicant Name: **Shirley Newton LLC**

Project Location (municipality): **Gorham**

Exploration Symbol # SS-21 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Black	Silt Loam	Grand	Friable	
Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
Cg	Olive	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: **Scantic** Limiting Factor 6 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 2 Percent No Yes
 Hydric Soil No Yes
 Hydrologic No Yes
 Soil Group _____

Exploration Symbol # SS-22 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Weak Angular	Friable	
Bg	Brown	F. Sandy Loam	Sub Ang Blocky	Firm	
Bg	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cd	Olive Gray	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: **Buxton** Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 6 Percent No Yes
 Hydric Soil No Yes
 Hydrologic No Yes
 Soil Group _____

Exploration Symbol # SS-23 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Fine Grandu	Friable	
Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: **Lamoine** Limiting Factor 12 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 3 Percent No Yes
 Hydric Soil No Yes
 Hydrologic No Yes
 Soil Group _____

Exploration Symbol # SS-24 Test Pit Boring Probe
 " Organic horizon thickness _____ Ground surface elev. _____
 " Depth: of exploration, or to refusal

Horizon	Color	Texture	Structure	Consistence	Redox
Ap	Dark Brown	F. Sandy Loam	Grand	Friable	
Bg1	Brown	F. Sandy Loam	Weak Sub Ang	Friable	
Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
Cg	Olive	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: **Buxton** Limiting Factor 15 " Groundwater Restrictive Layer Bedrock
 Depth _____
 Drainage Class: ED SED WD MWD SPD PD VPD
 Slope 6 Percent No Yes
 Hydric Soil No Yes
 Hydrologic No Yes
 Soil Group _____

SOIL SCIENTIST INFORMATION AND SIGNATURE

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SOIL PROFILE / CLASSIFICATION INFORMATION

SOIL SCIENTIST DESCRIPTION OF SOIL CONDITIONS AT PROJECT SITES

Project Name: Newton Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
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Exploration Symbol # SS-25 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Black	Silt Loam	Grand	Friable	
10	Bg1	Gray	Silt Loam	Weak Sub Ang Blocky	Firm	Common and Distinct
20	Bg2	Olive Gray	Silty Clay Loam	Fine Grandu	Firm	
40	Cg	Olive	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: Scantic	Limiting Factor 6 "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input type="checkbox"/> SPD <input checked="" type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 2 Percent	Hydric Soil <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
		Hydrologic Soil Group

Exploration Symbol # SS-26 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Black	Silt Loam	Weak Angular	Friable	
10	Bg1	Gray	Silt Loam	Sub Ang Blocky	Firm	Common and Distinct
20	Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
40	Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: Scantic	Limiting Factor 6 "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input type="checkbox"/> SPD <input checked="" type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 2 Percent	Hydric Soil <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
		Hydrologic Soil Group

Exploration Symbol # SS-27 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Dark Brown	F. Sandy Loam	Fine Grandul	Friable	
10	Bg1	Brown	F. Sandy Loam	Weak Sub Ang Blocky	Friable	
20	Bg2	Olive Brown	Silty Clay Loam	Thin Platy	Firm	Common and Distinct
30	Cg	Olive	Silty Clay Loam	Medium Platy	Very Firm	

Soil Series/Phase Name: Buxton	Limiting Factor 16 "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input checked="" type="checkbox"/> MWD <input type="checkbox"/> SPD <input type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 3 Percent	Hydric Soil <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
		Hydrologic Soil Group

Exploration Symbol # SS-28 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth: of exploration, or to refusal

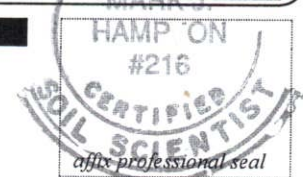
0	Horizon	Color	Texture	Structure	Consistence	Redox
	Ap	Black	Silt Loam	Grand	Friable	
10	Bg1	Gray	Silt Loam	Weak Sub Ang	Firm	Common and Distinct
20	Bg2	Olive Gray	Silty Clay Loam	Thin Platy	Firm	
30	Cg	Gray	Silty Clay Loam	Platy	Very Firm	

Soil Series/Phase Name: Scantic	Limiting Factor 6 "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Drainage Class <input type="checkbox"/> ED <input type="checkbox"/> SED <input type="checkbox"/> WD <input type="checkbox"/> MWD <input type="checkbox"/> SPD <input checked="" type="checkbox"/> PD <input type="checkbox"/> VPD	Slope 2 Percent	Hydric Soil <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
		Hydrologic Soil Group

SOIL SCIENTIST INFORMATION AND SIGNATURE

Mark J. Hampton
 Signature
Mark J. Hampton
 Name Printed

1/22/2023
 Date
 216
 SS License No.





MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

6649

January 28, 2023

Mr. Charlie Burnham
Shirley Newton LLC
664 Main Street
Gorham, ME 04038

Re: Preliminary soil evaluation, Proposed Eighteen Lot Subdivision Shirley Lane Gorham, ME

Dear Charlie,

I have completed a preliminary soil evaluation on the proposed 18 lot subdivision located on Shirley Lane and Newton Drive Gorham, ME. The soil evaluation was conducted in accordance with the Maine Subsurface Wastewater Disposal Rules dated August 2015, as amended. I evaluated two hand excavated soil test pits on each proposed lot. The soils are somewhat poorly and moderately well drained marine lacustrine soils with a limiting factor ranging from 12 to 18 inches.

The soils as evaluated meet the minimum requirements of the state rules. In my opinion, there are suitable soils and area on each lot for a septic system. The size of a septic system for a 3-bedroom home could be a 20 feet by 60 feet stone and pipe bed or an Eljen Indrain system consisting of 24 Eljen units. Septic designs can be completed at some time in the future.

If you have any questions or require additional information, please contact me.

Sincerely,

Mark J. Hampton L.S.E., C.S.S.
Licensed Site Evaluator #263
Certified Soil Scientist #216

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
---	---------------------------------------	--

Exploration Symbol # TP-1 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	15 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Buxton MWD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

Exploration Symbol # TP-2 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	15 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Buxton MWD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

Exploration Symbol # TP-3 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	15 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Buxton MWD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

Exploration Symbol # TP-4 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	15 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Buxton MWD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature 	Date 11/11/22
Name Printed Mark J. Hampton	Cert/Lic/Reg. # 263/216
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION **DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES**

Project Name: Newton Drive Subdivision Applicant Name: Shirley Newton LLC Project Location (municipality): Gorham

Exploration Symbol # TP-5 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile C Condition Slope: 2 Percent Limiting Factor: 15 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-6 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile C Condition Slope: 2 Percent Limiting Factor: 15 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-7 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile D Condition Slope: 2 Percent Limiting Factor: 13 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Lamoine SPD Hydric Non-hydric Hydrologic Soil Group

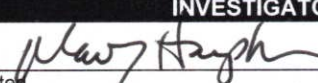
Exploration Symbol # TP-8 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile P Condition Slope: 2 Percent Limiting Factor: 14 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Lamoine SPD Hydric Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: 	Date: <u>11/11/22</u>
Name Printed: <u>Mark J. Hampton</u>	Cert/Lic/Reg. #: <u>263/216</u>
Title: <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
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Exploration Symbol # TP-13 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile D Condition Slope: 2 Percent Limiting Factor: 14 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Lamoine SPD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-14 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile D Condition Slope: 2 Percent Limiting Factor: 14 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Lamoine SPD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-15 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile C Condition Slope: 2 Percent Limiting Factor: 16 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

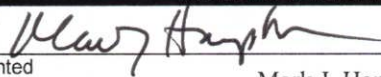
Exploration Symbol # TP-16 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: 8 Profile C Condition Slope: 2 Percent Limiting Factor: 16 Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: 	Date: <u>11/11/22</u>
Name Printed: <u>Mark J. Hampton</u>	Cert/Lic/Reg. #: <u>263/216</u>
Title: <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION		DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES
Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham

Exploration Symbol # TP-17 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 2 Percent Limiting Factor 18 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-18 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 2 Percent Limiting Factor 17 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-19 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 2 Percent Limiting Factor 18 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-20 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 2 Percent Limiting Factor 18 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE	
Signature	Date <u>11/11/22</u>
Name Printed <u>Mark J. Hampton</u>	Cert/Lic/Reg. # <u>263/216</u>
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION		DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES
Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham

Exploration Symbol # TP-21 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	14 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Lamoine SPD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

Exploration Symbol # TP-22 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 D	2	13 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Lamoine SPD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

Exploration Symbol # TP-23 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20				
30	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	16 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Buxton MWD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

Exploration Symbol # TP-24 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

0	Texture	Consistency	Color	Redox Features
	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20				
30	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
40				
50				
60				

Depth below mineral soil surface (inches)

S.E.	Soil Classification	Slope	Limiting Factor	<input checked="" type="checkbox"/> Groundwater
▶▶	8 C	2	16 "	<input checked="" type="checkbox"/> Restrictive Layer
	Profile Condition	Percent	Depth	<input type="checkbox"/> Bedrock
S.S.	Soil Series/Phase Name:			Hydrologic
▶▶	Buxton MWD			<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric
				Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE	
Signature	Date 11/11/22
Name Printed Mark J. Hampton	Cert/Lic/Reg. # 263/216
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
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Exploration Symbol # TP-25 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 4 Percent Limiting Factor 15 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-26 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 2 Percent Limiting Factor 15 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-27 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 4 Percent Limiting Factor 15 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

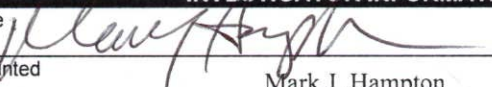
Exploration Symbol # TP-28 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 4 Percent Limiting Factor 15 Depth " Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature: 	Date: 1/10/23
Name Printed: Mark J. Hampton	Cert/Lic/Reg. #: 263/216
Title: <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
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Exploration Symbol # TP-29 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 4 Percent Limiting Factor 15 " Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton MWD Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-30 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition C Slope 4 Percent Limiting Factor 15 " Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Buxton Hydric Non-hydric Hydrologic Soil Group

