PRELIMINARY AND FINAL SITE PLAN

FOR

BLOCK 484 LOT 19.01

201 WALNUT AVENUE TOWNSHIP OF CRANFORD UNION COUNTY, NEW JERSEY

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12	CONSTRUCTION DETAILS	1/29/2021	09/08/2022				

PROPERTY OWNERS WI	ITHIN 200 FEET O	F SUBJECT PROPERTY	(BLOCK 484 LOT 19.01):
PROPERTY OWNERS WITHIN 200 FEET	T OF BLOCK 484 LOT 19.01, I	LIST HAS BEEN PREPARED BY BRYAN	FLYNN, ASSESSOR - TOWNSHIP OF

202 Walnut Avenue

		WITHIN 200 FEET OF BLOCK 484 LOT 19 MARCH 21, 2022	.01, LIST HAS BEEN PI
BLOCK	LOT	PROPERTY OWNER	PROPERTY LOCATION
478	08	CRFD Cong. of Jehovahs Wit. 77 Chestnut Street Cranford, New Jersey 07016	77 Chestnut Street
478	07	St Marks Ame Church 34 High Street Cranford, New Jersey 07016	34 High Street
485	23	Lee, Brian and Melissa G. 206 Walnut Avenue Cranford, New Jersey 07016	206 Walnut Avenue
484	16	Capece, Victoria G. & Harkin, Thomas 209 Walnut Avenue Cranford, New Jersey 07016	209 Walnut Avenue
484	22	First Baptist Church of Cranford 100 High Street Cranford, New Jersey 07016	100 High Street
477	08	Pijanowski, Charles and Carol R. 347 New Providence Road Mountainside, New Jersey 07092	120 Walnut Avenue
477	06	116 Walnut Avenue, LLC. 206 Avenue F Matamorus, Pennsylvania 18336	116 Walnut Avenue
484	21	First Baptist Church of Cranford 100 High Street Cranford, New Jersey 07016	98 High Street
484	18	Mazza, Barry and Elizabeth 205 Walnut Avenue Cranford, New Jersey 07016	205 Walnut Avenue
478	10.01	DB Walnut Ave LLC. 55 Bleeker Street, 2nd Floor Millburn, New Jersey 07041	109 Walnut Avenue
477	07	Cohen: Yvette Revocable Trust 186 Temple Avenue Boynton Beach, Florida 33436	118 Walnut Avenue
478	09	Union County Economin Dev. Corp 75 Chestnut Street Cranford, New Jersey 07016	75 Chestnut Street
484	23	106 HSC LLC. PO Box 253 Short Hills, New Jersey 07078	106 High Street
484	17	Corigliano Homes, LLC. 6 Millbrook Drive Toms River, New Jersey 08757	207 Walnut Avenue
485	25	Ogletree: Annmarie Buontempo 1212 Halcyon Drive Savannah, Georgia 31406	210 Walnut Avenue
485	26	Kirkman: Kent Randolph 212 Walnut Avenue Cranford, New Jersey 07016	212 Walnut Avenue
484	15	Della Serra: Aspirina 441 Manor Avenue Cranford, New Jersey 07016	211 Walnut Avenue
485	24	Banic, Ljuba 204 Hawthorne Drive Clark, New Jersey 07066	208 Walnut Avenue
485	22	Callahan, Jill & Galati, Marie 204 Walnut Avenue Cranford, New Jersey 07016	204 Walnut Avenue
485	21	Renna: Joseph and Tina	202 Walnut Avenue

202 Walnut Avenue

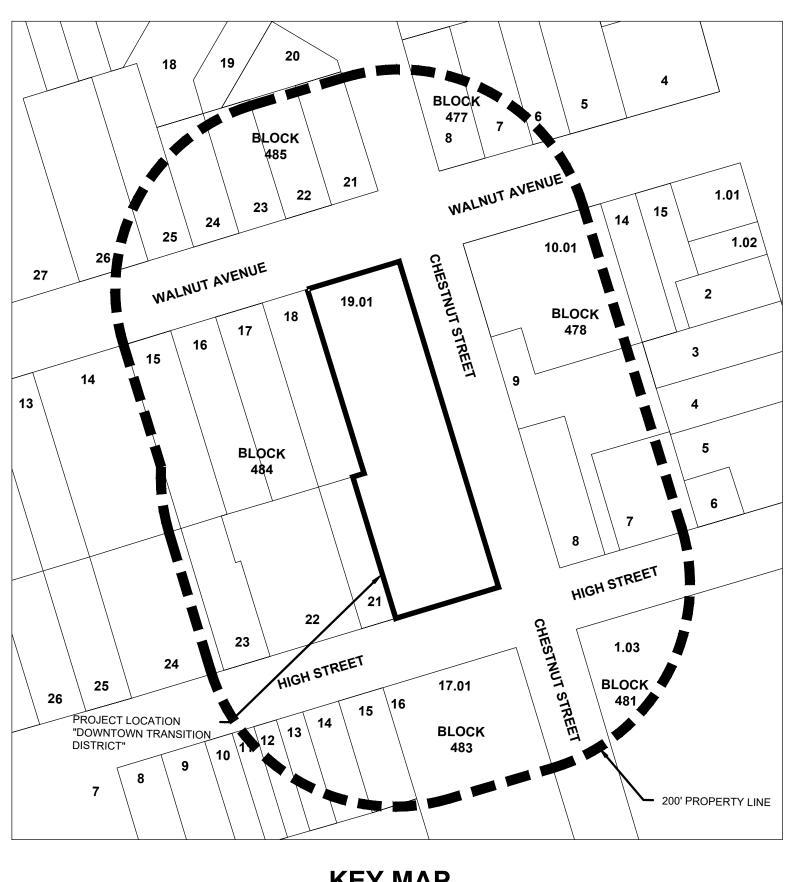
PUBLIC UTILITIES AND OR CABLE COMPANY WITHIN 200 FEET OF SUBJECT PROPERTIES:

Executive Offices Attn: Corporate Secretary 1 Verizon Way Basking Ridge, New Jersey 07920 Elizabeth Gas Company Engineering Department 520 Green Lane Union, New Jersey 07083 PSE&G Company Manager — Corporate Properties 80 Park Plaza, T6B Newark, New Jersey 07101 Comcast Cablevision C/O - Corporation Trust Co. 820 Bear Tavern Road West Trenton, New Jersey 08628 New Jersey American Water, Inc. Attn: GIS Supervisor 1025 Laurel Oak Road Voorhess, New Jersey 08628 Rahway Valley Sewerage Authority

Attn: Chief Engineering

1050 East Hazlewood Avenue

Rahway, New jersey 07065



KEY MAP NOT TO SCALE

GENERAL NOTES

NJDEP ELECTRONIC APPROVAL STAMP

- 1. THE SUBJECT PROPERTY IS KNOWN AND DESIGNATED AS BLOCK 484, LOT 19.01 AS SHOWN ON THE CURRENT TAX ASSESSMENT MAP OF THE TOWNSHIP OF CRANFORD. SHEET NO. 107 AND IS SITUATED IN THE "D-T" (DOWNTOWN TRANSITION) ZONING DISTRICT, AND WITHIN SUBDISTRICT 2 OF THE SOUTH AVENUE & CHESTNUT AVENUE REDEVELOPMENT PLAN. THE SUBJECT PROPERTY CONTAINS A TOTAL OF 36,875 SF, ±0.847 ACRES.

201 WALNUT AVE LLC C/O BRANDON K. BOFFARD, ESC 55 BLEEKER STREET, 2ND FLOOP MILBURN, NEW JERSEY 07041

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE PLAN HEREIN DEPICTED AND THAT I CONCUR WITH THE PLAN.

OWNER, 201 WALNUT AVE LLC

- 4. BASE MAP INFORMATION WAS OBTAINED FROM THE FOLLOWING SOURCES
- TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY PREPARED FOR LOT 19.01, BLOCK 484 SITUATED IN THE TOWNSHIP OF CRANFORD, UNION COUNTY, NEW JERSEY" PREPARED BY DYKSTRA WALKER DESIGN GROUP.
- ARCHITECTURAL FOOTPRINTS OBTAINED FROM A PLAN ENTITLED "RESIDENTIAL DEVELOPMENT 201 WALNUT AVENUE CRANFORD NEW JERSEY" PREPARED BY BLACKBIRD GROUP ARCHITECTS, LLC. DATED OCTOBER 28, 2020
- (3) SPECIAL NEEDS HOUSING UNITS.
- AREA AND BULK ZONE REQUIREMENTS FOR SUBDISTRICT 2 OF THE SOUTH AVENUE & CHESTNUT STREET REDEVELOPMENT PLAN WITHIN THE D-T "DOWNTOWN TRANSITION DISTRICT"

	PERMITTED:	EXISTING:	PROPOSED:
MINIMUM LOT REQUIREMENTS			
MINIMUM LOT AREA	0.75 ACRES	0.85 ACRES	0.85 ACRES
PRINCIPAL BUILDING REQUIREMENTS			
MINIMUM FRONT YARD	10 FT. FROM CURB LINE	64.0 FT.	16.6± FT. (CHESTNUT AVE.)
MINIMUM SIDE YARD	9 FT. FROM CURB		EET) 21.6± FT. (HIGH STREET) E.) 30.4± FT. (WALNUT AVE.)
MINIMUM REAR YARD	10 FT. BETWEEN BUILDINGS OR 15 FT. BETWEEN CURB OR PROPERTY LINE	9.8± FT.*	16.3± FT.
MAXIMUM BUILDING HEIGHT (MEASURED FROM GRADE PLANE)	45 FT. / 3 STORIES	±10 FT.	LESS THAN 45 FT. / 3 STORIES
MAXIMUM BUILDING COVERAGE	90%	3.4%	31.8% (GROUND FLOOR) 70.1% (ENTIRE BUILDING)
MAXIMUM LOT COVERAGE	95%	51.8%	87.06%

7. OFF-STREET PARKING REQUIREMENTS - USE: DWELLING, MULTI-FAMILY (NONE REQUIRED FOR SPECIAL NEEDS HOUSING UNITS) <u>AUTOMOTIVE PARKING:</u>

1.4 SPACES PER UNIT X 36 UNITS = 50.4 OR 51 SPACES AT LEAST 15% TO BE ELECTRIC VEHICLE MAKE-READY PARKING SPACES = 7.65 OR 8.

53 PARKING SPACES 2 ADA PARKING SPACES +2 STREET PARKING ON CHESTNUT AVE. TOTAL 57 PARKING SPACES, INCLUDING 10 ELECTRIC VEHICLE MAKE-READY PARKING SPACES, +5 EV READY PARKING SPACE CREDIT

<u>PROVIDED</u>

18 SPACES

BICYCLE PARKING: <u>REQUIRED</u> COVERED: 0.25 SPACES PER UNIT X 36 UNITS = 9

- OUTDOOR: 0.10 SPACES PER UNIT X 36 UNITS = 3.6 = 4 4 SPACES 1,547 SF OF PRIVATELY-OWNED PUBLIC OPEN SPACE HAS BEEN PROVIDED BETWEEN SUBDISTRICT 1 AND 2
- 9. ALL PROPOSED UTILITIES OTHER THAN ELECTRIC SERVICE SHALL BE INSTALLED UNDERGROUND.
- 10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWNSHIP OF CRANFORD DESIGN STANDARDS AND DETAILS.
- 11. TRASH AND RECYCLING DISPOSAL SHALL BE IN ACCORDANCE WITH THE TOWNSHIP OF CRANFORD DEPARTMENT OF PUBLIC UTILITIES
- 12. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF 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'.
- 13. ALL DESIGN FEATURES DEPICTED HEREON WERE BASED ON CONSTRAINTS AND REGULATIONS IN EFFECT AT THE TIME OF PREPARATION AND INITIAL PRESENTATION OF THIS PLAN. ALL CURRENT DEVELOPMENT CONSTRAINTS SHOULD BE INVESTIGATED PRIOR TO COMMENCEMENT OF ANY ACTIVITY BASED ON THIS PLAN.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES FOR GAS, ELECTRIC, PHONE AND CABLE TV SERVICE LOCATIONS. LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND IS NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATIONS PRIOR TO PERFORMING ANY CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES ASSOCIATED WITH THE UTILITIES. ALL REPAIRS SHALL BE TO THE SATISFACTION OF THE AGENCIES GOVERNING THOSE UTILITIES.
- 15. ANY CONFLICTS ENCOUNTERED WITH EXISTING UTILITIES MUST BE ADDRESSED. COORDINATE RELOCATION WITH RESPECTIVE UTILITY
- 16. ANY IMPORTED FILL SHALL MEET THE DEFINITION OF CLEAN FILL, PURSUANT TO THE TECHNICAL REQUIREMENTS FOR SITE REMEDIATION (NJAC 7: 26E-1.8).
- 17. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY AREA THAT HE/SHE DISTURBED BEYOND THE PROPERTY LIMITS TO ITS
- 18. CONTRACTOR TO PROVIDE NECESSARY FOUNDATION DRAINS AND WATER-PROOFING AROUND FOUNDATION, INCLUDING BUT NOT LIMITED TO ELEVATOR PITS. COORDINATE WITH ARCHITECT AS REQUIRED.
- 19. TEST PIT EXCAVATION WAS PERFORMED BY FRENCH AND PARRELLO ASSOCIATES ON JANUARY 27, 2021. THE ELEVATION OF THE ESTIMATED SEASONAL HIGH WATER TABLE WAS ESTIMATED TO BE 57.5 AS INDICATED ON THE SOIL BORING LOG SHEET.
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ANY ROAD OPENING PERMITS THAT MAY BE REQUIRED FOR THE INSTALLATION OF NEW UTILITY SERVICES OR DRIVEWAY OPENINGS.
- 21. REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND PERMIT FOR REQUIRED SOIL EROSION AND SEDIMENT CONTROL
- 22. NO SOIL SHALL BE REMOVED FROM THE SITE WITHOUT WRITTEN APPROVAL FORM THE TOWNSHIP ENGINEER.

AVE CAREFULLY EXAMINED THIS MAP AND FIND IT CONFORMS TO THE OVISIONS OF THE MAP FILING LAW AND MUNICIPAL ORDINANCES AND QUIREMENTS THERETO	THIS APPLICATION NOIS APPROVED BY THE CRANFORD TOWNSHIP PLABOARD AS A MAJOR DEVELOPMENT
	CHAIRPERSON
WNSHIP ENGINEER (AFFIX SEAL)	
	DATE
TE	
	SECRETARY

	7	09/08/2022 08/10/2022	REVISED PER TOWNSHIP DRC MEETING		BF
		08/10/2022	DELMOED DED TOURIQUED COLUDIFICATION DELMENT		
	6		REVISED PER TOWNSHIP COMPLETENESS REVIEW		BF
	٠ ا	07/05/2022	REVISED SANITARY SEWER PROFILE	SP	BF
	5	04/25/2022	REVISED PER UNION COUNTY COMMENTS DATED JAN. 6, 2022	SP	MS
	4	12/08/2021	REVISED PER UNION COUNTY COMMENTS	SP	MS
	3	11/01/2021	REVISED BUILDING FOOTPRINT	SP	MS
	2	4/30/2021	REVISED PER NJDEP COMMENTS	MS	BF
	1	4/28/2021	REVISED PER NJDEP COMMENTS	SP	MS
N	No.	Date	Revision	Revised By	Checked By

