PRELIMINARY AND FINAL MAJOR SITE PLAN

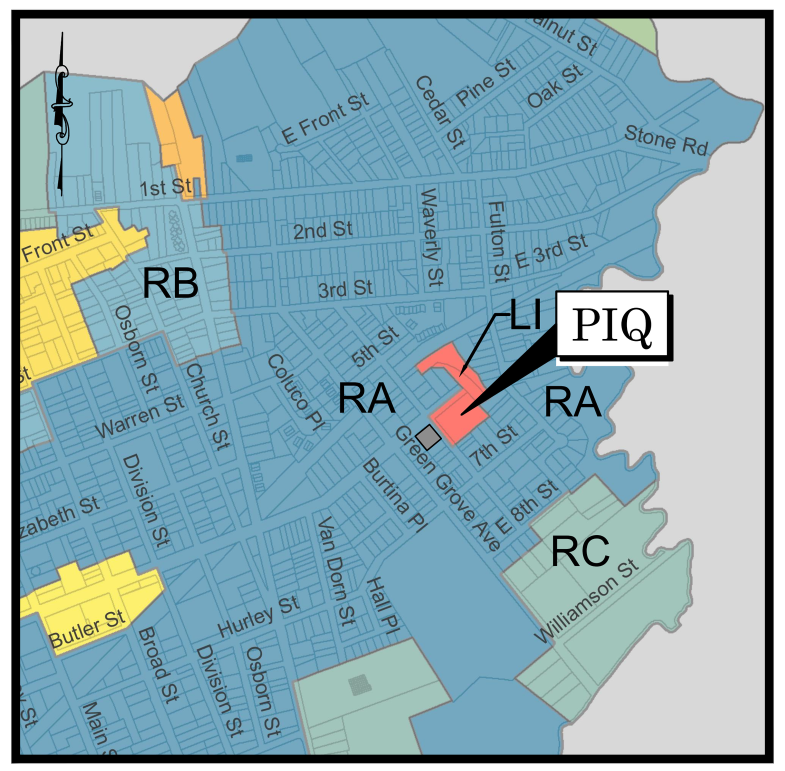
OF

BLOCK 120, LOTS 8 & 9 AND

BLOCK 130, LOTS 42, 48, 49, 50, 51 & 52

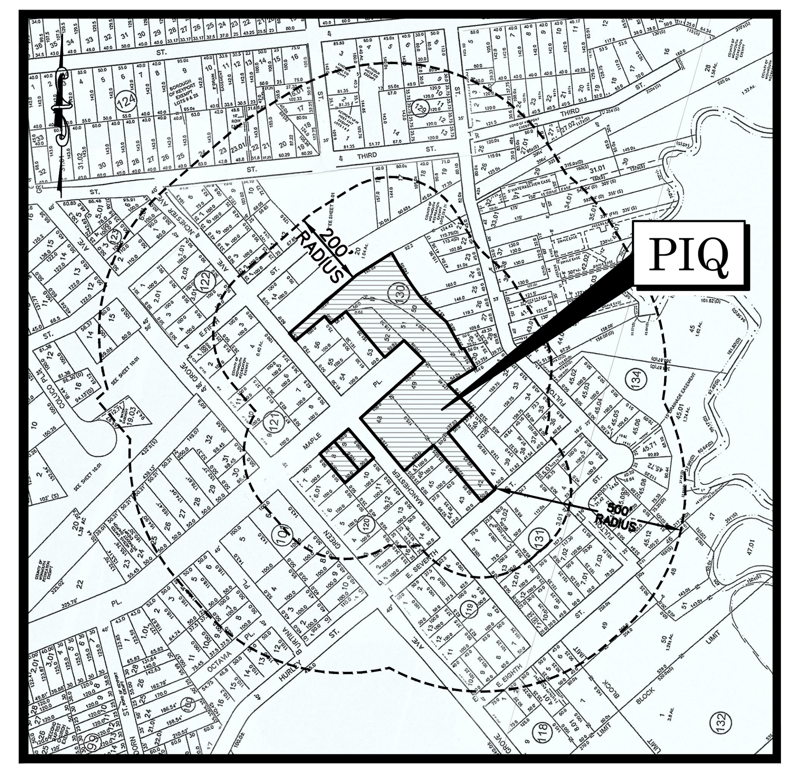
FOR

HUDSON POINTE AT KEYPORT, LLC



ZONE MAP
N.T.S

KEY MAP
1"=200'



TAX MAP
1'=400'

BOROUGH OF KEYPORT
MONMOUTH COUNTY, NJ

ZONING TABLE (1 OF 2)

HUDSON POINTE REDEVELOPMENT DISTRICT

SUBDISTRICT	DISCTRICT	REQUIRED	PROVIDED
OVERALL TRACT	LOT AREA (MIN.)	105,000 S.F.	124,663 S.F.
	DENSITY (MAX.)	48 MULTI – FAMILY 12 DUPLEX 2 SINGLE–FAMILY 1 TWO–FAMILY	48 MULTI – FAMILY 12 DUPLEX 2 SINGLE–FAMILY 1 TWO–FAMILY
	IMPERVIOUS COVERAGE (MAX.)	72%	65.5%
	BUILDING COVERAGE (MAX.)	28%	22.5%
	PARKING LOT SETBACK TO ANY LOT LINE (MIN.)	6'	6.0'
	ACCESSORY STRUCTURE SETBACK TO ANY LOT LINE (UNLCESS OTHERWISE STIPULATED) (MIN.)	10'	10.0'
MULTI–FAMILY	NORTHERN YARD SETBACK (MIN.)	12'	12.0'
	EASTERN YARD SETBACK (MIN.)	25'	25.2'
	WESTERN YARD SETBACK (MIN.)	55'	55.1'
	SOUTHERN YARD SETBACK (MIN.)	100'	100.1'
	BUILDING SEPARATION (MIN.)	55'	78.3'
	BUILDING HEIGHT (MEASURED TO PARAPET PEAK) (MIN.)	45' 4 STORIES	TO COMPLY
DUPLEX	FRONT YARD SETBACK – FIRST FLOOR (MIN.)	20'	27.1'
	FRONT YARD SETBACK – UNCOVERED STAIRS OR STOOPS (MIN.)	15'	15.0'
	FRONT YARD SETBACK – CANTILEVERED UPPER FLOOR (MIN.)	14'	20.1'
	SIDE YARD SETBACK (MIN.)	4'	4.1'
	SIDE YARD SETBACK – ADJOINING SINGLE FAMILY LOTS (MIN.)	5'	5.0'
	SIDE YARD DISTANCE BETWEEN DUPLEX BUILDINGS (MIN.)	10'	10.0'
	REAR YARD DISTANCE BETWEEN DUPLEX BUILDINGS (EXCLUDING DECKS) (MIN.)	50'	50.0'
	REAR YARD SETBACK TO PROPERTY LINE	50'	40.0' (V.G)
	BUILDING HEIGHT (TO PEAK OF ROOF) (MAX.)	38' 3 STORIES	TO COMPLY

ZONING TABLE (2 OF 2)

HUDSON POINTE REDEVELOPMENT DISTRICT

SUBDISTRICT	DISCTRICT	REQUIRED	PROVIDED
SINGLE–FAMILY	LOT AREA (MIN.)	5,000 S.F.	5,000 S.F.
	LOT WIDTH (MIN.)	50'	50.0'
	FRONT YARD SETBACK (MIN.)	25' (MANCHESTER AVE.) 12' (MAPLE PLACE)	25' (MANCHESTER AVE.) 12' (MAPLE PLACE)
	SIDE YARD SETBACK (MIN.)	6'	6.0'
	SIDE YARD SETBACK (COMBINED) (MIN.)	16'	16.0'
	REAR YARD SETBACK (MIN.)	25' (OPPOSITE MANCHESTER)	25.0' (OPPOSITE MANCHESTER)
	BUILDING COVERAGE (MAX.)	40%	33.8%
	IMPERVIOUS COVERAGE (MAX.)	60%	TO COMPLY
	BUILDING HEIGHT (MAX.)	35' 2.5 STORIES	TO COMPLY
	ACCESSORY STRUCTURE SETBACK	7.5'	TO COMPLY
TWO–FAMILY	LOT AREA (MIN.)	4,500 S.F.	5,772 S.F.
	LOT WIDTH (MIN.)	50'	50.0'
	FRONT YARD SETBACK (MIN.)	25'	46.0'
	SIDE YARD SETBACK (MIN.)	5'	6.0'
	SIDE YARD SETBACK (COMBINED) (MIN.)	10'	12.0'
	REAR YARD SETBACK (MIN.)	25'	29.5'
	BUILDING COVERAGE (MAX.)	50%	26.3%
	IMPERVIOUS COVERAGE (MAX.)	65%	42.1%
	BUILDING HEIGHT (MAX.)	35' 2.5 STORIES	TO COMPLY
	ACCESSORY STRUCTURE SETBACK	7.5'	TO COMPLY
CLUBHOUSE	SETBACK TO RESIDENT PROPERTIES (MIN.)	8'	NO CLUB HOUSE IS PROPOSED (V.G.)
	SETBACK TO NORTHERN PROPERTY LINE (MIN.)	2'	
	SETBACK FROM MANCHESTER AVE (MIN.)	70'	
	BUILDING HEIGHT (MAX.)	30' 2 STORIES	
	GROSS FLOOR AREA OF CLUBHOUSE (MIN.)	2,800 S.F.	

V.G. = VARIANCE GRANTED

CAFRA LAND SUMMARY:

TOTAL LAND AREA:	2.862 AC
EXIST. IMPERVIOUS COVER	1.660 AC
PROP. IMPERVIOUS COVER	1.875 AC
1. IMPERVIOUS COVER:	
PROPOSED	1.875 AC (65.5%)
ALLOWABLE	2.290 AC (80%)
2. FOREST PRESERVATION	N/A
3. SHRUB/HERBACEOUS PRESERVATION/PLANTING	
ALLOWABLE IMPERVIOUS COVER	2.290 AC
REQUIRED SHRUB/HERBACEOUS PRESERVATION/PLANTING	0.57 AC
PROPOSED SHRUB/HERBACEOUS PRESERVATION/PLANTING	1.09 AC

PARKING CALCULATION:

- MULTI–FAMILY (MID–RISE APARTMENT)
  1 BR = 1.8 SPACES/DWELLING UNIT (D.U.)
  = 4 D.U. x 1.8 SPACES/D.U.
  = 7.2 SPACES
  = 8 SPACES REQUIRED
  2 BR = 2.0 SPACES/D.U.
  = 44 D.U. x 2.0 SPACES/D.U.
  = 88 SPACES REQUIRED
- DUPLEX
  3 BR = 2.0 SPACES/DWELLING UNIT (D.U.)
  = 12 D.U. x 2.0 SPACES/D.U.
  = 24 SPACES REQUIRED
- TWO–FAMILY
  2 BR = 1.5 SPACES/DWELLING UNIT (D.U.)
  = 1 D.U. x 1.5 SPACES/D.U.
  = 1.5 SPACES
  = 2 SPACES REQUIRED
  3 BR = 2.0 SPACES/DWELLING UNIT (D.U.)
  = 1 D.U. x 2.0 SPACES/D.U.
  = 2 SPACES REQUIRED
- SINGLE–FAMILY
  3 BR = 2.0 SPACES/DWELLING UNIT (D.U.)
  = 2 D.U. x 2.0 SPACES/D.U.
  = 4 SPACES REQUIRED

TOTAL PARKING REQUIRED
= 8 + 88 + 24 + 2 + 2 + 4
= 128 SPACES REQUIRED

PARKING PROVIDED
= 97 SPACES (MULTI–FAMILY) + 24 (DUPLEX) + 4 (TWO–FAMILY) + 4 (SINGLE FAMILY)
= 129 SPACES

ON–STREET PUBLIC SPACES = 7 SPACES ON MAPLE PLACE

ADA PARKING REQUIRED
FOR PARKING FACILITY TOTAL
OF 101–150 SPACES:
4 CAR REQUIRED, 1 VAN REQUIRED

ADA PARKING PROVIDED
5 ADA SPACES PROVIDED

FINAL FOR SEWER DESIGN

AS OWNER OF BLOCK 130, LOT 52 SHOWN ON THIS MAP, I/WE HEREBY CONSENT TO FILE THIS MAP.

MARK AND COLLEEN ZELINA ________ DATE ________

200' ADJOINING OWNERS

BLOCK	LOT	QUAL	CLA	PROPERTY OWNER	PROPERTY LOCATION	Add'l Lots
120	3		2	RUTH, HOWARD J & JANETTE M 65 GREEN GROVE AVENUE KEYPORT, NJ 07735	65 GREEN GROVE	
120	4		2	CONWAY, JOHN J, JR&SHEILA A, TRUSTEES 63 GREEN GROVE AVENUE KEYPORT, NJ 07735	63 GREEN GROVE	
120	5		2	HINZ, DEBORAH L 61 GREEN GROVE KEYPORT, NJ 07735	61 GREEN GROVE	
120	6		2	LASCH, BETH 59 GREEN GROVE AVENUE KEYPORT, NJ 07735	59 GREEN GROVE	
120	6.01		2	MANIA, DANA 57 GREEN GROVE AVE KEYPORT, NJ 07735	57 GREEN GROVE	
120	7		2	VAN VLIET, GERTRUDE 53 GREEN GROVE AVE KEYPORT, N.J. 07735	53 GREEN GROVE AVE	
120	8		2	75 MANCHESTER, L.L.C. %JOE OPPEN 1660 49TH ST. BROOKLYN, NY 11204	MAPLE	
120	9		2	75 MANCHESTER, LLC C/O JOE OPPEN 1660 49TH ST. BROOKLYN, NY 11204	MAPLE	
120	10		2	KAHANE, REBECCA A 76 MANCHESTER AVENUE KEYPORT, NJ 07735	76 MANCHESTER	
120	11		2	BOYKO, TETYANA 633 LANE G HAZLET, NJ 07730	78 MANCHESTER	
120	12		2	BAKUN, ANDRZEJ 80 MANCHESTER AVENUE KEYPORT, NJ 07735	80 MANCHESTER	
120	13		2	HICKS, RANDY & JUDITH 82 MANCHESTER AVE KEYPORT, N J 07735	82 MANCHESTER	
120	14		2	LAENGLE, FRANCIS & CAROL 177 SEVENTH ST KEYPORT, NJ 07735	177 SEVENTH ST	L15
121	1		2	DELMEIER, LYLE J. 35 GREEN GROVE AVE KEYPORT, NJ 07735	35 GREEN GROVE	
121	2		2	RUITERMAN, SUSAN J 41 GREEN GROVE KEYPORT, NJ 07735	41 GREEN GROVE	
121	3		2	MALDONADO, PABLO & CONNIE 10 FIFTH STREET KEYPORT, NJ 07735	10 FIFTH STREET	
121	4		15F	COUNTY OF MONMOUTH-RECREATION 805 NEWMAN SPRINGS RD LINCROFT, N J 07738	GREEN GROVE AVE	
121	5		2	MENENDEZ, CHRISTOPHER P 42 MANCHESTER AVE KEYPORT, NJ 07735	42 MANCHESTER AVE	
121	6		2	OTTINA, CHERYL ATTN: RIVKA SENDER 4706 18TH AVE. %READ PROP BROOKLYN, NY 11204	44 MANCHESTER	
121	7		2	PEREZ, MELINDA & FISLER, CHRISTOPHER 46 MANCHESTER KEYPORT, NJ 07735	46 MANCHESTER	
121	8		2	ORTIZ, NELSON 9 MAPLE PLACE KEYPORT, NJ 07735	MANCHESTER	
121	9		2	HAMMOND, RAYMOND JR & PATRICIA 51 GREEN GROVE KEYPORT, N.J. 07735	51 GREEN GROVE	
121	10		2	HAYNES, SOFIA MIELE & NATHAN 49 GREEN GROVE KEYPORT, NJ 07735	49 GREEN GROVE	
122	5		2	CIECIERSKI, ROBERT & MICHELLE 26 MANCHESTER AVENUE KEYPORT, NJ 07735	26 MANCHESTER	
130	1		2	BRANDAUER, JACQUELINE 10 SPRING RD MILLSTONE TWP, NJ 08510	27 MANCHESTER	
130	2		2	JEFFCOAT, JAMES W SR&MILDRED &JOHN K 51 WAYNE AVE FREEHOLD, NJ 07728	25 MANCHESTER	
130	3		2	MASSEY, KATHERINE M, ET ALS 23 MANCHESTER KEYPORT, NJ 07735	23 MANCHESTER	
130	4		2	RIGGIO, JOSEPH V & SANTA 206 WOODCLIFF BLVD MORGANVILLE, NJ 07751	19 MANCHESTER AVENUE	
130	5		2	MILLWARD, RICHARD J. & MINERVA H&W 15 MANCHESTER AVE KEYPORT, N J 07735	15 MANCHESTER	
130	6		2	GAFFNEY, TIMOTHY 13 MANCHESTER AVE KEYPORT, N J 07735	12 MANCHESTER	
130	7		2	GAFFNEY, TIMOTHY 13 MANCHESTER AVE KEYPORT, N J 07735	13 MANCHESTER	
130	8		2	HUETTER, THOMAS G & CAROL LEE 123 THIRD STREET KEYPORT, N J 07735	123 THIRD	
130	9		2	WILLIAMS, RICHARD J JR 6 MANCHESTER COURT WENONAH, NJ 08090	131 THIRD	
130	10		2	CABAN, ANTONINO & JENNIFER 714 HOLMDEL ROAD HOLMDEL, NJ 08090	135 THIRD	
130	11		2	MCRAE, MONICA 37 FIFTH ST KEYPORT, NJ 07735	37 FIFTH	
130	12		2	ATKINS, DAVID R. P.O. BOX 579 KEYPORT, N J 07735	39 FIFTH ST	
130	13		1	EASTHILL PARTNERS INC %K. ALLEN-17 HAVEN WAY KEYPORT, NJ 07735	110 THIRD	
130	13	C01	2	HENNESSEY, CATHERINE & EDWARD 10 HAVEN WAY KEYPORT, NJ 07735	10 HAVEN WAY	
130	13	C02	2	WINTER, LINDA 11 HAVEN WAY KEYPORT, NJ 07735	11 HAVEN WAY	
130	13	C03	2	HAHN, AMANDA 12 HAVEN WAY, UNIT 3 KEYPORT, NJ 07735	12 HAVEN WAY	
130	13	C04	2	AGUIRRE, VALERIE 13 HAVEN WAY, APT 4 KEYPORT, NJ 07735	13 HAVEN WAY	
130	13	C05	2	THOMA, NANCY 14 HAVEN WAY KEYPORT, NJ 07735	14 HAVEN WAY	
130	13	C06	2	MUCCINO, FRANK 15 HAVEN WAY KEYPORT, NJ 07735	15 HAVEN WAY	
130	13	C07	2	FLORENTO, ANDREW 16 HAVEN WAY KEYPORT, NJ 07735	16 HAVEN WAY	
130	13	C08	2	ROBERTSON, PAUL D 17 HAVEN WAY KEYPORT, NJ 07735	17 HAVEN WAY	
130	13	C09	2	ERNO, CAROLE 18 HAVEN WAY KEYPORT, NJ 07735	18 HAVEN WAY	
130	13	C10	2	VACCA, AMALIA 19 HAVEN WAY KEYPORT, NJ 07735	19 HAVEN WAY	
130	13	C11	2	STAHLEY, JOSEPH & BARBARA 20 HAVEN WAY KEYPORT, NJ 07735	20 HAVEN WAY	
130	13	C12	2	BROCKUP, DAWN 139-7 THIRD ST KEYPORT, NJ 07735	139-7 THIRD ST	
130	13	C13	2	SCHULT, HOLLY 139-6 THIRD ST KEYPORT, NJ 07735	139-6 THIRD ST	
130	13	C14	2	LI, ELLIE H 139-5 THIRD STREET KEYPORT, NJ 07735	139-5 THIRD ST	
130	13	C15	2	PETTY, JOEL MICHAEL 139 THIRD ST, UNIT 4 KEYPORT, NJ 07735	139-4 THIRD ST	
130	13	C16	2	OLIVEIRA, FRANCISCO & HAMILTON, WIL 139-3 THIRD STREET KEYPORT, NJ 07735	139-3 THIRD ST	
130	13	C17	2	RODRIGUEZ, JOSEPH & NOONAN, ALYSSA 139 3RD STREET, #2 KEYPORT, NJ 07735	139-2 THIRD ST	
130	13	C18	2	CRUZ, WILLIAM & RUTH 139-1 THIRD STREET KEYPORT, NJ 07735	139-1 THIRD ST	
130	14		2	BONNELL, KENNETH A & JUDITH K 33 MANCHESTER AVE KEYPORT, N J 07735	33 MANCHESTER	
130	16		4A	145 THIRD STREET, LLC 145 THIRD KEYPORT, NJ 07735	145 THIRD	L17
130	18		2	MATTHEWS, RAHEEN H & LAUREN M 155 THIRD STREET KEYPORT, NJ 07735	155 THIRD STREET	
130	19		2	JIMENEZ, ROY JR 157 3RD STREET KEYPORT, NJ 07735	157 THIRD	
130	20		15C	COUNTY OF MONMOUTH-RECREATION 805 NEWMAN SPRINGS RD LINCROFT, NJ 07738	MANCHESTER AVE	
130	21		15F	COUNTY OF MONMOUTH-RECREATION 805 NEWMAN SPRINGS RD LINCROFT, NJ 07738	56 FULTON	
130	22		2	GILLER, MARINA, TRUSTEE 49 LEIGH AVENUE STATEN ISLAND, NY 10314	58 FULTON	
130	23		2	SKALA, WILLIAM & LORI 1 BROOK LANE HOLMDEL, NJ 07733	60 FULTON	
130	24		1	HALAS, ROBERT 426 PARK AVENUE UNION BEACH, NJ 07735	62 FULTON	
130	25		2	WESTON, MATTHEW & CHRISTA M 64 FULTON ST KEYPORT, NJ 07735	64 FULTON	
130	26		2	BENNETT, DERON & CHRISTINE 15 WALNUT ST KEYPORT, NJ 07735	66 FULTON	
130	27		2	POLING, RICHARD W FAMILY TRUST 85 FULTON ST KEYPORT, NJ 07735	78 FULTON	
130	28		1	BONK, EDWARD & DONNA 80 FULTON STREET KEYPORT, NJ 07735	80 FULTON	L29 & 30
130	31		2	CATULLO, DOMINICK 82 FULTON KEYPORT, NJ 07735	82 FULTON	
130	32		2	IMBRO, PAULA 84 FULTON KEYPORT, NJ 07735	84 FULTON	
130	33		2	MARGAGLIANO, JOSEPH 86 FULTON STREET KEYPORT, NJ 07735	86 FULTON	
130	34		2	WHITE, COURTNEY L & CERELLE T 90 FULTON STREET KEYPORT, NJ 07735	90 FULTON	
130	35		2	MAN, CHEVY & MOJICA, STALING 92 FULTON KEYPORT, NJ 07735	92 FULTON	
130	36		2	SARGEANT, KEITH & MELANIE 209 SEVENTH STREET KEYPORT, NJ 07735	209 SEVENTH STREET	
130	37		2	MILLER, DAVID & ANA MARIA 207 SEVENTH ST KEYPORT, N J 07735	207 SEVENTH STREET	
130	38		2	FOWKES, BRIAN T & EMILY V KOLESAR- 205 SEVENTH STREET KEYPORT, NJ 07735	205 SEVENTH STREET	
130	39		2	ELY, RICHARD BRUCE JR & SHERI ANN 203 7TH ST KEYPORT, NJ 07736	203 SEVENTH STREET	LOT 40
130	41		2	DAVIS, DANIEL & CLAUDIA 201 SEVENTH STREET KEYPORT, NJ 07735	201 SEVENTH STREET	
130	42		1	75 MANCHESTER, L.L.C. %JOE OPPEN 1660 49TH ST. BROOKLYN, NY 11204	SEVENTH STREET	
130	43		2	WALLING, JOSEPH W.SR. & SHEILA A. 197-7TH KEYPORT, N.J. 07735	197 SEVENTH STREET	
130	44		2	ABDULCADIR, NAZEEYA 195 SEVENTH STREET KEYPORT, NJ 07735	195 SEVENTH STREET	
130	45		2	MALEY, MICHELE 83 MANCHESTER KEYPORT, NJ 07735	83 MANCHESTER	46
130	47		2	ARAUJO, JOANN & HENRY 79 MANCHESTER AVENUE KEYPORT, NJ 07735	79 MANCHESTER AVENUE	
130	48		4A	75 MANCHESTER, LLC C/O JOE OPPEN 1660 49TH ST. BROOKLYN, NY 11204	MANCHESTER	49
130	50		4A	75 MANCHESTER, LLC 1660 49TH ST. BROOKLYN, NY 11204	MANCHESTER	
130	51		1	75 MANCHESTER, LLC C/O JOE OPPEN 1660 49TH ST. BROOKLYN, NY 11204	MANCHESTER	
130	52		2	ZELINA, MARK & COLEEN 1 MAPLE PLACE KEYPORT, NJ 07735	1 MAPLE	
130	53		2	ZIOBRO, MARK & PYSARCHYK, MICHELE S 3 MAPLE PLACE KEPORT, NJ 07735	3 MAPLE PLACE	
130	54		2	HANDLE, VICTORIA & JOSEPH 47 MANCHESTER AVE KEYPORT, NJ 07735	47 MANCHESTER AVE	
130	55		2	MCMAHON, MATHEW 43 MANCHESTER KEYPORT, NJ 07735	43 MANCHESTER	
130	56		2	GRESS, GARY M & LEWANSKI, DORIS L 41 MANCHESTER AVENUE KEYPORT, NJ 07735	41 MANCHESTER AVENUE	
131	1		2	SNYDER, BRIAN & SUSAN, H&W 178 SEVENTH ST, KEYPORT, NJ 07735	178 7TH	
131	2		2	PALMER, DANA, MICHAEL & HELEN DIANE 180 7TH KEYPORT, NJ 07735	180 7TH	3.02
131	3		2	DHALIWAL, KULDIP SINGH & KUSHALDIP 102 FULTON STREET KEYPORT, NJ 07735	102 FULTON STREET	
131	3.01		2	BRADY, BRIAN & DONNA H&W 104 FULTON ST KEYPORT, N J 07735	104 FULTON	
131	4		2	BORCHERS, HENRY J III 200 SEVENTH STREET KEYPORT, NJ 07735	200 SEVENTH STREET	
131	5		2	BERRY, JOAN 98 FULTON ST KEYPORT, NJ 07735	98 FULTON	5.01
131	6		2	MEYER, ELIZABETH G 100 FULTON STREET KEYPORT, NJ 07735	100 FULTON	
131	12.01		2	HILL, ERIA 86 MANCHESTER AVE KEYPORT, NJ 07735	86 MANCHESTER AVE	
131	13		2	BROWNFIELD-BYNUM, VANESSA & TIMOTHY 85 MANCHESTER AVE KEYPORT, NJ 07735	85 MANCHESTER AVE	
134	37		2	BANNY, IAN J 3171 US 9, STE 236 OLD BRIDGE, NJ 08854	63 FULTON	
134	38		2	HUBNER, WILLIAM JOSEPH & EFFIE 65 FULTON ST KEYPORT, N J 07735	65 FULTON	
134	39		2	68 FULTON ST LLC 91 CANARY DRIVE LAKEWOOD, NJ 08701	68 FULTON	
134	41.01		2	ERAZO-KASE, MICHAEL J & SILVIA L 77 FULTON STREET KEYPORT, NJ 07735	77 FULTON ST.	
134	42.01		2	RAMIREZ, HELEN 69 FULTON ST. KEYPORT, NJ 07735	69 FULTON ST.	
134	42.02		2	EISENBEIS, RICHARD 71 FULTON ST KEYPORT, NJ 07735	71 FULTON ST	
134	42.03		2	ALBERICI, BRETT & JENNIFER 73 FULTON ST KEYPORT, NJ 07735	73 FULTON ST	
134	42.04		2	CORCORAN, CHRISTIAN&STRALEY, AMANDA 75 FULTON ST. KEYPORT, NJ 07735	75 FULTON ST.	
134	43.01		2	MACKASON, LEROY H. & ELIZABETH 79 FULTON KEYPORT, N.J. 07735	79 FULTON	
134	44		2	POLING, RICHARD W 81 FULTON ST KEYPORT, NJ 07735	81 FULTON ST	
134	44.01		2	POLING, RICHARD W 85 FULTON STREET KEYPORT, NJ 07735	85 FULTON STREET	
134	45		1	N.R., LLC 3590 US HIGHWAY 9 OLD BRIDGE, NJ 08857	87 FULTON ST	PART OF 46,47

SHEET INDEX

SHEET NO.	SHEET TITLE	ORIG. ISSUE DATE	LATEST REV. DATE
1	COVER SHEET	10/30/20	8/29/22
2	EXISTING CONDITIONS PLAN	10/30/20	8/29/22
3	DEMOLITION PLAN	10/30/20	8/29/22
4	DIMENSION PLAN	10/30/20	8/29/22
5	GRADING & DRAINAGE PLAN	10/30/20	8/29/22
6	OVERALL UTILITY PLAN	10/30/20	8/29/22
7	UTILITY PLAN	10/30/20	8/29/22
8	LIGHTING PLAN	10/30/20	8/29/22
9	SOIL EROSION AND SEDIMENT CONTROL PLAN	10/30/20	8/29/22
10	SOIL EROSION AND SEDIMENT CONTROL DETAILS	10/30/20	8/29/22
11	PROFILES	10/30/20	8/29/22
12	LANDSCAPING PLAN	10/30/20	8/29/22
13	BUILDING LANDSCAPING DETAILS PLAN	10/30/20	8/29/22
14	RECREATION AREA ENLARGEMENT & DETAILS PLAN	6/21/22	8/29/22
15 - 18	CONSTRUCTION DETAILS	10/30/20	8/29/22
19 - 20	OFF-SITE WATER MAIN EXTENSION PLAN & PROFILE	6/21/22	8/29/22

SITE PLAN OF
BLOCK 120 LOTS 8 & 9
BLOCK 130 LOTS 42, 48, 49, 50, 51, & 52
ZONE **HUDSON POINTE REDEVELOPMENT DISTRICT**
DATE **04/01/21** SCALE **1" = 30'**
APPLICANT **HUDSON POINTE AT KEYPORT, LLC**
ADDRESS **234 BOUNDARY ROAD, UNIT 104**
MARLBORO, NJ 07746
I/WE CONSENT TO THE FILING OF THIS SITE PLAN WITH THE PLANNING BOARD

OWNER ________ DATE ________

ACKNOWLEDGED BEFORE ME THIS________DAY OF__________2022

NOTARY ________ MY COMMISSION EXPIRES ________ SEAL ________

I HEREBY CERTIFY THAT I HAVE PREPARED THE SITE PLAN AND THAT ALL DIMENSIONS AND INFORMATION THEREON DEPICTED IS CORRECT.