Exploration Symbol # TP-31 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition D Slope 4 Percent Limiting Factor 14 " Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Lamoine SPD Hydric Non-hydric Hydrologic Soil Group

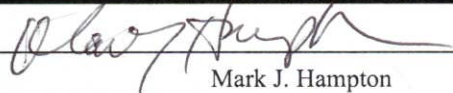
Exploration Symbol # TP-32 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Details by S.E. Soil Classification: Profile 8 Condition D Slope 4 Percent Limiting Factor 13 " Depth Groundwater Restrictive Layer Bedrock

S.S. Soil Series/Phase Name: Lamoine SPD Hydric Non-hydric Hydrologic Soil Group

INVESTIGATOR INFORMATION AND SIGNATURE

Signature 	Date 1/10/23
Name Printed Mark J. Hampton	Cert/Lic/Reg. # 263/216
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

affix professional seal

SOIL PROFILE / CLASSIFICATION INFORMATION

DETAILED DESCRIPTION OF SUBSURFACE CONDITIONS AT PROJECT SITES

Project Name: Newton Drive Subdivision	Applicant Name: Shirley Newton LLC	Project Location (municipality): Gorham
---	---------------------------------------	--

Exploration Symbol # TP-33 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive	Common and Distinct
30				
40				
50				
60				

Soil Classification Profile: <u>8</u> Condition: <u>C</u>	Slope Percent: <u>8</u>	Limiting Factor Depth: <u>15</u> "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Soil Series/Phase Name: <u>Buxton MWD</u>			
		<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric	
		Hydrologic Soil Group: _____	

Exploration Symbol # TP-34 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Gray	Common and Distinct
30				
40				
50				
60				

Soil Classification Profile: <u>8</u> Condition: <u>C</u>	Slope Percent: <u>8</u>	Limiting Factor Depth: <u>15</u> "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Soil Series/Phase Name: <u>Buxton</u>			
		<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric	
		Hydrologic Soil Group: _____	

Exploration Symbol # TP-35 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Gray	Common and Distinct
30				
40				
50				
60				

Soil Classification Profile: <u>8</u> Condition: <u>D</u>	Slope Percent: <u>4</u>	Limiting Factor Depth: <u>12</u> "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Soil Series/Phase Name: <u>Lamoine SPD</u>			
		<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric	
		Hydrologic Soil Group: _____	

Exploration Symbol # TP-36 Test Pit Boring Probe
 _____ " Organic horizon thickness Ground surface elev. _____
 _____ " Depth of exploration or to refusal

Depth below mineral soil surface (inches)	Texture	Consistency	Color	Redox Features
0	Silt Loam	Friable	Dark Brown	
10	Silt Loam	Friable	Brown	
20	Silty Clay Loam	Firm	Olive Gray	Common and Distinct
30				
40				
50				
60				

Soil Classification Profile: <u>8</u> Condition: <u>D</u>	Slope Percent: <u>4</u>	Limiting Factor Depth: <u>12</u> "	<input checked="" type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock
Soil Series/Phase Name: <u>Lamoine SPD</u>			
		<input type="checkbox"/> Hydric <input checked="" type="checkbox"/> Non-hydric	
		Hydrologic Soil Group: _____	

INVESTIGATOR INFORMATION AND SIGNATURE

Signature 	Date 1/10/23
Name Printed Mark J. Hampton	Cert/Lic/Reg. # 263/216
Title <input checked="" type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Certified Geologist <input type="checkbox"/> Professional Engineer	

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ATTACHMENT C

SOIL EROSION AND SEDIMENTATION CONTROL

Introduction

The project is a 13-lot residential subdivision . The site is located off the end of Shirley Lane and Newton Drive in Gorham, Maine. The property is approximately 35 acres, with a few patches of wetlands.

Site History and Existing Site Conditions

The existing site is predominantly wooded with on-site soils of primarily in Hydrologic Group C. A high intensity soil survey was performed by Mark Hampton.

Existing Erosion Problems

There are no existing erosion problems evident at the site. Areas near the stream crossing have been loamed and seeded with a perimeter erosion control berm.

Critical Areas

The critical areas in the proximity of the site are the wetlands.

Protected Natural Resources

Wetlands on the Site have been identified and mapped by Mark Hampton and are shown on the drawings that accompany this submission.

Soil Erosion and Sedimentation Control Measures

The primary goals of the Erosion and Sediment Control Plan for the project are to minimize exposure of native soil materials during construction, to prevent soil erosion and sediment transport to downstream areas, receiving waters and natural resources. Measures will also be taken to ensure sediment is not tracked onto adjacent streets and that stockpiles of imported construction materials are protected from potential contamination. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. The "K" value is frequently used with the universal soil loss equation . The higher values are indicative of the more erodible soils. The rear portion of the site is natural forest.

The primary emphasis of the Erosion and Sedimentation Control Plan to be implemented for this project is as follows:

- Construction Schedule – Major earth moving activities at the site will be scheduled for the summer and will be started when a suitable weather window has been identified. This will minimize the potential for exposure of bare soil to inclement weather.
- Temporary Measures – Planning the project to have erosion resistant measures in place with measures to prevent erosion from occurring. The plan includes measures to intercept and convey runoff to temporary sediment control devices as the construction of the project occurs.
- Stabilization of areas denuded to underlying parent material to minimize the period of soil exposure.
- Stabilization of drainage paths to avoid rill and gully erosion.

- The use of on-site measures to capture sediment (hay bales/silt fence, etc.) before it is conveyed to sediment sumps.

Description and Location of Limits of All Proposed Earth Movements

The proposed project will require stripping and grubbing for the construction of the road. The native sandy soil material is suitable for re-use as fill on the site. This will minimize import/export quantities. The topography is relatively flat, but some leveling and grade adjustment will be required.

Erosion/Sedimentation Control Devices

As part of the site development, the Contractor will be obligated to implement the following erosion and sediment control devices. These devices shall be installed as indicated on the plans or as described within this report. For further reference on these devices, see the *Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers, Maine DEP, October 2016*.

1. Silt fence shall be installed down slope of any disturbed areas to trap runoff borne sediments. The silt fence shall be installed per the detail provided in the plan set and inspected immediately after each rainfall, and at least weekly in the absence of significant rainfall. The Contractor shall make repairs immediately if there are any signs of erosion or sedimentation below the fence line. If such erosion is observed, the Contractor shall take proactive action to identify the cause of the erosion and take action to avoid its reoccurrence. Proper placement of stakes and keying the bottom of the fabric into the ground is critical to the fence's effectiveness. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind the fence, the barrier shall be replaced with a stone check dam and measures taken to avoid the concentration of flows not intended to be directed to the silt fence.
2. Twin rows of siltation fence with hay bales shall be installed at the foot of steep slopes and adjacent to protected natural resources (wetland areas).
3. Silt fence shall be installed along the downgradient side of construction work areas, with locations being adjusted along with the construction phasing areas. The Contractor may use erosion mix in place of single silt fence barrier.
4. Silt fence will be installed along the upstream perimeter of the work area as shown on the plans, to divert run-on from upslope areas and prevent surface water from entering the construction area. If necessary, and at the direction of the Project Engineer, interception trenches shall be constructed to prevent shallow groundwater from flowing into construction areas
5. Temporary sediment sumps will provide sedimentation control for stormwater runoff from disturbed areas during construction until stabilization has been achieved.
6. A construction entrance will be constructed at all access points onto the site to prevent tracking of soil onto adjacent local roads and streets and the existing parking lot.
7. Stone sediment traps or a premanufactured SiltSack™ and a sediment bag will be installed at catch basin inlets to prevent silt from entering the storm drain system. Installation details are provided in the plan set on the erosion control detail sheets.
8. Dirtbags™ will be required to be on site and available for construction dewatering. The Contractor will be required to provide four Dirtbags™ with one prepared for operation prior to commencing any trenching operations.
9. Silt logs are an option for stone check dams and may be substituted provided the devices are well anchored.

Temporary Erosion/Sedimentation Control Measures

The following are planned as temporary erosion/sedimentation control measures during construction:

The primary and most effective soil erosion and sediment control measure is proactive work scheduling to minimize exposure of erodible soils. The Contractor will make every effort to promptly stabilize and disturbed areas on the site, after removal of existing vegetation, by placing imported granular material

over disturbed areas. This will limit exposure of native soils and fill materials and provide a stable surface with minimal erosion potential.

1. It is anticipated that work on the site will begin in the Winter of 2022. This will allow for the earthwork to be undertaken in the early and mid-summer months when the risk of inclement weather is significantly lower. Scheduling of the field work will be critical to minimizing potential soil erosion impacts. The Contractor will be responsible for selecting an appropriate weather window in which to commence the work to minimize erosion and sediment transport risk.
2. Crushed stone-stabilized construction entrances will be placed at any construction access points from adjacent streets. The locations of the construction entrances shown on the drawings should be considered illustrative and will need to be adjusted as appropriate and located at any area where there is the potential for tracking of mud and debris onto existing roads or streets. Stone stabilized construction entrances will require the stone to be removed and replaced, as it becomes covered or filled with mud and material tracked by vehicles exiting the site.
3. Silt fence shall be installed along the downgradient side of the proposed improvement areas. The silt fence will remain in place and properly maintained until the site is acceptably stabilized. Silt fence needs to be checked to ensure the bottom is properly keyed in and inspected after significant rains. Wood chips from clearing can be used in front of the silt fence to provide an extra margin of safety and security for the silt fence. This practice is encouraged, provided the chips are removed when the fence is removed.
4. Silt fencing with a maximum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence should be properly anchored a minimum of 6" per the plan detail and backfilled. Any silt fence identified by the owner or reviewing agencies as not being properly installed during construction shall be immediately repaired in accordance with the installation details.
5. Dirtbags™ shall be installed in accordance with the details in the plan set. The Dirtbags'™ function on the project is to receive any water pumped from excavations during construction. A Dirtbag™ shall be installed and prepared for operation prior to any trenching on site. When Dirtbags™ are observed to be at 50% capacity, they shall be cleaned or replaced. Stone under the Dirtbag™ shall be removed and replaced concurrently with the replacement of the Dirtbag™.
6. Stone check dams, silt logs, or hay bale barriers will be installed at any evident concentrated flow discharge points during construction and earthwork operations
7. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or a premanufactured SiltSack™ as distributed by A. H. Harris Company, Portland, Maine. Stone sediment barrier installation details are provided in the plan set. The barriers or SiltSacks™ shall be inspected after each rainfall and repairs made as necessary, including the removal of sediment. Sediment shall be removed and the barrier or SiltSack™ restored to its original dimensions when the sediment has accumulated to one-half the design depth of the barrier. Sediment shall be removed from SiltSacks™ as necessary. Inlet protection shall be removed when the tributary drainage area has been stabilized.
8. All slopes steeper than 4:1 shall receive erosion control blankets.
9. Areas of visible erosion and the temporary sediment sumps shall be stabilized with crushed stone. The size of the stone shall be determined by the contractor's designated representative in consultation with the Owner.