SCALE IN FEET



New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

PRELIMINARY AND FINAL SITE PLAN

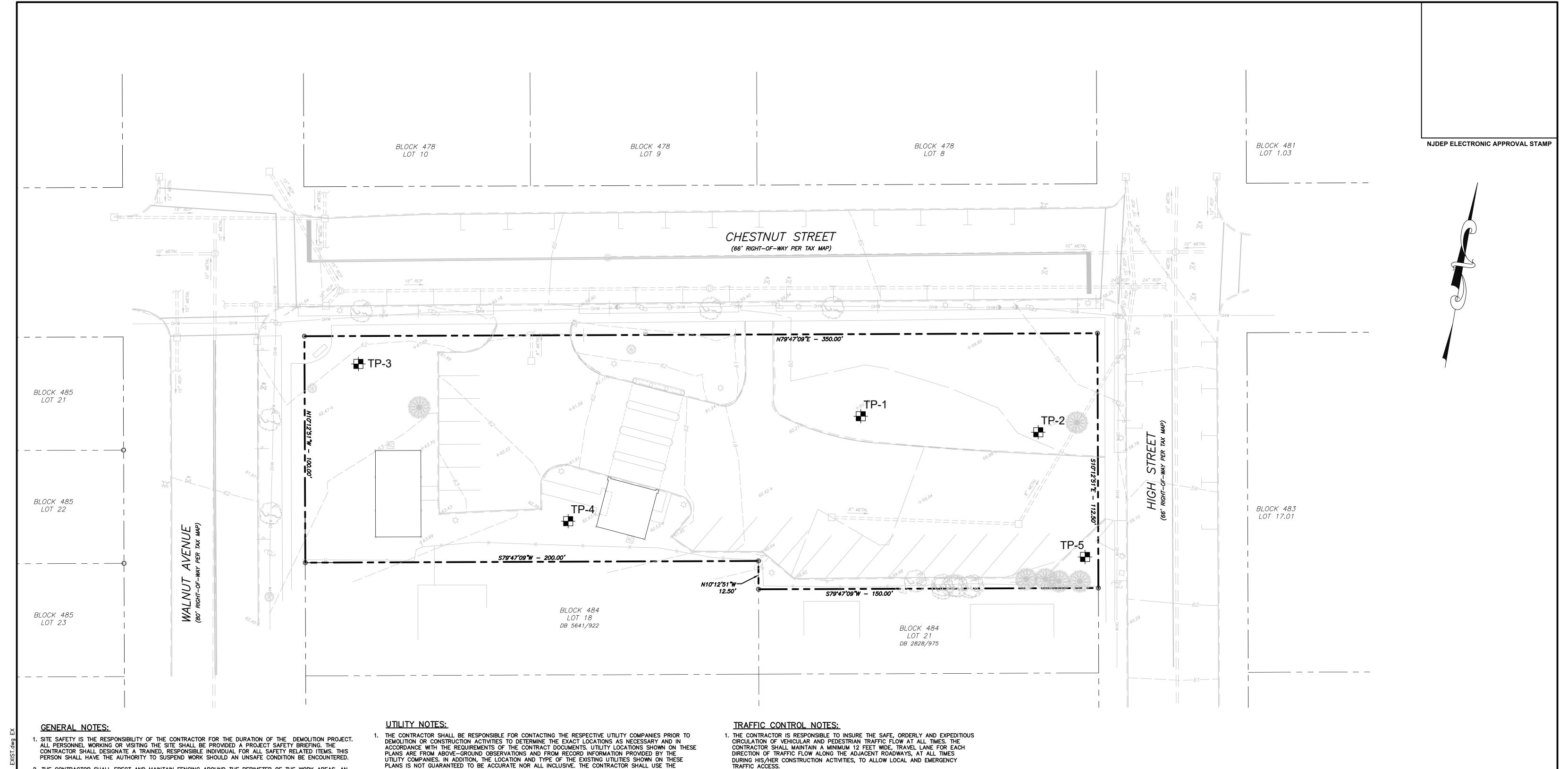
201 WALNUT AVENUE BLOCK 484 LOT 19.01

COVER SHEET

TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

1/29/2021 KDW AS SHOWN 16377.001 BAHRAM FARZANEH. PE. PP CHECKED BY: FIELD BOOK PROFESSIONAL ENGINEER, NJ LIC. No. 24GE03454800

THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED. DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING



- 2. THE CONTRACTOR SHALL ERECT AND MAINTAIN FENCING AROUND THE PERIMETER OF THE WORK AREAS. AN EIGHT FOOT HIGH CHAIN LINK FENCE SHALL BE USED. DURING THE DEMOLITION OPERATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING THE PERIMETER FENCING, LOCATED ALONG THE LIMITS OF EACH DESIGNATED DEMOLITION AREA AND SHALL REPLACE ANY DAMAGED SECTIONS TO THE SATISFACTION
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TEMPORARY OFFICE TRAILERS, ON-SITE DECONTAMINATION AREAS, DISPOSAL CONTAINERS AND ALL OTHER ITEMS AS MAY BE REQUIRED TO PERFORM HIS ACTIVITIES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 4. THE CONTRACTOR SHALL PROCURE AND PAY FOR ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT HIS WORK IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL REGULATIONS AND AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS AND ALL CODES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITY CONTROLLING OR LIMITING THE METHODS, MATERIAL TO BE USED, OR THE ACTIONS OF OF THOSE EMPLOYED IN WORK OF THIS KIND. ALL WORK, LABOR OR MATERIAL NECESSARY TO COMPLY WITH THESE LAWS, CODES, RULES AND REGULATIONS SHALL BE PERFORMED AND FURNISHED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FERTILIZING AND SEEDING ALL AREAS DISTURBED BY HIS/HER ACTIVITIES WITHIN THE LIMITS OF THE PROJECT SITE. ROAD PAVEMENT REPLACEMENT AND ALL OTHER RÉSTORATION WORK WITHIN THE CITY OF PATERSON RIGHT-OF-WAY SHALL MEET THE REQUIREMENTS OF THE CITY ENGINEER.
- 6. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY EQUIPMENT AND METHODS TO KEEP EXCAVATIONS FREE OF WATER AND PROTECT WORK AND ADJACENT STRUCTURES FROM DAMAGE BY WATER DURING ALL STAGES OF HIS/HER ACTIVITIES.
- UTILITY COMPANIES. IN ADDITION, THE LOCATION AND TYPE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR SHALL USE THE EXISTING UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS. THE CONTRACTOR MUST CONTACT THE "ONE CALL SYSTEM" AT 1-800-272-1000 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION, SCHEDULING AND ALL COSTS REQUIRED TO CAP, DISCONNECT AND REMOVE THE UTILITIES. IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY AGENCY OR THE AUTHORITY HAVING JURISDICTION. IN ADDITION, IF ANY EXISTING IMPROVEMENTS LOCATED WITHIN THE THE BOROUGH RIGHT-OF-WAY ARE DISTURBED BY THE CONTRACTOR OR THE UTILITY COMPANIES, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF THE IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE BOROUGH ENGINEER. THE CONTRACTOR SHALL CALL THE PSE&G DEMOLITION CENTER AT 1-800-817-3366 TO SCHEDULE THE INDIVIDUAL METER REMOVAL AND CUTTING OF SERVICE LINES FOR EACH STRUCTURE THAT IS TO BE DEMOLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS REQUIRED BY THE BOROUGH OF SAYREVILLE BUILDING BUREAU FOR THIS WORK, INCLUDING LETTERS FROM THE WATER, GAS AND ELECTRICAL COMPANIES, WHICH INDICATES ALL UTILITIES TO BE REMOVED ARE CLEARED FOR DEMOLITION AND/OR EXCAVATION.
- 3. IF ANY UTILITY FACILITIES, INCLUDING DISTRIBUTION MAINS OR SERVICES FOR ADJACENT PROPERTIES, ARE DISRUPTED OR DAMAGED DURING THE CONSTRUCTION WORK ASSOCIATED WITH THIS PROJECT, THEN THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE UTILITY FACILITIES BY THE END OF THE WORKING DAY AT NO ADDITIONAL EXPENSE TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED TO REMOVE OR TEMPORARILY SUPPORT
- 4. ANY UTILITY POLE AND/OR GUY ANCHORS THAT MAY BE IN CONFLICT WITH HIS ACTIVITIES. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EXISTING FACILITIES FROM THESE POLES, INCLUDING ALL LIGHTS, ELECTRICAL LINES, TELEPHONE LINES, CABLE LINES AND ALL ELSE AS REQUIRED TO REMOVE THE UTILITY POLES OR GUY ANCHORS. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR THE REMOVAL OF ANY EXISTING FACILITIES THAT ARE NOT PRIVATELY OWNED.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION, INSTALLATION AND SUPPLY OF ANY UTILITY SERVICE REQUIRED FOR THIS PROJECT, INCLUDING TEMPORARY POWER AND TELEPHONE SERVICES. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THIS PROJECT.

- 2. WATCHMEN AND FLAGMEN SHALL BE EMPLOYED BY THE CONTRACTOR FOR THE PROTECTION OF ANY EQUIPMENT ENTERING, LEAVING OR CROSSING ACTIVE TRAFFIC LANES, OR AS MAY BE REQUIRED FOR ROUTING OF ANY TRAFFIC AROUND OR THROUGH THE CONSTRUCTION. WATCHMEN AND FLAGMEN WILL BE EMPLOYED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 3. BEFORE BEGINNING WORK ON ANY STAGE OF THE PROJECT, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WARNING SIGNS, BARRICADES, TRAFFIC GUIDES, LIGHTS, SAFETY CONES AND OTHER DEVICES AS NECESSARY TO PROTECT THE PUBLIC DURING THAT PHASE OF HIS OPERATIONS. IN ADDITION, THE CONTRACTOR MUST NOTIFY ANY TENANTS OR PROPERTY OWNERS AT LEAST ONE WEEK PRIOR TO ANY ACTIVITIES THAT MAY EFFECT EXISTING OFF-STREET PARKING AND/OR THE FLOW OF
- 4. ALL NECESSARY REGULATORY AND WARNING SIGNS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LAST REVISED AND SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.

LEGEND

TEST PIT LOCATION

No.	Date	Revision	Revised By	Checked By
1	4/28/2021	REVISED PER NJDEP COMMENTS	SP	MS
2	4/30/2021	REVISED PER NJDEP COMMENTS	MS	BF
3	11/01/2021	REVISED BUILDING FOOTPRINT	SP	MS
4	12/08/2021	REVISED PER UNION COUNTY COMMENTS	SP	MS
5	04/25/2022	REVISED PER UNION COUNTY COMMENTS DATED JAN. 6, 2022	SP	MS
6	07/05/2022	REVISED SANITARY SEWER PROFILE	SP	BF
7	08/10/2022	REVISED PER TOWNSHIP COMPLETENESS REVIEW		BF
8	09/08/2022	REVISED PER TOWNSHIP DRC MEETING		BF

SCALE IN FEET

Wall, New Jersey 07719 732.312.9800 FRENCH & PARRELLO

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

EXISTING CONDITIONS PLAN PRELIMINARY AND FINAL SITE PLAN

201 WALNUT AVENUE BLOCK 484 LOT 19.01

TOWNSHIP OF CRANFORD

CHECKED BY:

SCALE:

1" = 20'

FIELD BOOK

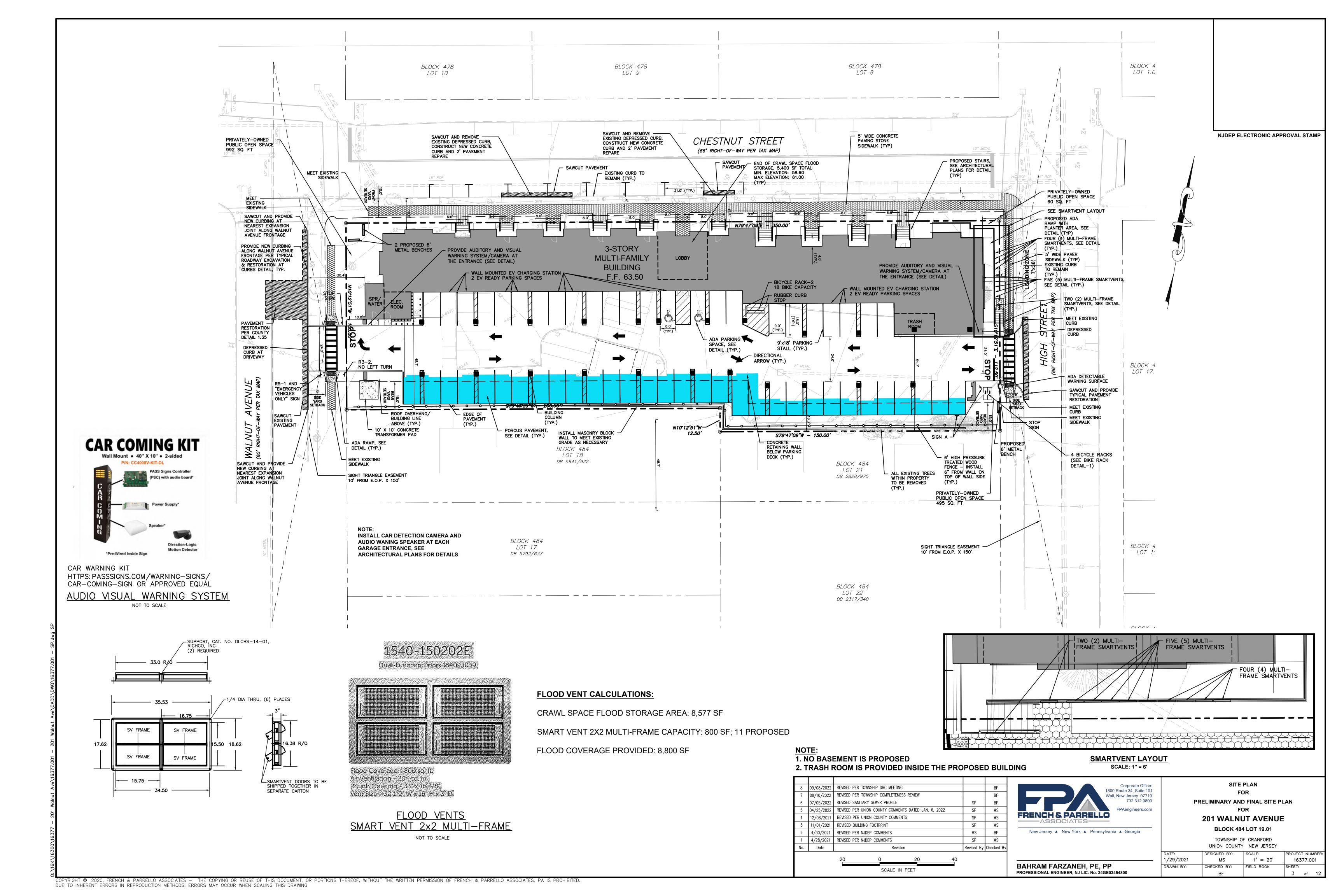
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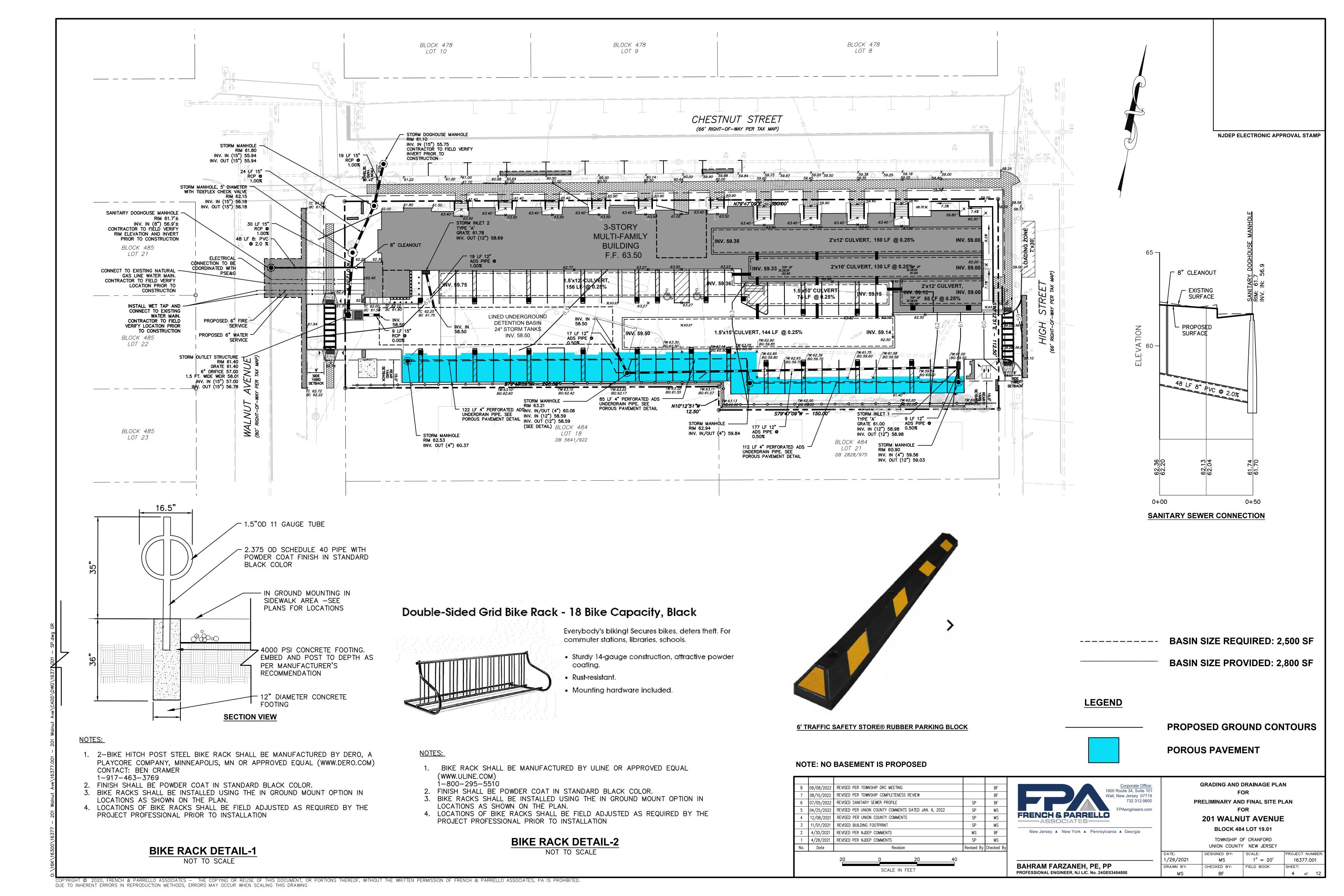
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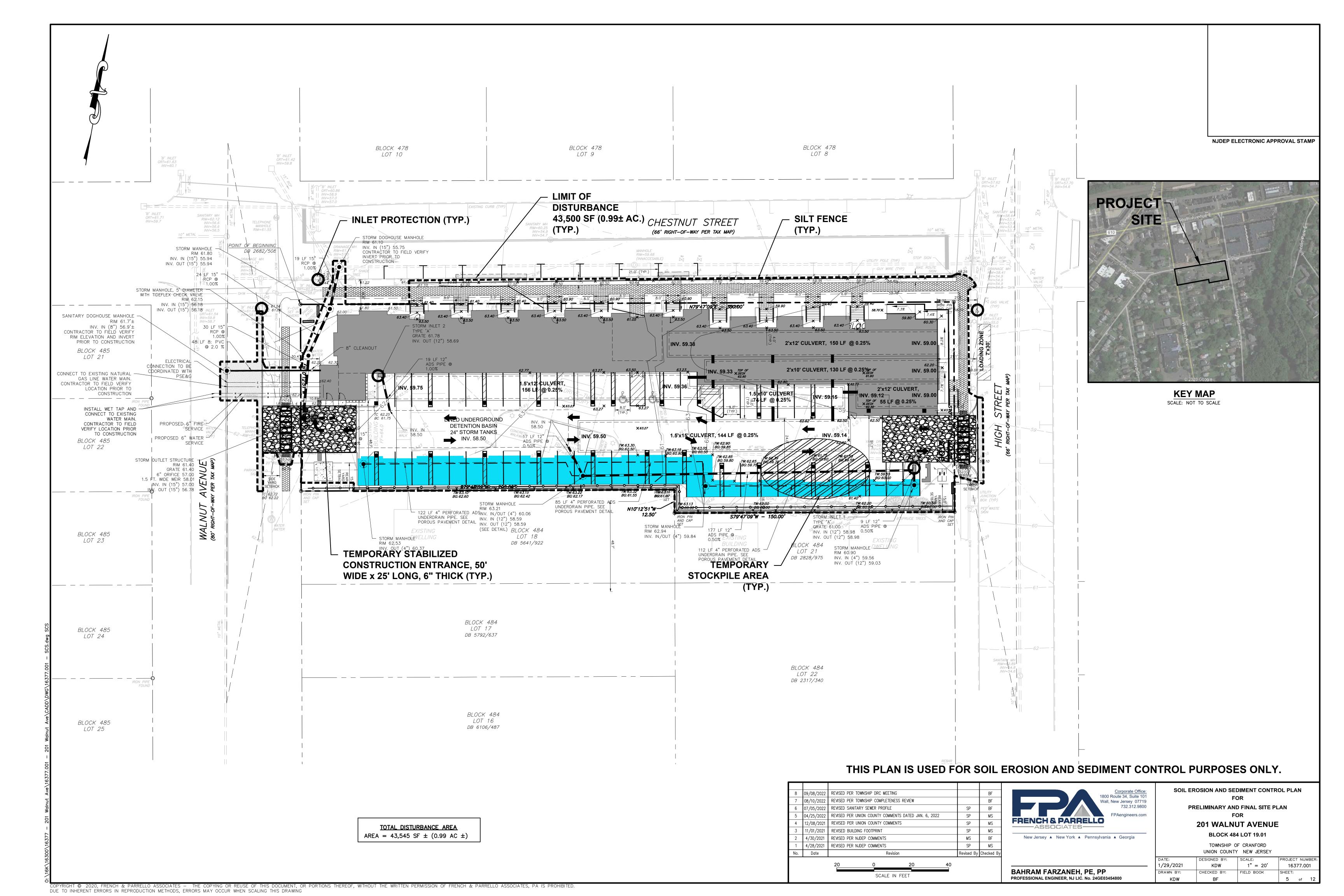
UNION COUNTY NEW JERSEY 1/29/2021 DRAWN BY:

BAHRAM FARZANEH. PE. PP PROFESSIONAL ENGINEER, NJ LIC. No. 24GE03454800

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SOIL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCES, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- 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 STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO NJ STATE STANDARDS
- PERMANENT VEGETATION SHALL BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NJ STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OR PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING ALL CRITICAL AREAS SUBJECT TO EROSION (I.E.: STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE NJ STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E.: SLOPES GREATER THAT 3:1)
- TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 50'X30'X6"PAD OF 1 1/2" OR 2"STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE
- THE SOMERSET-UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED. 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.
- IN THAT NJSA 4:24-39 ET SEQ., REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- 13. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT NJ STATE SOIL EROSION & SEDIMENT CONTROL STANDARDS.
- 14. THE SOMERSET—UNION SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP
- 5. MULCHING TO THE NJ STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONALS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
- 6. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING LIFE OF
- THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE SOMERSET-UNION SOIL CONSERVATION DISTRICT.
- 18. HYDRO SEEDING IS A TWO— STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY, GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF SEEDING OPERATION, HYDROMULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN SECOND STEP. THE USE OF HYDROMULCH, AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE NJ STANDARDS.

SOMERSET-UNION SOIL CONSERVATION DISTRICT SOMERSET COUNTY 4-H CENTER 308 MILLTOWN ROAD

BRIDGEWATER NEW JERSEY 08807 (908) 526-2701

<u>ACID SOILS NOTES</u>

IN ORDER TO PROVIDE SUITABLE CONDITIONS FOR GROWTH AND VEGETATION AND TO PREVENT THE ACIDIFYING OF DRAINAGE WATER IN THOSE AREAS UNDERLAIN WITH ACID FORMATIONS WITH A ph BELOW 4.0 THE FOLLOWING REQUIREMENT SHALL BE MET:

- . LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
- 2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
- . STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
- TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
- HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACE OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1.000 SQUARE FEFT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
 - A. AREAS WHERE TREES OR SHRUBS ARE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
 - B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24" OF ANY SURFACE OF A SLOPE OR BANK. SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
- 6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
- NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE
- FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

CONSTRUCTION SCHEDULE AND PROCEDURE FOR IMPLEMENTATION OF SOIL <u>EROSION AND SEDIMENT CONTROL MEASURES</u>

- PROVIDE TEMPORARY STABILIZATION OF ALL DISTURBED AREAS AND INSTALL SILT FENCE, TREE PROTECTION, INLET PROTECTION, STABILIZED CONSTRUCTION ENTRANCES AND ALL OTHER NECESSARY SOIL EROSION MEASURES. (1 WEEK)
- REMOVE EXISTING SITE IMPROVEMENTS. (3 WEEK)

SEDIMENT CONTROL PLAN MAY BE REQUIRED.

- CLEAR AND ESTABLISH ROUGH GRADES AS NECESSARY TO CONSTRUCT SITE IMPROVEMENTS. (2 WEEKS) INSTALL ALL UNDERGROUND UTILITIES AND ADDITIONAL ADDITIONAL INLET PROTECTION AS NECESSARY
- CONSTRUCT PROPOSED BUILDING AND PARKING AREAS (24 WEEKS)
- ESTABLISH FINISHED GRADE, AND PROVIDE PERMANENT VEGETATIVE COVER. (1 WEEK)
- REMOVE ACCESS PROTECTION, INLET PROTECTION, TREE PROTECTION AND SILT FENCE AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED. 2 DAYS)

THE ABOVE SCHEDULE IS FOR THE IMPLEMENTATION AND INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES ONLY. CONTRACTOR MAY MODIFY AND/OR CREATE HIS OWN SCHEDULE. IF THE CONSTRUCTION SCHEDULE IS MODIFIED, A REVISION TO THE CERTIFIED SOIL EROSION AND

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

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.
- B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
- C. TOPSOIL SHOULD BE HANDLED ONLY WHEN ITS 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
- D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

- 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 S.F. 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-HALFTHE RATE DESCRIBED ABOVE DURING THE 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 3. SEEDING 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE ACID SOIL NOTES.

A. PERMANENT SEEDING SHALL CONSISTING OF THE FOLLOWING MIXES OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU APRIL 30 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 15:

@ 4.0#/1,000 S.F. PERENNIAL RYEGRASS @ 1.0#/1.000 S.F. KENTUCKY BLUEGRASS @ 1.0#/1,000 S.F.

PERMANENT SEEDING SHALL BE PROVIDED ON ALL THE DETENTION BASIN SIDE SLOPES AND BASIN BOTTOM. THE SEED MIX SHALL BE SEED MIXTURE 17 AND CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL — ACCEPTABLE SEEDING ARE BETWEEN MARCH 1 THRU AUGUST 14 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 1:

@1#/1,000 S.F.

CREEPING BENTGRASS CREEPING RED FESCUE

@1#/1,000 S.F. ALKALI SALTGRASS @1#/1,000 S.F.

- PLEASE NOTE THAT OTHER SEED MIXTURES CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT
- 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 \$\frac{1}{4}\$ TO \$\frac{1}{2}\$ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1 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
- 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. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. 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

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

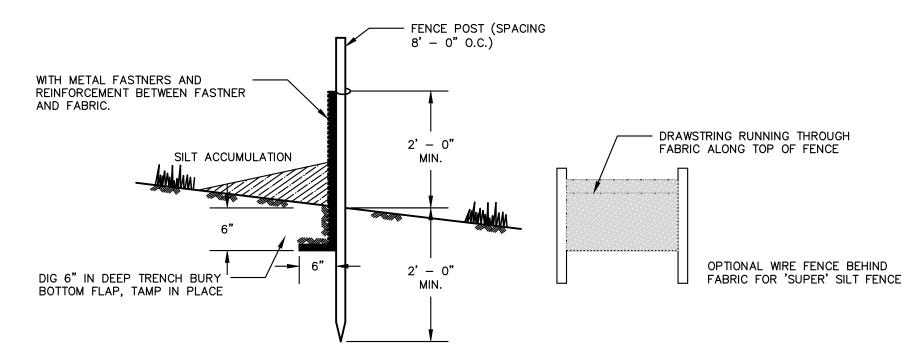
- A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1 1 TO 2 TONS ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH—BINDER (TACKIFYING OR ADHESIVE AGENT). THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO 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 DISTRIBUTION 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 STRECHING TWINE BETWEEN PEGS IN A
- CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS. 2. MULCH NETTING. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE
- 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 OR STRAW MULCH.
 - A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
 - B. USE ONE OF THE FOLLOWING:
- ORGANIC AND VEGETABLE BASED BINDERS NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT 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 AND WEATHER CONDITIONS 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 COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
- 3. 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. 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
- 4. PELLETIZED MULCH. COMPRESSED AND EXTRUDE PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHÉN APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75LBS/1,000 SQUARE FEET 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, SEED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE

APPLY 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, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS 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.



_T FENCE NOT TO SCALE

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

- 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.
- B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES,
- 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.)

- 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 S.F. OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE AS ESTABLISHED BY 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.
- 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
- C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RECTIFIED IN ACCORDANCE WITH THE ABOVE. D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS, SEE ACID SOIL NOTES.

A. TEMPORARY SEEDING SHALL CONSISTING OF THE FOLLOWING SEED SELECTIONS OR APPROVED EQUAL:

COOL SEASON GRASSES

SPRING OATS @ 2.0#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 1.0 INCH WINTER CEREAL RYE @ 2.8#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 1.0 INCH

WARM SEASON GRASSES

@ 0.5#/1,000 S.F. WITH OPTIMUM SEED DEPTH OF 1.0 INCH

- PLEASE NOTE THAT OTHER SEED SELECTIONS CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW
- 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 TO 1 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1 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-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED EEDING 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. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL
- 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.

REFER TO THE MULCH NOTES, NOTE 4 UNDER THE PERMANENT VEGETATIVE COVER SECTION

4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.

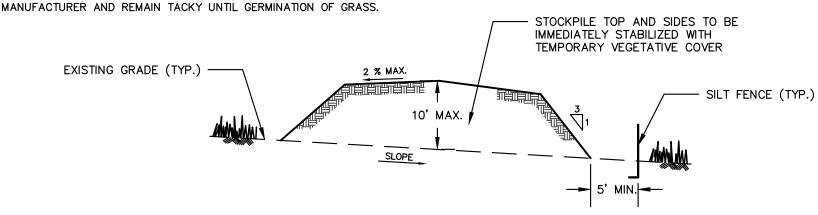
EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

STABILIZATION WITH MULCH

<u>METHODS AND MATERIALS</u>

2. PROTECTIVE MATERIALS

- 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.
- 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.
- A. UN-ROTTED SMALL-GRAIN STRAW, OR SALT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, ie. THE SOIL CAN NOT BE BELOW THE MULCH.
- B. ASPHALT EMULSION IS RECOMMENDED AT THE RATE OF 600 TO 1,200 GALLONS PER ACRE. THIS IS SUITABLE FOR A LIMITED PERIOD OF TIME WHERE TRAVEL BY PEOPLE, ANIMALS OR MACHINES IS NOT A PROBLEM.
- C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
- D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYROSEEDER
- 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 WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT G. GRAVEL, CRUSHED STONE, OR SAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3
- (ASTM-C-33) IS RECOMMENDED. 3. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.
- A. 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.
- B. MULCH NETTING STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG. C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT IS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO
- D. LIQUID MULCH -BINDERS APPLICATION SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN
- 2. USE ONE OF THE FOLLOWING: A. ORGANIC AND VEGETABLE BASED BINDER - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
 - 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 AND WEATHER CONDITIONS RECOMMENDED BY THE



- 1. TOPSOIL STOCKPILES TO BE PLACED AS DETERMINED IN THE FIELD.
- 2. STOCKPILE NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100' OF A NATURAL STREAM.

TEMPORARY STOCKPILE NOT TO SCALE

REVISED PER TOWNSHIP DRC MEETING 09/08/2022 08/10/2022 REVISED PER TOWNSHIP COMPLETENESS REVIEW 107/05/2022 REVISED SANITARY SEWER PROFILI REVISED PER UNION COUNTY COMMENTS DATED JAN. 6, 2022 04/25/2022 SP 12/08/2021 REVISED PER UNION COUNTY COMMENTS SP SP 11/01/2021 REVISED BUILDING FOOTPRINT REVISED PER NJDEP COMMENTS 4/30/2021 MS 4/28/2021 SP REVISED PER NJDEP COMMENTS MS Date Revision l Revised Bv IChecked Bv

SCALE IN FEET



BAHRAM FARZANEH, PE, PP

PROFESSIONAL ENGINEER, NJ LIC, No. 24GE0345480

INSERT 1" REBAR

FROM INLET

FOR BAG REMOVAL

(REBAR NOT INCLUDED)

OPTIONAL OVERFLC

DUMP LOOPS 1

(REBAR NOT INCLUDED)

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

Vall, New Jersey 07719 732.312.9800

FOR

201 WALNUT AVENUE

SOIL EROSION AND SEDIMENT

CONTROL NOTES AND DETAILS

PRELIMINARY AND FINAL SITE PLAN

BLOCK 484 LOT 19.01 TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

DESIGNED BY: SCALE: PROJECT NUMBE 1/29/2021 AS SHOWN 16377.001 KDW CHECKED BY: FIELD BOOK DRAWN BY KDW

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- 6" MIN. EXISTING GROUND ----- PUBLIC RIGHT-OF-WAY PROVIDE APPROPRIATE **PROFILE**

INLET PROTECTION DETAIL

NOT TO SCALE

NJDEP ELECTRONIC APPROVAL STAMF

OPENING

CURB DEFLECTOR

CONTRACTOR IS TO CLEAN INLET

2. CONTRACTOR TO REMOVE FABRIC

ONCE ALL WORK IS COMPLETED.

