


LIST OF UTILITIES AND EMERGENCY CONTACT INFORMATION	
PUBLIC WORKS:	LAWRENCE TOWNSHIP PUBLIC WORKS P.O. BOX 6006 LAWRENCE TOWNSHIP, N.J. 08648 TEL. (609) 587-1894
SEWER:	EWING-LAWRENCE SEWERAGE AUTHORITY 600 WHITEHEAD ROAD LAWRENCEVILLE, NJ 08648 TEL. (609) 587-4061
WATER:	AQUA NJ - LAWRENCE SYSTEM 10 BLACK FOREST RD HAMILTON, N.J. 08691 TEL. (609) 587-4080
ELECTRIC:	PSE&G 300 NEW ALBANY ROAD MOORESTOWN, NJ 08057 TEL. (800) 541-5900
GAS:	NEW JERSEY NATURAL GAS COMPANY 525 MAIN STREET ALLENHURST, N.J. 07109 TEL. (800) 272-1000
TELEPHONE:	VERIZON 2225 EVESHAM ROAD VOORHEES, N.J. 08043 TEL. (609) 772-9924

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New Jersey One Call
CALL BEFORE YOU DIG
811 or 1-800-272-1000
IT'S THE LAW

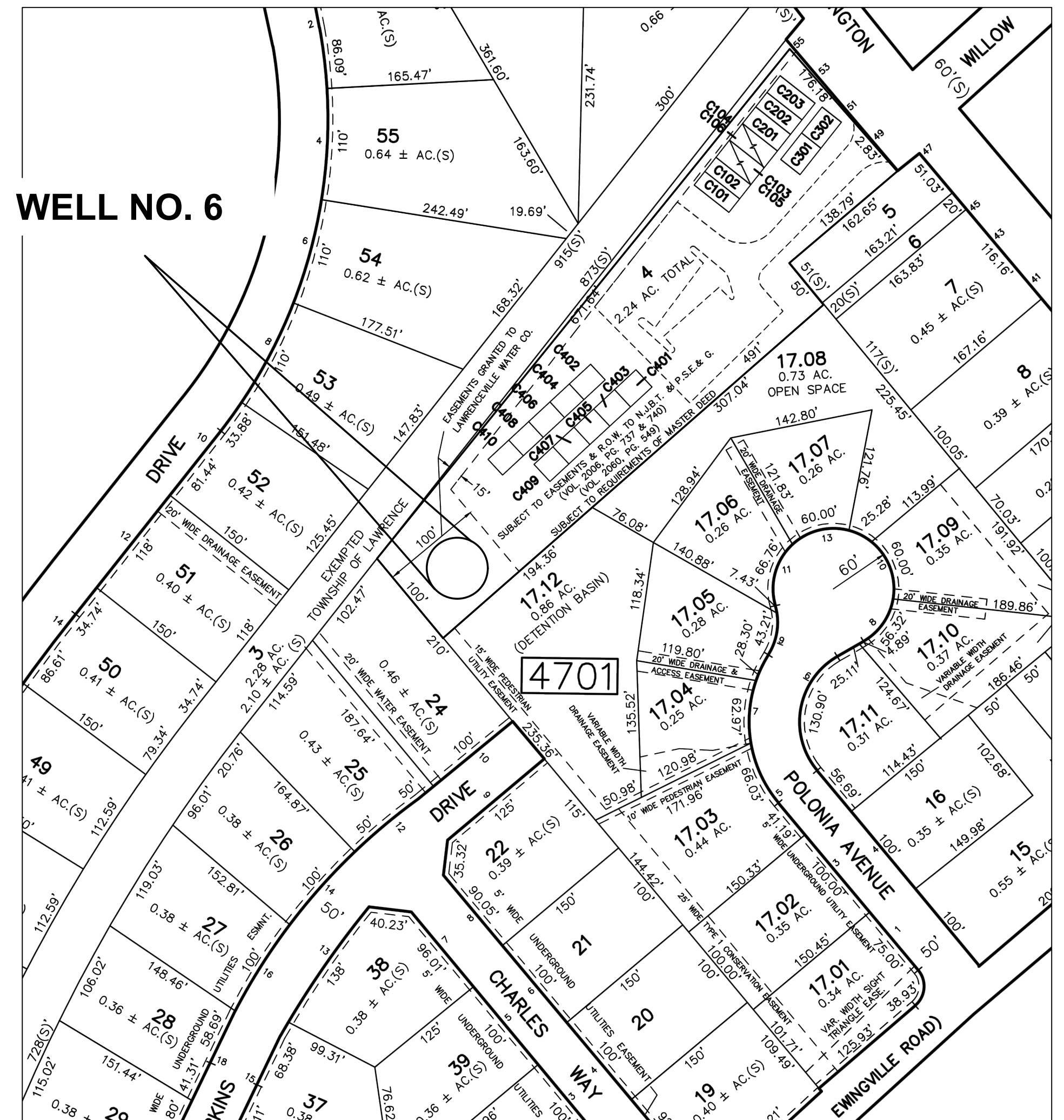
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT NJ ONE CALL PRIOR TO THE START OF CONSTRUCTION. CALL FOR MARKOUTS THREE (3) FULL BUSINESS DAYS IN ADVANCE AND BEGIN EXCAVATION WITHIN 10 DAYS. ALL CONTRACTORS ON-SITE MUST HAVE THEIR OWN MARKOUT.

MAJOR SITE PLAN FOR WELL NO. 6

PFAS TREATMENT IMPROVEMENTS



AERIAL MAP
SCALE: 1"=100'



TAX MAP
SCALE: 1"=100'

LAND USE AND ZONING		
BLOCK 4701, LOT 24		
AT – APARTMENT & TOWNHOMES		
PRESENT AND PROPOSED LAND USE: PRODUCTION WELL AND TREATMENT FACILITY		
ZONING REQUIREMENT	REQUIRED	PROPOSED
MINIMUM OPEN SPACE	30%	>32%
MINIMUM FRONT SET BACK	50	52.49
MINIMUM SIDE SET BACK	50	40.19
MINIMUM REAR SETBACK	50	14.77
MAX HEIGHT	38	18
EASEMENT AREA (APPROXIMATELY 21,163 SF)		
	EXISTING	PROPOSED
IMPERVIOUS SURFACE	211.8 SF	1382.6 SF


TOWNSHIP BOARD APPROVAL	
_____ BOARD CHAIRPERSON	_____ DATE
_____ BOARD SECRETARY	_____ DATE
_____ MUNICIPAL ENGINEER	_____ DATE
_____ ADMINISTRATIVE OFFICER	_____ DATE

200 FOOT PROPERTY OWNERS LIST				
4701	1	65 LAWR-PENN RD	LAWRENCE TOWNSHIP, NJ	08648
	2	63 LAWR-PENN RD	LAWRENCE TOWNSHIP, NJ	08648
	3	2207 LAWRENCEVILLE RD	LAWRENCE TOWNSHIP, NJ	08648
	5, 6	1 COUNTRY HOUSE WAY	COLUMBUS, NJ	08022
	7	43 LAWR-PENN RD	LAWRENCE TOWNSHIP, NJ	08648
	8	28 VACHE CLUB DR APT 204	NORTH PALM BEACH, FL	33408
	17.04	7 POLONIA AVENUE	LAWRENCE TOWNSHIP, NJ	08648
	17.05	9 POLONIA AVE	LAWRENCE TOWNSHIP, NJ	08648
	17.06	11 POLONIA AVE	LAWRENCE TOWNSHIP, NJ	08648
	17.07	15 POLONIA AVE	LAWRENCE TOWNSHIP, NJ	08648
	17.08, 17.12	C/O 8 POLONIA AVE	LAWRENCE TOWNSHIP, NJ	08648
	24	10 HOPKINS DRIVE	LAWRENCE TOWNSHIP, NJ	08648
	25	12 HOPKINS DR	LAWRENCE TOWNSHIP, NJ	08648
	50	14 MELVINA DRIVE	LAWRENCE TOWNSHIP, NJ	08648
	51	12 MELVINA DR	LAWRENCE TOWNSHIP, NJ	08648
	52	10 MELVINA DRIVE	LAWRENCE TOWNSHIP, NJ	08648
	53	8 MELVINA DRIVE	LAWRENCE TOWNSHIP, NJ	08648
	54	6 MELVINA DR	LAWRENCE TOWNSHIP, NJ	08648
	55	4 MELVINA DRIVE	LAWRENCE TOWNSHIP, NJ	08648
	56	2 MELVINA DRIVE	LAWRENCE TOWNSHIP, NJ	08648
	57	58 LAWRENCE DRIVE	LAWRENCE TOWNSHIP, NJ	08648
5702	14	21 MONROE AVE	LAWRENCE TOWNSHIP, NJ	08648
	15	4 WILLOW RD	LAWRENCE TOWNSHIP, NJ	08648
5703	110	2207 LAWRENCEVILLE RD	LAWRENCE TOWNSHIP, NJ	08648
	146	7 WILLOW ROAD	LAWRENCE TOWNSHIP, NJ	08648
	147	5 WILLOW RD	LAWRENCE TOWNSHIP, NJ	08648
	148	3 WILLOW ROAD	LAWRENCE TOWNSHIP, NJ	08648
	149	5979 LOWER YORK ROAD	NEW HOPE, PA	18938
	150	68 LAWR-PENN RD	LAWRENCE TOWNSHIP, NJ	08648

AQUA NJ - LAWRENCE SYSTEM

MERCER COUNTY, NEW JERSEY

JANUARY 2025



REMINGTON & VERNICK ENGINEERS
2059 SPRINGDALE ROAD
CHERRY HILL, NJ 08003
(856) 795-9595, FAX (856) 795-1882
WEB ADDRESS : RVE.COM
Certification of Authorization: 24 GA 28003300
Excellence • Innovation • Service

DATE: 1-31-2025
STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. NO. 42136

PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID.
ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES. OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON & VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.
1 AQUA NJ COMMENTS
REVISION
DATE
BY

TITLE SHEET

AQUA NEW JERSEY
WELL NO. 6
PFAS TREATMENT IMPROVEMENTS
MERCER COUNTY
TOWNSHIP OF LAWRENCE

DRAWN BY:	DESIGN BY:	CHECKED BY:	SCALE:
K.H.	K.H.	D.F./S.C.	AS NOTED
DATE:		SHEET No.:	
MAY 2024		T-1	
JOB No.:			
3906X023			

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO THE START OF THE CONSTRUCTION, ANY ERRORS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
2. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. ALL PAVED AND CONCRETE AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITION AT LEAST EQUAL TO THAT WHICH EXISTED PRIOR TO THE START OF CONSTRUCTION.
5. ALL GRASSED OR WOODED AREAS DISTURBED DURING CONSTRUCTION SHALL BE TOPSOILED AND SEEDDED.
6. ALL FILL SHALL BE PLACED IN 12" LAYERS AND THOROUGHLY COMPACTED TO THE SATISFACTION OF THE ENGINEER. IF BORROW FILL IS REQUIRED, IT SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PRESERVATION OF THE UNDERGROUND AND SURFACE UTILITIES AND STRUCTURES AT OR ADJACENT TO THE SITE OF CONSTRUCTION AND IT SHALL BE AT HIS OWN EXPENSE TO REPAIR OR REPLACE ANYTHING THAT HE DAMAGES.
8. BASELINES HAVE BEEN PROVIDED ON THE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THE BASELINE AS SHOWN ON THE PLAN.
9. APPROXIMATE DEPTH OF ALL WATER MAIN IS ± 4 FEET.
10. APPROXIMATE DEPTH OF ALL GAS MAIN IS ± 3 FEET.
11. SEPARATE PAYMENT WILL NOT BE MADE FOR SAW CUTTING OF ANY KIND, BUT THE COST SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
12. PAYMENT FOR JOINT MATERIAL FOR ALL CONCRETE WORK WILL NOT BE MEASURED BUT SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
13. SEPARATE PAYMENT WILL NOT BE MADE FOR STEEL TREE ROOT PROTECTION PLATES.
14. ALL GRASS AND WOODED AREAS DISTURBED DURING CONSTRUCTION SHALL BE BACKFILLED AS DIRECTED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ALL EXISTING CONCRETE CURB NOT SHOWN TO BE REMOVED. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETE REMOVAL AND REPLACEMENT OF ANY DAMAGED CURB NOT DOCUMENTED PRIOR TO THE START OF CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
16. ALL UNUSED MATERIAL EXCAVATED FROM THE PROJECT SITE ARE TO BE DISPOSED OF AT AN APPROVED FACILITY.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED IN THE PLANS AND SPECIFICATIONS. SEPARATE PAYMENT FOR ALL ASSOCIATED COSTS WILL NOT BE MADE, BUT SHALL BE INCLUDED UNDER VARIOUS ITEMS OF THE PROPOSAL.
18. CONTRACTOR SHALL RESTORE ALL EXISTING FEATURES DISTURBED DURING CONSTRUCTION (I.E. MAILBOXES, IRRIGATION SYSTEMS, LANDSCAPING, ETC.). ALL COSTS SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING SITE.
19. ALL UTILITY WORK SHALL BE CONSTRUCTED TO ALLOW UNINTERRUPTED SERVICE TO ADJACENT PROPERTIES INCLUDING MAINTAINING UNINTERRUPTED SERVICE OF WELL NO. 9 DURING THE CONSTRUCTION OF WELL NO. 6 AND UNINTERRUPTED SERVICE OF WELL NO. 6 DURING THE CONSTRUCTION OF WELL NO. 9.
20. EXISTING WATER MAIN, SANITARY SEWER, GAS MAIN, STORM SEWER ALONG WITH ALL OTHER UTILITIES SHALL BE FULLY SUPPORTED AND MAINTAINED DURING INSTALLATION OF THE PROPOSED UTILITY WORK, SERVICES AND LATERALS.
21. THE ELEVATION OF THE EXISTING WATER MAIN AS DEPICTED ON THE DRAWINGS IS ASSUMED. CONTRACTOR SHALL CONFIRM ELEVATION OF EXISTING WATER MAIN AND LOCATION OF ALL SERVICE CONNECTION DURING CONSTRUCTION.
22. ALL CONNECTIONS TO THE EXISTING WATER MAIN SHALL BE REPLACED. THE INSTALLATION OF NEW SERVICE LATERALS SHALL INCLUDE ALL PIPING, CORPORATION STOP, CURB STOP, CURB BOX AND RECONNECTION OF EXISTING SERVICE.
23. ALL UTILITY CROSSINGS/OFFSETS SHALL INCLUDE COMPACTED STABILIZATION MATERIAL FOR FULL LENGTH OF CROSSING.
24. INSTALLATION OF ALL SANITARY SEWER AND MANHOLES SHALL INCLUDE TEMPORARY BY-PASS PUMPING. ALL COSTS ASSOCIATED WITH THE TEMPORARY PUMPING SHALL BE INCLUDED IN THE VARIOUS LINE ITEMS TO INSTALL SAID MATERIALS, COMPLETE.
25. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION, ANY ERRORS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
26. SEPARATE PAYMENT WILL NOT BE MADE FOR EXCAVATION, DEWATERING, FITTINGS, PIPE BEDDING, SHEETING, BRACING, SHORING, INLET CONNECTIONS, TRAPS, AND SUITABLE BACKFILL MATERIAL INVOLVED IN ALL PIPE AND ASSOCIATED STRUCTURES REMOVAL, RECONSTRUCTION AND INSTALLATION, BUT THE COST SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL REGARDLESS OF DEPTH.
27. ALL WORK TO BE COORDINATED WITH SEPARATE CONTRACTORS FOR ONGOING WORK IN AREAS SURROUNDING THE SITES.
28. PAYMENT FOR OBSTRUCTION REMOVAL SUCH AS TREE ROOTS AND EXISTING INFRASTRUCTURE WHICH MAY INTERFERE WITH THE PROPOSED CONSTRUCTION, SHALL BE INCLUDED IN THE ITEM "CLEARING SITE".
29. EXISTING SANITARY SEWER MAINS & LATERALS SHOWN MAY NOT BE ACCURATE DUE TO INCOMPLETE UTILITY INFORMATION. CONTRACTOR IS RESPONSIBLE FOR LOCATING.
30. SEPARATE PAYMENT FOR THE RESETTLE OR EXTENSION, AND REPLACEMENT OF EXISTING ROOF DRAINS OR SUMP PUMP DRAINS, AS REQUIRED, WILL NOT BE MADE BUT THE COST SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
31. ALL TREE REMOVALS ARE TO BE VERIFIED BY THE ENGINEER PRIOR TO REMOVAL. ALL TREE PLANTINGS ARE APPROXIMATE WITH FINAL LOCATIONS TO BE ESTABLISHED IN THE FIELD.
32. THE CONTRACTOR SHALL UTILIZE A QUALIFIED ARBORIST FOR ALL TREE TRIMMINGS.
33. INLET SEDIMENT PROTECTION SHALL BE INSTALLED AT ALL EXISTING AND PROPOSED INLETS AND CATCH BASINS SHOWN ON THE PLANS. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM COST FOR 'SOIL EROSION AND SEDIMENT CONTROL'.
34. ALL SANITARY & STORM SEWER CONSTRUCTION SHALL COMPLY WITH OWNER SEWER/WATER "DESIGN CONSTRUCTION, INSPECTION AND TESTING MANUAL". COST ASSOCIATED WITH TESTING (INFILTRATION, EXFILTRATION, PIPE ALIGNMENT, TELEVISION) SHALL BE INCLUDED IN THE VARIOUS PIPE ITEMS OF THE PROPOSAL.
35. PRESSURE TESTING OF ALL SANITARY & STORM SEWER SEWERS (INCLUDING RCP) SHALL BE PERFORMED IN ACCORDANCE WITH UTILITY AUTHORITY MANUAL. RCP SEWERS ABOVE 24 INCHES IN DIAMETER SHALL BE JOINT TESTED IN ACCORDANCE WITH ASTM.
36. ALL RCP SHALL BE LINED ON THE INTERIOR WITH A COAT OF TAR EPOXY SEAL COAT WITH A MINIMUM OF 4 MILS IN THICKNESS (DRY FILM THICKNESS)
37. THE ENGINEER AND UTILITY MUST BE GIVEN 48 HOURS ADVANCE NOTICE OF STORM/SANITARY SEWER/WATERMAIN WORK AND THE REPRESENTATIVES MUST WITNESS THE WORK AND CONNECTION.
38. THE CONTRACTOR SHALL NOT BE PERMITTED TO UTILIZE ANY KIND OF HMA VIBRATORY ROLLER OR VIBRATORY DRUM COMPACTOR ON THIS PROJECT. ALTERNATIVE COMPACTION TECHNIQUES, SUCH AS STATIC ROLLERS, SHALL BE APPROVED BY THE RESIDENT ENGINEER.

1. IMPLEMENT SOIL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
2. IMPLEMENT STANDARD MEASURE FOR CONSTRUCTION RELATED NOISE AND AIR QUALITY IMPACT CONTROLS.
3. BEST MANAGEMENT PRACTICE WILL BE UTILIZED DURING CONSTRUCTION TO PREVENT SEDIMENT FROM ENTERING STORM WATER INLETS AND ENVIRONMENTALLY SENSITIVE AREAS.
4. CONSTRUCTION STAGING ACTIVITIES (INCLUDING STORAGE OF EQUIPMENT, VEHICLES AND MATERIALS) ARE PROHIBITED IN THE ENVIRONMENTALLY SENSITIVE AREA OR GREEN ACRES ENCUMBERED PROPERTIES.
5. IF CONTACT WITH THE NORTHERN LONG-EARED BAT IS MADE DURING MAINTENANCE OPERATION, CONSULTATION WITH USFWS AND BEPR WILL BE REQUIRED.
6. CONTRACTOR RESPONSIBLE FOR ADHERING TO ALL LAWRENCE TOWNSHIP AND MERCER COUNTY REQUIREMENTS ASSOCIATED WITH ANY PERMITS, LAND USE BOARD APPROVALS, ETC.