Special Measures for Summer Construction

The summer period is generally optimum for construction in Maine, but it is also the period when intense short duration storms are most common, making denuded areas very susceptible to erosion,

when dust control needs to be the most stringent, and when the potential to establish vegetation is often restricted by moisture deficit. During these periods, the Contractor must:

1. Implement a program to apply dust control measures on a daily basis except those days where precipitation is sufficient to suppress dust formation. This program shall extend to and include adjacent streets.
2. Spray any mulches with water after anchoring to dampen the soil and encourage early growth. Spraying may be required several times. Temporary seed may be required until the late summer seeding season.
3. Cover stockpiles of fine-grained materials, or excavated soils which are susceptible to erosion. To protect from the intense, short-duration storms which are more prevalent in the summer months.
4. Take additional steps needed, including watering, or covering excavated materials to control fugitive dust emissions to minimize reductions in visibility and the airborne disbursement of fine-grained soils. This is particularly important given the potential presence of soil contaminants, and the proximity of along the adjacent streets and properties.
5. These measures may also be required in the spring and fall during the drier periods of these seasons.

Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. The drainage conveyance systems have been designed to intercept and convey the 25-year storm.
2. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.), will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas where the finish grade slope is greater than 10 percent. Native topsoil shall be stockpiled and temporarily stabilized with seed and mulch and reused for final restoration when it is of sufficient quality.
3. Catch basins shall be provided with sediment sumps for all outlet pipes that are 12" in diameter or greater or where winter sand use is contemplated. A sediment collection bag shall be installed in all basins.

Topsoil Management

Any topsoil removed during the project must be stockpiled on the site and reused to the maximum extent possible. Topsoil piles should be located a minimum of 50' from the edge of wetlands. If a stockpile is intended to remain for more than 14 days, it should be stabilized. All stockpiles should have an erosion control berm placed around the toe of slope.

Timing and Sequence of Erosion/Sedimentation Control Measures

The following construction sequence shall be required to ensure the effectiveness of the erosion and sedimentation control measures is optimized.

The following construction sequence is required:

1. Install construction entrances.
2. Install safety and construction fence to secure the site for demolition.
3. Install all perimeter siltation fence and erosion control barriers. Particular attention shall be paid to areas upstream of protected natural resources and in the vicinity of the two streams at the project site. Signs shall be erected periodically along these perimeter barriers indicating that the downstream areas are off limits to all construction activities.
4. Conduct demolition activities including salvage of materials that can be used for site work aggregate.

5. Construct activities on the site to optimize the handling of materials and restrict the denuded areas to the time stipulated.
6. Construct stabilized pads for foundation and building construction.
7. Maintain stabilized site access and working areas during building construction.
8. Install binder pavement.
9. Landscape (loam and seed).
10. Install surface pavements.
11. Install striping, signage, and miscellaneous site improvements.
12. Review and punch the site.
13. Remove any temporary erosion control measures.

It is anticipated that site construction on the project will be completed by the end of winter in 2023, with some building finishing work extending into the spring.

Maine Construction General Permit Requirements

The project will be constructed by a General Contractor under contract to the Owner/Applicant. The Contractor will submit a detailed schedule for the completion of the work at the start of construction.

The work will be conducted in sections which will limit the amount of exposed area to those areas in which work is expected to be undertaken during the next 30 days. Exposed areas will be covered and stabilized as rapidly as practical. All areas will be permanently stabilized within 7 days of final grading and temporarily stabilized within 7 days of initial disturbance or before a predicted storm event of over ½” of rain. The area of denuded, non-stabilized construction shall be limited to the minimum area practicable. An area shall be denuded until the subbase gravel is installed in parking areas, or the areas of future loam and seed have been loamed, seeded, and mulched, or stabilized with erosion control blanket.

The Contractor must maintain an accurate set of record drawings indicating the date when an area is first denuded, the date of temporary stabilization, and the date of final stabilization. On October 1 of any calendar year, the Contractor shall submit a detailed plan for stabilizing the site for the winter and a description of what activities are planned during the winter.

The Contractor must install any added measures which may be necessary to control erosion/sedimentation and fugitive dust emissions from the site, with adjustments made dependent upon forecasted and actual site and weather conditions.

Maintenance of the Erosion/Sedimentation Control Features

The project will be contracted by the Owner. The Contractor shall prepare a list and designate by name, address and telephone number all individuals who will be responsible for implementation, inspection, and maintenance of all erosion control measures identified within this section and as contained in the Erosion and Sedimentation Control Plan of the contract drawings. Specific responsibilities of the inspector(s) will include:

A weekly certification stating compliance, any deviations, and corrective measures necessary to comply with the erosion control requirements of this section shall be prepared and signed by the inspector(s). In addition to the weekly certifications, the inspector(s) shall maintain written reports recording construction activities on site which include:

1. Dates when major grading activities occur in a particular area.
2. Dates when major construction activities cease in a particular area, either temporarily or permanently.
3. Dates when an area is stabilized.
4. Inspection of this project work site on a weekly basis and after each significant rainfall event (0.25 inch or more within any consecutive 24-hour period) during construction until permanent erosion control measures have been properly installed and the site has been stabilized.

Inspection of the project work site shall include:

1. Identification of proper erosion control measure installation in accordance with the erosion control detail sheet or as specified in this section.
2. Determine whether each erosion control measure is properly operating. If not, identify damage to the control device and determine remedial measures.
3. Identify areas which appear vulnerable to erosion and determine additional erosion control measures which should be used to improve conditions.
4. Inspect areas of recent seeding to determine percent catch of grass. A minimum catch of 90 percent is required prior to removal of erosion control measures.
5. All erosion controls shall be removed within 30 days of permanent stabilization except for mulch and netting not detrimental to the project. Removals shall include but not be limited to all silt fence, hay bales, inlet protection, and stone check dams.
6. Accumulated silt/sediment should be removed when the depth of sediment reaches 50 percent of the barrier height. Accumulated silt/sediment should be removed from behind silt fencing when the depth of the sediment reaches 6 inches.
7. Silt sacks should be removed and replaced at least every three months and at any time where the weekly inspection reveals that siltation has significantly retarded the rate of flow through the silt sack.
8. If inspection of the site indicates a change should be made to the erosion control plan, to either improve effectiveness or correct a site-specific deficiency, the inspector shall immediately implement the corrective measure and notify the Owner of the change.

All certifications, inspection forms, and written reports prepared by the inspector(s) shall be filed with the Owner, and the Permit File contained on the project site. All written certifications, inspection forms, and written reports must be filed within one (1) week of the inspection date.

The Contractor has sole responsibility for complying with the erosion/sediment control report, including control of fugitive dust, and shall be responsible for any monetary penalties resulting from failure to comply with these standards.

Once construction has been completed, long-term maintenance of the stormwater management system will be the responsibility of the applicant. Operations & Maintenance items with a list of maintenance requirements and frequency are listed at the end of Section 12 of the Maine DEP Permit Application.

Preconstruction Conference

Prior to any construction at the site, representatives of the Contractor, the Architect, the Owner, and the site design engineer shall meet to discuss the scheduling of the site construction and the designation of the responsible parties for implementing the plan. The Contractor shall be responsible for scheduling the meeting. Prior to the meeting, the Contractor will prepare a detailed schedule and a marked-up site plan indicating areas and components of the work and key dates showing date of disturbance and completion of the work. The Contractor shall conduct a meeting with employees and sub-contractors to review the erosion control plan, the construction techniques which will be employed to implement the plan and provide a list of attendees and items discussed at the meeting to the Owner. Three copies

of the schedule, the Contractor's meeting minutes, and marked-up site plan shall be provided to the Owner.

Construction Schedule

The following construction sequence is required:

1. Install construction entrances. (Beginning the Spring of 2023)
2. Install safety and construction fence to secure the site for demolition.
3. Install all perimeter siltation fence and erosion control barriers. Particular attention shall be paid to areas upstream of protected natural resources and in the vicinity of the two streams at the project site. Signs shall be erected periodically along these perimeter barriers indicating that the downstream areas are off limits to all construction activities.
4. Conduct demolition activities including salvage of materials that can be used for site work aggregate.
5. Construct activities on the site to optimize the handling of materials and restrict the denuded areas to the time stipulated.
6. Construct stabilized pads for foundation and building construction.
7. Maintain stabilized site access and working areas during building construction.
8. Install binder pavement.
9. Landscape (loam and seed).
10. Install surface pavements.
11. Install striping, signage, and miscellaneous site improvements.
12. Review and punch the site.
13. Remove any temporary erosion control measures.

ATTACHMENT D

STORMWATER MANAGEMENT PLAN
SHIRLEY NEWTON SUBDIVISION
NEWTON DRIVE, GORHAM

PROJECT NARRATIVE

This Report is prepared to address the General Standards submission requirements of the Maine Department of Environmental Protection (MEDEP) Stormwater Law. The Site was designed to meet the MEDEP Chapter 500 Stormwater Management Rules.

The site is located at the end of Shirley Lane and Newton Drive in Gorham, Maine. The property is in a rural area among single-family residences. Access to the proposed subdivision will be via a new road connecting the two existing roads.