WALTER JOSEPH HOPKIN — N.J. PROFESSIONAL ENGINEER, LIC. No. 40673
(TITLE & LICENSE)

I HAVE REVIEWED THIS SITE PLAN AND CERTIFY THAT IT MEETS ALL CODES AND ORDINANCES UNDER THAT JURISDICTION

(MUNICIPAL ENGINEER) ________ (DATE) ________

APPROVED BY PLANNING BOARD:

PRELIMINARY ________

FINAL ________

(CHAIRMAN) ________ (DATE) ________

GENERAL NOTES:

OWNER/APPLICANT– HUDSON POINTE AT KEYPORT, LLC
234 BOUNDARY ROAD, UNIT 104
MARLBORO, NJ 07746

OWNER (BLOCK 130, LOT 52)– MARK AND COLLEEN ZELINA
1 MAPLE PLACE
KEYPORT, NJ 07735

1. THE PROPERTY IS KNOWN AS LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51, & 52, BLOCK 130 AS SHOWN ON TAX MAP #11 OF THE OFFICIAL TAX MAPS OF THE BOROUGH OF KEYPORT, MONMOUTH COUNTY, NEW JERSEY, LAST REVISED 12/31/13.
2. BOUNDARY AND TOPOGRAPHY INFORMATION FROM A PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY" BY WJH ENGINEERING, LAST REVISED 6/16/19.
3. EXISTING USE: RESIDENTIAL (BLOCK 120, LOTS 8 & 9 AND BLOCK 130, LOT 52), COMMERCIAL (BLOCK 130, LOT 48, 49 & 50), AND VACANT LAND (BLOCK 130, LOTS 42 & 51)
4. PROPOSED USE: RESIDENTIAL
5. THE SITE WILL BE SERVED BY PUBLIC WATER AND SEWER.
6. DO NOT SCALE DRAWINGS AS THEY PERTAIN TO ADJACENT AND SURROUNDING PHYSICAL CONDITIONS, BUILDINGS, STRUCTURES, ETC.. THEY ARE SCHEMATIC ONLY, EXCEPT WHERE DIMENSIONS ARE SHOWN THERETO.
7. THIS SET OF PLANS HAS BEEN PREPARED FOR PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THESE PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION."
8. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION, AND NOTIFY NJ ONECALL AS REQUIRED BY LAW. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENT AS REQUIRED TO AVOID CONFLICTS. EX. UTILITY CONNECTIONS WILL BE UTILIZED, IF POSSIBLE.
9. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
   A. N.J. DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", AS CURRENTLY AMENDED.
   B. CURRENT, PREVAILING MUNICIPAL AND/OR COUNTY SPECIFICATIONS, STANDARDS & REQUIREMENTS.
   C. CURRENT, PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS AND REQUIREMENTS.
10. CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HERON AND/OR IF SUCH CONDITIONS, IN THE CONTRACTOR'S OPINION WOULD OR COULD RENDER THE DESIGN SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.
11. CONTRACTOR SHALL COORDINATE ANY UTILITY POLE RELOCATIONS.
12. THIS PLAN IS SUBJECT TO ALL LOCAL AND STATE REGULATORY PERMITS, AGENCY REVIEW AND APPROVAL.
13. SOIL BORING CONDITIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
14. REFUSE AND RECYCLING WILL BE HANDLED THROUGH A PRIVATE COMPANY.
15. ALL ROOF LEADERS TO BE TIED INTO THE STORM SEWER COLLECTION SYSTEM.
16. IT IS THE INTENT OF THESE PLANS TO PROVIDE THE FOLLOWING GRADING CRITERIA:
    - 3:1 MAX.
    - 2% MIN. GRASS, 1% PAVEMENT
    - 5% MAX. WITHIN 10' OF PROPOSED BUILDINGS
17. THE OWNER, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDIVIDUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF SITE IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23–2.21(e) OF THE N.J. UNIFORM CONSTRUCTION CODE AND CFR 1926.32(f) (OSHA COMPETENT PERSON).
18. ALL SITE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE BOROUGH OF KEYPORT CONSTRUCTION STANDARDS, WHERE APPLICABLE.
19. THE INSTALLATION OF WATER METERS SHALL BE REVIEWED AND APPROVED BY THE BOROUGH OF KEYPORT WATER DEPARTMENT.
20. FIRE ZONE SIGNAGE & STRIPING SHALL BE IN ACCORDANCE WITH BOROUGH FIRE OFFICIAL.
21. ANY EXISTING PAVEMENT, CURB OR SIDEWALK THAT IS IN POOR CONDITION OR IS DAMAGED AS A RESULT OF THE PROPOSED CONSTRUCTION MUST BE REPLACED PER BOROUGH ENGINEER SATISFACTION.
22. ALL SITE IMPROVEMENTS SHALL BE ADA COMPLIANT WHERE APPLICABLE.
23. TELEPHONE, ELECTRIC, AND GAS LINES SHALL BE INSTALLED UNDERGROUND.
24. ALL DUMPSTERS UTILIZED WITHIN THE DEVELOPMENT SHALL BE PROVIDED WITH SECURE SELF CLOSING RAIN PROOF LIDS.
25. WATER MAIN EXTENSIONS AND FIRE HYDRANT LOCATIONS ARE SUBJECT TO MUNICIPAL REVIEW AND APPROVAL, ACCORDING TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS, AND AMERICAN WATERWORKS ASSOCIATION STANDARDS. PIPE MATERIALS SHALL BE CEMENT LINED DUCTILE IRON PIPE, CLASS 52, WITH BITUMINOUS COATED OUTSIDE, PUSH ON JOINTS WITH FIELD–LOK GASKETS. PIPING SHALL BE ENCASED IN POLYETHYLENE WHERE DESIGNATED BY THE MUNICIPAL ENGINEER. ALL FITTINGS SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS.
26. THE CONTRACTOR SHALL PERFORM ALL NECESSARY TEST PITS TO ASCERTAIN AS BUILT CONDITIONS. THE CONTRACTOR SHALL SUBMIT DETAILS OF ALL WATER MAIN RELOCATION/REPLACEMENT AND WATER MAIN CROSSING WORK FOR THE APPROVAL BY THE BOROUGH OF KEYPORT.
27. THE CONTRACTOR MUST CONTACT THE BOROUGH DIRECTOR OF PUBLIC WORKS AND BOROUGH ENGINEER BEFORE THE START OF ANY WORK IN THE VICINITY OF WATER MAINS. A MINIMUM OF 48–HOUR ADVANCE NOTICE IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE TO FIELD LOCATE THE ACTIVE SERVICES TO THE PROPERTIES ALONG THE WATER MAIN EXTENSION. NEW SERVICES SHALL BE EXTENDED FROM THE NEW WATER MAIN TO THE EXISTING CURB STOPS AT ALL EXISTING SERVICE LOCATIONS.
28. THE EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE IF NOT REQUIRED TO BE REMOVED DURING CONSTRUCTION OF THE NEW MAIN. THE EXISTING MAINS SHALL BE BULKHEADED AT THE END OF EACH ABANDONED MAIN SECTION.
29. THE BOROUGH OF KEYPORT WILL BE RESPONSIBLE FOR THE POTABLE WATER LINES UP TO THE GATE VALVES AT CURB OF EACH ENTRANCE TO THE BUILDING. A SECOND VALVE SHALL BE INSTALLED WITHIN THE BUILDING FOR SHUTOFF OF THE WATER SERVICE BY THE PROPERTY OWNER.
30. ALL WATER MAIN AND SERVICES SHALL BE DISINFECTED AND PRESSURE TESTED ACCORDING TO THE APPROVED SPECIFICATIONS AND NJDEP RULES, REGULATIONS AND STANDARDS UNDER THE SUPERVISION OF THE BOROUGH ENGINEER.
31. SHOP DRAWINGS, PREPARED BY A LICENSED ENGINEER IN THE STATE OF NEW JERSEY, SHALL BE SUBMITTED FOR THE PROPOSED RETAINING WALL PRIOR CONSTRUCTION.
32. HORIZONTAL DATUM: NAD 83
    VERTICAL DATUM: NAVD 88

LIST OF UTILITIES WHICH SERVICE THE BOROUGH OF KEYPORT, NJ
WITH MAILING ADDRESSES AS OF JULY 1, 2013

BELL ATLANTIC/ VERIZON
1095 AVE OF THE AMERICAS
ROOM 3137

JCP&L Real Estate Department
P.O. Box 1911
Morristown, NJ 07962

NEW JERSEY NATURAL GAS COMPANY
1415 WYCKOFF ROAD
WALL, NJ 07719

CABLEVISION
275 CENTENNIAL AVENUE/ CN 6805
PISCATAWAY, NJ 08855-6805

BOROUGH OF KEYPORT
WATER/SEWER DEPARTMENT
70 WEST FRONT STREET
KEYPORT, NJ 07735
ATTN: SCOTT HICKS

SITE PLAN
FOR
HUDSON POINTE AT KEYPORT, LLC
BLOCK 120, LOTS 8 & 9 AND
BLOCK 130, LOTS 42, 48, 49, 50, 51 & 52
TAX MAP NO. 11
BOROUGH OF KEYPORT, MONMOUTH COUNTY, NJ
JOB NUMBER 19129

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, STE. 7, OAKHURST, NJ 07755
PHONE - 732-223-1313

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

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FULTON STREET
(R.O.W. VARIES)

LOT 25 | LOT 26 | LOT 28 | LOT 35 | LOT 36

LOT 24 | LOT 27 | LOT 29 | LOT 30

LOT 37 | LOT 32 | LOT 33 | LOT 34

LOT 31

LOT 38

LOT 40 | LOT 39

LOT 41

LOT 42
9,647.50 S.F.
0.22 Ac.

LOT 49
23,034.38 S.F.
0.53 Ac.

LOT 48
17,413.37 S.F.
0.40 Ac.

LOT 47 | LOT 46 | LOT 45 | LOT 43 | LOT 44

BLOCK 130
LOT 50
31,207.95 S.F.
0.72 Ac.

1 STORY
MASONRY
BUILDING

LOT 51
18,738.54 S.F.
0.43 Ac.

BLOCK 130
LOTS 42, 48, 49,
50, 51 & 52
109,215.43 S.F.
or 2.51 Ac.
(TOTAL)

1 STORY
MASONRY
BUILDING

LOT 52
9,173.69 S.F.
0.21 Ac.

LOT 53 | LOT 20 | LOT 56 | LOT 55 | LOT 54

LOT 7
BLOCK 121 | LOT 8

LOT 9
5,000 S.F.
0.11 Ac.

LOT 8
BLOCK 120
5,000 S.F.
0.11 Ac.

LOT 10 | LOT 11 | LOT 12 | LOT 13 | LOT 14 | LOT 15 | LOT 16

LOT 7 | LOT 6.01

100,041.84 S.F.
or 2.3 Ac.
(TOTAL)

N72° 41' 17"E 13.55'
FENCE 0.7' OFF
BUILDING 28.9' ON
FENCE 15.4' OFF
6' CHAIN LINK FENCE
D=022°55'17"
R=553.70
L=221.51
BUILDING 3.1' OFF
FENCE 0.2' ON
2 STORY FRAME DWELLING
S87° 58' 00"E 11.90'
S00° 07' 00"E 65.11'
S02° 06' 37"E 59.06'
6' PVC FENCE
S31° 38' 00"E 17.08'
SL 1 (BY W. MCBRIDE) ESHWT=20.8 2/24/21
SL 2 (BY W. MCBRIDE) SHWT=21.0 2/24/21
RETAINING WALL
FENCE 0.7' ON
4' WOOD FENCE
12" TREE
18" TREE
BUILDING 1.8' ON
6' CHAIN LINK FENCE
70.90'
S66° 00' 00"W
CAPPED IRON BAR FND. 0.3'W 0.7'S
CAPPED IRON BAR FND. 0.3'W 0.4'S
CAPPED IRON BAR FND.
BUILDING 2.0' ON
FENCE 1.8' OFF
S28° 07' 00"E 80.40'
FENCE ON LINE
BUILDING 3.0' OFF
FRAME SHED
BUILDING 6.2' ON
BUILDING 11.5' ON
BUILDING 1.8' ON
S66° 00' 00"W 87.93'
FENCE 1.8' OFF
4' CHAIN LINK FENCE
BUILDING 1.6' OFF
2 STORY FRAME DWELLING
PORCH
IRON BAR FND.
6' WOOD FENCE
FRAME SHED
HEDGEROW
SIGN
BUILDING 2.7' OFF
BUILDING 2.4' OFF
FENCE 1.2' OFF
FENCE 1.5'
SL 2 ESHWT=21.2 8/26/19
GRAVEL DRIVEWAY
S24° 00' 00"E 192.95'
GRASS AREA
FENCE 1.4' ON
FENCE 2.6' ON
6' WOOD FENCE
6' CHAIN LINK FENCE
IRON BAR FND.
N24° 00' 00"W 192.95'
SAN. MH RIM=25.13 INV=17.68(IN) INV=17.58(OU)
UTIL. POLE
8" DIP
TC 25.10 BC 24.82
TC 25.44 BC 24.73
HEDGEROW
CONC. CURB
CONC. SIDEWALK
S66° 00' 00"W 50.00'
E. SEVENTH STREET (40' R.O.W.)
TC 25.81 BC 25.32
TC 26.05 BC 25.58
TC 26.12 BC 25.64
CAPPED IRON BAR FND. 0.3'W 0.4'S
CAPPED IRON BAR FND.
BUILDING 1.8' ON
6' CHAIN LINK FENCE
FENCE ON LINE
BUILDING 2.0' ON
BUILDING 6.2' ON
BUILDING 11.5' ON
BUILDING 1.8' ON
FENCE 1.8' OFF
4' CHAIN LINK FENCE
6' WOOD FENCE
FRAME SHED
BUILDING 1.6' OFF
2 STORY FRAME DWELLING
PORCH
IRON BAR FND.
HEDGEROW
SIGN
BUILDING 2.7' OFF
BUILDING 2.4' OFF
FENCE 1.2' OFF
FENCE 1.5'
SL 2 ESHWT=21.2 8/26/19
GRAVEL DRIVEWAY
GRASS AREA
FENCE 1.4' ON
FENCE 2.6' ON
6' WOOD FENCE
6' CHAIN LINK FENCE
6' WOOD FENCE
IRON BAR FND.
N24° 00' 00"W 192.95'
SAN. MH RIM=25.96 INV=20.06(SE) INV=19.31(NW) INV=19.04(SW) INV=18.96(OUT)
UTIL. POLE
8" DIP
CONC. CURB
CONC. SIDEWALK
E. SEVENTH STREET (40' R.O.W.)
TC 25.81 BC 25.32
TC 26.05 BC 25.58
TC 26.12 BC 25.64
N76° 45' 11"E 129.28'
205.00'(D)
205.72'(S)
N66° 00' 00"E
FENCE ON LINE
SHED REMAINS
FENCE 5.6' ON
CONC. PAD
BUILDING 14.6' ON
FENCE 2.2' ON
6' CHAIN LINK FENCE
SHED 2.9' OFF
161.31'
N24° 00' 00"W
FENCE 0.5' ON
FENCE 0.3' OFF
6' CHAIN LINK FENCE
24" RCP
INV=22.26
FENCE 0.7' ON
FENCE 3.5' ON
N22° 00' 00"W 25.00'
6' PVC FENCE
CHAIN LINK FENCE
100.72'(S)
100.00'(D)
S66° 00' 00"W 58.32'
S66° 00' 00"W
CAPPED IRON BAR FND. 0.2'W 0.6'N
IRON PIPE FND. 0.6'N
CONC. MON. FND.
CAPPED IRON BAR FND.
N24° 00' 00"W 25.00'
CONC. CURB
PAVED PATH
(FORMERLY CENTRAL RAILROAD OF NEW JERSEY)
UTIL. POLE
GUY WIRE
N72° 42' 25"W 71.04'
IRON PIPE FND. 0.5'W 0.2'S
CONC. PAD
BRICK PATIO
1 STORY FRAME DWELLING B.F.F.=23.94
CONC.
ELEC. METER
GAS METER
COVERED PORCH
PLANTER
BRICK PLANTER
PICKET FENCE
CONC. PAD
CONC. 5.1' ON
CONC. 6.5' ON
DRIVEWAY 2.2' OFF
PAVED DRIVEWAY
CONC. WALK
DRIVEWAY 2.5' OFF
N28° 07' 00"W 189.92'
FENCE ON LINE
8' CHAIN LINK FENCE
RETAINING WALL
GRAVEL & MILLINGS
114.73'
17.0'
TC 25.81 BC 25.51
BUILDING ON LINE
S66° 00' 00"W 69.94'
MANHOLE
SAN. MH RIM=25.53 INV=23.53(N) INV=23.43(N) INV=23.43(OUT)
4" DIP
UTIL. POLE
TC 25.63 BC 25.19
CONC. WALK
BUILDING ON LINE
SAN. MH RIM=25.39 INV=23.24(W) INV=23.11(N) INV=23.07(OUT)
MAPLE PLACE (75' R.O.W.)
CONC. SIDEWALK
CONC. CURB
6" DIP
TC 25.45 BC 25.05
TC 25.35 BC 24.94
TC 25.82 BC 25.30
P.O.B.
N24° 00' 00"W 175.00'
BUILDING 3.6' ON
BUILDING 1.0' ON
BUILDING 4.0' ON
1 STORY FRAME DWELLING
S66° 00' 00"W 99.01'
SL 3 (BY W. MCBRIDE) ESHWT=21.6 2/24/21
SL 1 ESHWT=21.6 8/26/19
GRASS AREA
N66° 00' 00"E 225'
8" CHAIN LINK FENCE
TEL. MH RIM=25.29
SIGN
HYDRANT
CONC. PAD
UTIL. POLE
TC 25.18 BC 25.76
DO NOT ENTER SIGN
DO NOT ENTER
TC 26.38 BC 26.01
TC 26.04 BC 25.94
SIGN
CONC. SIDEWALK
TC 26.47 BC 26.02
TC 26.74 BC 26.26
TC 26.52 BC 26.42
TC 26.81 BC 26.36
MANCHESTER AVENUE
(40' R.O.W.)
ONE WAY
CONC. CURB
8" DIP
SAN. MH RIM=25.58 INV=22.08(N) INV=22.08(N) INV=22.00(OUT)
TC 24.72 BC 24.33
TC 24.62 BC 24.22
TC 24.91 BC 24.39
TC 25.04 BC 24.63
TC 25.20 BC 24.74
TC 25.23 BC 25.23
SAN. MH RIM=25.22 INV=23.57
S24° 00' 00"E 100.00'
P.O.B.
N66° 00' 00"E 50.00'
N24° 00' 00"W 100.00'
S24° 00' 00"E 100.00'
S66° 00' 00"W 50.00'
N66° 00' 00"E 50.00'
N24° 00' 00"W 100.00'
S66° 00' 00"W 50.00'
(4) 10" TREE
CAPPED IRON BAR FND.
IRON BAR FND.
IRON BAR FND. 0.3'W
PAVED PARKING AREA
(3) 12" TREE
EDGE OF PAVEMENT
GARAGE
IRON BAR FND. 0.5'N 0.4'W
GRAVEL DRIVEWAY
CONC. DRIVEWAY
CONC. SIDEWALK
UTIL. POLE
SAN. MH RIM=25.39 INV=23.24(W) INV=23.11(N) INV=23.07(OUT)

SCALE: (1 Inch = 30 Feet)
30 0 30 60 90

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	CM
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN
OF
LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130
TAX MAP No. 11
BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, SUITE 7, OAKHURST, NJ 07755
PHONE: 732-223-1313
WWW.WJHENGINEERING.COM

EXISTING CONDITIONS

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	2 OF 20

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

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FULTON STREET
(R.O.W. VARIES)

LOT 25 | LOT 26 | LOT 28 | LOT 27 | LOT 29 | LOT 30 | LOT 35 | LOT 36 | LOT 37 | LOT 38 | LOT 39 | LOT 40 | LOT 41 | LOT 42 | LOT 43 | LOT 44 | LOT 45 | LOT 46 | LOT 47 | LOT 48 | LOT 49 | LOT 24 | LOT 31 | LOT 32 | LOT 33 | LOT 34

ALL BUILDINGS & APPURTENANCES, AND GRAVEL TO BE REMOVED

EXIST. LOT LINES TO BE ELIMINATED

EXIST. GUY ANCHOR TO BE RELOCATED

SANITARY SEWER MH AND PIPING TO BE REMOVED

EXIST. UTIL. POLE TO BE RELOCATED

EXIST. HYDRANTS TO BE REMOVED

CONTRACTOR SHALL EXCAVATE TEST PIT TO LOCATE EXISTING FIRE WATER LINES PRIOR TO COMMENCEMENT OF ANY DEMOLITION OR CONSTRUCTION

EXIST. LOT LINE TO BE ELIMINATED

LIMIT OF SANITARY SEWER TO BE REMOVED

PAVED PARKING AREA TO BE REMOVED

BLOCK 130
LOT 50
31,207.95 S.F.
0.72 AC.

LOT 51
18,738.54 S.F.
0.43 AC.

BLOCK 130
LOTS 42, 48, 49, 50, 51 & 52
109,218.43 S.F.
or 2.51 Ac.
(TOTAL)

LOT 52
9,173.69 S.F.
0.21 Ac.

LOT 53

LOT 49
23,034.38 S.F.
0.53 AC.

LOT 42
9,647.50 S.F.
0.22 AC.

LOT 48
17,413.37 S.F.
0.40 AC.

LOT 9
5,000 S.F.
0.11 Ac.

N24° 00' 00"W 100.00'
S24° 00' 00"E 100.00'

LOT 8
BLOCK 120
5,000 S.F.
0.11 Ac.

100,041.84 S.F.
or 2.3 Ac.
(TOTAL)

1 STORY MASONRY BUILDING

2 STORY MASONRY DWELLING
B.F.F.=23.94

1 STORY FRAME DWELLING

2 STORY FRAME DWELLING

PAVED PATH

(FORMERLY CENTRAL RAILROAD OF NEW JERSEY)

MAPLE PLACE
(75' R.O.W.)

E. SEVENTH STREET
(40' R.O.W.)

MANCHESTER AVENUE
(40' R.O.W.)
ONE WAY

PAVED PARKING AREA

GRAVEL DRIVEWAY

CONC. DRIVEWAY

GARAGE

LEGEND

- GV — WATER VALVE
- WV — WATER METER
- UTILITY MANHOLE
- DRAINAGE MANHOLE
- ELECTRICAL MANHOLE
- SANITARY MANHOLE
- TELEPHONE MANHOLE
- TRAFFIC SIGN
- TRAFFIC SIGN (2 POST)
- STREET SIGN
- LIGHT POST
- UTILITY POLE
- FIRE HYDRANT
- DRAINAGE INLET (TYPE "A")
- DRAINAGE INLET (TYPE "B")
- DRAINAGE INLET (TYPE "E")
- D — DRAINAGE LINE
- E — ELECTRIC LINE
- GAS — GAS LINE
- S — SANITARY SEWER LINE
- T — TELEPHONE LINE
- W — WATER LINE
- OHW — OVERHEAD WIRES
- MONITORING WELL
- IRON BAR FOUND
- SURVEY CAP FOUND
- 99 — EXISTING CONTOUR
- x 15.2 — EXISTING SPOT ELEVATION
- x 51.50 — PROPOSED SPOT ELEVATION
- DRAINAGE FLOW ARROW
- 14 — PROPOSED CONTOUR

SCALE: (1 Inch = 30 Feet)
30 0 30 60 90

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
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3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	CM
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130
TAX MAP No. 11

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, SUITE 7,
OAKHURST, NJ 07755
PHONE: 732.223.1313
WWW.WJHENGINEERING.COM

DEMOLITION PLAN

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	3 OF 20

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

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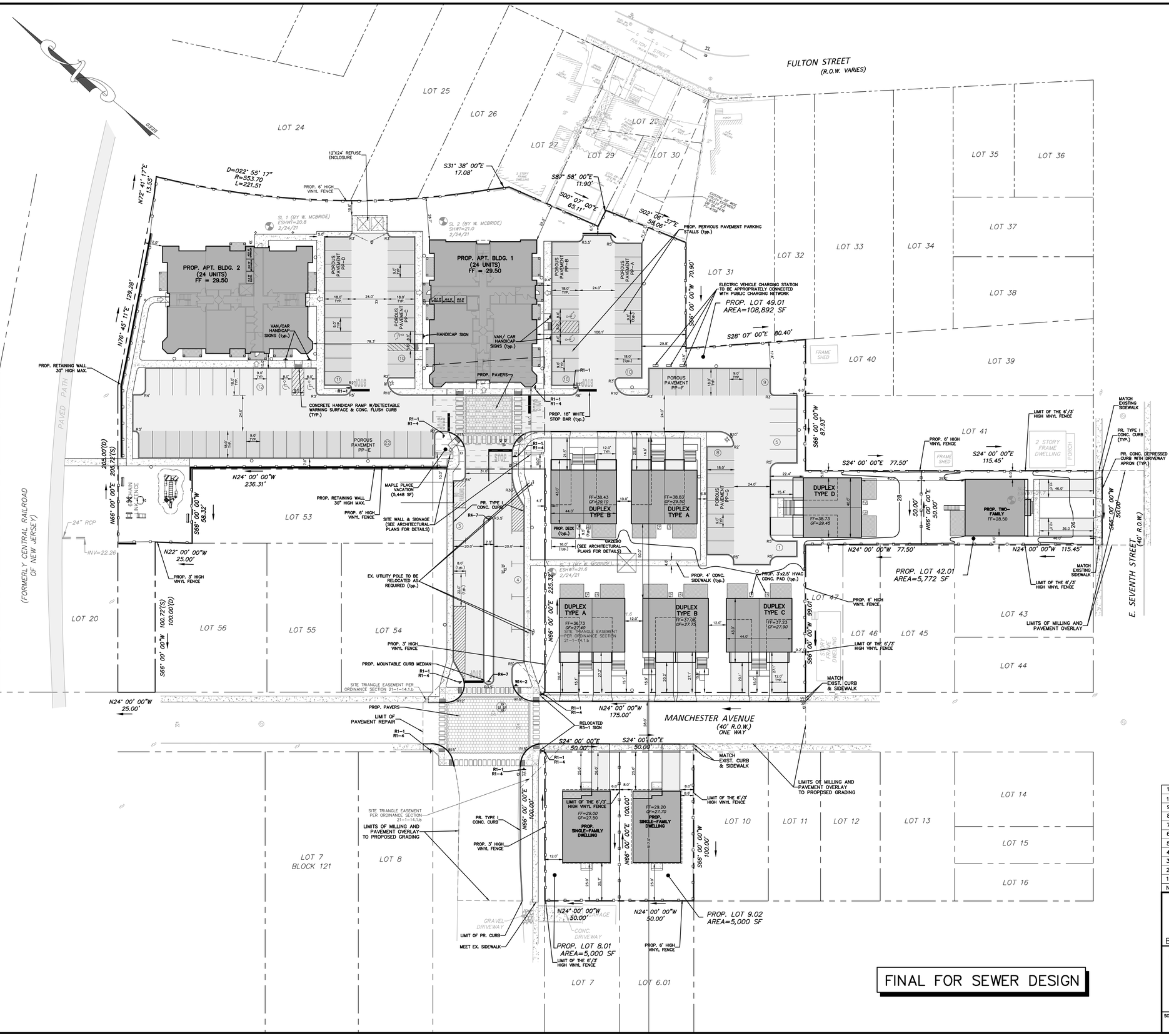

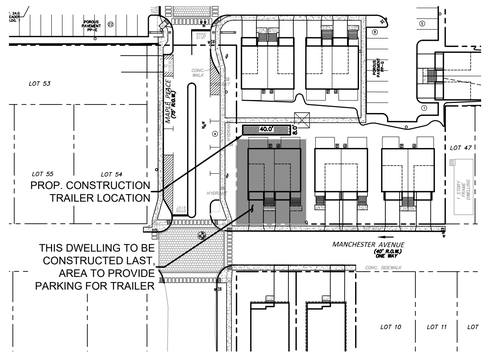

CONSTRUCTION TRAILER LOCATION
1"=60'

CONSTRUCTION NOTE:

1. ANY EXISTING PAVEMENT, CURB OR SIDEWALK THAT IS IN POOR CONDITION OR IS DAMAGED AS A RESULT OF THE PROPOSED CONSTRUCTION MUST BE REPLACED.

LEGEND

- GAS VALVE
- WATER VALVE
- WATER METER
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- DRAINAGE MANHOLE
- ELECTRICAL MANHOLE
- SANITARY MANHOLE
- TELEPHONE MANHOLE
- TRAFFIC SIGN
- TRAFFIC SIGN (2 POST)
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- LIGHT POST
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- FIRE HYDRANT
- DRAINAGE INLET (TYPE "A")
- DRAINAGE INLET (TYPE "B")
- DRAINAGE INLET (TYPE "E")
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- SURVEY CAP FOUND
- 99 — EXISTING CONTOUR
- x15.2 EXISTING SPOT ELEVATION
- 11.50 PROPOSED SPOT ELEVATION
- DRAINAGE FLOW ARROW
- 14 PROPOSED CONTOUR

SCALE: (1 Inch = 30 Feet)
30 0 30 60 90

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
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3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

FINAL FOR SEWER DESIGN

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

TAX MAP No. 11

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, SUITE 7, OAKHURST, NJ 07755
PHONE: 732-223-1313
WWW.WJHENGINEERING.COM

DIMENSION PLAN

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	4 OF 20

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC.#No. 40673

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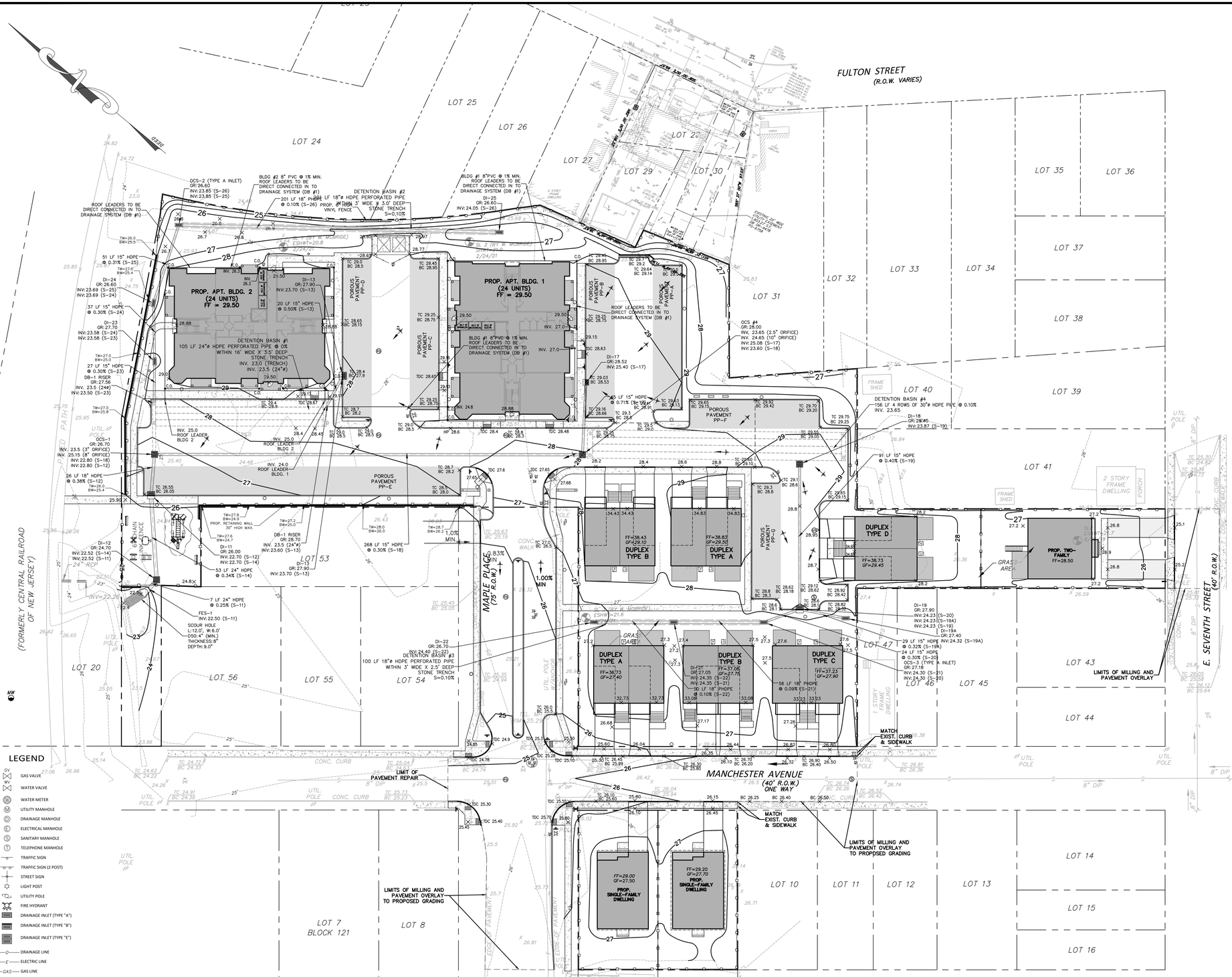

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PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

TAX MAP No. 11

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WJH ENGINEERING

CERT. OF AUTH. NO. 24GA28117300

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GRADING & DRAINAGE PLAN

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	5 OF 20

WALTER JOSEPH HOPKIN

N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

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PIPE CROSSING TABLE

CROSSING NUMBER	DOWNSTREAM SANITARY STRUCTURE NUMBER	DOWNSTREAM STORM INVERT (FT)	DISTANCE TO CROSSING ALONG STORM (FT)	STORM PIPE SLOPE	STORM PIPE DIAMETER (IN)	DOWNSTREAM SANITARY SEWER INVERT (FT)	DISTANCE TO CROSSING ALONG SANITARY (FT)	SANITARY SEWER SLOPE	DIAMETER OF SANITARY SEWER (IN)	STORM SEWER INVERT (FT)	SANITARY SEWER INVERT (FT)	TOP OF STORM SEWER (FT)	BOTTOM OF STORM SEWER (FT)	TOP OF SANITARY SEWER (FT)	BOTTOM OF SANITARY SEWER (FT)	CLEARANCE* (FT)
XING 1	SMH-1	24.23	7.5	0.0040	15	21.76	184.2	0.0030	8	24.26	22.31	25.70	24.07	23.02	22.27	1.05
XING 2	SMH-1	22.80	220.3	0.0030	15	21.76	89.1	0.0030	8	23.46	22.03	24.90	23.27	22.74	21.99	0.54
XING 3	SMH-5	24.00	33.3	0.0100	8	22.47	17.8	0.0030	8	24.33	22.52	25.14	24.19	23.23	22.48	0.96

*CLEARANCE IS THE DIFFERENCE IN ELEVATION BETWEEN THE STORM AND SANITARY PIPES, MEASURED FROM THE BOTTOM OF THE PIPE AT THE HIGHER ELEVATION TO THE TOP OF PIPE AT THE LOWER ELEVATION.