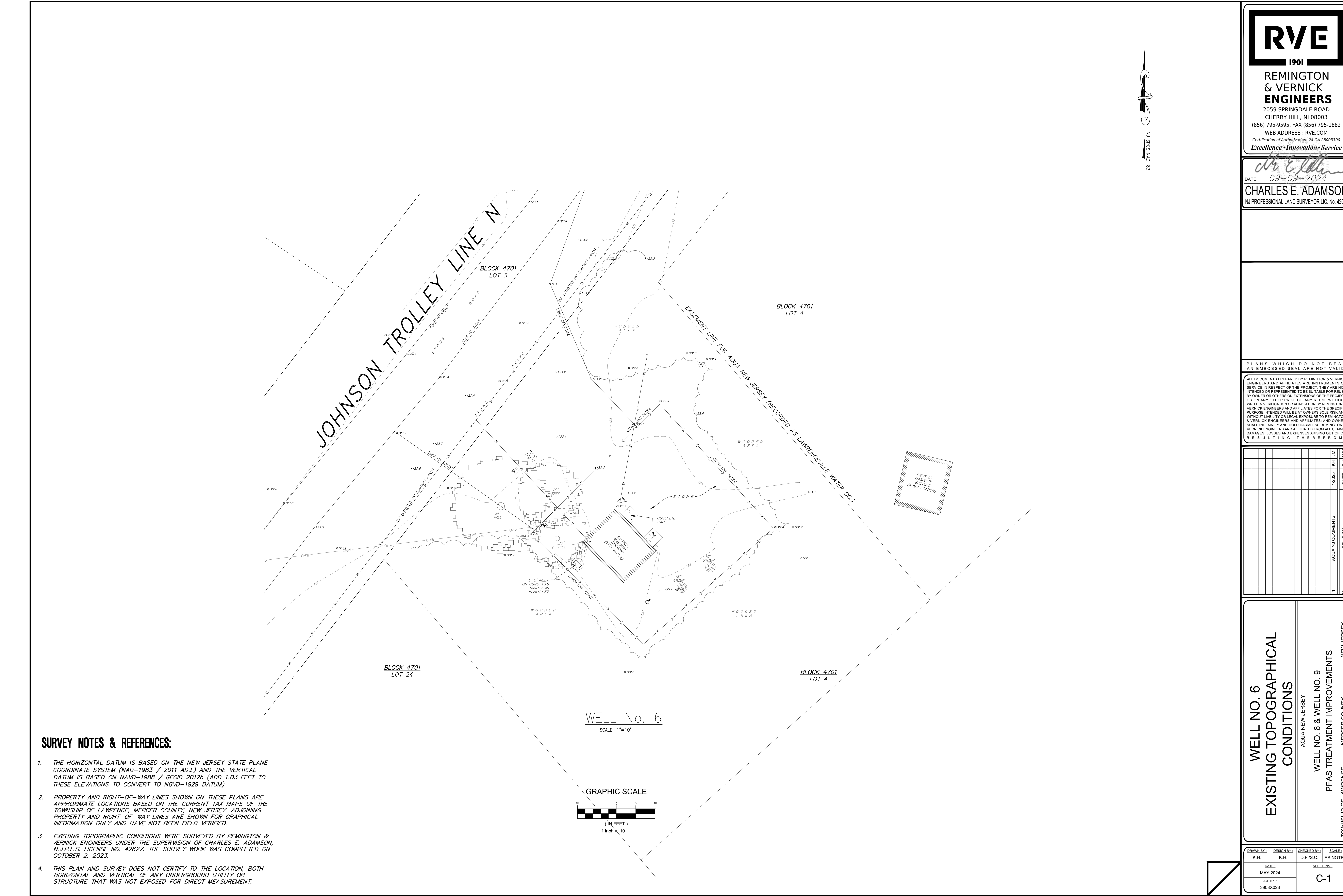
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[illegible]

AQUA NEW JERSEY
WELL NO. 6
PFAS TREATMENT IMPROVEMENTS

<u>DRAWN BY :</u> K.H.	<u>DESIGN BY :</u> K.H.	<u>CHECKED BY :</u> D.F./S.C.	<u>SCALE :</u> AS NOTED
<u>DATE :</u> MAY 2024		<u>SHEET No. :</u> G-1	
<u>JOB No. :</u> 3908X023			

NOTE: ALL SYMBOLS MAY NOT BE USED



SURVEY NOTES & REFERENCES:

- THE HORIZONTAL DATUM IS BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD-1983 / 2011 ADJ.) AND THE VERTICAL DATUM IS BASED ON NAVD-1988 / GEOID 2012b (ADD 1.03 FEET TO THESE ELEVATIONS TO CONVERT TO NGVD-1929 DATUM)
- PROPERTY AND RIGHT-OF-WAY LINES SHOWN ON THESE PLANS ARE APPROXIMATE LOCATIONS BASED ON THE CURRENT TAX MAPS OF THE TOWNSHIP OF LAWRENCE, MERCER COUNTY, NEW JERSEY. ADJOINING PROPERTY AND RIGHT-OF-WAY LINES ARE SHOWN FOR GRAPHICAL INFORMATION ONLY AND HAVE NOT BEEN FIELD VERIFIED.
- EXISTING TOPOGRAPHIC CONDITIONS WERE SURVEYED BY REMINGTON & VERNICK ENGINEERS UNDER THE SUPERVISION OF CHARLES E. ADAMSON, N.J.P.L.S. LICENSE NO. 42627. THE SURVEY WORK WAS COMPLETED ON OCTOBER 2, 2023.
- THIS PLAN AND SURVEY DOES NOT CERTIFY TO THE LOCATION, BOTH HORIZONTAL AND VERTICAL OF ANY UNDERGROUND UTILITY OR STRUCTURE THAT WAS NOT EXPOSED FOR DIRECT MEASUREMENT.



REMINGTON
& VERNICK
ENGINEERS
2059 SPRINGDALE ROAD
CHERRY HILL, NJ 08003
(856) 795-9595, FAX (856) 795-1882
WEB ADDRESS : RVE.COM
Certification of Authorization: 24 GA 28003300
Excellence • Innovation • Service

DATE: 09-09-2024
CHARLES E. ADAMSON
NJ PROFESSIONAL LAND SURVEYOR LIC. No. 42627

PLANS WHICH DO NOT BEAR
AN EMBOSSED SEAL ARE NOT VALID.

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NO.	REVISION	DATE	BY	CHK
1	AQUA NJ COMMENTS	1/2/25	KH	JM

WELL NO. 6
EXISTING TOPOGRAPHICAL
CONDITIONS
AQUA NEW JERSEY
WELL NO. 6 & WELL NO. 9
PFAS TREATMENT IMPROVEMENTS
TOWNSHIP OF LAWRENCE
MERCER COUNTY
NEW JERSEY

DRAWN BY	DESIGN BY	CHECKED BY	SCALE
K.H.	K.H.	D.F./S.C.	AS NOTED
DATE:		SHEET No.:	
MAY 2024		C-1	
JOB No.:			
3908X023			



DATE: 1-31-2025
STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. No. 42136

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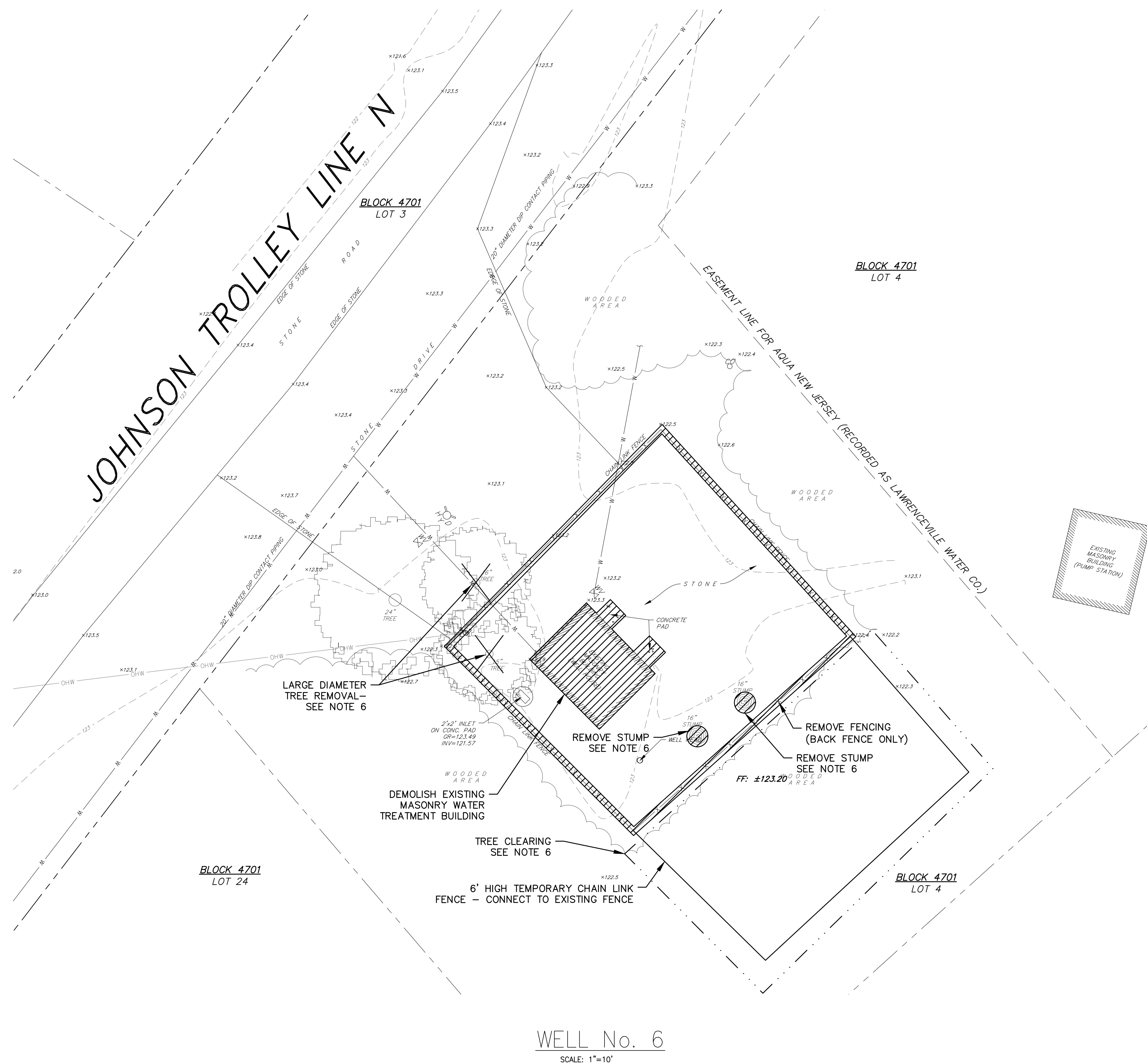
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[illegible]

WELL NO. 6 DEMOLITION
PLAN

AQUA NEW JERSEY
WELL NO. 6
PFAS TREATMENT IMPROVEMENTS

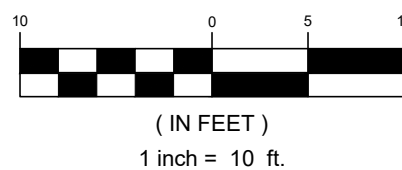
<u>DRAWN BY :</u> K.H.	<u>DESIGN BY :</u> K.H.	<u>CHECKED BY :</u> D.F./S.C.	<u>SCALE :</u> AS NOTE
<u>DATE :</u> MAY 2024		<u>SHEET No. :</u> C-2	
<u>JOB No. :</u> 3908X023			



NOTES:

1. CONTRACTORS SHALL PROVIDE, INSTALL, AND MAINTAIN AN 6' HIGH TEMPORARY CHAIN LINK FENCE DURING CONSTRUCTION TO BE CONNECTED TO EXISTING FENCE.
2. UPON COMPLETION OF CONSTRUCTION, NEW 6' HIGH CHAIN LINK FENCE SHALL BE INSTALLED AROUND THE ENTIRE PERIMETER INCLUDING 2-12" WIDE SWING GATE.
3. CONTRACTOR SHALL STAGE EQUIPMENT AND SEQUENCE WORK TO ALLOW UNINTERRUPTED OPERATION OF WELL NO. 9 DURING THE CONSTRUCTION OF WELL NO. 6.
4. ALL SE/SC FEATURES SHALL BE INSTALLED AND APPROVED BEFORE BEGINNING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL SE/SC FEATURES FOR DURATION OF PROJECT UNTIL FINAL INSPECTION/APPROVAL BY LAWRENCE TOWNSHIP AND MERCER COUNTY SCD.
5. EXISTING WATER SERVICE IS LOCATED OFF OF JOHNSON TROLLEY LINE N. DUE TO CHLORINE CONTACT REQUIREMENTS. CHLORINE CONTACT TIME IS ACHIEVED FROM WATER MAIN ALONG JOHNSON TROLLEY LINE N.
6. ALL TREE REMOVALS SHALL INCLUDE GRINDING OF STUMPS AND ROOTS.

GRAPHIC SCALE



RVE

1901

REMINGTON & VERNICK ENGINEERS

2059 SPRINGDALE ROAD
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(856) 795-9595, FAX (856) 795-1882
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STEPHANIE A. CUTHBERT

NJ PROFESSIONAL ENGINEER LIC. No. 42136

LAND USE AND ZONING		
BLOCK 4701, LOT 24		
AT – APARTMENT & TOWNHOMES		
PRESENT AND PROPOSED LAND USE: PRODUCTION WELL AND TREATMENT FACILITY		
ZONING REQUIREMENT	REQUIRED	PROPOSED
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NO.	REVISION	DATE	BY	CHK
1	AQUA NJ COMMENTS	1/2/2025	K.H.	J.M.

WELL NO. 6 PROPOSED SITE PLAN

AQUA NEW JERSEY

WELL NO. 6

PFAS TREATMENT IMPROVEMENTS

TOWNSHIP OF LAWRENCE

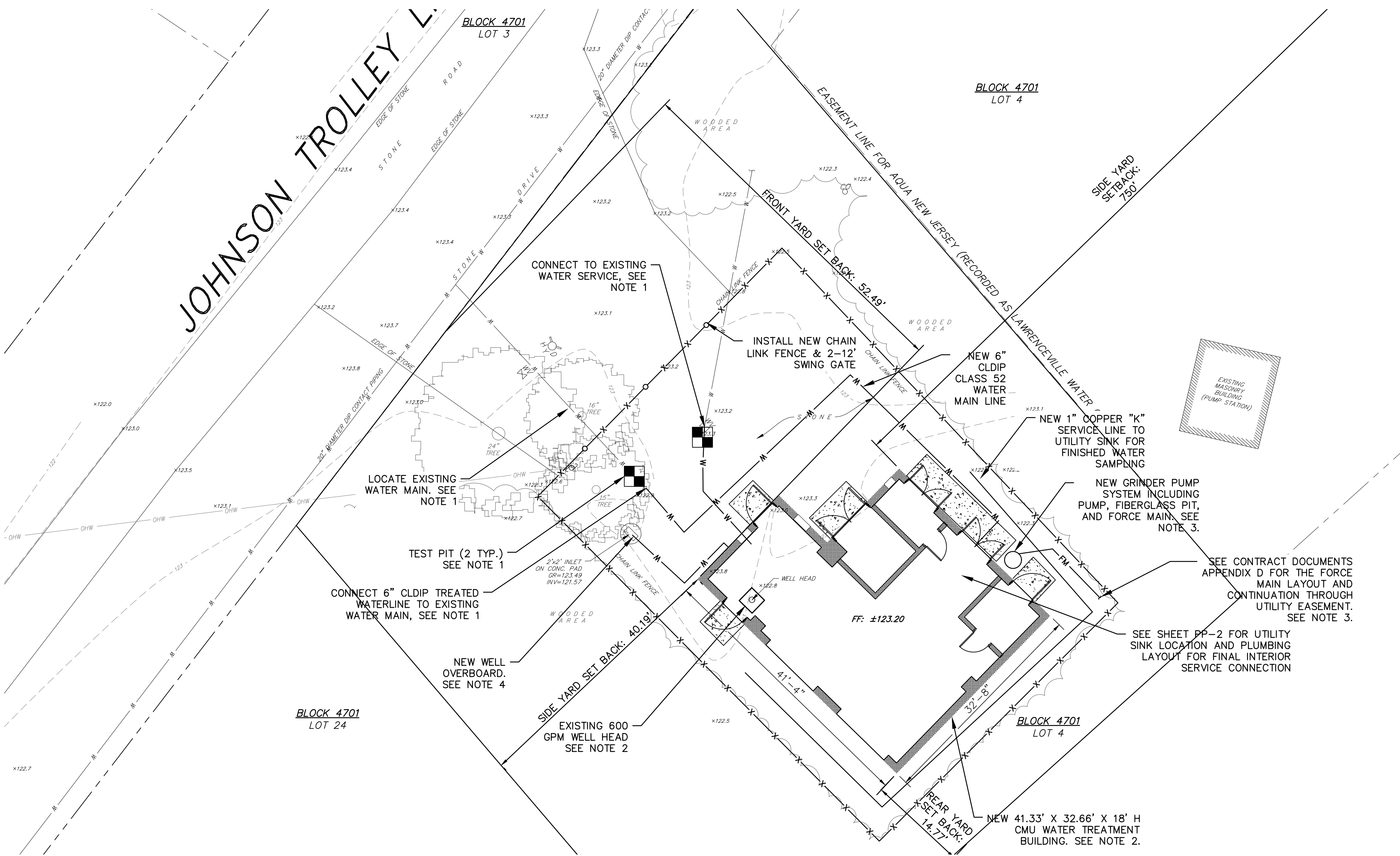
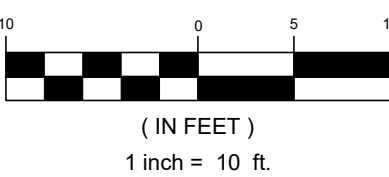
MERCER COUNTY

NEW JERSEY

DRAWN BY:	DESIGN BY:	CHECKED BY:	SCALE:
K.H.	K.H.	D.F./S.C.	AS NOTED
DATE:		SHEET No.:	
MAY 2024		C-3	
JOB No.:			
3908X023			

- NOTES:
- CONTRACTORS SHALL CONFIRM SIZE AND MATERIAL OF EXISTING WATER MAIN PRIOR TO THE ORDERING OF MATERIALS.
 - THE PROPOSED CMU BLOCK BUILDING SHALL BE CONSTRUCTED AROUND THE EXISTING 600 GPM WELL. THE EXISTING WELL HEAD SHALL BE MODIFIED BY REMOVAL OF THE PITLESS ADAPTOR AND EXTENSION OF CASING ABOVE FINISHED FLOOR ELEVATION. SEE DETAIL SHEET D-1. AN ALLOWANCE ITEM HAS BEEN PROVIDED IN THE BIDFORM FOR WORK TO BE COMPLETED BY SUBSURFACE TECHNOLOGIES
 - A 25 GPM SELF CONTAINED GRINDER UNIT SHALL BE INSTALLED FOR THE FLOOR DRAINS AND SAMPLING DISCHARGE ONLY. THE COST OF THE NEW FORCE MAIN SHALL BE INCLUDED IN THE LINE ITEM COST FOR THE GRINDER PUMP STATION, COMPLETE.
 - A NEW WELL OVERBOARD SHALL TERMINATE IN THE 2'X2' INLET BELOW GRADE WITH AN AIR GAP EQUIPPED WITH QUICK CONNECTION.

GRAPHIC SCALE



WELL No. 6
SCALE: 1"=10'



TE: 1-31-2025
STEPHANIE A. CUTHBERT
PROFESSIONAL ENGINEER LIC. No. 4213

PLANS WHICH DO NOT BEAR
AN EMBOSSED SEAL ARE NOT VALID.