CALCULATIONS

Modeling Methodology

The stormwater calculations for this Stormwater Management Report are based on the NRCS soils mapping and their respective Hydrologic Soil Group designation. The various Hydrologic Soil Groups were entered into the HydroCAD stormwater model developed for this report. The ground cover in the pre-development model was “Forest”, while the post development model accounted for new impervious surfaces (road, driveways, and houses) and anticipated clearings for lawns. The HydroCAD output for the pre-developed and developed models are provided in Attachment B and C, respectively.

EXISTING SITE CONDITIONS

The site is in the upper reaches of the Stroudwater River watershed. The runoff from the site was analyzed at a four (4) points located around the site. The site was primarily wooded, but was clear cut within the last few years. The first 800 feet of the proposed road is existing. There is a ridge that runs the middles of the site and the proposed road is located primarily on the ridge. The existing site has been divided into four subcatchments.

The majority of the site drains to a large network of wetlands.

PROPOSED SITE CONDITIONS

The site will continue to drain similarly to the existing conditions. The road will drain to one of three treatment systems, a bioretention cell, a forested buffer, and a meadow buffer. The peak flows for the four analysis points, both existing and proposed, are shown below. It is our opinion that the slight increases in two of the subcatchments are negligible due to the conservative nature of the modelling. Further the two subcatchments that have increases are very limited for options to provide additional storage.

The increases would also be removed had we accounted for the storage inside the large wetland system.

	Existing			Proposed			Difference		
	2 Year	5 Year	25 Year	2 Year	5 Year	25 Year	2 Year	5 Year	25 Year
AP-1	14.89	24.07	43.73	14.81	23.88	43.73	0.08	0.19	0
AP-2	18.27	29.82	55.31	18.27	29.82	55.31	0	0	0
AP-3	26.16	42.77	79.26	26.33	42.97	79.29	-0.17	-0.2	-0.03
AP-4	8.77	14.02	25.47	8.91	14.25	25.89	-0.14	-0.23	-0.42

TREATMENT SUMMARY

Runoff from and draining to the road will be captured by vegetated swales on one side of the road and catch basins on the other. A Treatment Summary Table and calculations are included at the end of this Section. In addition to the proposed treatment, nearly all the runoff eventually makes it to the network of wetlands around the site, which provide better treatment than we could ever hope to replicate.

Forested Buffer- A 20-foot-wide level spreader captures the northern end of the road and feeds a 100 foot-deep forested buffer

Meadow Buffer- A 75-foot-wide level spreader captures the middle portion of the road and feeds a 150 foot-deep meadow buffer

Bioretentional Cell- A bioretention cell captures and treats a large portion of the road.

DETAILS, DESIGNS, AND SPECIFICATIONS

The Buffers and Bioretention Cell were sized in accordance with Chapter 5 and 7 of Maine Department of Environmental Protection Stormwater Best Management Practices Manual.

MAINTENANCE PLAN, INSPECTIONS, AND REQUIREMENTS

Maintenance of the stormwater control measures will be performed by the Owners' designee in conjunction with the Owner.

During construction, the site work contractor will be responsible for all site maintenance.

CONCLUSION

The stormwater management for the Shirley Newton Subdivision was designed in accordance with the MEDEP Chapter 500 requirements. The water quality treatment is provided mainly by an underdrained soil filter and forested buffer. There will be no adverse impact on adjacent properties as a result of this project.

STORMWATER TREATMENT SUMMARY

	Square Feet	Acres
Total Area	1,685,871	38.7

Predeveloped Site Summary

	Square Feet	Acres
Developed Area	31,980	0.73
Impervious Area	22,843	0.52
Forrested Area	1,653,891	38.0

Proposed Site Summary

	Square Feet	Acres	Percentage of Total Area
Developed Area	90,066	2.1	5%
Impervious Area	65,660	1.5	4%

Required Treatment

Linear Portion of a Project: For a linear portion of a project, treatment may be reduced to no less than 75% of the linear portion's impervious area and no less than 50% of the linear portion's developed area. This exception does not apply to a linear portion of a project subject to the urban impaired stream standard.

Proposed Treatment Summary

	Impervious Area Treated		Developed Area Treated	
	Square Feet	Percent of Total Impervious	Square Feet	Percent of Total Developed
Forrested Buffer #1	4,581	11%	6,294	11%
Forrested Buffer #2	15,740	37%	35,089	60%
	15,653	37%	33,672	58%
TOTAL	35,974	84%	68,761	71%



North Side



Analysis Point



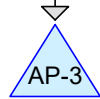
West Side



Analysis Point



South Side



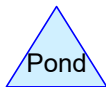
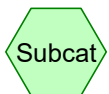
Analysis Point



East Side



Analysis Point



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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Subcatchment SC-1: North Side

Runoff = 14.89 cfs @ 12.21 hrs, Volume= 1.349 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
676,176	76	Woods/grass comb., Fair, HSG C
* 5,600	98	Impervious
681,776	76	Weighted Average
676,176		99.18% Pervious Area
5,600		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
5.7	456	0.0700	1.32		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
0.6	388	0.0200	11.67	420.23	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
25.0	944	Total			

Summary for Subcatchment SC-2: West Side

Runoff = 18.26 cfs @ 12.73 hrs, Volume= 3.188 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
1,634,008	76	Woods/grass comb., Fair, HSG C
1,634,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
46.2	1,962	0.0200	0.71		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
64.9	2,062	Total			

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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Subcatchment SC-3: South Side

Runoff = 26.16 cfs @ 12.55 hrs, Volume= 3.888 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
1,973,076	76	Woods/grass comb., Fair, HSG C
* 10,151	98	Impervious
1,983,227	76	Weighted Average
1,973,076		99.49% Pervious Area
10,151		0.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
27.7	1,287	0.0240	0.77		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
2.1	1,287	0.0160	10.44	375.86	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
51.8	2,674	Total			

Summary for Subcatchment SC-4: East Side

Runoff = 8.77 cfs @ 12.32 hrs, Volume= 0.970 af, Depth> 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
436,535	76	Woods/grass comb., Fair, HSG C
* 29,512	98	Impervious
466,047	77	Weighted Average
436,535		93.67% Pervious Area
29,512		6.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
15.9	1,140	0.0570	1.19		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
34.6	1,240	Total			

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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Pond AP-1: Analysis Point

Inflow Area = 15.651 ac, 0.82% Impervious, Inflow Depth > 1.03" for 2-Year event
Inflow = 14.89 cfs @ 12.21 hrs, Volume= 1.349 af
Primary = 14.89 cfs @ 12.21 hrs, Volume= 1.349 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-2: Analysis Point

Inflow Area = 37.512 ac, 0.00% Impervious, Inflow Depth > 1.02" for 2-Year event
Inflow = 18.26 cfs @ 12.73 hrs, Volume= 3.188 af
Primary = 18.26 cfs @ 12.73 hrs, Volume= 3.188 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-3: Analysis Point

Inflow Area = 45.529 ac, 0.51% Impervious, Inflow Depth > 1.02" for 2-Year event
Inflow = 26.16 cfs @ 12.55 hrs, Volume= 3.888 af
Primary = 26.16 cfs @ 12.55 hrs, Volume= 3.888 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-4: Analysis Point

Inflow Area = 10.699 ac, 6.33% Impervious, Inflow Depth > 1.09" for 2-Year event
Inflow = 8.77 cfs @ 12.32 hrs, Volume= 0.970 af
Primary = 8.77 cfs @ 12.32 hrs, Volume= 0.970 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Subcatchment SC-1: North Side

Runoff = 32.35 cfs @ 12.20 hrs, Volume= 2.812 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
676,176	76	Woods/grass comb., Fair, HSG C
* 5,600	98	Impervious
681,776	76	Weighted Average
676,176		99.18% Pervious Area
5,600		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
5.7	456	0.0700	1.32		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
0.6	388	0.0200	11.67	420.23	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
25.0	944	Total			

Summary for Subcatchment SC-2: West Side

Runoff = 40.29 cfs @ 12.70 hrs, Volume= 6.660 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
1,634,008	76	Woods/grass comb., Fair, HSG C
1,634,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
46.2	1,962	0.0200	0.71		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
64.9	2,062	Total			

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Subcatchment SC-3: South Side

Runoff = 57.78 cfs @ 12.53 hrs, Volume= 8.116 af, Depth> 2.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
1,973,076	76	Woods/grass comb., Fair, HSG C
* 10,151	98	Impervious
1,983,227	76	Weighted Average
1,973,076		99.49% Pervious Area
10,151		0.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
27.7	1,287	0.0240	0.77		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
2.1	1,287	0.0160	10.44	375.86	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
51.8	2,674	Total			

Summary for Subcatchment SC-4: East Side

Runoff = 18.75 cfs @ 12.31 hrs, Volume= 1.989 af, Depth> 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
436,535	76	Woods/grass comb., Fair, HSG C
* 29,512	98	Impervious
466,047	77	Weighted Average
436,535		93.67% Pervious Area
29,512		6.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
15.9	1,140	0.0570	1.19		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
34.6	1,240	Total			

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Pond AP-1: Analysis Point

Inflow Area = 15.651 ac, 0.82% Impervious, Inflow Depth > 2.16" for 10-Year event
Inflow = 32.35 cfs @ 12.20 hrs, Volume= 2.812 af
Primary = 32.35 cfs @ 12.20 hrs, Volume= 2.812 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-2: Analysis Point

Inflow Area = 37.512 ac, 0.00% Impervious, Inflow Depth > 2.13" for 10-Year event
Inflow = 40.29 cfs @ 12.70 hrs, Volume= 6.660 af
Primary = 40.29 cfs @ 12.70 hrs, Volume= 6.660 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-3: Analysis Point

Inflow Area = 45.529 ac, 0.51% Impervious, Inflow Depth > 2.14" for 10-Year event
Inflow = 57.78 cfs @ 12.53 hrs, Volume= 8.116 af
Primary = 57.78 cfs @ 12.53 hrs, Volume= 8.116 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-4: Analysis Point

Inflow Area = 10.699 ac, 6.33% Impervious, Inflow Depth > 2.23" for 10-Year event
Inflow = 18.75 cfs @ 12.31 hrs, Volume= 1.989 af
Primary = 18.75 cfs @ 12.31 hrs, Volume= 1.989 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Subcatchment SC-1: North Side