CONSTRUCTION AND UTILITY NOTES:

1. ANY EXISTING PAVEMENT, CURB OR SIDEWALK THAT IS IN POOR CONDITION OR IS DAMAGED AS A RESULT OF THE PROPOSED CONSTRUCTION MUST BE REPLACED.
2. THE CONTRACTOR SHALL PERFORM ALL NECESSARY TEST PITS TO ASCERTAIN AS BUILT CONDITIONS. THE CONTRACTOR SHALL SUBMIT DETAILS OF ALL WATER MAIN RELOCATION/REPLACEMENT AND WATER MAIN CROSSING WORK FOR THE APPROVAL BY THE BOROUGH OF KEYPORT.
3. THE CONTRACTOR MUST CONTACT THE BOROUGH DIRECTOR OF PUBLIC WORKS AND BOROUGH ENGINEER BEFORE THE START OF ANY WORK IN THE VICINITY OF WATER MAINS. A MINIMUM OF 48-HOUR ADVANCE NOTICE IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE TO FIELD LOCATE THE ACTIVE SERVICES TO THE PROPERTIES ALONG THE WATER MAIN EXTENSION. NEW SERVICES SHALL BE EXTENDED FROM THE NEW WATER MAIN TO THE EXISTING CURB STOPS AT ALL EXISTING SERVICE LOCATIONS.
4. THE EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE IF NOT REQUIRED TO BE REMOVED DURING CONSTRUCTION OF THE NEW MAIN. THE EXISTING MAINS SHALL BE BULKHEADED AT THE END OF EACH ABANDONED MAIN SECTION.
5. THE BOROUGH OF KEYPORT WILL BE RESPONSIBLE FOR THE POTABLE WATER LINES UP TO THE GATE VALVES AT CURB OF EACH ENTRANCE TO THE BUILDING. A SECOND VALVE SHALL BE INSTALLED WITHIN THE BUILDING FOR SHUTOFF OF THE WATER SERVICE BY THE PROPERTY OWNER.
6. ALL WATER MAIN AND SERVICES SHALL BE DISINFECTED AND PRESSURE TESTED ACCORDING TO THE APPROVED SPECIFICATIONS AND NJDEP RULES, REGULATIONS AND STANDARDS UNDER THE SUPERVISION OF THE BOROUGH ENGINEER.
7. WATER MAINS SHALL BE APPROVED TO BE PUT IN TO SERVICE AFTER ACCEPTABLE LEAKAGE, 200 PSI MINIMUM PRESSURE, AND BACTERIOLOGICAL TESTING PERFORMED AND WRITTEN TEST RESULTS SUBMITTED TO THE BOROUGH ENGINEER.

   BACTERIOLOGICAL TESTING SHALL ONLY BE PERFORMED BY A NEW JERSEY CERTIFIED LABORATORY AND THE TESTING SHALL INCLUDE THE FOLLOWING:
   - TOTAL PLATE COUNT, 200 CFU/ML
   - TOTAL COLIFORM, NEGATIVE 100 ML
   - PH, 6.5 - 8.5
   - CHLORINE RESIDUAL, 0.3 MG/L
8. EXISTING WATER MAIN FROM GREEN GROVE AVENUE TO FULTON STREET SHALL BE ABANDONED IN PLACE. THE EXISTING MAINS SHALL BE BULLHEADED AT THE END OF EACH ABANDONED MAIN SECTION.
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10. THE BOROUGH ASSUMES NO RESPONSIBILITY OF OWNERSHIP, MAINTENANCE AND /OR OPERATION OF THE PORTION OF SANITARY SEWER FACILITIES, INCLUDING CLEANOUTS, UPSTREAM OF THE BOROUGH'S EXISTING SANITARY SEWER MANHOLE.
11. TESTING OF THE SANITARY SEWER MAIN SHALL BE PERFORMED IN ACCORDANCE WITH NJDEP RULES AND REGULATIONS PRIOR TO ACCEPTANCE.
12. A TELEVISION INSPECTION OF THE NEW SANITARY SEWER MAINS SHALL BE PERFORMED AND PROVIDED TO THE BOROUGH UTILITY DEPARTMENT PRIOR TO ACCEPTANCE.
13. BLANKET EASEMENT IS PROVIDED TO THE BOROUGH OF KEYPORT FOR THE WATER AND SEWER MAINS WITHIN THE PROPERTY. HOMEOWNERS ASSOCIATION IS RESPONSIBLE OF MAINTENANCE, REPAIR AND REPLACEMENT OF THE ON-SITE WATER AND SEWER MAINS.
14. CONTRACTOR IS RESPONSIBLE TO RESTORE ALL PROPERTIES TO PRECONSTRUCTION CONDITIONS.

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SCALE: (1 Inch = 30 Feet)

30 0 30 60 90

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PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

TAX MAP No. 11

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257 MONMOUTH ROAD, BLDG. A, SUITE 7, OAKHURST, NJ 07755

PHONE: 732-223-1313

WWW.WJHENGINEERING.COM

OVERALL UTILITY PLAN

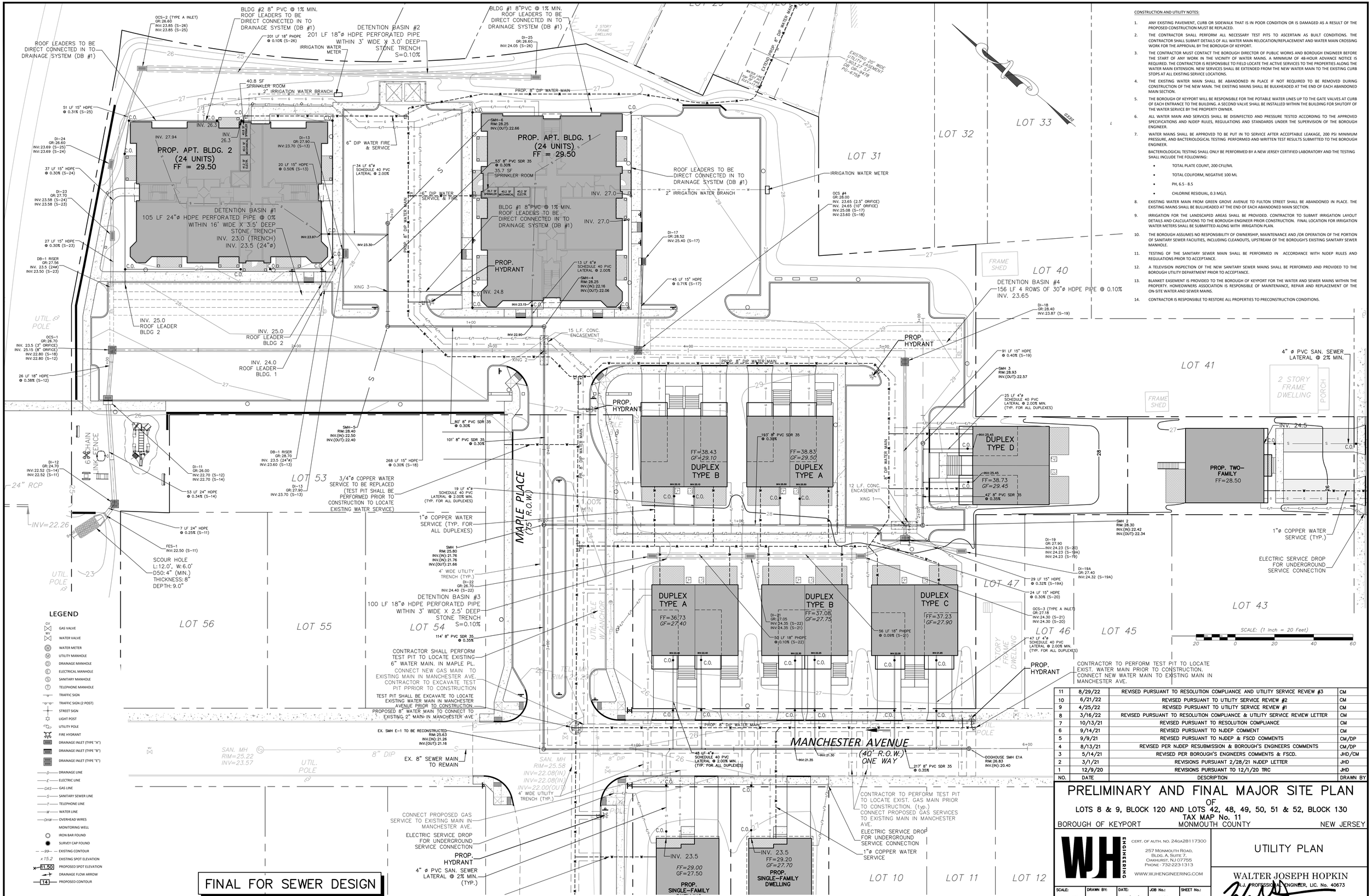
SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	6 OF 20

WALTER JOSEPH HOPKIN

N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

FINAL FOR SEWER DESIGN

W:\Projects\19\19129 - Hudson Point - 75 Manchester Ave, Keyport\DWG's\Design Drawings\SITE BASE.dwg 8/29/2022 3:11:40 PM



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PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

TAX MAP No. 11

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UTILITY PLAN

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	7 OF 20

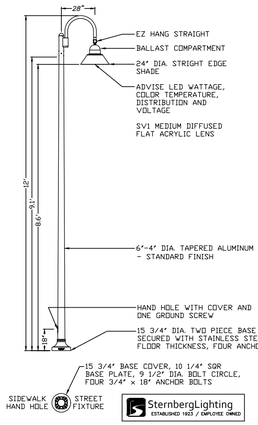
WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

W:\Projects\19\19129 – Hudson Point – 75 Manchester Ave, Keyport\DWGs\Design Drawings\SITE BASE.dwg 8/29/2022 3:11:40 PM

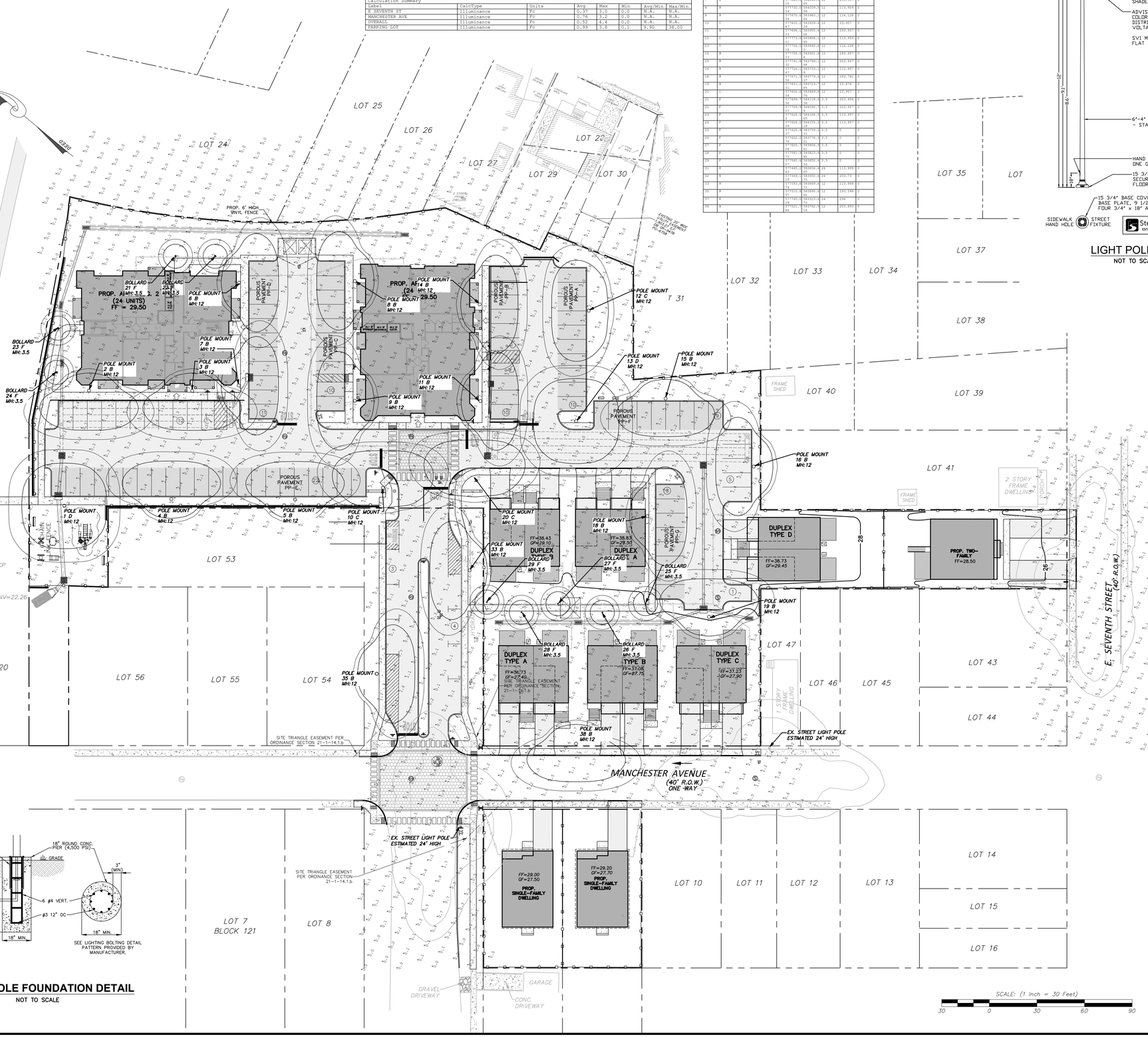
Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
○	17	B	Single	N.A.	0.630	BVA2401P02FBLD4NF340KRSS180
⊗	9	F	SINGLE	N.A.	0.240	BL602I-FR-M010LD-D-T5-40K
⊗	3	C	Single	N.A.	1.000	BVA2401P02FBLD4T340K
—□—	3	E	SINGLE	9500	1.000	OV21GSR23EM4
○	2	D	Single	N.A.	1.000	BVA2401P02FBLD4T540K

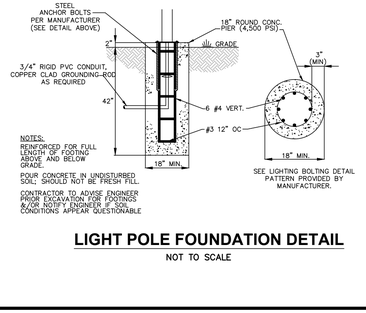
Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
E SEVENTH ST	Illuminance	Fc	0.37	3.0	0.0	N.A.	N.A.
MANCHESTER AVE	Illuminance	Fc	0.76	3.2	0.0	N.A.	N.A.
OVERALL	Illuminance	Fc	0.52	4.4	0.0	N.A.	N.A.
PARKING LOT	Illuminance	Fc	0.99	3.8	0.1	9.90	38.00

Luminaire Location Summary					
Lumin.	Label	X	Y	Orient	Tilt
1	C	577571.96	584118.0,12	23.957	0
2	N	577599.13	584133.9,12	203.957	0
3	N	577633.00	584074.4,12	203.957	0
4	N	577555.54	584007.1,12	23.957	0
5	N	577587.75	583983.1,12	23.957	0
6	N	577701.31	584074.4,12	293.957	0
7	N	577642.96	584048.0,12	293.957	0
8	N	577732.56	584009.9,12	113.959	0
9	N	577676.01	583983.1,12	114.128	0
10	C	577620.25	583939.4,12	23.957	0
11	N	577686.19	583903.9,12	293.957	0
12	C	577713.56	583868.1,12	113.959	0
13	D	577706.19	583849.9,12	114.128	0
14	N	577755.62	583881.8,12	293.957	0
15	N	577741.94	583799.1,12	293.957	0
16	N	577726.81	583733.1,12	113.957	0
17	N	577675.71	583779.8,12	293.781	0
18	N	577632.31	583723.1,12	23.474	0
19	N	577650.06	583669.9,12	23.957	0
20	C	577690.94	583618.9,12	23.957	0
21	F	577589.75	584118.9,3.5	203.958	0
22	F	577599.94	584099.7,3.5	203.957	0
23	F	577626.81	584144.9,3.5	113.957	0
24	F	577604.44	584155.3,3.5	113.957	0
25	F	577622.56	583739.2,3.5	0	0
26	F	577602.31	583778.8,3.5	0	0
27	F	577620.50	583804.9,3.5	0	0
28	F	577581.75	583823.9,3.5	0	0
29	F	577580.44	583850.3,3.5	0	0
30	N	577443.75	583804.9,24	113.999	0
31	N	577569.19	583650.9,24	203.73	0
32	N	577555.81	583669.9,12	113.968	0
33	B	577510.56	583885.9,12	293.598	0
34	N	577740.75	583523.9,24	284	0
35	N	577521.75	583762.5,12	203.893	0



LIGHT POLE DETAIL
NOT TO SCALE





NOTES:
REINFORCED FOR FULL LENGTH OF FOOTING ABOVE AND BELOW GRADE.

POUR CONCRETE IN UNDISTURBED SOIL; SHOULD NOT BE FRESH FILL.

CONTRACTOR TO ADVISE ENGINEER PRIOR EXCAVATION FOR FOOTINGS &/OR NOTIFY ENGINEER IF SOIL CONDITIONS APPEAR QUESTIONABLE.

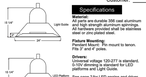
SEE LIGHTING BOLTING DETAIL PATTERN PROVIDED BY MANUFACTURER.

LIGHT POLE FOUNDATION DETAIL
NOT TO SCALE

SCALE: (1 Inch = 30 Feet)
30 0 30 60 90

ANPLighting — Specifications BVA2401

Project: _____ Quantity: _____
Fixture Type: _____
Customer: _____



Specifications

Material:
Housing are durable 356 cast aluminum and high strength aluminum spinnings. All mounting hardware shall be stainless steel or zinc plated steel.

Fixture Mounting:
Pendant Mount: Tile mount to tenon. Fits 4" O.D. tenon.

Drivers:
Universal voltage 120-277 is standard. 347-480 is available for LED platforms with Light Source.

See page 2 for LED engine and driver specifications.

Electrical:
Internal 10KA nominal surge protection device is standard.

Approximately 72" of pull wire extends from fixture for ease of wiring. Suitable for post mount arms and wall mounts.

Finish:
A corrosion resistant powder coat high quality finish is electrostatically applied and baked at 430° for exceptional durability and color retention. All aluminum parts receive an aluminum pre-treatment process for maximum paint adhesion.

Marine grade finish provides superior salt, humidity and UV protection. This coating withstands up to 3000 hours of continuous salt exposure per ASTM B117 standard. Finish is available in either a textured or gloss surface.

Modifications:
Consult factory for custom or modified designs.

BVA2401 - LED

Dark Sky Friendly.

Weight: 21.0 lbs
EPA: 1.14

Catalog Logic: BVA2401 · P07BLD4D · T5 · 40K · PC · PA1613 · 72
(Luminaire Series · Light Source & Wattage · Optic · CCT · Accessories · Mounting · Finish)

Catalog Number: BVA2401 — — — — — —
(1 2 3 4 5 6)

1 LIGHT SOURCE & WATTAGES

Platform	
P02BLD4D	(25w Platform LED)
P04BLD4D	(46w Platform LED)
P07BLD4D	(75w Platform LED)
P11TLD4D	(117w Platform LED)
Light Guide Small	
E03GLD5	(30w Light Guide LED)
E04GLD5	(42w Light Guide LED)
E06GLD5	(60w Light Guide LED)
E08GLD5	(85w Light Guide LED)
E10GLD5	(105w Light Guide LED)
Light Guide Large	
E06GLDL	(60w Light Guide LED)
E07GLDL	(75w Light Guide LED)
E09GLDL	(90w Light Guide LED)
E10GLDL	(105w Light Guide LED)
E15GLDL	(150w Light Guide LED)

2 OPTICS

Platform	Light Guide Small	Light Guide Large
T2 (Type II)	T2 (Type II) (Only 42w and 60w Only)	T2 (Type II) (Only 42w and 60w Only)
T3 (Type III)	T3 (Type III)	T3 (Type III) (Only 42w and 105w Only)
T4 (Type IV)	T4 (Type IV)	T4 (Type IV) (Only 42w and 105w Only)
T5 (Type V)		T5 (Type V) (Only 30w and 105w Only)

3 COLOR TEMPERATURE (CCT)

Tower	Module
40K (4000K)	27K (2700K)
	30K (3000K)
	35K (3500K)
	40K (4000K)

4 ACCESSORIES

HS200	(90° House Side Shield, polished)
HS0120	(120° House Side Shield, polished)
**ES738	(3 Ft, 1 1/4" Ridged Stem & Canopy)
**PEND-CHS	(3 Ft Pendant Chain & Canopy)
*EMS-LEDSHV	(25w, High Voltage LED Emergency Battery Backup, Universal Voltage, for use with Platforms and Towers, 7Ahr or less)
HLMSPC-06	(High Line Motion Sensor/Photocell, 6' - 10' Sensor Mounting Height)
HLMSPC-10	(High Line Motion Sensor/Photocell, 8' - 14' Sensor Mounting Height)
**FR-BF	(Post Arm Ball Filter)
**FR-BFS	(Post Arm Ball Filter w/Swivel)
PC	(Button Photo Cell)
SP	(Surge Protector, 10kA & 10kV)
TLPC	(Twist-Lock photocell, includes Receptacle & photocell)
TLS	(5-pin Twist Lock receptacle)
TLX	(7-pin Twist Lock receptacle)

*For Emergency lumen output data, see Resources section at www.ANPlighting.com.

**Accessory finish will match fixture finish.

5 MOUNTING SOURCE

Post Mount Arms *See Page 4 for Style/Size		Wall Mount Arms *See Page 4 for Style/Size	
PA0411	WM0411	PA1411	WM1411
PA1613	WM1613	PA0413	WM1613
PA1753	WM1753		
PA2353	WM1773		
PA2013	WM2313		
PA2413	WM2353		
PA2313	WM2413		
PA2333	WM2513		
PA2513	WM3533		
PA3533	WM0143		
PA3553	WM0163		
PA3753	WM0363		
Column Mount			
*See Page 4 for Style/Size			
CM	(Column Mount)		

6 FINISHES

Standard Matte Finishes			Standard Gloss Finishes		
Natural Aluminum	NA	Textured Black	Natural Aluminum	NA	Textured Black
Black	BK	Textured Dark Bronze	Black	BK	Textured Dark Bronze
Dark Bronze	DB	Textured Medium Bronze	Dark Bronze	DB	Textured Medium Bronze
Medium Bronze	MB	Textured Light Bronze	Medium Bronze	MB	Textured Light Bronze
Light Bronze	LB	Textured White	Light Bronze	LB	Textured White
Verde	VE	Textured Verde	Verde	VE	Textured Verde
Custom Color	CC	Textured Custom Color	Custom Color	CC	Textured Custom Color

Consult factory for additional paint charges and availability.

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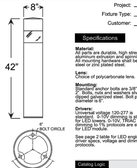
ANPLighting — Specifications BL6021

Project: _____ Quantity: _____
Fixture Type: _____
Customer: _____



Specifications

Material:
Housings are durable, high strength aluminum extrusion and spinnings. All mounting hardware shall be Stainless steel or zinc plated steel.

Lens:
Choice of polycarbonate lens.

Mounting:
Standard anchor bolts are 3/8" x 10" x 3" L-bend galvanized steel with two (2) zinc plated galvanized steel, four (4) point leveling nuts.

Drivers:
Universal voltage 120-277 is standard. 347-480 is available for LED platforms with Light Source.

See page 2 table for LED engine and driver specs, voltage and dimming protocols.

Finish:
A corrosion resistant powder coat high quality finish is electrostatically applied and baked at 430° for exceptional durability and color retention. All aluminum parts receive an aluminum pre-treatment process for maximum paint adhesion.

Marine grade finish provides superior salt, humidity and UV protection. This coating withstands up to 3000 hours of continuous salt exposure per ASTM B117 standard. Finish is available in either a textured or gloss surface.

Modifications:
Consult factory for custom or modified designs.

BL6021 - LED

Weight: 17.5 lbs

Catalog Logic: BL6021 · CL · M016LD · D · T5 · 40K · CGFI · 72
(Series · Lens · Light Source · Dimming · Optics · CCT · Accessories · Finish)

Catalog Number: BL6021 — — — D — — — —
(1 2 3 4 5 6 7)

1 LENS
CL (Clear polycarbonate, Module Only)
FR (Frosted polycarbonate)
WH (White Opal polycarbonate)

2 LIGHT SOURCE & WATTAGES
M016LD (10w Cree Module)
M016LD (16w Cree Module)
M024LD (24w Cree Module)
M037LD (37w Cree Module)
T042SLD4 (42w Tower; 400ma Driver)

3 DIMMING
D (Dimming)
See page 2 table for LED engine and driver specs, voltage and dimming protocols.

4 OPTICS

Tower	Module
T5 (Type V)	W (T5 Wide Flood LED Lens with Dome LED Lens)
	N (T5 Narrow Flood LED Lens with Flat LED Lens)

5 COLOR TEMPERATURE (CCT)

Tower	Module
40K (4000K)	27K (2700K)
	30K (3000K)
	35K (3500K)
	40K (4000K)

6 ACCESSORIES

HS0240	(90° House Side Shield, polished)
HS0180	(180° House Side Shield, polished)
IBOLT	(Eye Bolt)
*EMG-LED5	(5w, LED Emergency Driver)
*EMG-LED7	(7w, LED Emergency Driver)
*EMG-LED10	(10w, LED Emergency Driver)
*EMG-LED20HV	(20w, High Voltage LED Emergency Battery Backup, Universal Voltage, for use with Platforms and Towers, 90min or less)
GFI15	(15 amp GFCI receptacle outlet)
GFI20	(20 amp GFCI receptacle outlet)
GFI-WPV	(20 amp GFCI receptacle w/weather proof in-use cover)
CGFI	(20 amp Concealed GFCI receptacle w/hinged door)

*For Emergency lumen output data, see Resources section at www.ANPlighting.com.

7 FINISHES

Standard Matte Finishes			Standard Gloss Finishes		
Natural Aluminum	NA	Textured Black	Natural Aluminum	NA	Textured Black
Black	BK	Textured Dark Bronze	Black	BK	Textured Dark Bronze
Dark Bronze	DB	Textured Medium Bronze	Dark Bronze	DB	Textured Medium Bronze
Medium Bronze	MB	Textured Light Bronze	Medium Bronze	MB	Textured Light Bronze
Light Bronze	LB	Textured White	Light Bronze	LB	Textured White
Verde	VE	Textured Verde	Verde	VE	Textured Verde
Custom Color	CC	Textured Custom Color	Custom Color	CC	Textured Custom Color

Consult factory for additional paint charges and availability.

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LIGHTING DETAILS

FINAL FOR SEWER DESIGN

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/1/21	REVISIONS PURSUANT TO 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN
OF
LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130
TAX MAP No. 11
BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, SUITE 7,
OAKHURST, NJ 07755
PHONE: 732-223-1313
WWW.WJHENGINEERING.COM

LIGHTING PLAN

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	8 OF 20

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INLET PROTECTION (typ.)

LIMIT OF DISTURBANCE & SILT FENCE (typ.) 3.443 AC.

TEMPORARY SOIL STOCKPILE (typ.)

STANDARD SILT FENCE (typ.)