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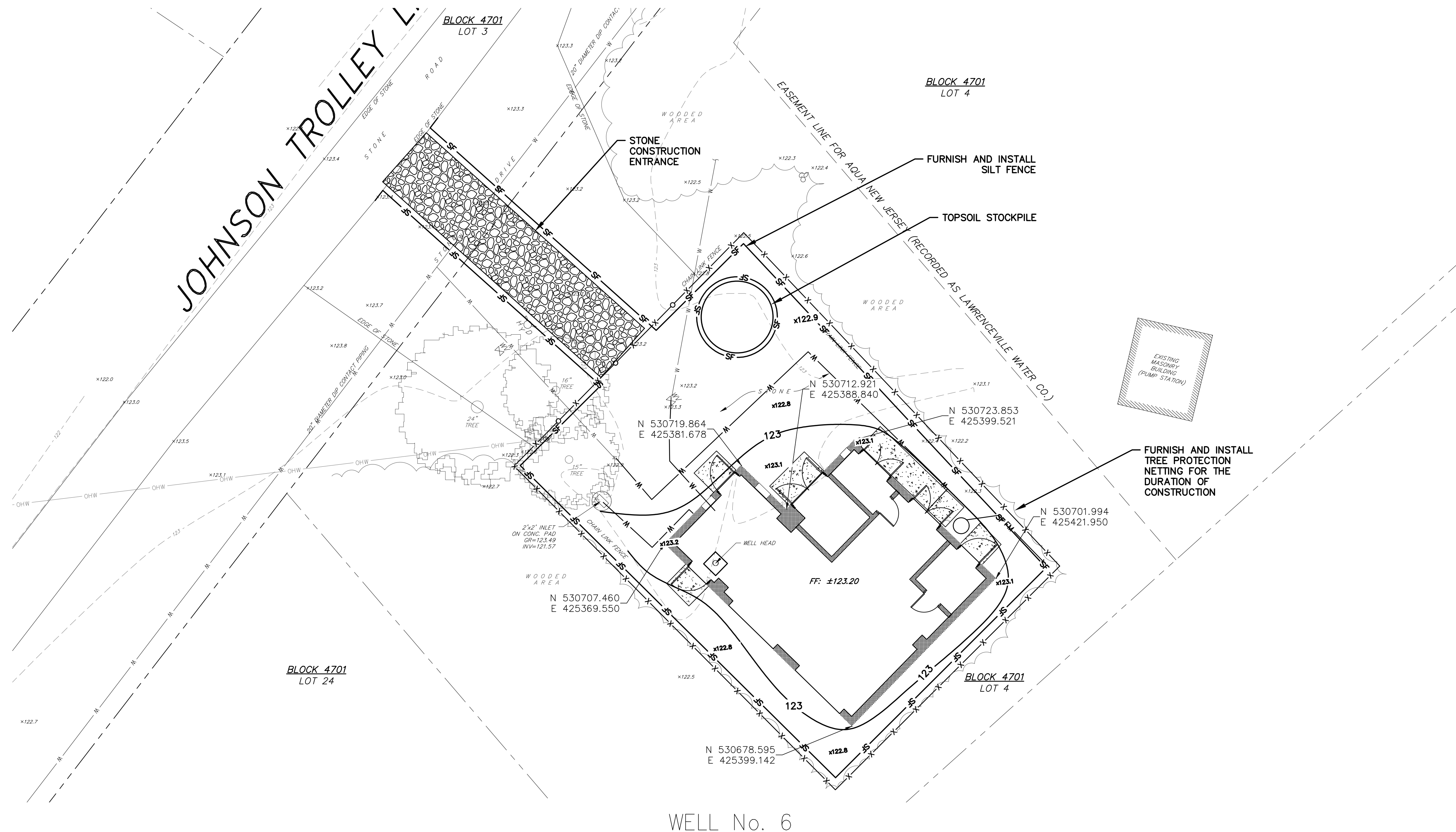
WELLNO. 6 TIE DOWN,
GRADING, & SESC PLAN

WELL NO. 6

PFAS TREATMENT IMPROVEMENTS

TOWNSHIP OF LAWRENCE	MERCER COUNTY	NEW JERSEY
23 - Bundles 3 PFAs/3908/X023 - WELL NO 8 N 933908/X023-Well No 6/WWW/3908/X023-LAWRENCEVILLE WELL 6.dwg 1/30/2023 3:52:04 PM		

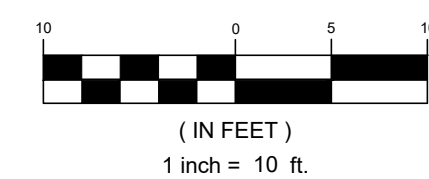
<u>RAWN BY :</u> K.H.	<u>DESIGN BY :</u> K.H.	<u>CHECKED BY :</u> D.F./S.C.	<u>SCALE :</u> AS NOTED
<u>DATE :</u> MAY 2024		<u>SHEET No. :</u> C-4	
<u>JOB No. :</u> 3908X023			

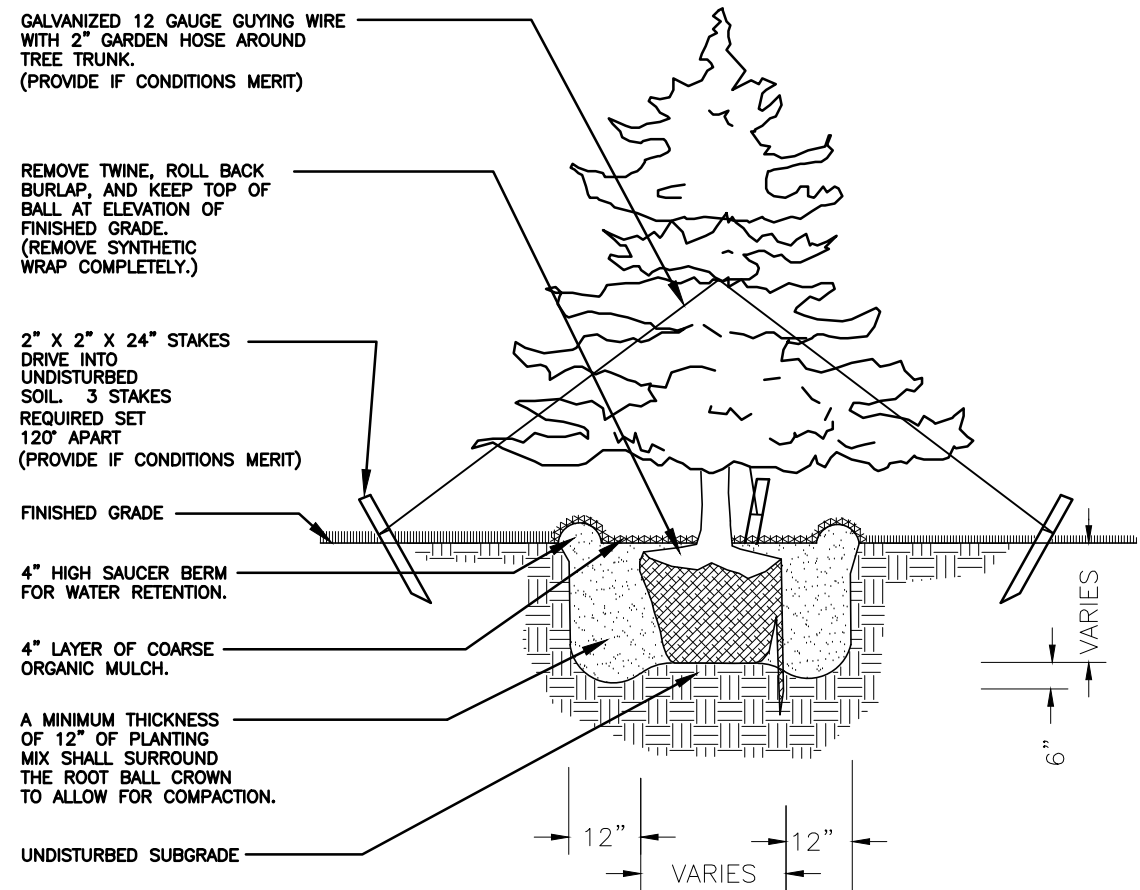


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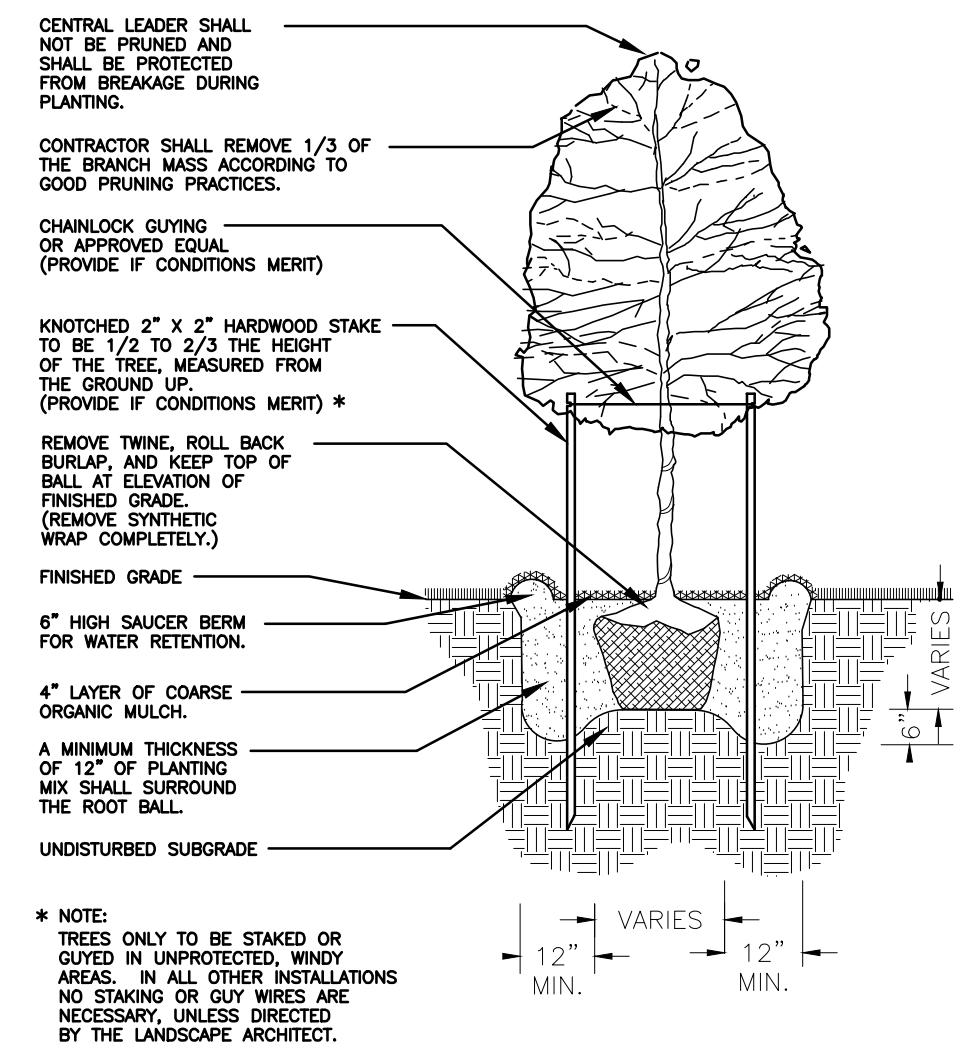
1. CONTRACTOR SHALL INSTALL ALL SESC FEATURES PRIOR TO BEGINNING WORK.
2. PROPOSED GRADING SHALL MATCH EXISTING CONTOURS AT THE LIMITS OF DISTURBANCE. THE DRAINAGE OF THE SITE TO ADJACENT PROPERTIES SHALL NOT BE MODIFIED AS PART OF ANY GRADING.

GRAPHIC SCALE

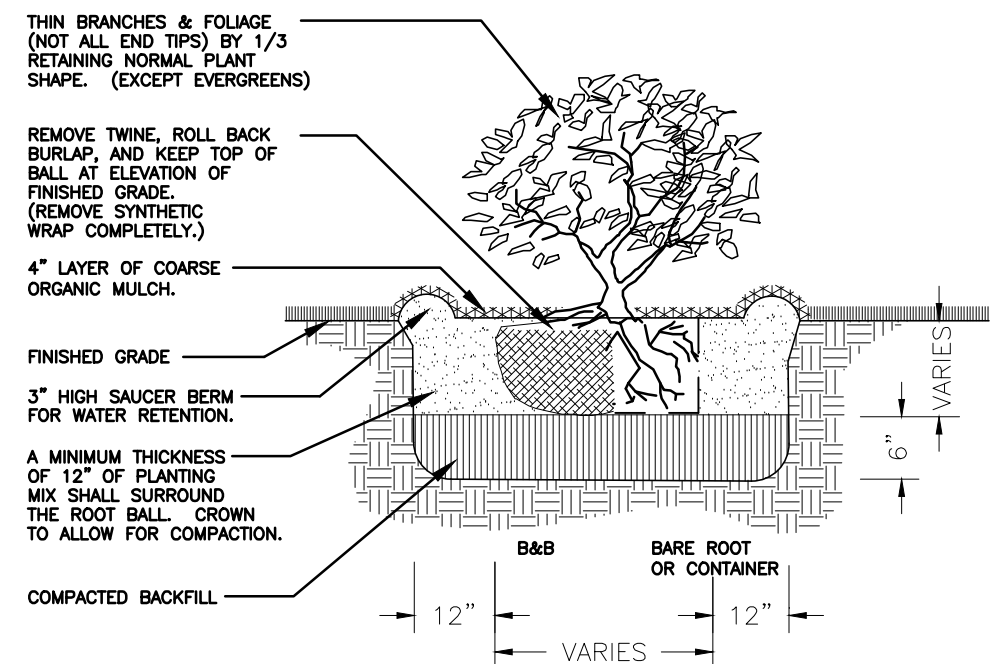




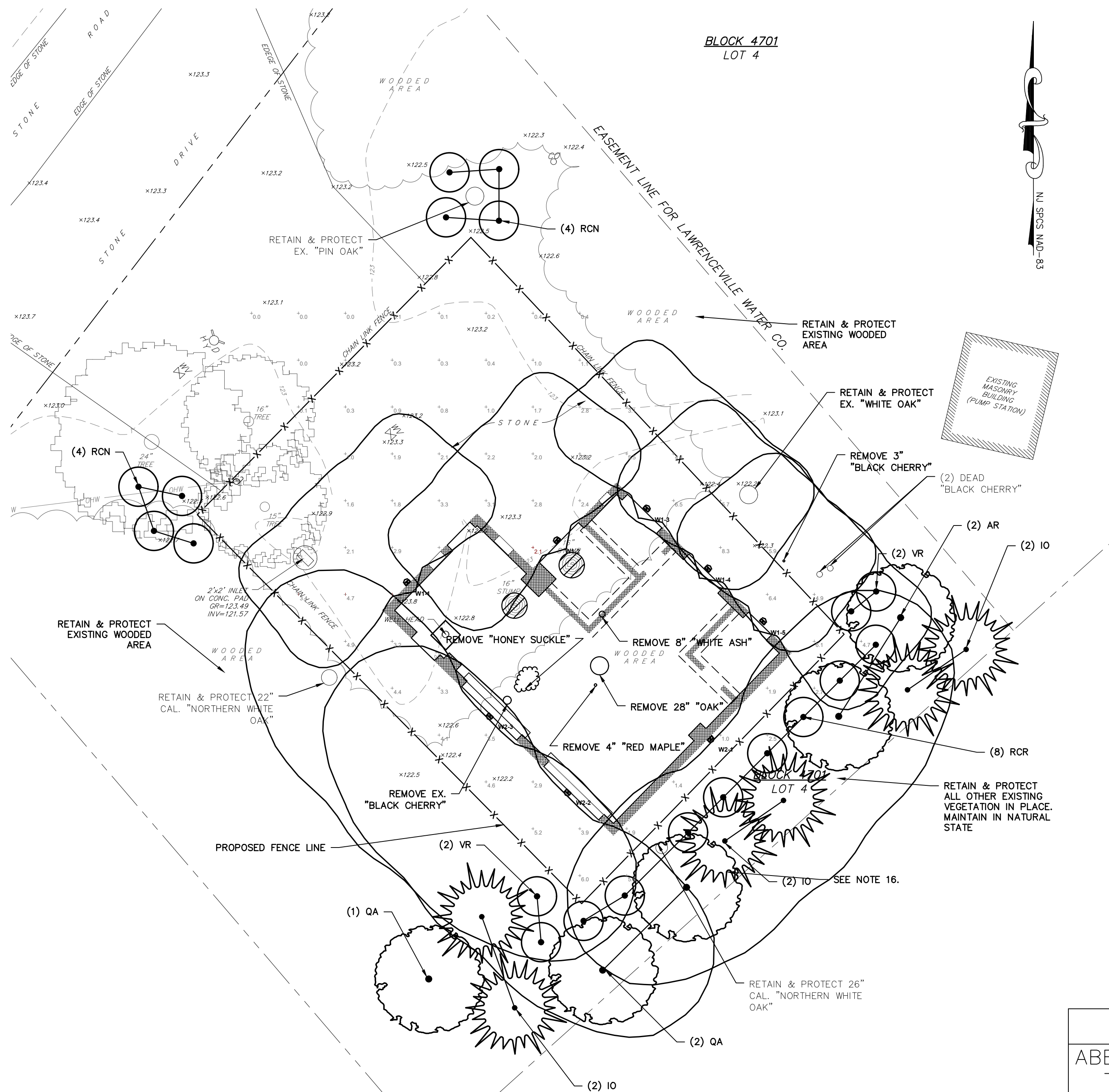
EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



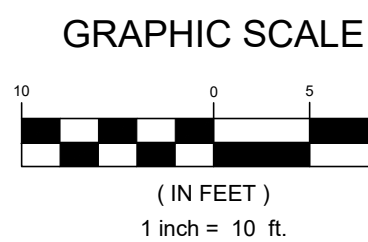
SHADE TREE PLANTING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE



WELL No. 6 LANDSCAPE PLAN
SCALE: 1"=10'



PLANTING NOTES:

1. A COMPLETE LIST OF PLANTS, INCLUDING A SCHEDULE OF QUANTITIES, SIZES, AND OTHER REQUIREMENTS IS SHOWN ON THE PLANT LIST. IN THE EVENT THAT DISCREPANCIES OCCUR BETWEEN THE QUANTITIES OF PLANTS INDICATED IN THE PLANT LIST AND THOSE INDICATED ON THE PLAN, THE PLANT QUANTITIES INDICATED ON THE PLAN SHALL GOVERN.
2. NO SUBSTITUTIONS SHALL BE ACCEPTED, EXCEPT WITH WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT OR OWNER'S AGENT.
3. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY. ALL PLANTS SHALL HAVE NORMAL, WELL DEVELOPED BRANCHES AND VIGOROUS ROOT SYSTEMS; THEY SHALL BE FREE FROM DEFECTS, DISFIGURING KNOTS, ABRASIONS OF THE BARK, SUNSCALD INJURIES, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL OTHER FORMS OF INFECTIONS. ALL PLANT MATERIAL INSTALLED BETWEEN OCTOBER 15 AND MARCH 15 SHALL BE THOROUGHLY WETTED WITH AN ANTI-TRANSPIRANT UPON DELIVERY OF THE MATERIAL TO THE SITE.
4. ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHERPROOF LABELS AND SECURELY ATTACHED THERETO BEFORE DELIVERY TO THE PROJECT SITE. LABELS SHALL IDENTIFY THE PLANTS BY COMMON NAME, BOTANICAL NAME AND SIZE. LABELS SHALL NOT BE REMOVED UNTIL FINAL INSPECTION BY THE LANDSCAPE ARCHITECT.
5. PLANTING MIXTURE SHALL CONSIST OF 70% EXISTING SOIL FROM THE PLANTING SITE AND 30% HUMUS OR MUSHROOM SOIL. PRIOR TO USING EXISTING TOPSOIL, REMOVE ALL FOREIGN DEBRIS AND ALL ROCKS OR STONES LARGER THAN 2 INCHES. EACH CUBIC YARD SHALL BE ADDED AND INCORPORATED BY THOROUGHLY MIXING, FOUR POUNDS OF COMMERCIAL FERTILIZER HAVING AN ANALYSIS OF 6-6-6.
6. ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHERPROOF LABELS AND SECURELY ATTACHED THERETO BEFORE DELIVERY TO THE PROJECT SITE. LABELS SHALL IDENTIFY THE PLANTS BY COMMON NAME, BOTANICAL NAME AND SIZE. LABELS SHALL NOT BE REMOVED UNTIL FINAL INSPECTION BY THE LANDSCAPE ARCHITECT.
7. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF TWO (2) YEARS FROM THE COMPLETION DATE OF INSTALLATION. ANY PLANT MATERIAL THAT IS 25% DEAD OR MORE SHOULD BE CONSIDERED DEAD AND MUST BE REPLACED. A TREE SHOULD BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK OR WHEN 25% OF THE CROWN IS DEAD. REPLACEMENT SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
8. THE LANDSCAPE ARCHITECT OR OWNER'S AGENT SHALL BE NOTIFIED OF ANY RELOCATION OF PLANTS MADE NECESSARY BY UTILITIES OR OTHER EXISTING FEATURES PREVENTING THE CONTRACTOR FROM IMPLEMENTATION OF THE PLANTING PLAN AS DRAWN. SUCH NOTIFICATION SHALL BE MADE BEFORE THE FIELD CHANGE IS CARRIED OUT.
9. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED INCLUDING ALL LABOR, MATERIALS, PLANTS, AND EQUIPMENT, INCIDENTALS AND CLEAN UP.
10. INSOFAR AS PRACTICABLE, PLANT MATERIALS SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED LONGER THAN A TWO (2) DAY PERIOD AFTER DELIVERY.
11. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTABLE LOCAL PRACTICE.
12. ALL NON-BIODEGRADABLE ROOT WRAPPINGS (INCLUDING WIRE BASKETS) ARE TO BE REMOVED COMPLETELY BEFORE PLANTING.
13. TREES ARE TO BE SUPPORTED IMMEDIATELY AFTER PLANTING IF CONDITIONS MERIT. TREES SIX (6) INCHES AND OVER IN CALIPER SHALL BE GUYED. SMALLER TREES SHALL BE STAKED. GUYING WIRES AND STAKES SHALL BE AS INDICATED.
14. UNLESS OTHERWISE NOTED, ALL DECIDUOUS AND EVERGREEN TREES SHALL HAVE A SINGLE TRUNK.
15. DECIDUOUS AND EVERGREEN TREES WHICH ARE B&B SHALL BE DRUM LACED IN LIEU OF WIRE BASKETS.
16. PROVIDE TREE PROTECTION FENCING FOR EXISTING TREES AND WOODED AREA INCLUDING ALL NECESSARY SIGNAGE.