TRANSITION BETWEEN

ENTRANCE AND PUBLIC

RIGHT-OF-WAY

CONSTRUCTION

FILTER AFTER EVERY STORM

LENGTH OF STONE REQUIRED PERCENT SLOPE OF ROADWAY FINE GRAINED SOILS 100 FEET 2% TO 5% 100 FEET 200 FEET ASPHLAT BASE COURSE, MIX I-2

NOTES:

EXISTING GROUND

- LENGTH 50 FEET MINIMUM WHERE SOILS ARE COURSE GRAINED (SAND OR GRAVEL), OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVEL LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE STANDARD FOR DIVERSIONS). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE SHOWN AS IN TABLE ABOVE. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE, MIX I-2, SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE BASE COURSE AND USE OF A DENSE GRADED AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR
- AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE. WHERE A STABILIZED CONSTRUCTION ENTRANCE EXIT TRAVERSES BETWEEN TWO BUILDINGS, IT SHALL BE STONED THE ENTIRE LENGTH OF THE RIGHT-OF-WAY. MOUNTABLE STONE BERMS PLACED ACROSS THE WIDTH OF THE EXIT MAY ALSO BE REQUIRED AT THE TRANSITION POINT BETWEEN

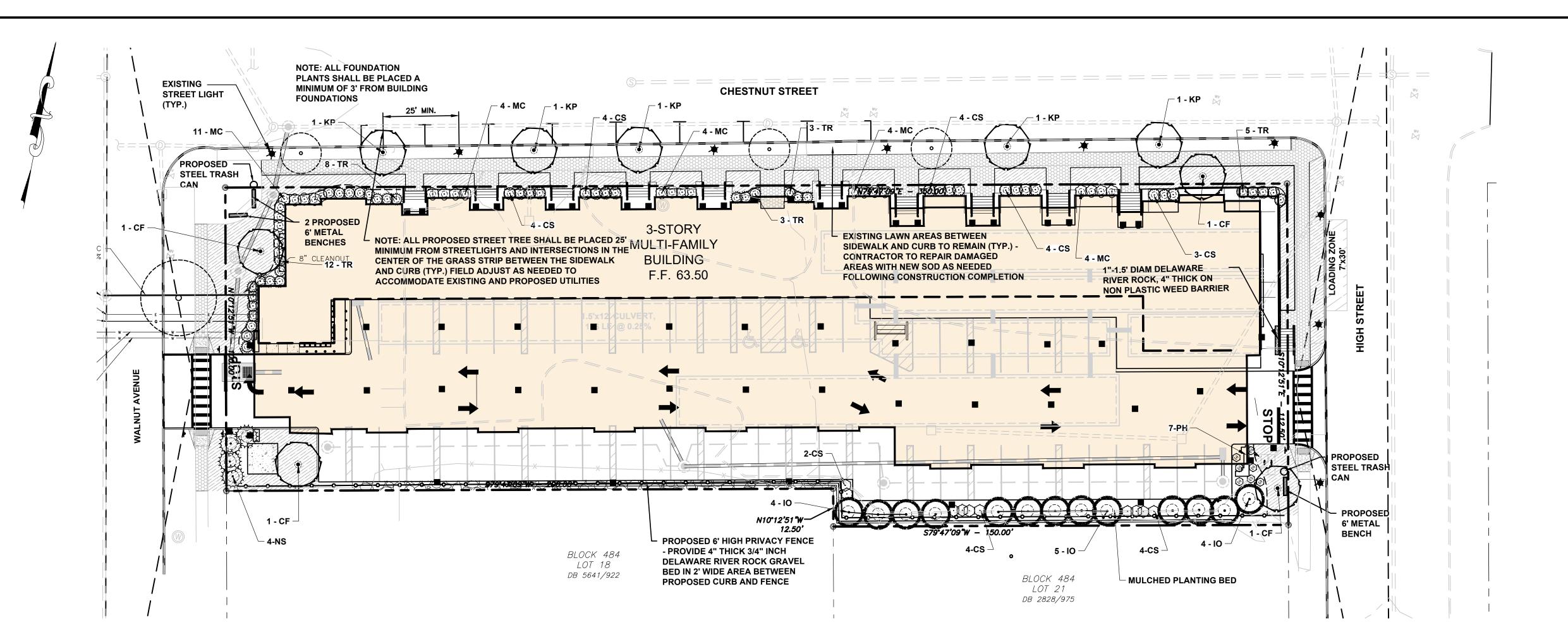
PAVED AND NON-PAVED AREAS TO TRAP SEDIMENTS WHICH ARE CARRIED BY STORMWATER

- FLOWING ALONG THE CURBLINE. THICKNESS - NOT LESS THAN 6 INCHES.
- <u>WIDTH</u> NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
- TIRE WASHING IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS. WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA
- MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY THE HEAVY EQUIPMENT MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED,

WASHED, OR TRACKED ONTO PUBLIC ROADWAYS (PRIVATE OR PUBLIC) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY. WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS. A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN

PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL

STABILIZED CONSTRUCTION ENTRANCE



NJDEP ELECTRONIC APPROVAL STAMP

LEGEND

SODDED LAWN (TYP.)



PROPOSED LIGHT FIXTURE



EXISTING STREET LIGHT FIXTURE



EXISTING TREE TO REMAIN



PROPOSED PLANT MATERIAL

APPROXIMATE INSTALLE
APPROXIMATE SIZE AT 15 TO
20 YRS GROWTH

PLANTING NOTES

- 1. THE LANDSCAPE PLAN SHALL BE USED FOR LANDSCAPING PURPOSES ONLY. THE CONTRACTOR SHOULD EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR EXACT LOCATIONS OF UTILITIES,
- DRAINS, ETC., AND NOTIFY THE OWNER ABOUT ANY DISCREPANCIES BEFORE STARTING WORK.

 2. ALL PLANTING SHALL BE IN CONFORMANCE WITH THE AMERICAN NURSERYMEN'S ASSOCIATION STANDARDS, CURRENT EDITION. ALL PLANT MATERIALS USED SHALL BE TRUE TO NAME AND SIZE IN CONFORMITY WITH THE CURRENT EDITION OF THE AMERICAN STANDARD OF NURSERY STOCK AND SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY. ALL PLANTS SHALL HAVE NORMAL, WELL-DEVELOPED BRANCHES AND VIGOROUS ROOT SYSTEMS. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, FREE FROM DEFECTS, DISFIGURING KNOTS, ABRASIONS OF THE BARK, SUN SCALD INJURIES, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL OTHER FORMS OF INFECTION. ALL PLANTS SHALL BE NURSERY GROWN. ALL PLANT MATERIAL SHALL BE TAGGED AT THE NURSERY SOURCE AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- 3. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY ANY PERSON, VEHICLE, EQUIPMENT, OR TOOLS RELATED TO THE EXECUTION OF THIS CONTRACT.
- 4. EXCAVATION NEAR EXISTING UTILITIES TO BE CAREFULLY PERFORMED BY HAND.
- 5. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE AT THE NURSERY. ALL PLANT MATERIAL SHALL BE PLANTED SO THAT THE TOP OF THE ROOTBALL IS NO HIGHER OR LOWER THAN THE EXISTING/FINISHED GRADE DEPENDENT UPON SOIL CONDITIONS.
- 6. IN THE EVENT THAT PLANTING DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANT MATERIALS LIST, THE LANDSCAPING PLAN SHALL GOVERN. THE USE AND PLANTING OF BARE ROOT MATERIAL SHALL BE PROHIBITED.
- 7. ANY SUBSTITUTIONS OF PLANT MATERIAL WITH REGARDS TO SIZE, SPECIES, VARIETY, ETC., SHALL BE SUBJECT TO APPROVAL BY THE OWNER.
- 8. PLANTS SHALL ONLY BE INSTALLED WHEN THE SOIL IS FROST FREE.
- 9. UNDER NO CIRCUMSTANCES SHOULD THE MAIN LEADER OF A DECIDUOUS OR EVERGREEN TREE BE TOPPED. DECIDUOUS TREES SHALL BE PRUNED BY REMOVAL OF 1/3 OF THE INTERIOR BRANCHING STRUCTURE WITHOUT ALTERING THE ORIGINAL BRANCHING FORM OF THE TREE.
- 10. ALL DISTURBED AREAS, NOT BEING PLANTED, SHALL BE TOPSOILED 4" THICK, FERTILIZED, SEEDED, AND MULCHED WITH APPROVED MULCH. TOPSOIL SHALL BE NATURAL FRIABLE, FERTILE SOIL CHARACTERISTIC OF PRODUCTIVE SOIL IN THE VICINITY. IT SHALL BE FREE OF LUMPS OF CLAY, STONES, ROOTS, AND OTHER FOREIGN MATTER.
- 11. CUT AND LOOSEN SISAL HEMP CHOKE TIE AROUND TREE TRUNK. ALL PLASTIC MATERIAL SHALL NOT BE PERMITTED. ALL WIRE BASKETS AND PLASTIC LINERS OF CONTAINER GROWN TREES AND SHRUBS MUST BE COMPLETELY REMOVED. NO CONTAINER GROWN MATERIAL WILL BE ACCEPTED IF IT IS ROOT BOUND AND NOT ROOT PRUNED. THE USE OF NYLON TWINE ON ROOT BALLS IS PROHIBITED.
- 12. THE DEPTH OF PLANT PITS SHALL BE INCREASED BY 12" THROUGH THE ADDITION OF LOOSE AGGREGATE (3/4" TO 1 1/2" DIAMETER) WHEREVER POOR DRAINAGE OCCURS OR WHERE DIRECTED BY THE OWNER.
 13. GUY WIRES SHALL BE LOCATED SO THAT THEY WILL NOT PULL CROTCH APART. GUY WIRES TO SECOND BRANCH (MINIMUM ONE-THIRD HEIGHT OF TREE). USE THREE GUYS PER TREE UNLESS OTHERWISE
- INDICATED. ALL TREE STAKES, GUY WIRES, TREE WRAPPING AND SAUCERS SHALL BE REMOVED AFTER ONE GROWING SEASON.

 14. PLANTS PLANTED IN ROWS SHALL BE MATCHED SPECIMENS AND BE UNIFORM IN SIZE AND FORM.
- 15. IN THE EVENT THAT EXISTING VEGETATION IS REMOVED BEYOND THE CLEARING LIMITS SHOWN ON THE PLANS, ADDITIONAL PLANTING MUST BE PROVIDED AS APPROVED BY THE TOWNSHIP AND AT NO COST TO THE OWNER.
- 16. PLANTING BACKFILL MIXTURE SHALL CONSIST OF ONE PART TOPSOIL, ONE PART NATIVE SOIL AND ONE PART PEAT MOSS. NOTE THAT PLANTING MIXTURE MAY CHANGE BASED UPON SOIL CONDITIONS.
- 17. MULCH, 4" IN DEPTH, SHALL BE TREATED SHREDDED HARDWOOD BARK NOT EXCEEDING 2" IN GREATEST DIMENSION. MULCH SHALL BE INSTALLED WITH A MAXIMUM OF ONE (1) INCH WITHIN ONE (1) FOOT ON THE TREE'S ROOT FLARE. A NON-PLASTIC WEED RETARDANT BARRIER SHALL BE USED IN ALL NON GRASSED AREAS. MULCH SHALL BE FINE GRADED FOR A PLEASING APPEARANCE. THE USE OF MARBLE OR PINE BARK CHIPS IS PROHIBITED. MULCH VOLCANOES ARE NOT PERMITTED.
- 18. ALL PLANT MATERIAL SHALL BE GIVEN A MINIMUM OF 5 GALLONS OF WATER AT THE TIME OF INSTALLATION AND SHALL BE WATERED AT INTERVALS DURING ESTABLISHMENT TO ENSURE ADAPTATION TO THE SITE. PRIOR TO THE INSTALLATION OF THE PLANT MATERIAL, THE CONTRACTOR SHALL FILL EACH PLANTING PIT WITH WATER AND ALLOW IT TO FULLY PERCOLATE INTO THE GROUND PRIOR TO PLACEMENT OF THE PLANT. THE CONTRACTOR SHALL NOTIFY EITHER THE OWNER OR PROJECT LANDSCAPE ARCHITECT OF ANY PERCOLATION PROBLEMS PRIOR TO INSTALLATION.
- 19. PREFERRED PLANTING TIME PERIODS ARE FROM SEPTEMBER 1 TO NOVEMBER 30 OR MARCH 20 TO MAY 31. NO PLANTING SHALL BE EXECUTED DURING ABNORMALLY HOT WEATHER NOR WHEN THE GROUND IS FROZEN
- 20. THE CONTRACTOR SHALL REMOVE ALL DAMAGED BRANCHES AND NURSERY TAGS AT THE TIME OF INSTALLATION.
- 21. ALL TURF SHALL RECEIVE FERTILIZER CONSISTING OF 10-6-4 (50% ORGANIC) COMPOSITION, APPLIED AT 3 LB.. PER 100 SQ. FT. SLOW RELEASE FERTILIZER TABLETS OR PACKETS OF 20-10-5 COMPOSITION SHALL BE ADDED TO ALL PLANTING PITS AT THE FOLLOWING RATIOS: 1 PER SHRUB, 2 PER DECIDUOUS OR EVERGREEN TREES UP TO 2" IN CALIPER AND 3 FOR DECIDUOUS AND EVERGREEN TREES ABOVE 2"
- 22. EACH TREE THAT IS PLANTED MUST BE TAGGED WITH A DURABLE LABEL BEARING THE GENUS, SPECIES, VARIETY, PLANT PATENT NUMBER (IF APPLICABLE) AND CULTURAL REQUIREMENTS AND MUST BE INSPECTED PRIOR TO REMOVAL.
- 23. ALL GROUPED SHRUBS SHALL BE MULCHED TOGETHER TO FORM ONE CONTINOUS PLANTING BED.
- 24. CONTRACTOR TO BE RESPONSIBLE FOR SODDING AREAS BEING DISTURBED BY CONSTRUCTION. SOD TO BE IN ACCORDANCE WITH SOIL CONSERVATION DISTRICT'S STANDARDS.
- 25. ALL TREES FOUR (4) FEET OR GREATER IN HEIGHT SHALL BE STAKED PER TOWNSHIP DESIGN STANDARDS.
- 26. ALL PLANT RELOCATIONS SHALL BE SUBMITTED TO THE TOWNSHIP ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- 27. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR PERIOD OF ONE YEAR FROM THE TIME OF PLANTING.

DECIDUOUS TREES	KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER TYPE	MATURE SIZE	REMARKS
CF	N#	4	CORNUS FLORIDA	FLOWERING DOGWOOD	3" CAL.	B&B	15'-25' HEIGHT AND SPREAD	WHITE FLOWERS. SPRING
KP		5	KOELREUTERIA PANICULATA	GOLDEN RAINTREE	3" CAL.	B&B	20'-25' HEIGHT AND SPREAD	YELLOW FLOWERS. SUMMER
EVERGREEN TREES	KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER TYPE	MATURE SIZE	REMARKS
10	&	13	ILEX X NELLIE R. STEVENS	NELLIE R. STEVENS HOLLY	8° HT.	B&B	15'-20' HEIGHT, 8'-10' SPREAD	RED BERRIES IN WINTER
SHRUBS AND PERENNIALS AND GRASSES	KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER TYPE	MATURE SIZE	REMARKS
cs	N#	29	CORNUS SERICEA	RED TWIG DOGWOOD	3' HEIGHT	B&B	3'-5' HEIGHT AND SPREAD	RED TWIGS IN WINTER
МС	N#	27	BUXUS SEMPERVIRENS 'DEE RUNK'	DEE RUNK BOXWOOD	2'-3' HEIGHT	B & B	5'-6' HEIGHT AND SPREAD	EVERGREEN SHRUB
NS	#&	7	ILEX X NELLIE STEVENS	NELLIE STEVENS HOLLY	5' HEIGHT	1 GALLON CONT	2'-3' HEIGHT AND SPREAD	ORNAMENTAL GRASS
PH	#&c	7	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN DRAWF FOUNTIAN GRASS	1' HEIGHT	1 GALLON CONT	2'-3' HEIGHT AND SPREAD	ORNAMENTAL GRASS
TR	N	31	TAXUS BACCATA REPANDENS	DWARF ENGLISH YEW	1.5' HT.	3 GALLON CONT	4'-6' HEIGHT AND SPREAD	EVERGREEN SOFT NEEDLE FOLIAGE

14EV

N = NATIVE PLANT OF NORTH AMERICA * = SPRING INSTALLATION ONLY

& = SALT SPRAY TOLERANT

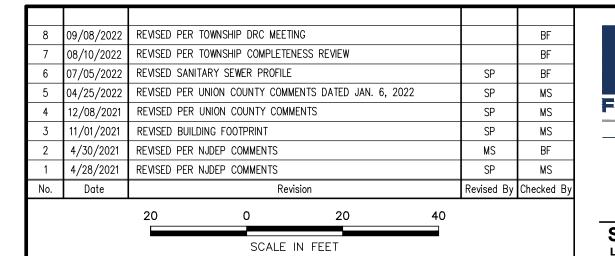
* = SPRING INSTALLATION ONLY
= SELDOM OR RARELY DAMAGED BY DEER AS PER RUTGERS AG AGENCY (HTTP://NJAES.RUTGERS.EDU)

SODDING SPECIFICATIONS

THE CONTRACTOR WILL BE RESPONSIBLE FOR RE-ESTABLISHING ALL AREAS DISTURBED BY CONSTRUCTION. THE SODDING WILL BE IN ACCORDANCE WITH BERGEN COUNTY SOIL CONSERVATION DISTRICT STANDARDS. SPECIFIC SEED TYPES SHALL BE USED AS FOLLOWS:

- A. ALL DISTURBED AREAS SHALL BE SODDED AS SHOWN ON THE LANDSCAPE PLAN WITH ERNST ATHLETIC FIELD MIXTURE OR APPROVED EQUAL. SEED SHALL BE APPLIED AT A RATE OF 170 LBS/ACRE BETWEEN THE PERIODS OF EITHER 4/1 TO 5/31 OR 8/15 TO 10/16.
- B. SLOPED AREAS 3:1 AND GREATER SHALL RECEIVE IN COMBINATION WITH THE ABOVE SPECIFIED GRASS MIXTURE AN EROSION CONTROL MATTING BY BONTERRA AMERICA, PINELANDS NURSERIES, COLUMBUS, NJ, MODEL # CS2 OR APPROVED EQUAL.

