

	LIST OF DRAWINGS
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C-05	PAVING PLAN
C-06	STRIPING PLAN
C-07	DETAILS
C-08	CONCRETE PAVEMENT RESTORATION
C-09	STANDARD TRENCH OR HOLE RESTORATION

DESIGNED BY: 8V	DRAWN GY:	CHÉCKED BY: DA	BATTERY PARK CITY AUTHORITY			
DIEGO	Ó ALAIMO	REVISIONS	ROADWAY	Engineers ∙ Sun 65 Broadway, Si	OF MANHATTAN reyors • Construction Managers aite 401, New York, N.Y. 10008 6-2657, Fax: (212) 616-3060	
PROFES	SSIONAL ENGINEER ENSE NO. 053085—1	SCALE: AS SHOWN	DATE: 07/19/2013	PROJECT NO.:	SHEET NO.: C-01	

ESTIMATE OF QUANTITIES				
ITEM NUMBER	EM NUMBER ITEM DESCRIPTION UNIT			
1254/11-01	MOBILIZATION	L.S.	1.00	
1254/11-02	WORK ZONE SAFETY CONTROL	LS.	1.00	
1254/11-03	NIGHT TIME OPERATIONS	LS.	1.00	
1254/11-04	SURVEY OPERATIONS	LS.	1.00	
1254/11-05	SAW CUTTING OF EXISTING ASPHALT PAVEMENT, ASPHALT SURFACE COURSE, OR ASPHALT CONCRETE OVERLAY ON CONCRETE PAVEMENT	LINEAR FEET	50.00	
1254/11-06	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SQUARE YARD	550.00	
1254/11-07	ALTERING EXISTING DRAINAGE STRUCTURES, UTILITY MANHOLES OR VALVE BOXES	EACH	15.00	
1254/11-08	TACK COAT	GALLON	750.00	
1254/11-09	HOT MIX ASPHALT TYPE 6 TOP COURSE	TON	550.00	
1254/11-10	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	FEET	270.00	
1254/11-11	685.12 YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	FEET	230.00	

GENERAL NOTES:

SPECIFIC PAVEMENT RESTORATION PROVISIONS:

- a) THE PERMANENT RESTORATION OVER THE TRENCH WIDTH AND CUTBACKS ONLY SHALL CONSIST OF A TOP COURSE OF ONE AND ONE-HALF (1-1/2) INCHES OF BINDER MIXTURE ON A BASE COURSE OF A MINIMUM OF THREE (3) INCHES OF BINDER MIXTURE ON A BASE COURSE OF A MINIMUM OF THREE (3) INCHES OF BINDER MIXTURE ON A BASE COURSE OF A MINIMUM OF SIX (6) INCHES OF HIGH-EARLY STRENGTH CONCRETE, TO MATCH THE EXISTING PAVEMENT AS DIRECTED BY THE ENGINEER.
- b) FINALLY AN OVERLAY OF TWO (2) INCHES OF ASPHALTIC CONCRETE WEARING COURSE SHALL BE INSTALLED OVER THE ENTIRE WIDTH OF THE ROADWAY FROM CURB TO CURB OR EDGE TO EDGE OF EXISTING ROADWAY.

THE FOLLOWING REQUIREMENTS APPLY:

- a) BEFORE THE TOP COURSE IS INSTALLED, AN ADDITIONAL WIDTH OF ASPHALT BEYOND THE EDGE OF NEW BASE COURSE SHALL BE SAW—CUT AND REMOVED FROM ALL EDGES OF TRENCHES TO A DEPTH TO ACCOMMODATE THE SPECIFIED TOP COURSE AND THE ENTIRE AREA RESTORED. THIS ADDITIONAL REMOVAL SHALL BE IN ACCORDANCE WITH PARAGRAPH (b) BELOW.
- b) PAVEMENT EXCAVATION ALONG WITH SAW CUITING OF PAVEMENTS FOR SEWER AND WATER MAIN TRENCHES SHALL BE IN ACCORDANCE WITH SECTION 5.30 PAVEMENT EXCAVATION OF BOTH THE STANDARD SEWER SPECIFICATIONS AND THE STANDARD WATER MAIN SPECIFICATION.
- c) AT LOCATIONS REQUIRING THE INSTALLATION OF A CONCRETE BASE COURSE, REFLECTIVE CRACKING MEMBRANE SHALL BE INSTALLED OVER JOINTS PRIOR TO RESTORATION, THE COST OF WHICH SHALL BE DEEMED INCLUDED IN THE PRICES BID FOR ALL PAVEMENT RESTORATION ITEMS. ADDITIONALLY, APPROPRIATE PAVEMENT KEYS AS DESCRIBED BELOW SHALL
- d) PAVEMENT KEYS TYPE B-1 SHALL BE USED TO ENSURE A DESIRED FOUR (4) INCH CURB REVEAL (TWO AND ONE-HALF (2-1/2) ABSOLUTE MINIMUM). PAVEMENT KEY TYPE A SHALL BE USED IN ALL INTERSECTIONS. BOTH KEYS ARE TO BE PER BUREAU OF HIGHWAYS OPERATIONS SPECIFICATIONS AND STANDARD DETAILS OF CONSTRUCTION.
- e) UNLESS OTHERWISE SPECIFIED, THE COST FOR TACK COATING, REMOVAL OF PAVEMENT MARKINGS AND REPLACEMENT WITH THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS, STRIPPING OR MILLING OF PAVEMENT KEYS AND ADJUSTMENT OF CITY—OWNED CASTINGS SHALL BE DEEMED INCLUDED IN THE PRICES BID FOR ALL PAVEMENT RESTORATION ITEMS.
- f) PAYMENT FOR PAVEMENT RESTORATION SHALL BE MADE UNDER THE FOLLOWING ITEMS:

PAYMENT DESCRIPTION

ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK

(FOR ASPHALTIC CONCRETE WEARING COURSE TOP COURSE WHEN NO OVERLAY IS REQUIRED)