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

DISCHARGE RECEIVING AREA

PROP. APT. BLDG. 1 (24 UNITS) FF = 29.50

PROP. APT. BLDG. 2 (24 UNITS) FF = 29.50

DETENTION BASIN #1
105 LF 24"ø HDPE PERFORATED PIPE @ 0% WITHIN 16' WIDE X 3.5' DEEP STONE TRENCH
INV. 23.0' (TRENCH)
INV. 23.5 (24"ø)

DETENTION BASIN #2
201 LF 18"ø HDPE PERFORATED PIPE @ 0.10% (S-26) PROP. WITHIN 3' WIDE X 3.0' DEEP STONE TRENCH S=0.10%

DETENTION BASIN #3
100 LF 18"ø HDPE PERFORATED PIPE WITHIN 3' WIDE X 2.5' DEEP STONE TRENCH S=0.10%
114' 8" PVC SDR 35 @ 0.35%

DETENTION BASIN #4
156 LF 4 ROWS OF 30"ø HDPE PIPE @ 0.10%
INV. 23.65

OCS-1 GR:26.70 INV. 23.5 (3" ORIFICE) INV. 25.15 (6" ORIFICE) INV:22.80 (S-18) INV:22.80 (S-12)

OCS-2 (TYPE A INLET) GR:26.60 INV: 23.85 (S-26) INV: 23.85 (S-25)

OCS #4 GR:28.00 INV. 23.65 (2.5" ORIFICE) INV. 24.65 (NO ORIFICE) INV:25.58 (S-17) INV:23.60 (S-18)

DI-18 GR:28.40 INV:23.87 (S-19)

DI-19 GR:27.90 INV:24.23 (S-20) INV:24.23 (S-19A) INV:24.23 (S-19) DI-19A GR:27.40

DI-20 GR:27.18 INV:24.30 (S-21) INV:24.30 (S-20)

DI-21 GR:27.05 INV:24.35 (S-22) INV:24.35 (S-21)

DI-22 GR:26.70 INV:24.45 (S-22)

DI-23 GR:27.70 INV:23.58 (S-24) INV:23.58 (S-23)

DI-24 GR:26.60 INV:23.69 (S-25) INV:23.69 (S-24)

DI-25 GR:26.60 INV: 24.05 (S-26)

DI-37 GR:28.52 INV:25.40 (S-17)

DB-1 RISER GR:27.56 INV. 23.5 (24"ø) INV:23.50 (S-23)

DI-11 GR:26.00 INV:22.70 (S-12) INV:22.70 (S-14)

DI-12 GR:24.70 INV:22.52 (S-14) INV:22.52 (S-11)

DI-13 GR:27.90 INV:23.70 (S-13)

DB-1 RISER GR:28.70 INV. 23.5 (24"ø) INV:23.60 (S-13)

FES-1 INV:22.50 (S-11) SCOUR HOLE L:12.0', W:6.0' DSO:4" (MIN.) THICKNESS:8" DEPTH:9.0"

PROP. HYDRANT

PROP. LOT 49.01 AREA=8,892 SF

PROP. LOT 42.01 AREA=5,772 SF

PROP. LOT 9.02 AREA=5,000 SF

PROP. LOT 8.01 AREA=5,000 SF

DUPLEX TYPE A — FF=38.43 GF=29.10

DUPLEX TYPE B — FF=38.83 GF=29.50

DUPLEX TYPE D — FF=38.73 GF=29.45

DUPLEX TYPE A — FF=36.73 GF=27.40

DUPLEX TYPE B — FF=37.08 GF=27.75

DUPLEX TYPE C — FF=37.23 GF=27.90

PROP. TWO-FAMILY FF=28.50

PROP. SINGLE-FAMILY DWELLING — FF=29.00 GF=27.50

PROP. SINGLE-FAMILY DWELLING — FF=29.20 GF=27.70

POROUS PAVEMENT PP-A

POROUS PAVEMENT PP-B

POROUS PAVEMENT PP-C

POROUS PAVEMENT PP-D

POROUS PAVEMENT PP-E

POROUS PAVEMENT PP-F

POROUS PAVEMENT PP-G

MANCHESTER AVENUE (40' R.O.W.) ONE WAY

E. SEVENTH STREET (40' R.O.W.)

(FORMERLY CENTRAL RAILROAD OF NEW JERSEY)

LOT 7 BLOCK 121

LOT 8

LOT 20

LOT 53

LOT 54

LOT 55

LOT 56

LOT 7

LOT 6.01

LOT 10

LOT 11

LOT 12

LOT 13

LOT 14

LOT 15

LOT 16

LOT 24

LOT 25

LOT 26

LOT 27

LOT 29

LOT 31

LOT 32

LOT 33

LOT 34

LOT 35

LOT 36

LOT 37

LOT 39

LOT 40

LOT 41

LOT 43

LOT 44

LOT 45

LOT 46

LOT 47

FRAME SHED

2 STORY FRAME DWELLING

PORCH

GARAGE

CONC. DRIVEWAY

GRAVEL DRIVEWAY

CONC. CURB

EDGE OF PAVEMENT

LIMIT OF PAVEMENT REPAIR

LIMITS OF MILLING AND PAVEMENT OVERLAY TO PROPOSED GRADING

MATCH EXIST. CURB & SIDEWALK

4' WIDE UTILITY TRENCH

UTILITY TRENCH

CONTRACTOR SHALL PERFORM TEST PIT TO LOCATE EXISTING GAS MAIN IN SEVENTH ST.

CONNECT PROPOSED GAS SERVICE TO EXISTING MAIN IN SEVENTH STREET

SITE TRIANGLE EASEMENT PER ORDINANCE SECTION 21-1-14.1.b

PROP. HYDRANT

NOT TO SCALE

TREE PROTECTION DETAIL

NOT TO SCALE

Estimate a tree's **Protected Root Zone (PRZ)** by calculating the Critical Root Radius (crr).

1. Measure the dbh (diameter of tree at breast height, 4.5 feet above ground on the uphill side of tree) in inches.
2. Multiply measured dbh by 1.5 or 1.0. Express the result in feet.

Dbh x 1.5: **Critical root radius** for older, unhealthy, or sensitive species.

Dbh x 1.0: **Critical root radius** for younger, healthy or tolerant species.

Protected Root Zone (PRZ)

Critical root radius (CRR)

Dripline

Dbh-4.5

FINAL FOR SEWER DESIGN

SCALE: (1 Inch = 30 Feet)

30 0 30 60 90

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

TAX MAP No. 11

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING

CERT. OF AUTH. NO. 24GA28117300

257 MONMOUTH ROAD, BLDG. A, SUITE 7, OAKHURST, NJ 07755

PHONE: 732-223-1313

WWW.WJHENGINEERING.COM

SOIL EROSION & SEDIMENT CONTROL PLAN

WALTER JOSEPH HOPKIN

N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	9 OF 20

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PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING .
C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

2. SEEDBED PREPARATION
A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

3. SEEDING
A. SELECT A MIXTURE FROM TABLE 4-3 OR USE A MIXTURE RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
1. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.
2. WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 850 F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.
3. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 850 F. MANY GRASSES BECOME ACTIVE AT 650 F. SEE TABLE 4-3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.
B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.
C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORTFIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4-MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

4. MULCHING
MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED. APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.
1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH.
A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
B. USE ONE OF THE FOLLOWING:
(1) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
(2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND, FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
B. WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
C. PELLETIZED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEEDSEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

5. IRRIGATION (WHERE FEASIBLE)
IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.
6. TOPDRESSING
SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY
DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.
7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE. NOTE THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

PERMANENT GROUND COVER OF SODDING OR SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL:

SEED MIXTURE	SEEDING RATES	SEEDING DATES (OPTIMAL)	(ACCEPTABLE)
HARD FESCUE	130 LBS/AC OR 3.0 LBS/1,000 SF	3/1-4/30 OR 5/1-8/14	8/15-10/15
CHEWING FESCUE	45 LBS/AC OR 1.0 LBS/1,000 SF	3/1-4/30 OR 5/1-8/14	8/15-10/15
STRONG CREEPING RED FESCUE	45 LBS/AC OR 1.0 LBS/1,000 SF	3/1-4/30 OR 5/1-8/14	8/15-10/15
PERENNIAL RYEGRASS	10 LBS/AC OR 0.25 LBS/1,000 SF	3/1-4/30 OR 5/1-8/14	8/15-10/15

SEED TO A DEPTH OF 0.5 INCHES.

3. PERMANENT GROUND COVER FOR SIDE SLOPES OF PROPOSED STORMWATER BASINS SHALL CONSIST OF THE FOLLOWING SEEDING MIXTURE OR APPROVED EQUAL:

SEED MIXTURE	SEEDING RATES	SEEDING DATES (OPTIMAL)
DEERTONGUE	20 LBS/AC OR 0.45 LBS/1,000 SF	2/1-4/30
REDTOP	2 LBS/AC OR 0.05 LBS/1,000 SF	2/1-4/30
WILD RYE (ELYMUS)	15 LBS/AC OR 0.35 LBS/1,000 SF	2/1-4/30
SWITCHGRASS	25 LBS/AC OR 0.60 LBS/1,000 SF	2/1-4/30

SEED TO A DEPTH OF 0.5 INCHES.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19-1.
B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEEDBED PREPARATION
A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIMING RATES SHALL BE ESTABLISHED VIA SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC,
SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
B. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
C. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1.

3. SEEDING
A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2.

COOL SEASON GRASSES	RATES	SEEDING DATES	DEPTHS
PERENNIAL RYEGRASS	1.0 LB/1000 SF	3/1-5/15 OR 8/15-10/1	0.5 IN.
SPRING OATS	2.0 LB/1000 SF	3/1-5/15 OR 8/15-10/1	1.0 IN.
WINTER BARLEY	2.2 LB/1000 SF	8/15-10/1	1.0 IN.
ANNUAL RYEGRASS	1.0 LB/1000 SF	3/15-6/1 OR 8/1-9/15	0.5 IN.
WINTER CEREAL RYE	2.8 LB/1000 SF	8/1-11/15	1.0 IN.
WARM SEASON GRASSES			
PEARL MILLET	0.5 LB/1000 SF	5/15-8/15	1.0 IN.
MILLET (GERMAN OR HUNGARIAN)	0.7 LB/1000 SF	5/15-8/15	1.0 IN.

B. CONVENTIONAL SEEDING. APPLY SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE
SOIL, TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.
C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION
SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT
OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY,
AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

4. MULCHING
MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED. APPLICATION. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.
1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. CRIMPER (MULCH ANCHORING TOOL). A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
3. LIQUID MULCH-BINDERS. -MAY BE USED TO ANCHOR HAY OR STRAW MULCH.
A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
B. USE ONE OF THE FOLLOWING:
(1) ORGANIC AND VEGETABLE BASED BINDERS -NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR
IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
(2) SYNTHETIC BINDERS -HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
NOTE: ALL NAMES GIVE ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
B. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 PONDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
C. PELLETIZED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

SEQUENCE OF CONSTRUCTION

1. CLEARING OF ENTRANCE, AND LIMIT OF DISTURBANCE FOR INSTALLATION OF SILT FENCE AND CONSTRUCTION ENTRANCE PAD.
2. CLEARING AND ROUGH GRADING AS NECESSARY TO CONSTRUCT ROADWAYS. ALL EXPOSED SURFACES SHALL BE STABILIZED AS DEFINED IN SOIL EROSION AND SEDIMENT CONTROL NOTES. (4 WEEKS).
3. INSTALL STORM DRAINAGE AND SANITARY SYSTEMS, CONDUIT OUTLET PROTECTION AND ALL OTHER UTILITIES. INSTALL INLET PROTECTION (6-7 WEEKS).
4. CONSTRUCT CURBS AND PLACE ROADWAY SUBBASE (3-4 WEEKS).
5. CLEAR AND GRADE BUILDING AREAS AND CONSTRUCT UNITS. ALL DISTURBED AREAS SHALL BE STABILIZED AS DEFINED IN SOIL EROSION AND SEDIMENT CONTROL NOTES. (ON-GOING FROM COMMENCEMENT OF PROJECT).
6. ESTABLISH FINISH GRADES AND PLACE PERMANENT VEGETATIVE COVER (3-4 WEEKS).
7. REMOVE TEMPORARY ACCESS PROTECTION, SILT FENCE, AND INLET PROTECTION AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED. (1-2 WEEK)
8. PAVE ROADWAY AND COMPLETE FINAL LANDSCAPING. (3 WEEKS).

TREE PROTECTION FENCING SHALL BE INSTALLED AROUND THE TREE'S CRITICAL ROOT RADIUS, GIVEN BY TAKING THE DIAMETER OF THE TRUNK @ 4.5 FEET ABOVE GRADE ON THE UPHILL SIDE (IN INCHES) X ONE AND A HALF (1.5) = CRR (IN FEET).

PROTECTIVE FENCING IS TO BE ERECTED PRIOR TO CONSTRUCTION AND MAINTAINED THROUGHOUT CONSTRUCTION.

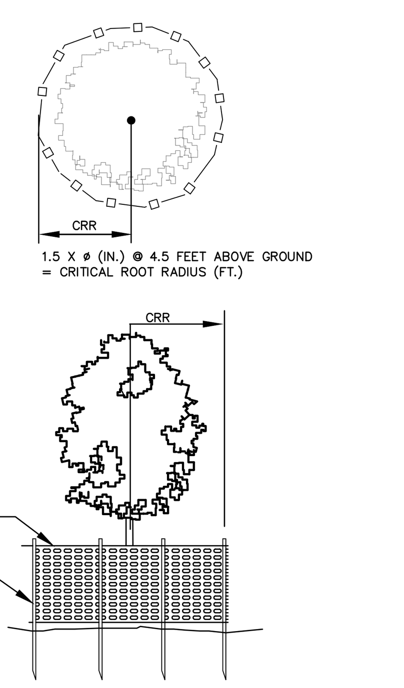
WARNING SIGNAGE MUST BE ATTACHED TO THE FENCE AT TEN (10) FOOT INTERVALS IN THE TOP THIRD OF THE FENCING.

THE PROTECTED ROOT ZONE SHALL REMAIN CLOSED TO ANY ACTIVITY INCLUDING THE STAGING OF MATERIALS.

AT THE COMPLETION OF CONSTRUCTION, ANY DAMAGED TREES SHALL BE TARGET PRUNED TO REMOVE DEAD OR BROKEN LIMBS.

4' HIGH ORANGE VINYL SNOW FENCE

6' HIGH POSTS DRIVEN INTO GROUND EVERY 6'-0" O.C. AND AT ALL CHANGES OF DIRECTION



TREE PROTECTION DETAIL

SOIL EROSION AND SEDIMENT CONTROL NOTES

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. The Freehold Soil Conservation District shall be notified forty-eight (48) hours in advance of any soil disturbing activity.
2. All Soil Erosion and Sediment Control practices are to be installed prior to soil disturbance, or in their proper sequence, and maintained until permanent protection is established.
3. Any changes to the Certified Soil Erosion and Sediment Control Plans will require the submission of revised Soil Erosion and Sediment Control Plans to the District for re-certification. The revised plans must meet all current State Soil Erosion and Sediment Control Standards.
4. N.J.S.A 4:24-39 et. Seq. requires that no Certificates of Occupancy be issued before the District determines that a project or portion thereof is in full compliance with the Certified Plan and Standards for Soil Erosion and Sediment Control in New Jersey and a Report of Compliance has been issued. Upon written request from the applicant, the District may issue a Report of Compliance with conditions on a lot-by-lot or section-by-section basis, provided that the project or portion thereof is in satisfactory compliance with the sequence of development and temporary measures for soil erosion and sediment control have been implemented, including provisions for stabilization and site work.
5. Any disturbed areas that will be left exposed more than sixty (60) days, and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of temporary cover, the disturbed areas will be mulched with straw, or equivalent material, at a rate of 2 to 2 ½ tons per acre, according to the Standard for Stabilization with Mulch Only.
6. Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. soil stockpiles, steep slopes and roadway embankments) will receive temporary seeding in combination with straw mulch or a suitable equivalent, and a mulch anchor, in accordance with State Standards.
7. A sub-base course will be applied immediately following rough grading and installation of improvements to stabilize streets, roads, driveways, and parking areas. In areas where no utilities are present, the sub-base shall be installed within fifteen (15) days of the preliminary grading.
8. The Standard for Stabilized Construction Access requires the installation of a pad of clean crushed stone at points where traffic will be accessing the construction site. After interior roadways are paved, individual lots require a stabilized construction access consisting of one inch to two inch (1" – 2") stone for a minimum length of ten feet (10') equal to the lot entrance width. All other access points shall be blocked off.
9. All soil washed, dropped, spilled, or tracked outside the limit of disturbance or onto public right-of-ways will be removed immediately.
10. Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading.
11. At the time that site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover shall be removed or treated in such a way that it will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means of permanent ground stabilization will have to be employed.
12. In accordance with the Standard for Management of High Acid Producing Soils, any soil having a pH of 4 or less or containing iron sulfides shall be ultimately placed or buried with limestone applied at the rate of 10 tons/acre, (or 450 lbs/1,000 sq ft of surface area) and covered with a minimum of 12" of settled soil with a pH of 5 or more, or 24" where trees or shrubs are to be planted.
13. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
14. Unfiltered dewatering is not permitted. Necessary precautions must be taken during all dewatering operations to minimize sediment transfer. Any dewatering methods used must be in accordance with the Standard for Dewatering.
15. Should the control of dust at the site be necessary, the site will be sprinkled until the surface is wet, temporary vegetative cover shall be established or mulch shall be applied as required by the Standard for Dust Control.
16. Stockpile and staging locations established in the field shall be placed within the limit of disturbance according to the certified plan. Staging and stockpiles not located within the limit of disturbance will require certification of a revised Soil Erosion and Sediment Control Plan. Certification of a new Soil Erosion and Sediment Control Plan may be required for these activities if an area greater than 5,000 square feet is disturbed.
17. All soil stockpiles are to be temporarily stabilized in accordance with Soil Erosion and Sediment Control note #6.
18. The property owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or offsite as a result of construction of the project.

Freehold Soil Conservation District
4000 Kozloski Road, Freehold, NJ 07728-5033, (732) 683-8500, fax (732) 683-9140, Email: info@freeholdscd.org.

TOPSOIL SPECIFICATIONS

1. MATERIALS
A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL. TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND PH LEVEL.
2. STRIPPING AND STOCKPILING
A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
B. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.
D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4-1) OR TEMPORARY (PG.7-1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
3. SITE PREPARATION
A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE.
B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING, PG. 19-1.
C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1.
E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
4. APPLYING TOPSOIL
A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY (SEE GLOSSARY).
B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, MINIMUM OF 4 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC.. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG. 1-1).
C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

SEEDING NOTES

1. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND MULCH ANCHORING.
2. TEMPORARY SEEDING SHALL CONSIST OF EITHER:

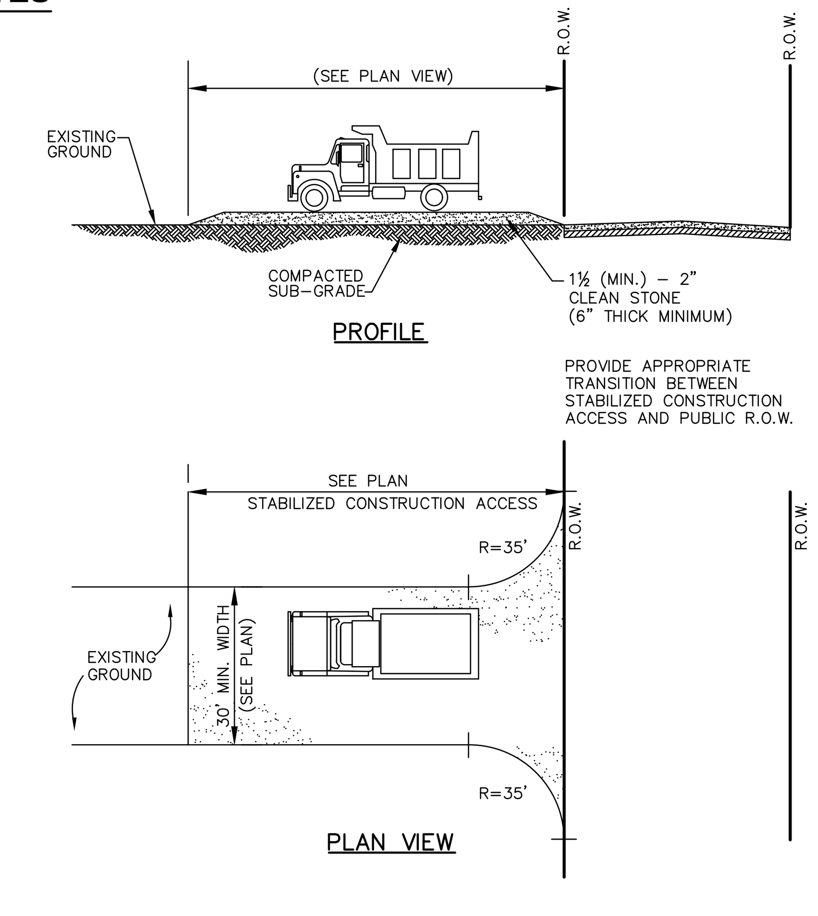
COOL SEASON GRASSES	RATES	SEEDING DATES	DEPTHS
PERENIAL RYEGRASS	1.0 LB./S.F.	3/1-5/15 OR 8/15-10/1	0.5 IN.
SPRING OASTS	2.0 LB./S.F.	3/1-5/15 OR 8/15-10/1	1.0 IN.
WINTER BARLEY	2.2 LB./S.F.	8/15-10/1	1.0 IN.
WINTER CEREAL RYE	2.8 LB/S.F.	8/1-11/15	1.0 IN.
WARM SEASON GRASSES			
PEARL MILLET	0.5 LB./S.F.	5/15-8/15	1.0 IN.
MILLET (GERMAN OR HUNGARIAN)	0.7 LB./S.F.	5/15-8/15	1.0 IN.

3. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH UNROTTED SMALL GRAIN STRAW, AT 2.0 TO 2.5 TONS PER ACRE, (90 TO 115 LBS. PER 1,000 S.F.), 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. FERTILIZER APPLIED WITH TEMPORARY SEEDING MUST BE 10-20-10, WHILE THAT APPLIED WITH PERMANENT VEGETATIVE COVER MUST BE 10-10-10.
4. SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT AND LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL PH TO 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES. APPLY FERTILIZER AT A RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER SQUARE FEET USING 10-20-10 OR EQUIVALENT.
5. REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, LUMPS OR ANY OTHER UNSUITABLE MATERIAL.
6. PERMANENT GROUND COVER OF SODDING OR SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL:

SEED MIXTURE	SEEDING RATES	SEEDING DATES (OPTIMAL)		(ACCEPTABLE)
HARD FESCUE	130 LBS./ACRE 3.0 LBS/1000 SF	MAR. 1-APR. 30	MAY 1-AUG 14	AUG 15-OCT 15
PERENNIAL RYEGRASS	10 LBS./ACRE 0.25 LBS/1000 SF	MAR. 1-APR. 30	MAY 1-AUG 14	AUG 15-OCT 15
STRONG CREEPING RED FESCUE	45 LBS./ACRE 1.0 LBS/1000 SF	MAR. 1-APR. 30	MAY 1-AUG 14	AUG 15-OCT 15
CHEWING FESCUE	45 LBS./ACRE 1.0 LBS/1000 SF	MAR. 1-APR. 30	MAY 1-AUG 14	AUG 15-OCT 15

SEED TO A DEPTH OF 0.5 IN.

7. THE SEEDING SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.
8. TACKING SHALL BE PERFORMED AS PER FREEHOLD SOIL CONSERVATION DISTRICT CURRENT STANDARDS. ASPHALT TACKIFIERS ARE NOT ACCEPTABLE.
9. IN ADDITION TO THE ABOVE, REFER TO THE STATE STANDARDS FOR:
PERMANENT VEGETATIVE COVER FOR SOIL
STABILIZATION PERMANENT STABILIZATION WITH SOD
TEMPORARY VEGETATIVE COVER FOR SOIL
STABILIZATION TOPSOILING



STABILIZED CONSTRUCTION ACCESS

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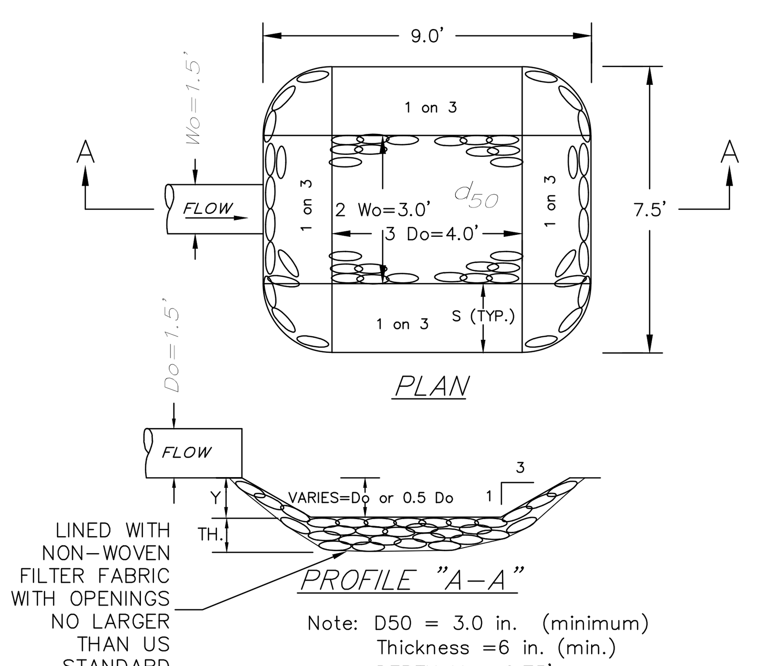

PREFORMED SCOUR HOLE DETAIL

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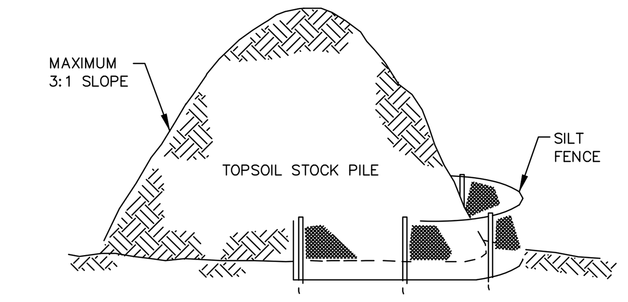
STABILIZATION WITH MULCH ONLY

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and mulchco anchoring. All grading shall be done in accordance with standards for Land Grading.
   B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins and waterways.
2. Protective Materaials
   A. Unrotted small-grain straw, at 2.0 to 2.5 tons pr acre, is spread uniformly at 90 to 115 pounds per 1,000 s.f. 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. The approved rates above have been met when the mulch covers the ground completely upon visual inspection, i.e. the soil cannot be seen below the mulch.
   C. Synthetic or organic stabilizers may be used under suitable conditions and in quantities as recommended by manufacture.
   D. Wood-fiber or paper-fiber mulch at the rate of 1,500 pounds per acre (or according to manufacturer's requirements) may be applied by a hydroseeder.
   E. Mulch netting, such as paper jute, excelsior, cotton or plastic, may be used.
   F. Woodchips applied uniformly to a minimum depth of 2 inches may be used. Woodchips will not be used on areas where flowing water could wash them away into an inlet and plug it.
   G. Gravel, crushed stone, or slag at the rate of 9 cubic yards per 1,000 s.f. applied uniformally to a minimum depth of 3 inches may be used. Size 2 or 3 (ASTM C-33) is recommended.
3. Mulch Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes and costs.
   A. Peg and Twine. Drive 8 to 10 inch wooden pegs within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a crisscross and a square pattern. Secure twine around each peg with two or more round turns.
   B. Mulch Nettings- Staple paper, jute, cotton or plastic nettings to the soil surface. Use degradable nettings in areas to be mowed.
   C. Crimper (mulch anchoring coulter tool) A tractor drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soilso as to anchor it and leave part standing upright. This technique is limited to areas traversable by tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.
   D. Liquid Mulch-Binders May be used to anchor salt hay, hay or straw mulch.
      1. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.
      2. Use one of the following:
         a. Organic and Vegetable Based Binders – Naturally occurring, powder base, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
         b. Synthetic Binders High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.



TOPSOIL STOCKPILING DETAIL

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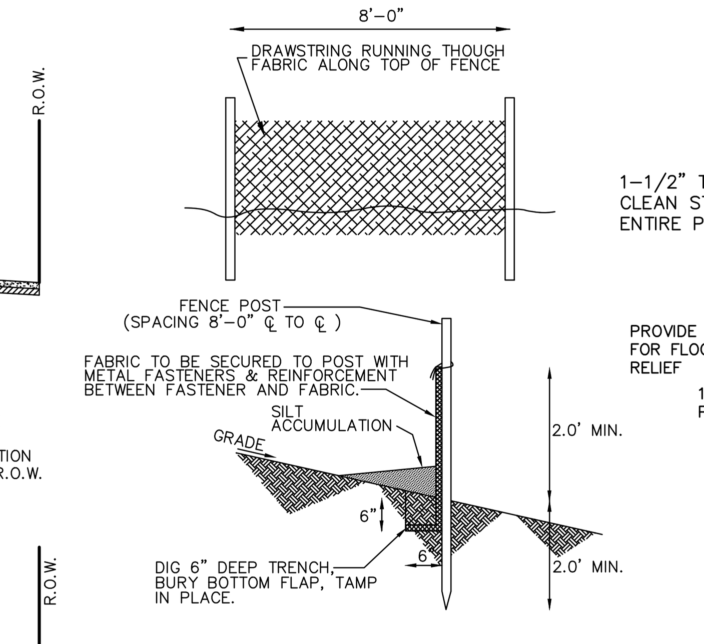

SILT FENCE DETAIL

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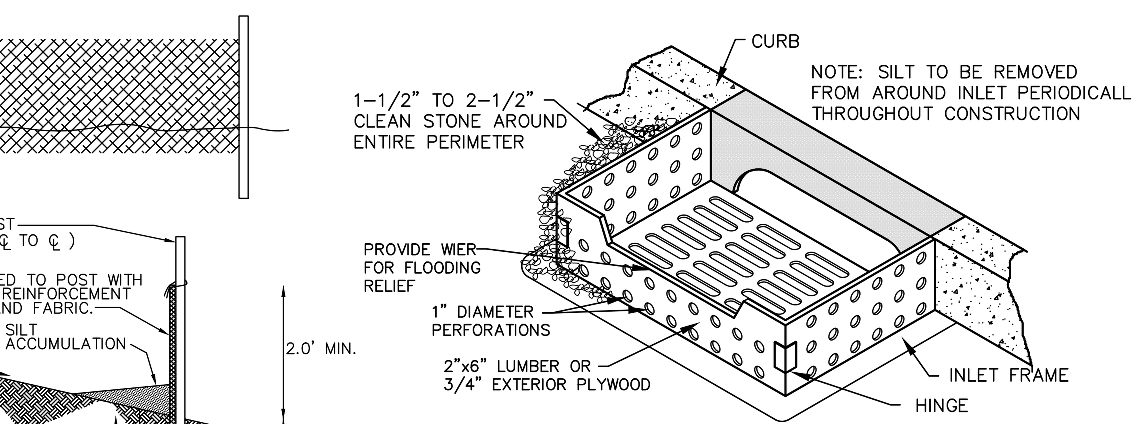

INLET PROTECTION DETAIL

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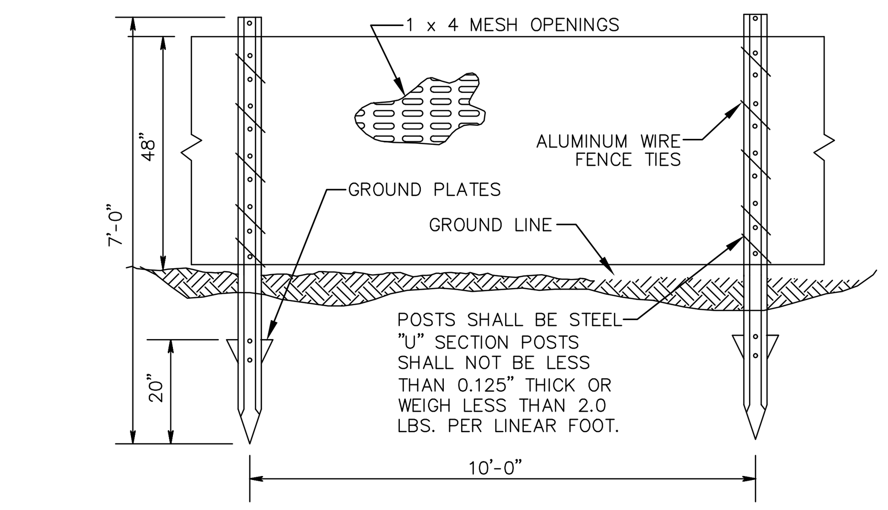

TREE PROTECTION FENCE DETAIL

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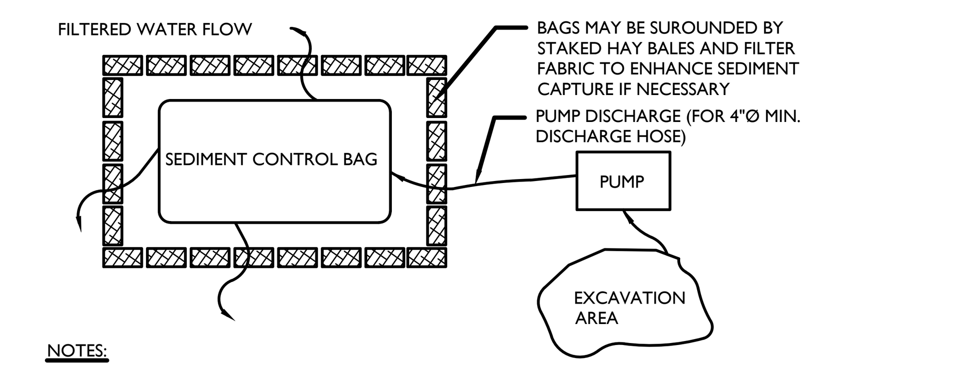

NOTES:

1. THE GEOTEXTILE SEDIMENT CONTROL BAG SHALL BE LOCATED TO MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES AND PEDESTRIAN TRAFFIC, AND PROVIDES FOR EASE OF ACCESS BY HEAVY EQUIPMENT, CLEANOUT, DISPOSAL OF TRAPPED SEDIMENT, AND PROPER RELEASE OF FILTER WATER.
2. THE FILTER BAG SHALL BE LOCATED MINIMUM 50 FEET AWAY FROM ALL WETLANDS, STREAM AND SURFACE WATERS.
3. THE BAG SHALL BE PLACED IN A LOCATION THAT IS VEGETATED THAT IS RELATIVELY LEVEL, OR ON A 2" THICK GRAVEL PAD, OR ON A 4" THICK STRAW MAT, TO ALLOW WATER TO FLOW OUT OF BAG IN ALL DIRECTIONS. AND PROPER RELEASE OF FILTER WATER.
4. BAG SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS BASED ON THE PUMP DISCHARGE RATE. WHEN THE REMAINING BAG FLOW AREA HAS BEEN REDUCED BY 75%, REPLACE WITH A NEW BAG.
5. DISPOSE THE SEDIMENT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SPREAD THE SEDIMENT IN THE APPROPRIATE UPLAND AREA.