THIS PLAN SHALL BE USED FOR LANDSCAPING PURPOSES ONLY.



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FPAengineers.com
FPAENCH & PARRELLO
ASSOCIATES

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

FOR
PRELIMINARY AND FINAL SITE PLAN
FOR

LANDSCAPING PLAN

201 WALNUT AVENUE BLOCK 484 LOT 19.01

TOWNSHIP OF CRANFORD

UNION COUNTY NEW JERSEY

SARAH REBAR BISAHA, LLA, PP
LICENSED LANDSCAPE ARCHITECT NJ LIC NO AS000639

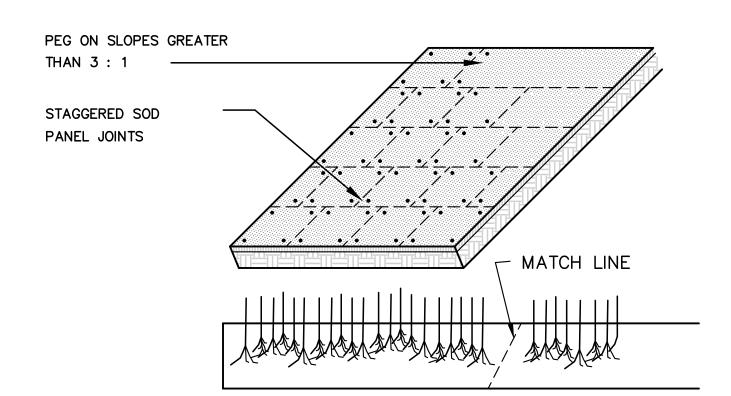
DRAWN BY:

 DATE:
 DESIGNED BY:
 SCALE:
 PROJECT NUMBER

 1/29/2021
 JB
 1"=20'
 16377.001

 DRAWN BY:
 CHECKED BY:
 FIELD BOOK
 SHEET:

 JB
 BF
 7 of 12



NOTES:

- 1. CULTIVATED SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.
- 2. APPLY FERTILIZER AT THE RATE OF 500 POUNDS PER ACRE USING 10-20-10 RATIO OR AS DETERMINED BY SOIL TESTING.
- 3. SUPPLY PULVERIZED DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS PER ACRE OR AS DETERMINED BY SOIL TESTING.
- 4. APPLY 300 POUNDS 38-0-0 PER ACRE IN LIEU OF TOP DRESSING OR AS DETERMINED BY SOIL TESTING.
- 5. PLACE SOD STRIPS ON THE CONTOUR STARTING AT THE BOTTOM.
- 6. PLACE SOD WITH SNUG EVEN JOINTS THAT ARE STAGGERED.
- 7. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT.
- 8. ON SLOPES GREATER THAN 3 TO 1 SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, OR SPLIT SHINGLES (8 TO 10 INCHES LONG BY 3/4 OF AN INCH).
- 9. ANCHOR SOD IN WATER CARRYING CHANNELS WITH HEAVY JUTE OR PLASTIC NETTING.
- 10. SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH THE SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.

SOD INSTALLATION DETAIL

NOT TO SCALE

- 1. ALL TREES UNDER 3" IN CALIPER SHALL BE STAKED ALL TREES 3" IN CALIPER AND GREATER SHALL BE GUYED
- GRADE AS IT BORE TO PREVIOUS GRADE 3. SET STAKES VERTICAL AND AT SAME HEIGHT

2. TREE SHALL BEAR SAME RELATION TO FINISHED

- 4. REMOVE ALL WIRE BASKETS PRIOR TO
- 5. ALL WIRE BASKETS SHALL BE REMOVED PRIOR TO BACKFILLING THE PLANTING PIT.

STAKES TO BE SET 2/3'RDS UP TREE OR -JUST AT FIRST BRANCHES SEE TREE STAKING AND GUYING DETAIL

BACKFILLING THE PLANTING PIT.

20 GALLON TREE GATOR SLOW RELEASE WATERING — BAG MODEL #98183 OR APPROVED EQUAL. PROVIDE ONE BAG PER INSTALLED TREE FOR TREES LESS THAN 4" IN CALIPER, PROVIDE TWO PER TREE FOR LARGER SIZES

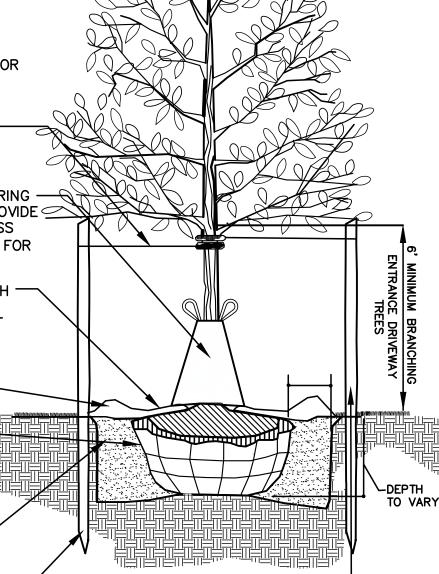
4" SHREDDED HARDWOOD MULCH- KEEP MULCH -AWAY FROM ROOT COLLAR AS DESCRIBED IN PLANTING NOTES. MULCH VOLCANOES ARE NOT PERMITTED

6" SOIL MOUND FOR FOR WATER — RETENTION

REMOVE ALL PLASTIC MATERIAL, BURLAP SYNTHETIC BURLAP, STRING OR CONTAINERS FROM TOP 1/3 RD OF ROOTBALL AT THE TIME OF PLANTING

BACKFILL AUGMENTED WITH TOPSOIL -

STAKES TO EXTEND 18" BELOW TREE PIT IN -UNDISTURBED GROUND



PLANTING AREA SHALL -

BE 12" WIDER THAN

ROOTBALL RADIUS

DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

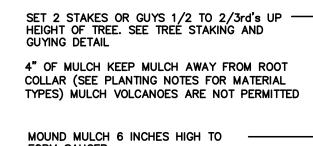
NOTES:

- 1. ALL EVERGREEN TREES TO BE STAKED AND/OR GUYED AS SPECIFIED IN THE DETAIL AND THE PLANTING NOTES
- TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO
- PREVIOUS GRADE. 3. NEVER CUT LEADERS.

4. PRUNE ONLY TO REMOVE DAMAGED OR BROKEN BRANCHES. SEE TREE

PRUNING DETAIL. 5. STAKES SHALL BE WHITE OR RED CEDAR, OAK, OR LOCUST TREATED WITH ACCEPTABLE WOOD

PERSERVATIVE



FORM SAUCER FINAL GRADE REMOVE ALL PLASTIC MATERIAL SYNTHETIC BURLAP AND STRING OR. CONTAINERS TO BE REMOVED AT THE TIME OF PLANTING

PLANTING MIXTURE AS SPECIFIED IN

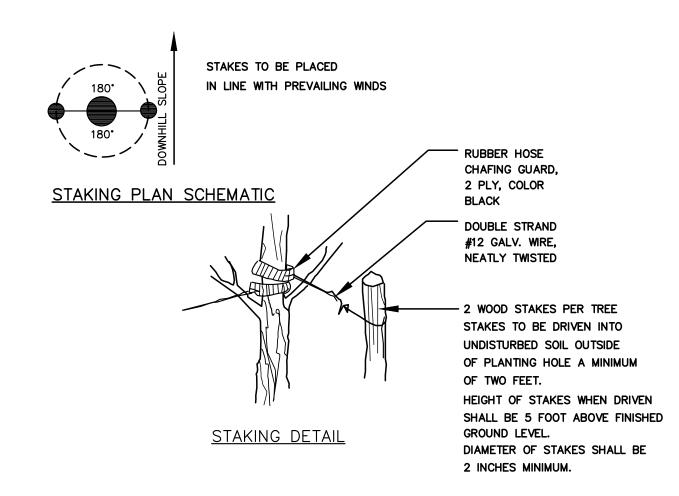
PLANTING NOTES

FERTILIZER TABLET/PACKET (2 OR 3) SCARIFY TO 4" DEPTH AND RECOMPACT

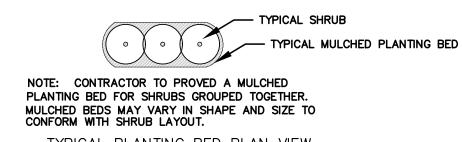
STAKES TO EXTEND 18" BELOW TREE PIT

IN UNDISTURBED GROUND ROOTBALL ON UNDISTURBED SOIL ALL WIRE BASKETS SHALL BE REMOVED PRIOR TO BACKFILLING THE PLANTING PIT.

EVERGREEN TREE PLANTING DETAIL NOT TO SCALE



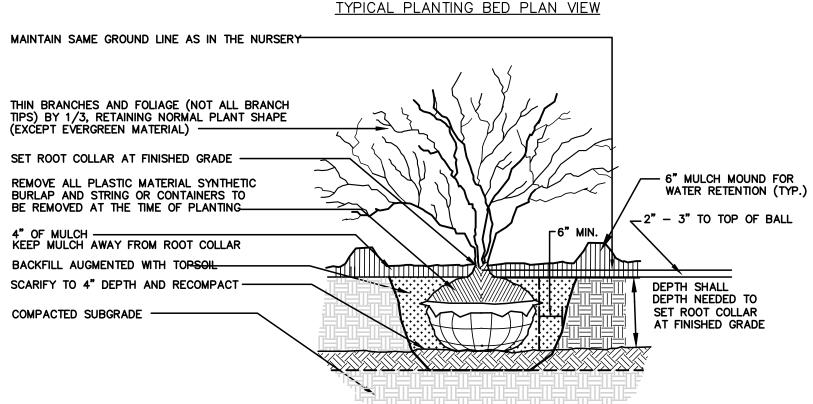
TREE STAKING DETAIL NOT TO SCALE



DÍAM. OF ROOTBALL

OR 12" MIN.

DEPTH TO

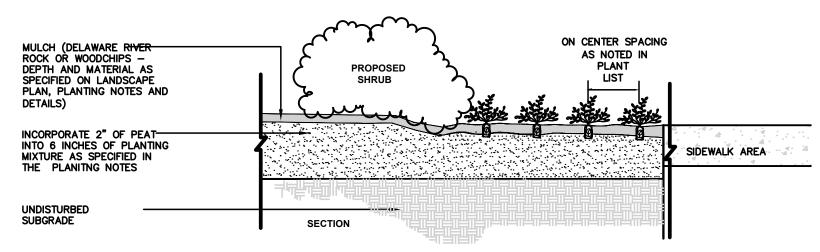


NOTE: DO NOT PRUNE EVERGREEN SHRUBS EXCEPT TO REMOVE DEAD AND BROKEN BRANCHES

SHRUB PLANTING DETAIL NOT TO SCALE

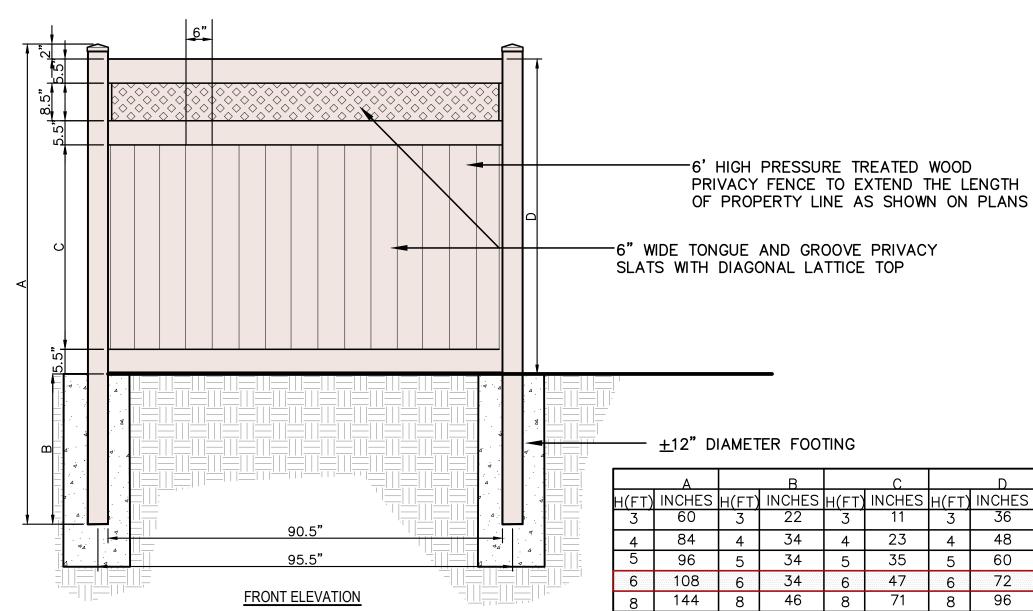
NOTE: GROUNDCOVER PLANTS SHALL BE PLACED AS SHOWN IN DOUBLE STAGGERED ROWS GOUNDCOVER PLANT

PLAN VIEW



GROUNDCOVER PLANTING DETAIL

NOT TO SCALE



6' WOOD PRIVACY FENCE DETAIL

NOT TO SCALE

NOTES:

1. FENCE SHALL BE 6' HIGH AND CONSTRUCTED OF PRESSURE TREATED WOOD

2. CONTRACTOR SHALL PROVIDE SIGNED AND SEALED SHOP DRAWINGS FOR FENCE AND FOOTING REVIEW AND APPROVAL

METAL BENCH DETAIL

NOT TO SCALE

- 1. 6' LONG METAL BENCH SHALL BE MANUFACTURED BY THE BENCH FACTORY, TREETOPPRODUCTS.COM, (866) 275-0823
- 2. STEEL BENCH MODEL 2ZK2046 WITH HORIZONTAL CEDAR COLOR SLATS.
- 3. BENCH SHALL HAVE PREDRILLED MOUNTING HOLES FOR SURFACE MOUNT.

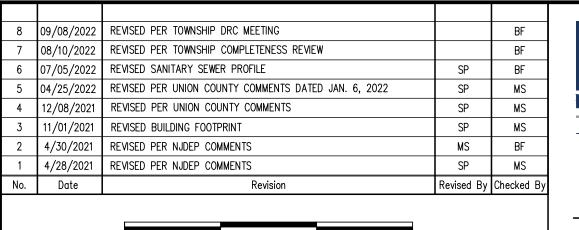
10 168 10 46 10 95

METAL TRASH RECEPTACLE DETAIL

NOT TO SCALE

NOTES:

1. TRASH RECEPTACLES SHALL BE OUTDOOR SLATTED STEEL TRASH CAN WITH FLAT LID, 36 GALLON, BLACK, AS MANUFACTURED BY GLOBAL INDUSTRIAL™ MODEL 237726BK. COLOR TO BE BRONZE OR AS PER OWNER'S SELECTION FROM FULL RANGE OF STANDARD COLORS PROVIDED BY THE MANUFCATURER.