PLANT SCHEDULE

ABBREVIATION	BOTANICAL / COMMON NAME	SIZE	CONT.	HEIGHT	QTY.
AR	ACER RUBRUM "RED MAPLE"	-	B&B	8'-10'	2
IO	ILEX OPACA "AMERICAN HOLLY"	-	B&B	8'-10'	6
QA	QUERCUS ALBA "WHITE OAK"	-	B&B	8'-10'	3
RCN	RHODODENDRON CATAWBIENSE "NOVA ZEMBLA" / NOVA ZEMBLA RHODODENDRON	-	B&B	2'-3'	8
RCR	RHODODENDRON "ROSEUM ELEGANS" / ROSEUM ELEGANS RHODODENDRON	-	B&B	2'-3'	8
VR	VIBURNUM RHYTIDOPHYLLOIDES "ALLEGHENY" / ALLEGHENY VIBURNUM	-	B&B	2'-3'	4

TREE REMOVAL DATA

NAME	SIZE	QTY.
BLACK CHERRY	VARIOUS	2
RED MAPLE	4"	1
OAK	28"	1
WHITE ASH	8"	1



REMINGTON & VERNICK ENGINEERS

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(856) 795-9595, FAX (856) 795-1882
WEB ADDRESS : RVE.COM
Certification of Authorization: 24 GA 28003300
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DATE: 1-31-2025
STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. NO. 42136

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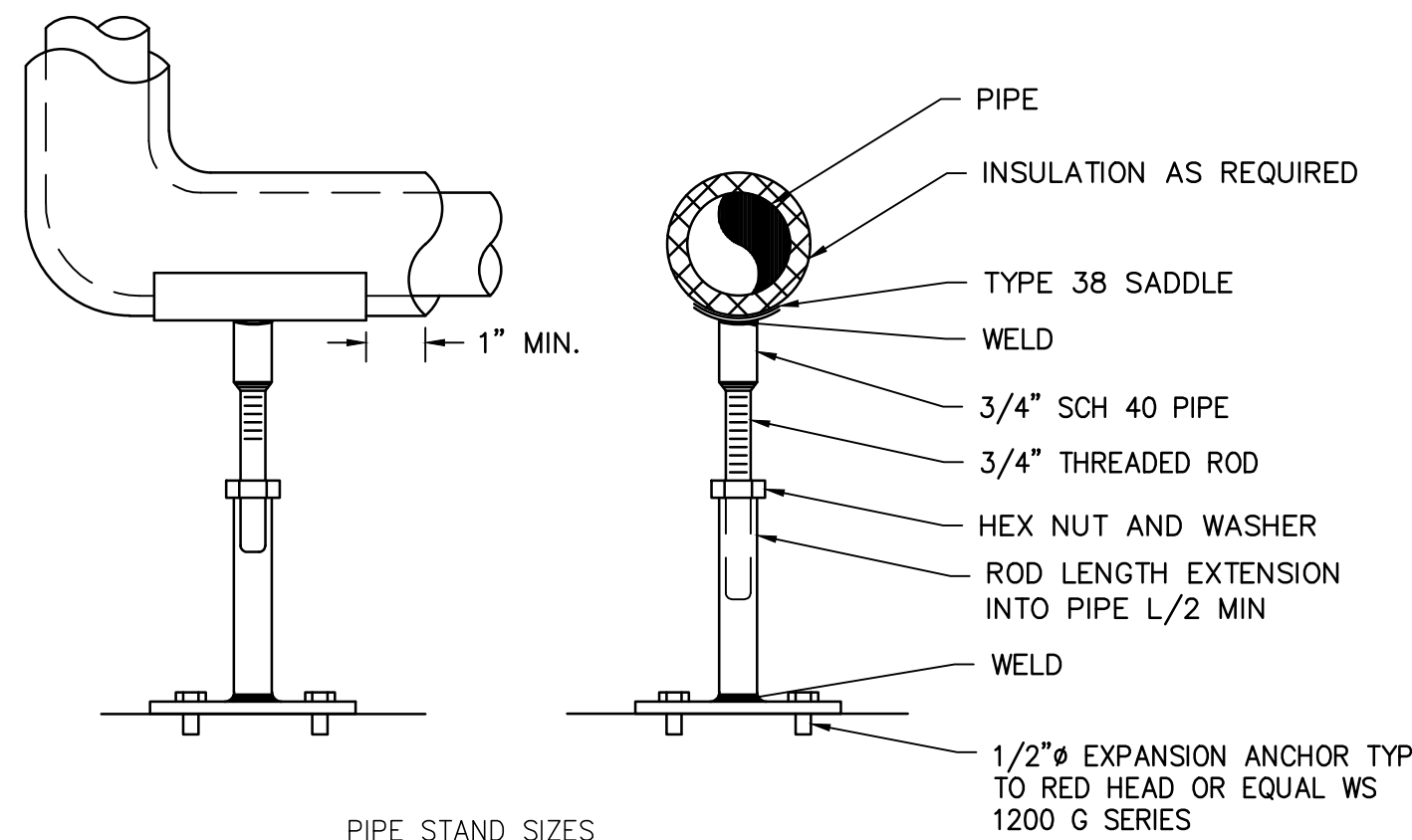
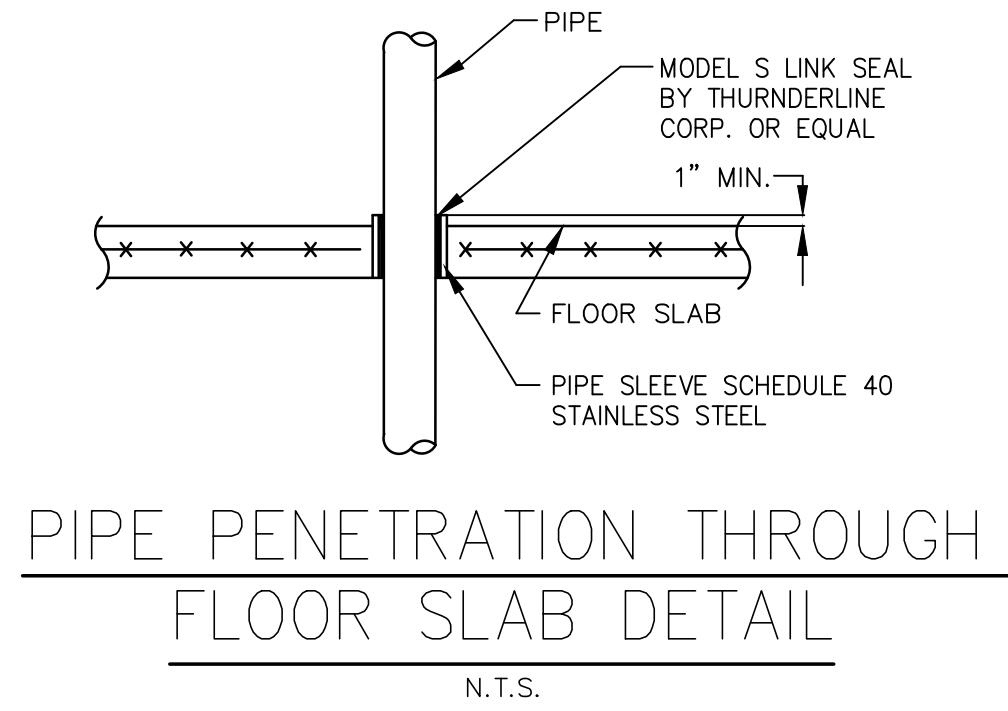
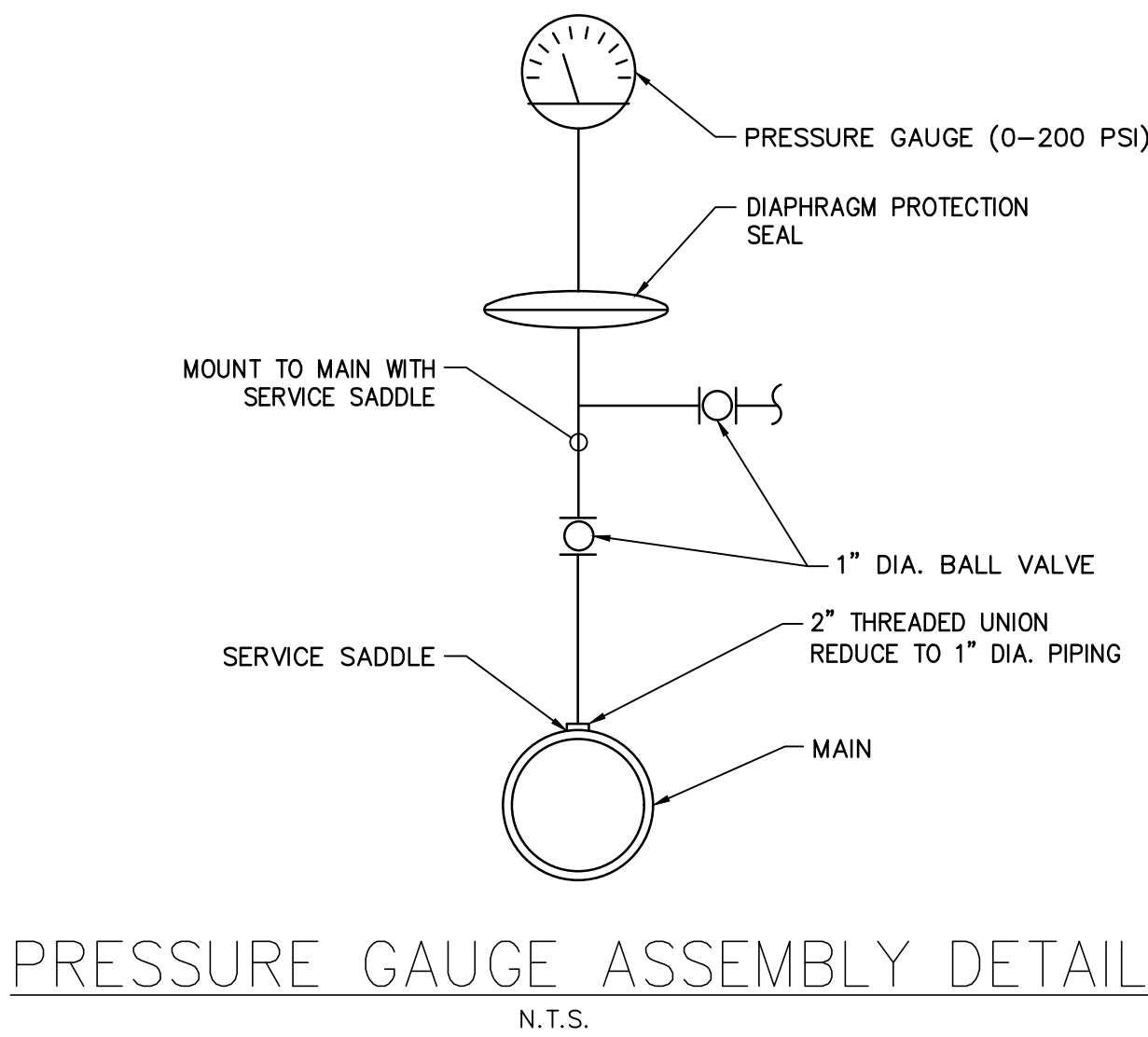
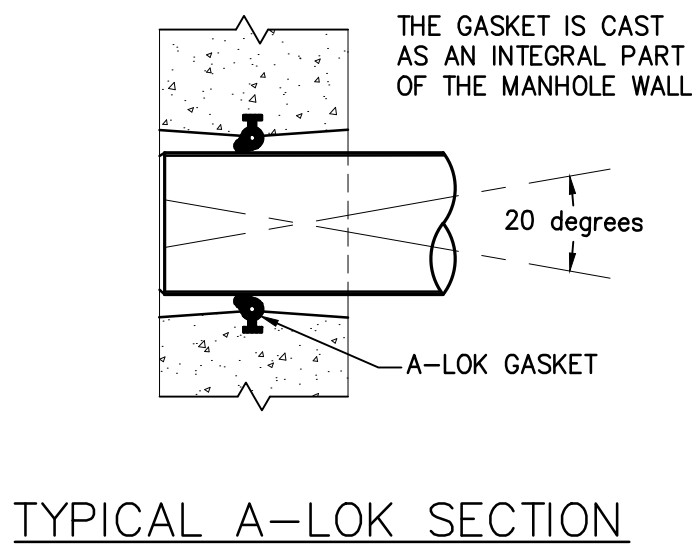
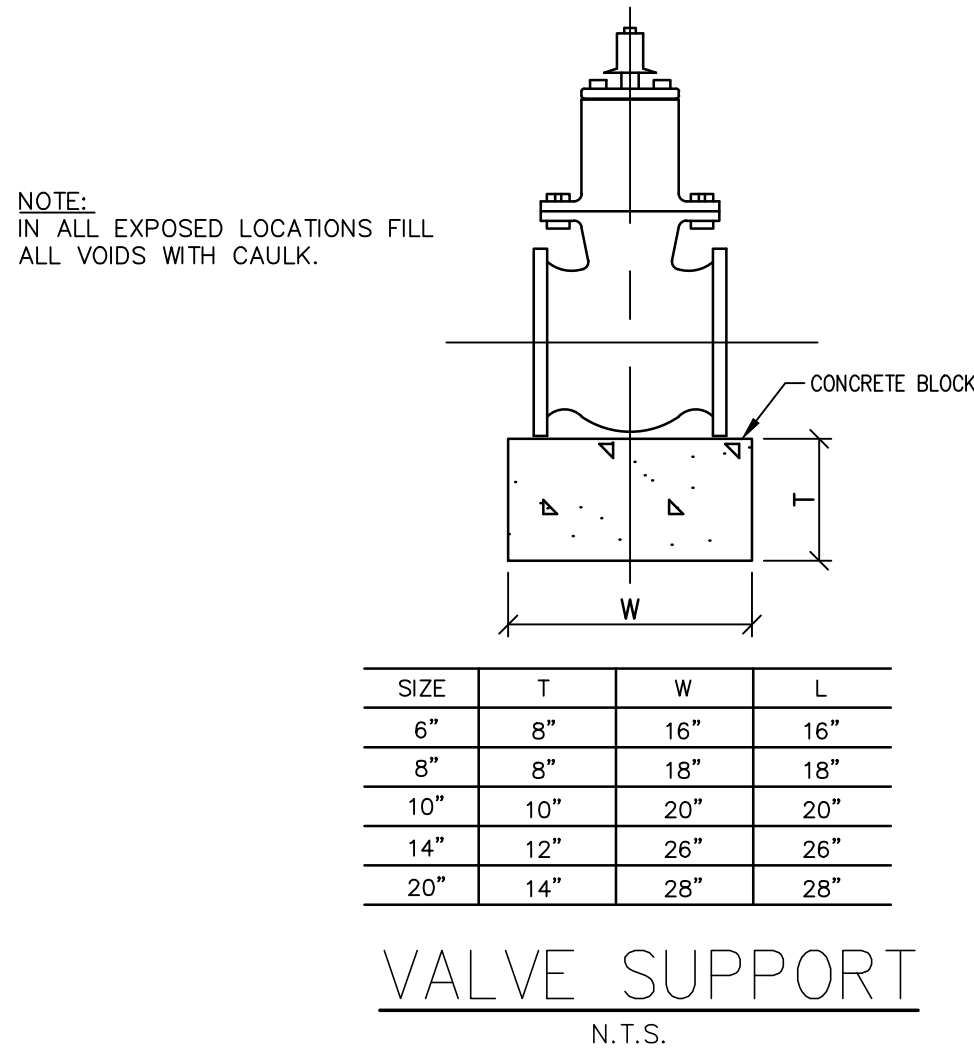
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NO.	DATE	REVISION	BY	CHK
1	1/20/25		K.H.	J.M.