ASPHALTIC CONCRETE WEARING COURSE, 2" THICK

(FOR 2" ASPHALTIC CONCRETE WEARING COURSE OVERLAY FROM CURB TO CURB OF EDGE TO

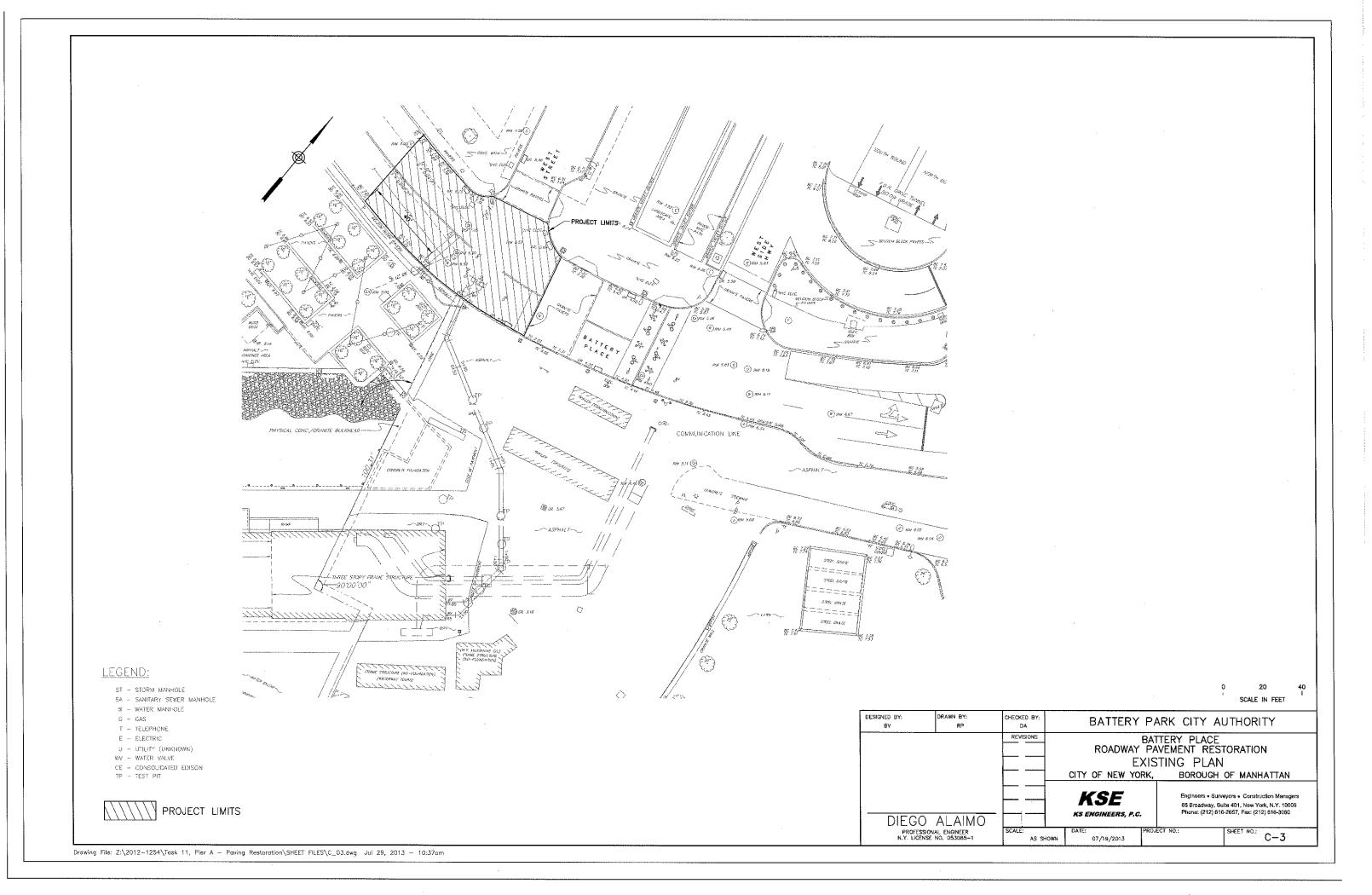
BINDER MIXTURE

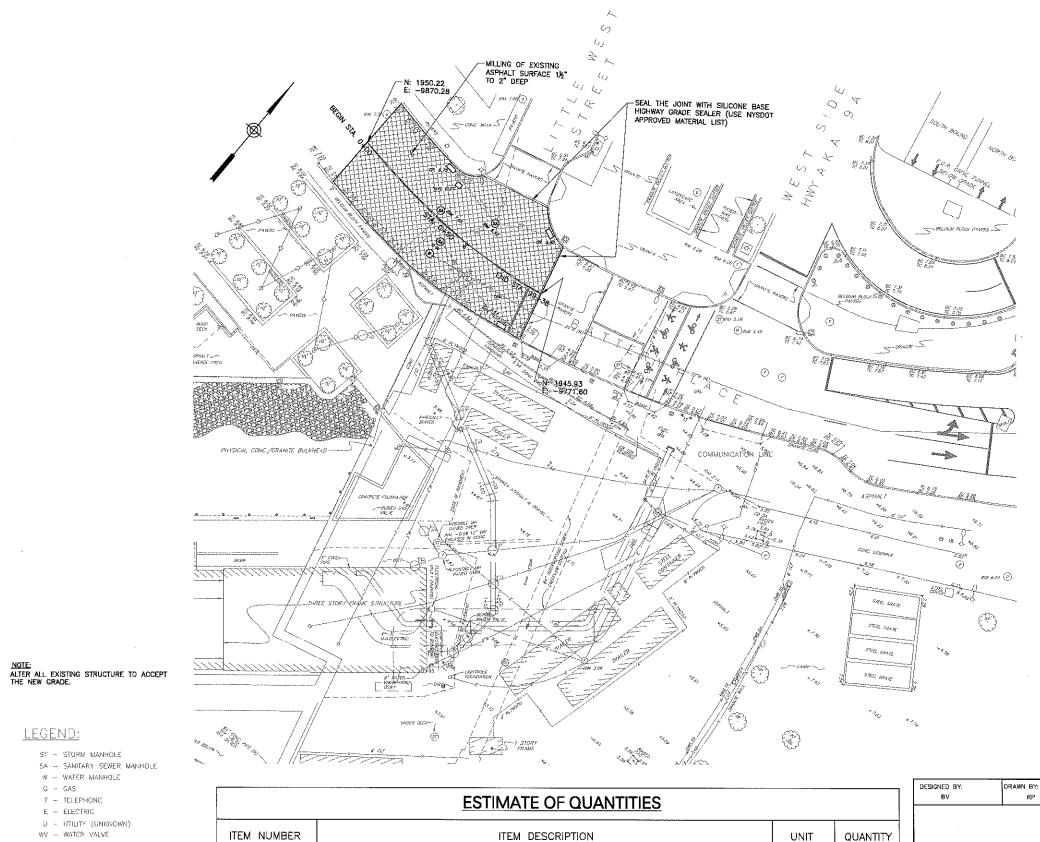
<u>ITEM</u>

(FOR BINDER MIXTURE BASE COURSE OVER TRENCHES AND CUTBACKS; BINDER MIXTURE TOP FILLER COURSE UNDER ASPHALTIC CONCRETE WEARING COURSE WHEN NO OVERLAY IS REQUIRED; BINDER MIXTURE TOP COURSE WHEN OVERLAY IS REQUIRED; BINDER MIXTURE IN TYPE A AND B KEYS; AND BINDER MIXTURE TO FILL IN ROADWAY DEPRESSIONS AND TO PROVIDE A LEVELING COURSE PRIOR TO OVERLAY WHERE ORDERED.)

CONCRETE BASE FOR PAVEMENT VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH) (FOR CONCRETE BASE COURSE OVER TRENCHES AND CUTBACKS.)

DESIGNED BY: BV	DRAWN BY: RP	CHECKED BY: DA	BATTERY PARK CITY AUTHORITY				
		REVISIONS		BATTERY PLACE PAVEMENT RESTORATION TE OF QUANTITIES ORK, BOROUGH OF MANHATTAN			
DIEGO ALAIMO			KSE KS ENGINEERS, P.C				
	NAL ENGINEER E NO. 063085-1	SCALE: AS SHOW	DATE: N 07/19/2013	PROJECT NO.: SHEET NO.: C-02			





ITEM NUMBER ITEM DESCRIPTION UNIT 1254/11-06 MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE SQUARE YARD 1254/11-07 ALTERING EXISTING DRAINAGE STRUCTURES, UTILITY MANHOLES OR VALVE BOXES

CHECKED BY: BATTERY PARK CITY AUTHORITY DA BATTERY PLACE ROADWAY PAVEMENT RESTORATION REVISIONS MILLING PLAN CITY OF NEW YORK, BOROUGH OF MANHATTAN KSE 65 Broadway, Suite 401, New York, N.Y. 10006 Phone: (212) 616-2657, Fax: (212) 616-3060 KS ENGINEERS, P.C. DIEGO ALAIMO PROFESSIONAL ENGINEER N.Y. LICENSE NO. 053085-1 C-4 07/19/2013