SCALE IN FEET



LANDSCAPING NOTES AND DETAILS

NJDEP ELECTRONIC APPROVAL STAMP

PRELIMINARY AND FINAL SITE PLAN

201 WALNUT AVENUE BLOCK 484 LOT 19.01

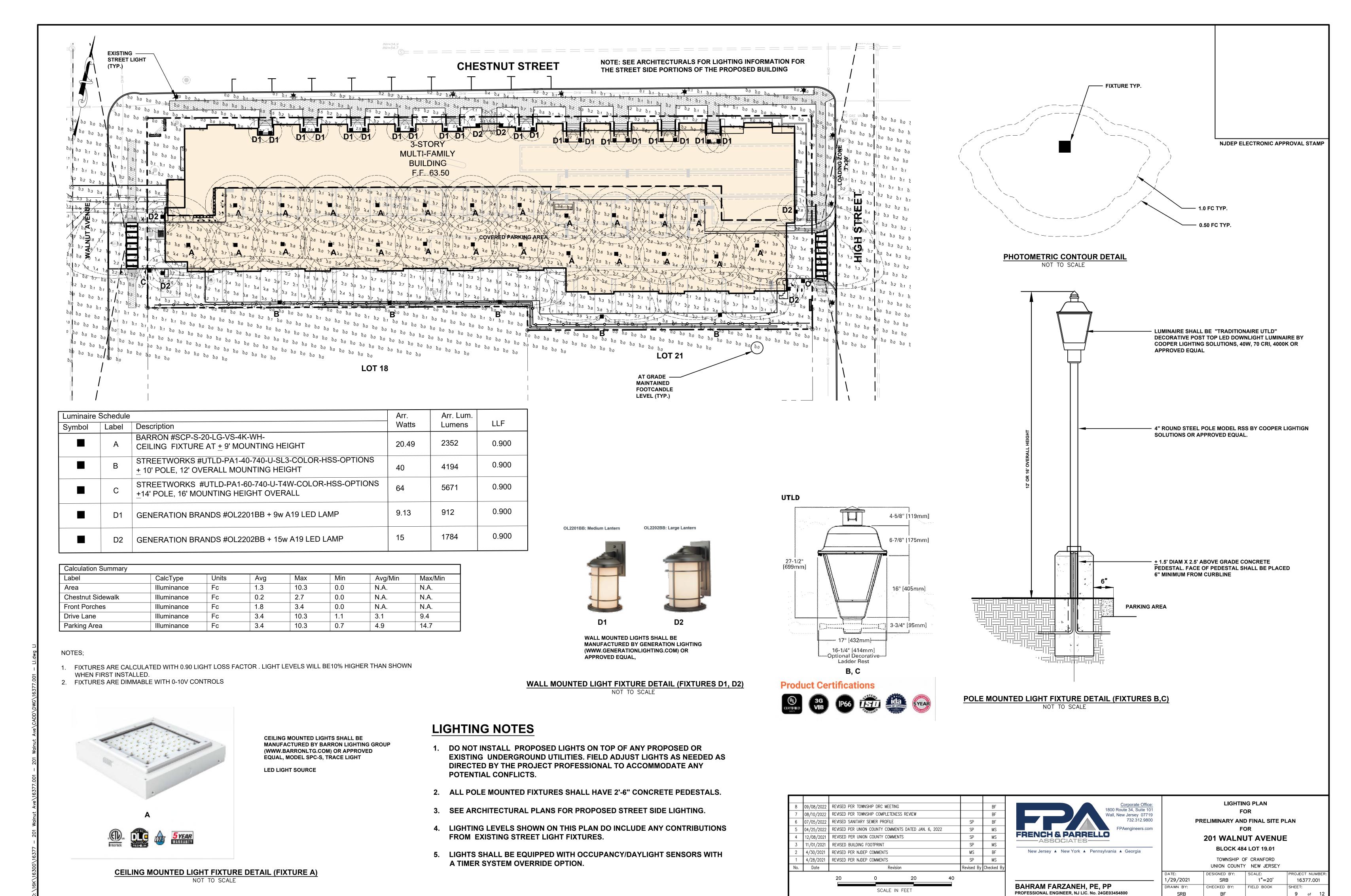
TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

SARAH REBAR BISAHA, LLA, PP

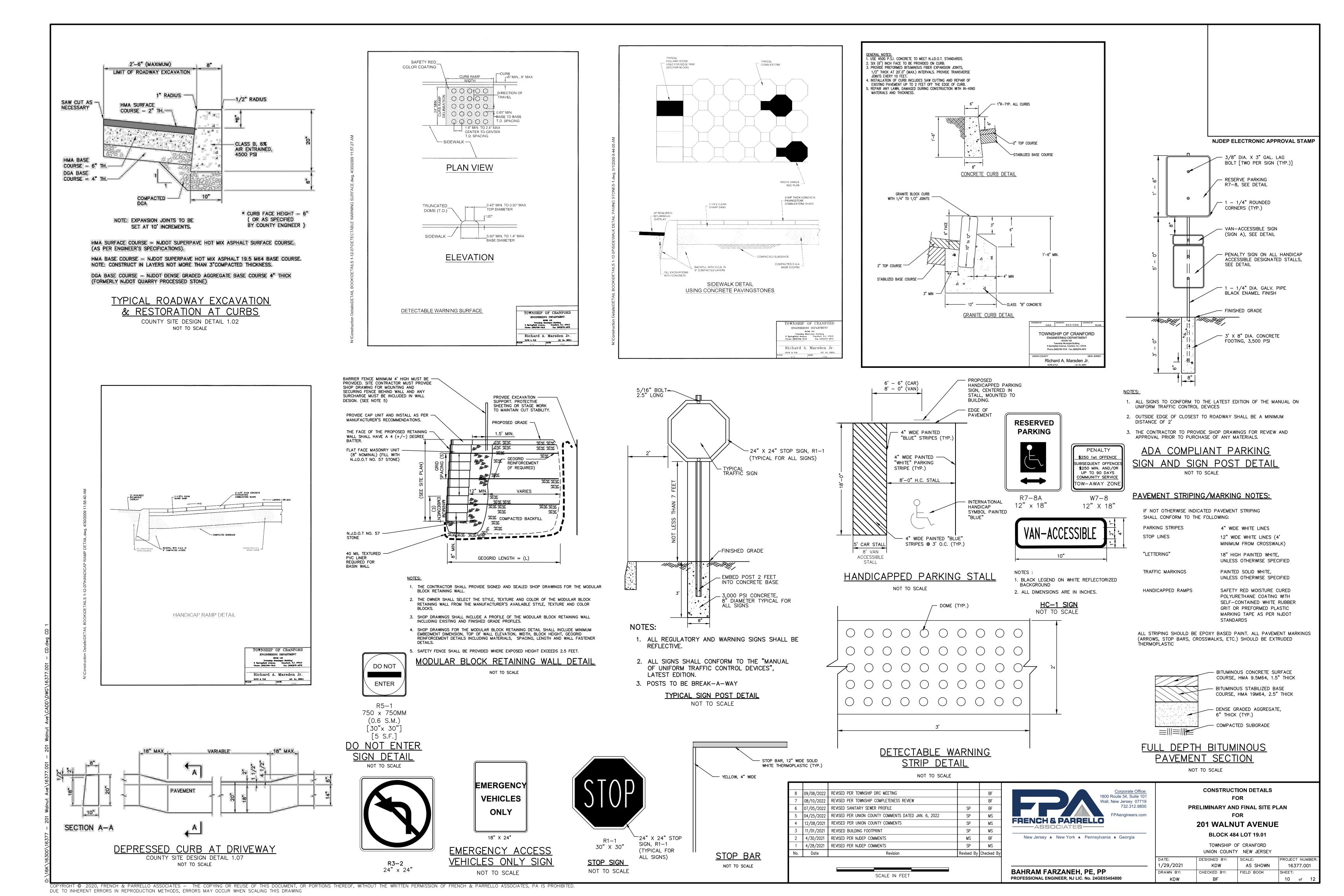
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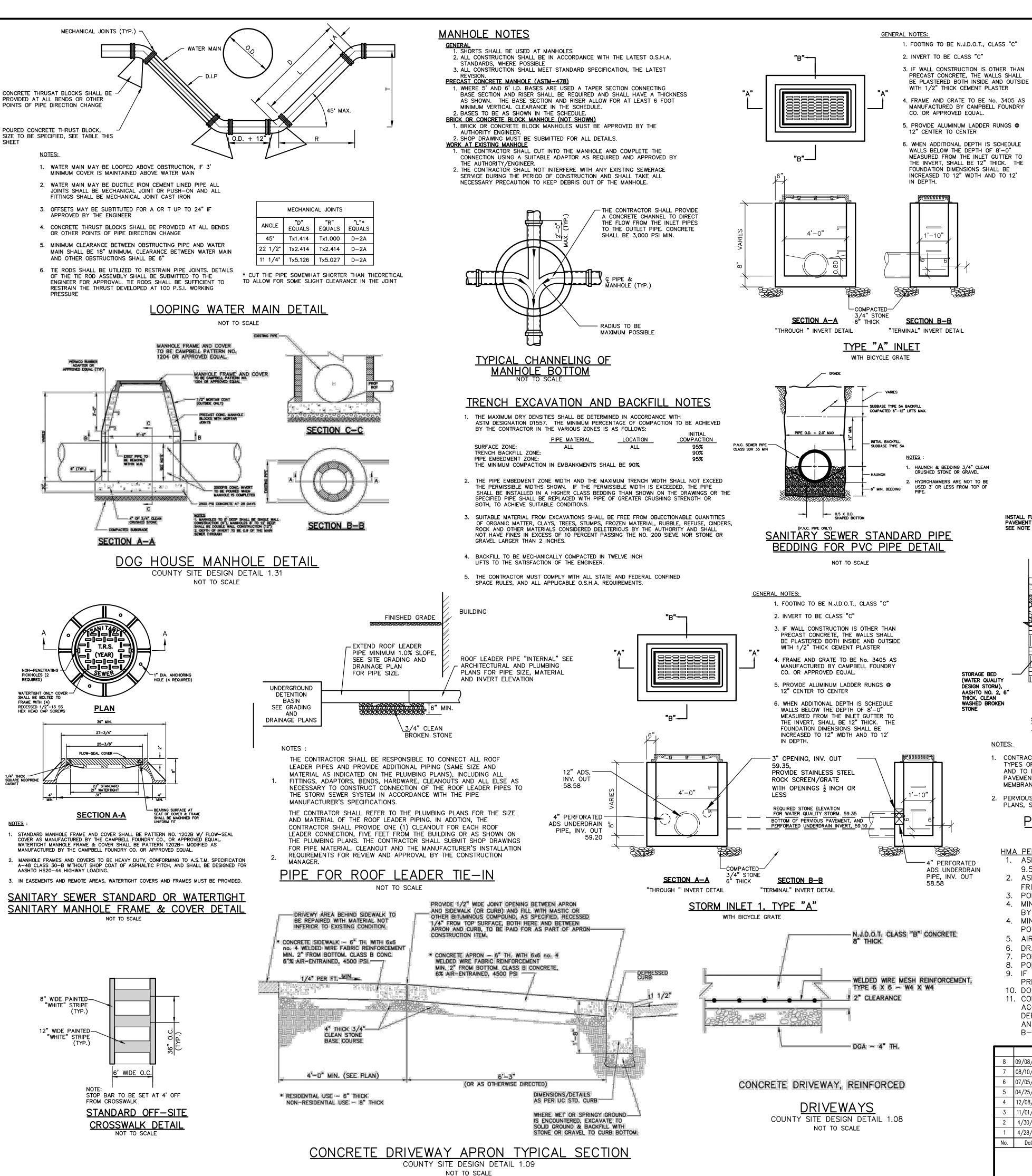
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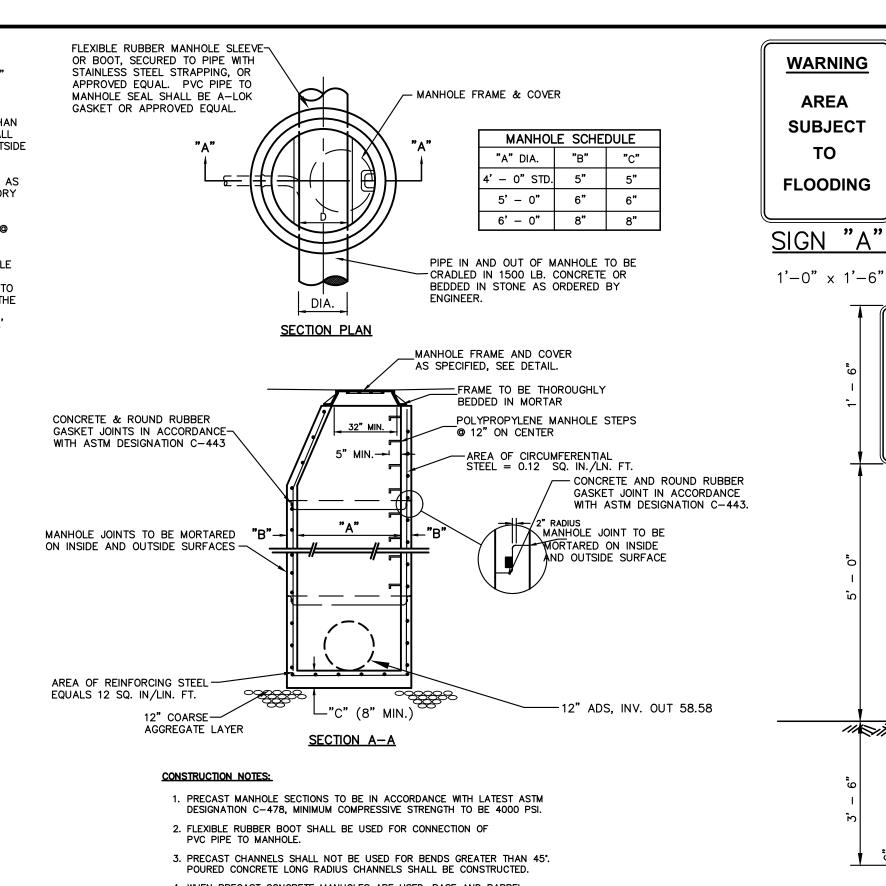
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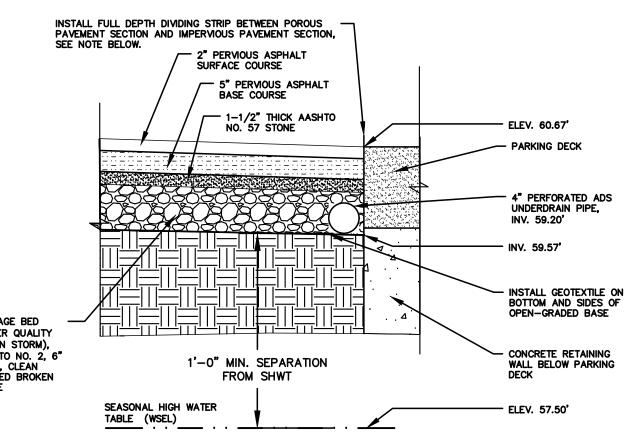






4. WHEN PRECAST CONCRETE MANHOLES ARE USED, BASE AND BARREL SECTION SHALL BE MONOLITHICALLY CAST.

PRECAST STORM MANHOLE



- CONTRACTOR SHALL INSTALL A FULL DEPTH DIVIDING STRIP BETWEEN THE TWO TYPES OF PAVEMENT TO ENSURE THAT STRUCTURAL INTEGRITY IS MAINTAINED AND TO PREVENT INADVERTENT SATURATION OF THE ADJACENT IMPERVIOUS PAVEMENT SURFACE COURSE. DIVIDING STRIP SHALL BE AN IMPERMEABLE MEMBRANE EXTENDING FROM TOP OF BASE COURSE TO BOTTOM OF DGA.
- 2. PERVIOUS PAVEMENT SHALL BE LIMITED TO THOSE AREAS IDENTIFIED ON THE PLANS, SPECIFICALLY WITHIN THE PARKING STALL AREAS.

POROUS PAVEMENT DETAIL

NOT TO SCALE

- HMA PERVIOUS PAVEMENT FRICTION COURSE NOTES: ASPHALT SURFACE COURSE TO CONSIST OF MODIFIED OPEN GRADED 9.5MM FRICTION COURSE (MOGFC)
- 2. ASPHALT BASE COURSE TO CONSIST OF MODIFIED OPEN GRADED 19MM FRICTION COURSE (MOGFC)
- 3. POLYMER MODIFIED BINDER: PGG4E-22
- 4. MINIMUM ASPHALT CONTENT FOR 9.5MM NOMINAL AGGREGATE IS 5.75% 4. MINIMUM ASPHALT CONTENT FOR 19MM NOMINAL AGGREGATE IS HIGHEST
- POSSIBLE WITHOUT EXCESSIVE DRAIN DOWN REQUIREMENTS
- 5. AIR VOIDS: AASHTO T.269-11/ASTM D3203M-11 > 16% DRAIN DOWN: AASHTO T.305-09/ASTM 6390-11 <0.3%
- POROSITY OF SURFACE COURSE: 15-25%
- 8. POROSITY OF BASE COURSE: ≥ 25% 9. IF WITHIN 12 HOURS BEFORE PAVING A 50% CHANCE OR GREATER OF
- PRECIPITATION IS FORECAST, POSTPONE PLACEMENT
- 10. DO NOT PAVE IF AMBIENT TEMPERATURE IS BELOW 50° F. 11. CONTRACTOR TO PERFORM PERVIOUS PAVEMENT TESTING IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEW JERSEY
- DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2019 TEST METHODS SECTION B-8 AND

HOT MIX ASPHALT PAVEMENT TRENCH RESTORATION COUNTY SITE DESIGN DETAIL 1.35 NOT TO SCALE **CONSTRUCTION DETAILS**

DENSE GRADED AGGREGATE BASE COURSE

MATERIAL FOR BASE COURSE SHALL ALSO BE CONCRETE,

NOTE: IF EXCAVATION IS WITHIN 2' OF CURB, REMOVE PAVEMENT TO

★ IF EXISTING PAVEMENT IS CONCRETE, RESTORATION

OR AS DIRECTED BY THE COUNTY ENGINEER.