WELL NO. 6 LANDSCAPING PLAN

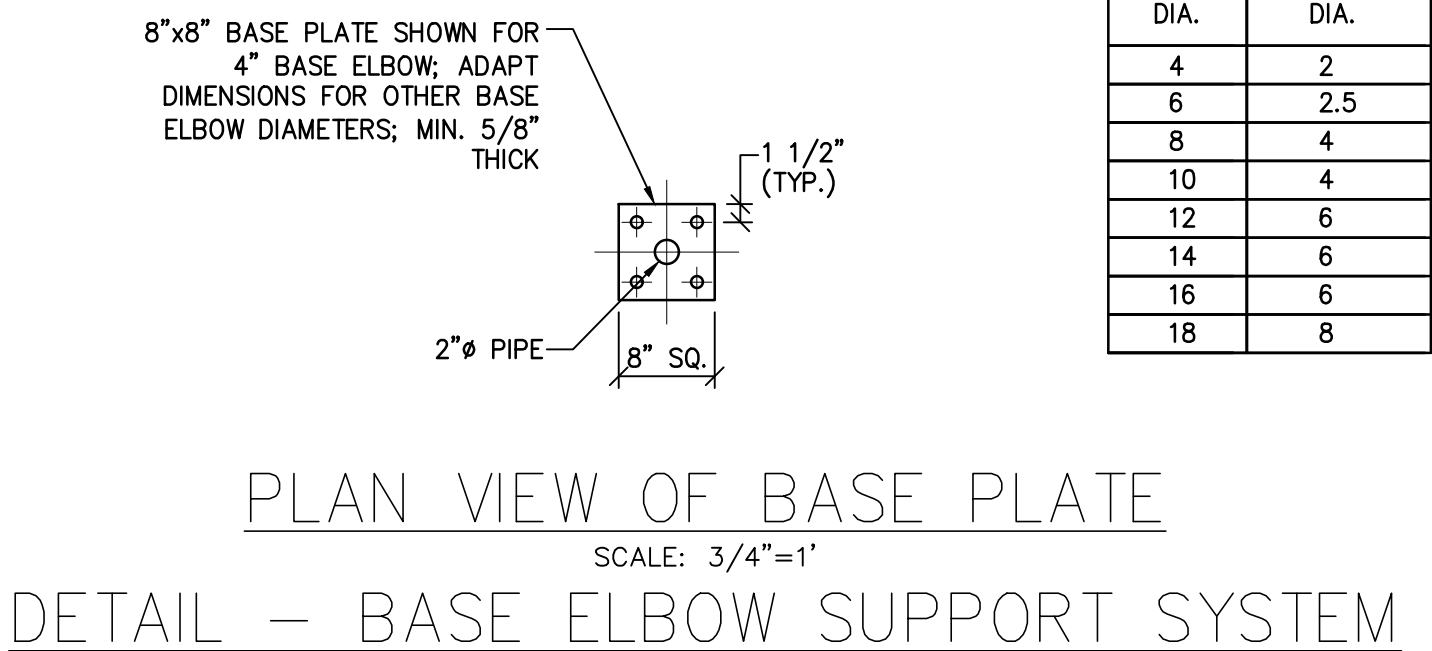
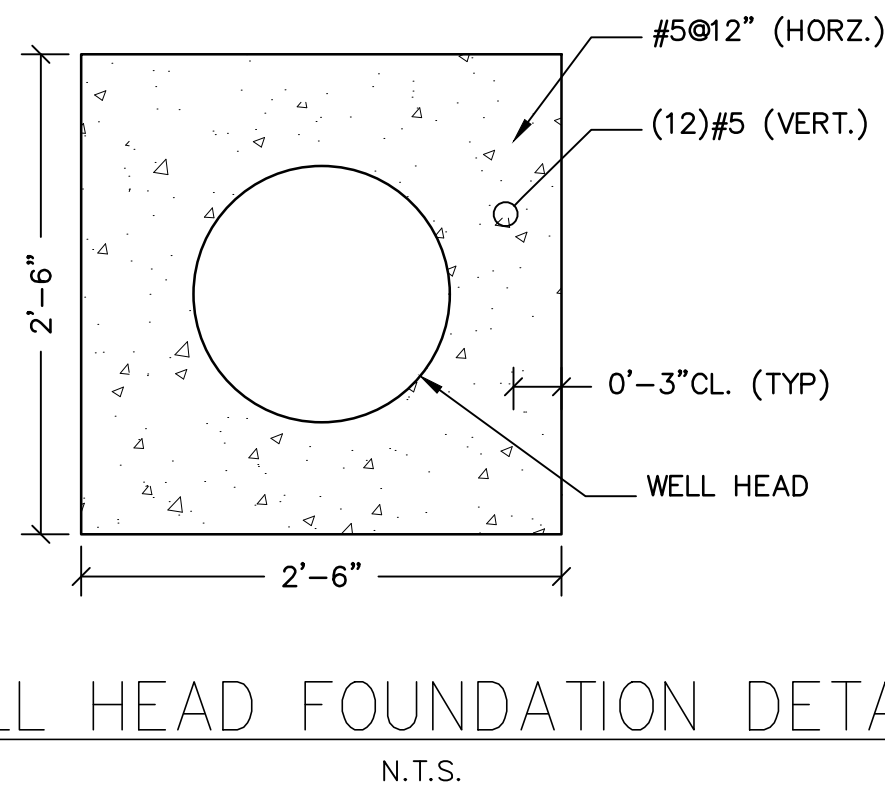
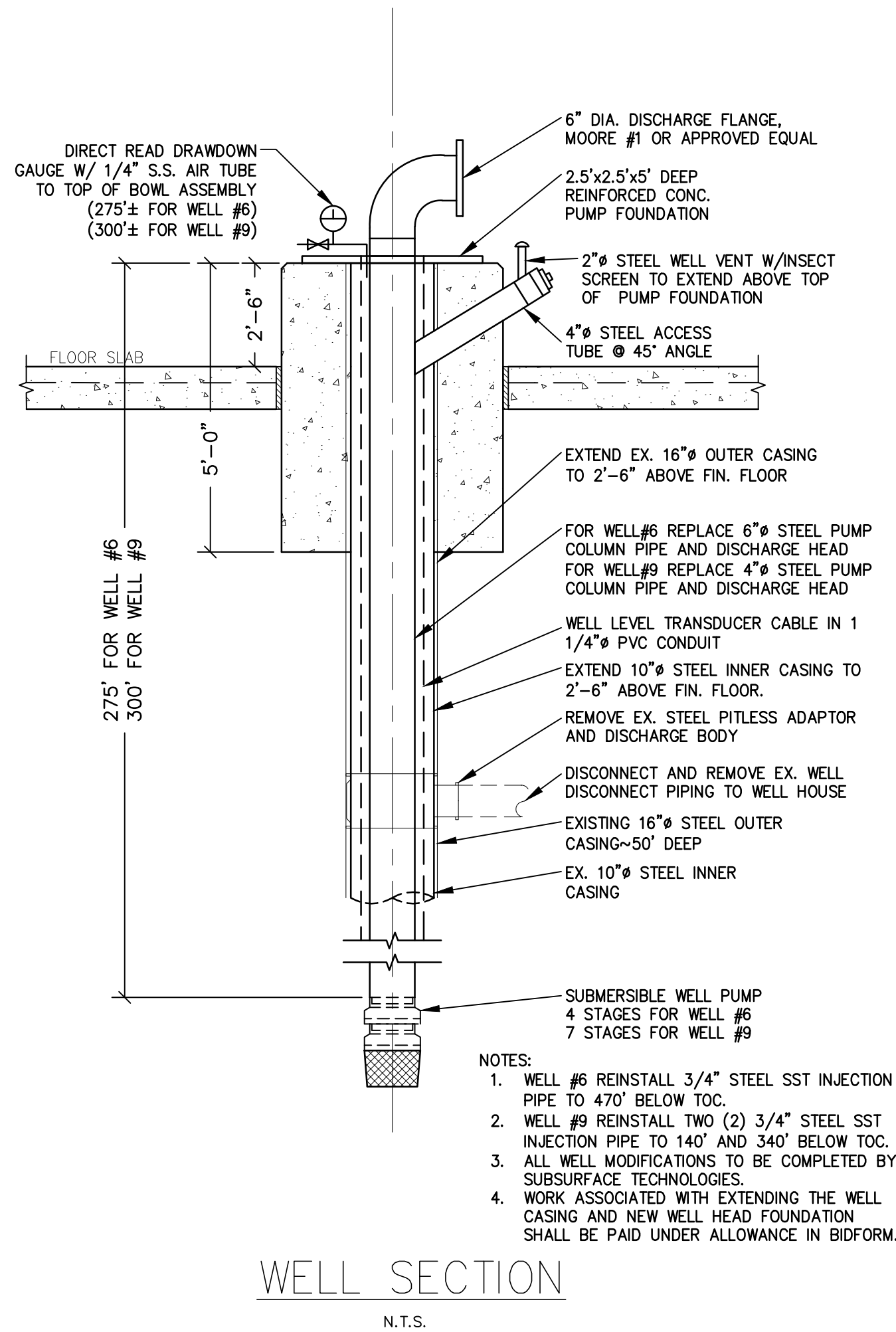
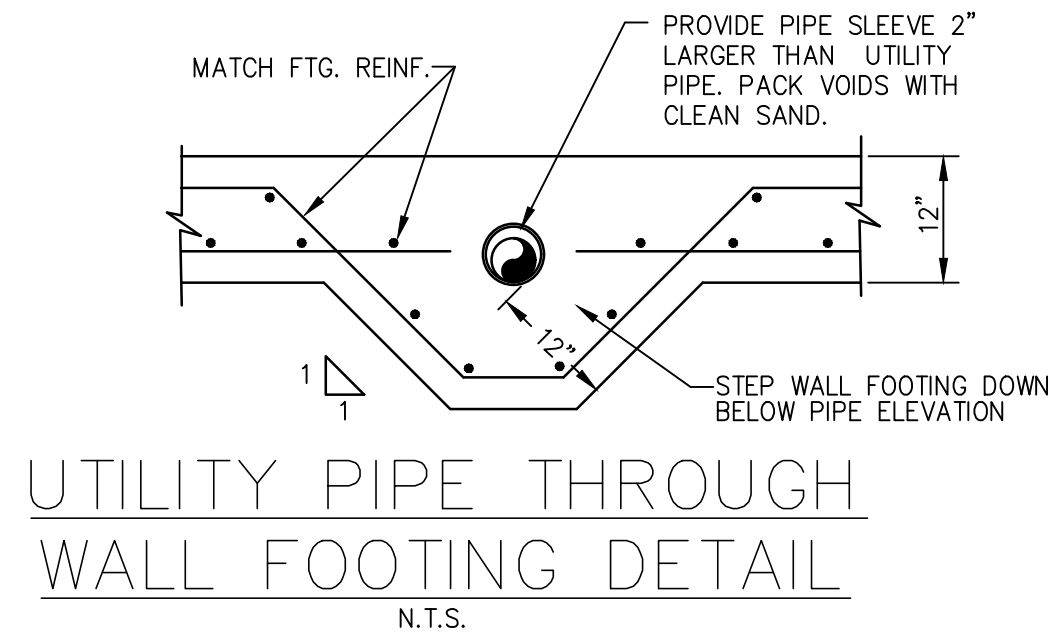
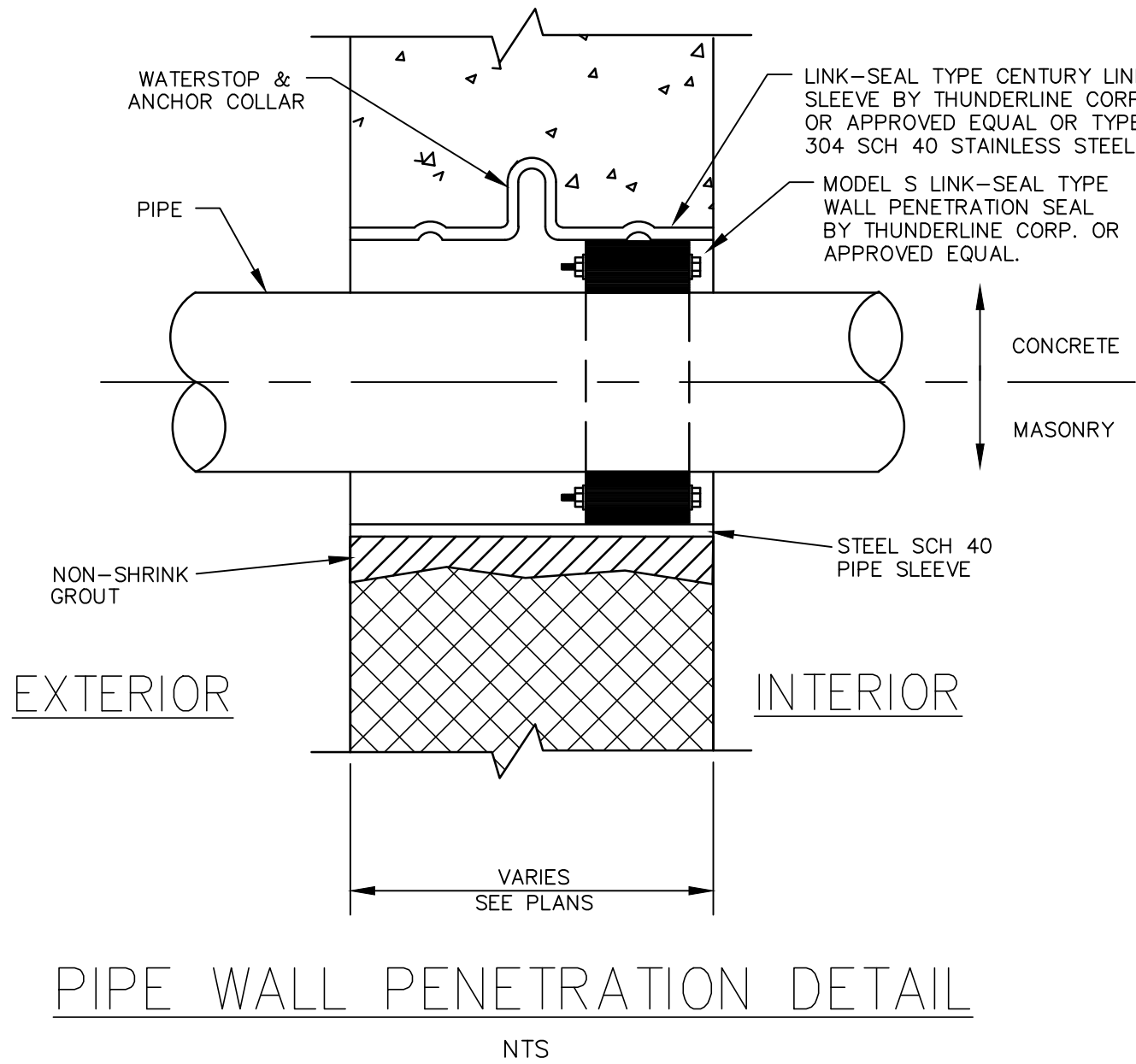
AQUA NEW JERSEY
WELL NO. 6
PFAS TREATMENT IMPROVEMENTS
MERCER COUNTY
TOWNSHIP OF LAWRENCE
NEW JERSEY

DRAWN BY:	DESIGN BY:	CHECKED BY:	SCALE:
K.H.	K.H.	D.F./S.C.	AS NOTED
DATE:		SHEET No.:	
MAY 2024		LA-1	
JOB No.:			
3906X023			



PIPE STAND SIZES				
PIPE SIZE	PIPE STAND SIZE (SCH 40)	THREADED ROD SIZE	BASE PLATE SIZE	PIPE SIZE WELDED TO PLATE (SCH 40)
8"Ø AND SMALLER	1"	3/4"	6"x6"x3/8"	1"
10"Ø to 16"Ø	1-1/4"	1"	10"x10"x1/2"	1-1/2"

- NOTES:
- FOR PIPES W/CL ELEVATIONS 24" MAX AFF
 - GALV SUPPORTS WHEN USED OUTDOORS
SANDBLAST AND SHOP PRIME ALL OTHERS



BASE ELBOW DIA.	SUPPORTING PIPE DIA.
4	2
6	2.5
8	4
10	4
12	6
14	6
16	6
18	8

WELL MODIFICATION DETAIL
N.T.S.

REMINGTON & VERNICK ENGINEERS
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NO.	REVISION	DATE	BY	CHK
1	AQUA NJ COMMENTS	1/2025	KH	JM

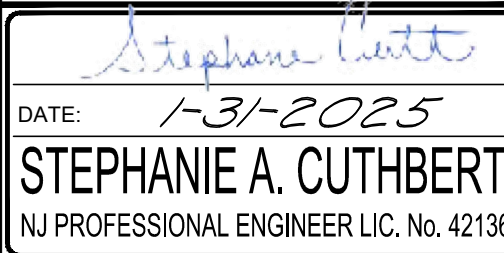
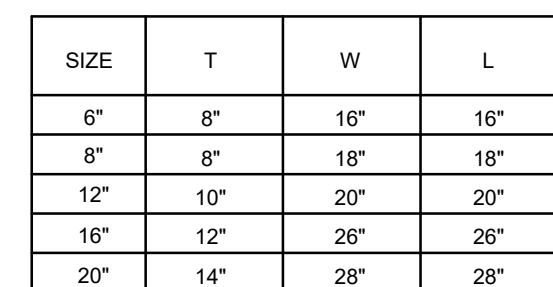
DETAILS #1 - WELL NO. 6 & NO. 9

AQUA NEW JERSEY
WELL NO. 6
PFAS TREATMENT IMPROVEMENTS
MERCER COUNTY
TOWNSHIP OF LAWRENCE
NEW JERSEY

DRAWN BY: K.H. DESIGN BY: K.H. CHECKED BY: D.F./S.C. SCALE: AS NOTED
DATE: MAY 2024 SHEET No.: D-1
JOB No.: 3908X023



THRUST BLOCK DETAIL FOR SYSTEMS AT 150 PSI TEST PRESSURE OR LESS



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TOWNSHIP OF LAWRENCE
MERCER COUNTY
NEW JERSEY

<u>DRAWN BY:</u> K.H.	<u>DESIGN BY:</u> K.H.	<u>CHECKED BY:</u> D.F./S.C.	<u>SCALE:</u> AS NOTED
<u>DATE:</u> MAY 2024		<u>SHEET No.:</u> D-2	
<u>JOB No.:</u> 3908X023			

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED. WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND N.J.A.C.7:22 – 10.11 (C) 1–3.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 10 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT, AT A RATE OF 2 TONS PER ACRE.
3. PERMANENT VEGETATION TO BE SEEDDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
4. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
5. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE.
6. ANY STEEP SLOPE RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
7. TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X 30'X 1" PAD OF 1-1/2" TO 2" STONE AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE. A CRUSHED STONE TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ENTRANCE EXISTS. THE RIP-RAP PAD MUST BE 50' IN LENGTH; THE STONE MUST BE 1.5"-4" IN SIZE, PLACED 12" THICK AND THE FULL WIDTH OF THE ENTRANCE. IT SHOULD BE UNDERLINED WITH A SYNTHETIC FIBER FABRIC AND MAINTAINED.
8. IN ACCORDANCE WITH STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION.
9. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
10. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITION, NON-VEGETATIVE MEANS OF GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- 11.CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
12. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE MERCER COUNTY SOIL CONSERVATION DISTRICT FOR REVIEW AND APPROVAL. THE REVISED PLANS MUST MEET ALL CURRENT NEW JERSEY SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
13. SEDIMENT THAT IS WASHED, TRACKED, OR SPILLED ONTO PAVED ROADS MUST BE REMOVED IMMEDIATELY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL SOIL EROSION & SEDIMENT CONTROL MEASURES.
15. IN THAT N.J.S.A. 4:24-39 ET SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS MUST BE COMPLETED BEFORE THE DISTRICT ISSUES A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
16. NJSA 4:24-39, et seq. REQUIRES THAT UPON PERMANENT SITE STABILIZATION AND COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL APPLY TO THE SOIL CONSERVATION DISTRICT FOR A FINAL COMPLIANCE INSPECTION TO CHECK THAT ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES.
17. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
18. ALL SOIL EROSION AND SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
19. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO SEDIMENT FILTRATION DEVICE. THE SEDIMENT FILTER MUST BE PLACED SO AS NOT TO CAUSE EROSION OF THE DOWNSWAMP AREA. FIELD PLACEMENT AND USE OF THE STRUCTURE MUST BE APPROVED BY THE DISTRICT EROSION CONTROL INSPECTOR PRIOR TO COMMENCEMENT OF DEWATERING ACTIVITIES.
20. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.
21. IN SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION RATES AT THE REQUEST OF THE MERCER COUNTY SOIL CONSERVATION DISTRICT.
22. OFF SITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY DISTRICT EROSION CONTROL INSPECTOR.
23. A COPY OF THE CERTIFIED EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
24. IMMEDIATELY AFTER COMPLETION OF STOCKPILING OF TOPSOIL, THE STOCKPILE SHALL BE SEEDDED WITH TEMPORARY VEGETATION. STABILIZE TOPSOIL STOCKPILES WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT ESTABLISHMENT TEMPORARY SEED.
25. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1.
26. THE DISTRICT CONTROL INSPECTOR MAY REQUIRE ADDITIONAL MEASURES TO BE INSTALLED.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
- A. APPLY LIMESTONE AND FERTILIZER. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10–20–10 OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDES) AS FOLLOWS:
- | SOIL TEXTURE | TONS/ACRE | LBS./1000 SQ. FT. |
|--|-----------|-------------------|
| CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL | 3 | 135 |
| SANDY LOAM, LOAM, SILT LOAM | 2 | 90 |
| LOAMY SAND, SAND | 1 | 45 |
- PULVERIZED DOLOMITE LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.
- B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR, CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.
- C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.
- D. SOILS HIGH ON SULFIDES OR HAVING A PH OF 4 OR LESS SHOULD BE MULCHED ONLY.
3. SEEDING
- A. SEE TEMPORARY SEED MIXTURE FOR SPECIES AND APPLICATION RATES.
- B. APPLY SEED UNIFORMLY BY HAND, CYCLONE(CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL, OUTPACKER SEEDER, OR HYDROSEEDER. MULCH SHALL NOT BE INCLUDED IN A HYDRO-SEEDER TANK WITH SEED. SEED SHALL BE INCORPORATED INTO THE SOIL BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- C. AFTER SEEDING, FIRING THE SOIL SHALL BE PERFORMED WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED–TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE.
4. MULCHING
- MULCHING IS REQUIRED ON ALL SEEDING.
- A. MULCH MATERIALS SHOULD BE UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY TO BE APPLIED AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION MUST BE DOUBLE THE LOWER RATE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MATERIAL.
- B. SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 75% TO 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.
- C. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.
1. PEG AND TWINE – DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CROSS-POSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTING – STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER(MULCH ANCHORING TOOL) – A TRACTOR–DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
- D. WOOD–FIBER OR PAPER–FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

TEMPORARY SEEDING MIXTURE

THIS SEEDING MIXTURE IS COMPOSED OF A SINGLE SPECIES WHICH GERMINATES QUICKLY IN ORDER TO REDUCE SOIL EROSION UNTIL A PERMANENT VEGETATIVE COVER CAN BE COVER ESTABLISHED. A MIXTURE OF EQUAL QUALITY MAY BE SUBSTITUTED IF APPROVED BY OUR OFFICE.

%	COMMON NAME	BOTANICAL NAME
70	PERENNIAL RYE GRASS	LOLIUM PERENNE
20	CANADA WILDRYE	ERGOPTIS ALBA
10	SWITCH GRASS	PANICUM VIRGATUM
10	ALSKIE CLOVER	TRIFOLIUM ALASKENSE

THE MINIMUM APPLICATION RATE FOR THIS SEEDING MIXTURE SHALL BE ONE (1) POUND/1000 SQUARE FEET OR 40 POUNDS/ACRE.

