PRELIMINARY and FINAL SITE PLAN APPLICATION

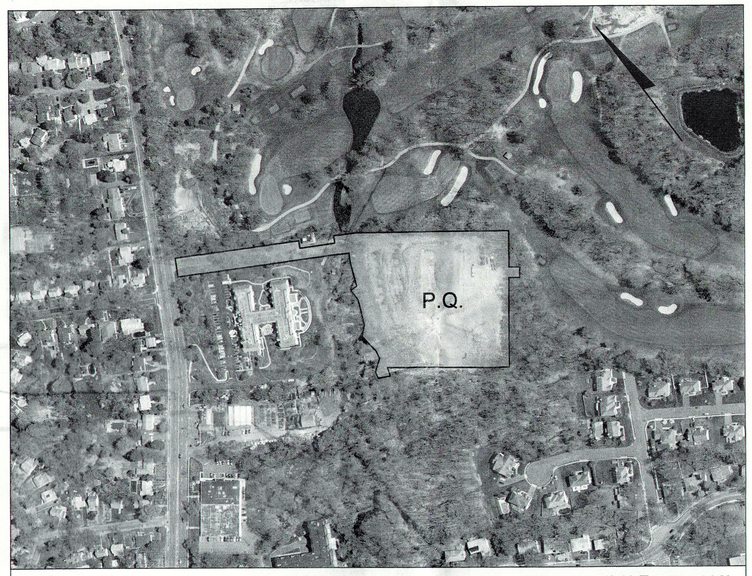
AND

USE VARIANCE

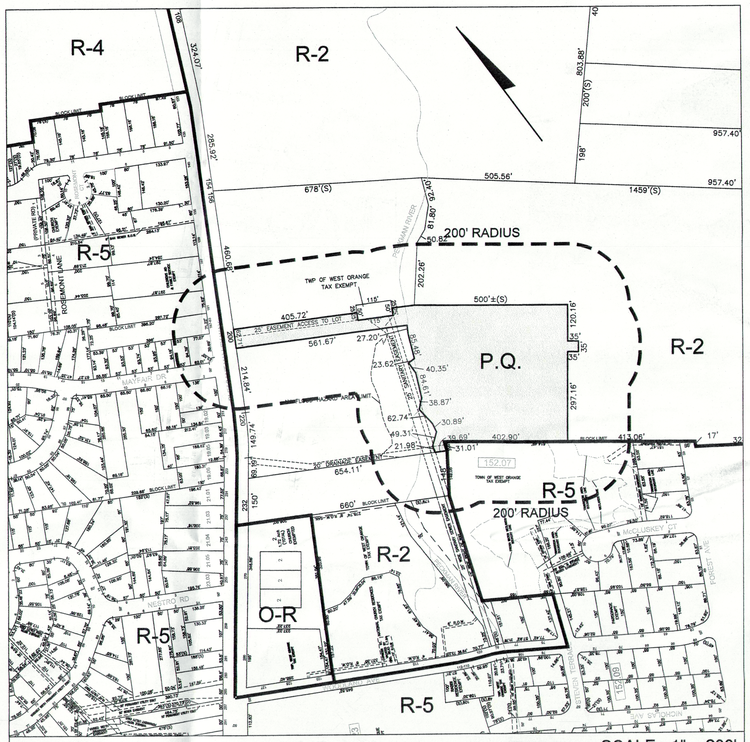
PREPARED FOR

THE REDWOOD

TO BE LOCATED IN
LOT 33 BLOCK 151
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY



AERIAL MAP SCALE - 1" = 200'



AREA MAP SCALE - 1" = 200'

MAP REFERENCE: PORTIONS OF THE OFFICIAL TAX MAPS OF THE TOWNSHIP OF WEST ORANGE, SHEETS 75, 76 & 131

SITE DATA CHART

LOT 33 BLOCK 151
ZONE R-2 SINGLE FAMILY RESIDENTIAL
AREA: 5.913 ACRES/257,557 SF.

APPLICANT: REDWOOD, L.L.C. c/o PAGANO REAL ESTATE
420 BOULEVARD, SUITE 201
MOUNTAIN LAKE, NEW JERSYE 07046

OWNER: REDWOOD, L.L.C. c/o PAGANO REAL ESTATE
55 HARRISTOWN ROAD, SUITE 305
GLEN ROCK, NJ 07452

PROPOSED USE: CONSTRUCT FIVE AND A HALF-STORY LUXURY RESIDENTIAL COMMUNITY (PROHIBITED USE) 25-7.1

BUILDING/LOT REQUIREMENTS (ALL SECT. 25-7.1)

DESCRIPTION	CODE	EXISTING (FORMER ESSEX CLUB)	APPROVED (SIGNATURE PLACE)	PROPOSED	COMPLIANCE
MAX. BLDG. HEIGHT	2.5 STY/35'	1.5 STY 40'	4 STY/50'	5.5 STY/64.07'	NO[1]
MIN. LOT AREA (SF.)	40,000 SF.	257,557 SF.	257,557 SF.	257,557 SF.	YES
MIN. LOT WIDTH	125'	62.71'	38.0'	62.73' @ FRONT SETBACK 38.0' @ NARROWEST	NO[2]
MAX. BUILDING. COVERAGE	20%	25.4%	15.7%	32.2%	NO[1]
MAX. IMPERVIOUS COVERAGE	30%	84.0%	39.6%	69.5%	NO[1]
MIN. FRONT YARD	35'	125.3'[4]	117.5'[4]	692.0'	YES
MIN. SIDE YARD (EACH)	20'	24.5'	26.2' + 106.4	95.1' + 68.3'	YES
MIN. REAR YARD	45'	25.0'	46.0'	68.7'	YES
FREE STANDING SIGNS	NOT PERMITTED	NA	1	2	NO[1]
SIGN AREA	ONE-1 SF SIGN PERMITTED	NA	14.7 SF (ONE SIDE)	PV WAY: 71.1 SF (BOTH SIDES) INTERIOR: 53.2 SF (ONE SIDE)	NO[1]

STEEP SLOPES CALCULATIONS (PER SECT. 25-28.8 (d))

DESCRIPTION	CODE	EXISTING	APPROVED	PROPOSED	COMPLIANCE
MIN. EFFECTIVE LOT AREA	40,000 SF.	201,497 SF.	201,497 SF.	240,408.84 SF.	YES
MAX. EFFECTIVE BUILDING COVERAGE	20%	32.5%	20.1%	34.5%	NO[1]
MAX. EFFECTIVE IMPERVIOUS COVERAGE	30%	107.4%	50.6%	74.5%	NO[1]
TREE REMOVAL ON SLOPES ≥ 15%	NOT PERMITTED	NA	NA	YES FOR SIDEWALK	NO[1]

PARKING REQUIREMENTS

DESCRIPTION		CODE	EXISTING	APPROVED	PROPOSED	COMPLIANCE
MIN. NUMBER OF TREES WITHIN PARKING AREA	25-12.1 (p)	1 TREE/10 SPACES = 17 TREES REQ'D.	33	>16 TREES	35 TREES	YES
PARKING STALL SIZE	25-12.1 (q)	9' x 18'	9' x 18'	9' x 18'	9' x 18'	YES
MIN. REQUIRED PARKING	25-12.2 (a)(1)	370 SPACES	316 SPACES	48 SPACES	170 INSIDE BLDG. 168 SURFACE 338 TOTAL	NO[1]
MIN. TWO WAY PARKING AISLE WIDTH	25-12.1 (h)(6)	24'	24'	24'	24'	YES
MAX. PARKING AREA WITHIN MIN. REQ'D. SETBACK AREA	25-12.4 (b)(2)	30%	NA	23.1%	23.2%	YES

PARKING CALCULATIONS

PARKING SPACES REQUIRED 25-12.2 (a)(1)
MID-RISE BUILDING[3]
SPACES PER 1 BEDROOM UNIT 1.8 @ 71 UNITS = 127.8 SPACES
SPACES PER 2 BEDROOM UNIT 2.0 @ 104 UNITS = 208 SPACES
SPACES PER 3 BEDROOM UNIT 2.1 @ 16 UNITS = 33.6 SPACES
TOTAL REQUIRED PARKING = 369.4 SPACES
TOTAL PROVIDED PARKING = 338 SPACES

FOOTNOTES:
1. VARIANCE REQUIRED (SEE VARIANCE NOTES BELOW).
2. EXISTING NON-CONFORMING CONDITION.
3. REQUIREMENTS FOR ATTACHED UNITS (APARTMENT/CONDOMINIUM/TOWNHOUSE) INCLUDE PROVISIONS FOR GUEST PARKING (0.5 SPACES PER DWELLING UNIT). GUEST PARKING MUST EITHER BE PROVIDED FOR ON STREET OR IN COMMON PARKING AREAS.
4. AS SHOWN ON PREVIOUS SITE PLAN – DOES NOT CORRESPOND WITH FRONT YARD SETBACK DEFINITION.

VARIANCE NOTES:
1. A VARIANCE IS REQUESTED FROM SECTION: 25-7.1 OF THE LAND USE ORDINANCE OF THE TOWNSHIP OF WEST ORANGE WHICH PERMITS ONE FAMILY, DETACHED DWELLING AND SENIOR CITIZEN HOUSING IN THE R-2 ZONE. MULTI-FAMILY RESIDENTIAL HOUSING IS PROPOSED.
2. A VARIANCE IS REQUESTED FROM SECTION: 25-7.1 OF THE LAND USE ORDINANCE OF THE TOWNSHIP OF WEST ORANGE WHICH REQUIRES A MINIMUM LOT WIDTH OF 125 FT. 37.00 FT CURRENTLY EXIST.
3. A VARIANCE IS REQUESTED FROM SECTION: 25-7.1 OF THE LAND USE ORDINANCE OF THE TOWNSHIP OF WEST ORANGE WHICH PERMITS A MAXIMUM HEIGHT OF 2 1/2 STORIES/ 35'. THE PROPOSED BUILDING IS 4 STORIES/ 50'-0".
4. A VARIANCE IS REQUESTED FROM SECTION: 25-7.1 OF THE LAND USE ORDINANCE OF THE TOWNSHIP OF WEST ORANGE WHICH PERMITS A MAXIMUM PERCENTAGE LOT COVERAGE OF 30%. A 39.6% LOT COVERAGE IS PROPOSED.
5. A VARIANCE IS REQUESTED FROM SECTION: 25-7.1 OF THE LAND USE ORDINANCE OF THE TOWNSHIP OF WEST ORANGE WHICH REQUIRES A MINIMUM SIGN SETBACK OF 40' TO ANY STREET OR PROPERTY LINE. A 10 FT SETBACK IS PROPOSED.

PROPERTY OWNERS WITHIN 200'

ADJACENT PROPERTY LISTING — PAGE 1
TAXING DISTRICT 22 WEST ORANGE TWP — COUNTY 07 ESSEX

PROPERTY ID	PROPERTY LOCATION	CLASS	OWNERS NAME & ADDRESS
151 1	25 PROSPECT AVENUE 37,41,45,01,49	4A	MONTCLAIR GOLF CLUB P O BOX 194 MOUNTAIN H J 07042
151 29	330 PLEASANT VALLEY WAY	4A	PLEASANTDALE NURSERIES INC 232-234 PLEASANT VALLEY W WEST ORANGE, N.J. 07052
151 30	220-222 PLEASANT VALLEY	4A	PCH 964 WEST ORANGE LP 7900 WESTPARK DR MCLEAN, VA 22102
151 33	200 PLEASANT VALLEY WAY	1	REDWOOD LLC,% PAGANO REAL ESTATE 420 BOULEVARD STE #201 MOUNTAIN LAKES, NJ 07046
151 34.01	PLEASANT VALLEY WAY REAR	15C	TOWNSHIP OF WEST ORANGE 66 MAIN ST WEST ORANGE, N.J. 07052
152.07 4	109 WOODLAND AVENUE	15C	TOWNSHIP OF WEST ORANGE 66 MAIN STREET WEST ORANGE, N.J. 07052
152.07 5	WOODLAND AVE REAR	1	TOWNSHIP OF WEST ORANGE 66 MAIN STREET WEST ORANGE, NJ 07052
152.07 17	56 FOREST AVENUE	2	ARENAS, BONITA L 56 FOREST AVE WEST ORANGE, NJ 07052
179.07 1	1 MAYFAIR DRIVE	2	MONCADA, JAIRO & BETANCUR, ANYELA 1 MAYFAIR DRIVE WEST ORANGE, NJ 07052
179.07 2	3 MAYFAIR DRIVE	2	BALBOA, SONNA & ALISON LLEWELLYN 3 MAYFAIR DRIVE WEST ORANGE, NJ 07052
179.07 3	5 MAYFAIR DRIVE	2	CORNOLEBO, PINA+PAVONE,JILLIAM 5 MAYFAIR DRIVE WEST ORANGE, NJ 07052
179.07 16.01	187 PLEASANT VALLEY WAY	2	BONNEBON, PEDRO & ROSARIO 187 PLEASANT VALLEY WAY WEST ORANGE, NJ 07052
179.07 19.01	4 MAYFAIR DRIVE	2	BALDSON, GARY I 4 MAYFAIR DR WEST ORANGE, NJ 07052
179.07 19.02	211 PLEASANT VALLEY WAY	2	SOTO, YULE & NEYSERI SNOSSARA 211 PLEASANT VALLEY WEST ORANGE, NJ 07052
179.14 13.01	191 PLEASANT VALLEY WAY	2	AMWESTATE LLC, 191 PLEASANT VALLEY WAY WEST ORANGE, N.J. 07052
179.14 13.03	167 PLEASANT VALLEY WAY	15D	CHILDRENS AID & FAMILY SERVICE 3500 NORTH ROAD PARAMUS, NEW JERSEY 07652

CERTIFIED
JUL 29 2019
TOWNSHIP OF WEST ORANGE
TAX ASSESSOR

PUBLIC UTILITIES

ELECTRIC & GAS
Public Service Electric & Gas Company
Manager - Corporate Properties
80 Park Plaza, T5B
Newark, NJ 07102

WATER
New Jersey American Water Company
167 John F. Kennedy Parkway
Short Hills, NJ 07078

CABLE TV
Comcast Cablevision
800 Railway Avenue
Union, NJ 07083

TELEPHONE
Verizon
540 Broad Street
Newark, NJ 07101

SEWER
Township of West Orange
Municipal Building
66 Main Street
West Orange, NJ 07052

Joint Meeting of Essex and Union Counties
500 South Five Street
Elizabeth, NJ 07202

City of Orange Township
29 North Day Street
Orange, NJ 07050

ESSEX COUNTY
If property address is on a county road, please provide notice to:

Essex County Planning Board
900 Bloomfield Avenue
Verona, NJ 07044

LIST OF DRAWINGS

SHEET No.	DRAWING NAME	PREPARED BY
SP-1	TITLE SHEET	PETRY ENGINEERING LLC
SP-2	SITE LAYOUT PLAN	PETRY ENGINEERING LLC
SP-3	GRADING AND DRAINAGE PLAN	PETRY ENGINEERING LLC
SP-4	UTILITY PLAN	PETRY ENGINEERING LLC
SP-5	DRIVEWAY & STORM SEWER PROFILES	PETRY ENGINEERING LLC
SP-6	DRIVEWAY & STORM SEWER PROFILES	PETRY ENGINEERING LLC
SP-7	DRIVEWAY & STORM SEWER PROFILES	PETRY ENGINEERING LLC
SP-8	DRIVEWAY & STORM SEWER PROFILES	PETRY ENGINEERING LLC
SP-9	LIGHTING PLAN	PETRY ENGINEERING LLC
SP-10	LANDSCAPE/TREE REMOVAL PLAN	PETRY ENGINEERING LLC
SP-11	SOIL EROSION & SEDIMENT CONTROL	PETRY ENGINEERING LLC
SP-12	SOIL EROSION & SEDIMENT CONTROL FOR BRIDGE RECONSTRUCTION	PETRY ENGINEERING LLC
SP-13	CONSTRUCTION DETAILS	PETRY ENGINEERING LLC
SP-14	CONSTRUCTION DETAILS	PETRY ENGINEERING LLC
SP-15	CONSTRUCTION DETAILS	PETRY ENGINEERING LLC
SP-16	CONSTRUCTION DETAILS	PETRY ENGINEERING LLC
1 of 1	BOUNDARY AND TOPOGRAPHIC SURVEY	CONTROL LAYOUTS, INC.
NF-1	NATURAL FEATURES MAP	PETRY ENGINEERING LLC
A-101	GRADE LEVEL PLAN - GARAGE	MICHELS & WALDRON
A-102	GROUND FLOOR & AMENITIES PLAN	MICHELS & WALDRON
A-103	TYPICAL FLOOR PLAN	MICHELS & WALDRON
A-104	TYPICAL UNITS PLAN	MICHELS & WALDRON
A-105	BUILDING SECTIONS	MICHELS & WALDRON
A-106	ELEVATIONS	MICHELS & WALDRON
A-107	ELEVATIONS	MICHELS & WALDRON
A-108	ELEVATIONS	MICHELS & WALDRON
A-109	ELEVATIONS	MICHELS & WALDRON
A-110	VIEW	MICHELS & WALDRON

GENERAL NOTES:

1. SUBJECT PROPERTY IS SERVICED BY THE TOWNSHIP OF WEST ORANGE MUNICIPAL PUBLIC WATER AND SANITARY SEWER SYSTEM.
2. ALL IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE STATE, COUNTY AND MUNICIPAL REQUIREMENTS.
3. CONTRACTOR IS ADVISED THAT ALL APPLICABLE OSHA SAFETY REGULATIONS MUST BE FOLLOWED DURING ALL PHASES OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, EXCAVATION AND/OR SHORING OF ANY EXCAVATIONS. THESE ENGINEERING DRAWINGS ARE NOT INTENDED TO ILLUSTRATE METHODS OF CONSTRUCTION OF THE RETAINING WALL(S) OR EXCAVATION DETAILS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND CONSTRUCT THE WALL(S) IN COMPLIANCE WITH ALL APPLICABLE SAFETY REGULATIONS.
4. THE PARKING GARAGE MUST COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING DEVELOPMENT FEE ORDINANCE.
5. THE APPLICANT IS RESPONSIBLE FOR ALL SEWER AND WATER TIE-IN FEES.

APPROVALS

TOWNSHIP OF WEST ORANGE

ZONING BOARD CHAIRPERSON

ZONING BOARD SECRETARY

TOWNSHIP ENGINEER

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP
3	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
2	UPDATED FOR COMPLETENESS FER BOARD PROFESSIONALS	04/12/2017	JMP
1	PARKING GARAGE SPACE COUNT	01/17/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

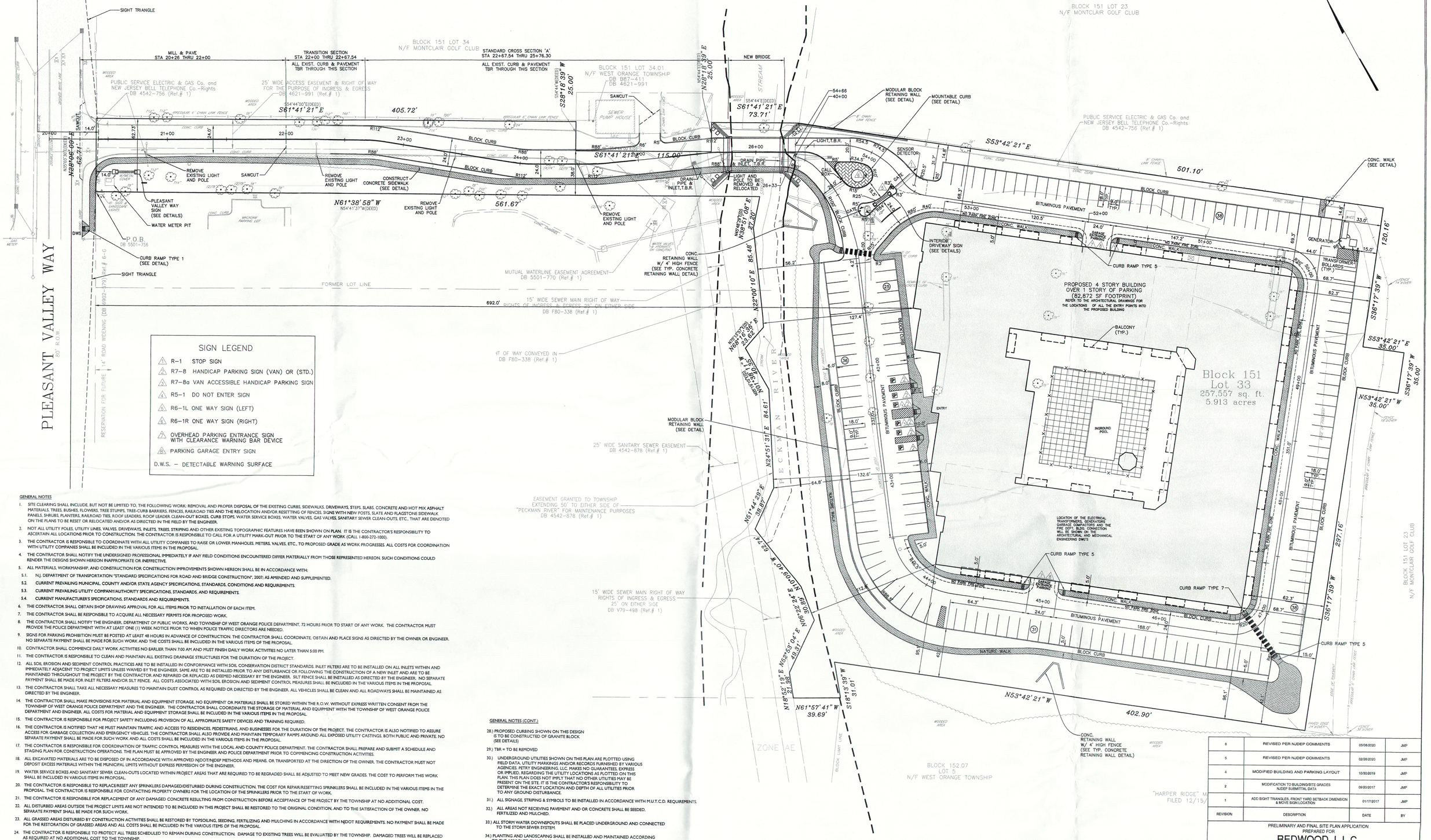
TITLE SHEET

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GC00015600
169 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL.: (973) 227-7004 FAX (973) 227-7074