SEDIMENT CONTROL BAG FOR DEWATERING DETAIL

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN
OF
LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130
BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, STE. 7, OAKHURST, NJ 07755
PHONE - 732-223-1313
WWW.WJHENGINEERING.COM

SOIL EROSION & SEDIMENT CONTROL DETAILS

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS NOTED	JHD	10/30/20	19129	10 OF 17

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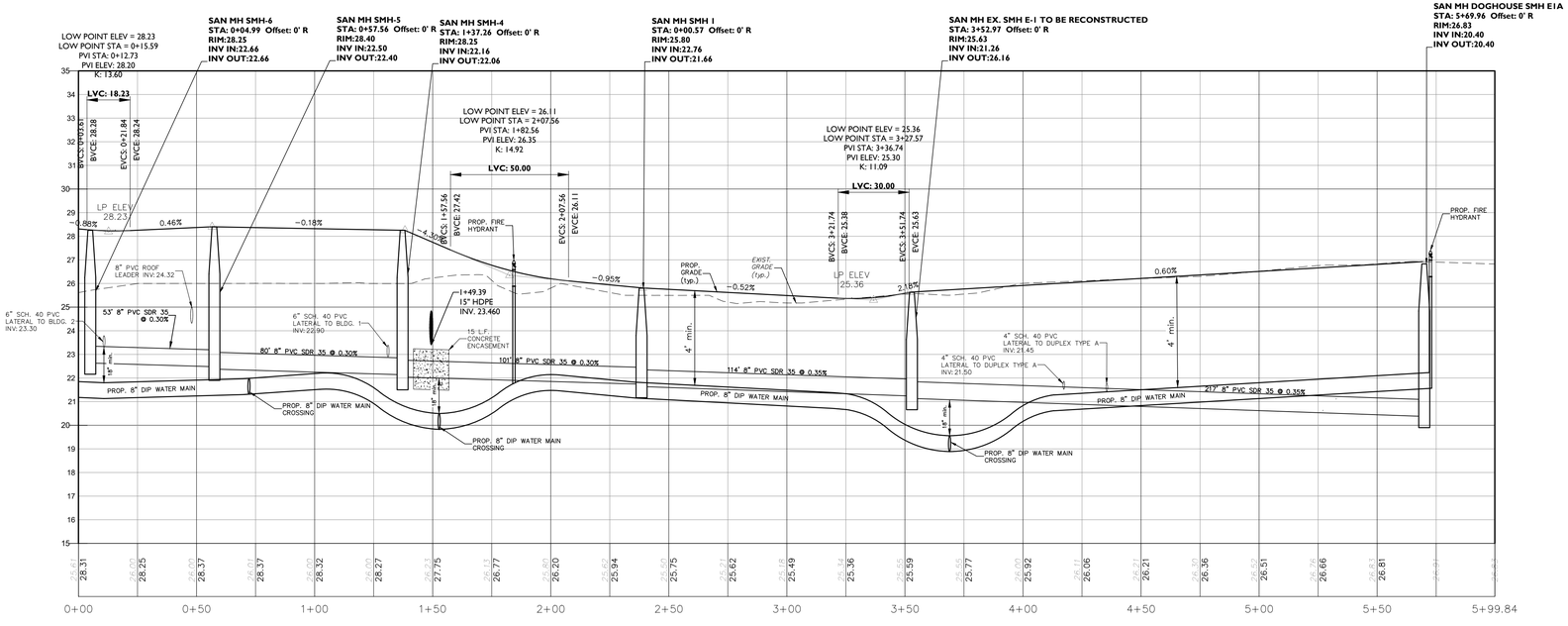
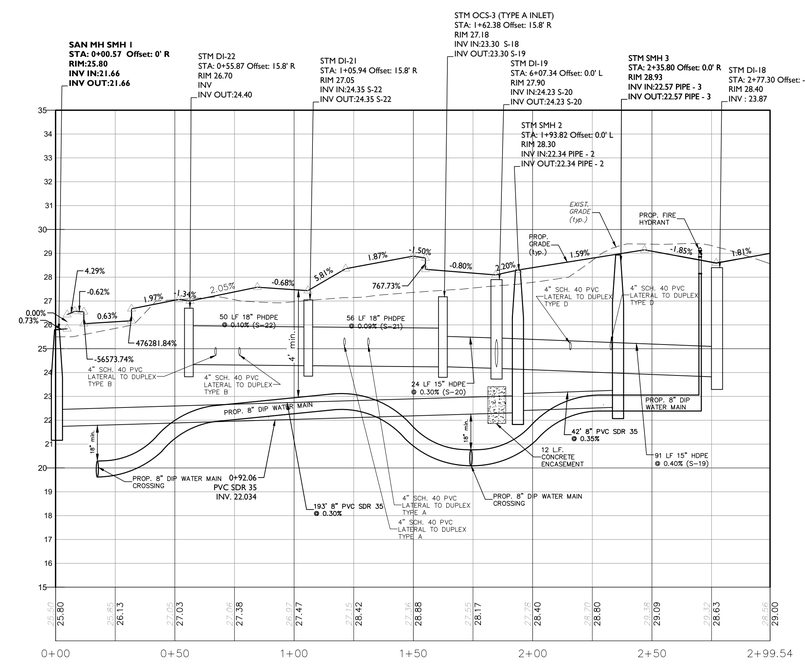


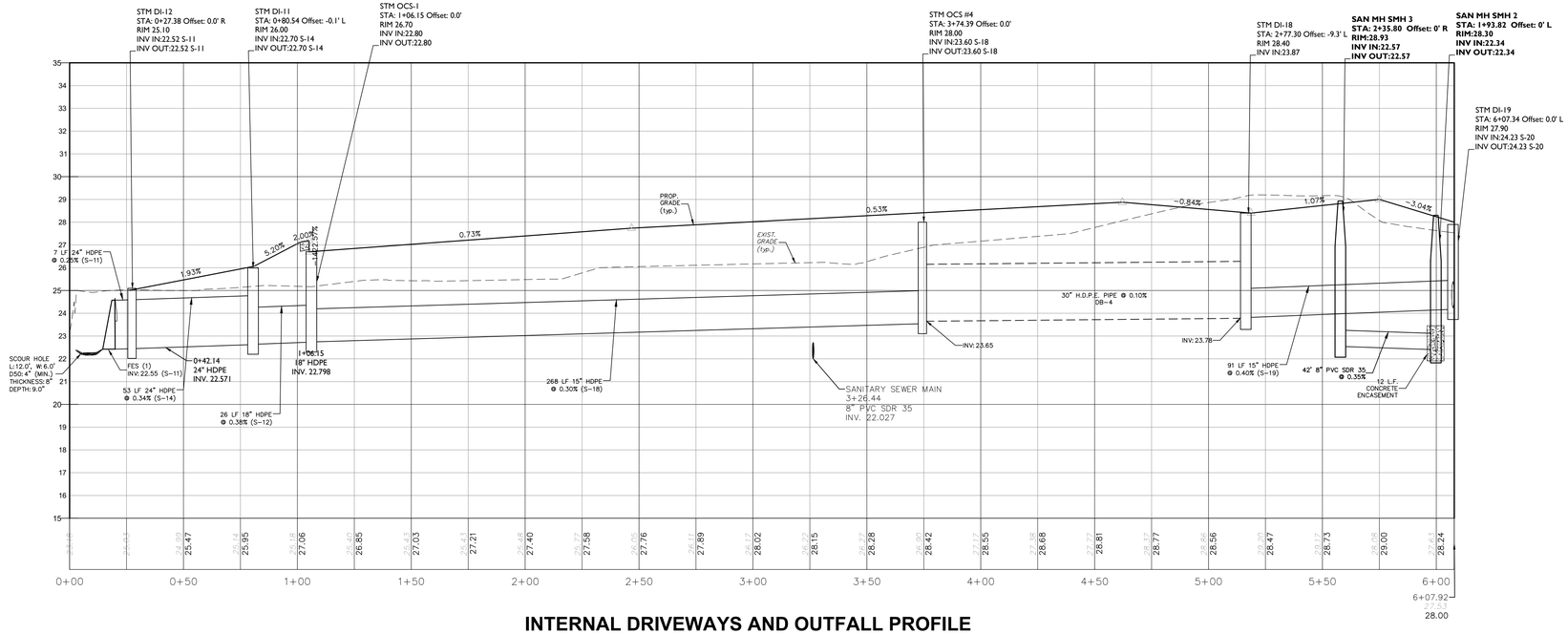
MAPLE PLACE & SANITARY SEWER PROFILE

HORIZ: 1"=30'
VERT:1"=3'



BACKYARD SEWER PROFILE

HORIZ: 1"=30'
VERT:1"=3'



INTERNAL DRIVEWAYS AND OUTFALL PROFILE

HORIZ: 1"=30'
VERT:1"=3'

FINAL FOR SEWER DESIGN

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JJL
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

TAX MAP No. 11

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, SUITE 7, OAKHURST, NJ 07755
PHONE: 732.223.1313
WWW.WJHENGINEERING.COM

PROFILES

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"= 30'	JHD	10/30/20	19129	11 OF 20

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

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LEGEND

OPEN SPACE
TOTAL AREA = 15,870 SF

FULTON STREET (R.O.W. VARIES)

PAVED PATH

(FORMERLY CENTRAL RAILROAD OF NEW JERSEY)

MAPLE PLACE (75' R.O.W.)

E. SEVENTH STREET (40' R.O.W.)

MANCHESTER AVENUE (40' R.O.W.) ONE WAY

PROP. APT. BLDG. 2 (24 UNITS) FF = 29.50 — OPEN SPACE AREA

PROP. APT. BLDG. 1 (24 UNITS) FF = 29.50 — OPEN SPACE AREA

OPEN SPACE AREA

PROP. 6' HIGH VINYL FENCE

TREES TO REMAIN IF POSSIBLE

HEDGEROW TO REMAIN IF POSSIBLE

POROUS PAVEMENT PP-A

POROUS PAVEMENT PP-B

POROUS PAVEMENT PP-C

POROUS PAVEMENT PP-D

POROUS PAVEMENT PP-E

POROUS PAVEMENT PP-F

POROUS PAVEMENT PP-G

DUPLEX TYPE A — FF=36.73 GF=27.40 — SITE TRIANGLE EASEMENT PER ORDINANCE SECTION 21-1-14.1.b

DUPLEX TYPE B — FF=37.08 GF=27.75

DUPLEX TYPE C — FF=37.23 GF=27.90

DUPLEX TYPE B — FF=38.83 GF=29.50

DUPLEX TYPE A — FF=38.73 GF=29.45

DUPLEX TYPE D — FF=38.73 GF=29.45

PROP. TWO-FAMILY FF=28.50

PROP. SINGLE-FAMILY DWELLING — FF=29.00 GF=27.50

PROP. SINGLE-FAMILY DWELLING — FF=29.20 GF=27.70

2 STORY FRAME DWELLING

1 STORY FRAME DWELLING

FRAME SHED

PORCH

GARAGE

5' HIGH SOLID WHITE PVC FENCE WITH 5.5' PLANTING BED

4' WIDE UTILITY TRENCH

UTILITY TRENCH

(4) 10" TRAFFIC TO BE MAIN

LOT 20 · LOT 24 · LOT 25 · LOT 26 · LOT 27 · LOT 28 · LOT 29 · LOT 30 · LOT 31 · LOT 32 · LOT 33 · LOT 34 · LOT 35 · LOT 36 · LOT 37 · LOT 38 · LOT 39 · LOT 40 · LOT 41 · LOT 43 · LOT 44 · LOT 45 · LOT 46 · LOT 47 · LOT 53 · LOT 54 · LOT 55 · LOT 56 · LOT 7 · LOT 6.01 · LOT 10 · LOT 11 · LOT 12 · LOT 13 · LOT 14

SCALE: (1 Inch = 30 Feet)
30 0 30 60 90

GENERAL LANDSCAPE NOTES

1. THE LOCATION OF ALL PLANTS SHOWN ON THE LANDSCAPE PLAN IS APPROXIMATE. THE FINAL LOCATION OF ALL PLANTS AND BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF A REPRESENTATIVE OF WJH ENGINEERING.
2. ALL SHRUB BEDS SHALL HAVE A MINIMUM DEPTH OF 3" OF SHREDDED HARDWOOD BARK.
3. PLANTS SHALL BE WATERED ON THE SAME DAY OF INSTALLATION. THEREAFTER, REGULAR WATERING SHALL BE PROVIDED TO ENSURE THE ESTABLISHMENT AND GROWTH OF ALL PLANTS.

   GUARANTEE: ALL TREES, SHRUBS, GRONDCOVERS AND LAWNS SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR. ALL PLANTS, LAWNS AND GROUNDCOVER AREAS, NOT IN A HEALTHY GROWING CONDITION SHALL BE REMOVED AND REPLACED WITH PLANTING OF LIKE KIND AND SIZE BEFORE THE CLOSE OF THE NEXT PLANTING SEASON BY THE LANDSCAPE CONTRACTOR AT NO CHARGE TO THE LANDLORD OR TENANT.
4. ALL DISTURBED AREAS, UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN, SHALL BE PLANTED AS LAWN.
5. CONTRACTOR SHALL PARTIALLY FILL WITH WATER A REPRESENTATIVE NUMBER OF PITS IN EACH AREA OF THE PROJECT PRIOR TO PLANTING TO DETERMINE IF THERE IS ADEQUATE PERCOLATION. IF PIT DOESN'T PERCOLATE, MEASURES MUST BE TAKEN TO ASSURE PROPER DRAINAGE BEFORE PLANTING.
6. CONTRACTOR SHALL REMOVE STAKING, GUYING, AND WRAP AT END OF GUARANTEE PERIOD. ALL PLANTING MUST BE GUARANTEED FOR ONE (1) FULL GROWING SEASON FROM THE TIME OF FINAL ACCEPTANCE BY THE TOWNSHIP LANDSCAPE ARCHITECT.
7. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN, 1250 I STREET, N.W., SUITE 500, WASHINGTON, D.C. 20005.
8. SIGHT TRIANGLE EASEMENT AT INTERSECTION: NO GRADING OR STRUCTURES SHALL BE ERECTED OR MAINTAINED HIGHER THAN 30 INCHES, EXCEPT FOR STREET SIGNS, FIRE HYDRANTS AND LIGHT STANDARDS AND TREES WHICH HAVE NO LOW-HANGING BRANCHES WHICH WOULD BLOCK THE VIEW TRIANGLE FROM A HEIGHT 30 INCHES TO 10 FEET FROM THE GROUND.

LANDSCAPE MAINTENANCE CHECKLIST

TREES, SHRUBS AND GROUNDCOVERS

PRUNING: PRUNE TREES TO REMOVE DEAD AND DISEASED WOOD AND TO IMPROVE OVERALL HABIT. PRUNE SHRUBS AS NEEDED, AFTER FLOWERING ONLY. PRUNE AT LEAST ONCE PER YEAR. PLANT MATERIAL SHOWN PLANTED IN A MASS OR TOUCHING EACH OTHER ARE TO BE ALLOWED TO GROW TOGETHER IN ORDER TO BE ABLE TO PERFORM AS A SCREEN OR HEDGE.

FERTILIZER: RATION 2:1:1 AT 2–3 LBS. ACTUAL NITROGEN PER 1,000 SQ. FT. FERTILIZE IN SPRING ONLY.

PESTICIDES: APPLY PESTICIDES ONLY AS NEEDED FOR SPECIFIC DISEASES OR INSECT PESTS.

WEED CONTROL: WEED ALL BEDS AS NEEDED TO KEEP WELL GROOMED.

WATER: WATER ALL NEW PLANT MATERIAL AS NEEDED THROUGH FIRST AND SECOND GROWING SEASON. IF RAIN IS INSUFFICIENT, WATER ALL WOODY PLANTS THOROUGHLY TWO TIMES PER WEEK.

MULCH: RENEW SHREDDED BARK MULCH TO 3" DEPTH EVERY YEAR.

LEAF REMOVAL: REMOVE LEAVES FROM ALL BEDS, TURF AREAS, PARKING AREAS, AND WALKS.

REPLACEMENTS: REPLACE ALL DEAD SHRUBS AND TREES WITHIN NEXT PLANTING SEASON.

TURF

RENEWAL PROCEDURES: OVER SEED THIN SPOTS IN SPRING AND FALL. THATCH AS NECESSARY.

FERTILIZER: RATIO 3:1:2 AT 1 LB. NITROGEN PER 1,000 SQ. FT. FERTILIZE TWO TIMES PER YEAR.

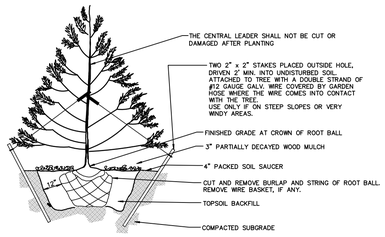
PESTICIDES: INSPECT AND APPLY AS NEEDED FOR DISEASES AND INSECTS.

MAINTAIN A 2" HEIGHT. MOW AT LEAST ONCE PER WEEK. REMOVE CLIPPINGS FROM DETENTION BASIN.

MANICURE: TRIM LAWN AND GROUND COVERS ALONG SIDEWALKS AND SHRUB BED EDGES. RAKE AS NEEDED.

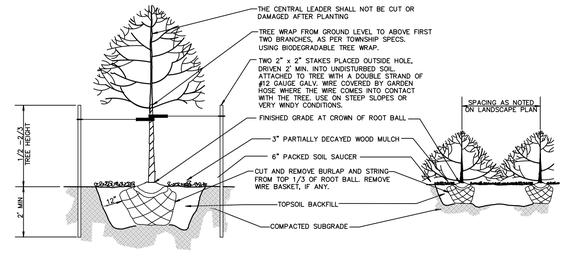
EVERGREEN TREE PLANTING and STAKING DETAIL

NOT TO SCALE



TREE and SHRUB PLANTING and STAKING DETAIL

NOT TO SCALE



PLANTING LIST (Common Areas)(Rev. 10/13/21)

Type	Symbol	Total	Botanical Name	Common Name	Size	Root	Remark	Mature Size
Shade Trees	AR	10	Acer Rubrum Redsunset	Redsunset Maple	2-2½" cal	B & B	*	50 - 60'
	AS	9	Acer Saccharum Green Mt.	Green Mt. Surger Maple	2-2½" cal	B & B	*	50 - 75'
	GT	7	Gleditsia Triacanthos Shademaster	Shademaster Locust	2-2½" cal	B & B		60 - 70'
	AC	14	Acer Campestre	Hedge Maple	2-2½" cal	B & B	*	20 - 25'
	PA	11	Platanus Acerfolia Bloodgood	Bloodgood Londen Plane	2-2½" cal	B & B	*	50 - 60'
	QP	11	Quercus phellos	Willow Oak	2-2½" cal	B & B	*	55 - 65'
	ZS	16	Zelkova serrata Village Green	Village green zelkova	2-2½" cal	B & B		60 - 70'
Ornamental Trees	AM	29	Amelanchier canadensis	Downy shadblow (pink)	6-8'	B & B	Heavy	15'
	CC	12	Cercis canadensis	Eastern Redbud	6-8'	B & B	Heavy	20'
	CK	30	Cornus Kousa	Kousa Dogwood	6-8'	B& B	Heavy	20'
Evergreens	PE	9	Picea excelsa	Norway spruce	6-8'	B & B	Heavy	80 - 100'
	PO	6	Picea omorika	Serbian spruce	6-8'	B & B	Heavy	60 - 70'
	PP	12	Picea pungens)	Colorado spruce	6-8'	B & B	Heavy	80 - 100'
	IO	6	Ilex Opaca (Sfemale, 1 male)	American Holly berried	6-8'	B & B	Heavy	40 - 50'
	CL	20	Cupressus × leylandii	Leyland Cypress	6-8'	B & B	Heavy	40 - 50'
	TN	76	Thuja Occidentalis 'Nigra	American Arborvitae	6-8'	B & B	Heavy	20-30'
Shrubs	JC	24	Juniperous conferta	Blue shore juniper	15-18"	Pots		18"
	PFL	18	Prunus Laurocerasis schipkaensis	Skip Laurel	36-48"	Pots	Heavy	10-14'
	LMV	35	Lioripe muscari veragata	Royal Purple lilyturff verigated	1 gallon	Pots		12"
	IGC	20	Ilex glabra Shamrock	Compact inkberry holly	18-24"	Pots	3.5' O.C.	36"
	HO	20	Hydrangea otaksa	Blue Hydrangea	15-18"	Pots	3.5' O.C.	24"

PLANTING LIST (Duplex & Singles – Rev. 10/13/21)

Type	Symbol	Total	Botanical Name	Common Name	Size	Root	Remark	Mature Size
Perennial/ Grasses	LMV	9	Lioripe muscuria variegated	Variegated Lilyturf	1 gallon	Pots		
Shrubs	JA	6	Juniperus andorra	Andorra Juniper	18-24"	Pots		18"
	JPC	12	Juniperus phitzer compacta	Compact Phitzer juniper	18-24"	Pots		48"
	SW	29	Spirea Anthony waterer	Anthony Waters spirea	15-18"	Pots		36"
	ICC	23	Ilex crenata soft touch	Compact helleri holly	18-24"	Pots		24"
	RR	9	Rhododendron Scintillation	Scintillation Rhododendron	18-24"	Pots		48"
	VC	6	Viburnum carlesi	Korean spice viburnum	18-24"	Pots		3-4'
	WM	12	Weigela minnet	Pink Weigela	18-24"	Pots		2-3'
	TD	18	Taxus densisformis	Japanese yew	18-24"	B&B		3-4'

FINAL FOR SEWER DESIGN

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JJL
2	3/1/21	REVISIONS PURSUANT 2/28/21 NJDEP LETTER	JHD
1	12/9/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, SUITE 7, OAKHURST, NJ 07755
PHONE: 732-223-1313
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LANDSCAPING PLAN

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"=30'	JHD	10/30/20	19129	12 OF 20

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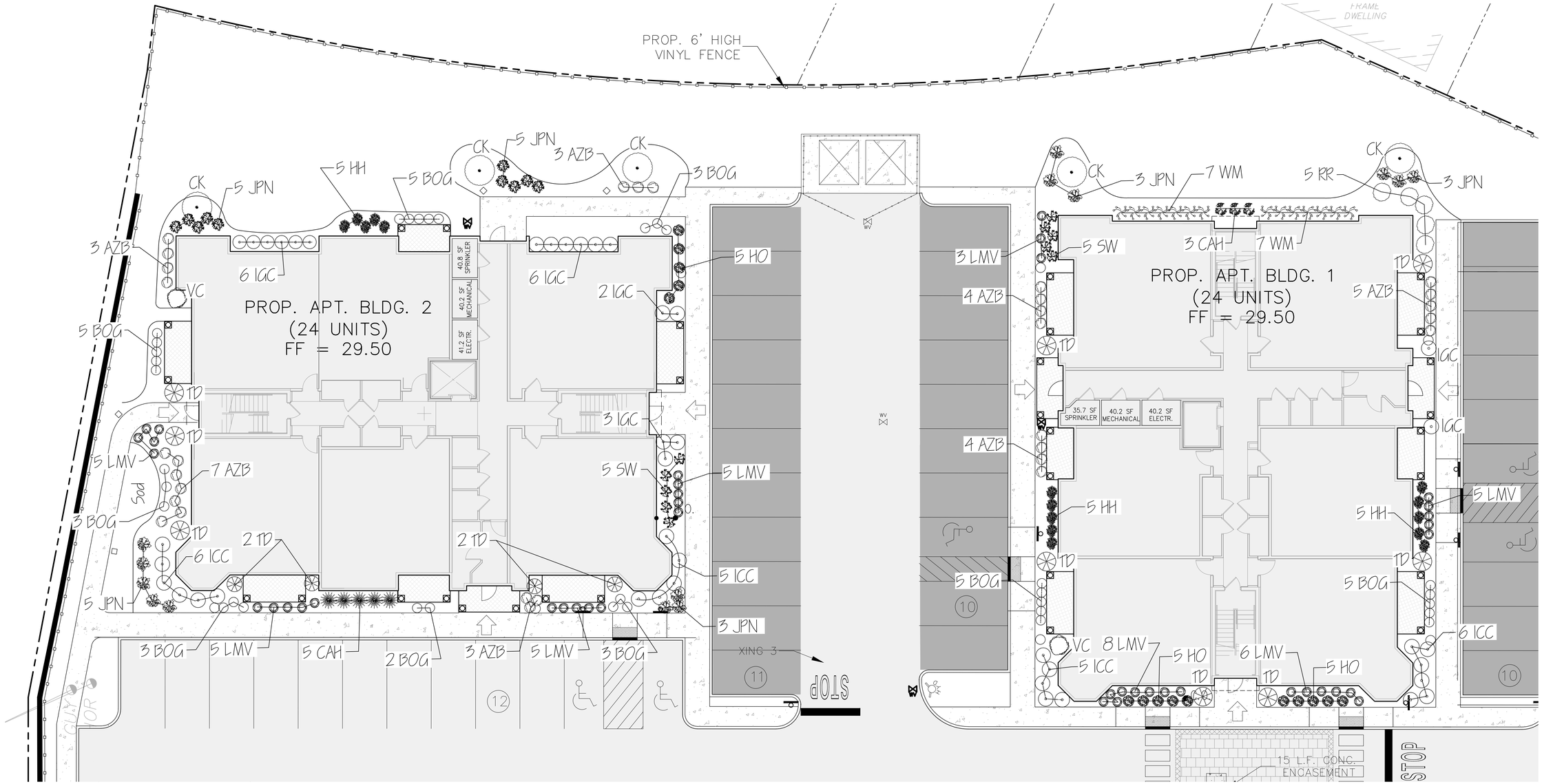

PLANTING LIST (Building 2)

Type	Symbol	Total	Botanical Name	Common Name	Size	Root	Remark	Mature Size
Flowering Trees	CK	3	Cornus kousa 'Summerstar'	Sumerstar kousa dogwood	8-10'	B & B	Heavy	15'
Perennial/ Grasses	BOG	24	Helictotrichon sempervirens	Blue oat grass	1 gallon	Pots		
	LMV	20	Lioripe muscuria variegated	Variegated Lilytuff	1 gallon	Pots		
Shrubs	CAH	5	Clethra alnifolia humingbird	Humingbird summersweet	18-24"	Pots		18"
	JPN	18	Juniperous procumbins nana	Procumbins juniper	15-18"	Pots		24"
	SW	5	Spirea Anthony waterer	Anthony Waters spirea	18-24"	Pots		12"
	IGC	17	Ilex glabra compacta Shamrock	Compact Shamrock inkberry	15-18"	Pots		24"
	HH	5	Hypericum hidcote	Hypericum	18-24"	Pots		12"
	HO	5	Hydrangea otaksa	Blue Hydrangea	18-24"	Pots		12"
	ICC	11	Ilex crenata compacta Soft touch	Compact soft touch holly	18-24"	Pots		3-4'
	Azb	16	Azalea bluaws pink	Pink azaleas	18-24"	Pots		2-3'
	TD	7	Taxus densiformis	Upright Japanese yew	18-24"	Pots		2-3'
	VC	1	Viburnum carlesi	Korean spice viburnum	18-24"	Pots		2-3'

PLANTING LIST (Building 1)

Type	Symbol	Total	Botanical Name	Common Name	Size	Root	Remark	Mature Size
Flowering Trees	CK	2	Cornus kousa 'Summerstar'	Sumerstar kousa dogwood	8-10'	B & B	Heavy	15'
Perennial/ Grasses	BOG	10	Helictotrichon sempervirens	Blue oat grass	1 gallon	Pots		
	LMV	22	Lioripe muscuria variegated	Variegated Lilytuff	1 gallon	Pots		
Shrubs	CAH	3	Clethra alnifolia humingbird	Humingbird summersweet	18-24"	Pots		18"
	JPN	6	Juniperous procumbins nana	Procumbins juniper	15-18"	Pots		24"
	SW	5	Spirea Anthony waterer	Anthony Waters spirea	18-24"	Pots		12"
	IGC	2	Ilex glabra compacta Shamrock	Compact Shamrock inkberry	15-18"	Pots		24"
	HH	10	Hypericum hidcote	Hypericum	18-24"	Pots		12"
	HO	10	Hydrangea otaksa	Blue Hydrangea	18-24"	Pots		12"
	ICC	11	Ilex crenata compacta Soft touch	Compact soft touch holly	18-24"	Pots		3-4'
	Azb	13	Azalea bluaws pink	Pink azaleas	18-24"	Pots		2-3'
	RR	5	Rhododendron Scintillation	Scintillation Rhododendron	18-24"	Pots		3-4'
	TD	6	Taxus densiformis	Upright Japanese yew	18-24"	Pots		2-3'
	VC	1	Viburnum carlesi	Korean spice viburnum	18-24"	Pots		2-3'
	WM	14	Weigela minnet	Pink Weigela	18-24"	Pots		2-3'

FINAL FOR SEWER DESIGN

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PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
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PHONE - 732-223-1313
WWW.WJHENGINEERING.COM

BUILDING LANDSCAPING DETAILS PLAN

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
1"=10'	JHD	10/30/20	19129	13 OF 20

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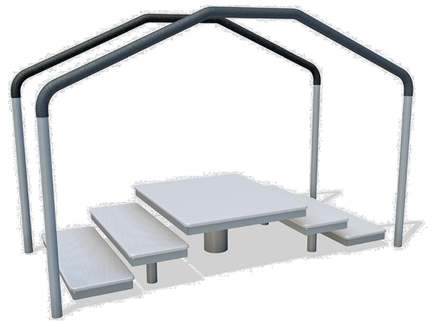
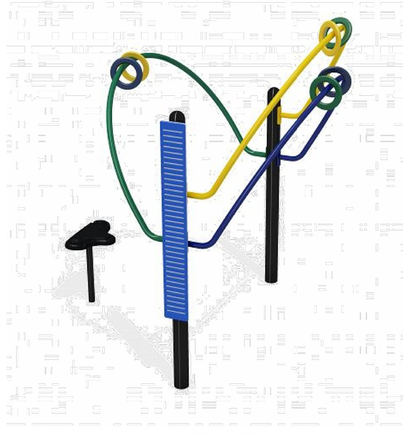
ASSISTED FUNCTIONAL TRAINER
NOT TO SCALE