Runoff = 44.16 cfs @ 12.19 hrs, Volume= 3.818 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
676,176	76	Woods/grass comb., Fair, HSG C
* 5,600	98	Impervious
681,776	76	Weighted Average
676,176		99.18% Pervious Area
5,600		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
5.7	456	0.0700	1.32		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
0.6	388	0.0200	11.67	420.23	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
25.0	944	Total			

Summary for Subcatchment SC-2: West Side

Runoff = 55.31 cfs @ 12.69 hrs, Volume= 9.049 af, Depth> 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
1,634,008	76	Woods/grass comb., Fair, HSG C
1,634,008		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
46.2	1,962	0.0200	0.71		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
64.9	2,062	Total			

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Subcatchment SC-3: South Side

Runoff = 79.26 cfs @ 12.52 hrs, Volume= 11.023 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
1,973,076	76	Woods/grass comb., Fair, HSG C
* 10,151	98	Impervious
1,983,227	76	Weighted Average
1,973,076		99.49% Pervious Area
10,151		0.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
27.7	1,287	0.0240	0.77		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
2.1	1,287	0.0160	10.44	375.86	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
51.8	2,674	Total			

Summary for Subcatchment SC-4: East Side

Runoff = 25.47 cfs @ 12.31 hrs, Volume= 2.686 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
436,535	76	Woods/grass comb., Fair, HSG C
* 29,512	98	Impervious
466,047	77	Weighted Average
436,535		93.67% Pervious Area
29,512		6.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
15.9	1,140	0.0570	1.19		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
34.6	1,240	Total			

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Pond AP-1: Analysis Point

Inflow Area = 15.651 ac, 0.82% Impervious, Inflow Depth > 2.93" for 25-Year event
Inflow = 44.16 cfs @ 12.19 hrs, Volume= 3.818 af
Primary = 44.16 cfs @ 12.19 hrs, Volume= 3.818 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-2: Analysis Point

Inflow Area = 37.512 ac, 0.00% Impervious, Inflow Depth > 2.89" for 25-Year event
Inflow = 55.31 cfs @ 12.69 hrs, Volume= 9.049 af
Primary = 55.31 cfs @ 12.69 hrs, Volume= 9.049 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-3: Analysis Point

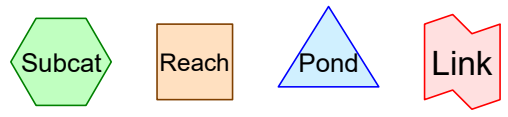
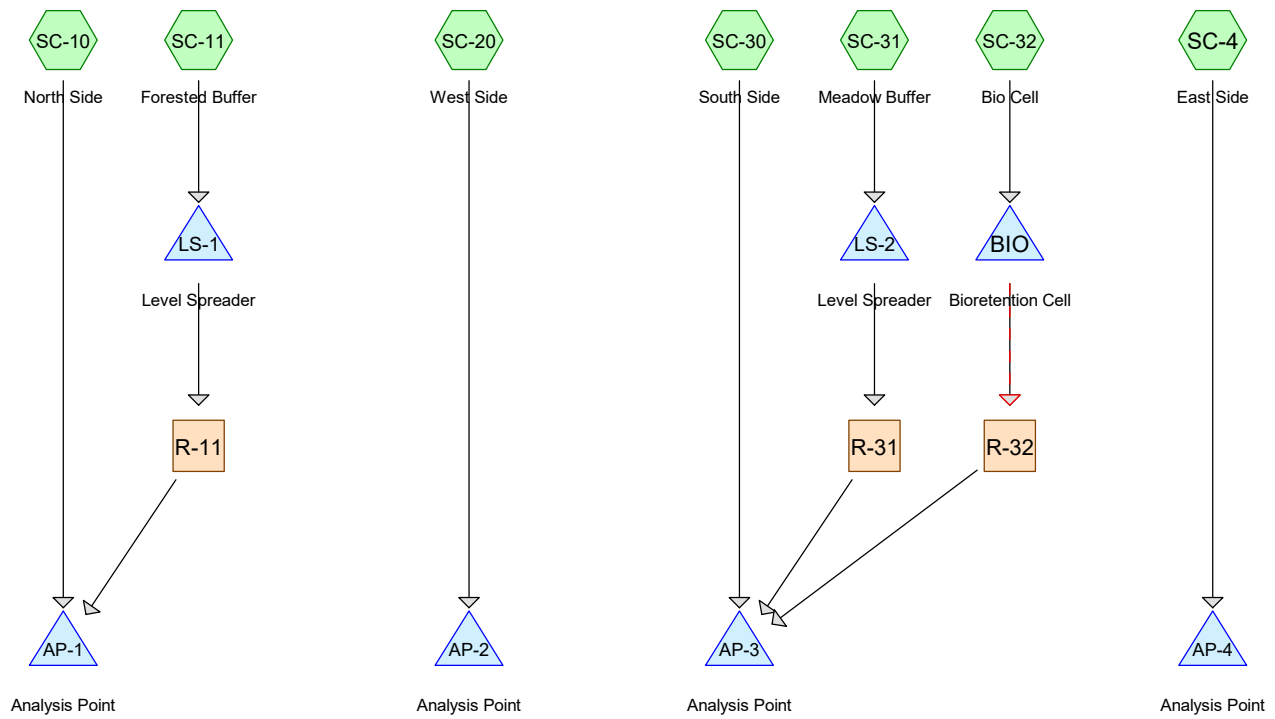
Inflow Area = 45.529 ac, 0.51% Impervious, Inflow Depth > 2.91" for 25-Year event
Inflow = 79.26 cfs @ 12.52 hrs, Volume= 11.023 af
Primary = 79.26 cfs @ 12.52 hrs, Volume= 11.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-4: Analysis Point

Inflow Area = 10.699 ac, 6.33% Impervious, Inflow Depth > 3.01" for 25-Year event
Inflow = 25.47 cfs @ 12.31 hrs, Volume= 2.686 af
Primary = 25.47 cfs @ 12.31 hrs, Volume= 2.686 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs



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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Subcatchment SC-10: North Side

Runoff = 14.64 cfs @ 12.21 hrs, Volume= 1.326 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
661,229	76	Woods/grass comb., Fair, HSG C
* 9,053	98	Impervious
670,282	76	Weighted Average
661,229		98.65% Pervious Area
9,053		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
5.7	456	0.0700	1.32		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
0.6	388	0.0200	11.67	420.23	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
25.0	944	Total			

Summary for Subcatchment SC-11: Forested Buffer

Runoff = 0.47 cfs @ 11.95 hrs, Volume= 0.025 af, Depth> 2.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
1,713	74	>75% Grass cover, Good, HSG C
* 4,581	98	Impervious
6,294	91	Weighted Average
1,713		27.22% Pervious Area
4,581		72.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-20: West Side

Runoff = 18.27 cfs @ 12.69 hrs, Volume= 3.086 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

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Type II 24-hr 2-Year Rainfall=3.04"

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Area (sf)	CN	Description
1,579,684	76	Woods/grass comb., Fair, HSG C
1,579,684		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
43.3	1,837	0.0200	0.71		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
62.0	1,937	Total			

Summary for Subcatchment SC-30: South Side

Runoff = 25.68 cfs @ 12.55 hrs, Volume= 3.817 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
1,933,413	76	Woods/grass comb., Fair, HSG C
* 13,905	98	Impervious
1,947,318	76	Weighted Average
1,933,413		99.29% Pervious Area
13,905		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
27.7	1,287	0.0240	0.77		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
2.1	1,287	0.0160	10.44	375.86	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
51.8	2,674	Total			

Summary for Subcatchment SC-31: Meadow Buffer

Runoff = 2.08 cfs @ 11.96 hrs, Volume= 0.109 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
19,349	74	>75% Grass cover, Good, HSG C
* 15,740	98	Impervious
35,089	85	Weighted Average
19,349		55.14% Pervious Area
15,740		44.86% Impervious Area

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Type II 24-hr 2-Year Rainfall=3.04"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-32: Bio Cell

Runoff = 2.00 cfs @ 11.96 hrs, Volume= 0.104 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
18,019	74	>75% Grass cover, Good, HSG C
* 15,653	98	Impervious
33,672	85	Weighted Average
18,019		53.51% Pervious Area
15,653		46.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-4: East Side

Runoff = 8.91 cfs @ 12.32 hrs, Volume= 0.986 af, Depth> 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 2-Year Rainfall=3.04"

Area (sf)	CN	Description
443,833	76	Woods/grass comb., Fair, HSG C
* 29,915	98	Impervious
473,748	77	Weighted Average
443,833		93.69% Pervious Area
29,915		6.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.04"
15.9	1,140	0.0570	1.19		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
34.6	1,240	Total			

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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Reach R-11:

Inflow Area = 0.144 ac, 72.78% Impervious, Inflow Depth > 2.11" for 2-Year event
Inflow = 0.47 cfs @ 11.96 hrs, Volume= 0.025 af
Outflow = 0.37 cfs @ 12.02 hrs, Volume= 0.025 af, Atten= 22%, Lag= 3.8 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.35 fps, Min. Travel Time= 8.3 min
Avg. Velocity = 0.82 fps, Avg. Travel Time= 13.5 min

Peak Storage= 182 cf @ 12.02 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 3.00' Flow Area= 39.0 sf, Capacity= 475.68 cfs

4.00' x 3.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 22.00'
Length= 668.0' Slope= 0.0299 '/'
Inlet Invert= 152.00', Outlet Invert= 132.00'



Summary for Reach R-31:

Inflow Area = 0.806 ac, 44.86% Impervious, Inflow Depth > 1.62" for 2-Year event
Inflow = 2.09 cfs @ 11.96 hrs, Volume= 0.109 af
Outflow = 1.22 cfs @ 12.07 hrs, Volume= 0.108 af, Atten= 42%, Lag= 6.5 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.17 fps, Min. Travel Time= 16.0 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 28.4 min

Peak Storage= 1,161 cf @ 12.07 hrs
Average Depth at Peak Storage= 0.05'
Bank-Full Depth= 2.00' Flow Area= 120.0 sf, Capacity= 1,200.45 cfs