CURB AND REPLACE

WARNING

AREA

SUBJEC1

TO

TRAFFIC CONTROL DEVICES

COURSE.

12"

HMA SURFACE

JRSE - 6" TH. -

A BASE

COURSE - 2" TH.

TO PURCHASE OF ANY MATERIALS.

3. TOP OF FOOTING TO BE 6" BELOW FINISHED GRADE

SIGN "A" POST DETAIL

* 6 MIN. DEPTH OF SUPERPAVE HMA 19M64 BASE COURSE

NJDEP ELECTRONIC APPROVAL STAMP

- 3/8" DIA. X 3" GAL. LAG

SIGN "A", SEE DETAIL

-1 - 1/4 ROUNDED

CORNERS (TYP.)

CHANNEL SIGN POST

FINISHED GRADE

1. ALL SIGNS TO CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM

2. OUTSIDE EDGE OF CLOSEST TO ROADWAY SHALL BE A MINIMUM DISTANCE OF 2'

4. THE CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR

IF EXISTING PAVEMENT DEPTH IS GREATER THAN 8" BASE COURSE

O BE THICKNESS OF EXISTING PAVEMENT LESS 2" FOR SURFACE

- 3' X 8" DIA. CONCRETE FOOTING, 3,500 PSI

SUPERPAVE HMA 9.5 M64

PAVE PREP OR EQUAL

MIN. COVERAGE 36"

TEMPORARY REPAIR -

- 8" TH. (MINIMUM)

24" PLUS O. D. OF PIPE

12" EACH SIDE OF TRENCH

SUPERPAVE HMA 19.5 M64

BASE COURSE TO GRADE.

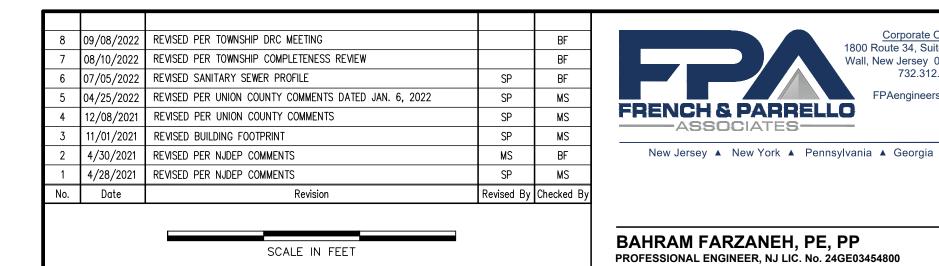
NOTE: TACK COAT ALL

PAVEMENT EDGES

SURFACE COURSE - 2" TH.

BREAKAWAY STANDARD "U"

BOLT [TWO PER SIGN (TYP.)]





732.312.9800 PRELIMINARY AND FINAL SITE PLAN

KDW

EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT TO BE SAW CUT.

3/4" CLEAN STONE, 6" LAYER. USE ONLY IF PIPE SIZE IS 36" OR LARGER OR IF WET CONDITIONS ARE PRESENT

201 WALNUT AVENUE BLOCK 484 LOT 19.01

TOWNSHIP OF CRANFORD

UNION COUNTY NEW JERSEY PROJECT NUMBE DESIGNED BY: SCALE: 1/29/2021 KDW AS SHOWN 16377.001 CHECKED BY: DRAWN BY FIELD BOOK

BAHRAM FARZANEH, PE, PP PROFESSIONAL ENGINEER, NJ LIC. No. 24GE0345480

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GENERAL CONDITIONS • REVIEW INSTALLATION PROCEDURES AND COORDINATE THE INSTALLATION WITH OTHER CONSTRUCTION ACTIVITIES, SUCH AS

- GRADING, EXCAVATION, UTILITIES, CONSTRUCTION ACCESS, EROSION • ENGINEERED DRAWINGS SUPERSEDE ALL PROVIDED DOCUMENTATION,
- TYPICAL INSTALLATION. • WHEN INSTALLED BASED ON BRENTWOOD'S SITE PREPARATION AND INSTALLATION INSTRUCTIONS OR SIMILAR, A STORMTANK→SYSTEM CAN SUPPORT AN HS-25 LOAD.

AS THE INFORMATION FURNISHED IN THIS DOCUMENT IS BASED ON A

- COORDINATE THE INSTALLATION WITH MANUFACTURER'S REPRESENTATIVE/DISTRIBUTOR TO BE ON-SITE TO REVIEW START UP
- PROCEDURES AND INSTALLATION INSTRUCTIONS • COMPONENTS SHALL BE UNLOADED, HANDLED AND STORED IN AN AREA PROTECTED FROM TRAFFIC AND IN A MANNER TO PREVENT
- ASSEMBLED MODULES MAY BE WALKED ON, BUT VEHICULAR TRAFFIC IS PROHIBITED UNTIL BACKFILLED PER MANUFACTURER'S REQUIREMENTS. PROTECT THE INSTALLATION AGAINST DAMAGE WITH
- HIGHLY VISIBLE CONSTRUCTION TAPE, FENCING, OR OTHER MEANS UNTIL CONSTRUCTION IS COMPLETE. • ENSURE ALL CONSTRUCTION OCCURS IN ACCORDANCE WITH FEDERAL STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS AND SAFETY
- EXTRA CARE AND CAUTION SHOULD BE TAKEN WHEN TEMPERATURES ARE AT OR BELOW 40° F (4.4° C).

1.0 STORMTANK \rightarrow ASSEMBLY STORMTANK→MODULES:

STORMTANK→MODULES ARE DELIVERED TO THE SITE AS PALLETIZED COMPONENTS REQUIRING SIMPLE ASSEMBLY. NO SPECIAL EQUIPMENT, TOOLS OR BONDING AGENTS ARE REQUIRED; ONLY A RUBBER MALLET. A SINGLE WORKER CAN TYPICALLY ASSEMBLE A MODULE IN TWO

ASSEMBLY INSTRUCTIONS:

1. PLACE A PLATEN ON A FIRM, LEVEL SURFACE AND INSERT THE EIGHT (8) COLUMNS INTO THE PLATEN RECEIVER CUPS. FIRMLY TAP EACH COLUMN WITH A RUBBER MALLET TO ENSURE THE COLUMN IS

- 2.PLACE A SECOND PLATEN ON A FIRM, LEVEL SURFACE. FLIP THE PREVIOUSLY ASSEMBLED COMPONENTS UPSIDE DOWN ONTO THE SECOND PLATEN, ALIGNING THE COLUMNS INTO THE PLATEN RECEIVER
- 3. ONCE ALIGNED, SEAT THE TOP ASSEMBLY BY ALTERNATING TAPS, WITH A RUBBER MALLET AT EACH STRUCTURAL COLUMN UNTIL ALL COLUMNS ARE FIRMLY SEATED.
- 4.IF SIDE PANELS ARE REQUIRED, FIRMLY TAP THE TOP PLATEN UPWARD TO RAISE THE TOP PLATEN. INSERT THE SIDE PANEL INTO
- 5. ALIGN THE TOP OF THE SIDE PANEL WITH THE TOP PLATEN AND FIRMLY SEAT THE TOP PLATEN UTILIZING A RUBBER MALLET.

- REMOVE PACKAGING MATERIAL AND CHECK FOR ANY DAMAGE. REPORT ANY DAMAGED COMPONENTS TO A STORMTANK→DISTRIBUTOR OR BRENTWOOD PERSONNEL
- STORMTANK→COMPONENTS ARE BACKED BY A ONE YEAR WARRANTY, WHEN INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

2.0 BASIN EXCAVATION

- 1. STAKE OUT AND EXCAVATE TO ELEVATIONS PER APPROVED PLANS. EXCAVATION REQUIREMENTS:
- a. SUB-GRADE EXCAVATION MUST BE A MINIMUM OF 6□(152 MM) BELOW DESIGNED STORMTANK→MODULE INVERT.
- b. THE EXCAVATION SHOULD EXTEND A MINIMUM OF 12□(305 MM) BEYOND THE STORMTANK→DIMENSIONS IN EACH LENGTH AND WIDTH (AN ADDITIONAL 24 [610 MM] IN TOTAL LENGTH AND TOTAL WIDTH) TO ALLOW FOR ADEQUATE PLACEMENT OF SIDE BACKFILL MATERIAL.
- c. REMOVE OBJECTIONABLE MATERIAL ENCOUNTERED WITHIN THE EXCAVATION, INCLUDING PROTRUDING MATERIAL FROM THE
- d. FURNISH, INSTALL, MONITOR AND MAINTAIN EXCAVATION SUPPORT (E.G., SHORING, BRACING, TRENCH BOXES, ETC.) AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS, ORDINANCES, REGULATIONS AND SAFETY REQUIREMENTS.

3.0 SUB-GRADE REQUIREMENTS

1. SUB-GRADE SHALL BE UNFROZEN, LEVEL (PLUS OR MINUS 1%), AND FREE OF LUMPS OR DEBRIS WITH NO STANDING WATER, MUD OR MUCK. DO NOT USE MATERIALS NOR MIX WITH MATERIALS THAT ARE FROZEN AND/OR COATED WITH ICE OR FROST.

2.UNSTABLE, UNSUITABLE AND/OR COMPROMISED AREAS SHOULD BE BROUGHT TO THE ENGINEER'S ATTENTION AND MITIGATING EFFORTS DETERMINED PRIOR TO COMPACTING THE SUB-GRADE.

3.SUB-GRADE MUST BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR AS APPROVED BY THE ENGINEER OF RECORD. IF CODE REQUIREMENTS RESTRICT SUBGRADE COMPACTION, IT IS THE REQUIREMENT OF THE GEOTECHNICAL ENGINEER TO VERIFY THAT THE BEARING CAPACITY AND SETTLEMENT CRITERIA FOR SUPPORT OF THE SYSTEM ARE MET. *

* THE ENGINEER OF RECORD SHALL REFERENCE BRENTWOOD DOCUMENT APPENDIX A FOR MINIMUM SOIL BEARING CAPACITY REQUIRED BASED ON LOAD RATING AND TOP COVER DEPTH. MINIMUM SOIL BEARING CAPACITY IS REQUIRED SO THAT SETTLEMENTS ARE LESS THAN 1 THROUGH THE ENTIRE SUB-GRADE AND DO NOT EXCEED LONG-TERM 1/2 DIFFERENTIAL SETTLEMENT BETWEEN ANY TWO ADJACENT UNITS WITHIN THE SYSTEM. SUB-GRADE MUST BE DESIGNED TO ENSURE SOIL BEARING CAPACITY IS MAINTAINED THROUGHOUT ALL SOIL SATURATION

4.0 LEVELING BED INSTALLATION

LEVELS.

- 1. INSTALL GEOTEXTILE FABRIC AND/OR LINER MATERIAL, AS SPECIFIED. a. GEOTEXTILE FABRIC SHALL BE PLACED PER MANUFACTURER'S
- RECOMMENDATIONS b. ADDITIONAL MATERIAL TO BE UTILIZED FOR WRAPPING ABOVE THE SYSTEM MUST BE PROTECTED FROM DAMAGE UNTIL USE.
- 2.AFTER THE GEOTEXTILE IS SECURED, PLACE A MINIMUM 6□(152 MM)
- LEVELING BED. a. MATERIAL SHOULD BE A 3/4"(19 MM) ANGULAR STONE
- MEETING APPENDIX B ACCEPTABLE FILL MATERIAL. b. MATERIAL SHOULD BE RAKED FREE OF VOIDS, LUMPS, DEBRIS, SHARP OBJECTS AND PLATE VIBRATED TO A LEVEL WITH A

3. CORRECT ANY UNSATISFACTORY CONDITIONS.

5.0 STORMTANK®MODULE PLACEMENT

MAXIMUM 1% SLOPE.

- 1. INSTALL GEOTEXTILE FABRIC AND/OR LINER MATERIAL, AS SPECIFIED. a. GEOTEXTILE FABRIC SHALL BE PLACED PER MANUFACTURER'S RECOMMENDATIONS
- b. ADDITIONAL MATERIAL TO BE UTILIZED FOR WRAPPING ABOVE THE SYSTEM MUST BE PROTECTED FROM DAMAGE UNTIL USE.
- 2.MARK THE FOOTPRINT OF THE MODULES FOR PLACEMENT. a. ENSURE MODULE PERIMETER OUTLINE IS SQUARE OR SIMILAR

c. FOR DOUBLE STACK CONFIGURATIONS:

- PRIOR TO MODULE PLACEMENT b. CARE SHOULD BE TAKEN TO NOTE ANY CONNECTIONS, PORTS
- OR OTHER IRREGULAR UNITS TO BE PLACED. 3.INSTALL THE INDIVIDUAL MODULES BY HAND, AS DETAILED BELOW. a. THE MODULES SHOULD BE INSTALLED AS SHOWN IN THE STORMTANK® SUBMITTAL DRAWINGS WITH THE SHORT SIDE OF
- PERIMETER MODULES FACING OUTWARD, EXCEPT AS OTHERWISE REQUIRED b. MAKE SURE THE TOP/BOTTOM PLATENS ARE IN ALIGNMENT IN ALL DIRECTIONS TO WITHIN A MAXIMUM 1/4" (6.4 MM).

- i. INSTALL THE BOTTOM MODULE FIRST. DO NOT INTERMIX VARIOUS MODULE HEIGHTS ACROSS LAYERS. BACKFILLING PRIOR TO PROCEEDING TO SECOND LAYER IS OPTIONAL.
- ii. INSERT STACKING PINS (2 PER MODULE) INTO THE TOP PLATEN OF THE BOTTOM MODULE. iii. PLACE THE UPPER MODULE DIRECTLY ON TOP OF THE BOTTOM

MODULE IN THE SAME DIRECTION, MAKING SURE TO ENGAGE

- 4.INSTALL THE MODULES TO COMPLETION, TAKING CARE TO AVOID DAMAGE TO THE GEOTEXTILE AND/OR LINER MATERIAL.
- 5.LOCATE ANY PORTS OR OTHER PENETRATION OF THE STORMTANK®. a. INSTALL PORTS/PENETRATIONS IN ACCORDANCE WITH THE APPROVED SUBMITTALS, CONTRACT DOCUMENTS AND MANUFACTURER'S RECOMMENDATIONS.
- 6.UPON COMPLETION OF MODULE INSTALLATION, WRAP THE MODULES IN GEOTEXTILE FABRIC AND/OR LINER. a. GEOTEXTILE FABRIC SHALL BE WRAPPED AND SECURED PER
- MANUFACTURER'S RECOMMENDATIONS. b. SEAL ANY PORTS/PENETRATIONS PER MANUFACTURER'S

• IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC OR IMPERMEABLE LINER, REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE/LINER MANUFACTURER'S RECOMMENDATIONS.

6.0 SIDE BACKFILL

REQUIREMENTS

1. INSPECT ALL GEOTEXTILE, ENSURING THAT NO VOIDS OR DAMAGE EXISTS; WHICH WILL ALLOW SEDIMENT INTO THE STORMTANK ightarrow

2.ADJUST THE STONE/SOIL INTERFACE GEOTEXTILE ALONG THE SIDE OF THE NATIVE SOIL TO ENSURE THE GEOTEXTILE IS TAUGHT TO THE NATIVE SOIL.

3.ONCE THE GEOTEXTILE IS SECURED, BEGIN TO PLACE THE SIDE BACKFILL.

- a. MATERIAL SHOULD BE A 3/4□(19 MM) ANGULAR STONE MEETING APPENDIX B - ACCEPTABLE FILL MATERIAL. b. BACKFILL SIDES EVENLY AROUND THE PERIMETER WITHOUT
- EXCEEDING SINGLE 12 (305 MM) LIFTS. c. PLACE MATERIAL UTILIZING AN EXCAVATOR, DOZER OR
- d. UTILIZE A PLATE VIBRATOR TO SETTLE THE STONE AND PROVIDE A UNIFORM DISTRIBUTION.
- DO NOT APPLY VEHICULAR LOAD TO THE MODULES DURING PLACEMENT OF SIDE BACKFILL. ALL MATERIAL PLACEMENT SHOULD OCCUR WITH EQUIPMENT LOCATED ON THE NATIVE SOIL SURROUNDING
- IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC OR IMPERMEABLE LINER, REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE/LINER MANUFACTURER'S RECOMMENDATIONS.