ASSISTED STEP TRAINER
NOT TO SCALE

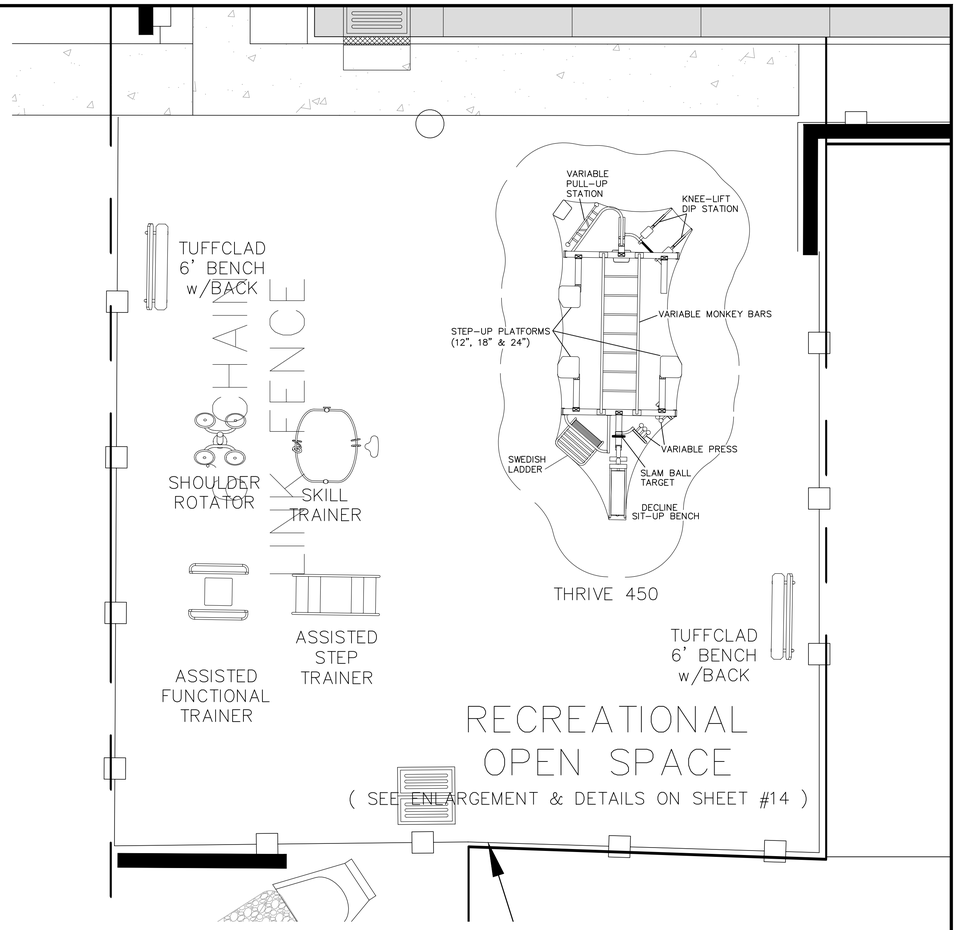
SHOULDER ROTATOR
NOT TO SCALE

THRIVE 450
NOT TO SCALE



SKILL TRAINER
NOT TO SCALE

TUFFCLAD 6' BENCH w/ BACK
NOT TO SCALE



RECREATION AREA
SCALE: (1 Inch = 5 Feet)
5 0 5 10 20

NO.	DATE	DESCRIPTION	DRAWN BY
1	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52, BLOCK 130
TAX MAP No. 11

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
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PHONE: 732-223-1313
WWW.WJHENGINEERING.COM

RECREATION AREA ENLARGEMENT & DETAILS PLAN

WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS NOTED	JJL	6/21/22	19129	14 OF 20

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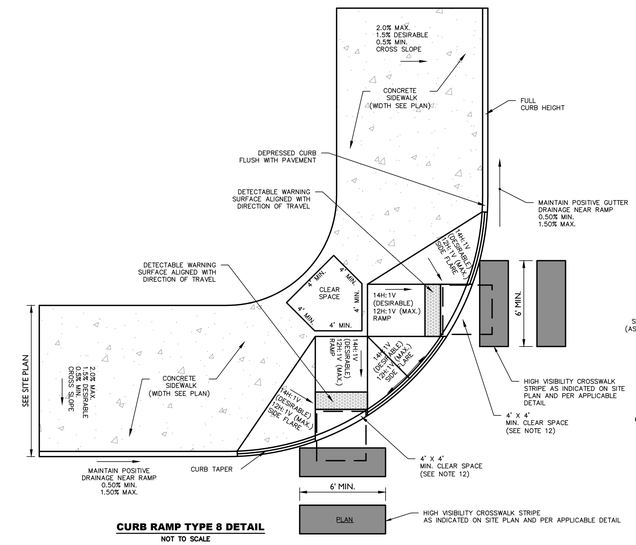
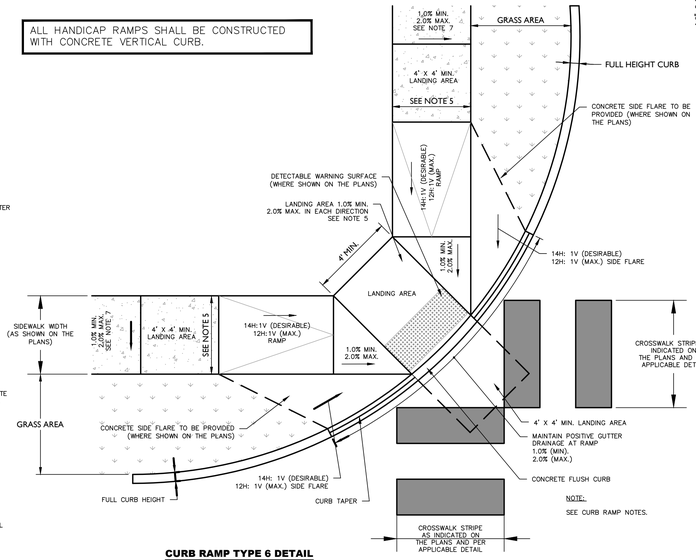


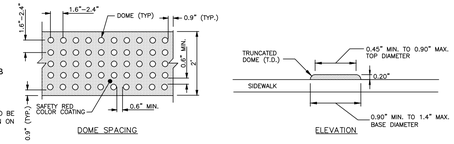
CURB RAMP TYPE 8 DETAIL
NOT TO SCALE

ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH CONCRETE VERTICAL CURB.



NOTE:
SEE CURB RAMP NOTES.

CURB RAMP TYPE 6 DETAIL
NOT TO SCALE



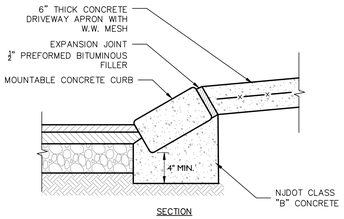
DOME SPACING

ELEVATION

GENERAL NOTES:

1. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE, THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING FIELD (THE DOMES AND THE ENTIRE 2' LEVEL SURFACE) IS FOR ILLUSTRATION ONLY.
2. LOCATION OF DETECTABLE WARNINGS. DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD NEAREST TO THE ROADWAY OR STREET SURFACE IS 6" BEHIND THE CURB FACE WHERE A TRANSVERSABLE CURB IS USED) FROM THE EDGE OF THE ROADWAY/STREET, OR FROM THE FACE OF THE DROPPED CURB, WHERE A DROPPED CURB CONTINUES ACROSS THE BOTTOM OF THE SIDEWALK CURB RAMP. THE DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP FLUSH SURFACE.
3. DOME ALIGNMENT. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL.

DETECTABLE WARNING SURFACE DETAIL
NOT TO SCALE



SECTION

MOUNTABLE CONCRETE CURB WITH DRIVEWAY APRON DETAIL
NOT TO SCALE

R8-3a SIGN DETAIL
NOT TO SCALE

STOP SIGN DETAIL
NOT TO SCALE

W14-2 SIGN DETAIL
N.T.S.

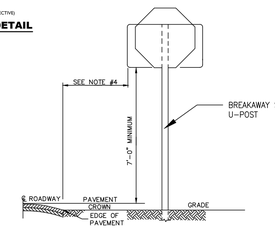
R1-4 SIGN DETAIL
N.T.S.

R4-7 SIGN DETAIL
NOT TO SCALE

NOTE:
1. SIGN SIZE = 12" X 18"
2. SIGN TYPE = R7–8
3. MOUNT TYPE = 1 POST

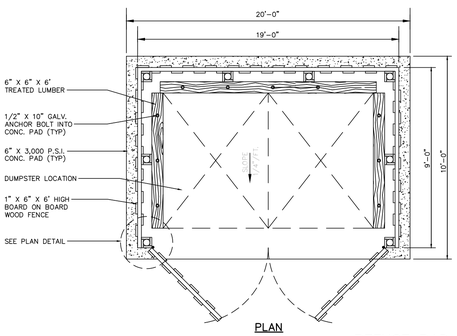
"RESERVED PARKING" SIGN DETAIL
N.T.S.

NOTES:
1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION, AS STATED IN THE CURRENT MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS.
2. ALL POSTS SHALL BE EMBEDDED 4'–2" MINIMUM.
3. ALL POSTS TO BE BRAKWAY STEEL, ALUMINUM OR 2 PIECE U–POSTS IN CONFORMANCE WITH CURRENT A.S.T.M. SPECIFICATION A123 AND STANDARDS..
4. IN AREAS WITHOUT CURBING, THE OUTER EDGE OF SIGN TO BE 2'–0" MINIMUM TO 12'–0" MAXIMUM FROM EDGE OF SHOULDER, AS DIRECTED.

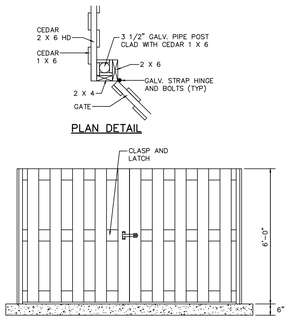


SINGLE POST
30" X 30" OR SMALLER

TYPICAL SIGN MOUNTING DETAIL
N.T.S.



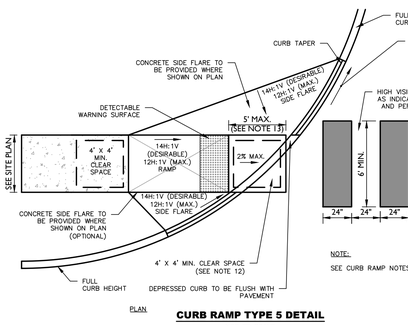
PLAN



PLAN DETAIL

ELEVATION

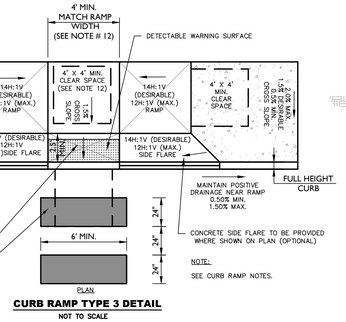
REFUSE PAD ENCLOSURE
NOT TO SCALE



PLAN

NOTE:
SEE CURB RAMP NOTES.

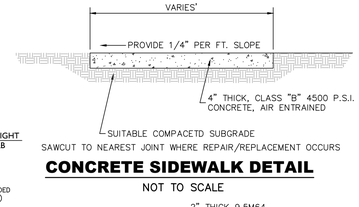
CURB RAMP TYPE 5 DETAIL
NOT TO SCALE



PLAN

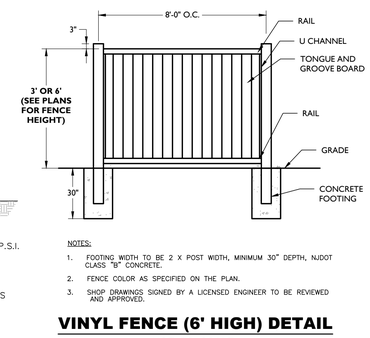
NOTE:
SEE CURB RAMP NOTES.

CURB RAMP TYPE 3 DETAIL
NOT TO SCALE



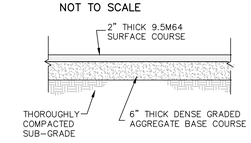
SAWCUT TO NEAREST JOINT WHERE REPAIR/REPLACEMENT OCCURS

CONCRETE SIDEWALK DETAIL
NOT TO SCALE

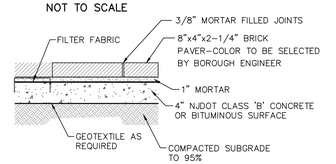


NOTES:
1. FOOTING WIDTH TO BE 2 X POST WIDTH, MINIMUM 30" DEPTH, NJDOT CLASS "B" CONCRETE.
2. FENCE COLOR AS SPECIFIED ON THE PLAN.
3. SHOP DRAWINGS SIGNED BY A LICENSED ENGINEER TO BE REVIEWED AND APPROVED.

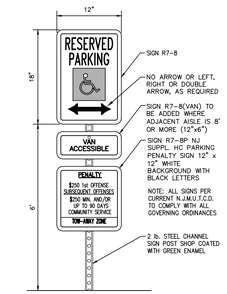
VINYL FENCE (6' HIGH) DETAIL
NOT TO SCALE



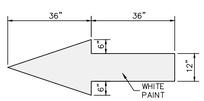
BITUMINOUS DRIVEWAY DETAIL
NOT TO SCALE



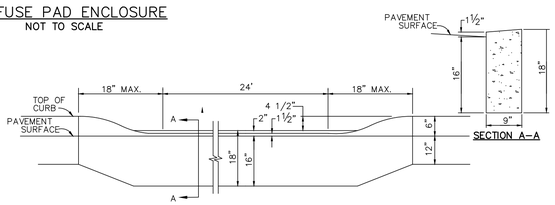
TYPICAL HEAVY-DUTY PAVER SECTION DETAIL
NOT TO SCALE



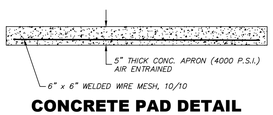
BARRIER-FREE SIGN DETAILS
NOT TO SCALE



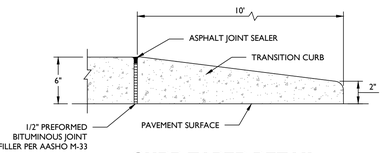
TRAFFIC FLOW ARROW DETAIL
NOT TO SCALE



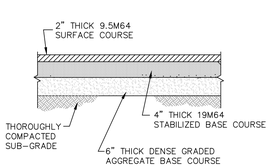
DEPRESSED CURB AT DRIVEWAYS CURB CUTS
NOT TO SCALE



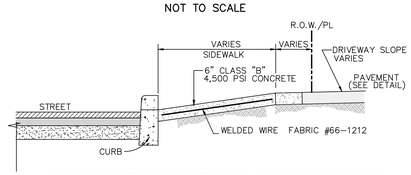
CONCRETE PAD DETAIL
NOT TO SCALE



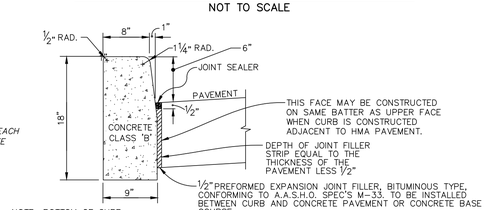
CURB TAPER DETAIL
NOT TO SCALE



BITUMINOUS PAVEMENT DETAIL
NOT TO SCALE



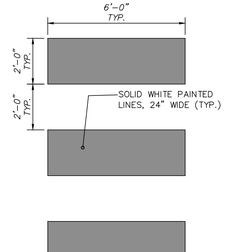
CONCRETE DRIVEWAY APRON DETAIL
NOT TO SCALE



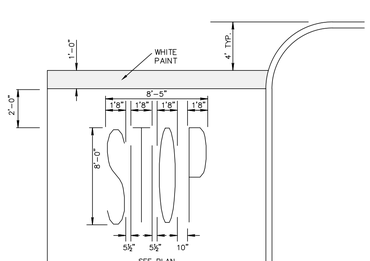
NOTE: BOTTOM OF CURB TO REMAIN AS EXISTING

SAWCUT TO NEAREST JOINT WHERE REPAIR/REPLACEMENT OCCURS

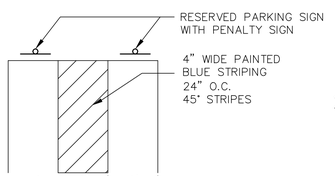
9"x18" CONCRETE VERTICAL CURB
NOT TO SCALE



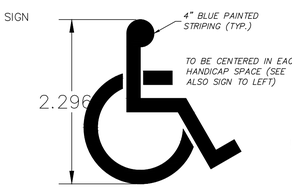
PAINTED CROSSWALK DETAIL
N.T.S.



TYPICAL PAVEMENT MARKING
NOT TO SCALE



HANDICAP STRIPING DETAIL
N.T.S.



HANDICAPPED PARKING SYMBOL
N.T.S.

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/01/21	REVISIONS PURSUANT TO 2/28/21 NJDEP LETTER	JHD
1	12/09/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN
OF
LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52 BLOCK 130
BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. 7, SUITE 7, OAKHURST, NJ 07755
PHONE: 732.223.1313
WWW.WJHENGINEERING.COM

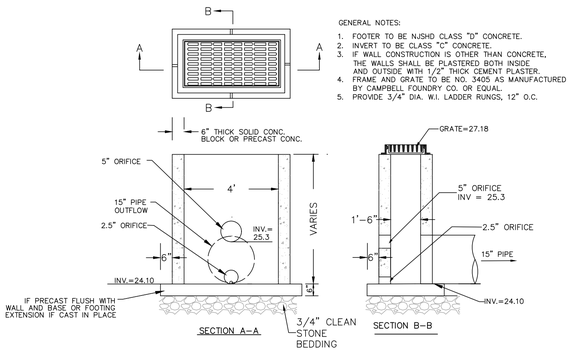
CONSTRUCTION DETAILS

WALTER JOSEPH HOPKIN
NJ PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS SHOWN	DP	10/30/20	19129	15 OF 20

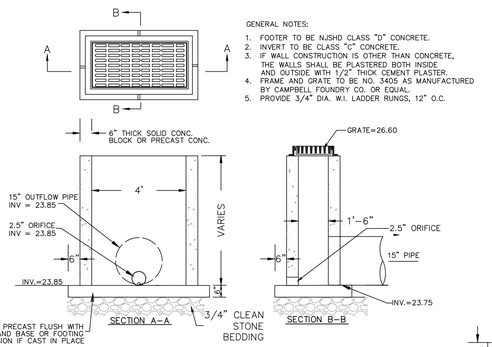
FINAL FOR SEWER DESIGN

W:\Projects\19\19129 – Hudson Point – 75 Manchester Ave, Keyport\DWG's\Design Drawings\19129–15–18–Constr–Details.dwg 8/29/2022 8:40:12 AM



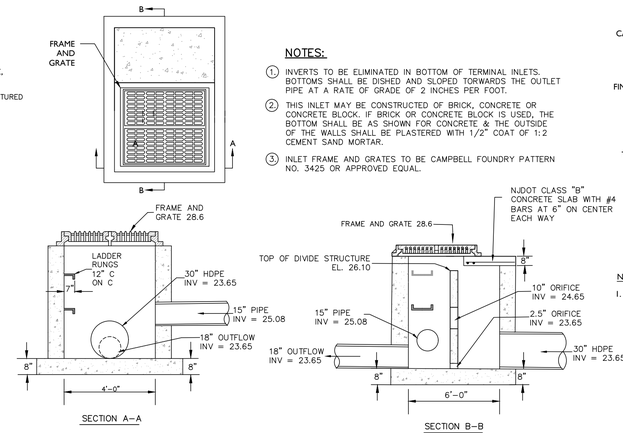
OUTLET CONTROL STRUCTURE #3 TYPE "A" INLET

NOT TO SCALE



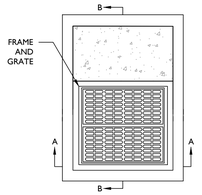
OUTLET CONTROL STRUCTURE #2 TYPE "A" INLET

NOT TO SCALE



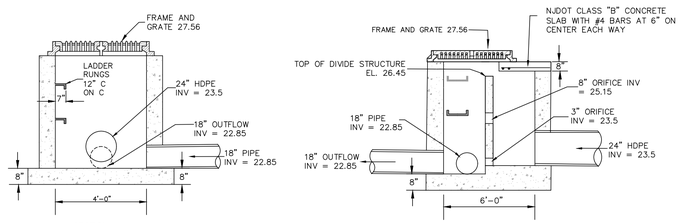
OUTLET CONTROL STRUCTURE #4 MODIFIED TYPE "E" INLET

NOT TO SCALE



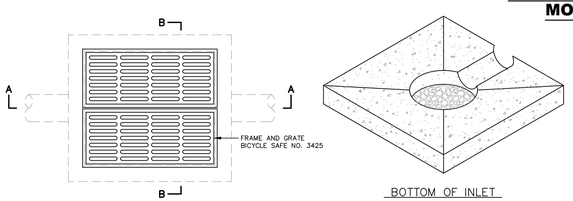
NOTES:

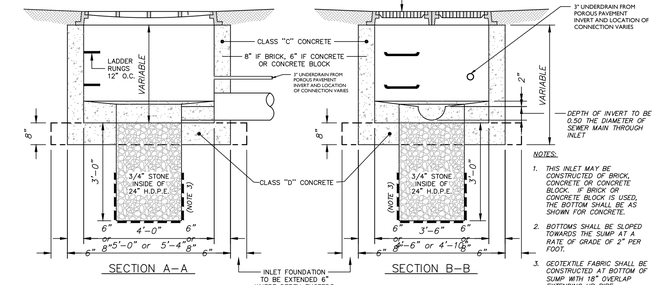
1. INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TORWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.
2. THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2" COAT OF 1:2 CEMENT SAND MORTAR.
3. INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY PATTERN NO. 3425 OR APPROVED EQUAL.



OUTLET CONTROL STRUCTURE #1 MODIFIED TYPE "E" INLET

NOT TO SCALE



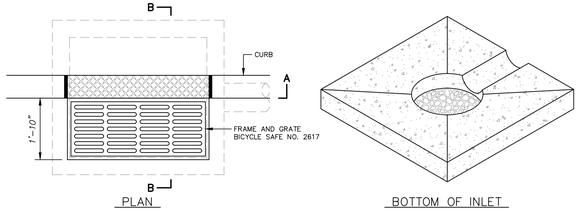


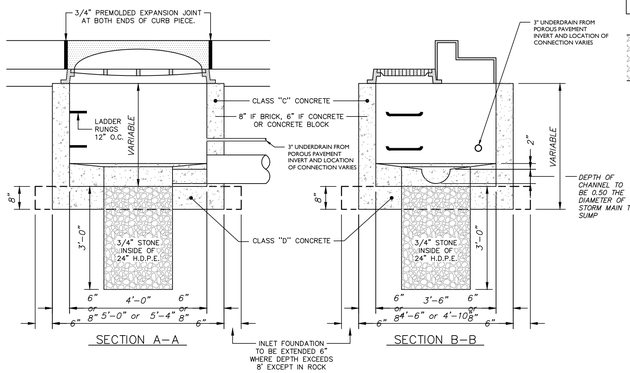
NOTES:

1. THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE.
2. BOTTOMS SHALL BE SLOPED TOWARDS THE SUMP AT A RATE OF GRADE OF 2" PER FOOT.
3. GEOTEXTILE FABRIC SHALL BE CONSTRUCTED AT BOTTOM OF SUMP WITH 18" OVERLAP EXTENDING UP PIPE.

TYPE "E" INLET WITH SUMP DETAIL

N.T.S.



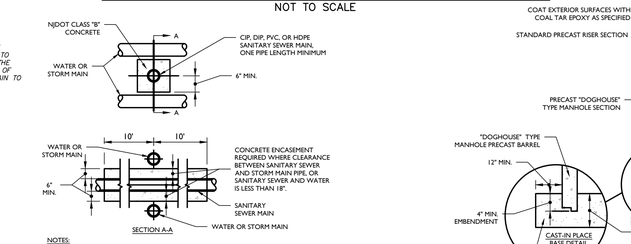


NOTES:

1. BOTTOM SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT THE RATE OF 2" PER FOOT. THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE AND THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2" COAT, BE DISHED AND SLOOF 1:2 CEMENT SAND MORTAR.

TYPE "B" INLET WITH SUMP DETAIL

N.T.S.



TYPE "B" INLET WITH TYPE "N" ECO CURB PIECE

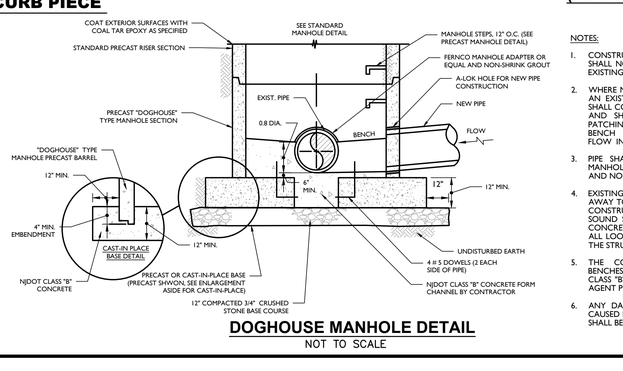
NOT TO SCALE

NOTES:

1. SEE CONCRETE ENCASEMENT SCHEDULE FOR THE CONCRETE THICKNESS AROUND THE PIPE.
2. SET THE PIPE JOINT AS FAR AWAY FROM THE CROSSING AS POSSIBLE.

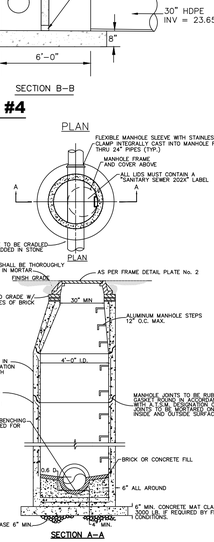
SANITARY MAIN ENCASEMENT DETAIL

NOT TO SCALE



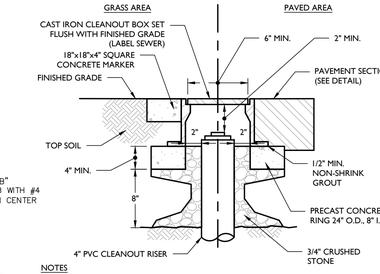
DOGHOUSE MANHOLE DETAIL

NOT TO SCALE



PRECAST CONCRETE SANITARY MANHOLE

NOT TO SCALE

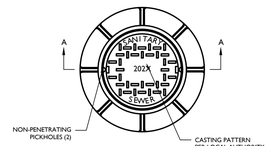


NOTES

1. ALL PVC CLEANOUTS TO HAVE CAST IRON FRAME AND COVER PROTECTION BOX. DESIGN FOR H20 LOADING.

CLEANOUT PROTECTION BOX DETAIL

NOT TO SCALE

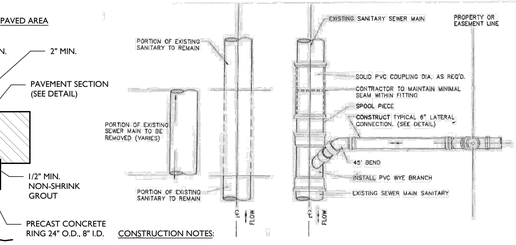


NOTES:

1. MANHOLE FRAME AND COVER SHALL BE CAMPBELL FOUNDRY PATTERN # 1202B WITH FLOW-SEAL COVER OR APPROVED EQUAL OR AS OTHERWISE REQUIRED BY JURISDICTIONAL AUTHORITY.
2. MANHOLE FRAME AND COVER TO BE HEAVY DUTY, CONFORMING TO ASTM SPECIFICATION A-48 CLASS 30-B WITH SHOP COAT OF ASPHALTIC PITCH.
3. IN EASEMENTS AND REMOTE AREAS, COVER LOCKING DEVICES OF BRONZE AND KEY SHALL BE PROVIDED.
4. WATERTIGHT MANHOLE FRAME AND COVER SHALL BE PATTERN # **6547** AS MANUFACTURED BY CAMPBELL FOUNDRY COMPANY OR APPROVED EQUAL.

SANITARY MANHOLE FRAME AND COVER DETAIL

NOT TO SCALE



CONSTRUCTION NOTES:

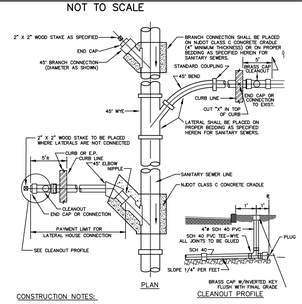
1. "CUT-IN" CONNECTION TO EXISTING SANITARY SYSTEM TO BE UTILIZED IF AND WHERE DIRECTED.
2. CONTRACTOR TO MAINTAIN EXISTING FLOW AND INTEGRITY OF THE SYSTEM DURING CONSTRUCTION. BYPASSING ZERO EXISTING MAINS SHALL REQUIRE AN APPROVED BYPASS PLAN.

NOTE:

1. DETAIL SHALL BE USED FOR SANITARY SEWER LATERAL CONNECTION ON E. SEVEN STREET ONLY.

"CUT-IN" LATERAL CONNECTION TO EXISTING MAIN

NOT TO SCALE

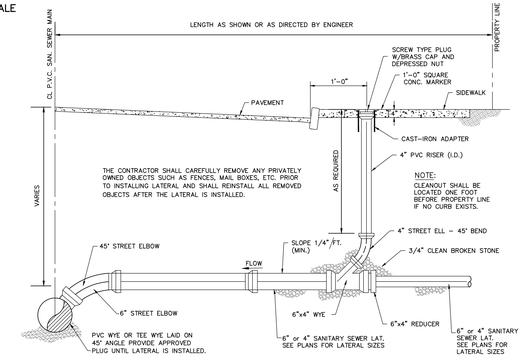


CONSTRUCTION NOTES:

1. DETAIL SHOWS CONSTRUCTION OF A "BRANCH CONNECTION" AND OF TWO DIFFERENT TYPES OF "LATERAL HOUSE CONNECTION". TYPE OF CONNECTION IS AT CONTRACTOR'S OPTION.
2. SIZE OF LATERAL TO BE AS SHOWN ON THE PLANS OR AS DIRECTED, 4" MINIMUM.
3. CLEAN-OUTS IN DRIVEWAYS SHALL BE COVERED WITH A MONUMENT BOX – CAMPBELL PATTERN NO. 4155 OR EQUAL.
4. ALL LATERAL PIPES AND FITTINGS SHALL BE SCHEDULED AS SOLVENT WELDED PVC.

BRANCH AND LATERAL HOUSE CONNECTIONS

N.T.S.

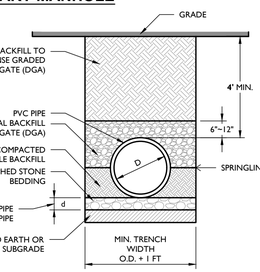


SANITARY SERVICE LATERAL AND CLEANOUT DETAIL

NOT TO SCALE

NOTES:

1. ALL PVC GRAVITY PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D3221.
2. GRAVITY SANITARY PIPE SHALL BE PVC SDR 35 PER ASTM D3034 OR AS REQUIRED BY THE GOVERNING AUTHORITY.



PVC SANITARY PIPE BEDDING (GRAVITY) DETAIL

N.T.S.

NOTES:

1. CONSTRUCTION OF THE NEW SEWER MAIN SHALL NOT IMPEDE THE OPERATION OF THE EXISTING SEWER.
2. WHERE NEW PIPE IS TO BE CONNECTED INTO AN EXISTING MANHOLE, THE CONTRACTOR SHALL CORE DRILL ALL HOLES INTO MANHOLE AND SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY FOR CHANNEL AND BENCH RECONSTRUCTION TO CHANNEL FLOW INTO EXISTING SEWER.
3. PIPE SHALL BE SEALED USING KOR-N-SEAL MANHOLE ADAPTERS OR APPROVED EQUAL AND NON-SHRINK GROUT.
4. EXISTING BENCH SHALL BE CHIPPED AND CUT AWAY TO ALLOW FOR NEW CHANNEL TO BE CONSTRUCTED AND TO PROVIDE GOOD, SOUND SURFACE FOR BONDING WITH NEW CONCRETE CHANNEL AND BENCH. REMOVE ALL LOOSE MATERIALS AND CLEAN INSIDE OF THE STRUCTURE.
5. THE CONCRETE USED TO CONSTRUCT BENCHES AND CHANNELS SHALL BE NJDOT CLASS "B" CONCRETE APPLY EPOXY BONDING AGENT PRIOR TO POURING CONCRETE.
6. ANY DAMAGE TO THE EXISTING MANHOLE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR.