20.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 100.00'
Length= 1,124.0' Slope= 0.0320 '/'
Inlet Invert= 156.00', Outlet Invert= 120.00'



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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Reach R-32:

Inflow Area = 0.773 ac, 46.49% Impervious, Inflow Depth > 1.56" for 2-Year event
Inflow = 0.35 cfs @ 12.21 hrs, Volume= 0.101 af
Outflow = 0.31 cfs @ 12.91 hrs, Volume= 0.099 af, Atten= 11%, Lag= 42.1 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.60 fps, Min. Travel Time= 28.5 min
Avg. Velocity = 0.50 fps, Avg. Travel Time= 34.7 min

Peak Storage= 538 cf @ 12.91 hrs
Average Depth at Peak Storage= 0.03'
Bank-Full Depth= 2.00' Flow Area= 120.0 sf, Capacity= 904.14 cfs

20.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 ' Top Width= 100.00'
Length= 1,032.0' Slope= 0.0182 ' / '
Inlet Invert= 138.75', Outlet Invert= 120.00'



Summary for Pond AP-1: Analysis Point

Inflow Area = 15.532 ac, 2.02% Impervious, Inflow Depth > 1.04" for 2-Year event
Inflow = 14.81 cfs @ 12.21 hrs, Volume= 1.352 af
Primary = 14.81 cfs @ 12.21 hrs, Volume= 1.352 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-2: Analysis Point

Inflow Area = 36.265 ac, 0.00% Impervious, Inflow Depth > 1.02" for 2-Year event
Inflow = 18.27 cfs @ 12.69 hrs, Volume= 3.086 af
Primary = 18.27 cfs @ 12.69 hrs, Volume= 3.086 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-3: Analysis Point

Inflow Area = 46.283 ac, 2.25% Impervious, Inflow Depth > 1.04" for 2-Year event
Inflow = 26.33 cfs @ 12.55 hrs, Volume= 4.025 af
Primary = 26.33 cfs @ 12.55 hrs, Volume= 4.025 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Pond AP-4: Analysis Point

Inflow Area = 10.876 ac, 6.31% Impervious, Inflow Depth > 1.09" for 2-Year event
Inflow = 8.91 cfs @ 12.32 hrs, Volume= 0.986 af
Primary = 8.91 cfs @ 12.32 hrs, Volume= 0.986 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond BIO: Bioretention Cell

Inflow Area = 0.773 ac, 46.49% Impervious, Inflow Depth > 1.62" for 2-Year event
Inflow = 2.00 cfs @ 11.96 hrs, Volume= 0.104 af
Outflow = 0.35 cfs @ 12.21 hrs, Volume= 0.101 af, Atten= 82%, Lag= 15.0 min
Primary = 0.35 cfs @ 12.21 hrs, Volume= 0.101 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 141.38' @ 12.21 hrs Surf.Area= 2,500 sf Storage= 1,837 cf

Plug-Flow detention time= 78.1 min calculated for 0.100 af (96% of inflow)
Center-of-Mass det. time= 56.9 min (880.9 - 824.0)

Volume	Invert	Avail.Storage	Storage Description
#1	140.50'	3,559 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
140.50	1,683	0	0
141.50	2,613	2,148	2,148
142.00	3,029	1,411	3,559

Device	Routing	Invert	Outlet Devices
#1	Primary	140.50'	4.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	141.50'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.35 cfs @ 12.21 hrs HW=141.38' (Free Discharge)
↑1=Orifice/Grate (Orifice Controls 0.35 cfs @ 4.06 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=140.50' (Free Discharge)
↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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Type II 24-hr 2-Year Rainfall=3.04"

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Summary for Pond LS-1: Level Spreader

Inflow Area = 0.144 ac, 72.78% Impervious, Inflow Depth > 2.11" for 2-Year event
Inflow = 0.47 cfs @ 11.95 hrs, Volume= 0.025 af
Outflow = 0.47 cfs @ 11.96 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.3 min
Primary = 0.47 cfs @ 11.96 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 150.05' @ 11.96 hrs Surf.Area= 118 sf Storage= 5 cf

Plug-Flow detention time= 0.2 min calculated for 0.025 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (800.3 - 800.1)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	1,175 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
150.00	100	0	0
151.00	500	300	300
152.00	1,250	875	1,175

Device	Routing	Invert	Outlet Devices
#1	Primary	150.00'	20.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.43 cfs @ 11.96 hrs HW=150.04' (Free Discharge)
↑1=**Broad-Crested Rectangular Weir** (Weir Controls 0.43 cfs @ 0.50 fps)

Summary for Pond LS-2: Level Spreader

Inflow Area = 0.806 ac, 44.86% Impervious, Inflow Depth > 1.62" for 2-Year event
Inflow = 2.08 cfs @ 11.96 hrs, Volume= 0.109 af
Outflow = 2.09 cfs @ 11.96 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.3 min
Primary = 2.09 cfs @ 11.96 hrs, Volume= 0.109 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 155.05' @ 11.96 hrs Surf.Area= 628 sf Storage= 32 cf

Plug-Flow detention time= 0.4 min calculated for 0.108 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (824.3 - 824.0)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	1,901 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	612	0	0
156.00	932	772	772
157.00	1,325	1,129	1,901

Device	Routing	Invert	Outlet Devices
#1	Primary	155.00'	75.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=1.88 cfs @ 11.96 hrs HW=155.05' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 1.88 cfs @ 0.52 fps)

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Subcatchment SC-10: North Side

Runoff = 31.81 cfs @ 12.20 hrs, Volume= 2.765 af, Depth> 2.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
661,229	76	Woods/grass comb., Fair, HSG C
* 9,053	98	Impervious
670,282	76	Weighted Average
661,229		98.65% Pervious Area
9,053		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
5.7	456	0.0700	1.32		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
0.6	388	0.0200	11.67	420.23	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
25.0	944	Total			

Summary for Subcatchment SC-11: Forested Buffer

Runoff = 0.74 cfs @ 11.95 hrs, Volume= 0.043 af, Depth> 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
1,713	74	>75% Grass cover, Good, HSG C
* 4,581	98	Impervious
6,294	91	Weighted Average
1,713		27.22% Pervious Area
4,581		72.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-20: West Side

Runoff = 40.30 cfs @ 12.66 hrs, Volume= 6.445 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

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Area (sf)	CN	Description
1,579,684	76	Woods/grass comb., Fair, HSG C
1,579,684		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
43.3	1,837	0.0200	0.71		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
62.0	1,937	Total			

Summary for Subcatchment SC-30: South Side

Runoff = 56.74 cfs @ 12.53 hrs, Volume= 7.969 af, Depth> 2.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
1,933,413	76	Woods/grass comb., Fair, HSG C
* 13,905	98	Impervious
1,947,318	76	Weighted Average
1,933,413		99.29% Pervious Area
13,905		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
27.7	1,287	0.0240	0.77		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
2.1	1,287	0.0160	10.44	375.86	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
51.8	2,674	Total			

Summary for Subcatchment SC-31: Meadow Buffer

Runoff = 3.70 cfs @ 11.95 hrs, Volume= 0.198 af, Depth> 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
19,349	74	>75% Grass cover, Good, HSG C
* 15,740	98	Impervious
35,089	85	Weighted Average
19,349		55.14% Pervious Area
15,740		44.86% Impervious Area

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Type II 24-hr 10-Year Rainfall=4.55"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-32: Bio Cell

Runoff = 3.55 cfs @ 11.95 hrs, Volume= 0.190 af, Depth> 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
18,019	74	>75% Grass cover, Good, HSG C
* 15,653	98	Impervious
33,672	85	Weighted Average
18,019		53.51% Pervious Area
15,653		46.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-4: East Side

Runoff = 19.06 cfs @ 12.31 hrs, Volume= 2.022 af, Depth> 2.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 10-Year Rainfall=4.55"

Area (sf)	CN	Description
443,833	76	Woods/grass comb., Fair, HSG C
* 29,915	98	Impervious
473,748	77	Weighted Average
443,833		93.69% Pervious Area
29,915		6.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.04"
15.9	1,140	0.0570	1.19		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
34.6	1,240	Total			

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Reach R-11:

Inflow Area = 0.144 ac, 72.78% Impervious, Inflow Depth > 3.54" for 10-Year event
Inflow = 0.76 cfs @ 11.95 hrs, Volume= 0.043 af
Outflow = 0.64 cfs @ 12.01 hrs, Volume= 0.043 af, Atten= 16%, Lag= 3.4 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.66 fps, Min. Travel Time= 6.7 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 13.4 min

Peak Storage= 259 cf @ 12.01 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 3.00' Flow Area= 39.0 sf, Capacity= 475.68 cfs

4.00' x 3.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 22.00'
Length= 668.0' Slope= 0.0299 '/'
Inlet Invert= 152.00', Outlet Invert= 132.00'



Summary for Reach R-31:

Inflow Area = 0.806 ac, 44.86% Impervious, Inflow Depth > 2.95" for 10-Year event
Inflow = 3.71 cfs @ 11.96 hrs, Volume= 0.198 af
Outflow = 2.54 cfs @ 12.04 hrs, Volume= 0.197 af, Atten= 32%, Lag= 5.1 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.52 fps, Min. Travel Time= 12.4 min
Avg. Velocity = 0.67 fps, Avg. Travel Time= 27.9 min

Peak Storage= 1,860 cf @ 12.04 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 2.00' Flow Area= 120.0 sf, Capacity= 1,200.45 cfs

20.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 100.00'
Length= 1,124.0' Slope= 0.0320 '/'
Inlet Invert= 156.00', Outlet Invert= 120.00'



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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Reach R-32:

Inflow Area = 0.773 ac, 46.49% Impervious, Inflow Depth > 2.87" for 10-Year event
Inflow = 3.07 cfs @ 12.02 hrs, Volume= 0.185 af
Outflow = 1.33 cfs @ 12.14 hrs, Volume= 0.183 af, Atten= 57%, Lag= 7.5 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 0.99 fps, Min. Travel Time= 17.4 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 33.2 min

Peak Storage= 1,368 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.06'
Bank-Full Depth= 2.00' Flow Area= 120.0 sf, Capacity= 904.14 cfs