RECOMMENDED SEEDING PERIODS ARE MARCH 1–MAY 15 AND AUGUST 16–OCTOBER 15. SUMMER SEEDING SHALL BE PERFORMED ONLY IF ADEQUATE IRRIGATION IS PROVIDED TO ENSURE SUCCESSFUL GERMINATION.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.
- B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
- A. APPLY LIMESTONE AND FERTILIZER. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10–20–10 OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDES) AS FOLLOWS:
- | SOIL TEXTURE | TONS/ACRE | LBS./1000 SQ. FT. |
|--|-----------|-------------------|
| CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL | 3 | 180 |
| SANDY LOAM, LOAM, SILT LOAM | 3 | 135 |
| LOAMY SAND, SAND | 2 | 90 |
- PULVERIZED DOLOMITE LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK-TRENTON LINE.
- B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED. BUT CLEAN OR DRIVE IN PEGS AND COURSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.
- C. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL.
- D. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.
3. SEEDING
- A. SEE PERMANENT SEED MIXTURE FOR SPECIES AND APPLICATION RATES.
- B. APPLY SEED UNIFORMLY BY HAND, CYCLONE(CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL, OUTPACKER SEEDER, OR HYDROSEEDER. MULCH SHALL NOT BE INCLUDED IN A HYDRO-SEEDER TANK WITH SEED. EXCEPT FOR DRILLED, HYDROSEEDER OR OUTPACKED SEEDING, MULCH SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF 1/4 TO 1/2 INCH BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
- C. AFTER SEEDING, FIRING THE SOIL SHALL BE PERFORMED WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED–TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE.
4. MULCHING
- MULCHING IS REQUIRED ON ALL SEEDING.
- A. MULCH MATERIALS SHOULD BE UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY TO BE APPLIED AT THE RATE OF 1 1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION MUST BE DOUBLE THE LOWER RATE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MATERIAL.
- B. SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 75% TO 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.
- C. MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.
1. PEG AND TWINE – DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CROSS-POSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTING – STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER(MULCH ANCHORING TOOL) – A TRACTOR–DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
- D. WOOD–FIBER OR PAPER–FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE MAY BE APPLIED BY A HYDROSEEDER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

5. IRRIGATION
- A. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE PERFORMED IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOP DRESSING *
- A. SPRING SEEDING WILL REQUIRE AN APPLICATION OF FERTILIZER SUCH AS 10–10–10 OR EQUIVALENT AT 400 POUNDS PER ACRE OR 10 POUNDS PER 1,000 SQUARE FEET BETWEEN SEPTEMBER 1 AND OCTOBER 15.
- B. FALL SEEDING WILL REQUIRE THE ABOVE BETWEEN MARCH 15 AND MAY 1.
- C. MIXTURES DOMINATED BY WEEPING LOVEGRASS OR LEGUMES MAY NOT NEED TOPDRESSING.
- * IF SLOW RELEASE NITROGEN (300 POUNDS 38–0–0 PER ACRE OR EQUIVALENT) IS USED IN ADDITION TO SUGGESTED FERTILIZER, THIS FOLLOW–UP OF TOP DRESSING IS NOT MANDATORY.

PERMANENT SEEDING MIXTURE (DRY)

THIS SEEDING MIXTURE IS COMPOSED OF DROUGHT–TOLERANT SPECIES WHICH CAN THRIVE WITH LOW MAINTENANCE. THE PROPRIETARY NAME OF THE MIXTURE IS RECLAIM CONSERVATION. A MIXTURE OF EQUAL QUALITY MAY BE SUBSTITUTED IF APPROVED BY OUR OFFICE.

%	COMMON NAME	BOTANICAL NAME
70	HARD FESCUE	FESTUCA ARUNDINACEA
20	PERENNIAL RYEGRASS	LOLIUM PERENNE
10	KENTUCKY BLUEGRASS	PANICUM VIRGATUM

DRY/SUN – LOW MAINTENANCE AREAS

%	COMMON NAME	BOTANICAL NAME
70	HARD FESCUE	FESTUCA ARUNDINACEA
20	PERENNIAL RYEGRASS	LOLIUM PERENNE
10	KENTUCKY BLUEGRASS	PANICUM VIRGATUM

SHADY – LOW MAINTENANCE AREAS

%	COMMON NAME	BOTANICAL NAME
40	HARD FESCUE	FESTUCA ARUNDINACEA
30	CREeping RED FESCUE	FESTUCA RUBRA
20	PERENNIAL RYEGRASS	LOLIUM PERENNE
10	KENTUCKY BLUEGRASS	PANICUM VIRGATUM

THE MINIMUM APPLICATION RATE FOR THIS SEEDING MIXTURE SHALL BE 300 POUNDS/ACRE.

RECOMMENDED SEEDING PERIODS ARE APRIL 1–MAY 31 AND AUGUST 16–OCTOBER 15. SUMMER SEEDING SHALL BE PERFORMED ONLY IF ADEQUATE IRRIGATION IS PROVIDED TO ENSURE SUCCESSFUL GERMINATION.

PERMANENT SEEDING MIXTURE – WETLANDS, WETLAND TRANSITION AREA AND RIPARIAN ZONE

ERMIX SEEDS – FACW MEADOW MIX ERMWX-122 (OR APPROVED EQUAL)

ERMIX COMPOSITION

%	BOTANICAL NAME	COMMON NAME
32.0	CAREX VULPINOIDEA, PA ECTYPE	FOX SEDGE, PA ECTYPE
20.0	ELMUS VIRGINICUS, PA ECTYPE	VIRGINIA WILDRYE, PA ECTYPE
17.0	CAREX LUPULINA, PA ECTYPE	HOP SEDGE, PA ECTYPE
16.3	CAREX SCOPARIA, PA ECTYPE	BLUNT BROOM SEDGE, PA ECTYPE
3.0	JUNCUS EFFUSUS	SOFT RUSH
2.0	ONOCLEA HEATHYRHOIDES, PA ECTYPE	ONEYCE SUNFLOWER, PA ECTYPE
1.5	ASCLEPIAS INCARNATA, PA ECTYPE	SWAMP MILKWEED, PA ECTYPE
1.5	CINNA ARUNDINACEA, PA ECTYPE	WOOD REEDGRASS, PA ECTYPE
1.5	ZIZIA AUREA	GOLDEN ALEXANDERS
1.0	ASTER UMBELLATUS, PA ECTYPE	FLAT TOPPED WHITE ASTER, PA ECTYPE
1.0	EUPATORIUM PERFOLIATUM, PA ECTYPE	BONASET, PA ECTYPE
0.9	ALBURA SUBORDATUM, PA ECTYPE	MULD PLANTAIN (WATER PLANTAIN), PA ECTYPE
0.5	CAREX INTUMESCENS, PA ECTYPE	BLADDER SEDGE, PA ECTYPE
0.5	JUNCUS TENUIS, PA ECTYPE	PATH RUSH, PA ECTYPE
0.3	SCIRPUS CYPERINUS, PA ECTYPE	WOODGRASS, PA ECTYPE
0.3	EUPATORIUM FESTULOSUM, PA ECTYPE	POPPY WEEED, PA ECTYPE
0.3	PENTHURUS SEDODES, PA ECTYPE	DITCH STONECROP, PA ECTYPE
0.2	CHELONE GLABRA, PA ECTYPE	TURTLEHEAD, PA ECTYPE

SEEDING RATE: 20 LB PER ACRE, OR 1/2 LB PER 1,000 SQ FT

PLANT LIST– SHRUB SPECIES

SHRUBS SPECIES SHOULD BE NATIVE AND INCLUDE THE FOLLOWING:

CLETHRA ALNIFOLIA – SUMMERSWEET
CORNUS SERICEA – RED-TWIG DOGWOOD
ILEX VERTICILLATE – WINTERBERRY
LINDERA BENZON – SPICEBUSH
RHODODENDRON VISCOSUM – SWAMP AZALEA
ROSA ALAISTRIS – SWAMP ROSE
SALIX DISCOLOR – PUSSY WILLOW
VACONILUM CORYMBOSUM – HIGHBUSH BLUEBERRY
VIBURNUM DENTATUM – ARROWWOOD
VIBURNUM NUDUM – POSSUMHAW

PERMANENT SEEDING MIXTURE (MOIST)

THIS SEEDING MIXTURE IS COMPOSED OF MOISTURE–TOLERANT SPECIES WHICH CAN THRIVE WITH LOW MAINTENANCE. THE PROPRIETARY NAME OF THE MIXTURE IS RECLAIM CONSERVATION. A MIXTURE OF EQUAL QUALITY MAY BE SUBSTITUTED IF APPROVED BY OUR OFFICE.

%	COMMON NAME	BOTANICAL NAME
40	CANADA WILDRYE	ERGOPTIS ALBA
20	CREeping RED FESCUE	FESTUCA RUBRA
10	SWITCH GRASS	PANICUM VIRGATUM
10	TIMOTHY	PHLEUM PRATENSE
20	ALSKIE CLOVER	TRIFOLIUM ALASKENSE

THE MINIMUM APPLICATION RATE FOR THIS SEEDING MIXTURE SHALL BE 100 POUNDS/ACRE.

RECOMMENDED SEEDING PERIODS ARE APRIL 1–MAY 31 AND AUGUST 16–OCTOBER 15.

SUMMER SEEDING SHALL BE PERFORMED ONLY IF ADEQUATE IRRIGATION IS PROVIDED TO ENSURE SUCCESSFUL GERMINATION.

PINELANDS SEEDING MIXTURE (DRY)

THIS SEEDING MIXTURE IS COMPOSED OF DROUGHT–TOLERANT SPECIES WHICH CAN THRIVE IN THE ADDIC. SOIL CONDITIONS COMMONLY FOUND IN THE PINELANDS. A MIXTURE OF EQUAL QUALITY MAY BE SUBSTITUTED IF APPROVED BY OUR OFFICE.

%	COMMON NAME	BOTANICAL NAME
60	ARID TALL FESCUE	FESTUCA ARUNDINACEA "ARID"
25	RELIANT HARD FESCUE	FESTUCA LONGIFOLIA "RELIANT"
15	TIMOTHY	PHLEUM PRATENSE
10	JAMESSTOWN CHEWINGS FESCUE	PHLEUM PRATENSE

THE MINIMUM APPLICATION RATE FOR THIS SEEDING MIXTURE SHALL BE FIVE (5) POUNDS/1000 SQUARE FEET OR 220 POUNDS/ACRE.

RECOMMENDED SEEDING PERIODS ARE APRIL 1–MAY 31 AND AUGUST 16–OCTOBER 15. SUMMER SEEDING SHALL BE PERFORMED ONLY IF ADEQUATE IRRIGATION IS PROVIDED TO ENSURE SUCCESSFUL GERMINATION.

PINELANDS SEEDING MIXTURE (MOIST)

THIS SEEDING MIXTURE IS COMPOSED OF SPECIES WITH A HIGH DEGREE OF MOISTURE TOLERANCE WHICH CAN THRIVE IN THE ADDIC. SOIL CONDITIONS COMMONLY FOUND IN THE PINELANDS. A MIXTURE OF EQUAL QUALITY MAY BE SUBSTITUTED IF APPROVED BY OUR OFFICE.

%	COMMON NAME	BOTANICAL NAME
55	REBEL 2 TALL FESCUE	FESTUCA ARUNDINACEA "REBEL 2"
25	STRAKER REDTOP	AGROTIS ALBA "STRAKER"
15	RED FESCUE	FESTUCA RUBRA
5	SWITCHGRASS	PANICUM VIRGATUM "BLACKWELL"

THE MINIMUM APPLICATION RATE FOR THIS SEEDING MIXTURE SHALL BE FIVE (5) POUNDS/1000 SQUARE FEET OR 220 POUNDS/ACRE.

RECOMMENDED SEEDING PERIODS ARE APRIL 1–MAY 31 AND AUGUST 16–OCTOBER 15. SUMMER SEEDING SHALL BE PERFORMED ONLY IF ADEQUATE IRRIGATION IS PROVIDED TO ENSURE SUCCESSFUL GERMINATION.

TOP SOILING

TOPSOIL SHOULD BE USED WHERE SOILS ARE: SANDS, GRAVELLY SOILS, CLAYS, SILTY CLAYS, VERY SHALLOW, OR WHERE THEY ARE EXTREMELY ACID (LESS THAN PH4.0) OR SALTY (COND–ACTIVITY GREATER THAN 1.0 MILLIMHOS PER CENTIMETER); OR WHERE TOPSOIL IS AVAILABLE ON SITE AND ASSURANCE OF IMPROVED VEGETATIVE GROWTH IS DESIRED.

1. MATERIALS

- A. TOPSOIL SHOULD BE FRIABLE AND LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE THAT MAY BE HARMFUL TO PLANT GROWTH. A PH RANGE OF 5.0–7.5 IS ACCEPTABLE. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER). TOPSOIL HAULED IN FROM OFF SITE SHOULD HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
2. STRIPPING AND STOCKPILING
- A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND/OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
- B. STRIPPING SHOULD BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
- C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO 6.5. IN LIEU OF SOIL TESTS, SEE LIME RATE GUIDE IN SEEDBED PREPARATION FOR PERMANENT VEGETATIVE COVER.
- D. A 4–6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SITE.
- E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF–SITE ENVIRONMENTAL DAMAGE.
- F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH TEMPORARY SEEDING STANDARDS PREVIOUSLY DESCRIBED HEREIN.

3. SITE PREPARATION

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
- B. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
- C. IMMEDIATELY PRIOR TO TOPSOIL DISTRIBUTION, THE SURFACE SHOULD BE SCARIFIED TO PROVIDE A GOOD BOND WITH THE TOPSOIL.
- D. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS.

4. APPLYING TOPSOIL

- A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE, I.E., LESS THAN FIELD CAPACITY.
- B. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED. SOILS WITH A PH OF 4.0 OR LESS, OR CONTAINING IRON SULFIDE, SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE.

SPECIAL NOTES

1. TEMPORARY STABILIZATION – ALL EXPOSED AREAS NOT TO BE CONSTRUCTED UPON WITHIN 10 DAYS SHOULD RECEIVE TEMPORARY STABILIZATION, ACCORDING TO THE TEMPORARY VEGETATIVE COVER SPECIFICATIONS.
2. PERMANENT STABILIZATION – ALL EXPOSED AREAS WHICH ARE TO BE PERMANENTLY VEGETATED SHOULD BE SEEDDED WITHIN 10 DAYS OF FINAL GRADING, ACCORDING TO THE PERMANENT SEEDING SPECIFICATIONS.
3. OFF–SITE BACKFILL MATERIAL SHALL BE BORROW FILL TYPE, AS NEEDED, PER NJDOT STANDARD SPECIFICATIONS (LATEST VERSION). ALL FILL MATERIAL USED TO ESTABLISH PROPOSED GRADES, BACKFILL BASEMENT AREAS, ETC. SHALL BE CERTIFIED TO BE CLEAN IN ACCORDANCE WITH NJDEP TECHNICAL REQUIREMENTS AND SECTION 02227 OF THE PROJECT BID SPECIFICATIONS.
4. THE NEED TO BRING IN OFF–SITE TOPSOIL MATERIAL DUE TO LACK OF TOPSOIL ON SITE SHALL BE TOPSOIL MATERIAL PER NJDOT STANDARD SPECIFICATIONS (LATEST VERSION). ALL TOPSOIL MATERIAL USED TO ESTABLISH PROPOSED GRADES, SHALL BE CERTIFIED TO BE CLEAN IN ACCORDANCE WITH NJDEP TECHNICAL REQUIREMENTS AND SECTION 02270 ("TEMPORARY SOIL EROSION & SEDIMENT CONTROL MEASURES") OF THE PROJECT BID SPECIFICATIONS.
5. ALL SOIL, WASHED, TRACKED, DROPPED, OR SPILLED ONTO PAVED SURFACES WILL BE REMOVED IMMEDIATELY.
6. RESTORATION AND STABILIZATION OF STREAM CROSSING ARE TO BE COMPLETED WITHIN 48 HOURS OF CROSSING COMPLETION.
7. PIPELINE RESTORATION IS TO OCCUR WITHIN 10 DAYS OF BACKFILLING COMPLETION.

TOTAL AREA OF DISTURBANCE: 0.37 Acres

%	COMMON NAME	BOTANICAL NAME
70	TURK TYPE TALL FESCUE	FESTUCA ARUNDINACEA
20	PERENNIAL RYE GRASS	LOLIUM PERENNE
10	KENTUCKY BLUEGRASS	POA PRATENSIS

THE MINIMUM APPLICATION RATE FOR THIS SEEDING MIXTURE SHALL BE 200#/ ACRE. RECOMMENDED SEEDING PERIODS ARE APRIL 1–MAY 31 AND AUGUST 16–OCTOBER 15. SUMMER SEEDING SHALL BE PERFORMED ONLY IF ADEQUATE IRRIGATION IS PROVIDED TO ENSURE SUCCESSFUL GERMINATION.

LEGEND

- HAYBALES (TYPICAL) [Symbol]
- INLET PROTECTION (TYPICAL) [Symbol]
- SILT FENCE (TYPICAL) [Symbol]
- LIMIT OF DISTURBANCE (TYPICAL) [Symbol]

1. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING LAND DISTURBANCE ACTIVITY. NOTICE MAY BE MAILED, FAXED OR EMAILED TO: **MCSCD, 508 HUGHES DRIVE, HAMILTON SQUARE, NJ 08690** PHONE: 609-586-9603 FAX: 609-586-1117 EMAIL: MERCERSOIL@AOL.COM
2. IF APPLICABLE TO THIS PROJECT, THE OWNER SHOULD BE AWARE OF HIS OR HER OBLIGATION TO FILE FOR A NJDEP CONSTRUCTION ACTIVITY STORMWATER SGS PERMIT (NJG0808323) VIA THE NJDEP ONLINE PERMITTING SYSTEM (WWW.NJ.GOV/DEP/ONLINE) AND TO MAINTAIN THE ASSOCIATED BEST MANAGEMENT PRACTICES AND STORMWATER POLLUTION PREVENTION PLAN SELF-INSPECTION LOGBOOK ONSITE AT ALL TIMES. THIS PERMIT MUST BE FILED PRIOR TO THE START OF SOIL DISTURBANCE. THE ONLINE APPLICATION PROCESS WILL REQUIRE ENTRY OF AN SCD CERTIFICATION CODE, WHICH IS PROVIDED BY THE SOIL CONSERVATION DISTRICT UPON CERTIFICATION OF THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
3. THE MERCER COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, INCLUDING AN INCREASE IN THE LIMIT OF DISTURBANCE, WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
5. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.
6. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AS OUTLINED WITHIN THE SEQUENCE OF CONSTRUCTION ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NJ. IF LANGUAGE CONTAINED WITHIN ANY OTHER PERMIT FOR THIS PROJECT IS MORE RESTRICTIVE THAN (BUT NOT CONTRADICTORY TO) WHAT IS CONTAINED WITHIN THESE NOTES OR ON THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, THEN THE MORE RESTRICTIVE PERMIT REQUIREMENTS SHALL BE FOLLOWED.

8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A 1'X 2' CLEAN STONE TRACKING PAD AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE. WHETHER IDENTIFIED ON THE CERTIFIED PLAN OR NOT, THE PAD SHALL SPAN THE FULL WIDTH OF EGRESS, AND LENGTH SHALL BE 50 FT. OR MORE, DEPENDING ON SITE CONDITIONS AND AS REQUIRED BY THE STANDARD. THIS SHALL INCLUDE INDIVIDUAL LOT ACCESS POINTS WITHIN RESIDENTIAL SUBDIVISIONS. IF THE EGRESS IS TO A COUNTRY ROAD, THEN A 20 FT. LONG PAVED TRANSITION SHALL BE PROVIDED BETWEEN THE EDGE OF PAVEMENT AND THE STONE ACCESS PAD.

9. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING, PROVIDED THAT ALL OTHER REQUIREMENTS RELATED TO DETENTION BASINS, SWALES AND THE SEQUENCE OF CONSTRUCTION HAVE BEEN MET.

10. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 14 DAYS AND NOT SUBJECT TO CONSTRUCTION ACTIVITY WILL IMMEDIATELY RECEIVE TEMPORARY STABILIZATION. IF THE SEASON PREVENTS ESTABLISHMENT OF

DESIGN CRITERIA

DESIGN CRITERIA

1. LIVE LOAD:
 - A. ROOF LIVE LOAD 20 PSF
 - B. FLOOR LIVE LOAD 125 PSF
2. DEAD LOAD:
 - A. STRUCTURAL AND BUILDING COMPONENTS SELF WEIGHT
3. WIND LOADING PER IBC 2021 – NEW JERSEY EDITION:
 - A. BASIC WIND VELOCITY (V): 125 MPH
 - B. EXPOSURE CATEGORY: C
 - C. RISK CATEGORY: III
4. SEISMIC LOADING PER IBC 2021 – NEW JERSEY EDITION:
 - A. RESPONSE ACCELERATOR:
 $S_s = 0.22$ $S_{DS} = 0.235$
 $S_l = 0.052$ $S_{Dl} = 0.083$
 - B. SEISMIC DESIGN CATEGORY: B
 - C. SEISMIC SITE CLASSIFICATION: D
 - D. IMPORTANCE FACTOR I_e : 1.25
5. SNOW LOADING PER IBC 2021 – NEW JERSEY EDITION:
 - A. GROUND SNOW LOAD: 30 PSF
 - B. IMPORTANCE FACTOR: 1.1
6. SPECIAL LOADS:
 - A. HANDRAILS/GUARDRAILS: IN COMPLIANCE WITH THE PROVISIONS OF IBC 2021
– NEW JERSEY EDITION SEE PROJECT SPECIFICATIONS.

FOUNDATIONS

1. ALL EXISTING FILL MATERIALS, CONSISTING OF GRAVEL, BRICK FRAGMENTS, CONCRETE CHIPS, WOOD CHIPS, AND DEMOLITION DEBRIS SHALL BE REMOVED IN THE REGIONS OF ALL FOUNDATIONS AND UNDER AREAS OF SLAB-ON-GRADE.
2. THE SLAB ON GRADE SHALL REST ON A MINIMUM OF 6 INCHES OF COMPACTED GRANULAR FILL.
3. PROOF ROLL SLAB SUBGRADE UNDER THE DIRECTION OF THE INSPECTION AGENCY. REMOVE ALL UNSUITABLE AREAS AND REPLACE WITH COMPACTED STRUCTURAL FILL MATERIALS. COMPACT FILL TO AT LEAST 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE ASTM D 1557 MODIFIED PROCTOR TEST.
4. SHALLOW FOUNDATIONS SHALL BE FOOTINGS TO BEAR ON UNDISTURBED SOIL, HAVING A MINIMUM SAFE BEARING CAPACITY OF 3.0 KSF. THE TESTING AND INSPECTION AGENCY SHALL VERIFY SOIL BEARING CAPACITY AT EACH WALL FOOTING PRIOR TO INSTALLATION OF FOOTING. NOTIFY ENGINEER OF ANY VARIATION FROM ANTICIPATED BEARING CAPACITY FOR APPROPRIATE REDESIGN OF FOOTING.
5. THE BOTTOMS OF ALL EXTERIOR FOOTINGS SHALL BE 2'-6" MINIMUM BELOW FINISHED GRADE.
6. EDGES OF FOOTINGS SHALL NOT BE PLACED AT A GREATER THAN 1 (VERTICAL) TO 2 (HORIZONTAL) SLOPE WITH RESPECT TO ANY ADJACENT FOOTING OR EXCAVATION.
7. ALL ADJACENT COLUMN FOOTINGS THAT ABUT SHALL BE SEPARATED BY A PAPER JOINT.
8. BACKFILLING AGAINST WALLS SHALL NOT BE DONE UNTIL CONCRETE HAS BEEN CURED TO ATTAIN SUFFICIENT STRENGTH (7 DAYS MINIMUM) AND WALLS ARE PROPERLY SHORED AND/OR BRACED. BACKFILL FOUNDATION WALLS WITH EARTH ON BOTH SIDES OF THE WALL BY ALTERNATELY PLACING BACKFILL ON EACH SIDE SO THAT HEIGHT OF BACKFILL DOES NOT DIFFER BY MORE THAN 1'-6" FROM OTHER SIDE.
9. THE CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS AND ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER.
10. NO HORIZONTAL JOINTS SHALL BE PLACED IN WALLS EXCEPT AS SHOWN ON THE DRAWINGS WITHOUT APPROVAL OF THE ENGINEER.
11. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS OF TRENCHES, PITS, CONDUITS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.

FOUNDATION CONCRETE

3. ALL CONCRETE SHALL BE NORMAL WEIGHT STRUCTURAL CONCRETE HAVING A DESIGN COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:
 - A. FOOTINGS 4,000 PSI
 - B. WALLS AND PIERS 4,000 PSI
 - C. SLAB-ON-GRADE 4,000 PSI
4. NO CONCRETE SHALL BE PLACED UNTIL CONCRETE DESIGN MIXES HAVE BEEN SUBMITTED FOR EACH CLASS OF CONCRETE NOTED ABOVE AND HAVE BEEN APPROVED BY THE ENGINEER.
5. REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A 615, GRADE 60, LAP BARS 40 DIAMETER UNLESS OTHERWISE SHOWN. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185.
7. ALL MESH SHALL BE SPLICED SO THAT THE OVERLAP OF THE OUTERMOST CROSS WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRES PLUS 2 INCHES, UNLESS NOTED OTHERWISE.
8. FOR ALL SLABS ON GRADE WHERE NOT OTHERWISE SPECIFIED, USE 6x6-W2.9xW2.9 W.W.F.
9. MINIMUM STEEL PROTECTION, UNLESS OTHERWISE SHOWN, SHALL BE 1-INCH FOR INTERIOR FACE OF WALLS, 2 INCHES FOR EXTERIOR FACE OF WALLS, 3 INCHES FOR FOOTINGS AND OTHER STRUCTURAL CONCRETE DEPOSITED AGAINST GROUND, 2 INCHES FOR CONCRETE PERMANENTLY EXPOSED TO EARTH OR WEATHER.
10. ALL STRUCTURAL MEMBERS SHALL BE POURED FOR THEIR FULL DEPTHS IN ONE OPERATION. CONSTRUCTION JOINTS, SUCH AS DAY'S POUR JOINTS, SHALL BE LOCATED IN THE MIDDLE THIRD OF THE SPAN, MAIN REINFORCING TO RUN THROUGH THE JOINT, KEY AND ROUGHEN JOINTS TO EXPOSE AGGREGATE, CONTRACTOR SHALL SUBMIT DRAWING INDICATING CONSTRUCTION JOINT LOCATIONS FOR APPROVAL.
11. NO CONCRETE SHALL BE PLACED IN WATER.
12. ALL SLABS ON GRADE SHALL HAVE THICKENINGS, DEPRESSIONS, OPENINGS, ETC. AS SHOWN ON OR AS REQUIRED BY VARIOUS TRADES.
13. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS FOR CONCRETE FINISHES.
14. FOR ADDITIONAL CONCRETE WORK NOT SHOWN ON STRUCTURAL DRAWINGS, SEE ARCHITECTURAL DRAWINGS.

SUPERSTRUCTURE CONCRETE

- A. COLUMNS 4,000 PSI
 - B. SLABS, BEAM 4,000 PSI
 - C. WALLS 4,000 PSI
2. NO CONCRETE SHALL BE PLACED UNTIL CONCRETE DESIGN MIXES HAVE BEEN SUBMITTED FOR EACH CLASS OF CONCRETE NOTED ABOVE AND HAVE BEEN APPROVED BY THE ENGINEER.
 3. REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A 615, GRADE 60. LAP BARS 40 DIAMETER UNLESS OTHERWISE SHOWN. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
 4. MINIMUM STEEL PROTECTION, UNLESS OTHERWISE SHOWN, SHALL BE 3/4-INCH FOR SLABS, 1-INCH FOR INTERIOR FACE OF WALLS, 2-INCH FOR EXTERIOR FACE OF WALLS, 1 1/2-INCH FOR BEAM STIRRUPS AND COLUMN TIES, 2-INCH FOR VERTICAL COLUMN REINFORCING.
 5. ALL STRUCTURAL MEMBERS SHALL BE POURED FOR THEIR FULL DEPTHS IN ONE OPERATION. CONSTRUCTION JOINTS, SUCH AS DAY'S POUR JOINTS, SHALL BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. MAIN REINFORCING TO RUN THROUGH THE JOINT, KEY AND ROUGHEN JOINTS TO EXPOSE AGGREGATE. CONTRACTOR SHALL SUBMIT DRAWING INDICATING CONSTRUCTION JOINT LOCATIONS FOR APPROVAL.
 6. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER, UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS, WITHOUT APPROVAL FROM THE ENGINEER. NO SLEEVES SHALL BE PLACED HORIZONTALLY OR VERTICALLY IN BEAMS OR JOISTS, UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS, WITHOUT APPROVAL FROM THE ENGINEER.
 7. CONTRACTOR SHALL SUBMIT A COORDINATED DRAWING SHOWING ALL SLEEVES, OPENINGS, BLOCKOUTS, ETC., AS REQUIRED BY ALL TRADES, FOR APPROVAL, PRIOR TO PLACING CONCRETE IN THAT AREA.
 8. ALL SLABS SHALL HAVE THICKENINGS, DEPRESSIONS, OPENINGS, ETC. AS SHOWN HEREIN OR ON ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
 9. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185.
 10. ALL MESH SHALL BE SPLICED SO THAT THE OVERLAP BETWEEN OUTERMOST CROSS WIRES OF EACH SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRES PLUS 2 INCHES, UNLESS OTHERWISE SHOWN ON DRAWINGS.
 11. FOR ALL SLABS WHERE NOT OTHERWISE SPECIFIED USE STYLE 6x6-W2.9xW2.9 W.W.F.
 12. FOR ADDITIONAL CONCRETE WORK NOT SHOWN ON STRUCTURAL DRAWINGS, SEE ARCHITECTURAL DRAWINGS.
 13. REFER TO ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS FOR CONCRETE FINISHES.

MASONRY

1. HOLLOW CONCRETE MASONRY UNITS ASTM C90, GRADE N, TYPE 1 NORMAL WEIGHT 1900 PSI NET AREA COMPRESSIVE.
2. MORTAR SHALL BE ASTM C270, TYPE S FOR ALL REINFORCED MASONRY, EXTERIOR WALLS AND WALLS BELOW GRADE.
3. GROUT SHALL BE ASTM C476, 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
4. REINFORCING STEEL GRADE 60 REINFORCING BARS.
5. HORIZONTAL JOINT REINFORCEMENT ASTM A951.
6. STRENGTH OF MASONRY ASSEMBLY $f_m = 1,500$ PSI.
7. CONSTRUCTION SHALL CONFORM TO SPECIFICATIONS FOR MASONRY STRUCTURES, ACI 530.1
8. REINFORCING METAL TIES AND ANCHORS SHALL BE PROTECTED FROM CONTACT WITH SOIL AND BEFORE BEING PLACED SHALL BE FREE FROM LOOSE RUST AND OTHER COATINGS THAT WILL DESTROY OR REDUCE THE BOND. MINIMUM LAP SHALL BE 48 BAR DIAMETERS FOR REBAR AND 6" FOR JOINT REINFORCEMENT.
9. SHOP DRAWINGS SHOWING ALL BAR REINFORCING IN ELEVATION (1/8" TO 1'-0" MINIMUM SCALE) SHALL BE SUBMITTED AND REVIEWED PRIOR TO CONSTRUCTION.
10. ALL MASONRY WALLS TO HAVE 9 GAGE TRUSS TYPE HORIZONTAL REINFORCEMENT AT 16 INCHES ON CENTER.
11. MASONRY UNITS SHALL BE STEAM CURED, A MINIMUM OF 28 DAYS AT THE TIME OF DELIVERY AND CONTINUOUSLY PROTECTED FROM EXPOSURE TO RAIN OR OTHER SOURCES OF WATER FROM TIME OF CASTING TO FINAL PLACEMENT IN WALL. MASONRY UNITS SHALL BE DRY, FREE FROM SOIL, ICE AND FROST WHEN LAID IN WALL. SEE ACI 530.1 FOR COLD AND HOT WEATHER CONSTRUCTION AND WALL PROTECTION REQUIREMENTS.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS, LATEST EDITION:
 - A. STRUCTURAL STEEL SHAPES ASTM A992 HAVING A MINIMUM YIELD STRENGTH OF 50 KSI.
 - B. MISC SHAPES, BARS, AND PLATES – A 36 HAVING A MINIMUM YIELD STRENGTH OF 36 KSI.
 - C. ROUND PIPE – A 53, GRADE B HAVING A MINIMUM YIELD STRENGTH OF 35 KSI.
 - D. SQUARE AND RECTANGULAR TUBING – A 500, GRADE B HAVING A MINIMUM YIELD STRENGTH OF 46 KSI.
2. BOLTS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS: HIGH STRENGTH BOLTS—A 325 OR A 490; ANCHOR BOLTS—F1554; STANDARD FASTENERS—A 307.
3. ALL WELDING ELECTRODES SHALL CONFORM TO THE E-70 SERIES OF THE SPECIFICATION FOR MILD STEEL ARC WELDING ELECTRODES ASTM A 233.
4. ALL BOLTS SHALL BE 3/4-INCH DIAMETER, OPEN HOLES 13/16-INCH DIAMETER, UNLESS OTHERWISE SHOWN OR NOTED.
5. ALL SHOP CONNECTIONS MAY BE HIGH STRENGTH BOLTED OR WELDED.
6. ALL FIELD CONNECTIONS MAY BE HIGH STRENGTH BOLTED EXCEPT WHERE DETAILS INDICATE WELDING.
7. ALL HIGH STRENGTH BOLTED CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A 325 OR A 490 BOLTS.
8. ALL HIGH STRENGTH BOLTED CONNECTIONS SHALL BE FULLY PRE-TENSIONED UNLESS NOTED OTHERWISE.
9. ALL HIGH STRENGTH BOLTS IN OVERSIZED HOLES SHALL BE SLIP CRITICAL.
10. ALL HIGH STRENGTH BOLTED CONNECTIONS USED FOR KICKERS AND BRACING MEMBERS WHICH ARE FABRICATED WITH SLOTTED HOLES SHALL USE SLIP—CRITICAL BOLTS. IF STANDARD HOLES ARE USED, BOLTS SHALL BE FULLY PRE-TENSIONED.
11. NO PENETRATIONS ARE PERMITTED THROUGH STRUCTURAL STEEL MEMBERS UNLESS INDICATED ON STRUCTURAL DRAWINGS OR APPROVED BY ENGINEER.
12. APPROVAL OF THE ENGINEER SHALL BE MANDATORY FOR THE USE OF CUTTING TORCH IN THE FIELD.
13. DURING ERECTION, STRUCTURAL STEEL FRAME SHALL BE ADEQUATELY BRACED IN ALL LINES, TWO WAYS.
14. CONNECTIONS SHALL BE DESIGNED PER AISC TO CARRY FULL CAPACITY OF UNIFORMLY LOADED MEMBER, UNLESS NOTED OTHERWISE. REACTIONS GREATER THAN FULL MEMBER CAPACITY ARE INDICATED THUS (60K) ON PLAN.
15. ALL GROUT UNDER STEEL PLATES SHALL BE NON-SHRINK "PRE-MIX" TYPE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
16. FOR ALL MISCELLANEOUS STEEL CONSTRUCTION NOT SHOWN ON STRUCTURAL DRAWINGS, SEE ARCHITECTURAL DRAWINGS.
17. EXPANSION BOLTS SHALL BE 3/4-INCH DIAMETER KWIK BOLT ANCHORS AS MANUFACTURED BY HILTI OR APPROVED EQUIVALENT AS APPROVED BY THE ENGINEER, AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
18. ALL STEEL COLUMN BASE PLATES SHALL INCLUDE LEVELING PLATES AS REQUIRED FOR CONSTRUCTION.
19. ALL EXPOSED / EXTERIOR STEEL SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

WOOD FRAMING

1. PROVIDE ALL WOOD FRAMING MATERIALS AS SHOWN ON THE PLANS FOR COMPLETE CONSTRUCTION.
2. PROVIDE ALL MISCELLANEOUS WOOD FRAMING AND/OR BRACING AS REQUIRED FOR SUPPORT OF MECHANICAL, ELECTRICAL, PLUMBING OR MISCELLANEOUS APPURTENANCES.
3. ALL WOOD SHALL BE MINIMUM OF GRADE NO. 2 OR BETTER UNLESS OTHERWISE SHOWN.
4. ALL ROOF SHEATHING SHALL BE INSTALLED WITH PANEL CLIPS.
5. PRE-MANUFACTURED WOOD ROOF TRUSSES SHALL BE PROVIDED AS SHOWN ON THE DRAWINGS TO MEET REQUIRED OPENINGS FOR MISCELLANEOUS EQUIPMENT. TRUSS MANUFACTURER SHALL SUBMIT DESIGN DRAWINGS AND CALCULATIONS THAT COMPLY WITH REQUIRED DESIGN LOADS FOR APPROVAL PRIOR TO CONSTRUCTION PLANS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY LICENSED NEW JERSEY PROFESSIONAL ENGINEER.

MISCELLANEOUS

1. CONTRACTOR SHALL VERIFY CONDITIONS IN THE FIELD AND IMMEDIATELY NOTIFY ENGINEER OF ANY CONDITIONS NOT AS ASSUMED; HE SHALL TAKE FIELD MEASUREMENTS AS REQUIRED AND BE RESPONSIBLE FOR SAME.
2. CONTRACTOR SHALL COORDINATE WITH ALL RELATED TRADES FOR DETAILING, FABRICATION, AND ERECTION PRIOR TO SUBMITTING SHOP DRAWINGS FOR APPROVAL.
3. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ETC. REQUIREMENTS. DISCREPANCIES AND/OR INTERFERENCE SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. GENERAL CONTRACTOR TO PROVIDE APPROPRIATE NUMBER OF COPIES OF ONE COMPLETE COORDINATED DRAWING SHOWING ALL SLEEVES, CONDUIT BOXOUT, DUCT OPENINGS, ETC. AS REQUIRED FOR ALL TRADES FOR ENGINEER'S APPROVAL. THIS SHALL BE DONE A MINIMUM OF TWO WEEKS PRIOR TO POURING AFFECTED SLABS, COLUMNS, OR FOOTINGS.
5. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS OR OTHER APPROVAL FROM THE ENGINEER.
6. SUPPORT DETAILS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING EQUIPMENT IS BASED UPON AVAILABLE INFORMATION OF MANUFACTURER. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ACTUAL EQUIPMENT AND SHALL PROVIDE ANY ADDITIONAL REQUIRED FRAMING.