Designer: JMP
Draftsman: CVF
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-1

CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36952 DATED 12/12/16



GENERAL NOTES

1. SITE CLEARING SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING WORK: REMOVAL AND PROPER DISPOSAL OF THE EXISTING CURBS, SIDEWALKS, DRIVEWAYS, STEPS, SLABS, CONCRETE AND HOT MIX ASPHALT MATERIALS, TREES, BUSHES, FLOWERS, TREE STUMPS, TREE-CURB BARRIERS, FENCES, RAILROAD TIES AND THE RELOCATION AND/OR RESETTING OF FENCES, SIGNS WITH NEW POSTS, SLATE AND FLAGSTONE SIDEWALK PANELS, SHRUBS, PLANTERS, RAILROAD TIES, ROOF LEADERS, ROOF LEADER CLEAN-OUT BOXES, CURB STOPS, WATER SERVICE BOXES, WATER VALVES, GAS VALVES, SANITARY SEWER CLEAN-OUTS, ETC., THAT ARE DENOTED ON THE PLANS TO BE RESET OR RELOCATED AND/OR AS DIRECTED IN THE FIELD BY THE ENGINEER.
2. NOT ALL UTILITY POLES, UTILITY LINES, VALVES, DRIVEWAYS, INLETS, TREES, STRIPING AND OTHER EXISTING TOPOGRAPHIC FEATURES HAVE BEEN SHOWN ON PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN ALL LOCATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO CALL FOR A UTILITY MARK-OUT PRIOR TO THE START OF ANY WORK (CALL 1-800-272-1000).
3. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ALL UTILITY COMPANIES TO RAISE OR LOWER MANHOLES, METERS, VALVES, ETC., TO PROPOSED GRADE AS WORK PROGRESSES. ALL COSTS FOR COORDINATION WITH UTILITY COMPANIES SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.
4. THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.
5. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR CONSTRUCTION IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
   - 5.1. NJ. DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", 2007; AS AMENDED AND SUPPLEMENTED.
   - 5.2. CURRENT PREVAILING MUNICIPAL, COUNTY AND/OR STATE AGENCY SPECIFICATIONS, STANDARDS, CONDITIONS AND REQUIREMENTS.
   - 5.3. CURRENT PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
   - 5.4. CURRENT MANUFACTURER'S SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
6. THE CONTRACTOR SHALL OBTAIN SHOP DRAWING APPROVAL FOR ALL ITEMS PRIOR TO INSTALLATION OF EACH ITEM.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO ACQUIRE ALL NECESSARY PERMITS FOR PROPOSED WORK.
8. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, DEPARTMENT OF PUBLIC WORKS, AND TOWNSHIP OF WEST ORANGE POLICE DEPARTMENT, 72 HOURS PRIOR TO START OF ANY WORK. THE CONTRACTOR MUST PROVIDE THE POLICE DEPARTMENT WITH AT LEAST ONE (1) WEEK NOTICE PRIOR TO WHEN POLICE TRAFFIC DIRECTORS ARE NEEDED.
9. SIGNS FOR PARKING PROHIBITION MUST BE POSTED AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE, OBTAIN AND PLACE SIGNS AS DIRECTED BY THE OWNER OR ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR SUCH WORK AND THE COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
10. CONTRACTOR SHALL COMMENCE DAILY WORK ACTIVITIES NO EARLIER THAN 7:00 AM AND MUST FINISH DAILY WORK ACTIVITIES NO LATER THAN 5:00 PM.
11. THE CONTRACTOR IS RESPONSIBLE TO CLEAN AND MAINTAIN ALL EXISTING DRAINAGE STRUCTURES FOR THE DURATION OF THE PROJECT.
12. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED IN CONFORMANCE WITH SOIL CONSERVATION DISTRICT STANDARDS. INLET FILTERS ARE TO BE INSTALLED ON ALL INLETS WITHIN AND IMMEDIATELY ADJACENT TO PROJECT LIMITS UNLESS WAIVED BY THE ENGINEER. SAME ARE TO BE INSTALLED PRIOR TO ANY DISTURBANCE OR FOLLOWING THE CONSTRUCTION OF A NEW INLET AND ARE TO BE MAINTAINED THROUGHOUT THE PROJECT BY THE CONTRACTOR AND REPAIRED OR REPLACED AS DEEMED NECESSARY BY THE ENGINEER. SILT FENCE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR INLET FILTERS AND/OR SILT FENCE. ALL COSTS ASSOCIATED WITH SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.
13. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MAINTAIN DUST CONTROL AS REQUIRED OR DIRECTED BY THE ENGINEER. ALL VEHICLES SHALL BE CLEAN AND ALL ROADWAYS SHALL BE MAINTAINED AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL MAKE PROVISIONS FOR MATERIAL AND EQUIPMENT STORAGE. NO EQUIPMENT OR MATERIALS SHALL BE STORED WITHIN THE R.O.W. WITHOUT EXPRESS WRITTEN CONSENT FROM THE TOWNSHIP OF WEST ORANGE POLICE DEPARTMENT AND THE ENGINEER. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF MATERIAL AND EQUIPMENT WITH THE TOWNSHIP OF WEST ORANGE POLICE DEPARTMENT AND ENGINEER. ALL COSTS FOR MATERIAL AND EQUIPMENT STORAGE SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.
15. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED.
16. THE CONTRACTOR IS NOTIFIED THAT HE MUST MAINTAIN TRAFFIC AND ACCESS TO RESIDENCES, PEDESTRIANS, AND BUSINESSES FOR THE DURATION OF THE PROJECT. THE CONTRACTOR IS ALSO NOTIFIED TO ASSURE ACCESS FOR GARBAGE COLLECTION AND EMERGENCY VEHICLES. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN TEMPORARY RAMPS AROUND ALL EXPOSED UTILITY CASTINGS, BOTH PUBLIC AND PRIVATE. NO SEPARATE PAYMENT SHALL BE MADE FOR SUCH WORK AND ALL COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.
17. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF TRAFFIC CONTROL MEASURES WITH THE LOCAL AND COUNTY POLICE DEPARTMENT. THE CONTRACTOR SHALL PREPARE AND SUBMIT A SCHEDULE AND STAGING PLAN FOR CONSTRUCTION OPERATIONS. THE PLAN MUST BE APPROVED BY THE ENGINEER AND POLICE DEPARTMENT PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
18. ALL EXCAVATED MATERIALS ARE TO BE DISPOSED OF IN ACCORDANCE WITH APPROVED NJDOT/NJDEP METHODS AND MEANS, OR TRANSPORTED AT THE DIRECTION OF THE OWNER. THE CONTRACTOR MUST NOT DEPOSIT EXCESS MATERIALS WITHIN THE MUNICIPAL LIMITS WITHOUT EXPRESS PERMISSION OF THE ENGINEER.
19. WATER SERVICE BOXES AND SANITARY SEWER CLEAN-OUTS LOCATED WITHIN PROJECT AREAS THAT ARE REQUIRED TO BE REGRADED SHALL BE ADJUSTED TO MEET NEW GRADES. THE COST TO PERFORM THIS WORK SHALL BE INCLUDED IN VARIOUS ITEMS IN PROPOSAL.
20. THE CONTRACTOR IS RESPONSIBLE TO REPLACE/RESET ANY SPRINKLERS DAMAGED/DISTURBED DURING CONSTRUCTION. THE COST FOR REPAIR/RESETTING SPRINKLERS SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNERS FOR THE LOCATION OF THE SPRINKLERS PRIOR TO THE START OF WORK.
21. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY DAMAGED CONCRETE RESULTING FROM CONSTRUCTION BEFORE ACCEPTANCE OF THE PROJECT BY THE TOWNSHIP AT NO ADDITIONAL COST.
22. ALL DISTURBED AREAS OUTSIDE THE PROJECT LIMITS ARE NOT INTENDED TO BE INCLUDED IN THIS PROJECT SHALL BE RESTORED TO THE ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR SUCH WORK.
23. ALL GRASSED AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED BY TOPSOILING, SEEDING, FERTILIZING AND MULCHING IN ACCORDANCE WITH NJDOT REQUIREMENTS. NO PAYMENT SHALL BE MADE FOR THE RESTORATION OF GRASSED AREAS AND ALL COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
24. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL TREES SCHEDULED TO REMAIN DURING CONSTRUCTION. DAMAGE TO EXISTING TREES WILL BE EVALUATED BY THE TOWNSHIP. DAMAGED TREES WILL BE REPLACED AS REQUIRED AT NO ADDITIONAL COST TO THE TOWNSHIP.
25. THE CONTRACTOR MUST RETAIN A CERTIFIED TREE EXPERT FOR TREE EVALUATION WHERE NECESSARY. NO ADDITIONAL PAYMENT SHALL BE MADE FOR THE TREE EXPERT AND ALL COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
26. ALL TREES THAT HAVE ROOTS THAT ENCROACH INTO THE WORK AREA AND ARE TO BE SAVED SHALL BE EVALUATED BY THE CONTRACTOR'S CERTIFIED TREE EXPERT. ALL EVALUATIONS SHALL BE IN WRITING AND SHALL ACCURATELY IDENTIFY THE TREE IN QUESTION . ALL EVALUATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND CONSULTATION WITH THE TOWNSHIP'S TREE EXPERTS PRIOR TO CUTTING ANY ROOTS. NO SEPARATE PAYMENT SHALL BE MADE FOR SUCH WORK AND ALL COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS OF THE PROPOSAL.
27. TREES THAT ARE TO REMAIN, WHERE IT IS DETERMINED THAT ROOT CUTTING MAY SEVERELY DAMAGE THE TREE, SHALL HAVE A CURB BREAK AND STEEL CURB FACE PLATE INSTALLED AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT SHALL BE MADE FOR FURNISHING, CONSTRUCTING AND INSTALLING SUCH CURB BREAKS AND STEEL CURB FACES AND ALL COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROPOSAL.

GENERAL NOTES (CONT.)

28.) PROPOSED CURBING SHOWN ON THIS DESIGN IS TO BE CONSTRUCTED OF GRANITE BLOCK (SEE DETAILS)

29.) TBR = TO BE REMOVED

30.) UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE PLOTTED USING FIELD DATA, UTILITY MARKINGS AND/OR RECORDS FURNISHED BY VARIOUS AGENCIES. PETRY ENGINEERING, LLC. MAKES NO GUARANTEES, EXPRESS OR IMPLIED, REGARDING THE UTILITY LOCATIONS AS PLOTTED ON THIS PLAN. THIS PLAN DOES NOT IMPLY THAT NO OTHER UTILITIES MAY BE PRESENT ON THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY GROUND DISTURBANCE.

31.) ALL SIGNAGE, STRIPING & SYMBOLS TO BE INSTALLED IN ACCORDANCE WITH M.U.T.C.D. REQUIREMENTS.

32.) ALL AREAS NOT RECIEVING PAVEMENT AND OR CONCRETE SHALL BE SEEDED, FERTILIZED AND MULCHED.

33.) ALL STORM WATER DOWNSPOUTS SHALL BE PLACED UNDERGROUND AND CONNECTED TO THE STORM SEWER SYSTEM.

34.) PLANTING AND LANDSCAPING SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE APPROVED PLANS AND AT NO TIME SHALL THE HEIGHT OF ANY SUCH PLANTINGS BE SUCH THAT IT WILL HINDER A DRIVERS SIGHT DISTANCE AT THE INTERSECTION.

35.) EXCEPT FOR SECURITY LIGHTING, ALL OTHER EXTERIOR LIGHTING SHALL BE TURNED OFF AFTER 9 pm. ANY LIGHTING IN THE PARKING LOT THAT REMAINS ON AFTER 9 pm. SHALL BE BACK SHIELDED TO PREVENT SPILLAGE ONTO ADJACENT PROPERTIES.

36.) CONTRACTOR IS RESPONSIBLE FOR PROVIDING A SIGNED AND SEALED AS-BUILT DRAWING PREPARED BY A LICENSED NJ PROFESSIONAL LAND SURVEYOR, AT THE CONCLUSION OF THE OF THE CONSTRUCTION. AS-BUILT INFORMATION SHALL INCLUDE VERIFICATION OF ALL GRADES WITHIN THE HANDICAP PARKING AREAS AND THE ACCESSIBLE ROUTES, AND A CERTIFICATION THAT SAYS ALL AS-BUILT GRADES ARE COMPLIANT WITH ALL ADA CODES.

37.) FOR BRIDGE REPLACEMENT AND RIVER UTILITY CROSSINGS SEE APPROVED PLAN ENTITLED, "SUE PRELIMINARY AND FINAL SITE PLAN, FINAL SANITARY SEWER CONSTRUCTION PLANS, SIGNATURE PLACE AT WEST ORANGE, PREPARED BY VAN CLEEF ENGINEERING ASSOCIATES, DATED JUNE 18, 2014.

38.) ROAD REALIGNMENT AND LANDSCAPING ON THE TOWNSHIP PROPERTY IS SUBJECT TO THE APPROVAL BY THE TOWNSHIP OF WEST ORANGE.

DESIGN CRITERIA NOTES:

1.) GRADES SHALL NOT BE LESS THAN 1% IN PAVED AREAS AND SHALL NOT EXCEED 5% IN PARKING AREAS AND IN ACCESSIBLE ROUTES. CROSS SLOPES WITHIN THE ACCESSIBLE ROUTES SHALL NOT EXCEED 2% AT ANY LOCATION. GRADING WITHIN THE HANDICAP PARKING & LOADING AREAS SHALL NOT EXCEED 2% IN ANY DIRECTION.

2.) EXTERIOR CONCRETE IN FREEZE/THAW CLIMATES SHALL HAVE AIR ENTRAINMENT. (SEE SPECIFICATIONS FOR RECOMMENDATIONS.)

3.) EXTERIOR CONCRETE SHALL RECEIVE BROOM FINISH FOR SLIP RESISTANCE.

4.) 6" MAXIMUM CURB HEIGHT AT PEDESTRIAN WALK.

5.) ALL PAVEMENT TO BE NEW.

6.) ALL SELECT COMPACT FILL TO BE COMPACTED 95% (OPTIMUM) MODIFIED PROCTOR.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

MAP REFERENCE:

BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS FROM A CERTAIN MAP ENTITLED "BOUNDARY & TOPOGRAPHIC SURVEY FOR 200 PLEASANT VALLEY WAY, BLOCK 151 LOT 33," PREPARED BY CONTROL LAYOUTS, INC. GREGG A. GAFFNEY PLS #GS43304, DATED: 07/26/14

CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP
2	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
1	ADD SIGHT TRIANGLES, FRONT YARD SETBACK DIMENSION & MOVE SIGN LOCATION	01/17/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

SITE LAYOUT PLAN

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA28159800
199 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL. (973) 227-7310 FAX (973) 227-7370

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36662 DATED 12/12/15

Designer: JMP/MDC	
Draftsmen: MDC	
Checked By: JMP	
Project No.: 16-0012	
Scale: 1" = 30'	
Sheet:	SP-2

PLEASANT VALLEY WAY
80' R.O.W.

RESERVATION FOR FUTURE 14' ROAD WIDENING (DB 6802-379) Ref.# 6-G

MILL & PAVE
STA 20+26 THRU 22+00

TRANSITION SECTION
STA 22+00 THRU 22+67.54
ALL EXIST. CURB & PAVEMENT TBR THROUGH THIS SECTION

STANDARD CROSS SECTION 'A'
STA 22+67.54 THRU 25+76.30
ALL EXIST. CURB & PAVEMENT TBR THROUGH THIS SECTION

NEW BRIDGE

BLOCK 151 LOT 34
N/F MONTCLAIR GOLF CLUB

BLOCK 151 LOT 34.01
N/F WEST ORANGE TOWNSHIP
DB 887-411
DB 4621-99

BLOCK 151 LOT 23
N/F MONTCLAIR GOLF CLUB

BLOCK 151 LOT 30
N/F CNL RETIREMENT MA4 WEST ORANGE NJ, LP
A DELAWARE LIMITED PARTNERSHIP
DB 5993-839

25' WIDE ACCESS EASEMENT & RIGHT OF WAY FOR THE PURPOSE OF INGRESS & EGRESS
DB 4621-991 (Ref.# 1)

MUTUAL WATERLINE EASEMENT AGREEMENT
DB 5501-770 (Ref.# 1)

15' WIDE SEWER MAIN RIGHT OF WAY
RIGHTS OF INGRESS & EGRESS 25' ON EITHER SIDE
DB F80-338 (Ref.# 1)

25' WIDE SANITARY SEWER EASEMENT
DB 4542-878 (Ref.# 1)

PUBLIC SERVICE ELECTRIC & GAS Co. and NEW JERSEY BELL TELEPHONE Co.-Rights
DB 4542-756 (Ref.# 1)

GRANTED TO TOWNSHIP
50' TO EITHER SIDE OF
FOR MAINTENANCE PURPOSES
I-378 (Ref.# 1)

FORMER LOT LINE

BLOCK LIMIT LINE

BLOCK 152.07
LOT 5
N/F WEST ORANGE TOWNSHIP

MH #15-1
GR: 367.21
INV IN: 361.56 15"
INV IN: 361.56 15"
INV OUT: 361.56 15"
48' of 15" HDPE @ 2.0%

TYPE "B" #16-1
RIM: 366.05
INV OUT: 362.55 15"

RESET MANHOLE
RIM: 366.70

RESET MANHOLE
RIM: 366.00

TYPE "B" #15-4
GR: 372.28
INV OUT: 368.78 15"

TYPE "B" #17-1
GR: 366.01
INV OUT: 362.51 15"

TYPE "B" #15-3
GR: 372.27
INV IN: 368.30 15"
INV OUT: 364.05 15"

TYPE "B" #15-2
GR: 366.00
INV IN: 362.50 15"
INV IN: 361.96 15"
INV OUT: 361.89 15"

TYPE "B" #14-1
GR: 368.34
INV OUT: 365.09 15"

OUTFALL #5
W/RIP RAP
INV: 361.50 (24" OUT)

TYPE "B" #11-2
GR: 369.52
INV OUT: 367.27 15"

TYPE "B" #11-1
GR: 371.00
INV IN: 367.01 15"
INV OUT: 367.01 15"

OUTLET STRUCTURE #4-1
GR: 372.95
INV IN: 365.75
INV OUT: 365.75
4"x14" RECT. ORIFICE, ELEV: 365.75
10"x26" ORIFICE, ELEV: 367.90
4' WEIR, ELEV: 369.56

SUBSURFACE DETENTION BASIN #2
48" DIA. WT N-12 HDPE PIPE
4-17OLF LENGTHS W/ HEADERS
INV: 365.75

TYPE "B" #10-1
GR: 372.75
INV OUT: 367.87 24"

MH #7-1
RIM: 372.53
INV IN: 368.09 15"
INV IN: 368.34 12"
INV OUT: 368.09 15"

MH #5-1
RIM: 372.45
INV IN: 367.84 15"
INV IN: 367.84 15"
INV OUT: 367.84 15"

TYPE "B" #9-1
RIM: 371.83
INV OUT: 368.58 15"

TYPE "B" #8-2
GR: 370.75
INV OUT: 368.50 15"

OUTFALL #2 W/ CONC. & RIP-RAP OVERFLOW
INV: 369.50 (15" OUT)

OUTFALL #3
W/RIP RAP
INV: 361.50 (15" OUT)

OUTFALL #4
W/RIP RAP
INV: 359.00 (15" OUT)

TYPE "B" #13-1
GR: 368.92
INV IN: 365.39 15"
INV IN: 364.56 15"
INV OUT: 359.12 15"

TYPE "B" #13-2
GR: 369.89
INV OUT: 366.64 15"

TYPE "B-2" #2-3
GR: 370.01
INV OUT: 368.19 15"

MH #1-2
RIM: 370.92
INV IN: 364.78 15"
INV OUT: 364.70 15"

TYPE "B-2" #2-2
GR: 370.53
INV IN: 367.79 15"
INV OUT: 367.79 15"

TYPE "B-2" #2-1
GR: 370.89
INV IN: 367.50 15"
INV OUT: 366.77 24"

OUTLET STRUCTURE #1-3
GR: 371.10
INV IN: 365.75
INV OUT: 365.75
4"x8" RECT. ORIFICE, ELEV: 365.75
3-6" ORIFICE, ELEV: 367.08
4' WEIR, ELEV: 368.58

SUBSURFACE DETENTION BASIN #1
36" DIA. WT N-12 HDPE PIPE
5-110LF LENGTHS W/ HEADERS
INV: 365.75

TYPE "B" #3-1
GR: 377.40
INV IN: 373.71 15"
INV OUT: 370.85 15"

TYPE "B" #3-2
GR: 378.35
INV IN: 375.35 12"
INV OUT: 375.10 15"