FINAL FOR SEWER DESIGN

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/01/21	REVISIONS PURSUANT TO 2/28/21 NJDEP LETTER	JHD
1	12/09/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52 BLOCK 130

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
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CONSTRUCTION DETAILS

WALTER JOSEPH HOPKIN
NJ PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS NOTED	DP	10/30/20	19129	16 OF 20

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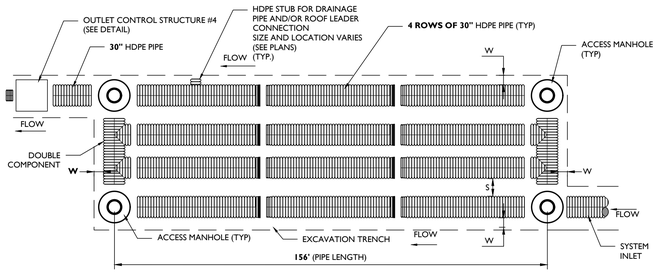
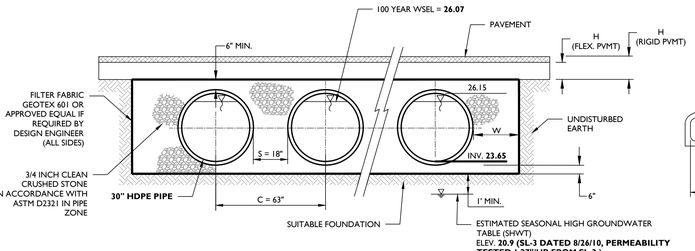




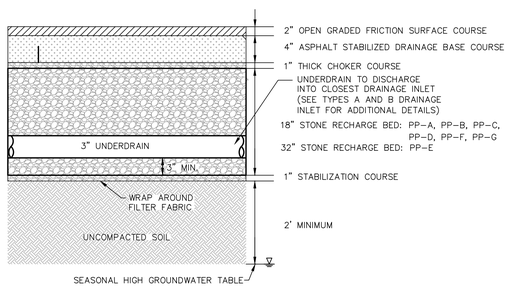
NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	TYPICAL SPACING "C"	TYPICAL SIDE WALL "W"	H (MIN. PIPE COVER) (TRAFFIC)
15" (375 MM)	18" (457 MM)	12" (292 MM)	28.9 (734 MM)	8" (203 MM)	12" (292 MM)
18" (450 MM)	21" (533 MM)	13" (330 MM)	33.9" (862 MM)	9" (229 MM)	12" (292 MM)
24" (600 MM)	28" (711 MM)	13" (330 MM)	40.7" (1034 MM)	10" (254 MM)	12" (292 MM)
30" (750 MM)	36" (914 MM)	18" (457 MM)	53.1" (1347 MM)	18" (457 MM)	12" (292 MM)
36" (900 MM)	42" (1067 MM)	22" (559 MM)	63" (1600 MM)	18" (457 MM)	12" (292 MM)
42" (1050 MM)	48" (1219 MM)	24" (610 MM)	71.9" (1826 MM)	18" (457 MM)	24" (610 MM)
48" (1200 MM)	54" (1372 MM)	25" (635 MM)	78.5" (1994 MM)	18" (457 MM)	24" (610 MM)
60" (1500 MM)	67" (1702 MM)	24" (610 MM)	90" (2286 MM)	18" (457 MM)	24" (610 MM)

NOTES:

1. SEE ABOVE CHART SPECIFIC TO MATERIAL/PIPE SIZES PER MANUFACTURER'S SPECIFICATIONS.
2. (H) FOR FLEXIBLE PAVEMENT MAY INCLUDE THE PAVEMENT SUBBASE THICKNESS AS MINIMUM COVER.
3. CLASS 1A BACKFILL MATERIAL PER ASTM 2321 REQUIRED FOR PIPES 60" DIAMETER OR LARGER.

UNDERGROUND DETENTION BASIN #4 (CLOSED SYSTEM) DETAIL

NOT TO SCALE



NOTES:

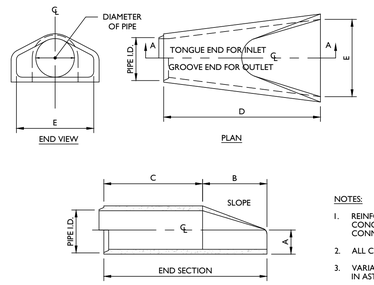
1. ASPHALT SURFACE COURSE – OPEN GRADED FRICTION COURSE (OGFC) WITH POLYMER MODIFIED BINDER 64E-22 (NJDOT SPECIFICATION 902.03)
2. ASPHALT BASE COURSE – ASPHALT STABILIZED DRAINAGE COURSE (ASDC) (NJDOT SPECIFICATION 902.06)
3. CHOKER COURSE – 1" CLEAN WASHED BROKEN STONE (AASHTO NO. 57; NJDOT SPECIFICATION 901.3)
4. STONE STORAGE BED – 1.5" TO 3" CLEAN WASHED, UNIFORMLY OPEN-GRADED BROKEN STONE (AASSHTO NO. 2; NJDOT SPECIFICATION 901.03)
5. UNDERDRAIN SHALL BE A PERFORATED PVC PIPE WRAP WITH FILTER FABRIC CONNECTING TO AN INSPECTION PORT AND/OR AN OUTLET CONTROL STRUCTURE.
6. STABILIZATION COURSE – ¾" STONE (AASHTO NO. 7; NJDOT SPECIFICATION 901.03). USED WHEN THERE IS A POTENTIAL FOR SUBGRADE TO COMPRESS OR SUBJECT TO LATERAL MOVEMENT DURING CONSTRUCTION.
7. FILTER FABRIC – NON-WOVEN GEOTEXTILE FABRIC, SUCH AS MIRAFI 140N, AMOCO 4547, GEOTEX 451, OR APPROVED EQUAL (AASHTO M288 CLASS 2; NJDOT SPECIFICATION 919.01). FILTER FABRIC SHALL BE OVERLAPPED BY A MINIMUM 16" AT THE SEAM. IF UNDERDRAIN IS NOT USED, FILTER FABRIC MAY NOT BE USED ON THE BOTTOM OF THE RECHARGE BED.
8. POROUS PAVEMENT AREAS SHALL BE PROTECTED FROM SEDIMENT-LADEN RUNOFF AND EXCESSIVE COMPACTION FROM CONSTRUCTION TRAFFIC DURING AND AFTER CONSTRUCTION TO PREVENT PAVEMENT CLOGGING.
9. POROUS ASHALT PAVEMENT SHALL BE CONSTRUCTED PER NJDOT SPECIFICATION 402. NO PAVING OR SURFACE COURSE UNDER 50° F AMBIENT TEMPERATURE.
10. LIMIT TRAFFIC FOR 48 HOURS AFTER COMPACTION.

POROUS ASHALT PAVEMENT DETAIL

NOT TO SCALE

UNDERGROUND HDPE SYSTEM 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 USEDAS 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 IOR II. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4"-24" PIPES; 6" FOR 30"-60" PIPES.
7. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II INTHE 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" OR COVER FOR 42" - 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



PIPE INNER DIA.	WALL THICK	A	B	C	D	E	SLOPE
12"	2"	4"	24"	48 7/8"	72 7/8"	30"	3:1
15"	2 1/4"	6"	27"	46"	73"	30"	3:1
18"	2 1/2"	9"	27"	46"	73"	36"	3:1
24"	3"	9 1/2"	43 1/2"	30"	73 1/2"	48"	3:1
30"	3 1/2"	12"	54"	19 3/4"	73 3/4"	60"	3:1
36"	4"	15"	63"	34 3/4"	97 3/4"	72"	3:1
42"	4 1/2"	21"	63"	35"	98"	78"	3:1
48"	5"	24"	72"	26"	98"	84"	3:1
54"	5 1/2"	27"	65"	35"	100"	90"	2.4:1
60"	6"	30"	60"	39"	99"	96"	2:1
66"	6 1/2"	32"	78"	21"	99"	102"	2:1
72"	7"	34"	78"	21"	99"	108"	2:1

NOTES:

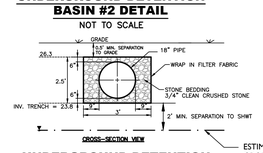
1. REINFORCING IN THE "C" PORTION SHALL BE THE SAME AS SPECIFIED FOR CONCRETE PIPE ASTM C76 AND AASHTO M170 CLASS III FOR THE SIZE OF CONNECTING PIPE.
2. ALL CONCRETE SHALL BE NJDOT CLASS "B".
3. VARIATIONS IN MANUFACTURING DIMENSIONS SHALL BE AS CALLED FOR IN ASTM C76 AND AASHTO M170.
4. PIPE END SECTION CONNECTION SHALL MATCH JOINTS OF STANDARD PIPE DETAILS.

CONCRETE FLARED END SECTION DETAIL

NOT TO SCALE

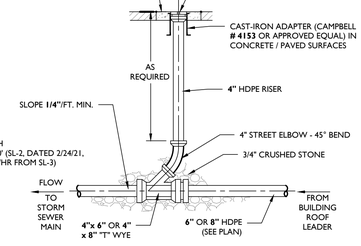
UNDERGROUND DETENTION BASIN #2 DETAIL

NOT TO SCALE



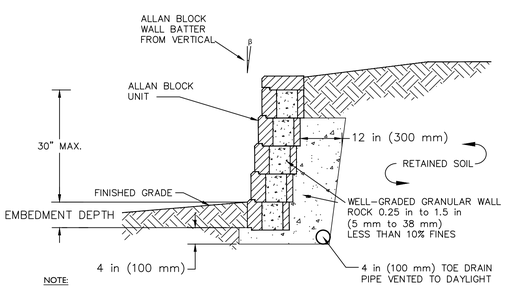
UNDERGROUND DETENTION BASIN #3 DETAIL

NOT TO SCALE



ROOF LEADER CLEANOUT DETAIL

NOT TO SCALE

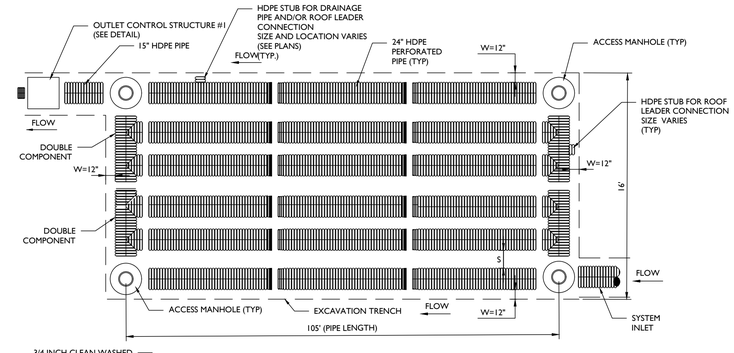


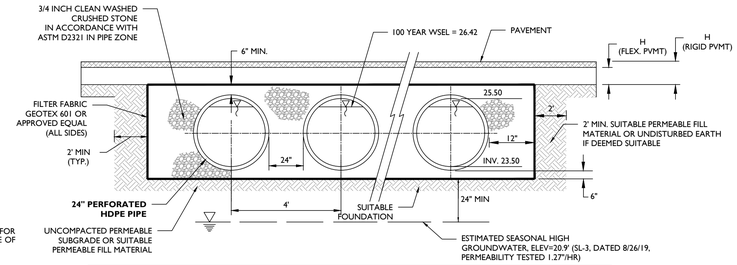
NOTE:

1. CONTRACTOR SHALL SUBMIT RETAINING WALL SHOP DRAWING, PREPARED BY A LICENSED ENGINEER IN THE STATE OF NEW JERSEY, FOR APPROVAL PRIOR CONSTRUCTION.

RETAINING WALL DETAIL

NOT TO SCALE





NOMINAL DIAMETER	NOMINAL O.D.	TYPICAL SPACING "S"	TYPICAL SPACING "C"	TYPICAL SIDE WALL "W"	H (MIN. PIPE COVER) (TRAFFIC)
15" (375 MM)	18" (457 MM)	12" (292 MM)	28.9 (734 MM)	8" (203 MM)	12" (292 MM)
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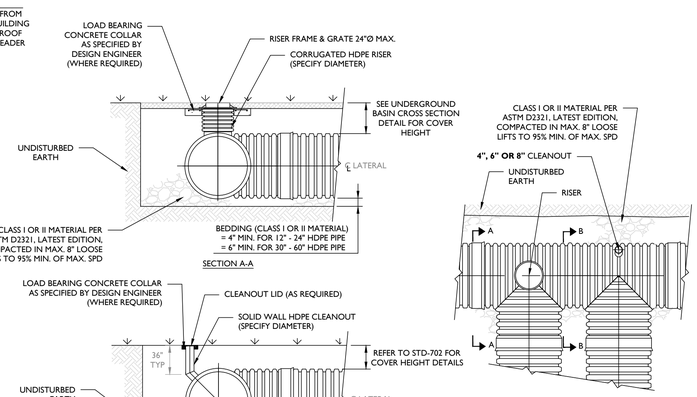
NOTES:

1. SEE ABOVE CHART SPECIFIC TO MATERIAL/PIPE SIZES PER MANUFACTURER'S SPECIFICATIONS.
2. (H) FOR FLEXIBLE PAVEMENT MAY INCLUDE THE PAVEMENT SUBBASE THICKNESS AS MINIMUM COVER.
3. CLASS 1A BACKFILL MATERIAL PER ASTM 2321 REQUIRED FOR PIPES 60" DIAMETER OR LARGER.

UNDERGROUND DETENTION BASIN #1 (OPEN SYSTEM) DETAIL

NOT TO SCALE



NOTES:

1. CLASS I BACKFILL REQUIRED AROUND 60" DIAMETER FITTINGS
2. 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.

RETENTION-DETENTION RISER AND CLEANOUT DETAIL

NOT TO SCALE

UNDERGROUND INFILTRATION BASIN CONSTRUCTION NOTES:

PRE-CONSTRUCTION:

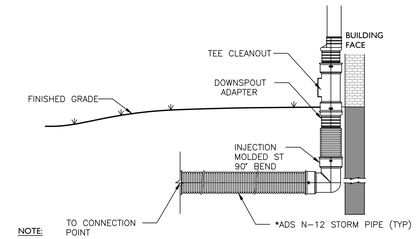
1. CONTRACTOR SHALL PROCURE THE SERVICES OF A NEW JERSEY LICENSED PROFESSIONAL ENGINEER TO PERFORM REGULAR OVERSIGHT OF THE CONSTRUCTION OF THE UNDERGROUND INFILTRATION BASIN TO ENSURE ITS EFFECTIVENESS. THE FOLLOWING REQUIRED OVERSIGHT ACTIVITIES INCLUDING, BUT NOT LIMITED TO:
   a. PARTICIPATION BY THE ENGINEER AND CONTRACTOR AT A PRE-CONSTRUCTION MEETING TO REVIEW THE CONTRACTOR'S FAMILIARITY WITH CONSTRUCTION OF THE UNDERGOUND INFILTRATION BASIN/BMP.
   b. THE CONTRACTOR SHALL IDENTIFY THE CONSTRUCTION EQUIPMENT TO BE USED FOR THE BASIN/BMP CONSTRUCTION AND THE CONSTRUCTION TECHNIQUES THAT WILL BE USED TO MINIMIZE COMPACTION OF THE INFILTRATION AREA.
   c. ENSURING THAT EARTHWORK DOES NOT OCCUR WITHIN THE LIMITS OF THE BASIN/BMP WHEN THE SOIL MOISTURE CONTENT IS ABOVE THE LOWER PLASTIC LIMIT AND THAT THE SPECIFICATIONS OF THE REPLACEMENT SOIL ARE MET.
   d. TESTING EACH SOIL LAYER WHERE THE PERMEABILITY RATE IS CRITICAL PRIOR TO THE PLACEMENT OF THE HDPE PIPES TO ENSURE THAT THE PERMEABILITY RATE OF THE SUBSOIL HAS BEEN RETAINED.
   e. THE CONTRACTOR SHALL ENSURE THAT PROPER PRECAUTIONS ARE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE INFILTRATION AREA DURING CONSTRUCTION.
2. THE CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF SOIL CONDITIONS ENCOUNTERED IN THE FIELD DIFFER FROM WHAT IS SHOWN HEREON. SUCH CONDITIONS COULD RENDER THE DESIGN HEREON INAPPROPRIATE OR INEFFECTIVE.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO ORDERING MATERIALS.

DURING CONSTRUCTION:

1. ALL EARTHWORK OPERATIONS, INCLUDING EXCAVATION, GRADING AND BACKFILL OPERATIONS SHALL BE CONDUCTED UNDER THE SUPERVISION OF A NEW JERSEY LICENSED PROFESSIONAL ENGINEER.
2. DURING CLEARING AND GRADING OF THE SITE, MEASURES MUST BE TAKEN TO ELIMINATE SOIL COMPACTION AT THE LOCATION OF THE PROPOSED INFILTRATION BASIN/BMP.
3. THE LOCATION OF THE PROPOSED INFILTRATION BASIN/BMP MUST BE CORDONED OFF DURING CONSTRUCTION TO PREVENT COMPACTION OF THE SUBSOIL BY CONSTRUCTION EQUIPMENT OR STOCKPILES. EXCAVATION AND CONSTRUCTION OF THE INFILTRATION BASIN MUST BE PERFORMED USING EQUIPMENT PLACED OUTSIDE THE LIMITS OF THE BASIN.
4. PRIOR TO INSTALLATION OF STONE BEDDING, THE PERMEABILITY RATE OF THE UNDERLYING OR REPLACEMENT SOILS SHALL BE CONFIRMED AND CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER THAT IT MEETS THE MINIMUM DESIGN PERMEABILITY RATE. RESULTS OF THE PERMEABILITY TESTS SHALL BE PROVIDED TO THE DESIGN ENGINEER IN WRITING PRIOR TO THE PLACEMENT OF THE STONE BEDDING AND HDPE PIPES.
5. UNSUITABLE MATERIALS SHALL BE REMOVED. EXCAVATIONS TO REMOVE HYDRAULICALLY RESTRICTIVE MATERIAL SHALL EXTEND A MINIMUM OF 1' BELOW THE IMPERMEABLE LAYER AND REMOVAL OF THE MATERIAL SHALL BE WITNESS AND CERTIFIED BY A PROFESSIONAL ENGINEER.
6. THE REPLACEMENT MATERIAL MUST MEET ALL SPECIFICATIONS FOR CLEAN COARSE SAND IN ACCORDANCE WITH AASHTO M-6 OR ASTM C-33, MEETING AGGREGATE GRADATION SIZE No. 10 (AASHTO M-43) AND THE MINIMUM TESTED PERMEABILITY RATE IS 8 INCHES PER HOUR, AS CERTIFIED BY A NJ LICENSED PROFESSIONAL ENGINEER. CONTRACTOR SHALL PROVIDE THE DESIGN ENGINEER WITH A SUBMITTAL CONFIRMING THE REQUIREMENTS ARE MET.
7. THE CONTRIBUTING DRAINAGE AREA MUST BE COMPLETELY STABILIZED PRIOR TO INFILTRATION BASIN/BMP PUT INTO OPERATION.

POST-CONSTRUCTION:

1. UPON COMPLETION OF THE BASIN/BMP, THE CONTRACTOR SHALL PROVIDE THE DESIGN ENGINEER WITH A PHOTO DOCUMENTATION OF THE UNDERGROUND SYSTEM BEFORE BACKFILL, AND AN AS-BUILT SURVEY AFTER THE COMPLETION OF THE UNDERGROUND BASIN/BMP, PREPARED BY A NEW JERSEY LICENSED PROFESSIONAL SURVEYOR. THE SURVEY SHALL BOTTOM OF BASIN/BMP ELEVATIONS, AND ALL INFORMATION PERTAINING TO THE OUTLET CONTROL STRUCTURE INCLUDING ORIFICE AND WEIR SIZES AND ELEVATIONS. THE OUTLET PIPE AND NEXT DOWN-STREAM DRAINAGE STRUCTURE SHALL BE SURVEYED.
2. THE PROFESSIONAL ENGINEER THAT WITNESSES THE BASIN/BMP CONSTRUCTION AND PERFORMED THE SOIL PERMEABILITY TESTS SHALL PROVIDE A SIGNED AND SEALED LETTER TO THE DESIGN ENGINEER WITH THE RESULTS OF THE PERMEABILITY TESTS.



NOTE:

1. INJECTION MOLDED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS AND BELL/BELL COUPLERS.
2. WATERTIGHT INJECTION MOLDED FITTINGS AND WATERTIGHT PIPE CAN BE SUBSTITUTED FOR WATERTIGHT APPLICATIONS.
3. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL.
4. CLEANOUTS TO BE 4" MINIMUM SIZE TO ACCOMMODATE ROOF LEADER.

ADS ROOF DOWNSPOUT WITH TEE CLEANOUT DETAIL

NOT TO SCALE

FINAL FOR SEWER DESIGN

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
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PRELIMINARY AND FINAL MAJOR SITE PLAN
OF
LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52 BLOCK 130
BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
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CONSTRUCTION DETAILS

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS SHOWN	DP	10/30/20	19129	17 OF 20

WALTER JOSEPH HOPKIN
NJ PROFESSIONAL ENGINEER, LIC. No. 40673

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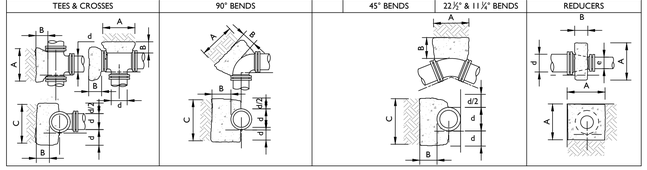
MINIMUM SIZE OF CONCRETE THRUST BLOCKS																	
d	A	B	C	d	A	B	C	d	A	B	C	A	B	C	d x e	A	B
6"	2' - 0"	8"	1' - 3"	6"	2' - 6"	8"	1' - 3"	6"	1' - 6"	6"	1' - 3"	1' - 6"	8"	1' - 3"	6" x 4"	1' - 6"	1' - 0"
8"	2' - 6"	8"	1' - 6"	8"	3' - 0"	8"	1' - 6"	8"	1' - 6"	8"	1' - 9"	1' - 6"	8"	1' - 9"	8" x 4"	2' - 0"	1' - 0"
10"	3' - 0"	10"	2' - 0"	10"	3' - 6"	10"	2' - 0"	10"	2' - 3"	10"	2' - 0"	1' - 6"	10"	2' - 0"	10" x 6"	2' - 4"	1' - 3"
12"	3' - 6"	10"	2' - 6"	12"	3' - 9"	10"	2' - 9"	12"	2' - 6"	10"	2' - 6"	1' - 6"	10"	2' - 6"	10" x 8"	2' - 6"	1' - 6"
TEES & CROSSES				90° BENDS				45° BENDS				22½° & 11¼° BENDS			REDUCERS		

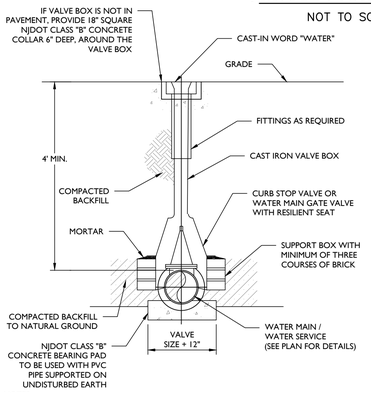


NOTES:

1. ALL HORIZONTAL BENDS SHALL HAVE CONCRETE THRUST BLOCKS WITH MINIMUM BEARING AREAS AGAINST UNDISTURBED SOIL AND NO JOINT SHALL BE COVERED WITH CONCRETE.
2. BEARING AREAS ARE BASED UPON UNDISTURBED SOIL WITH A MINIMUM BEARING CAPACITY OF 0.5 TONS PER SQUARE FOOT. FOR A LESSER SOIL BEARING CAPACITY THESE AREAS SHALL BE INCREASED ACCORDINGLY.
3. THRUST BLOCKS SHALL BE POURED DIRECTLY AGAINST TRENCH WALLS AND SHALL BE NJDOT CLASS "B" CONCRETE.
4. DETAILS FOR SUPPORTS AND BRACING FOR VERTICAL BENDS FOR 12" DIAMETER OR LARGER SHALL BE APPROVED BY THE AUTHORITY PRIOR TO CONSTRUCTION.

THRUST BLOCK DETAILS

NOT TO SCALE



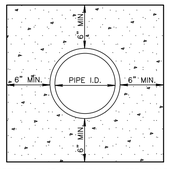
NOTES:

1. VALVE BOX SHOULD HAVE EXTENSION IF WATER MAIN OR SERVICE IS PLACED DEEPER THAN 5 FEET.
2. CURB STOP VALVE BOX SHALL BE MUELLER EXTENSION TYPE WITH ARCH PATTERN BASE, OR APPROVED EQUAL.
3. WATER MAIN VALVE BOX SHALL BE SCREW TYPE ADJUSTABLE MODE, **FIGURE # 4905-22 AS MANUFACTURED BY BINGHAM & TAYLOR OR APPROVED EQUAL.**

WATER VALVE BOX DETAIL

NOT TO SCALE

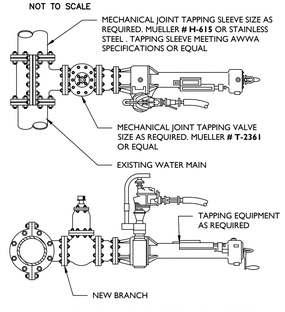
CONCRETE ENCASE SEWER MAIN WHERE SHOWN ON THE PLANS WHEN IN CONFLICT WITH STORM DRAINS.



CONCRETE ENCASE SEWER MAIN WHERE CLEARANCE BETWEEN WATER AND SEWER MAIN IS NOT AT LEAST 18" VERTICAL OR 12" HORIZONTAL. ENCASEMENT TO EXTEND 10' IN ALL DIRECTIONS FROM POINT OF NEAREST CROSSING

CONCRETE ENCASEMENT DETAIL

NOT TO SCALE

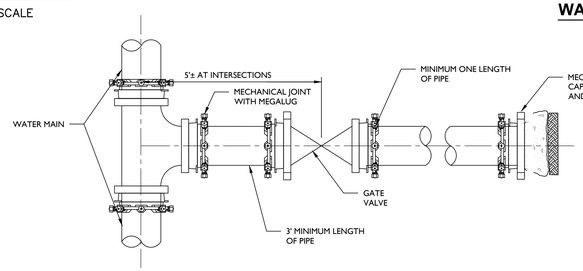


NOTES:

1. WET TAP VALVE CAN BE INSTALLED IN EITHER VERTICAL OR HORIZONTAL POSITION.
2. CONTRACTOR SHALL VERIFY DEPTH OF BURY, MATERIAL, DIAMETER (O.D.) AND OPERATING PRESSURE OF EXISTING WATER MAIN PRIOR TO ORDERING OF WET TAP UNIT.

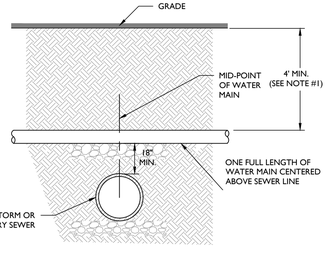
WET TAP DETAIL

NOT TO SCALE



WATER MAIN STUB (FOR BRANCH CONNECTION) DETAIL

NOT TO SCALE

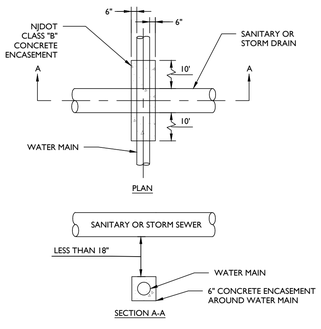


NOTES:

1. WATER MAIN MAY CROSS ABOVE OBSTRUCTION IF 4' MINIMUM COVER IS MAINTAINED ABOVE THE WATER MAIN TO FINISH GRADE AND 18" MINIMUM VERTICAL SEPARATION IS OBTAINED.

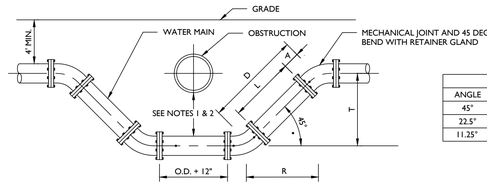
WATER CROSSING OVER SEWER DETAIL

NOT TO SCALE



WATER MAIN ENCASEMENT DETAIL

NOT TO SCALE



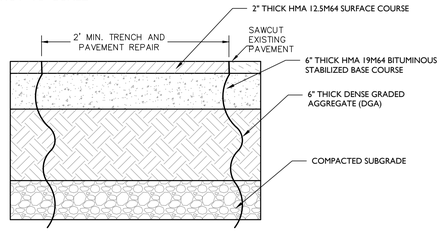
MECHANICAL JOINTS			
ANGLE	D =	R =	L =
45°	T x 1.414	T x 1.000	D-2A
22.5°	T x 2.613	T x 2.414	D-2A
11.25°	T x 5.126	T x 5.027	D-2A

NOTES:

1. WATER MAIN MAY CROSS ABOVE OBSTRUCTION IF 4' MINIMUM COVER IS MAINTAINED ABOVE THE WATER MAIN AND FINISH GRADE.
2. MINIMUM VERTICAL SEPARATION BETWEEN SANITARY OR STORM SEWER TO WATER MAIN SHALL BE 18" IF THE HORIZONTAL SEPARATION IS LESS THAN 10'. BETWEEN WATER MAIN AND OTHER UTILITIES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12".
3. WATER MAIN SHALL BE SIZE AND MATERIAL SPECIFIED ON THE PLAN, WITH MECHANICAL JOINT OR PUSH-ON AND ALL FITTINGS BE CAST IRON MECHANICALLY JOINT.
4. OFFSETS MAY BE SUBSTITUTED FOR A "T" OF UP TO 24" IF APPROVED BY THE ENGINEER.
5. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS OR OTHER POINTS OF PIPE DIRECTION CHANGE.
6. TIE RODS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS IF THRUST BLOCK IS NOT USED. DETAILS OF THE TIE ROD ASSEMBLY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. TIE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THRUST DEVELOPED AT 100 PSI WORKING PRESSURE. MEGALUG RESTRAINT ALSO ACCEPTABLE IN PLACE OF TIE RODS.

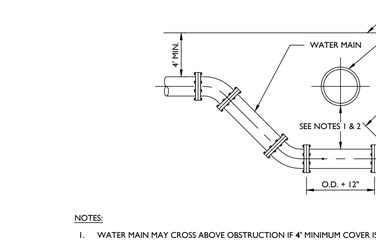
WATER CROSSING UNDER UTILITY DETAIL

NOT TO SCALE



MONMOUTH COUNTY PAVEMENT REPAIR DETAIL

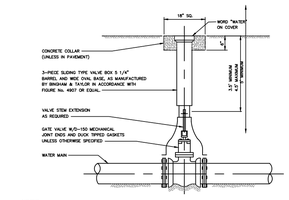
NOT TO SCALE



1. SERVICE PIPE TO BE 3/4" MINIMUM P.E. FLEX TUBING 160 lb. MUNICIPAL WATER SERVICE TYPE WITH C.T.S. (COPPER TUBE SIZE) O.D.
2. CORPORATION COCK TO BE 3/4" PACTJOINT TYPE SIMILAR TO FORD FIOOO OR APPROVED EQUAL.
3. CURB STOP TO BE 3/4" PACTJOINT TYPE SIMILAR TO FORD B44-333 OR 266-333 OR APPROVED EQUAL.
4. COUPLINGS TO BE 3/4" PACTJOINT TYPE SIMILAR TO FORD C44-33 OR APPROVED EQUAL.
5. LOCATION OF CURB STOP AND BOX TO BE IN PLANTER AREA OR ONE (1) FOOT ON RESIDENT'S SIDE OF PROPOSED SIDEWALK AND NEVER OUTSIDE OF STREET R.O.W.
6. NO DEVIATION FROM THESE SPECIFICATIONS SHALL BE MADE WITHOUT APPROVAL OF THE GOVERNING AUTHORITY.
7. NO CONNECTION WILL BE BACK-FILLED UNTIL WRITTEN APPROVAL IS MADE BY THE GOVERNING AUTHORITY.
8. VIOLATERS WILL BE REQUIRED TO EXPOSE THE WORK FOR INSPECTION BEFORE APPROVAL WILL BE GRANTED.