20.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 ' Top Width= 100.00'
Length= 1,032.0' Slope= 0.0182 '
Inlet Invert= 138.75', Outlet Invert= 120.00'



Summary for Pond AP-1: Analysis Point

Inflow Area = 15.532 ac, 2.02% Impervious, Inflow Depth > 2.17" for 10-Year event
Inflow = 32.07 cfs @ 12.20 hrs, Volume= 2.807 af
Primary = 32.07 cfs @ 12.20 hrs, Volume= 2.807 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-2: Analysis Point

Inflow Area = 36.265 ac, 0.00% Impervious, Inflow Depth > 2.13" for 10-Year event
Inflow = 40.30 cfs @ 12.66 hrs, Volume= 6.445 af
Primary = 40.30 cfs @ 12.66 hrs, Volume= 6.445 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-3: Analysis Point

Inflow Area = 46.283 ac, 2.25% Impervious, Inflow Depth > 2.16" for 10-Year event
Inflow = 57.93 cfs @ 12.53 hrs, Volume= 8.349 af
Primary = 57.93 cfs @ 12.53 hrs, Volume= 8.349 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Pond AP-4: Analysis Point

Inflow Area = 10.876 ac, 6.31% Impervious, Inflow Depth > 2.23" for 10-Year event
Inflow = 19.06 cfs @ 12.31 hrs, Volume= 2.022 af
Primary = 19.06 cfs @ 12.31 hrs, Volume= 2.022 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond BIO: Bioretention Cell

Inflow Area = 0.773 ac, 46.49% Impervious, Inflow Depth > 2.95" for 10-Year event
Inflow = 3.55 cfs @ 11.95 hrs, Volume= 0.190 af
Outflow = 3.07 cfs @ 12.02 hrs, Volume= 0.185 af, Atten= 13%, Lag= 3.8 min
Primary = 0.41 cfs @ 12.04 hrs, Volume= 0.150 af
Secondary = 2.67 cfs @ 12.02 hrs, Volume= 0.035 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 141.61' @ 12.04 hrs Surf.Area= 2,703 sf Storage= 2,435 cf

Plug-Flow detention time= 63.9 min calculated for 0.184 af (97% of inflow)
Center-of-Mass det. time= 48.2 min (855.2 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	140.50'	3,559 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
140.50	1,683	0	0
141.50	2,613	2,148	2,148
142.00	3,029	1,411	3,559

Device	Routing	Invert	Outlet Devices
#1	Primary	140.50'	4.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	141.50'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.40 cfs @ 12.04 hrs HW=141.58' (Free Discharge)
↑1=Orifice/Grate (Orifice Controls 0.40 cfs @ 4.60 fps)

Secondary OutFlow Max=2.36 cfs @ 12.02 hrs HW=141.59' (Free Discharge)
↑2=Broad-Crested Rectangular Weir (Weir Controls 2.36 cfs @ 0.69 fps)

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Type II 24-hr 10-Year Rainfall=4.55"

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Summary for Pond LS-1: Level Spreader

Inflow Area = 0.144 ac, 72.78% Impervious, Inflow Depth > 3.54" for 10-Year event
 Inflow = 0.74 cfs @ 11.95 hrs, Volume= 0.043 af
 Outflow = 0.76 cfs @ 11.95 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.2 min
 Primary = 0.76 cfs @ 11.95 hrs, Volume= 0.043 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
 Peak Elev= 150.06' @ 11.95 hrs Surf.Area= 125 sf Storage= 7 cf

Plug-Flow detention time= 0.2 min calculated for 0.043 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (785.7 - 785.5)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	1,175 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
150.00	100	0	0
151.00	500	300	300
152.00	1,250	875	1,175

Device	Routing	Invert	Outlet Devices
#1	Primary	150.00'	20.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.70 cfs @ 11.95 hrs HW=150.06' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 0.59 fps)

Summary for Pond LS-2: Level Spreader

Inflow Area = 0.806 ac, 44.86% Impervious, Inflow Depth > 2.95" for 10-Year event
 Inflow = 3.70 cfs @ 11.95 hrs, Volume= 0.198 af
 Outflow = 3.71 cfs @ 11.96 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.2 min
 Primary = 3.71 cfs @ 11.96 hrs, Volume= 0.198 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
 Peak Elev= 155.08' @ 11.96 hrs Surf.Area= 636 sf Storage= 47 cf

Plug-Flow detention time= 0.3 min calculated for 0.198 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (807.2 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	1,901 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

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Type II 24-hr 10-Year Rainfall=4.55"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	612	0	0
156.00	932	772	772
157.00	1,325	1,129	1,901

Device	Routing	Invert	Outlet Devices
#1	Primary	155.00'	75.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=3.37 cfs @ 11.96 hrs HW=155.07' (Free Discharge)
↑1=**Broad-Crested Rectangular Weir** (Weir Controls 3.37 cfs @ 0.63 fps)

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Subcatchment SC-10: North Side

Runoff = 43.42 cfs @ 12.19 hrs, Volume= 3.754 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
661,229	76	Woods/grass comb., Fair, HSG C
* 9,053	98	Impervious
670,282	76	Weighted Average
661,229		98.65% Pervious Area
9,053		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
5.7	456	0.0700	1.32		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
0.6	388	0.0200	11.67	420.23	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
25.0	944	Total			

Summary for Subcatchment SC-11: Forested Buffer

Runoff = 0.92 cfs @ 11.95 hrs, Volume= 0.054 af, Depth> 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
1,713	74	>75% Grass cover, Good, HSG C
* 4,581	98	Impervious
6,294	91	Weighted Average
1,713		27.22% Pervious Area
4,581		72.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-20: West Side

Runoff = 55.31 cfs @ 12.65 hrs, Volume= 8.755 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

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Type II 24-hr 25-Year Rainfall=5.49"

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Area (sf)	CN	Description
1,579,684	76	Woods/grass comb., Fair, HSG C
1,579,684		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
43.3	1,837	0.0200	0.71		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
62.0	1,937	Total			

Summary for Subcatchment SC-30: South Side

Runoff = 77.82 cfs @ 12.52 hrs, Volume= 10.824 af, Depth> 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
1,933,413	76	Woods/grass comb., Fair, HSG C
* 13,905	98	Impervious
1,947,318	76	Weighted Average
1,933,413		99.29% Pervious Area
13,905		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	100	0.0200	0.08		Sheet Flow, A-B Woods: Light underbrush n= 0.400 P2= 3.04"
27.7	1,287	0.0240	0.77		Shallow Concentrated Flow, B-C Woodland Kv= 5.0 fps
2.1	1,287	0.0160	10.44	375.86	Channel Flow, C-D Area= 36.0 sf Perim= 22.0' r= 1.64' n= 0.025 Earth, clean & winding
51.8	2,674	Total			

Summary for Subcatchment SC-31: Meadow Buffer

Runoff = 4.72 cfs @ 11.95 hrs, Volume= 0.257 af, Depth> 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
19,349	74	>75% Grass cover, Good, HSG C
* 15,740	98	Impervious
35,089	85	Weighted Average
19,349		55.14% Pervious Area
15,740		44.86% Impervious Area

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Type II 24-hr 25-Year Rainfall=5.49"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-32: Bio Cell

Runoff = 4.53 cfs @ 11.95 hrs, Volume= 0.246 af, Depth> 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
18,019	74	>75% Grass cover, Good, HSG C
* 15,653	98	Impervious
33,672	85	Weighted Average
18,019		53.51% Pervious Area
15,653		46.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 5 Minute Minimum

Summary for Subcatchment SC-4: East Side

Runoff = 25.89 cfs @ 12.31 hrs, Volume= 2.730 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Type II 24-hr 25-Year Rainfall=5.49"

Area (sf)	CN	Description
443,833	76	Woods/grass comb., Fair, HSG C
* 29,915	98	Impervious
473,748	77	Weighted Average
443,833		93.69% Pervious Area
29,915		6.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	100	0.0300	0.09		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 3.04"
15.9	1,140	0.0570	1.19		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
34.6	1,240	Total			

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Reach R-11:

Inflow Area = 0.144 ac, 72.78% Impervious, Inflow Depth > 4.46" for 25-Year event
Inflow = 0.94 cfs @ 11.95 hrs, Volume= 0.054 af
Outflow = 0.82 cfs @ 12.00 hrs, Volume= 0.054 af, Atten= 13%, Lag= 3.1 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.82 fps, Min. Travel Time= 6.1 min
Avg. Velocity = 0.83 fps, Avg. Travel Time= 13.4 min

Peak Storage= 301 cf @ 12.00 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 3.00' Flow Area= 39.0 sf, Capacity= 475.68 cfs

4.00' x 3.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 22.00'
Length= 668.0' Slope= 0.0299 '/'
Inlet Invert= 152.00', Outlet Invert= 132.00'



Summary for Reach R-31:

Inflow Area = 0.806 ac, 44.86% Impervious, Inflow Depth > 3.82" for 25-Year event
Inflow = 4.73 cfs @ 11.96 hrs, Volume= 0.257 af
Outflow = 3.41 cfs @ 12.03 hrs, Volume= 0.255 af, Atten= 28%, Lag= 4.6 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.70 fps, Min. Travel Time= 11.0 min
Avg. Velocity = 0.68 fps, Avg. Travel Time= 27.6 min

Peak Storage= 2,245 cf @ 12.03 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 2.00' Flow Area= 120.0 sf, Capacity= 1,200.45 cfs

20.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 100.00'
Length= 1,124.0' Slope= 0.0320 '/'
Inlet Invert= 156.00', Outlet Invert= 120.00'



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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Reach R-32:

Inflow Area = 0.773 ac, 46.49% Impervious, Inflow Depth > 3.73" for 25-Year event
Inflow = 5.54 cfs @ 12.00 hrs, Volume= 0.240 af
Outflow = 2.43 cfs @ 12.11 hrs, Volume= 0.238 af, Atten= 56%, Lag= 6.5 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 1.26 fps, Min. Travel Time= 13.6 min
Avg. Velocity = 0.53 fps, Avg. Travel Time= 32.7 min