MH #1-1
RIM: 370.99
INV IN: 363.77 15"
INV IN: 364.52 24"
INV OUT: 363.52 24"

MH #5-1
RIM: 376.35
INV OUT: 369.75 15"

MH #6-1
RIM: 375.70
INV OUT: 369.75 15"

MH #7-2
RIM: 371.22
INV IN: 368.70 15"
INV IN: 368.95 12"
INV OUT: 368.70 15"

TYPE "B" #7-5
GR: 378.35
INV IN: 375.35 12"
INV OUT: 375.10 15"

TYPE "B" #7-3
GR: 371.27
INV IN: 369.02 15"
INV OUT: 368.89 15"

TYPE "B" #7-4
GR: 376.80
INV IN: 373.62 15"
INV OUT: 369.65 15"

NYLOPLAST #12-1
RIM: 371.67
INV IN: 369.58 15"
INV OUT: 369.58 15"

NYLOPLAST #12-2
RIM: 374.76
INV IN: 371.57 15"
INV OUT: 371.27 15"

NYLOPLAST #12-3
RIM: 378.24
INV IN: 372.91 15"
INV OUT: 372.91 15"

NYLOPLAST #12-4
GR: 377.25
INV OUT: 373.75 15"

GARAGE LEVEL: 371.50
MAIN ENTRANCE: 376.50
COURTYARD: 384.00
FIRST FLOOR: 384.50

Block 151
Lot 33
257,557 sq. ft.
5.913 acres

APPROVED
File No.
0722-05-0004.1
PER NJDEP Reg. No.
Department of Environmental Protection
Land Use Management

AVERAGE GRADE CALCULATION
SCALE = 1" = 50'

Average Grade Calculation			
A	372.5	M	379.0
B	372.0	N	376.8
C	372.00	O	374.5
D	371.5	P	372.3
E	373.9	Q	372.3
F	376.1	R	373.2
G	378.3	S	373.8
H	379.5	T	375.6
I	380.2	U	376.5
J	381.0	V	376.5
K	380.5	W	375.7
L	379.7	X	374.3
		Y	372.8
		Average:	375.6

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
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2	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/12/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

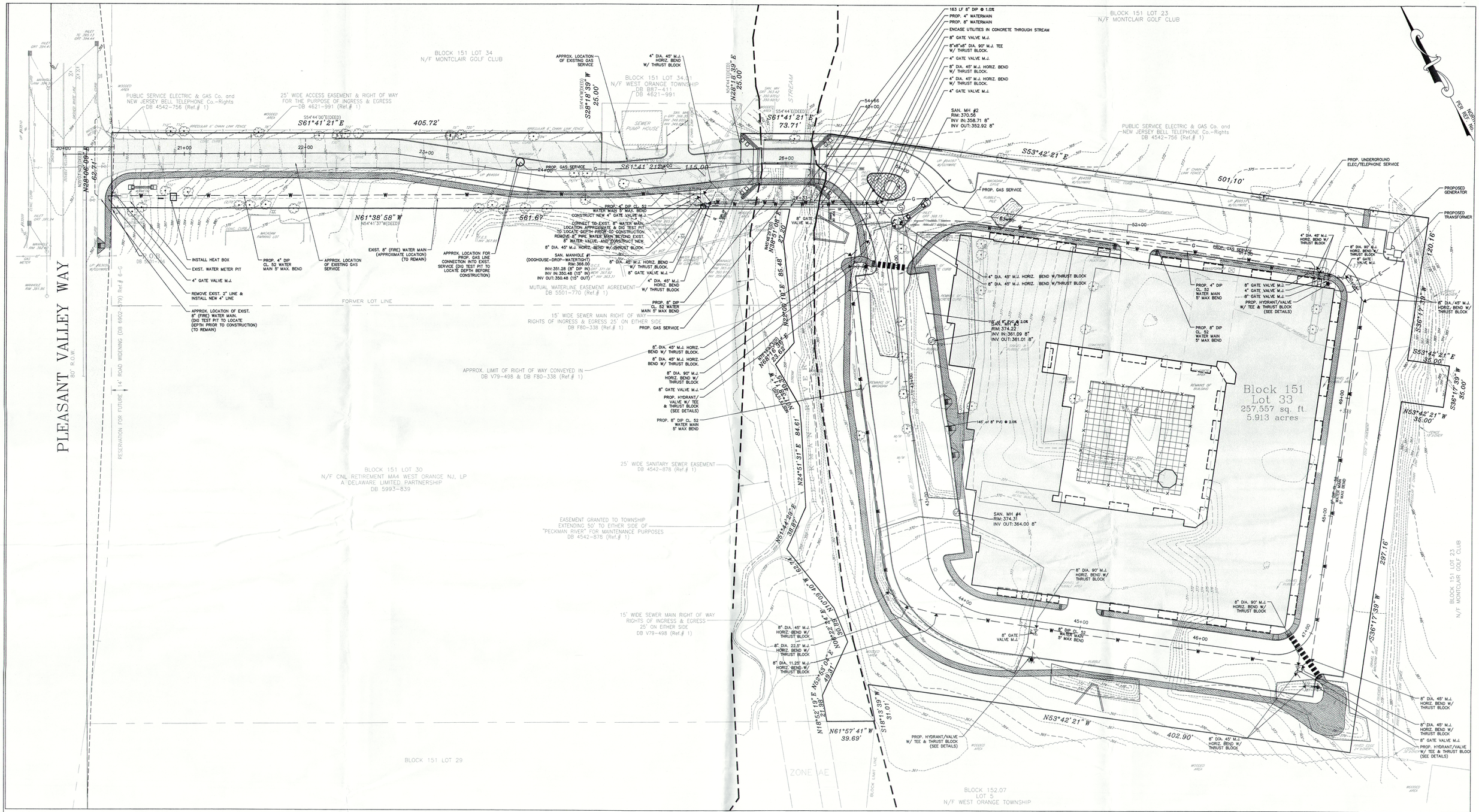
GRADING AND DRAINAGE PLAN

PETRY ENGINEERING, LLC
DIVISION OF DONEMARK APPAREL LICENSE NUMBER 24:0001:0600
169 PARAMUS AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL: (973) 227-7004 FAX (973) 227-7074

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36652

DATED 12/12/16

Designer: JMP
Draftsman: CVF
Checked By: JMP
Project No.: 16-0012
Scale: 1" = 30'
Sheet: SP-3



REVISION	DESCRIPTION	DATE	BY
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PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

UTILITY PLAN

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA20119500
169 PASAIC AVENUE, SUITE 2 • FAIRFIELD, NEW JERSEY • 07004
TEL: (973) 227-7334 FAX: (973) 227-7373

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 35662 DATED 12/12/16

Designer: JMP
Draftsman: CVF
Checked By: JMP
Project No.: 18-0012
Scale: 1" = 30'
Sheet: SP-4

MILL & PAVE
STA. 20+20 THRU 22+00

TRANSITION SECTION
STA. 22+00 THRU 22+67.54

STANDARD CROSS SECTION 'A'
STA. 22+67.54 THRU 26+23.50

NEW JERSEY ONE CALL SYSTEM INC. 1-800-272-1000 STOP-CALL BEFORE YOU DIG

NEW JERSEY LAW REQUIRES THREE WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES

APPROVED
File No.
0722-05-0004.1
State of New Jersey
Department of Environmental Protection
Land Use Regulation Program

PLEASANT VALLEY WAY R.O.W. LINE

METER PIT & CONC. PAD W/ METAL COVER

APPROX. LOCATION OF 6" GAS MAIN AND SERVICE LINE (TO REMAIN)

4'-0" MIN.

8" GATE VALVE

CONNECT-WATERMAIN, OUT TO EXIST. ??? MAIN BELOW PLEASANT VALLEY WAY. (DIG TEST PIT TO LOCATE DEPTH AND LOCATION PRIOR TO CONSTRUCTION)

8" DIP CL. 52 WATERMAIN, 5° MAX BEND

EXIST. 8" WATERMAIN TO REMAIN (LOCATION APPROXIMATE)

APPROX. LOCATION OF EXISTING GAS SERVICE (TO REMAIN)

-5.48%

11.25° HORIZ. BEND (WATERMAIN,OUT)

PROP. GAS SERVICE

8" DIP CL. 52 WATERMAIN, 5° MAX BEND

EXIST. 8" WATERMAIN TO REMAIN (LOCATION APPROXIMATE)

BEGIN-NEW GAS LINE CONNECT TO EXIST. SERVICE LINE. GAS SERVICE LOCATION APPROXIMATE, DIG TEST PIT TO LOCATE DEPTH & LOCATION PRIOR TO CONSTRUCTION

11.25° VERTICAL BEND (WATERMAIN, OUT)

PVI STA: 24+90.00
PVI ELEV: 365.00
K: 14.15
LVC: 125.00
LOW PT. STA: 25+05.05
LOW PT ELEV: 366.30

BVCS: 24+27.50
BVCE: 368.43

EVCS: 25+52.50
EVCE: 367.10

PVI STA: 25+84.16
PVI ELEV: 368.14
K: 20.00
LVC: 58.33

BVCS: 25+35.00
BVCE: 367.19

EVCS: 26+13.33
EVCE: 368.24

EX. SAN. MH (L)
TO SEPTA PUMP HOUSE
RIM: 349.50
INV: 349.90 (IN)
INV: 349.85 (TO PUMP HOUSE)

EX. SAN. MH (R)
RIM: 365.23
INV: 355.13 (8" IN)
INV: 350.48 (IN)
INV: 350.28 (LIN)

PROP. SAN MH #1 (R)
DOGHOUSE-DROP-WATERTIGHT
RIM: 366.50
INV: 351.28 (8" IN)
INV: 350.70 (EX. 15" IN)
INV: 350.70 (EX. 15" OUT)

EX. SAN. MH (L)
RIM: 363.42
INV: 350.97 (IN)
INV: 350.92 (OUT)

ROADWAY ELEV: 368.15 @ STA. 26+00.00

CONSPAN BRIDGE

45° HORIZ. BEND (WATERMAIN, IN)

45° HORIZ. BEND (WATERMAIN, IN) SPLIT BETWEEN WATERMAIN IN & OUT. (SEE UTILITY PLAN FOR EXACT LAYOUT)

SAN MH #2
DOGHOUSE-WATERTIGHT
RIM: 370.60
INV: 358.71 (8" IN)
INV: 352.92 (8" OUT)

3.60%

1.00%

2.00%

4'-0" MIN.

PROP. GAS SERVICE

8" DIP CL. 52 WM (WATERMAIN, OUT)

EXIST. WATER VALVE & WATER METER

BEGIN-WATERMAIN, IN CONNECT TO EXIST. 8" WATER MAIN-LOCATION APPROXIMATE & DIG TEST PIT TO LOCATE DEPTH AND LOCATION PRIOR TO CONSTRUCTION

45° HORIZ. BEND (WATERMAIN, IN)

45° HORIZ. BEND (WATERMAIN, OUT)

45° HORIZ. BEND (WATERMAIN, IN)

8" GATE VALVE

45° HORIZ. BEND (WATERMAIN, OUT)

45° VERTICAL BEND (WATERMAIN, IN&OUT)

8" DIP CL. 52 WATERMAIN, 5° MAX BEND

163 LF 8" PVC @ 1.0% (SAN. SEWER)

CONSPAN BRIDGE FOOTINGS BOTTOM OF FOOTINGS @ ELEV: 352.0

45° VERTICAL BEND (WATERMAIN, IN&OUT)

15" SAN. SEWER

EXIST. 15" PIPE TO PUMP HOUSE

CONC. ENCASEMENT FOR SANITARY SEWER THROUGH STREAM BED (SEE DETAIL)

WATERMAIN IN & OUT TO FOLLOW SAME PROFILE AND ALIGNMENT BENEATH STREAM (SEPARATED BY 1.75 FEET HORIZ. THROUGH STREAM BED, SEE PLAN)

45° VERTICAL BEND (WATERMAIN, IN&OUT)

26+00.00

PROPOSED BRIDGE DECK AND ABUTMENTS

PROPOSED BRIDGE FOOTING

1.5' 2.3' 1.5'

RIVER BOTTOM

PROPOSED UTILITIES ENCASED IN CONCRETE (SEE DETAIL)

CROSS-SECTION AT STATION 26+00

SCALE: 1" = 10'

Elevation

396.00 394.00 392.00 390.00 388.00 386.00 384.00 382.00 380.00 378.00 376.00 374.00 372.00 370.00 368.00 366.00 364.00 362.00 360.00 358.00 356.00 354.00 352.00 350.00 348.00 346.00 345.00

393.51 392.71 389.31 387.37 385.45 383.73 382.27 380.87 380.90 379.60 379.53 378.41 378.16 377.17 376.79 375.94 375.42 374.82 374.85 373.83 372.68 372.47 371.31 371.32 369.94 370.25 368.57 368.31 367.38 366.96 366.62 366.00 366.31 365.25 364.45 364.98 367.02 364.01 367.74 357.00 368.15

19+50 20+00 21+00 22+00 23+00 24+00 25+00 26+00

Station

VERTICAL GRAPHIC SCALE (IN FEET) 1 inch = 2 ft.

HORIZONTAL GRAPHIC SCALE (IN FEET) 1 inch = 20 ft.

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3	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	08/20/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/18/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

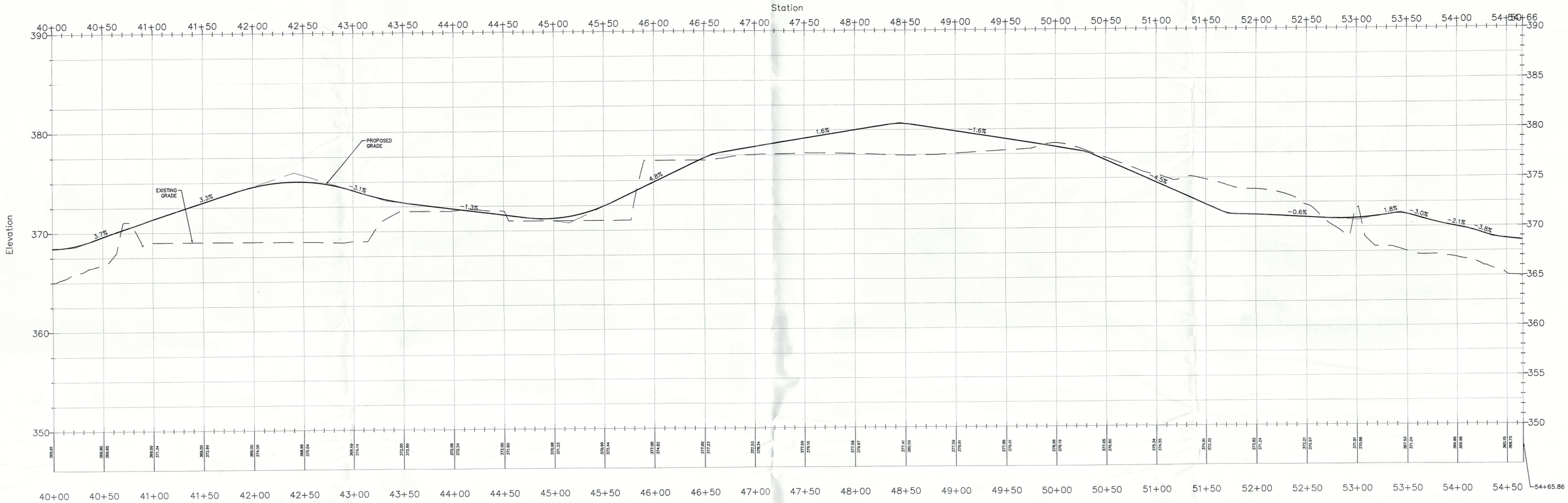
DRIVEWAY & STORM SEWER PROFILES

PETRY ENGINEERING, LLC
CERTIFICATE OF AUTHORIZATION NUMBER 24GA28048600
185 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL: (973) 227-7004 FAX (973) 227-7274

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36662 DATED 09/18/17

Designer: JMP
Draftsman: CVF
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-5

PARKING LOT ALIGNMENT PROFILE



VERTICAL GRAPHIC SCALE

(IN FEET)
1 inch = 4 ft.

HORIZONTAL GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

DRIVEWAY & STORM SEWER PROFILES

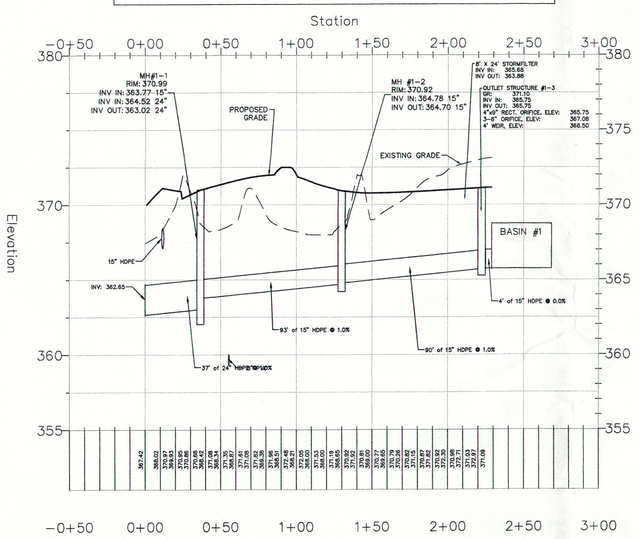
PETRY ENGINEERING, LLC
DIVISION OF ORDINARY HYGIENIC LOCUS NUMBER (OHGEN)INC
160 PATE • AVENUE • FAIRFIELD, NEW JERSEY • 07004
TEL: (973) 227-7004 FAX (973) 227-7014

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 39692 DATED 09/20/17

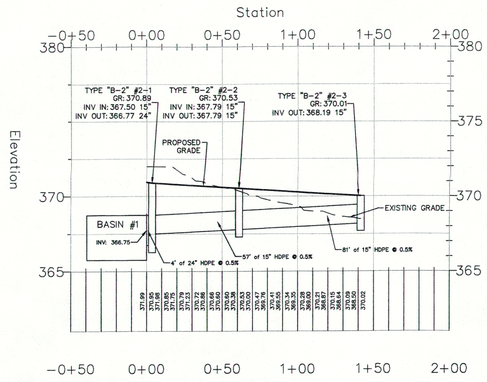
Designer: JMP	
Draftsman: SPD	
Checked By: JMP	
Project No.: 16-0012	
Scale: AS NOTED	
Sheet:	SP-6

CAUTION: *IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.*

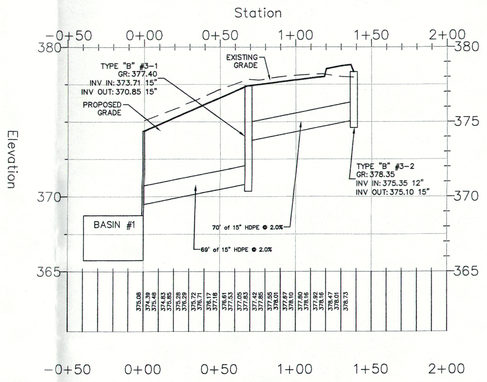
STORM SEWER NETWORK #1 PROFILE



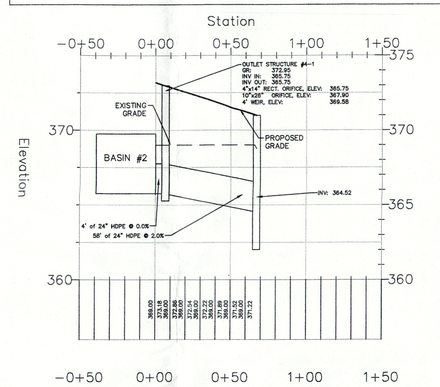
STORMSEWER NETWORK #2 PROFILE



STORM SEWER NETWORK #3 PROFILE



STORM SEWER NETWORK #4 PROFILE

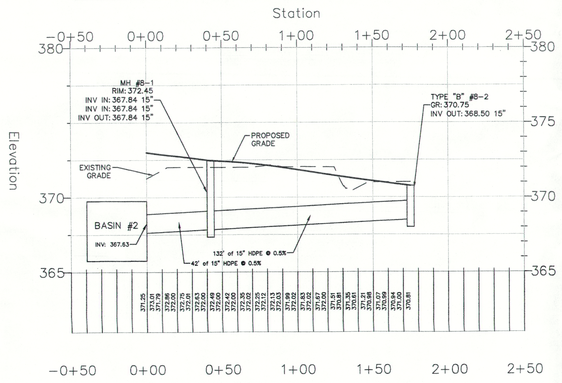


STORM SEWER NETWORK #5 PROFILE

STORM SEWER NETWORK #6 PROFILE

STORM SEWER NETWORK #7 PROFILE

STORM SEWER NETWORK #8 PROFILE



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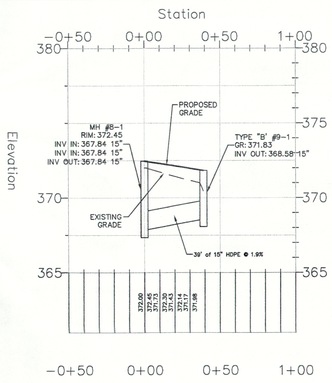
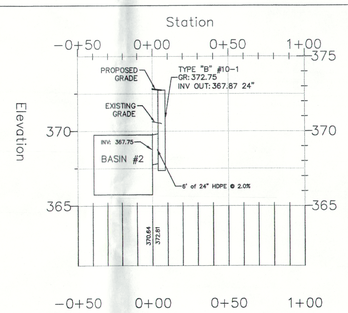
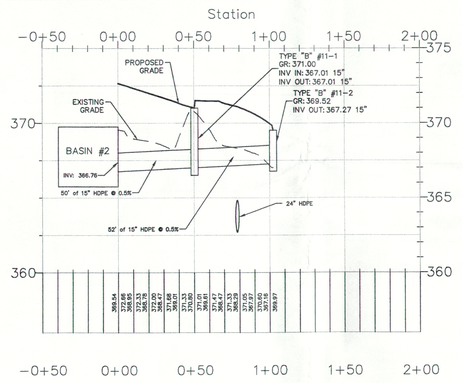


STORM SEWER NETWORK #10 PROFILE



STORM SEWER NETWORK #11 PROFILE



VERTICAL GRAPHIC SCALE

4 0 2 4 8 16

(IN FEET)
1 inch = 4 ft.