TYPICAL WATER SERVICE HOUSE-CONNECTION INSTALLATION

NOT TO SCALE



NOTES:

1. ALL GATE VALVES SHALL BE BRONZE DOUBLE DISK GATE VALVE MANUFACTURED IN ACCORDANCE WITH AWWA C-500. GATE VALVES SHALL BE AS MANUFACTURED BY THE MUELLER CORP. OR EQUAL.
2. IF SPECIFIED ON THE DRAWINGS THE VALVE SHALL BE RESTRAINED TO FULL LENGTHS OF PIPE ON BOTH ENDS.
3. ALL VALVES ON STUB ENDS SHALL BE RESTRAINED TO A FULL LENGTH OF PIPE ON EACH SIDE OF THE VALVE UNLESS OTHERWISE SPECIFIED.
4. ALL VALVES SHALL BE "LEFT-HANDED" (COUNTER-CLOCKWISE TO OPEN).
5. IF AN OPERATING NUT IS MORE THAN 4.5 FEET BELOW THE GROUND SURFACE A VALVE STEM EXTENSION MUST BE INSTALLED TO BRING IT BETWEEN 3.5 FEET AND 4.5 FEET FROM THE GROUND SURFACE.
6. VALVE STEM EXTENSIONS SHALL BE ATTACHED TO THE OPERATING NUT BY PIN CONNECTION AND HAVE A GUIDE RING. THEY SHALL BE AS MANUFACTURED BY BINGHAM AND TAYLOR OR EQUAL.

GATE VALVE DETAIL

NOT TO SCALE

		NUMBER AND SIZE OF RODS REQUIRED AND PIPE LENGTH IN FEET TO BE RESTRAINED								
PIPE SIZE IN INCHES	90° TEE OR DEAD END PLUG			45° BEND			22½° BEND		
	No.	SIZE	L*	No.	SIZE	L*	No.	SIZE	L*
4	2	¾"	30'	2	¾"	10'	2	¾"	5'
6	2	¾"	40'	2	¾"	10'	2	¾"	5'
8	4 or 2	¾" or ⅞"	50'	2	¾"	15'	2	¾"	5'
10	4 or 2	¾" or 1"	60'	2	¾"	20'	2	¾"	5'
12	4	⅞"	70'	2	¾"	20'	2	¾"	5'
14	4	1"	80'	2	¾"	25'	2	¾"	5'
16	4	1"	80'	2	¾"	25'	2	¾"	5'

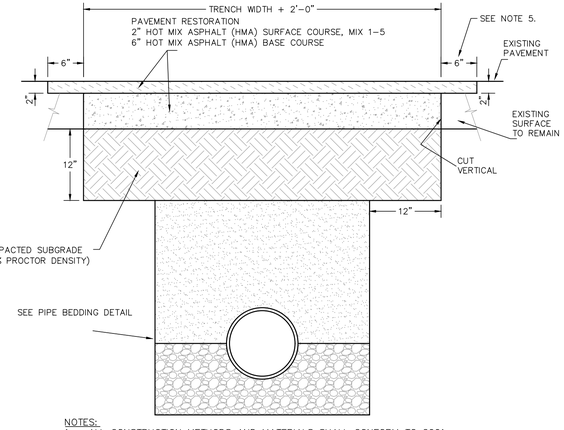
L* = LENGTH OF PIPE TO BE RESTRAINED IS FOR EACH SIDE OF BEND

NOTES:

1. USE OF MECHANICAL JOINT RETAINER GLANDS SHALL PROVIDE A THRUST RESTRAINT SYSTEM EQUIVALENT TO THAT LISTED IN THE TABLE FOR CLAMPS AND RODS.
2. LENGTHS ARE BASED ON THE FOLLOWING CRITERIA: 150 PSI MAXIMUM PRESSURE AND 3'-6" OF COVER. TABLE IS FOR USE WITH CAST IRON PIPE OR DUCTILE IRON PIPE ONLY. IF TEST CONDITIONS ARE MORE SEVERE OR LARGER PIPES ARE PROPOSED, THEN SPECIAL COMPUTATIONS MUST BE PROVIDED BY LICENSED PROFESSIONAL ENGINEER.

JOINT RESTRAINT SCHEDULE DETAIL

NOT TO SCALE

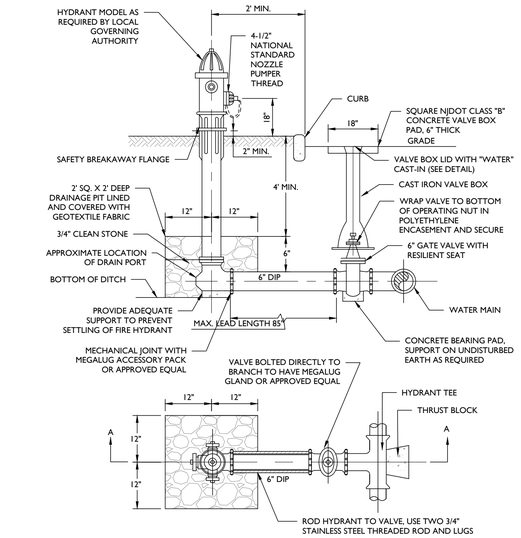


NOTES:

1 - ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO 2001 N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2 - SUBBASE SHALL BE FIRM AND APPROVED BY THE ENGINEER OR HIS/HER REPRESENTATIVE PRIOR TO CONCRETE PLACING.
3 - CONTRACTOR MUST PROVIDE SQUARE AND UNIFORM PAVEMENT SAW CUT PRIOR TO PAVEMENT PLACEMENT.
4 - CONSTRUCT: PUT TACK COAT ALONG VERTICAL & HORIZONTAL SURFACES.
5 - CONSTRUCT: 2" THICK HOT MIX ASPHALT (HMA) SURFACE COURSE AND ROLL IT PROPERLY TO EXISTING SURFACE.

MUNICIPAL PAVEMENT RESTORATION DETAIL

NOT TO SCALE

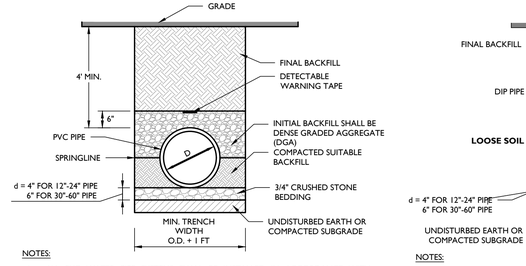


NOTES:

1. HYDRANT SHALL BE **T.W.W. STANDARD U.S. PIPE METROPOLITAN 250 DRY-BARREL** TRAFFIC MODEL DESIGN WITH THE FOLLOWING SPECIFICATION.
   A. SAFETY COUPLED STANDPIPE.
   B. 6" MECHANICAL JOINT INLET CONNECTION
   C. TWO 2-1/2" NATIONAL STANDARD THREAD HOSE NOZZLES.
   D. ONE 4-1/2" NATIONAL STANDARD THREAD STEAMER NOZZLE, FACING THE ROAD.
   E. HYDRANT OPERATORS AND HYDRANT NOZZLE CAP NUTS SHALL BE IN ACCORDANCE WITH AWWA/ANSI STANDARD C502.
   F. HYDRANT HOSE CAPS SHALL BE ATTACHED BY MEANS OF CHAINS.
   G. HYDRANT BARRELS SHALL BE PAINTED - **RED**, BONNETS - **YELLOW**, AND NOZZLE CAPS - **BLACK** TO INDICATE THE AVAILABLE FIRE FLOW OR AS IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.
   H. HYDRANTS SHALL OPEN COUNTER CLOCKWISE.
2. STANDPIPE (BREAK-AWAY) COUPLING SHALL NOT EXCEED A MAXIMUM OF 5 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF COUPLING.
3. THE DRAIN VALVE SHALL BE CLEAR OF ANY OBSTRUCTIONS, AND 3/4" CLEAN GRAVEL BE PLACED FROM THE BOTTOM OF THE HYDRANT TO A POINT 6" ABOVE THE HYDRANT LATERAL PIPE.
4. THRUST BLOCKS SHALL BE MADE OF NJDOT CLASS "B" CONCRETE, PROVIDED BEHIND THE HYDRANT SHOE.
5. BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE LOCAL JURISDICTION.
6. GATE VALVE SHALL BE **T.W.W. 6" U.S. PIPE METROSEAL 250 R/S** (RESILIENT SEALED) MECHANICAL JOINT END (RIGHT HAND).
7. WATER LATERAL SHALL BE 6" DUCTILE IRON CEMENT LINED CLASS 52 PIPE.
8. TIE ROD SHALL BE 3/4" DIAMETER TIE ROD WITH EYE BOLTS - TWO REQUIRED (SIDE VIEW SHOWN). RESTRAIN ALL JOINTS ON HYDRANT TEE, VALVE, AND HYDRANT LEAD.
9. HYDRANT TEE SHALL BE U.S. PIPE CATALOG #U-592 TRIM-TYTE DUCTILE IRON, MECHANICAL JOINT OR AN T.W.W. APPROVED SUBSTITUTE.

FIRE HYDRANT (VALVE IN PAVEMENT) DETAIL

NOT TO SCALE

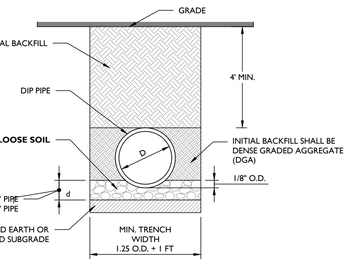


NOTES:

1. ALL PVC WATER PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C605.
2. WATER MAIN SHALL BE PRESSURE **CLASS 165 DR 25** PVC PIPE PER AWWA C900-16 OR AS REQUIRED BY THE GOVERNING AUTHORITIES.

PVC WATER PIPE BEDDING DETAIL

NOT TO SCALE



NOTES:

1. ALL FORCE MAIN PIPE SYSTEMS AND BACKFILL SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600.
2. WATER MAIN PIPE SHALL BE CEMENT LINED DUCTILE IRON PIPE (DIP) PRESSURE CLASS 150, THICKNESS **CLASS 52** WITH BITUMINOUS COATED OUTSIDE, PUSH ON JOINTS WITH FIELD-LOK GASKETS.
3. LOOSE SOIL OR SELECTED MATERIAL SHALL BE NATIVE SOIL FREE OR ROCKS, FOREIGN MATERIALS AND FROZEN EARTH.

DIP WATER PIPE BEDDING DETAIL

NOT TO SCALE

FINAL FOR SEWER DESIGN

NO.	DATE	DESCRIPTION	DRAWN BY
11	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM
10	6/21/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #2	CM
9	4/25/22	REVISED PURSUANT TO UTILITY SERVICE REVIEW #1	CM
8	3/16/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW LETTER	CM
7	10/13/21	REVISED PURSUANT TO RESOLUTION COMPLIANCE	CM
6	9/14/21	REVISED PURSUANT TO NJDEP COMMENT	CM
5	9/9/21	REVISED PURSUANT TO NJDEP & FSCD COMMENTS	CM/DP
4	8/13/21	REVISED PER NJDEP RESUBMISSION & BOROUGH'S ENGINEERS COMMENTS	CM/DP
3	5/14/21	REVISED PER BOROUGH'S ENGINEERS COMMENTS & FSCD.	JHD/CM
2	3/01/21	REVISIONS PURSUANT TO 2/28/21 NJDEP LETTER	JHD
1	12/09/20	REVISIONS PURSUANT TO 12/1/20 TRC	JHD

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 AND LOTS 42, 48, 49, 50, 51 & 52 BLOCK 130

BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

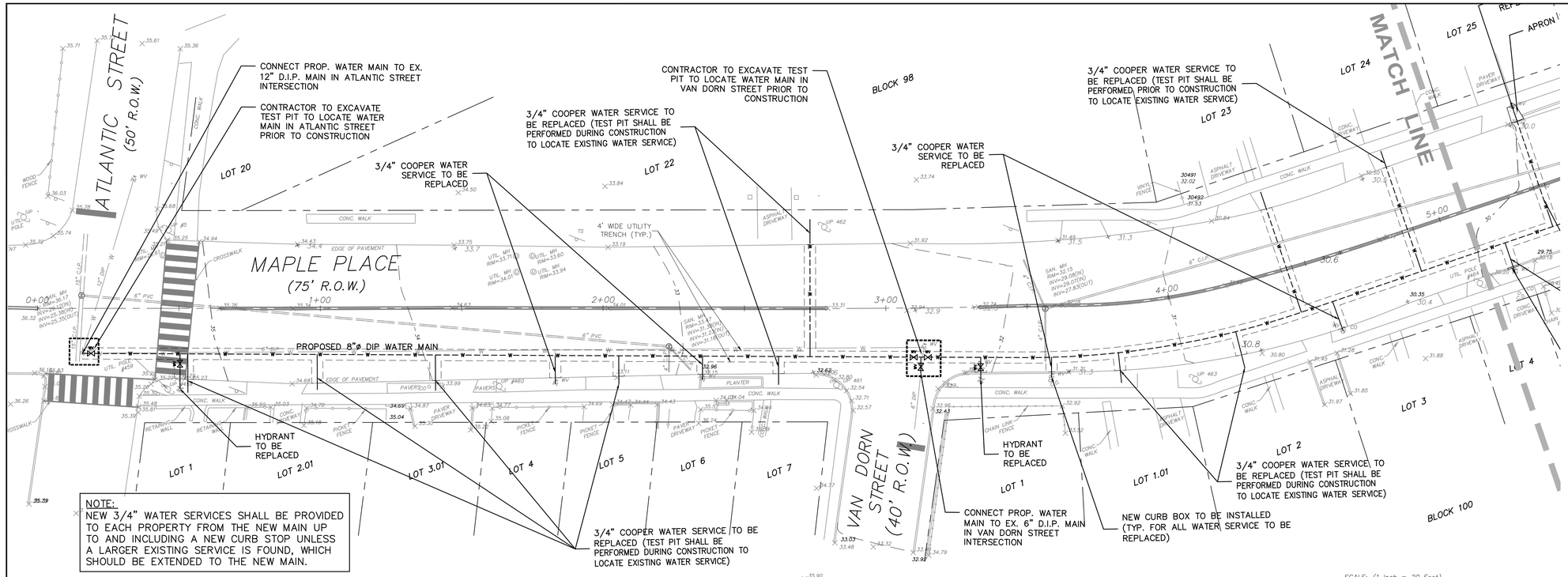
WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. 7, SUITE 7
OAKHURST, NJ 07755
PHONE: 732-223-1313
WWW.WJHENGINEERING.COM

CONSTRUCTION DETAILS

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS SHOWN	DP	10/30/20	19129	18 OF 20

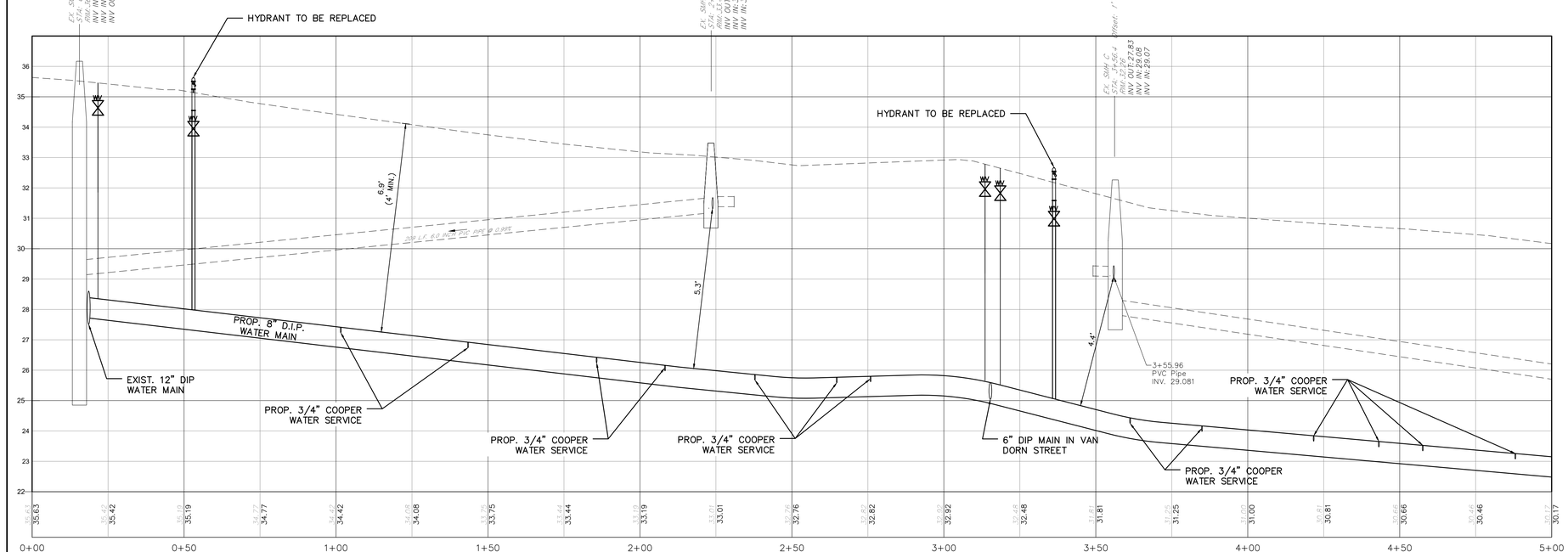
WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

W:\Projects\19\19129 - Hudson Point - 75 Manchester Ave, Keyport\DWG's\Design Drawings\19129-15-18-Const-Details.dwg 8/29/2022 9:40:12 AM



NOTE:
NEW 3/4" WATER SERVICES SHALL BE PROVIDED TO EACH PROPERTY FROM THE NEW MAIN UP TO AND INCLUDING A NEW CURB STOP UNLESS A LARGER EXISTING SERVICE IS FOUND, WHICH SHOULD BE EXTENDED TO THE NEW MAIN.

PLAN – MAPLE PLACE



MAPLE PLACE PROFILE STA. 0+00 TO 5+00

HORIZ: 1"=20'
VERT:1"=2'

LEGEND

- GAS VALVE
- WATER VALVE
- WATER METER
- UTILITY MANHOLE
- DRAINAGE MANHOLE
- ELECTRICAL MANHOLE
- SANITARY MANHOLE
- TELEPHONE MANHOLE
- TRAFFIC SIGN
- TRAFFIC SIGN (2 POST)
- STREET SIGN
- LIGHT POST
- UTILITY POLE
- FIRE HYDRANT
- DRAINAGE INLET (TYPE "A")
- DRAINAGE INLET (TYPE "B")
- DRAINAGE INLET (TYPE "E")
- DRAINAGE LINE
- ELECTRIC LINE
- GAS LINE
- SANITARY SEWER LINE
- TELEPHONE LINE
- WATER LINE
- OVERHEAD WIRES
- MONITORING WELL
- IRON PIPE FOUND
- CAPPED REBAR FOUND
- CONCRETE MONUMENT FOUND
- (S) SURVEY
- (FM) FILE MAP
- GAS METER
- D.C. DEPRESSED CURB
- F.C. FLUSH CURB
- SOIL BORING LOCATION
- PHOTOGRAPH LOCATION

OFF-SITE WATER MAIN EXTENSION NOTES:

1. TEST PITS SHALL BE PERFORMED AT ALL STREETS INTERSECTIONS TO LOCATE EXISTING WATER MAIN BRANCHES / LOOPS PRIOR TO CONSTRUCTION.
2. THE EXISTING WATER MAIN FROM GREEN GROVE AVENUE TO FULTON STREET SHALL BE ABANDONED IN PLACE.
3. TOPOGRAPHY INFORMATION FROM A PLAN ENTITLED "WATER MAIN EXTENSION PLAN OF MAPLE PLACE" PREPARED BY WJH ENGINEERING, DATED 3/11/22.
4. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION, AND NOTIFY NJ ONECALL AS REQUIRED BY LAW. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENT AS REQUIRED TO AVOID CONFLICTS. EX. UTILITY CONNECTIONS WILL BE UTILIZED, IF POSSIBLE.
5. CONTRACTOR SHALL NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON AND/OR IF SUCH CONDITIONS, IN THE CONTRACTOR'S OPINION, WOULD OR COULD RENDER THE DESIGN SHOWN HEREON INAPPROPRIATE OR INEFFECTIVE.
6. THIS PLAN IS SUBJECT TO ALL LOCAL AND STATE REGULATORY PERMITS, AGENCY REVIEW AND APPROVAL.
7. SOIL BORING CONDITIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
8. THE OWNER, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDIVIDUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF SITE IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23-2.21(e) OF THE N.J. UNIFORM CONSTRUCTION CODE AND CFR 1926.32(f) (OSHA COMPETENT PERSON).
9. ALL SITE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE BOROUGH OF KEYPORT CONSTRUCTION STANDARDS, WHERE APPLICABLE.
10. WATER MAIN EXTENSIONS AND FIRE HYDRANT LOCATIONS ARE SUBJECT TO MUNICIPAL REVIEW AND APPROVAL, ACCORDING TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS, AND AMERICAN WATERWORKS ASSOCIATION STANDARDS. PIPE MATERIALS SHALL BE CEMENT LINED DUCTILE IRON PIPE, CLASS 52, WITH BITUMINOUS COATED OUTSIDE, PUSH ON JOINTS WITH FIELD-LOK GASKETS. PIPING SHALL BE ENCASED IN POLYETHYLENE WHERE DESIGNATED BY THE MUNICIPAL ENGINEER. ALL FITTINGS SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS.
11. HORIZONTAL DATUM: NAD 83
    VERTICAL DATUM: NAVD 88
12. ANY EXISTING PAVEMENT, CURB OR SIDEWALK THAT IS IN POOR CONDITION OR IS DAMAGED AS A RESULT OF THE PROPOSED CONSTRUCTION MUST BE REPLACED.
13. THE CONTRACTOR SHALL PERFORM ALL NECESSARY TEST PITS TO ASCERTAIN AS BUILT CONDITIONS. THE CONTRACTOR SHALL SUBMIT DETAILS OF ALL WATER MAIN RELOCATION/REPLACEMENT AND WATER MAIN CROSSING WORK FOR THE APPROVAL BY THE BOROUGH OF KEYPORT.
14. THE CONTRACTOR MUST CONTACT THE BOROUGH DIRECTOR OF PUBLIC WORKS AND BOROUGH ENGINEER BEFORE THE START OF ANY WORK IN THE VICINITY OF WATER MAINS. A MINIMUM OF 48-HOUR ADVANCE NOTICE IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE TO FIELD LOCATE THE ACTIVE SERVICES TO THE PROPERTIES ALONG THE WATER MAIN EXTENSION. NEW SERVICES SHALL BE EXTENDED FROM THE NEW WATER MAIN TO THE EXISTING CURB STOPS AT ALL EXISTING SERVICE LOCATIONS.
15. THE EXISTING WATER MAIN SHALL BE ABANDONED IN PLACE IF NOT REQUIRED TO BE REMOVED DURING CONSTRUCTION OF THE NEW MAIN. THE EXISTING MAINS SHALL BE BULKHEADED AT THE END OF EACH ABANDONED MAIN SECTION.
16. THE BOROUGH OF KEYPORT WILL BE RESPONSIBLE FOR THE POTABLE WATER LINES UP TO THE GATE VALVES AT CURB OF EACH ENTRANCE TO THE BUILDING. A SECOND VALVE SHALL BE INSTALLED WITHIN THE BUILDING FOR SHUTOFF OF THE WATER SERVICE BY THE PROPERTY OWNER.
17. ALL WATER MAIN AND SERVICES SHALL BE DISINFECTED AND PRESSURE TESTED ACCORDING TO THE APPROVED SPECIFICATIONS AND NJDEP RULES, REGULATIONS AND STANDARDS UNDER THE SUPERVISION OF THE BOROUGH ENGINEER.
18. WATER MAINS SHALL BE APPROVED TO BE PUT IN TO SERVICE AFTER ACCEPTABLE LEAKAGE, 200 PSI MINIMUM PRESSURE, AND BACTERIOLOGICAL TESTING PERFORMED AND WRITTEN TEST RESULTS SUBMITTED TO THE BOROUGH ENGINEER.

    BACTERIOLOGICAL TESTING SHALL ONLY BE PERFORMED BY A NEW JERSEY CERTIFIED LABORATORY AND THE TESTING SHALL INCLUDE THE FOLLOWING:

    - TOTAL PLATE COUNT, 200 CFU/ML
    - TOTAL COLIFORM, NEGATIVE 100 ML
    - PH, 6.5 - 8.5
    - CHLORINE RESIDUAL, 0.3 MG/L
19. EXISTING WATER MAIN FROM GREEN GROVE AVENUE TO FULTON STREET SHALL BE ABANDONED IN PLACE. THE EXISTING MAINS SHALL BE BULLHEADED AT THE END OF EACH ABANDONED MAIN SECTION.
20. CONTRACTOR IS RESPONSIBLE TO RESTORE ALL PROPERTIES TO PRE-CONSTRUCTION CONDITIONS.
21. FINAL ROADWAY RESURFACING ON MAPLE PLACE SHALL BE AS DIRECTED BY MONMOUTH COUNTY ENGINEERING DEPARTMENT. FINAL ROADWAY RESURFACING ON BOROUGH ROADWAYS SHALL BE AS REQUIRED BY THE BOROUGH'S ROAD OPENING PERMIT REQUIREMENTS.

NO.	DATE	DESCRIPTION	DRAWN BY
1	8/29/22	REVISED PURSUANT TO RESOLUTION COMPLIANCE AND UTILITY SERVICE REVIEW #3	CM

PRELIMINARY AND FINAL MAJOR SITE PLAN

OF

LOTS 8 & 9, BLOCK 120 And LOTS 42, 48, 49, 50–52, BLOCK 130

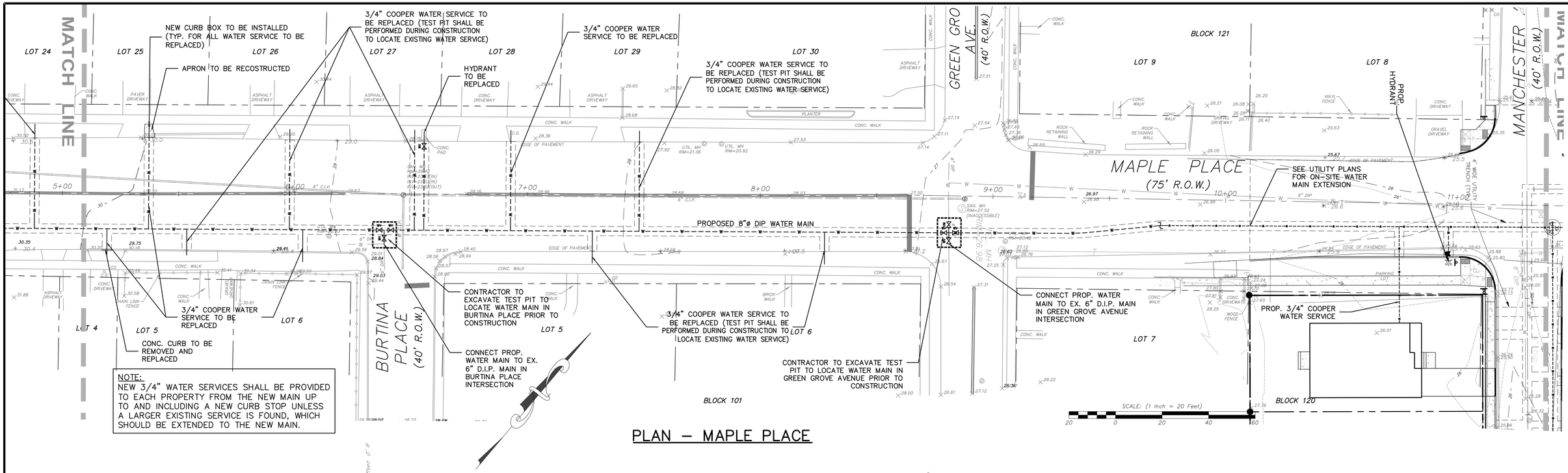
BOROUGH OF KEYPORT MONMOUTH COUNTY NEW JERSEY

WJH ENGINEERING
CERT. OF AUTH. NO. 24GA28117300
257 MONMOUTH ROAD, BLDG. A, STE. 7
OAKHURST, NJ 07755
PHONE - 732-223-1313
WWW.WJHENGINEERING.COM

OFF-SITE WATER MAIN EXTENSION PLAN AND PROFILE

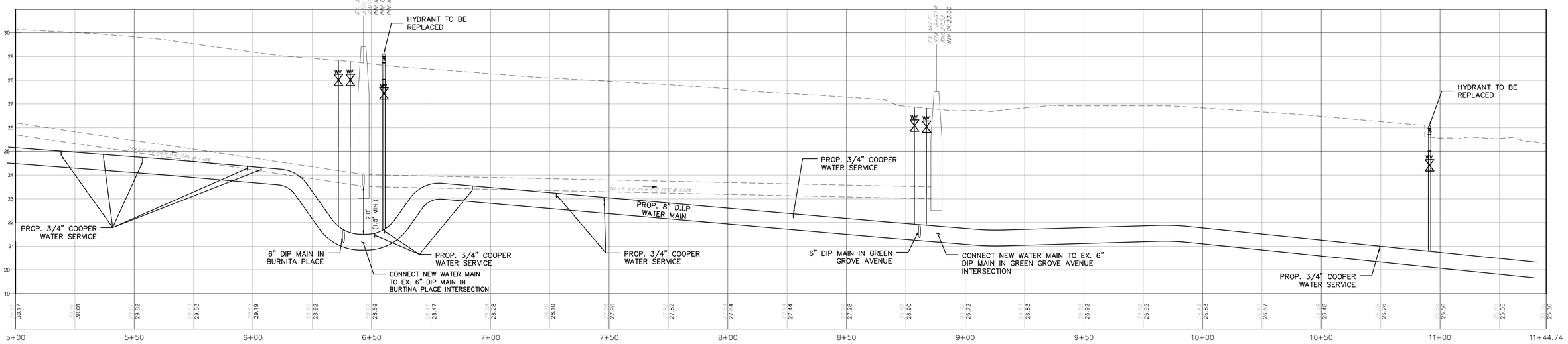
WALTER JOSEPH HOPKIN
N.J. PROFESSIONAL ENGINEER, LIC. No. 40673

SCALE:	DRAWN BY:	DATE:	JOB No.:	SHEET No.:
AS NOTED	JJL	6/21/22	19129	19 of 20



NOTE:
NEW 3/4" WATER SERVICES SHALL BE PROVIDED TO EACH PROPERTY FROM THE NEW MAIN UP TO AND INCLUDING A NEW CURB STOP UNLESS A LARGER EXISTING SERVICE IS FOUND, WHICH SHOULD BE EXTENDED TO THE NEW MAIN.

PLAN – MAPLE PLACE



MAPLE PLACE PROFILE STA 5+00 TO 11+45

HORIZ: 1"=20'
VERT:1"=2'

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PRELIMINARY AND FINAL MAJOR SITE PLAN

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