Peak Storage= 1,984 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.09'
Bank-Full Depth= 2.00' Flow Area= 120.0 sf, Capacity= 904.14 cfs

20.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 ' Top Width= 100.00'
Length= 1,032.0' Slope= 0.0182 '
Inlet Invert= 138.75', Outlet Invert= 120.00'



Summary for Pond AP-1: Analysis Point

Inflow Area = 15.532 ac, 2.02% Impervious, Inflow Depth > 2.94" for 25-Year event
Inflow = 43.73 cfs @ 12.19 hrs, Volume= 3.807 af
Primary = 43.73 cfs @ 12.19 hrs, Volume= 3.807 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-2: Analysis Point

Inflow Area = 36.265 ac, 0.00% Impervious, Inflow Depth > 2.90" for 25-Year event
Inflow = 55.31 cfs @ 12.65 hrs, Volume= 8.755 af
Primary = 55.31 cfs @ 12.65 hrs, Volume= 8.755 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond AP-3: Analysis Point

Inflow Area = 46.283 ac, 2.25% Impervious, Inflow Depth > 2.93" for 25-Year event
Inflow = 79.29 cfs @ 12.52 hrs, Volume= 11.317 af
Primary = 79.29 cfs @ 12.52 hrs, Volume= 11.317 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Pond AP-4: Analysis Point

Inflow Area = 10.876 ac, 6.31% Impervious, Inflow Depth > 3.01" for 25-Year event
Inflow = 25.89 cfs @ 12.31 hrs, Volume= 2.730 af
Primary = 25.89 cfs @ 12.31 hrs, Volume= 2.730 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs

Summary for Pond BIO: Bioretention Cell

Inflow Area = 0.773 ac, 46.49% Impervious, Inflow Depth > 3.82" for 25-Year event
Inflow = 4.53 cfs @ 11.95 hrs, Volume= 0.246 af
Outflow = 5.54 cfs @ 12.00 hrs, Volume= 0.240 af, Atten= 0%, Lag= 2.9 min
Primary = 0.42 cfs @ 12.00 hrs, Volume= 0.176 af
Secondary = 5.12 cfs @ 12.00 hrs, Volume= 0.065 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 141.64' @ 12.00 hrs Surf.Area= 2,732 sf Storage= 2,529 cf

Plug-Flow detention time= 57.1 min calculated for 0.240 af (98% of inflow)
Center-of-Mass det. time= 43.1 min (842.7 - 799.6)

Volume	Invert	Avail.Storage	Storage Description
#1	140.50'	3,559 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
140.50	1,683	0	0
141.50	2,613	2,148	2,148
142.00	3,029	1,411	3,559

Device	Routing	Invert	Outlet Devices
#1	Primary	140.50'	4.0" Vert. Orifice/Grate C= 0.600
#2	Secondary	141.50'	40.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=0.42 cfs @ 12.00 hrs HW=141.64' (Free Discharge)
↑1=Orifice/Grate (Orifice Controls 0.42 cfs @ 4.76 fps)

Secondary OutFlow Max=5.11 cfs @ 12.00 hrs HW=141.64' (Free Discharge)
↑2=Broad-Crested Rectangular Weir (Weir Controls 5.11 cfs @ 0.90 fps)

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Type II 24-hr 25-Year Rainfall=5.49"

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Summary for Pond LS-1: Level Spreader

Inflow Area = 0.144 ac, 72.78% Impervious, Inflow Depth > 4.46" for 25-Year event
Inflow = 0.92 cfs @ 11.95 hrs, Volume= 0.054 af
Outflow = 0.94 cfs @ 11.95 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.2 min
Primary = 0.94 cfs @ 11.95 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 150.07' @ 11.95 hrs Surf.Area= 129 sf Storage= 8 cf

Plug-Flow detention time= 0.2 min calculated for 0.054 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (779.5 - 779.3)

Volume	Invert	Avail.Storage	Storage Description
#1	150.00'	1,175 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
150.00	100	0	0
151.00	500	300	300
152.00	1,250	875	1,175

Device	Routing	Invert	Outlet Devices
#1	Primary	150.00'	20.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.86 cfs @ 11.95 hrs HW=150.07' (Free Discharge)
↑1=**Broad-Crested Rectangular Weir** (Weir Controls 0.86 cfs @ 0.64 fps)

Summary for Pond LS-2: Level Spreader

Inflow Area = 0.806 ac, 44.86% Impervious, Inflow Depth > 3.82" for 25-Year event
Inflow = 4.72 cfs @ 11.95 hrs, Volume= 0.257 af
Outflow = 4.73 cfs @ 11.96 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.2 min
Primary = 4.73 cfs @ 11.96 hrs, Volume= 0.257 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.10 hrs
Peak Elev= 155.09' @ 11.96 hrs Surf.Area= 641 sf Storage= 56 cf

Plug-Flow detention time= 0.3 min calculated for 0.255 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (799.9 - 799.6)

Volume	Invert	Avail.Storage	Storage Description
#1	155.00'	1,901 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

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Type II 24-hr 25-Year Rainfall=5.49"

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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
155.00	612	0	0
156.00	932	772	772
157.00	1,325	1,129	1,901

Device	Routing	Invert	Outlet Devices
#1	Primary	155.00'	75.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=4.32 cfs @ 11.96 hrs HW=155.08' (Free Discharge)

↑1=**Broad-Crested Rectangular Weir** (Weir Controls 4.32 cfs @ 0.69 fps)

Bioretention Cell #1 Sizing		
		Units
Impervious Area	15,740	Square Feet
Landscaped Area	19,349	Square Feet
Storage Volume Required	1,957	Cubic Feet
Surface Area Required	1,682	Square Feet
Surface Area Proposed	1,683	Square Feet
Ponding Volume	12	Inches
Storage Volume Proposed	1,683	Cubic Feet

Forested Buffer 1

Impervious Area Captured 0.11 acres
 Lawn Area Captured 0.04 acres
 Flow Path Inside Buffer 100 feet

Table 5.5
Berm and Flow Path Length per Acre of Impervious area

Hydrologic Soil Group	Length of Flow Path in Buffer (feet)	Berm Length (feet)							
		0-8% Slope				9-15% Slope			
		Per Acre of Impervious Area		Per Acre of Lawn		Per Acre of Impervious Area		Per Acre of Lawn	
		FB	MB	FB	MB	FB	MB	FB	MB
A	75	75	125	25	35	90	150	30	42
	100	65	75	20	25	78	90	24	30
	150	50	60	15	20	60	72	18	24
B	75	100	150	30	45	120	180	36	54
	100	80	100	25	30	96	120	30	36
	150	65	75	20	25	78	90	24	30
C Loamy Sand or Sandy Loam	75	125	150	35	45	150	180	42	54
	100	100	125	30	35	120	150	36	42
	150	75	100	25	30	90	120	30	36
C Silty Loam, Clay Loam or Silty Clay Loam	100	150	200	45	60	180	240	54	72
	150	100	150	30	45	120	180	36	54
D Non-Wetland	150	150	200	45	60	180	240	54	72

FB = Forest Buffer **MB** = Meadow Buffer
NOTE: These tables were developed using a 1.25 inch, 24 hour storm of type III distribution, giving a maximum unit flow rate of less than 0.009 cfs per foot.

Berm Length 17.5 feet

A 20-foot level spreader will be built upgradient of Forested Buffer 1.

Meadow Buffer 1

Impervious Area Captured 0.36 acres
 Lawn Area Captured 0.44 acres
 Flow Path Inside Buffer 100 feet

Table 5.5
Berm and Flow Path Length per Acre of Impervious area

Hydrologic Soil Group	Length of Flow Path in Buffer (feet)	Berm Length (feet)							
		0-8% Slope				9-15% Slope			
		Per Acre of Impervious Area		Per Acre of Lawn		Per Acre of Impervious Area		Per Acre of Lawn	
		FB	MB	FB	MB	FB	MB	FB	MB
A	75	75	125	25	35	90	150	30	42
	100	65	75	20	25	78	90	24	30
	150	50	60	15	20	60	72	18	24
B	75	100	150	30	45	120	180	36	54
	100	80	100	25	30	96	120	30	36
	150	65	75	20	25	78	90	24	30
C Loamy Sand or Sandy Loam	75	125	150	35	45	150	180	42	54
	100	100	125	30	35	120	150	36	42
	150	75	100	25	30	90	120	30	36
C Silty Loam, Clay Loam or Silty Clay Loam	100	150	200	45	60	180	240	54	72
	150	100	150	30	45	120	180	36	54
D Non-Wetland	150	150	200	45	60	180	240	54	72

FB = Forest Buffer **MB** = Meadow Buffer
NOTE: These tables were developed using a 1.25 inch, 24 hour storm of type III distribution, giving a maximum unit flow rate of less than 0.009 cfs per foot.

Berm Length 74.2 feet

A 75-foot level spreader will be built immediately upgradient of Meadow Buffer 1.

ATTACHMENT E

NET RESIDENTIAL DENSITY CALCULATIONS

Total Area	1,685,871	SQFT
Unbuildable Land	421,369	SQFT
ROW	175,096	SQFT
Wetlands	246,273	SQFT
Steep Slopes (25%)	0	SQFT
Net Residential Area	1,264,502	SQFT
Minimum Lot Area	40,000	SQFT
Number of Units Allowed	32	

ATTACHMENT F

TECHNICAL ABILITY

Project Team

Mark Hampton is the primary consultant involved with the site analysis. The applicant performed the permitting of the project and has assembled the materials in this application. The following firms are acting as consultants to the Applicant or as sub-consultants for the project:

Firm	Services	Contact
Mark Hampton Associates Inc.	Wetlands Consultant/Soil Scientist	Mark Hampton (207) 756-2900

Experience of Project Team

The team of consultants retained by the Applicant has expertise and experience in the design of similar large facilities throughout the State of Maine and New England. Many of these have required a Site Location of Development Act, or equivalent permitting.

The Applicants team consists of Andrew Earle, developer; Nate Green, developer; and Charlie Burnham, Civil Engineer. The three of them have participated in dozens of projects throughout Maine. With experience in all areas of the construction industry, there is little the team hasn't seen or isn't equipped to handle.

ATTACHMENT G