HORIZONTAL GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/25/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

DRIVEWAY & STORM SEWER PROFILES

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA27975100
189 PASSAIC AVENUE • FAIRFIELD, NEW JERSEY • 07004
TEL: (973) 227-7044 FAX (973) 227-7074

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 39562 DATED 09/20/17

Designer: JMP
Draftsman: SPD
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-7

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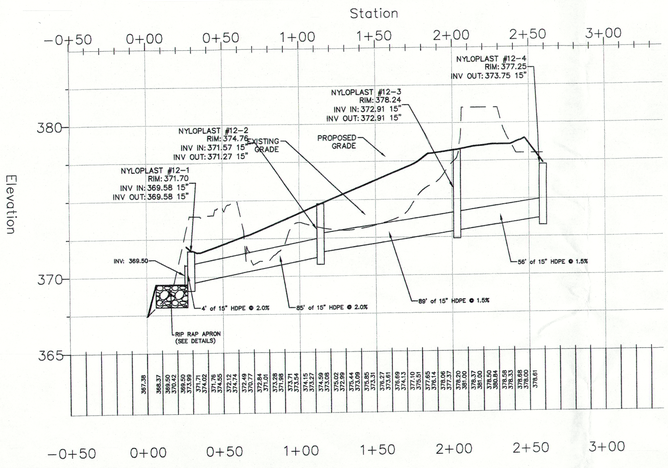
STORM SEWER NETWORK #12 PROFILE



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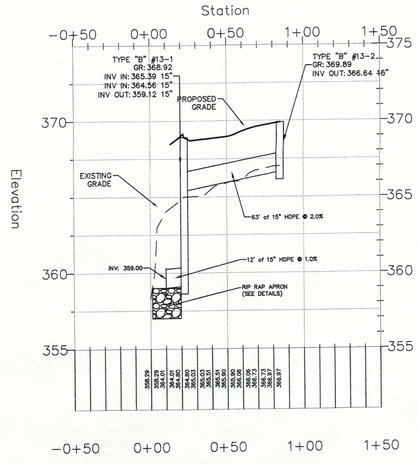

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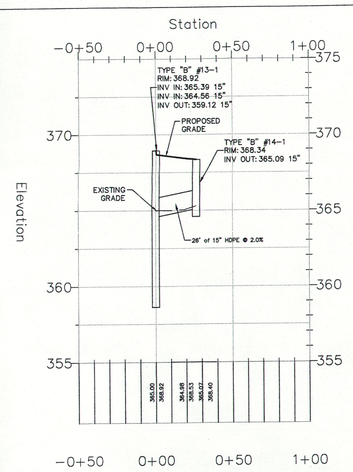
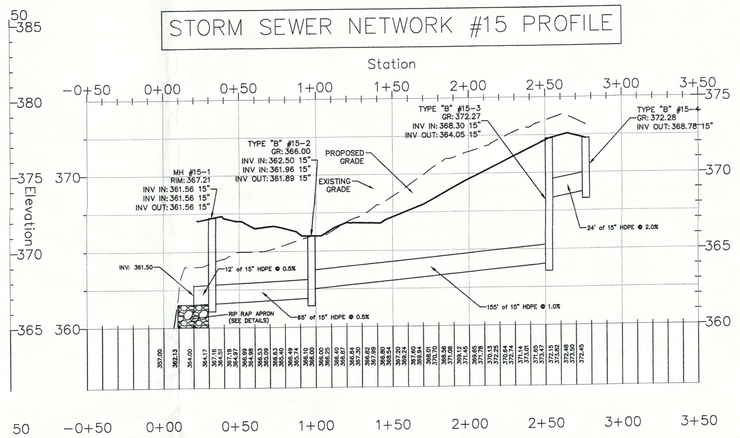


STORM SEWER NETWORK #15 PROFILE



STORM SEWER NETWORK #16 PROFILE

STORM SEWER NETWORK #17 PROFILE

SANITARY SEWER PROFILE

VERTICAL GRAPHIC SCALE

4 0 2 4 8 16

(IN FEET)
1 inch = 4 ft.

HORIZONTAL GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

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PREPARED FOR

REDWOOD, L.L.C.

200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

DRIVEWAY & STORM SEWER PROFILES

PETRY ENGINEERING , LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA28178500
168 PARKWAY SOUTH, SUITE 207 • LAKE HIOPATCONG, NJ 07849
TEL. (973) 627-7204 FAX (973) 627-7210

Designer: JMP
Draftsman: SPD
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-8

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36662 DATED 09/20/17

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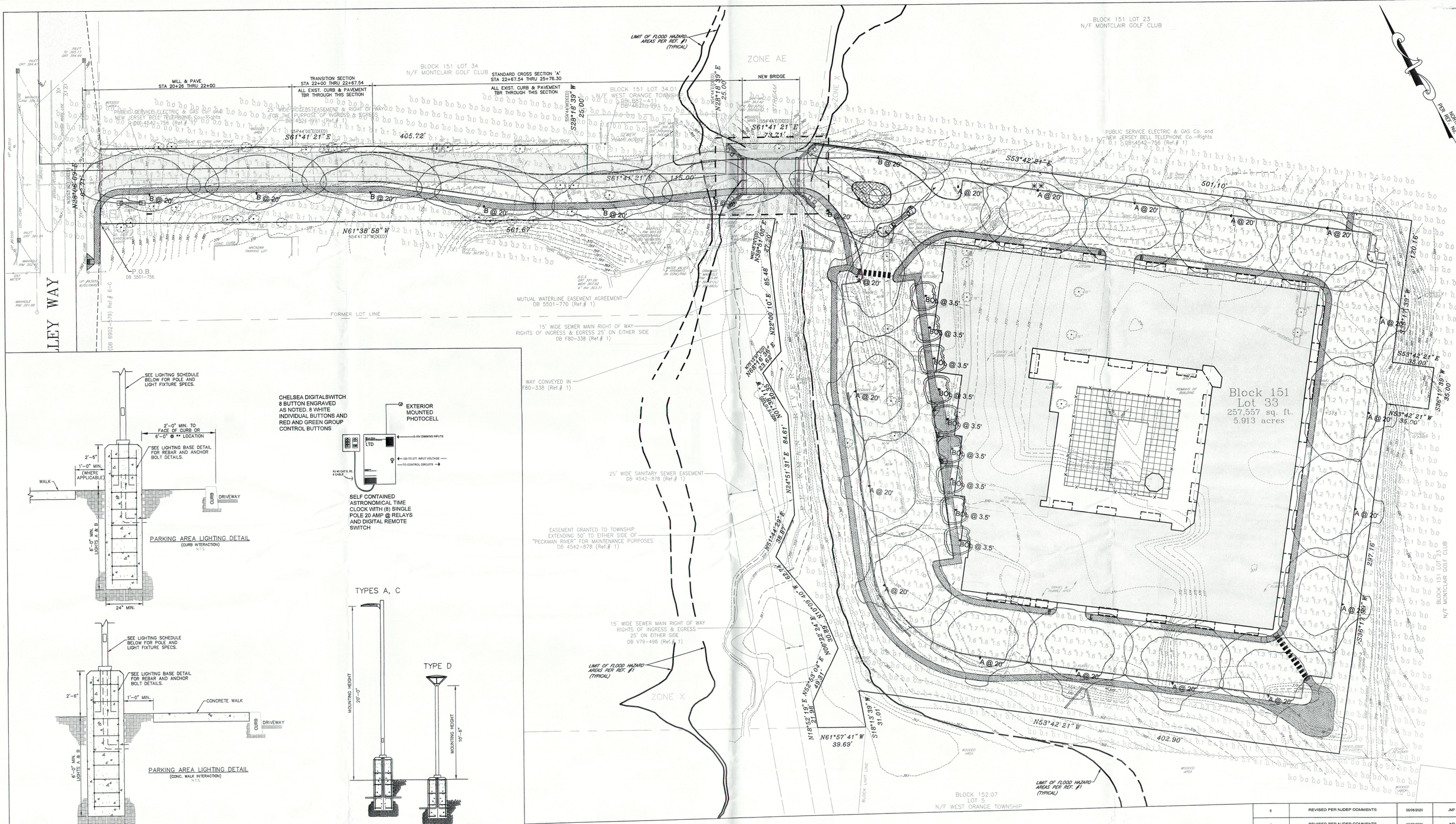

Schedule									
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description/Pole/Mount	Lamp	Lumens Per Lamp	Light Loss Factor	Wattage
□	A	17	Lithonia Lighting	DSX1 LED P2 30K T5TM VOLTS RPA COLOR PG13	D SERIES SIZE 1 FORWARD 3000K 1750-4546S4-D1-COLOR-PG13 ON 2.5' CONCRETE PIER 20' OVERALL MOUNT HEIGHT	LED	8257	0.9	70
□	B	8	Lithonia Lighting	DSX1 LED P2 30K T2M VOLTS RPA COLOR PG13	D SERIES SIZE 1 TYPE 2 3000K 1750-4546S4-D1-COLOR-PG13 ON 2.5' CONCRETE PIER 20' OVERALL MOUNT HEIGHT	LED	8240	0.9	70
|	BOL	9	Lithonia Lighting	DSXB LED 12C 530 30K ASY	D-SERIES BOLLARD WITH 12 3000K LEDS OPERATED AT 530mA AND ASYMMETRIC DISTRIBUTION	LED	1719	0.9	22

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
OVERALL @ GRADE	+	0.7 fc	12.4 fc	0.0 fc	N/A	N/A
PARKING @ GRADE	×	1.4 fc	12.4 fc	0.4 fc	31.0:1	3.5:1

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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2	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/12/2017	JMP

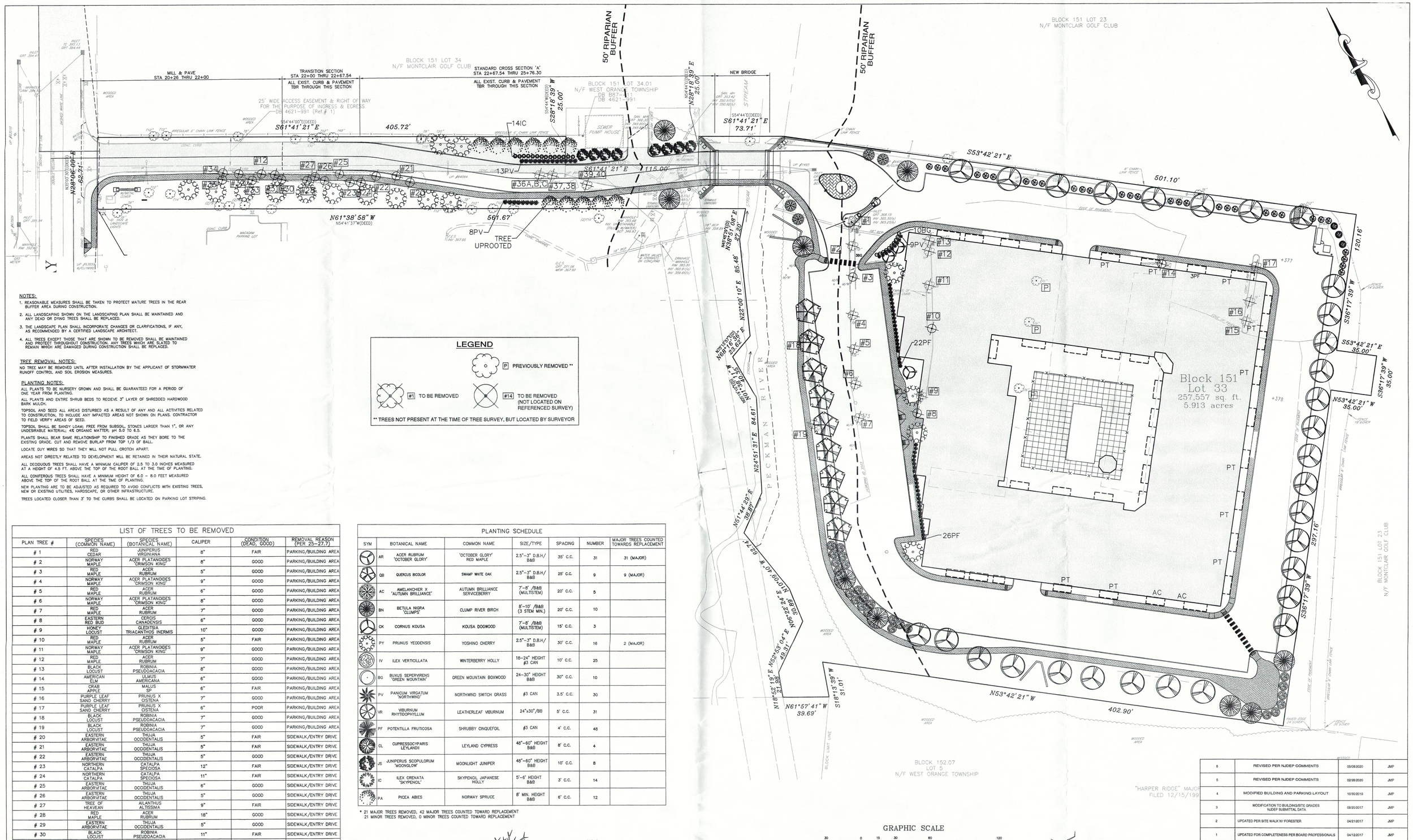
PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

LIGHTING PLAN

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA28155500
168 PASSAIC AVENUE, SUITE 2B, FAIRFIELD, NEW JERSEY • 07004
TEL.: (973) 227-7004 FAX (973) 227-7474

Designer: JMO
Draftsman: CVF
Checked By: JMP
Project No.: 18-0012
Scale: 1" = 30'
Sheet: SP-9

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36562 DATED 12/12/16



NOTES:

1. REASONABLE MEASURES SHALL BE TAKEN TO PROTECT MATURE TREES IN THE REAR BUFFER AREA DURING CONSTRUCTION.
2. ALL LANDSCAPING SHOWN ON THE LANDSCAPING PLAN SHALL BE MAINTAINED AND ANY DEAD OR DYING TREES SHALL BE REPLACED.
3. THE LANDSCAPE PLAN SHALL INCORPORATE CHANGES OR CLARIFICATIONS, IF ANY, AS RECOMMENDED BY A CERTIFIED LANDSCAPE ARCHITECT.
4. ALL TREES EXCEPT THOSE THAT ARE SHOWN TO BE REMOVED SHALL BE MAINTAINED AND PROTECT THROUGHOUT CONSTRUCTION. ANY TREES WHICH ARE SLATED TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED.

TREE REMOVAL NOTES:

NO TREE MAY BE REMOVED UNTIL AFTER INSTALLATION BY THE APPLICANT OF STORMWATER RUNOFF CONTROL AND SOIL EROSION MEASURES.

PLANTING NOTES:

ALL PLANTS TO BE NURSERY GROWN AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM PLANTING.

ALL PLANTS AND ENTIRE SHRUB BEDS TO RECIEVE 3" LAYER OF SHREDDED HARDWOOD BARK MULCH.

TOPSOIL AND SEED ALL AREAS DISTURBED AS A RESULT OF ANY AND ALL ACTIVITIES RELATED TO CONSTRUCTION, TO INCLUDE ANY IMPACTED AREAS NOT SHOWN ON PLANS. CONTRACTOR TO FIELD VERIFY AREAS OF SEED.

TOPSOIL SHALL BE SANDY LOAM; FREE FROM SUBSOIL, STONES LARGER THAN 1", OR ANY UNDESIRABLE MATERIAL; 4% ORGANIC MATTER; pH 5.0 TO 6.5.

PLANTS SHALL BEAR SAME RELATIONSHIP TO FINISHED GRADE AS THEY BORE TO THE EXISTING GRADE. CUT AND REMOVE BURLAP FROM TOP 1/3 OF BALL.

LOCATE GUY WIRES SO THAT THEY WILL NOT PULL CROTCH APART.

AREAS NOT DIRECTLY RELATED TO DEVELOPMENT WILL BE RETAINED IN THEIR NATURAL STATE.

ALL DECIDUOUS TREES SHALL HAVE A MINIMUM CALIPER OF 2.5 TO 3.0 INCHES MEASURED AT A HEIGHT OF 4.5 FT. ABOVE THE TOP OF THE ROOT BALL AT THE TIME OF PLANTING.

ALL CONIFEROUS TREES SHALL HAVE A MINIMUM HEIGHT OF 6.0 – 8.0 FEET MEASURED ABOVE THE TOP OF THE ROOT BALL AT THE TIME OF PLANTING.

NEW PLANTING ARE TO BE ADJUSTED AS REQUIRED TO AVOID CONFLICTS WITH EXISTING TREES, NEW OR EXISTING UTILITIES, HARDSCAPE, OR OTHER INFRASTRUCTURE.

TREES LOCATED CLOSER THAN 3' TO THE CURBS SHALL BE LOCATED ON PARKING LOT STRIPING.

LEGEND

P PREVIOUSLY REMOVED **

#1 TO BE REMOVED

#14 TO BE REMOVED (NOT LOCATED ON REFERENCED SURVEY)

** TREES NOT PRESENT AT THE TIME OF TREE SURVEY, BUT LOCATED BY SURVEYOR

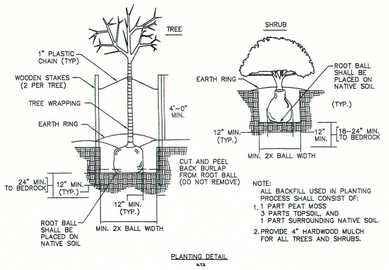
LIST OF TREES TO BE REMOVED

PLAN TREE #	SPECIES (COMMON NAME)	SPECIES (BOTANICAL NAME)	CALIPER	CONDITION (DEAD, GOOD)	REMOVAL REASON (PER 25-27.7)
# 1	RED CEDAR	JUNIPERUS VIRGINIANA	8"	FAIR	PARKING/BUILDING AREA
# 2	NORWAY MAPLE	ACER PLATANOIDES 'CRIMSON KING'	8"	GOOD	PARKING/BUILDING AREA
# 3	RED MAPLE	ACER RUBRUM	5"	GOOD	PARKING/BUILDING AREA
# 4	NORWAY MAPLE	ACER PLATANOIDES 'CRIMSON KING'	9"	GOOD	PARKING/BUILDING AREA
# 5	RED MAPLE	ACER RUBRUM	6"	GOOD	PARKING/BUILDING AREA
# 6	NORWAY MAPLE	ACER PLATANOIDES 'CRIMSON KING'	8"	GOOD	PARKING/BUILDING AREA
# 7	RED MAPLE	ACER RUBRUM	7"	GOOD	PARKING/BUILDING AREA
# 8	EASTERN RED BUD	CERCIS CANADENSIS	6"	GOOD	PARKING/BUILDING AREA
# 9	HONEY LOCUST	GLEDITSIA TRIACANTHOS INERMIS	10"	GOOD	PARKING/BUILDING AREA
# 10	RED MAPLE	ACER RUBRUM	5"	FAIR	PARKING/BUILDING AREA
# 11	NORWAY MAPLE	ACER PLATANOIDES 'CRIMSON KING'	9"	GOOD	PARKING/BUILDING AREA
# 12	RED MAPLE	ACER RUBRUM	7"	GOOD	PARKING/BUILDING AREA
# 13	BLACK LOCUST	ROBINIA PSEUDOACACIA	8"	GOOD	PARKING/BUILDING AREA
# 14	AMERICAN ELM	ULMUS AMERICANA	6"	GOOD	PARKING/BUILDING AREA
# 15	CRAB APPLE	MALUS SP.	6"	FAIR	PARKING/BUILDING AREA
# 16	PURPLE LEAF SAND CHERRY	PRUNUS X CISTENA	7"	GOOD	PARKING/BUILDING AREA
# 17	PURPLE LEAF SAND CHERRY	PRUNUS X CISTENA	6"	POOR	PARKING/BUILDING AREA
# 18	BLACK LOCUST	ROBINIA PSEUDOACACIA	7"	GOOD	PARKING/BUILDING AREA
# 19	BLACK LOCUST	ROBINIA PSEUDOACACIA	7"	GOOD	PARKING/BUILDING AREA
# 20	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	FAIR	SIDEWALK/ENTRY DRIVE
# 21	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	FAIR	SIDEWALK/ENTRY DRIVE
# 22	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 23	NORTHERN CATALPA	CATALPA SPECIOSA	12"	FAIR	SIDEWALK/ENTRY DRIVE
# 24	NORTHERN CATALPA	CATALPA SPECIOSA	11"	FAIR	SIDEWALK/ENTRY DRIVE
# 25	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	6"	GOOD	SIDEWALK/ENTRY DRIVE
# 26	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 27	TREE OF HEAVEAN	AILANTHUS ALTISSIMA	9"	FAIR	SIDEWALK/ENTRY DRIVE
# 28	RED MAPLE	ACER RUBRUM	18"	GOOD	SIDEWALK/ENTRY DRIVE
# 29	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 30	BLACK LOCUST	ROBINIA PSEUDOACACIA	11"	FAIR	SIDEWALK/ENTRY DRIVE
# 31	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 32	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 33	GREEN ASH	FRAXINUS PENNSYLVANICA	9"	FAIR	SIDEWALK/ENTRY DRIVE
# 34	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 35	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	6"	GOOD	SIDEWALK/ENTRY DRIVE
# 36A	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	5"	GOOD	SIDEWALK/ENTRY DRIVE
# 36B	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	4"	GOOD	SIDEWALK/ENTRY DRIVE
# 36C	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	4"	GOOD	SIDEWALK/ENTRY DRIVE
# 37	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	6"	GOOD	SIDEWALK/ENTRY DRIVE
# 38	EASTERN ARBORVITAE	THUJA OCCIDENTALIS	10"	GOOD	SIDEWALK/ENTRY DRIVE
# 39	EASTERN WHITE PINE	PINUS STROBUS	9"	POOR	SIDEWALK/ENTRY DRIVE
# 40	EASTERN WHITE PINE	PINUS STROBUS	7"	POOR	SIDEWALK/ENTRY DRIVE