ABBREVIATIONS	
E.F.	EACH FACE
WF1	WALL FOOTING
CMU	CONCRETE MASONRY UNIT
V.I.F.	VERIFY IN THE FIELD
O.C.	ON CENTER
E.W.	EACH WAY
T&B	TOP & BOTTOM
AL	ALUMINUM
CS	CARBON STEEL
SS	STAINLESS STEEL
CL	CENTER LINE
GALV.	GALVANIZED
T.O.M.	TOP OF MASONRY

STRUCTURAL DRAWING LIST	
DRAWING #	DRAWING TITLE
S-1.0	WELL NO. 6 AND WELL NO. 9 STRUCTURAL COVER SHEET
S-1.1(W6)	WELL NO. 6 FOUNDATION PLAN
S-2.1(W6)	WELL NO. 6 TOP SLAB PLAN
S-2.2(W6)	WELL NO. 6 STEEL FRAMING AND LINTEL PLAN
S-2.3(W6)	WELL NO. 6 BUILDING FLOOR PLAN
S-3.1(W6)	WELL NO. 6 BUILDING ROOF PLAN
S-4.1(W6)	WELL NO. 6 EXTERIOR BUILDING ELEVATIONS
S-4.2(W6)	WELL NO. 6 EXTERIOR BUILDING ELEVATIONS
S-4.3(W6)	WELL NO. 6 INTERIOR BUILDING SECTION
S-4.4(W6)	WELL NO. 6 INTERIOR BUILDING SECTION
S-5.1(W6)	WELL NO. 6 SECTIONS AND DETAILS
S-1.1(W9)	WELL NO. 9 FOUNDATION FLOOR PLAN
S-2.1(W9)	WELL NO. 9 TOP SLAB & LINTEL PLAN
S-2.2(W9)	WELL NO. 9 BUILDING FLOOR PLAN
S-3.1(W9)	WELL NO. 9 BUILDING ROOF PLAN
S-4.1(W9)	WELL NO. 9 EXTERIOR BUILDING ELEVATIONS
S-4.2(W9)	WELL NO. 9 EXTERIOR BUILDING ELEVATIONS
S-4.3(W9)	WELL NO. 9 INTERIOR BUILDING SECTIONS
S-5.1(W9)	WELL NO. 9 SECTIONS AND DETAILS



2059 SPRINGDALE ROAD
CHERRY HILL, NJ 08003
(856) 795-9595, FAX (856) 795-1882
WEB ADDRESS : RVE.COM
Certification of Authorization: 24 GA 28003300
Excellence • Innovation • Service

DATE:

STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. No. 42133

DATE: 01.24.2025
KENNETH C. RESSLER
NJ PROFESSIONAL ENGINEER LIC. No. 34551

PLANS WHICH DO NOT BEAR
AN EMBOSSED SEAL ARE NOT VALID

ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND REMINGTON & VERNICK ENGINEERS AND AFFILIATES, AND OWNERS, SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON & VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

[illegible]

WELL NO. 6 AND WELL NO. 9
STRUCTURAL COVER SHEET

AQUA NEW JERSEY

WELL NO. 6 & WELL NO. 9

PFAS TREATMENT IMPROVEMENTS

<u>DRAWN BY:</u> J.G.	<u>DESIGN BY:</u> R.C.	<u>CHECKED BY:</u> J.T.	<u>SCALE:</u> AS NOTED
<u>DATE:</u> FEB 2024		<u>SHEET No.:</u> S-1.0	
<u>JOB No.:</u> 3908X023			



**REMINGTON
& VERNICK
ENGINEERS**
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Excellence • Innovation • Service

DATE: _____
STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. No. 42130

DATE: 01.24.2025
KENNETH C. RESSLER
NJ PROFESSIONAL ENGINEER LIC. No. 34551

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[illegible]

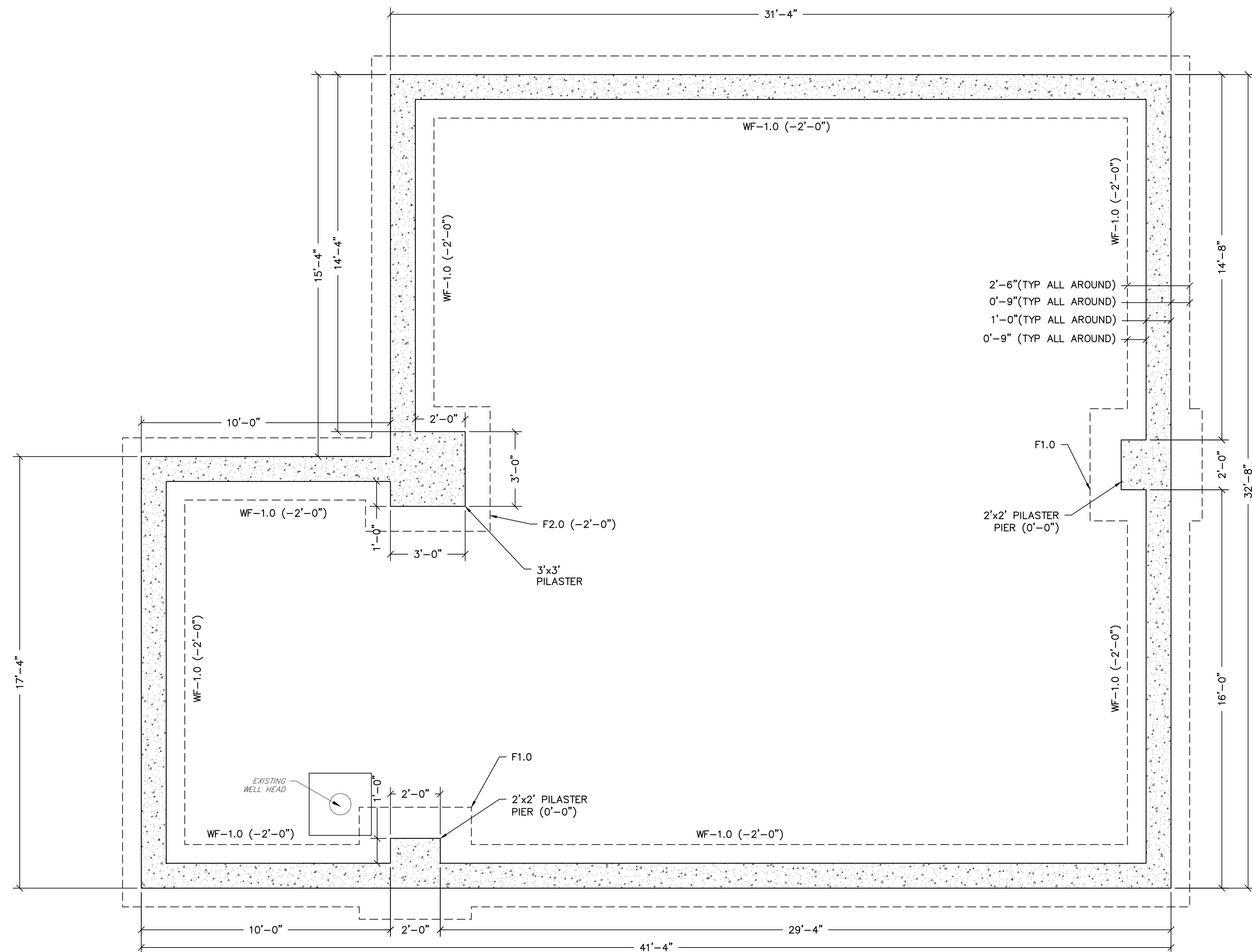
WELL NO. 6
FOUNDATION PLAN

AQUA NEW JERSEY
WELL NO. 6 & WELL NO. 9

PFAS TREATMENT IMPROVEMENTS

TOWNSHIP OF LAWRENCE
MERCER COUNTY
NEW JERSEY

<u>DRAWN BY:</u> J.G.	<u>DESIGN BY:</u> R.C.	<u>CHECKED BY:</u> J.T.	<u>SCALE:</u> AS NOTED
<u>DATE:</u> FEB 2024		<u>SHEET No.:</u> S-1.1(W6)	
<u>JOB No.:</u> 3908X023			



FOUNDATION FLOOR PLAN

SCALE: $3/8"=1'$

(____) INDICATES T/FTG. EL. SUBTRACTED FROM F.F.,
T/F.F. @ EL. 0'-0"

(____) INDICATES T/PIER. EL. SUBTRACTED FROM F.F.
T/F.F. @ EL. 0'-0"

SECTIONS SHOWN IN PLAN APPLY TO SIMILAR
CONDITIONS THROUGHOUT THE BLDG.

WALL FOOTING SCHEDULE

WF10
2'-6"W x 12" THICK W/ #5 @ 12" O.C. E.W. T&B

PILASTER FOOTING SCHEDULE

F10	F20
4'-6"W x 4'-6"L 12" THICK W/ (5)#5 @ E.W. O.C. T&B	5'-0"W x 5'-0"L 12" THICK W/ (5)#5 @ E.W. O.C. T&B

0 16" 32" 64"

$3/8'' = 1'-0''$



DATE: 01.24.2025
KENNETH C. RESSLER
NJ PROFESSIONAL ENGINEER LIC. No. 34555

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[illegible]

AQUA NEW JERSEY

WELL NO. 6 & WELL NO. 9

PFAS TREATMENT IMPROVEMENTS

<u>DRAWN BY:</u> J.G.	<u>DESIGN BY:</u> R.C.	<u>CHECKED BY:</u> J.T.	<u>SCALE:</u> AS NOTED
<u>DATE:</u> FEB 2024		<u>SHEET No.:</u> S-2.1(W6)	
<u>JOB No.:</u> 3908X023			



SLAB CONSTRUCTION JOINT
N.T.S.




EXPANSION JOINT= EJ

CONTROL JOINT= CTJ

CONSTRUCTION JOINT= CJ



0 16" 32" 64"

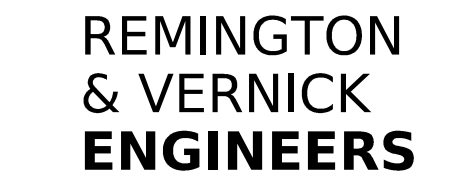


$3/8" = 1'-0"$



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DATE:			
STEPHANIE A. CUTHBERT NJ PROFESSIONAL ENGINEER LIC. No. 42136			
DATE: <u>01.24.2025</u>			
 KENNETH C. RESSLER NJ PROFESSIONAL ENGINEER LIC. No. 34559			
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	DATE BY / CHK REVISION No.		
<p>WELL NO. 6</p> <p>STEEL FRAMING AND LINTEL PLAN</p> <p>AQUA NEW JERSEY</p> <p>WELL NO. 6 & WELL NO. 9</p> <p>PFAAS TREATMENT IMPROVEMENTS</p> <p>TOWNSHIP OF LAWRENCE</p> <p>MERCER COUNTY</p> <p>NEW JERSEY</p>			
DRAWN BY: J.G.	DESIGNED BY: R.C.	CHECKED BY: J.T.	SCALE: AS NOTED
DATE: FEB 2024		SHEET No.: S-2.2(W6)	
JOB No.: 390RX023			





DATE: _____
STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. No. 42131

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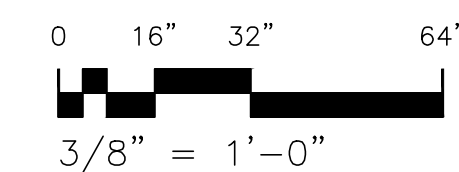
AQUA NEW JERSEY

WELL NO. 6 & WELL NO. 9

PFAS TREATMENT IMPROVEMENTS

WELL NO. 6 & WELL NO. 9
PFAS TREATMENT IMPROVEMENTS

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<u>DATE :</u> FEB 2024		<u>SHEET No. :</u> S-3.1(W6)	
<u>JOB No. :</u> 3908X023			



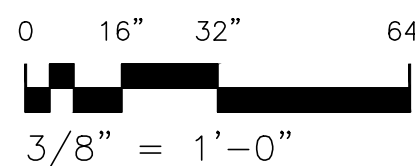


PROFESSIONAL ENGINEER LIC. No. 3455

RESULTING THEREFROM

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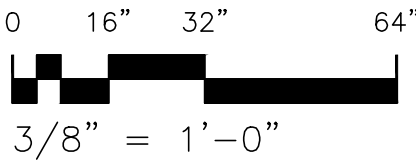
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[illegible]

WELL NO. 6 & WELL NO. 9
; TREATMENT IMPROVEMENTS

<u>DRAWN BY:</u> J.G.	<u>DESIGN BY:</u> R.C.	<u>CHECKED BY:</u> J.T.	<u>SCALE:</u> AS NOTED
<u>DATE:</u> FEB 2024		<u>SHEET No.:</u> S-4.2(W6)	
<u>JOB No.:</u> 3908X023			



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DATE:
STEPHANIE A. CUTHBERT
NJ PROFESSIONAL ENGINEER LIC. No. 42136

Kenneth C. Ressler
DATE: **01.24.2025**
KENNETH C. RESSLER
NJ PROFESSIONAL ENGINEER LIC. No. 34559

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& VERNICK ENGINEERS AND AFFILIATES. AND OWNER
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				BY	CHK
				DATE	
				REVISION	
				No.	

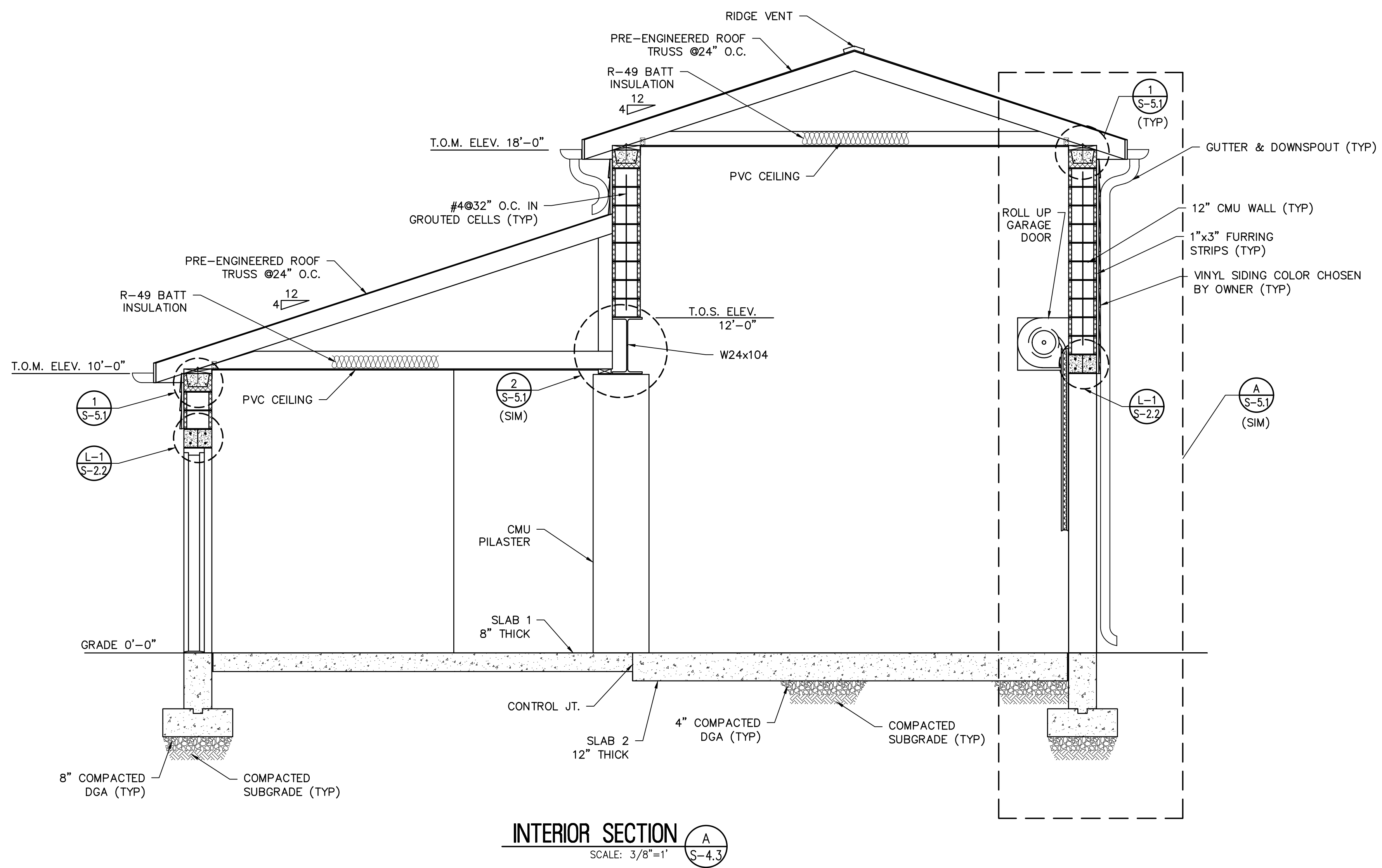
WELL NO. 6
INTERIOR BUILDING SECTION

AQUA NEW JERSEY

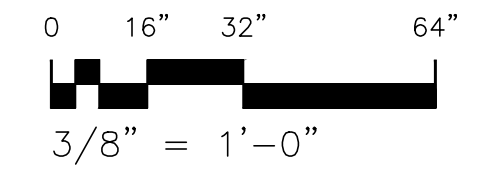
WELL NO. 6 & WELL NO. 9
PFAS TREATMENT IMPROVEMENTS

TOWNSHIP OF LAWRENCE
MERCER COUNTY
NEW JERSEY

DRAWN BY:	DESIGN BY:	CHECKED BY:	SCALE:
J.G.	R.C.	J.T.	AS NOTED
DATE:		SHEET No.:	
FEB 2024			
JOB No.:			
3908X023			
			S-4.3(W6)



INTERIOR SECTION A
SCALE: 3/8"=1'
S-4.3





DATE: 01.24.2025
ENNETH C. RESSLER
PROFESSIONAL ENGINEER LIC. No. 34559

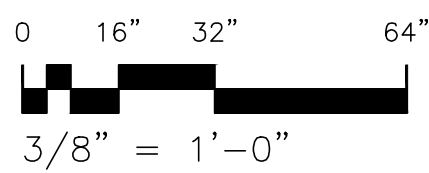
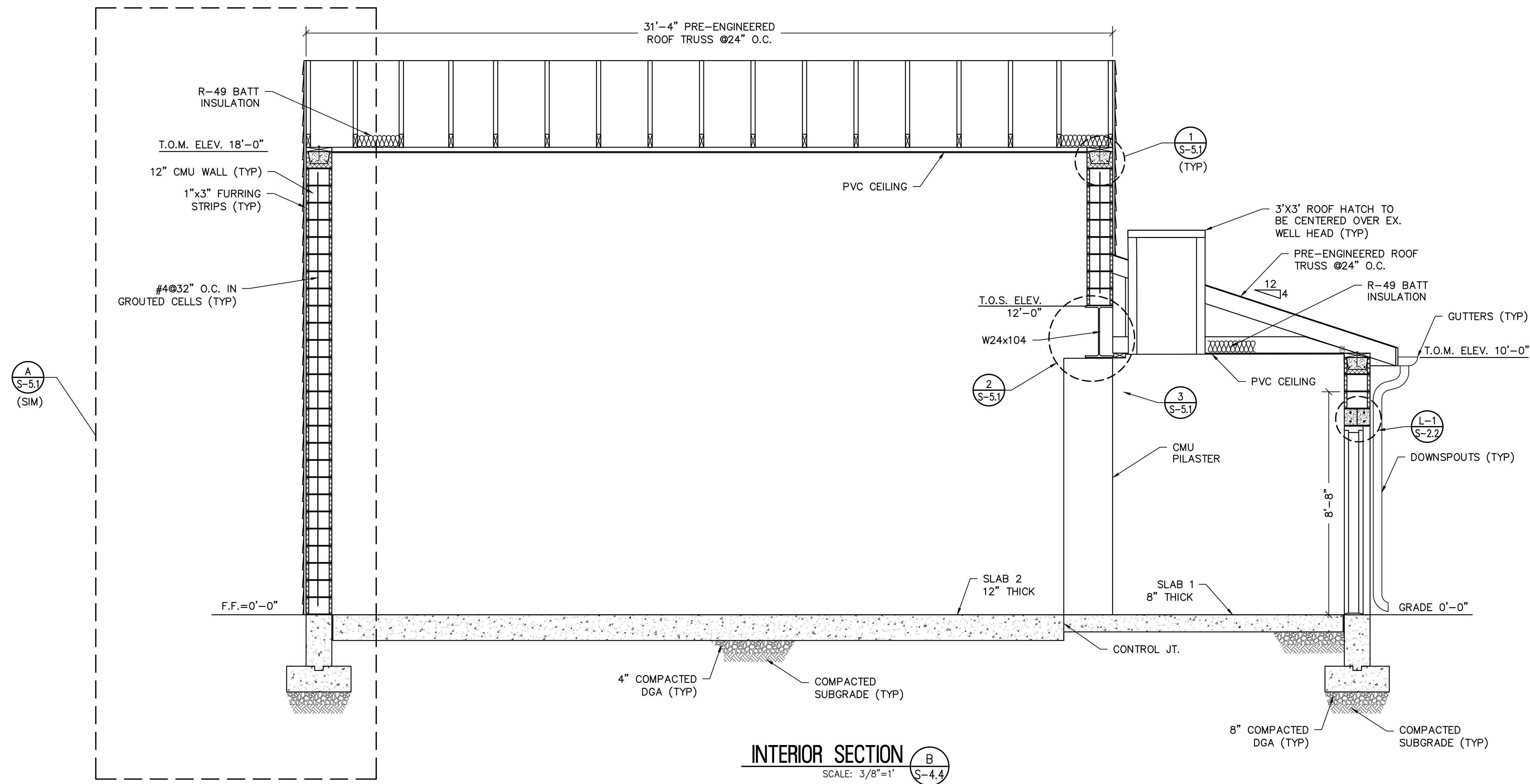
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RESULTING THEREFROM.

[illegible]

WELL NO. 6
INTERIOR BUILDING SECTION

WELL NO. 6 & WELL NO. 9
PFAS TREATMENT IMPROVEMENTS

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<u>DATE :</u> FEB 2024		<u>SHEET No. :</u> S-4.4(W6)	
<u>JOB No. :</u> 3908X023			





DATE: 01.24.2025
KENNETH C. RESSLER
NJ PROFESSIONAL ENGINEER LIC. No. 34551

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[illegible]

WELL NO. 6
SECTIONS AND DETAILS

AQUA NEW JERSEY

WELL NO. 6 & WELL NO. 9
PFAS TREATMENT IMPROVEMENTS

NEW JERSEY
MERCER COUNTY
MUNICIPALITY OF LAURENCEVILLE

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<u>DATE :</u> FEB 2024		<u>SHEET No. :</u> S-5.1(W6)	
<u>JOB No. :</u> 3908X023			

SECTION A
SCALE: 1/2"=1' S-5.1