7.0 TOP BACKFILL (STONE)

- 1. BEGIN TO PLACE THE TOP BACKFILL a. MATERIAL SHOULD BE A 3/4□(19 MM) ANGULAR STONE MEETING APPENDIX B - ACCEPTABLE FILL MATERIAL.
- b. PLACE MATERIAL UTILIZING AN EXCAVATOR, DOZER OR CONVEYOR BOOM (APPENDIX C - MATERIAL PLACEMENT) AND USE A WALK-BEHIND PLATE VIBRATOR TO SETTLE THE STONE AND PROVIDE AN EVEN DISTRIBUTION.
- DO NOT DRIVE ON THE MODULES WITHOUT A MINIMUM 12 (305 MM)

2.UPON COMPLETION OF TOP BACKFILLING, WRAP THE SYSTEM IN GEOTEXTILE FABRIC AND/OR LINER PER MANUFACTURER'S

3.INSTALL METALLIC TAPE AROUND THE PERIMETER OF THE SYSTEM TO MARK THE AREA FOR FUTURE UTILITY DETECTION.

• IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC OR IMPERMEABLE LINER, REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE/LINER MANUFACTURER'S RECOMMENDATIONS.

8.0 SUITABLE COMPACTABLE FILL FOLLOWING TOP BACKFILL PLACEMENT AND GEOTEXTILE FABRIC WRAPPING; COMPLETE THE INSTALLATION AS NOTED BELOW.

VEGETATED AREA

- 1. PLACE FILL ONTO THE GEOTEXTILE.
- a. MAXIMUM 12□(305 MM) LIFTS, COMPACTED WITH A VIBRATORY PLATE OR WALK BEHIND ROLLER TO A MINIMUM OF 90% STANDARD PROCTOR DENSITY.
- b. THE MINIMUM TOP COVER TO FINISHED GRADE SHOULD NOT BE LESS THAN 24 (610 MM) AND THE MAXIMUM DEPTH FROM FINAL GRADE TO THE BOTTOM OF THE LOWEST MODULE SHOULD NOT EXCEED 11' (3.35 M).

2.FINISH TO THE SURFACE AND COMPLETE WITH VEGETATIVE COVER.

IMPERVIOUS AREA

- 1. PLACE FILL ONTO THE GEOTEXTILE. a. MAXIMUM 12□(305 MM) LIFTS COMPACTED WITH A VIBRATORY PLATE OR WALK BEHIND ROLLER TO A MINIMUM 90% STANDARD PROCTOR DENSITY OR TO MEET THE ENGINEER OF RECORD'S
- SPECIFICATION. b. SUB-BASE MATERIALS SHOULD BE REFERENCED BY THE
- APPROVED ENGINEERING DRAWINGS. c. THE MINIMUM TOP COVER TO FINISHED GRADE SHOULD NOT BE LESS THAN 240(610 MM) AND THE MAXIMUM DEPTH FROM FINAL GRADE TO THE BOTTOM OF THE LOWEST MODULE SHOULD NOT EXCEED 11' (3.35 M).

2.FINISH TO THE SURFACE AND COMPLETE WITH ASPHALT, CONCRETE, ETC.

<u>GENERAL NOTES:</u>

1. FOOTING TO BE N.J.D.O.T., CLASS "C"

2. INVERT TO BE CLASS "C"

 A VIBRATORY ROLLER MAY ONLY BE UTILIZED AFTER A MINIMUM 24□(610 MM) OF COMPACTED MATERIAL HAS BEEN INSTALLED OR FOR THE INSTALLATION OF THE ASPHALT WEARING COURSE. • IF DAMAGE OCCURS TO THE GEOTEXTILE FABRIC, REPAIR THE MATERIAL IN ACCORDANCE WITH THE GEOTEXTILE MANUFACTURER'S RECOMMENDATIONS.

- PROPOSED 15" RCP INV. 56.78 PROPOSED 15"-INV. 58.50 -BRING RIM TO GRADE RIM 61.40 WITH BRICK AND MORTAR AS NECESSARY (TYP.) CONCRETE OR BLOCK BAFFLE WALL WITH 6" ORIFICE. INV. 58.50, 1.5 FT. WIDE WEIR INV. 59.51, TOP OF WALL ELEV. 60.35 "B" -15" RCP INV. 56.78 -BRING RIM/GRATE TO GRADE WITH 6" IF CONCRETE OR BRICK AND MORTAR AS CONCRETE BLOCK NECESSARY (TYP.) GRATE 61.40 SEE NOTE 10 -SEE NOTE 8 - CONCRETE OR BLOCK BAFFLE WALL WITH 6" SECTION B-B ORIFICE. INV. 58.50, 1.5 FT. WIDE WEIR INV. 59.51, TOP "TERMINAL" INVERT DETAIL OF WALL ELEV. 60.35 3. IF WALL CONSTRUCTION IS OTHER THAN PRECAST CONCRETE, THE WALLS SHALL BE PLASTERED PROPOSED 15" WHEN ADDITIONAL DEPTH IS SCHEDULE WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS PROPOSED -INV. 58.50

"THROUGH" INVERT DETAIL

15" RCP

STEP 2:

WRAP SPECIFIED GEOTEXTILE FABRIC
AROUND ENTIRE INSTALLATION OF
STORMTANK MODULES. CUT "X"
PATTERN INTO GEOTEXTILE FABRIC

AT OBSERVATION PORT AND PEEL

UNDERGROUND DETENTION BASIN

OBSERVATION PORT

INSTALLATION DETAIL

NOT TO SCALE

STEP 2:

REMOVE SIDE PANELS FROM

← 18" (457.2 mm)

LARGE DIAMETER CONCRETE PIPE CONNECTION DETAIL

(PIPE O.D. LARGER THAN MODULE)

NOT TO SCALE

STEP 5:

WRAP AND SECURE GEOTEXTILE

STACKING PIN

6 oz. NON-WOVEN

APPROVED EQUAL)

GEOTEXTILE FABRIC (OR

(2 PLACES)

OBSERVATION PORT

CIRCULAR RECESSES (2 PLACES)

TOP PLATEN

ALIGNMENT HOLES (2 PLACES)

- 3'-0" (914 mm) -

SEE TABLE A FOR OPENING

LAYOUT & CUT OPENING INTO THE CENTER OF THE TOP PLATEN FOR BRENTWOOD OBSERVATION PORT.

A MARK & CUT FLANGE

PLATE FLUSH WITH
MODULE SIDE "WHEN
MODULE IS ON THE
PERIMETER OF THE

LOCATE AND MARK

STEP 4:

INSTALL PIPE (ABUTMENT)

TRACE INSIDE DIAMETER OF PIPED TO BE INSTALLED

STEP 3:

INSTALL OBSERVATION PORT

SEAL FABRIC TO
OBSERVATION PORT WITH SS
BANDING, WATER RESISTANT
TAPE OR NYLON ZIP-TIE

6 oz. NON-WOVEN GEOTEXTILE FABRIC

- INLET PIPE

SEAL FABRIC TO INLET PIPE WITH

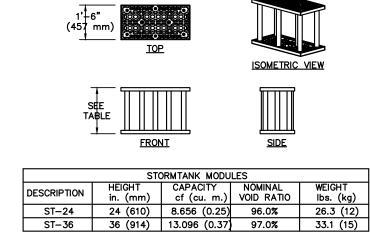
TAPE OR NYLON ZIP TIE (BY

(OR APPROVED EQUAL)

STEP 6:

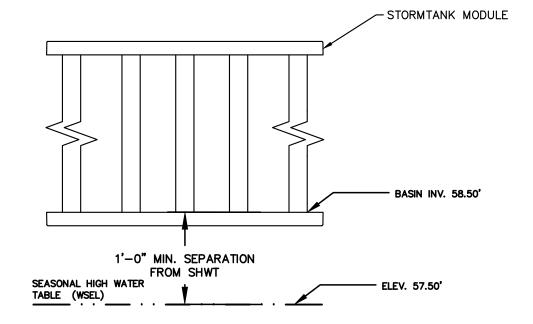
<u>STEP 3:</u>

REINSTALL SIDE PANELS



NOTES:

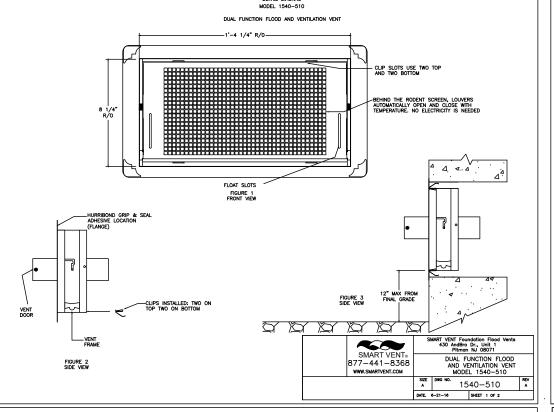
I. FOLLOW MANUFACTURER'S ASSEMBLY & INSTALLATION INSTRUCTIONS
FOR PROPER IMPLEMENTATION. UNDERGROUND DETENTION BASIN

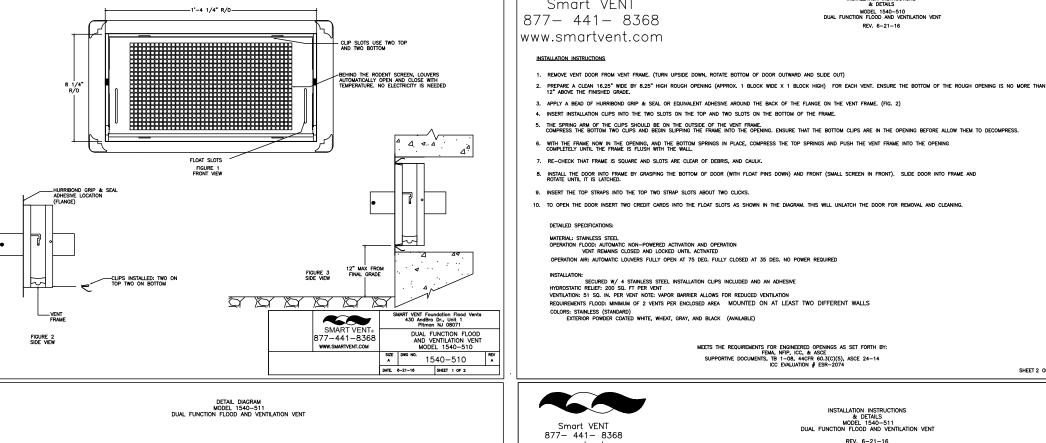


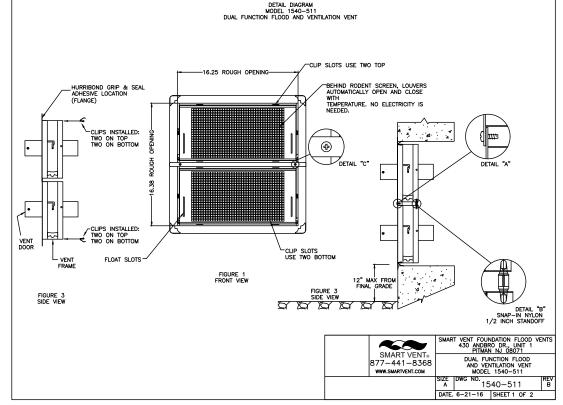
NJDEP ELECTRONIC APPROVAL STAMP

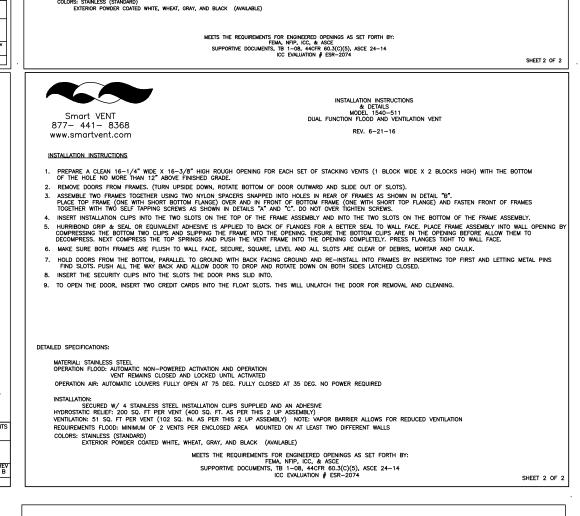
UNDERGROUND DETENTION BASIN DETAIL

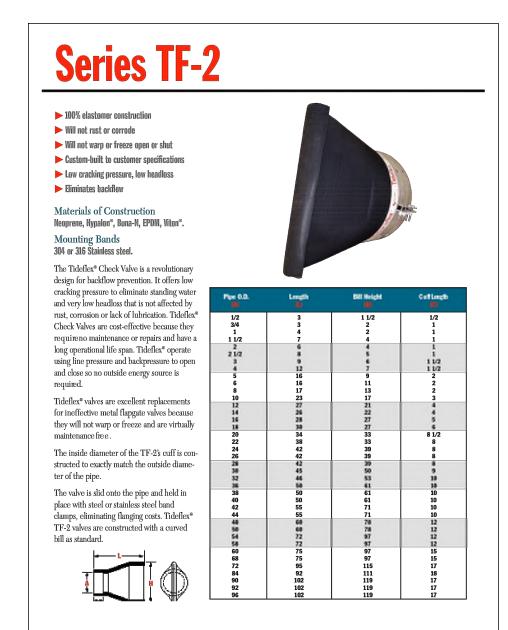
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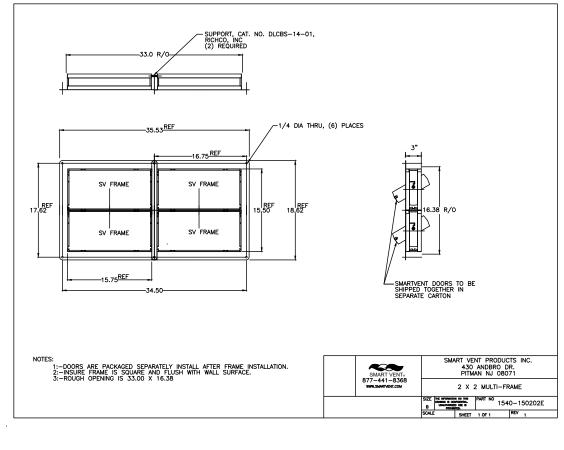












TIDEFLEX CHECK VALVE

NOT TO SCALE

09/08/2022 REVISED PER TOWNSHIP DRC MEETING 08/10/2022 | REVISED PER TOWNSHIP COMPLETENESS REVIEW 07/05/2022 REVISED SANITARY SEWER PROFILE 5 | 04/25/2022 | REVISED PER UNION COUNTY COMMENTS DATED JAN. 6. 2022 SP 4 12/08/2021 REVISED PER UNION COUNTY COMMENTS SP 11/01/2021 REVISED BUILDING FOOTPRINT SP 4/30/2021 REVISED PER NJDEP COMMENTS MS REVISED PER NJDEP COMMENTS 4/28/2021 SP MS No. | Date Revision l Revised Bv IChecked Bv **BAHRAM FARZANEH, PE, PP** SCALE IN FEET PROFESSIONAL ENGINEER, NJ LIC. No. 24GE03454800



New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

BLOCK 484 LOT 19.01

TOWNSHIP OF CRANFORD

DESIGNED BY: SCALE: 1/29/2021 KDW AS SHOWN 16377.001 CHECKED BY: DRAWN BY: FIELD BOOK

 ADJUST TO GRADE WITH COURSES OF BRICK (3 MAX) OR PRECAST CONCRETE GRADE RING. CONTRACTOR TO SUBMIT SHOP DRAWING TO DESIGN ENGINEER FOR REVIEW AND APPROVAL

10. STRUCTURE TOP TO BE REINFORCED CONCRETE DESIGNED FOR HS20 LOADING.

PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO ORDERING.

BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER

5. PROVIDE ALUMINUM LADDER RUNGS @ 12" CENTER TO CENTER

SHALL BE INCREASED TO 12" WIDTH AND TO 12' IN DEPTH.

7. FRAME TO BE THOROUGHLY BEDDED IN MORTAR IN UNPAVED AREAS.

3/4" STONE

— COMPACTED

MORTAR TO

INV. 58.50

<u>STORM OUTLET STRUCTURE</u>

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Vall, New Jersey 07719 732.312.9800

PRELIMINARY AND FINAL SITE PLAN

201 WALNUT AVENUE

CONSTRUCTION DETAILS

UNION COUNTY NEW JERSEY