PLANTING SCHEDULE

SYM	BOTANICAL NAME	COMMON NAME	SIZE/TYPE	SPACING	NUMBER	MAJOR TREES COUNTED TOWARDS REPLACEMENT
AR	ACER RUBRUM 'OCTOBER GLORY'	'OCTOBER GLORY' RED MAPLE	2.5"-3" D.B.H./ B&B	35' C.C.	31	31 (MAJOR)
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5"-3" D.B.H./ B&B	25' C.C.	9	9 (MAJOR)
AC	AMELANCHIER X 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	7'-8' /B&B (MULTISTEM)	20' C.C.	5	
BN	BETULA NIGRA 'CLUMPS'	CLUMP RIVER BIRCH	8'-10' /B&B (3 STEM MIN.)	20' C.C.	10	
CK	CORNUS KOUSA	KOUSA DOGWOOD	7'-8' /B&B (MULTISTEM)	15' C.C.	3	
PY	PRUNUS YEODENSIS	YOSHINO CHERRY	2.5"-3" D.B.H./ B&B	30' C.C.	16	2 (MAJOR)
IV	ILEX VERTICILLATA	WINTERBERRY HOLLY	18-24" HEIGHT #3 CAN	10' C.C.	25	
BG	BUXUS SEPERVIRENS 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	24-30" HEIGHT B&B	30" C.C.	10	
PV	PANICUM VIRGATUM 'NORTHWIND'	NORTHWIND SWITCH GRASS	#3 CAN	3.5' C.C.	30	
VR	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	24"x30"/BB	5' C.C.	31	
PF	POTENTILLA FRUTICOSA	SHRUBBY CINQUEFOIL	#3 CAN	4' C.C.	48	
CL	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	48"-60" HEIGHT B&B	8' C.C.	4	
JS	JUNIPERUS SCOPULORUM 'MOONGLOW'	MOONLIGHT JUNIPER	48"-60" HEIGHT B&B	10' C.C.	8	
IC	ILEX CRENATA 'SKYPENCIL'	SKYPENCIL JAPANESE HOLLY	5'-6' HEIGHT B&B	3' C.C.	14	
PA	PICEA ABIES	NORWAY SPRUCE	8' MIN. HEIGHT B&B	6' C.C.	12	

* 21 MAJOR TREES REMOVED, 42 MAJOR TREES COUNTED TOWARD REPLACEMENT
21 MINOR TREES REMOVED, 0 MINOR TREES COUNTED TOWARD REPLACEMENT



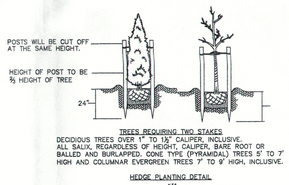
PLANTING DETAIL
N.T.S.

NOTE:
ALL BACKFILL USED IN PLANTING PROCESS SHALL CONSIST OF:
1. 1 PART PEAT MOSS
3 PARTS TOPSOIL, AND
1 PART SURROUNDING NATIVE SOIL.
2. PROVIDE 4" HARDWOOD MULCH FOR ALL TREES AND SHRUBS.

GRAPHIC SCALE

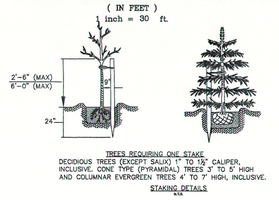
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



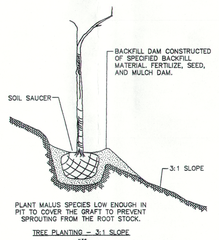
TREES REQUIRING TWO STAKES
DECIDIOUS TREES OVER 1" TO 1½" CALIPER, INCLUSIVE. ALL SALIX, REGARDLESS OF HEIGHT, CALIPER, BARE ROOT OR BALLED AND BURLAPPED. CONE TYPE (PYRAMIDAL) TREES 5' TO 7' HIGH AND COLUMNAR EVERGREEN TREES 7' TO 9' HIGH, INCLUSIVE.

HEDGE PLANTING DETAIL
N.T.S.



TREES REQUIRING ONE STAKE
DECIDIOUS TREES (EXCEPT SALIX) 1" TO 1½" CALIPER, INCLUSIVE. CONE TYPE (PYRAMIDAL) TREES 3' TO 5' HIGH AND COLUMNAR EVERGREEN TREES 4' TO 7' HIGH, INCLUSIVE.

STAKING DETAILS
N.T.S.



PLANT MALUS SPECIES LOW ENOUGH IN PIT TO COVER THE GRAFT TO PREVENT SPROUTING FROM THE ROOT STOCK.

TREE PLANTING – 3:1 SLOPE
N.T.S.

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2	UPDATED PER SITE WALK W/ FORESTER	04/21/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/12/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

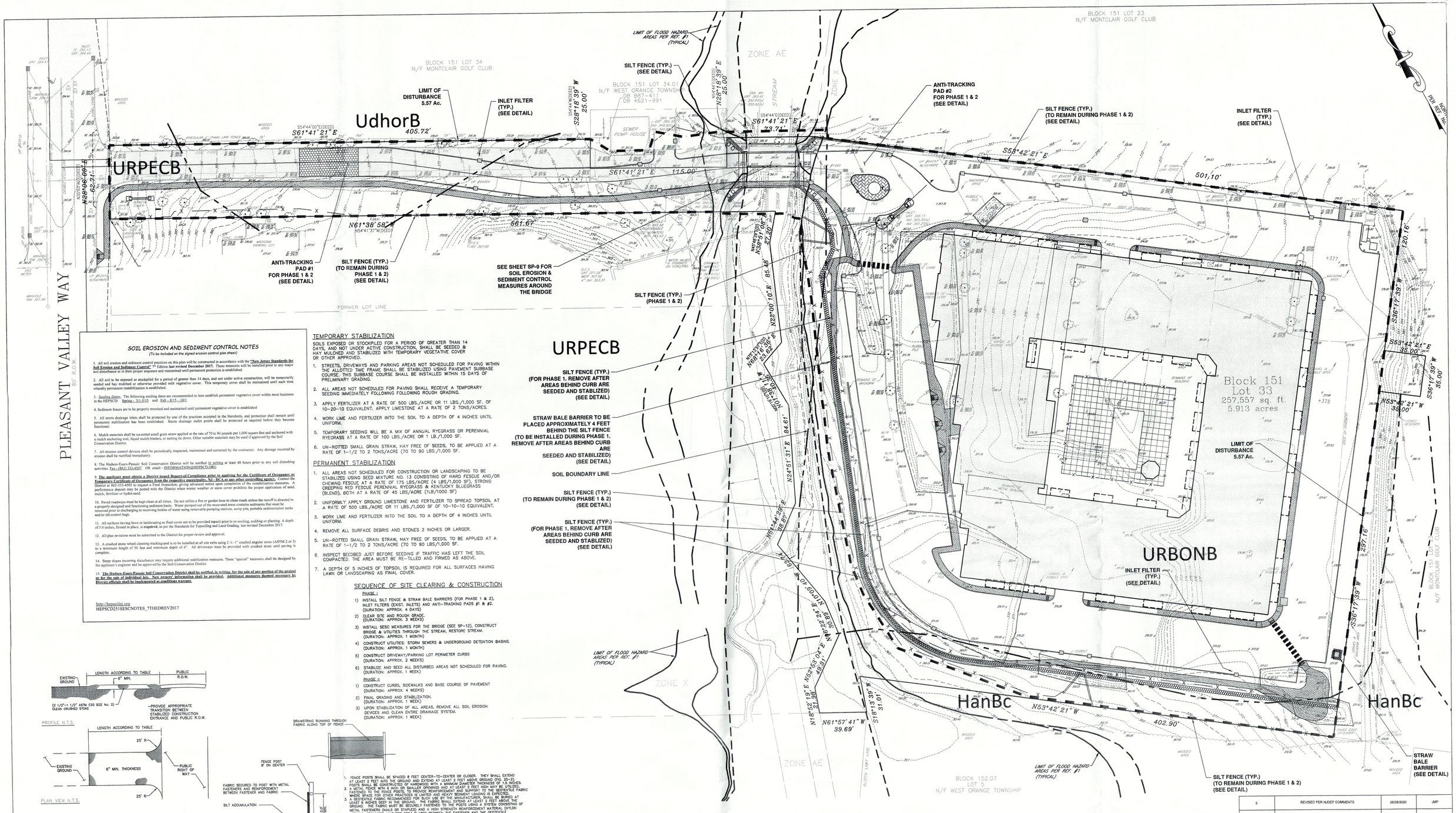
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

LANDSCAPE/TREE REMOVAL PLAN

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA28159300
169 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL: (973) 227-7004 FAX (973) 227-7013

Designer: JMP
Drafterman: CVF
Checked By: JMP
Project No.: 18-0012
Scale: 1" = 30'
Sheet: SP-10

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36552 DATED 12/12/18



SOIL EROSION AND SEDIMENT CONTROL NOTES

(To be included on the signed erosion control plan sheet)

1. All soil erosion and sediment control practices on this plan will be constructed in accordance with the "**New Jersey Standards for Soil Erosion and Sediment Control**" 7th Edition **last revised December 2017.** These measures will be installed prior to any major soil disturbance or in their proper sequence and maintained until permanent protection is established.

2. All soil to be exposed or stockpiled for a period of greater than 14 days, and not under active construction, will be temporarily seeded and hay mulched or otherwise provided with vegetative cover. This temporary cover shall be maintained until such time whereby permanent restabilization is established.

3. Seeding Dates: The following seeding dates are recommended to best establish permanent vegetative cover within most locations in the HEPSCD: Spring - 3/1-5/15 and Fall - 8/15 - 10/1.

4. Sediment fences are to be properly trenched and maintained until permanent vegetative cover is established

5. All storm drainage inlets shall be protected by one of the practices accepted in the Standards, and protection shall remain until permanent stabilization has been established. Storm drainage outlet points shall be protected as required before they become functional.

6. Mulch materials shall be un-rotted small grain straw applied at the rate of 70 to 90 pounds per 1,000 square feet and anchored with a mulch anchoring tool, liquid mulch binders, or netting tie down. Other suitable materials may be used if approved by the Soil Conservation District.

7. All erosion control devices shall be periodically inspected, maintained and corrected by the contractor. Any damage incurred by erosion shall be rectified immediately.

8. The Hudson-Essex-Passaic Soil Conservation District will be notified in writing at least 48 hours prior to any soil disturbing activities. Fax - (862) 333-4507 OR email - INFORMATION@HEPSCD.ORG

9. **The applicant must obtain a District issued Report-of-Compliance prior to applying for the Certificate of Occupancy or Temporary Certificate of Occupancy from the respective municipality, NJ - DCA or any other controlling agency.** Contact the District at 862-333-4505 to request a Final Inspection, giving advanced notice upon completion of the restabilization measures. A performance deposit may be posted with the District when winter weather or snow cover prohibits the proper application of seed, mulch, fertilizer or hydro-seed.

10. Paved roadways must be kept clean at all times. Do not utilize a fire or garden hose to clean roads unless the runoff is directed to a properly designed and functioning sediment basin. Water pumped out of the excavated areas contains sediments that must be removed prior to discharging to receiving bodies of water using removable pumping stations, sump pits, portable sedimentation tanks and/or silt control bags.

11. All surfaces having lawn or landscaping as final cover are to be provided topsoil prior to re-seeding, sodding or planting. A depth of 5.0 inches, firmed in place, is **required**, as per the Standards for Topsoiling and Land Grading, last revised December 2017.

12. All plan revisions must be submitted to the District for proper review and approval.

13. A crushed stone wheel cleaning tracking-pad is to be installed at all site exits using 2 ½ -1" crushed angular stone (ASTM 2 or 3) to a minimum length of 50 feet and minimum depth of 6". All driveways must be provided with crushed stone until paving is complete.

14. Steep slopes incurring disturbance may require additional stabilization measures. These "special" measures shall be designed by the applicant's engineer and be approved by the Soil Conservation District.

15. **The Hudson-Essex-Passaic Soil Conservation District shall be notified, in writing, for the sale of any portion of the project or for the sale of individual lots. New owners' information shall be provided. Additional measures deemed necessary by District officials shall be implemented as conditions warrant.**

http://hepscdnj.org
HEPSCD251SESCNOTES_TTHEDREV2017

TEMPORARY STABILIZATION

SOILS EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, SHALL BE SEEDED & HAY MULCHED AND STABILIZED WITH TEMPORARY VEGETATIVE COVER OR OTHER APPROVED.

1. STREETS, DRIVEWAYS AND PARKING AREAS NOT SCHEDULED FOR PAVING WITHIN THE ALLOTTED TIME FRAME SHALL BE STABILIZED USING PAVEMENT SUBBASE COURSE. THIS SUBBASE COURSE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
2. ALL AREAS NOT SCHEDULED FOR PAVING SHALL RECEIVE A TEMPORARY SEEDING IMMEDIATELY FOLLOWING FOLLOWING ROUGH GRADING.
3. APPLY FERTILIZER AT A RATE OF 500 LBS./ACRE OR 11 LBS./1,000 SF. OF 10-20-10 EQUIVALENT. APPLY LIMESTONE AT A RATE OF 2 TONS/ACRES.
4. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES UNTIL UNIFORM.
5. TEMPORARY SEEDING WILL BE A MIX OF ANNUAL RYEGRASS OR PERENNIAL RYEGRASS AT A RATE OF 100 LBS./ACRE OR 1 LB./1,000 SF.
6. UN-ROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT A RATE OF 1-1/2 TO 2 TONS/ACRE (70 TO 90 LBS./1,000 SF.

PERMANENT STABILIZATION

1. ALL AREAS NOT SCHEDULED FOR CONSTRUCTION OR LANDSCAPING TO BE STABILIZED USING SEED MIXTURE NO. 13 CONSISTING OF HARD FESCUE AND/OR CHEWING FESCUE AT A RATE OF 175 LBS/ACRE (4 LBS/1,000 SF), STRONG CREEPING RED FESCUE PERENNIAL RYEGRASS & KENTUCKY BLUEGRASS (BLEND), BOTH AT A RATE OF 45 LBS/ACRE (1LB/1000 SF)
2. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO SPREAD TOPSOIL AT A RATE OF 500 LBS./ACRE OR 11 LBS./1,000 SF OF 10-10-10 EQUIVALENT.
3. WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4 INCHES UNTIL UNIFORM.
4. REMOVE ALL SURFACE DEBRIS AND STONES 2 INCHES OR LARGER.
5. UN-ROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT A RATE OF 1-1/2 TO 2 TONS/ACRE (70 TO 90 LBS./1,000 SF.
6. INSPECT SEEDBED JUST BEFORE SEEDING IF TRAFFIC HAS LEFT THE SOIL COMPACTED. THE AREA MUST BE RE-TILLED AND FIRMED AS ABOVE.
7. A DEPTH OF 5 INCHES OF TOPSOIL IS REQUIRED FOR ALL SURFACES HAVING LAWN OR LANDSCAPING AS FINAL COVER.

SEQUENCE OF SITE CLEARING & CONSTRUCTION

PHASE I

1) INSTALL SILT FENCE & STRAW BALE BARRIERS (FOR PHASE 1 & 2), INLET FILTERS (EXIST. INLETS) AND ANTI-TRACKING PADS **#1 & #2.** (DURATION: APPROX. 4 DAYS)
2) CLEAR SITE AND ROUGH GRADE. (DURATION: APPROX. 5 WEEKS)
3) INSTALL SESC MEASURES FOR THE BRIDGE (SEE SP-12), CONSTRUCT BRIDGE & UTILITIES THROUGH THE STREAM, RESTORE STREAM. (DURATION: APPROX. 1 MONTH)
4) CONSTRUCT UTILITIES: STORM SEWERS & UNDERGROUND DETENTION BASINS. (DURATION: APPROX. 1 MONTH)
5) CONSTRUCT DRIVEWAY/PARKING LOT PERIMETER CURBS (DURATION: APPROX. 2 WEEKS)
6) STABILIZE AND SEED ALL DISTURBED AREAS NOT SCHEDULED FOR PAVING. (DURATION: APPROX. 1 WEEK)

PHASE II

1) CONSTRUCT CURBS, SIDEWALKS AND BASE COURSE OF PAVEMENT (DURATION: APPROX. 4 WEEKS)
2) FINAL GRADING AND STABILIZATION. (DURATION: APPROX. 1 WEEK)
3) UPON STABILIZATION OF ALL AREAS, REMOVE ALL SOIL EROSION DEVICES AND CLEAN DRAINAGE SYSTEM. (DURATION: APPROX. 1 WEEK)

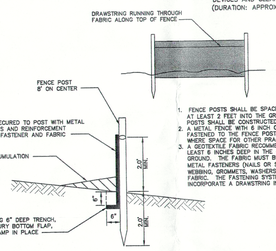
PROFILE N.T.S.

PLAN VIEW N.T.S.

LENGTH OF CONSTRUCTION EXIT TABLE

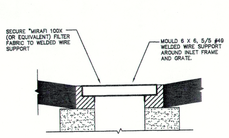
PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COURSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT.	100 FT.
2 TO 5%	100 FT.	200 FT.
> 5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE	

ANTI-TRACKING PAD
SCALE N.T.S.

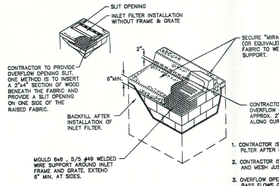


1. FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND (FIG. 25-2). POSTS SHALL BE STEEL EITHER T OR U TYPE WITH A MINIMUM DIAMETER THICKNESS OF 1.5 INCHES.
2. A WOVEN WIRE FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED. EXTENDED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
3. A GEOTEXTILE FABRIC RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 8 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND ALONG THE BOTTOM, AND UP AT LEAST 8 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND ALONG A SYSTEM CONSISTING OF GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE FENCE USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST PULLING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SILT FENCE DETAIL
SCALE N.T.S.

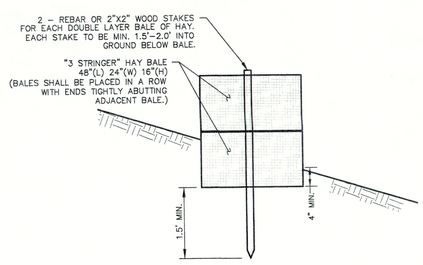


TRENCH GRATE FILTER
SCALE N.T.S.



1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR IS TO REMOVE FABRIC AND WASH JUST PRIOR TO PAVING.
3. OVERFLOW OPENING SHALL SAFELY PASS FLOWS GREATER THAN 1 YR./24 HR. STORM.

INLET FILTER DETAIL
SCALE N.T.S.



STRAW BALE BARRIER DETAIL
SCALE N.T.S.

SOIL LEGEND

Soil Information obtained from Web Soil Survey, Map printed on 10-05-2016.

URPECB - Urban Land, Peckmantown substratum, 0 to 8 percent slopes.

UdhorB - Udorthents, Horseneck substratum, 0 to 8 percent slopes.

URBONB - Urban land, Boonton substratum, 0 to 8 percent slopes

HanBc - Haledon silt loam, 0 to 8 percent slopes, extremeley stony.

SOIL EROSION LEGEND

- FILTER FABRIC FENCING (SEE DETAIL)
- LIMIT OF DISTURBANCE
- SOIL BOUNDARY LINE
- STRAW BALE BARRIER
- INLET FILTER
- ANTI-TRACKING PAD (SEE DETAIL)

TOTAL AREA OF DISTURBANCE:
242,000 SQ.FT. OR 5.556± AC.

SOIL COMPACTION EXEMPTION NOTE

AS DETERMINED BY THE STATE POLICY MAP, THE PROJECT AREA FALLS WITHIN THE METROPOLITAN PLANNING AREA (PA1). UNDER EXISTING CONDITIONS, THE SITE IS NOT COVERED IN WOODY VEGETATION NOR REGROWTH. IN ACCORDANCE WITH NEW JERSEY STANDARD FOR LAND GRADING (REVISED 2017), NON WOODY VEGETATED PA1 AREAS FALL UNDER THE SOIL COMPACTION EXEMPTION LIST AS A "URBAN REDEVELOPMENT" AND IS DEFINED BY NJDEP AS "PREVIOUSLY DEVELOPED".

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP
2	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/12/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

SOIL EROSION & SEDIMENT CONTROL PLAN

PETRY ENGINEERING, LLC
CIVIL ENGINEERS • LAND PLANNERS • SURVEYORS
CERTIFICATE OF AUTHORIZATION NUMBER 24GA28010500
160 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
PHONE: (973) 227-1191 FAX: (973) 227-1774

Designer: JMP
Drafstman: CVF
Checked By: JMP
Project No.: 16-0012
Scale: 1" = 30'
Sheet: SP-11

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36662 DATED 12/12/16

INSTALL STORM DRAINS THROUGH BRIDGE IMMEDIATELY FOLLOWING BRIDGE CONSTRUCTION.

48" PIPE (TO TEMPORARILY DIVERT STREAM FLOWS THROUGH THE WORK ZONE)

SAND BAG COFFER DAM (TO SUPPORT PIPE)

STRAW BALE BARRIER

INSTALL STORM DRAINS THROUGH BRIDGE IMMEDIATELY FOLLOWING BRIDGE CONSTRUCTION.

SOUTHEAST STAGING AREA (INSTALL ANTI-TRACKING PAD #2 AFTER CONSTRUCTION OF THE BRIDGE AND UTILITIES)

APPROVED
File No. 0722-05-0004-1
State of New Jersey
Department of Environmental Protection
Land Use Regulation

NORTHWEST STAGING AREA (INSTALL ANTI-TRACKING PAD #1 PRIOR TO CONSTRUCTION OF THE BRIDGE AND UTILITIES THROUGH THE STREAM)

STRAW BALE BARRIER

SAND BAG COFFER DAM (TO SUPPORT PIPE)

48" PIPE (TO TEMPORARILY DIVERT STREAM FLOWS THROUGH THE WORK ZONE)

SOIL EROSION AND SEDIMENT CONTROL NOTES

(To be included on the signed erosion control plan sheet)

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http://hepsoilnj.org
HEPSCD2511ESCNOTES_7THEDREV2017

SEQUENCE OF SITE CLEARING & CONSTRUCTION

1) INSTALL SILT FENCE, STRAW BALE BARRIERS, 48" PIPE, TEMPORARY SAND BAG COFFER DAMS, AND INLET FILTERS ON EXISTING GRATES. (DURATION: APPROX. 1 DAY)
2) REMOVE TREES AND BUSH WITHIN LIMITS OF PROPOSED BRIDGE AND UTILITY WORK. (DURATION: APPROX. 1 DAY)
3) REMOVE EXISTING BRIDGE. (DURATION: APPROX. 3 DAYS)
4) EXCAVATE AREAS FOR BRIDGE CONSTRUCTION, INSTALL BRIDGE FOUNDATION. (DURATION: APPROX. 2 WEEKS)
5) INSTALL BRIDGE STRUCTURE. (DURATION: APPROX. 1 WEEK)
6) CONSTRUCT UTILITIES: GAS, WATER MAINS, AND SANITARY SEWER. (DURATION: APPROX. 1 WEEK)
7) INSTALL STORM SEWERS THROUGH BRIDGE STRUCTURE. (DURATION: APPROX. 1 DAY)
8) ROUGH GRADE ROADWAY ACROSS NEW BRIDGE STRUCTURE. (DURATION: APPROX. 2 DAYS)
9) STABILIZE DISTURBED CHANNEL AND BANKS OF PECKMAN RIVER. (DURATION: APPROX. 2 DAYS)
10) REMOVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AND 48" PIPE/COFFER DAM THROUGH STREAM. (DURATION: APPROX. 1 DAY)

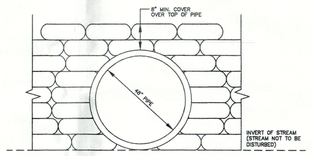
NOTES:

1) ALL SAND BAG COFFER DAMS ARE TEMPORARY AND TO REMAIN THROUGH CONSTRUCTION OF THE BRIDGE AND UTILITIES. THEY ARE TO BE REMOVED IMMEDIATELY FOLLOWING THE STABILIZATION OF THE CHANNEL.
2) UTILITIES TO BE CONSTRUCTED THROUGH CHANNEL ARE TO BE INSTALLED BELOW THE TEMPORARY 48" PIPE THAT DIVERTS FLOW FROM THE PECKMAN RIVER THROUGH THE WORK ZONE.
3) SEE SOIL EROSION AND SEDIMENT CONTROL PLAN (SP–11) FOR ADDITONAL SOIL EROSION AND SEDIMENT CONTROL DETAILS.

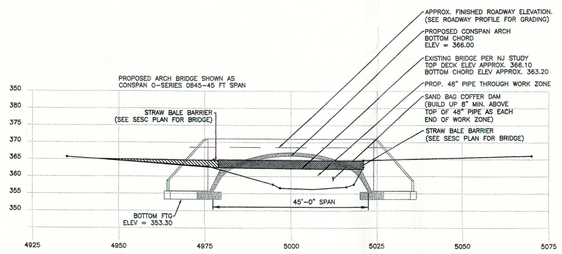
SOIL EROSION LEGEND

- X — FILTER FABRIC FENCING (SEE DETAIL)
- LIMIT OF DISTURBANCE
- STRAW BALE BARRIER
- SAND BAG COFFER DAM
- INLET FILTER
- STAGING AREA

TOTAL AREA OF DISTURBANCE:
242,475.5 SQ.FT. OR 5.57± AC.
(FOR ENTIRE SITE)



TEMPORARY COFFER DAM DETAIL
SCALE N.T.S.



GENERAL CROSS SECTION THROUGH BRIDGE AREA
SCALE: N.T.S.

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 39
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

SOIL EROSION & SEDIMENT CONTROL PLAN FOR BRIDGE CONSTRUCTION

PETRY ENGINEERING, LLC
DIVISION OF CONSULTING • LITIGATION • LICENSING • ASSET MANAGEMENT
199 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL. (973) 227-7224 FAX (973) 227-7274
J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 35602 DATED 09/20/17

Designer: JMP
Draftsman: CVF
Checked By: JMP
Project No.: 16-0012
Scale: 1" = 10'
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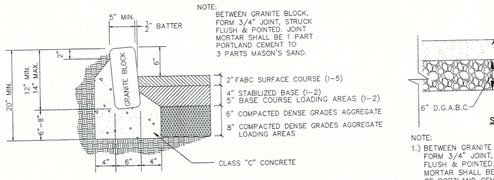
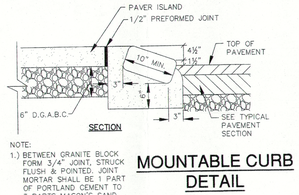


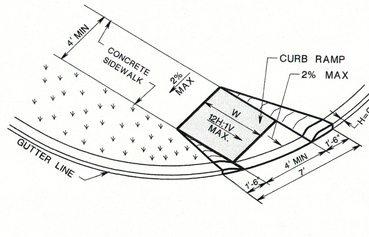
GRANITE BLOCK CURB & PAVEMENT SECTION DETAIL

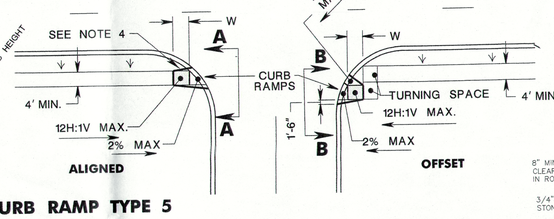
SCALE – N.T.S.



MOUNTABLE CURB DETAIL

SCALE – N.T.S.





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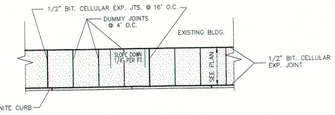
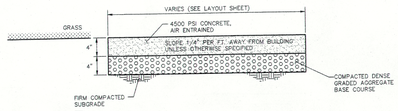


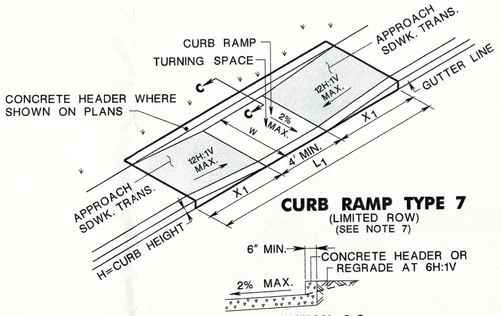
CONCRETE SIDEWALK/ NATURE WALK PLAN



CONCRETE SIDEWALK/ NATURE WALK SECTION

CONCRETE SIDEWALK/ NATURE WALK DETAIL

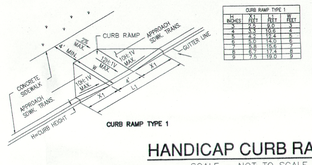
SCALE – N.T.S.



CURB RAMP TYPE 7

(LIMITED ROW)
(SEE NOTE 7)

SECTION C–C



CURB RAMP TYPE 1

CURB RAMP TYPE 1				
H INCHES	X1 FEET	L1 FEET	W FEET	
3	2.5	9.0	3	
4	3.3	10.6	4	
5	4.2	12.4	5	
6	5.0	14.0	6	
7	5.8	15.6	7	
8	6.7	17.4	8	
9	7.5	19.0	9	

HANDICAP CURB RAMPS

SCALE – NOT TO SCALE

CURB RAMP TABLES

WARNING: DIMENSIONS SHOWN IN CURB RAMP TABLES ARE BASED ON A ZERO PERCENT GUTTER PROFILE. THEREFORE, DIMENSIONS SHOWN MAY INCREASE OR DECREASE BASED ON DIRECTION AND PERCENT OF GUTTER PROFILE.

CURB RAMP TYPE 1			
H INCHES	X1 FEET	L1 FEET	W FEET
3	2.5	9.0	3
4	3.3	10.6	4
5	4.2	12.4	5
6	5.0	14.0	6
7	5.8	15.6	7
8	6.7	17.4	8
9	7.5	19.0	9

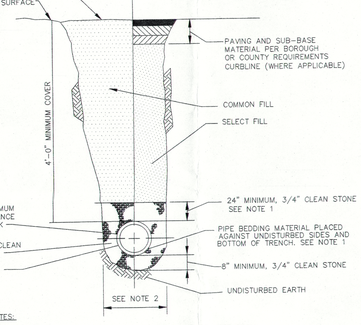
CURB RAMP TYPE 2, 5 OR 6	
H INCHES	W FEET
3	3
4	4
5	5
6	6
7	7
8	8
9	9

CURB RAMP TYPE 7			
W FEET	H INCHES	X1 FEET	L1 FEET
4' MIN.	3	3	10
MIN 5'	4	4	12
WITH	5	5	14
HEADER	6	6	16
	7	7	18
	8	8	20
	9	9	22

CURB RAMP TYPE 3						
W FEET	H INCHES	X1 FEET	L1 FEET	Y INCHES	X2 FEET	L2 FEET
2.5	3	2.5	9	2.5	0.5	5
	4	3.3	10.6	2.5	1.5	7
	5	4.2	12.4	2.5	2.5	9
	6	5.0	14.0	2.5	3.5	11
	7	5.8	15.6	2.5	4.5	13
	8	6.7	17.4	2.5	5.5	15
	9	7.5	19.0	2.5	6.5	17
3.0	3	*	*	*	*	*
	4	3.3	10.6	3.0	1	6
	5	4.2	12.4	3.0	2	8
	6	5.0	14.0	3.0	3	10
	7	5.8	15.6	3.0	4	12
	8	6.7	17.4	3.0	5	14
	9	7.5	19.0	3.0	6	16
3.5	3	*	*	*	*	*
	4	3.3	10.6	3.5	0.5	5
	5	4.2	12.4	3.5	1.5	7
	6	5.0	14.0	3.5	2.5	9
	7	5.8	15.6	3.5	3.5	11
	8	6.7	17.4	3.5	4.5	13
	9	7.5	19.0	3.5	5.5	15
4.0	3	*	*	*	*	*
	4	*	*	*	*	*
	5	4.2	12.4	4.0	1	6
	6	5.0	14.0	4.0	2	8
	7	5.8	15.6	4.0	3	10
	8	6.7	17.4	4.0	4	12
	9	7.5	19.0	4.0	5	14

CURB RAMP TYPE 4				
W FEET	H INCHES	Y INCHES	X2 FEET	L2 FEET
2.5	3	2.5	0.5	5
	4	2.5	1.5	7
	5	2.5	2.5	9
	6	2.5	3.5	11
	7	2.5	4.5	13
	8	2.5	5.5	15
	9	2.5	6.5	17
3.0	3	**	**	**
	4	3.0	1	6
	5	3.0	2	8
	6	3.0	3	10
	7	3.0	4	12
	8	3.0	5	14
	9	3.0	6	16
3.5	3	**	**	**
	4	3.5	0.5	5
	5	3.5	1.5	7
	6	3.5	2.5	9
	7	3.5	3.5	11
	8	3.5	4.5	13
	9	3.5	5.5	15
4.0	3	**	**	**
	4	**	**	**
	5	4.0	1	6
	6	4.0	2	8
	7	4.0	3	10
	8	4.0	4	12
	9	4.0	5	14

* TYPE 3 RAMP IS NOT APPLICABLE, USE TYPE 1. ** TYPE 4 RAMP IS NOT APPLICABLE, USE TYPE 2.

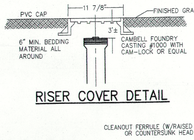


NOTES:

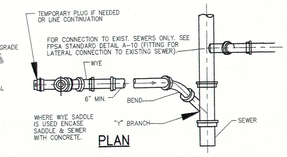
1. FOR PIPES OTHER THAN PVC, SELECT FILL MAY BE USED FROM MID-DIAMETER OF PIPE TO 12" ABOVE TOP OF PIPE.
2. PIPE TRENCH WIDTH SHALL BE PIPE OD +2'-0" MAXIMUM FOR PIPES 12" AND LARGER, FOR PIPES LESS THAN 12", TOTAL PIPE TRENCH WIDTH SHALL BE 3'-0".
3. TRENCHES LOCATED ON ROAD SHOULDER SHALL BE TREATED THE SAME AS STREET EXCEPT FOR PAVING.
4. PROVIDE AT LEAST ONE IMPERVIOUS DAM IN GRAVEL BEDDING BETWEEN EACH MANHOLE OR EVERY 300 FT. WHICHEVER IS LESS.

TYPICAL TRENCH DETAIL FOR 8" PVC SDR-35 SEWER PIPE

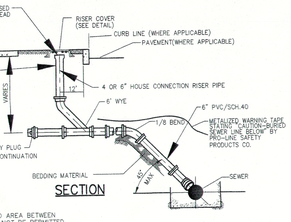
SCALE – N.T.S.



RISER COVER DETAIL



PLAN



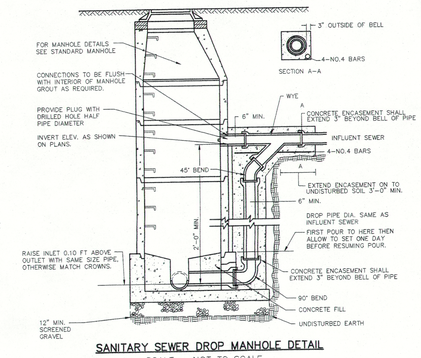
SECTION

NOTES:

1. CLEANOUT TO BE LOCATED IN GRASSED AREA BETWEEN SIDEWALK AND CURB. CLEANOUTS WILL NOT BE PERMITTED IN DRIVEWAYS OR SIDEWALKS.
2. LATERAL TO BE SAME SIZE FOR ENTIRE LENGTH FROM BUILDING TO SEWER, 6" PVC SCH. 40.
3. IN EASEMENT AREAS, RISER PIPE SHALL BE LOCATED AS CLOSE TO EASEMENT LINE AS POSSIBLE.

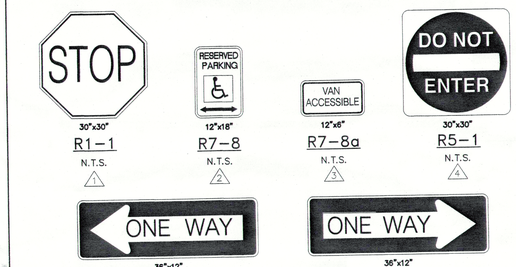
SANITARY SEWER DETAIL

SCALE – N.T.S.



SANITARY SEWER DROP MANHOLE DETAIL

SCALE – NOT TO SCALE



SIGNAGE DETAILS

STD. SIGN DETAIL

SCALE – N.T.S.

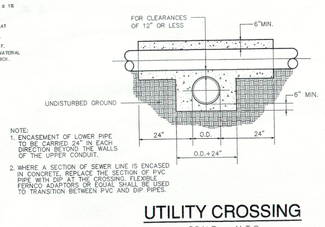
PLAN

NOTES:

1. SUBBASE SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER.
2. CLASS "B" CONC. AIR-ENTRAINED N.J.D.O.T. MIX. 4000 PSI IN 28 DAYS. (1.175 : 3.5 MIX)
3. MINIMUM CEMENT CONTENT OF SIX AND ONE-HALF BAGS PER CUBIC YARD OF CONC.
4. MINIMUM WATER-CEMENT RATIO OF FIVE AND ONE HALF GALLON PER SACK OF CEMENT.
5. ALL CONC. SHALL BE AIR-ENTRAINED AND CONTAIN 6% ± 1%
6. FULL DEPTH CONSTRUCTION JOINTS EVERY 4' OR AS OTHERWISE DIRECTED
7. SURFACES SHALL BE FINISHED TRANSVERSELY TO A NEAT FINISH AND SHALL BE CLEAN.
8. INSPECTION OF FORMS REQUIRED PRIOR TO POURING OF CONCRETE. CONCRETE NOT TO BE POURED BELOW 35° F.
9. 1/2" EXPANSION JOINTS EVERY 12'. EXPANSION JOINT MATERIAL TO BE ASPHALT IMPREGNATED FIBER MATERIAL–1/2" THICK.

CONCRETE APRON DETAILS

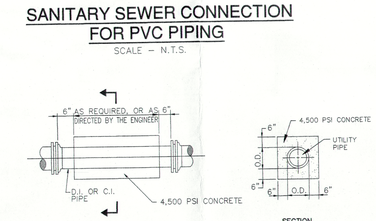
SCALE – N.T.S.



NOTE:
1. ENCASEMENT OF LOWER PIPE TO BE CARRIED 24" IN EACH DIRECTION BEYOND THE WALLS OF THE UPPER CONDUIT.
2. WHERE A SECTION OF SEWER LINE IS ENCASED CONCRETE, REPLACE THE SECTION OF PVC PIPE WITH DIP AT THE CROSSING. FLEXIBLE FERNCO ADAPTORS OR EQUAL SHALL BE USED TO TRANSITION BETWEEN PVC AND DIP PIPES.

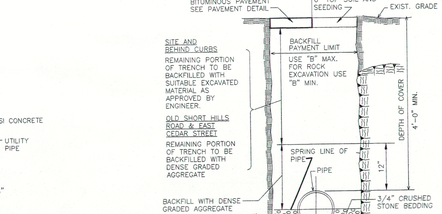
UTILITY CROSSING

SCALE – N.T.S.



CONCRETE ENCASEMENT DETAIL

(WHERE REQ'D, IF NECESSARY)
SCALE N.T.S.



TRENCH WIDTHS		
PIPE SIZE	B	
	MIN.	MAX.
6" OR SMALLER	21"	30"
8"	24"	32"

TRENCH DETAILS

SCALE – N.T.S.

PIPE BOLLARD DETAIL FOR HC SIGNS

SCALE – N.T.S.

FIRE LANE PARKING

SCALE – N.T.S.

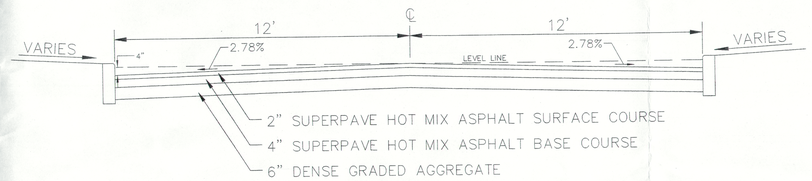
NOTE:
1. STRIPING AND CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL CODES AND SPECIFICATIONS.
2. ALL PAVEMENT MARKINGS AND STRIPING SHALL BE LONG LIFE THERMOPLASTIC.

HANDICAP PARKING DIMENSIONS

SCALE – N.T.S.

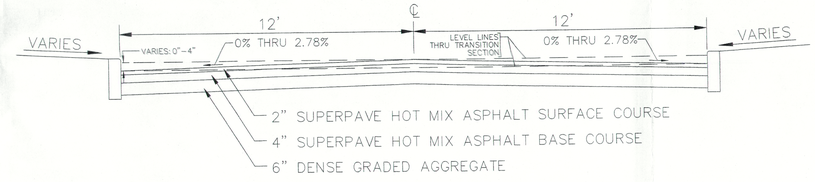
DETECTABLE WARNING SURFACE

SCALE – N.T.S.



STANDARD CROSS SECTION DETAIL 'A' (NTS)

(STA. 22+67.54 THRU 25+76.30)



TRANSITION SECTION DETAIL (NTS)

(STA. 22+00 THRU 22+67.54)

SANITARY SEWER CONNECTION FOR PVC PIPING

SCALE – N.T.S.

APPROVED
File No.
0722-05-0004.1
Date:
State of New Jersey
Department of Environmental Protection
Trenton

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	03/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP
2	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/12/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

CONSTRUCTION DETAILS

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA27178500
159 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL. (973) 227-7004 FAX (973) 227-7074
J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36082 DATED 12/12/16

Designer: JMP
Drafterman: CDD
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-13

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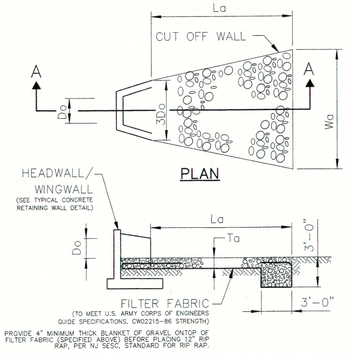
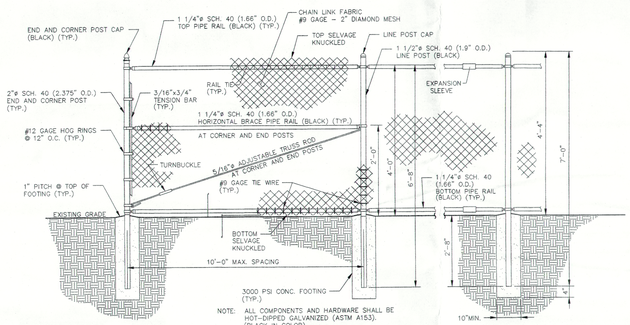


RIP RAP APRON DETAIL

SCALE N.T.S.

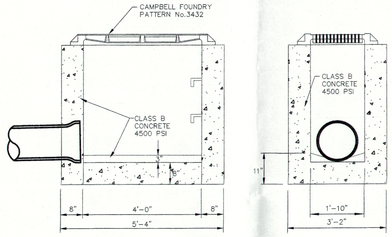
OUTLET PROTECTION SCHEDULE (FOR RIP RAP APRON)

OUTFALL #	Do	3Do	La	Wa	d50	Ta
1	24"	72"	20'	16'	12"	24"
2	15"	45"	20'	24'	12"	24"
3	15"	45"	7.5'	7'	12"	24"
4	15"	45"	7.5'	7'	12"	24"



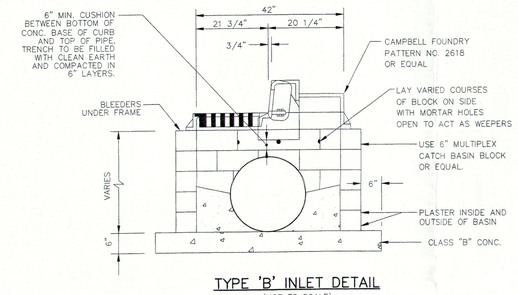
4 FT. CHAIN LINK FENCE DETAIL

SCALE - N.T.S.



TYPE 'A' INLET DETAIL

(NOT TO SCALE)



TYPE 'B' INLET DETAIL

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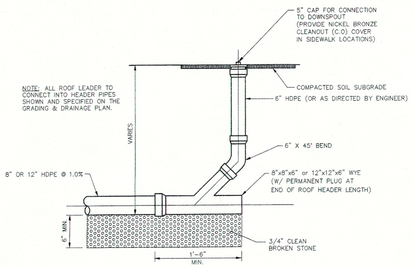
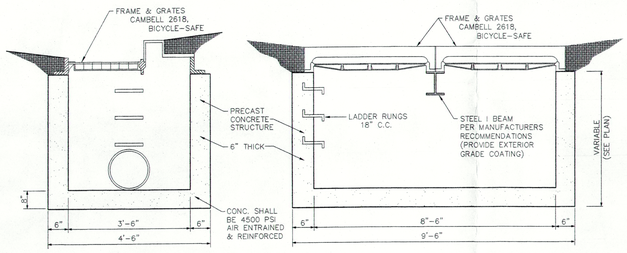


ROOF LEADER DRAIN

SCALE - N.T.S.

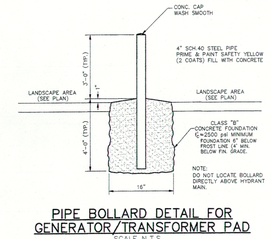


TYPE "B-2" INLET DETAIL

SCALE N.T.S.

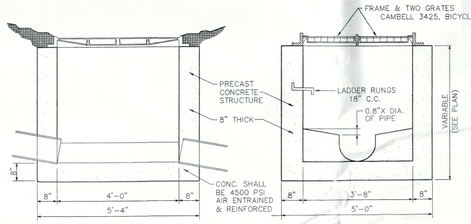
DOUBLE TYPE "B" INLET DETAIL

SCALE N.T.S.



PIPE BOLLARD DETAIL FOR GENERATOR/TRANSFORMER PAD

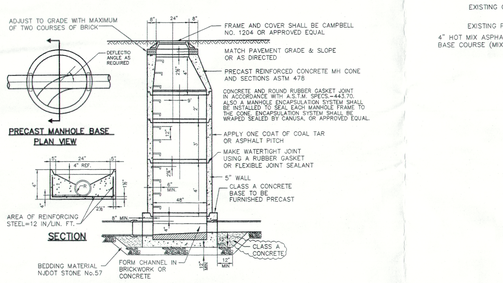
SCALE N.T.S.



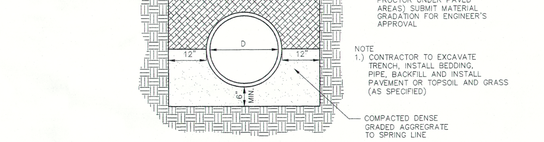
NOTE:
1.) THIS INLET MAY BE CONSTRUCTED OF BRICK, CONC, OR CONC. BLOCK, IF BRICK OR CONC. BLOCK IS USED THE BOTTOM SHALL BE AS SHOWN FOR CONC.
2.) DEPTH OF INVERT TO BE 0.80 THE DIAMETER OF THE MAIN SEWER THROUGH THE INLET.
3.) INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF 2" PER FOOT.
4.) SEE OUTLET STRUCTURE DETAILS FOR BASE STABILIZATION MATERIAL

TYPE "E" INLET DETAIL

SCALE N.T.S.



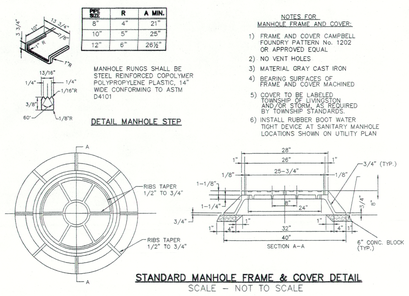
48" PRECAST CONCRETE MANHOLE



NOTE
1.) CONTRACTOR TO EXCAVATE TRENCH, INSTALL BEDDING, PIPE, BACKFILL AND INSTALL PAVEMENT OR TOPSOIL AND GRASS (AS SPECIFIED)

PIPE TRENCH AND REPAVING DETAIL ALONG PARKING AND DRIVEWAY AREAS

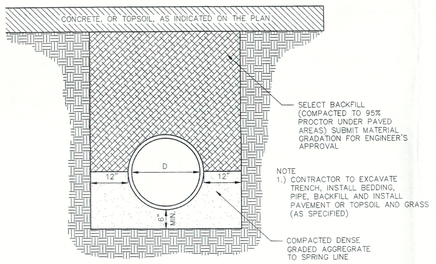
N.T.S.



STANDARD MANHOLE FRAME & COVER DETAIL

SCALE - NOT TO SCALE

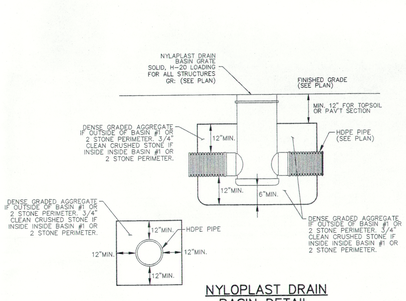
APPROVED
File No.
0722-05-0004.1
Date:
State of Rhode Island
Department of Environmental Protection
Land



NOTE
1.) CONTRACTOR TO EXCAVATE TRENCH, INSTALL BEDDING, PIPE, BACKFILL AND INSTALL PAVEMENT OR TOPSOIL AND GRASS (AS SPECIFIED)

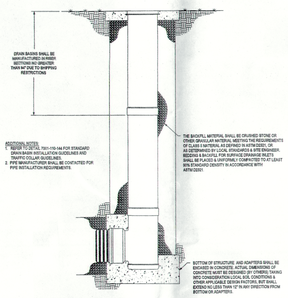
PIPE TRENCH DETAIL

N.T.S.



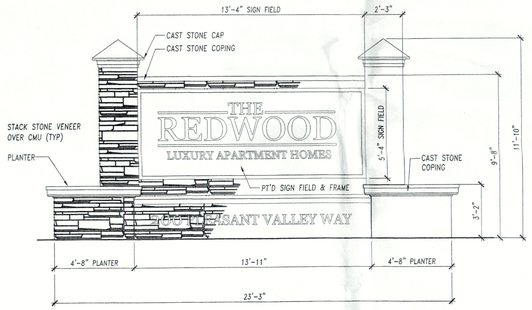
NYLOPLAST DRAIN BASIN DETAIL

SCALE N.T.S.



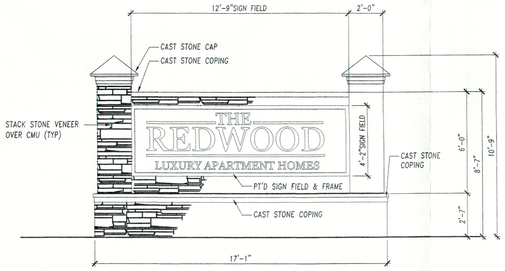
DEEP BURIAL INSTALLATION DETAIL

SCALE N.T.S.



PLEASANT VALLEY WAY SIGN DETAIL

(NOT TO SCALE)



INTERIOR DRIVEWAY SIGN DETAIL

(NOT TO SCALE)

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REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/26/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP
2	MODIFICATION TO BUILDING/SITE GRADES NJDEP SUBMITTAL DATA	09/20/2017	JMP
1	UPDATED FOR COMPLETENESS PER BOARD PROFESSIONALS	04/12/2017	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR

REDWOOD, L.L.C.

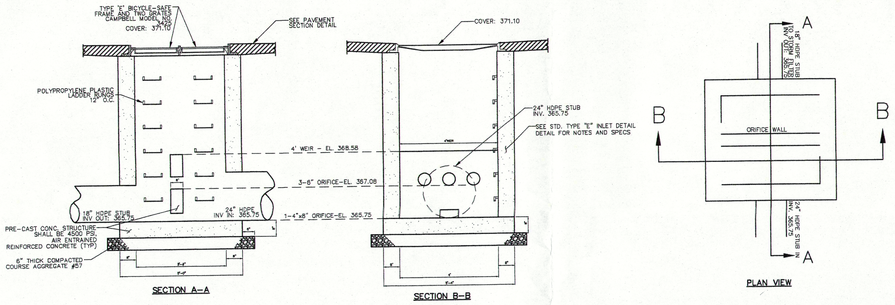
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

CONSTRUCTION DETAILS

PETRY ENGINEERING, LLC
DIVISION OF CONSULTANT AFFAIRS LICENSE NUMBER 24GA28136500
100 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL. (973) 227-7064 FAX (973) 227-7074

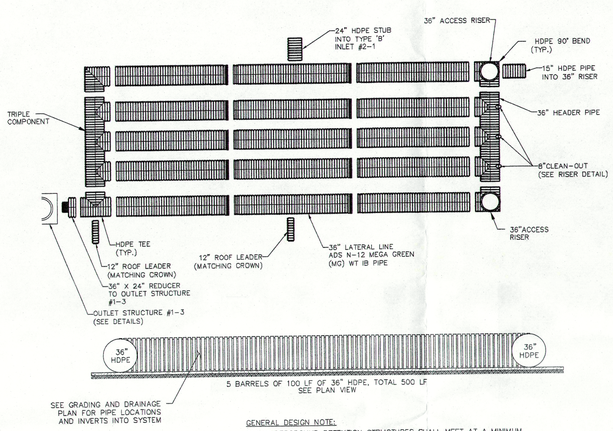
Designer: JMP
Draftsman: CDD
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-14

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36902 DATED: 12/12/16



OUTLET STRUCTURE #1-3 DETAIL

SCALE N.T.S.



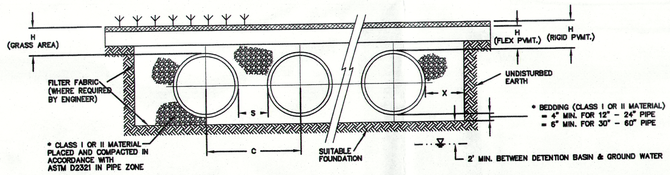
NOTES:

1. ALL REFERENCES TO CLASS I OR II MATERIAL ARE PER ASTM D2321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST EDITION.
2. ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
3. MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE FINES INTO THE BACKFILL MATERIAL WHEN REQUIRED. SEE ASTM D2321.
4. FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF FINES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
5. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
6. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
8. MINIMUM COVER: MINIMUM COVER OVER ALL RETNETION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER IS 12" UP TO 36" DIAMETER PIPE AND 24" OF COVER FOR 42" - 60" DIAMETER PIPE,MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
9. FOR INSTALLATION RECOMMENDATIONS, SEE 702 RETENTION-DETENTION SYSTEM (CROSS SECTION) AND 703 RETENTION-DETENTION SYSTEM (RISER AND CLEANOUTS)

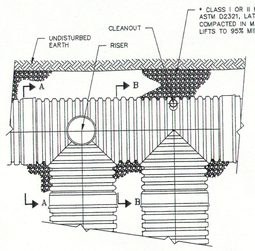
GENERAL DESIGN NOTE:
ALL UNDERGROUND DETENTION STRUCTURES SHALL MEET AT A MINIMUM H20S16 LOADING. THE MANUFACTURER SHALL CERTIFY THAT THE MINIMUM DESIGN CRITERIA HAS BEEN MET, AND SUBMIT SHOP DRAWINGS FOR REVIEW TO THE ENGINEER AND THE CITY OF WEST ORANGE PRIOR TO ANY INSTALLATION OF THE PROPOSED UNDERGROUND DETENTION SYSTEM STRUCTURES.

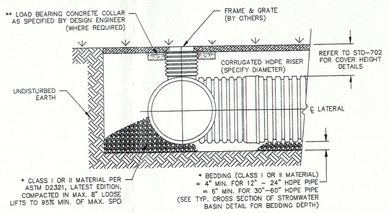
TYPICAL PLAN & ELEVATION VIEW OF SUBSURFACE DETENTION BASIN#1

SCALE N.T.S.

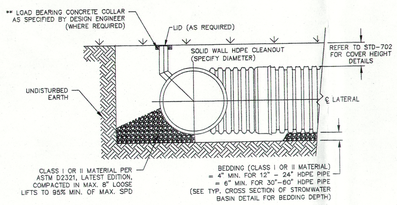


NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	NOMINAL SPACING "C"	TYPICAL SIDE WALL	H (NON-TRAFFIC)	H (TRAFFIC)
36" (900mm)	43" (1067mm)	20" (508mm)	63.0" (1600mm)	6" (457mm)	12" (305mm)	24" (305mm)





SECTION A-A



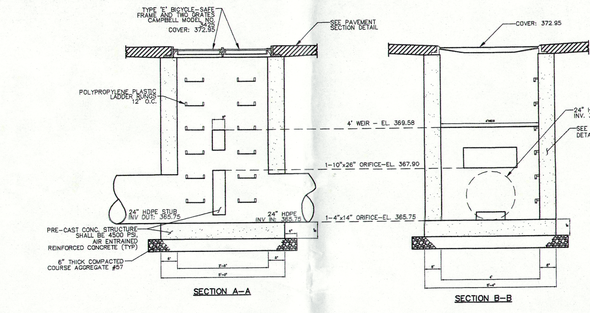
SECTION B-B

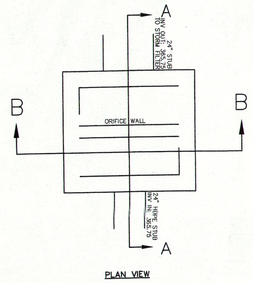
* CLASS I BACKFILL REQUIRED AROUND 60" DIAMETER FITTINGS

** LOAD BEARING CONCRETE COLLAR SHALL BE CONSTRUCTED IN TRAFFIC AREAS SUCH THAT THE LIVE LOAD IS TRANSMITTED TO THE SURROUNDING SOIL AND NOT DIRECTLY TO THE RISER.

TYPICAL RISER/CLEANOUT (C.O.) DETAIL

SCALE N.T.S.





OUTLET STRUCTURE #4-1 DETAIL

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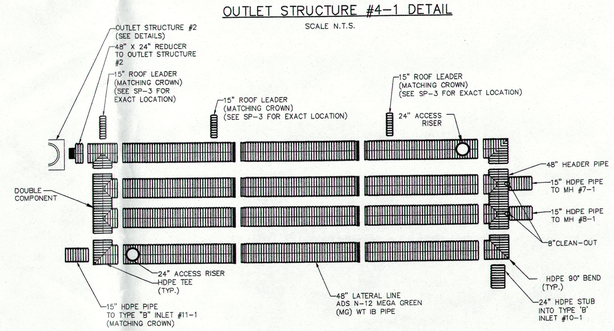
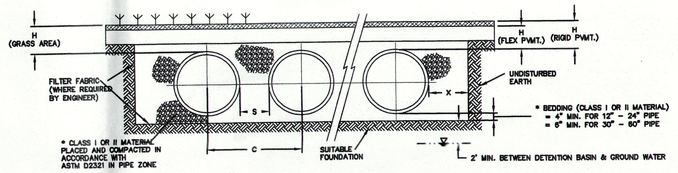


GENERAL DESIGN NOTE:
ALL UNDERGROUND DETENTION STRUCTURES SHALL MEET AT A MINIMUM H20S16 LOADING. THE MANUFACTURER SHALL CERTIFY THAT THE MINIMUM DESIGN CRITERIA HAS BEEN MET, AND SUBMIT SHOP DRAWINGS FOR REVIEW TO THE ENGINEER AND THE CITY OF WEST ORANGE PRIOR TO ANY INSTALLATION OF THE PROPOSED UNDERGROUND DETENTION SYSTEM STRUCTURES.

TYPICAL PLAN & ELEVATION VIEW OF SUBSURFACE DETENTION BASIN#2

SCALE N.T.S.



NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	NOMINAL SPACING "C"	TYPICAL SIDE WALL	H (NON-TRAFFIC)	H (TRAFFIC)
48" (1200mm)	54" (1372mm)	25" (635mm)	78.5" (1994mm)	6" (457mm)	12" (305mm)	24" (610mm)

APPROVED
PFA No.: 0722-05-0004-1.1
Department of Public Infrastructure
Land Development Protection

REVISION	DESCRIPTION	DATE	BY
7	REVISED PER NJDEP COMMENTS	09/21/2020	JMP
6	REVISED PER NJDEP COMMENTS	05/08/2020	JMP
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PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

CONSTRUCTION DETAILS

PETRY ENGINEERING, LLC
DIVISION OF CIVILWORKS, ARTURO LEONE & ASSOCIATES
180 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL: (973) 227-7004 FAX (973) 227-7374

Designer: JMP
Drafterman: CVF
Checked By: JMP
Project No.: 15-0012
Scale: AS NOTED
Sheet: SP-15

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 36662 DATED 12/12/16

CAUTION: IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT.

GENERAL NOTES:

1. LOCATIONS OF THE EXISTING UTILITIES ARE APPROXIMATE AND NOT NECESSARILY COMPLETE. THE CONTRACTOR IS CAUTIONED THAT THERE MAY BE UNDERGROUND UTILITIES OTHER THAN THOSE SHOWN ON THE DRAWINGS, AND THE CONTRACTOR WILL NOTIFY ALL UTILITY COMPANIES PRIOR TO THE START OF WORK AND REQUEST FIELD LOCATION OF ALL UNDERGROUND UTILITIES.

2. THE MINIMUM EARTH COVER OVER ALL NEW WATER MAINS WILL BE FOUR (4) FEET UNLESS OTHERWISE INDICATED ON DRAWINGS. PIPE WILL BE DUCTILE IRON, CEMENT-LINED WITH RESTRAINED OR PUSH-ON JOINTS, UNLESS OTHERWISE INDICATED. PIPE CLASSIFICATION FOR THE WATER MAINS WILL BE CLASS 52. ALL FITTINGS WILL BE DUCTILE IRON CEMENT-LINED WITH MECHANICAL JOINTS WITH RETAINER GLANDS, CLASS 350, UNLESS OTHERWISE INDICATED ON DRAWINGS OR REQUIRED BY THE ENGINEER. ALL PIPE AND FITTINGS WILL BE POLYETHELENE ENCLOSED.

3. EXCESS EXCAVATED MATERIAL WILL BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR WILL MAKE ARRANGEMENTS TO DISPOSE OF THE MATERIAL AT A SUITABLE LOCATION. DISPOSAL OF ALL MATERIAL, GRADING AND RESTORING THE DISPOSAL SITES, AND OBTAINING ANY PERMITS WILL BE PERFORMED AT THE SOLE COST OF THE CONTRACTOR.

4. THE MAXIMUM ALLOWABLE JOINT DEFLECTION FOR DUCTILE IRON PIPE WILL BE IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS AND AWWA STANDARDS.

5. PROVIDE A MINIMUM VERTICAL CLEARANCE OF 12 INCHES BETWEEN WATER LINES AND UTILITIES OR OBSTRUCTIONS, UNLESS OTHERWISE SHOWN.

6. ALL FITTINGS ARE TO BE MECHANICAL JOINT WITH RETAINER GLANDS. HOWEVER, SOME FITTINGS WILL REQUIRE THE INSTALLATION OF THRUST BLOCKS AS SHOWN ON THE DRAWINGS. PROVIDE CONCRETE THRUST BLOCKS IN ACCORDANCE WITH DETAILS OR AS NOTED ON THE DRAWINGS, OR AS REQUIRED BY SPECIFIC SOIL CONDITIONS ENCOUNTERED. TYPICAL THRUST REACTION DETAILS SHOWN ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. WHERE GALVANIZED RODS ARE TO BE USED FOR ANCHORING FITTINGS OR VALVES, THE COST OF SUCH MATERIALS WILL BE INCLUDED IN THE UNIT PRICES BID FOR DUCTILE IRON FITTINGS AND GATE VALVES.

7. NOTIFY THE ENGINEER, WATER, AND, FIRE DEPARTMENTS 48 HOURS PRIOR TO MAKING CONNECTIONS TO EXISTING WATER MAINS.

8. THE CONTRACTOR WILL SUPPLY AND ERECT NECESSARY WARNING SIGNS AND PROPER TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE LIVINGSTON POLICE DEPARTMENT. THE CONTRACTOR WILL FURNISH FLAGMEN AS MAY BE REQUIRED TO MAINTAIN TRAFFIC. THE CONTRACTOR WILL CONTACT THE POLICE DEPARTMENT PRIOR TO STARTING ANY WORK AND NOTIFY THEM OF HIS PROPOSED OPERATIONS.

9. THE CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE PROPER BRACING OF EXISTING UTILITIES AS MAY BE REQUIRED TO PREVENT DAMAGE DUE TO CONSTRUCTION OPERATIONS. THE CONTRACTOR WILL ARRANGE FOR PROPER BRACING OF ALL EXISTING UTILITIES, UTILITY POLES, AND OTHER STRUCTURES WITHIN THE VICINITY OF THE WORK WHICH MAY BE AFFECTED BY HIS OPERATIONS. ALL COST ASSOCIATED WITH THIS WORK WILL BE INCLUDED IN THE VARIOUS UNIT PRICES BID FOR THE CONTRACT WORK.

10. THE CONTRACTOR WILL INSTALL TEMPORARY AIR RELEASE TAPS AND SAMPLING TAPS WITH COPPER SAMPLING PIPE FOR TESTING AND DISINFECTION AS NEEDED OR AS REQUIRED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE SAMPLING PIPE AND CLOSE OFF THE TAP AT THE MAIN AFTER ALL TESTING HAS BEEN COMPLETED AND WHEN APPROVED BY THE ENGINEER. THE FURNISHING, INSTALLATION, AND REMOVAL OF TAPS AND PIPE WILL BE INCLUDED IN UNIT PRICE BID FOR TESTING AND DISINFECTION.

11. THE CONTRACTOR WILL BACKFILL AND PAVE THE TRENCH AT THE END OF EACH DAY AND WILL TAKE ANY NECESSARY PRECAUTION TO PROVIDE A SAFE AND ACCESSIBLE WORK AREA FOR VEHICULAR AND PEDESTRIAN TRAFFIC.

12. THE GENERAL LOCATION OF FIRE HYDRANTS AND CURB BOXES ARE SHOWN ON THE DRAWINGS. HYDRANTS AND CURB BOXES WILL BE LOCATED IN THE FIELD BY THE WATER DEPARTMENT PRIOR TO CONSTRUCTING THE WATER MAIN, DUE TO FUTURE ROAD RECONSTRUCTION WHICH WILL RESULT IN RELOCATION OF EXISTING CURB AND CHANGES IN THE GRADE. THE FINISHED GRADE ELEVATION FOR SETTING THE HYDRANT AND VALVE BOX WILL BE PROVIDED BY THE WATER DEPARTMENT.

13. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING VEHICLE ACCESS TO ALL DRIVEWAYS, BUILDING ENTRANCES, AND SIDE STREETS ALONG THE CONSTRUCTION ROUTE TO THE MAXIMUM PRACTICAL

14. THE CONTRACTOR WILL BE RESPONSIBLE TO EXCAVATE IN ADVANCE OF PIPE WORK TO DETERMINE THE EXACT LOCATION, SIZE, TYPE, AND DEPTH OF EXISTING UTILITY NOTED ON THE DRAWINGS PRIOR TO THE CONSTRUCTION OF THE NEW WATER MAIN. EXCEPT FOR THE EXCAVATION OF TEST PITS AS NOTED ON THE DRAWINGS OR WHEN DIRECTED BY THE ENGINEER, NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK, BUT WILL BE INCLUDED IN THE VARIOUS UNIT PRICES BID FOR THE CONTRACT WORK.

15. THE CONTRACTOR WILL BRACE AND SUPPORT ALL EXISTING CURB IN THE IMMEDIATE VICINITY OF THE CONSTRUCTION WORK. PLANKS WILL BE PLACED OVER CURBS TO PREVENT DAMAGE BY THE CONTRACTOR'S EQUIPMENT. ANY CURB WHICH IS DAMAGED, DISTURBED, OR REMOVED IN AREAS OTHER THAN WHERE THE PIPELINE CROSSES EXISTING CURBING, AS SHOWN ON THE DRAWINGS, WILL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. CURB WILL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE DRAWINGS.

16. THE DRAWINGS SHOW THE EXISTING CONDITIONS WHICH ARE LIKELY TO AFFECT THE PROSECUTION OF THE WORK INSOFAR AS THEY HAVE BEEN DETERMINED. THESE DRAWINGS SHOULD NOT BE USED FOR SCALING OF DIMENSIONS OR FOR DETERMINING RIGHT-OF-WAY AND PROPERTY LIMITS.

17. ANY EXISTING FIRE HYDRANTS TO BE REMOVED SHALL BE DELIVERED TO THE WATER DEPT. YARD.

18. WORK PERFORMED ON COUNTY ROADS WILL BE LIMITED TO THE HOURS OF 9:00 A.M. TO 4:00 P.M., UNLESS OTHERWISE PERMITTED BY THE COUNTY OR BY THE ENGINEER.

19. THE APPROXIMATE LOCATION OF WATER SERVICE CONNECTIONS ARE SHOWN ON THE DRAWINGS. EXACT LOCATION TO BE DETERMINED IN THE FIELD BY OWNER.

20. CONSTRUCTION AND TRANSFER OF SERVICES WILL BE PERFORMED ONLY AFTER MAIN HAS BEEN TESTED AND DISINFECTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THIS INCLUDES THE INSTALLATION OF THE SERVICE CORPORATIONS.

21. WHERE EXISTING MAINS ARE TO BE ABANDONED IN PLACES, ALL OPENINGS FROM CUT PORTIONS WILL BE COMPLETELY SEALED WITH NON-SHRINK QUICK SETTING CEMENT, AS APPROVED BY THE ENGINEER. DO NOT BACKFILL UNTIL CEMENT IS CURED.

22. INSTALLATION OF NEW COPPER SERVICES WILL BE PERFORMED BY OPEN TRENCH EXCAVATION IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS. THE EMPLOYMENT OF ALTERNATE METHODS WILL NOT BE PERMITTED.

GENERAL WATER MAIN CONSTRUCTION NOTES:

1.) WATER MAINS SHALL BE DUCTILE IRON PIPE, CLASS 52 CEMENT LINED.

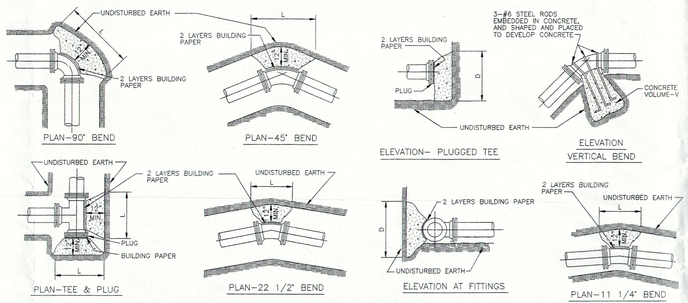
2.) WATER METERS (MAKE AND MODEL) SHALL BE COORDINATED WITH THE TOWNSHIP OF MONTCLAIR WATER DEPARTMENT TO ENSURE COMPATIBILITY WITH EXISTING EQUIPMENT. WATER METERS ARE TO BE PROVIDED AND INSTALLED BY THE APPLICANT UNDER THE SUPERVISION OF THE TOWNSHIP.

3.) ALL WATER MAINS AND SERVICE LINES SHALL HAVE A MINIMUM OF 4 FEET OF COVER.

4.) GATE VALVES SHALL BE INSTALLED AT EACH LEG OF ANY INTERSECTION OF WATER MAIN PIPING. GATE VALVE INTERIOR AND EXTERIOR SHALL BE FUSION EPOXY COATED. THE OPERATING NUT SHALL BE 2 INCH SQUARE, AN ARROW SHOWING THE DIRECTION OF OPENING AND THE WORK "OPEN" SHALL BE CASTN THE FLANGE OF THE OPERATING NUT, VALVES SHALL BE SUITABLE FOR WATER OPERATING PRESSURES OF 250 psi. BURIED VALVES SHALL OPEN LEFT - COUNTER CLOCKWISE. GATE VALVES SHALL BE RESILIENT SEAT GATE VALVES, CATALOG NO. A-2360 AS MANUFACTURED BY THE MULLER COMPANY.

5.) ALL WATER MAIN PIPING IS TO BE MECHANICALLY RESTRAINED AT FITTINGS. CONCRETE ANCHORAGE IS ONLY TO BE USED WITH TOWNSHIP APPROVAL.

6.) ALL WATER MAINS SHALL BE PRESSURE TESTED AND DISINFECTED IN ACCORDANCE WITH AWWA STANDARDS. TESTING AND DISINFECTION SHALL BE WITNESSED BY AUTHORIZED TOWNSHIP PERSONNEL.



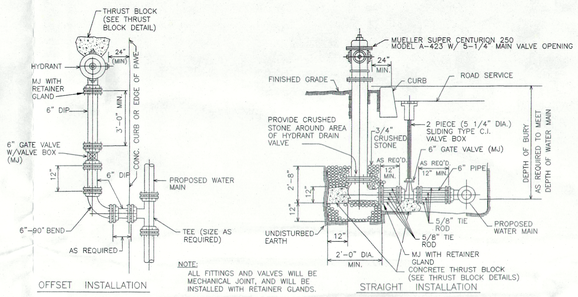
NOTES:
1. DIMENSIONS FOR REACTION BACKING ARE BASED ON AN ALLOWABLE SOIL BEARING OF 2,000 P.S.F. AND A HYDROSTATIC PRESSURE OF 200 P.S.I.
2. CONCRETE THRUST BLOCKS TO BE CONSTRUCTED WHERE CONDITIONS PRECLUDE THE USE OF RESTRAINED JOINT PIPE, OR WHERE ADDITIONAL RESTRAINT MAY BE REQUIRED. AT ALL DEAD ENDS INSTALL CAP WITH MEGALUG RETAINER GLAND AND CONSTRUCT CONCRETE THRUST BLOCK.
3. CONCRETE SHALL BE 3,500 P.S.I.
4. ALL FITTINGS AND VALVES CONSTRUCTED WITH THRUST BLOCKS WILL BE INSTALLED WITH POLYETHYLENE ENCASEMENT AND PROPERLY TIED TO PROTECT BOLTS AND NUTS FROM CONCRETE.

REACTION BACKING SCHEDULE

PIPE SIZE	TEE OR PLUG		90° BEND			45° BEND			22 1/2° OR 11 1/4° BEND		
	Hor.		Hor.		Vert.	Hor.		Vert.	Hor.		Vert.
	L	D	L	D	V(cy)	L	D	V(cy)	L	D	V(cy)
4"	3'-0"	2'-0"	2'-4"	2'-0"	3	2'-3"	2'-0"	2	1'-6"	1'-6"	1
8"	4'-0"	2'-6"	5'-6"	2'-6"	5	3'-0"	2'-6"	4	2'-2"	1'-9"	2
12"	5'-3"	4'-0"	7'-6"	4'-0"	*	4'-0"	4'-0"	4	3'-0"	2'-9"	3

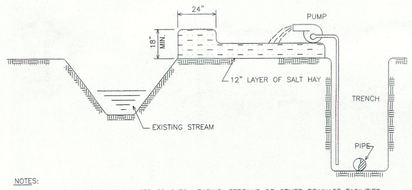
* REQUIRES SPECIAL ANCHORAGE, SEE CONTRACT PLANS

THRUST BLOCK DETAILS
N.T.S.



NOTE: ALL FITTINGS AND VALVES WILL BE MECHANICAL JOINT, AND WILL BE INSTALLED WITH RETAINER GLANDS.

TYPICAL HYDRANT DETAILS
N.T.S.



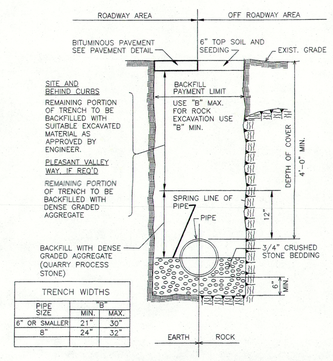
NOTES:
1. OPEN PUMPING OF EXCESS WATER TO CATCH BASINS, STREAMS OR OTHER DRAINAGE FACILITIES WILL NOT BE PERMITTED. WATER WILL BE DIVERTED AS FAR AS POSSIBLE FROM EXISTING STREAM AND WETLANDS AREAS. IF IT IS NECESSARY TO PUMP EXCESS WATER DIRECTLY TO A STREAM OR SUBSURFACE DRAINAGE FACILITIES THE CONTRACTOR WILL MAKE CERTAIN THAT SILT IS FIRST REMOVED FROM THE FLOW.
2. SILT REMOVAL PROCEDURE WILL BE AS FOLLOWS: THE DRAINAGE FACILITY TO WHICH EXCESS WATER WILL BE PUMPED WILL BE PROTECTED AT THE SURFACE WITH SALT HAY TO REMOVE SILT FROM THE WATER ENTERING THE DRAINAGE FACILITY. WHEN THE SALT HAY HAS BECOME CLOGGED IT WILL BE REMOVED TO THE APPROVED SPOIL AREA AND REPLACED.
3. WHEN PUMPED WATER FLOWS TO AN EXISTING STREAM OR WETLAND AREA THE FLOW WILL BE DIRECTED THROUGH A SIMILAR FILTERING MEDIUM BEFORE DISPERSAL OF THE FLOW.
4. THE SALT HAY WILL BE SECURELY BALED AND FASTENED TO THE GROUND TO PREVENT MOVEMENT.
5. THE COST FOR FILTERING TRENCH DEWATERING OPERATIONS, INCLUDING INSTALLATION, MAINTENANCE AND REMOVAL, WILL BE INCLUDED IN THE VARIOUS UNIT PRICES BID FOR PIPE.

TRENCH DEWATERING DETAIL
NOT TO SCALE

SEQUENCE OF CONSTRUCTION FOR WATER MAIN

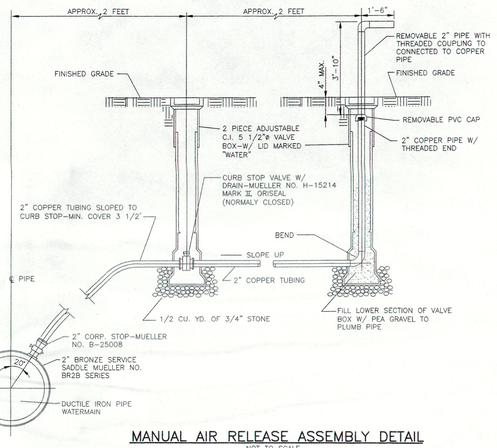
(FOR REGULATORY PURPOSES)

1. ARRANGE FOR MARKOUT OF EXISTING UTILITIES ALONG WATER MAIN ROUTE.
2. INSTALL SOIL EROSION AND SEDIMENT CONTROL MEASURES (INLET FILTERS) IN VICINITY OF PROPOSED WATER MAIN - 2 DAYS.
3. CONSTRUCT WATER MAIN AND PERFORM TRENCH PAVING - 30 DAYS.
4. TEST AND DISINFECT WATER MAIN - 3 DAYS.
5. REMOVE ALL SOIL EROSION CONTROL MEASURES AND PERFORM FINAL CLEANUP OF AREAS ASSOCIATED WITH WATER LINE CONSTRUCTION - 2 DAYS.
6. PERFORM FINAL RESTORATION OF ALL DISTURBED AREAS - 3 DAYS.



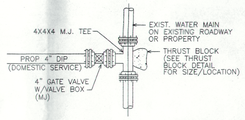
TRENCH WIDTHS		
PIPE SIZE	"B"	
	MIN.	MAX.
6" OR SMALLER	21"	30"
8"	24"	32"

TRENCH DETAILS
N.T.S.

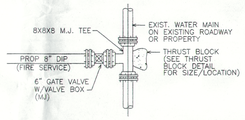


MANUAL AIR RELEASE ASSEMBLY DETAIL
NOT TO SCALE

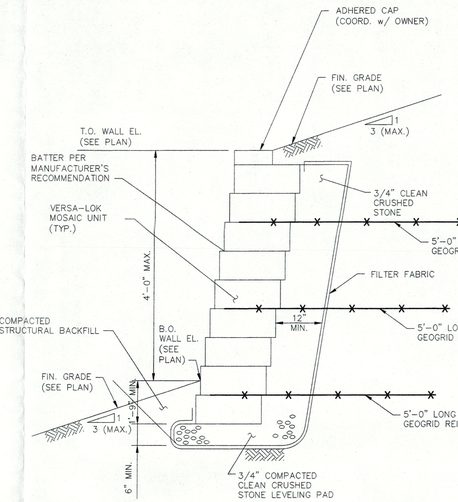
NOTES:
1. THE EXACT LOCATION AND ORIENTATION OF THE AIR RELEASE VALVE ASSEMBLY WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE CURB STOP VALVE AND UPPER PIPE ASSEMBLY SHALL NOT BE CONSTRUCTED UNTIL MAIN HAS BEEN HYDROSTATICALLY PRESSURE TESTED.
2. ALL COSTS ASSOCIATED WITH CONSTRUCTION OF THE AIR RELEASE VALVE ASSEMBLY INCLUDING LABOR, MATERIALS, AND EQUIPMENT WILL BE INCLUDED IN THE VARIOUS UNIT PRICES BID FOR THE WATER MAIN.



4" DIP WATER SERVICE CONNECTION DETAIL
N.T.S.



8" DIP WATER SERVICE CONNECTION DETAIL
N.T.S.

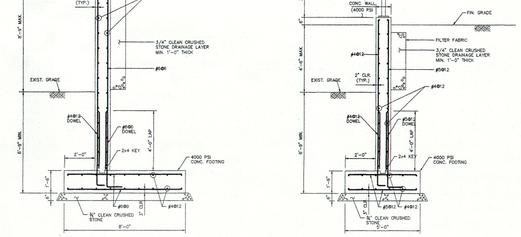


NOTES

1. MODULAR BLOCK WALLS SHALL BE CONSTRUCTED WITH MOSAIC WALL UNITS AS MANUFACTURED BY VERSA-LOK RETAINING WALL SYSTEMS, INC OR ACCEPTED EQUAL. COORDINATE AND COLOR OF UNITS WITH OWNER.
2. INSTALLATION OF MODULAR BLOCK WALLS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS AND SPECIFICATIONS.
3. COORDINATE STYLE AND COLOR OF UNITS WITH OWNER.
4. WALLS SHALL STEP IN ELEVATION AT BOTH TOP AND BOTTOM AS REQUIRED TO CONFORM WITH PROPOSED FINISHED GRADE AT THE TOP OF THE WALL AND EXISTING GRADE AT THE BOTTOM OF THE WALL. ARRANGEMENT OF BLOCK, CAP STONE, AND CRUSHED STONE BASE AT WALL STEPS SHALL CONFORM TO MANUFACTURER'S STANDARD RECOMMENDATIONS.
5. CUT GEOGRID REINFORCING AS REQUIRED TO ACCOMODATE INLET AND PRIVACY FENCE FOUNDATION CONCRETE. DO NOT OMIT FABRIC ENTIRELY AT PRIVACY FENCE LOCATIONS.

(4'-0" MAXIMUM RETAINED HEIGHT)

MODULAR BLOCK RETAINING WALL DETAIL
(NOT TO SCALE)



TYPICAL CONC. RETAINING WALL DETAIL
N.T.S.

NOTE:
1. BOTTOM OF FOOTING TO EXTEND NO LESS THAN 3 FEET BELOW THE INVERT OF THE CHANNEL.
2. CHANNEL INVERT AT LOCATION OF OUTFALL #1 / CONCRETE RETAINING WALL IS 356.80. (FOOTING TO BE SET NO LESS THAN ELEV. 353.80)

REVISION	DESCRIPTION	DATE	BY
6	REVISED PER NJDEP COMMENTS	05/06/2020	JMP
5	REVISED PER NJDEP COMMENTS	02/28/2020	JMP
4	MODIFIED BUILDING AND PARKING LAYOUT	10/30/2019	JMP

PRELIMINARY AND FINAL SITE PLAN APPLICATION
PREPARED FOR
REDWOOD, L.L.C.
200 PLEASANT VALLEY WAY
BLOCK 151 LOT 33
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY NEW JERSEY

CONSTRUCTION DETAILS

PETRY ENGINEERING, LLC
DIVISION OF CONSUMER AFFAIRS LICENSE NUMBER 24GA01155500
100 PASSAIC AVENUE • FAIRFIELD • NEW JERSEY • 07004
TEL. (973) 227-7004 FAX (973) 227-7074

Designer: JMP
Draftsman: CVF
Checked By: JMP
Project No.: 16-0012
Scale: AS NOTED
Sheet: SP-16

J. MICHAEL PETRY-PE,PP,RA
NJ PROFESSIONAL ENGINEER LIC. No. 39052 DATED 09/20/17

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