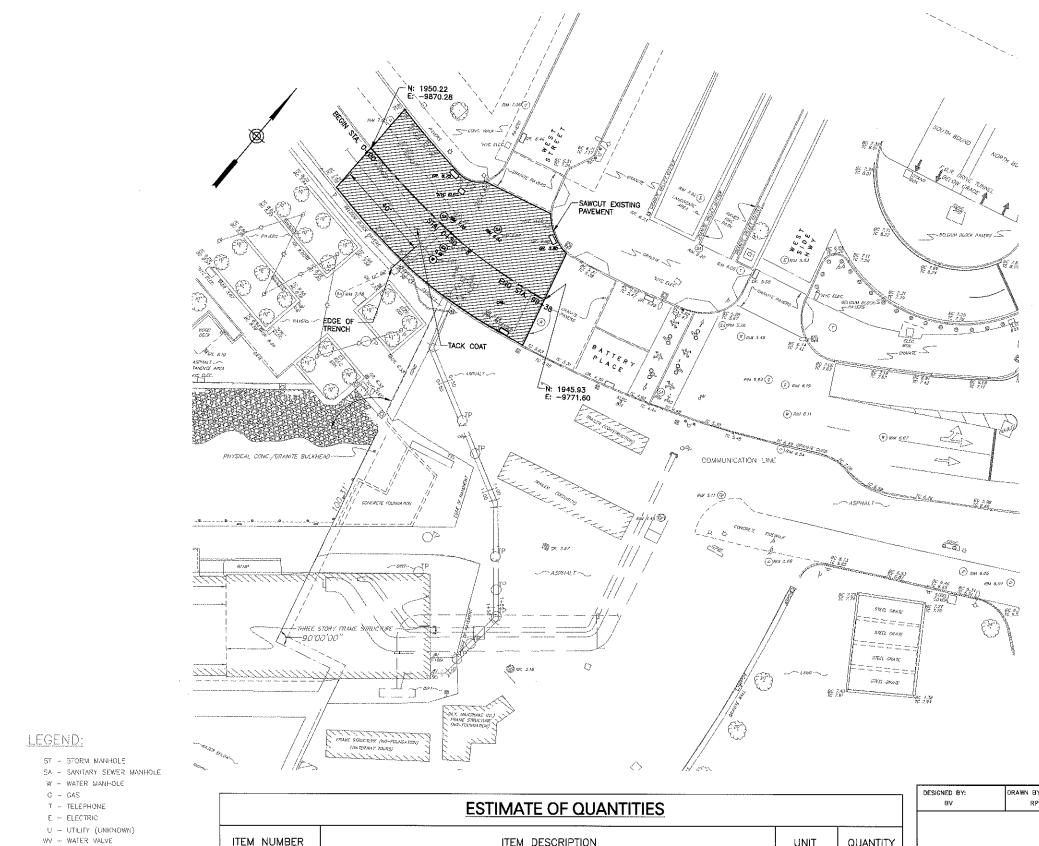
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CE - CONSOLIDATED EDISON TP - TEST PIT

PAVING

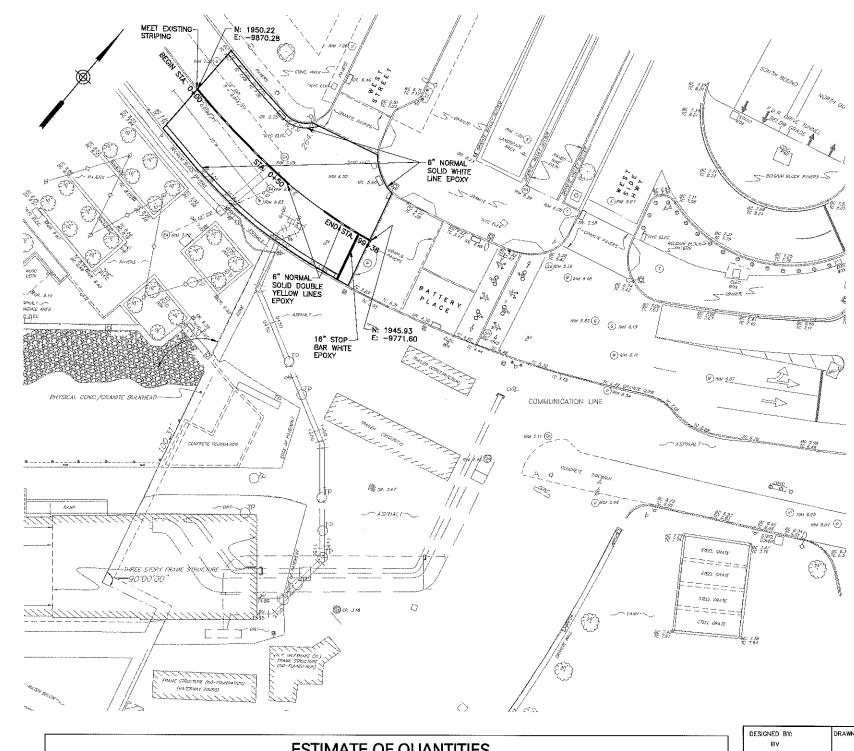
	ESTIMATE OF QUANTITIES		
TEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
1254/11-05	SAW CUTTING OF EXISTING ASPHALT PAVEMENT, ASPHALT SURFACE COURSE, OR ASPHALT CONCRETE OVERLAY ON CONCRETE PAVEMENT	LINEAR FEET	50.00
1254/11-08	TACK COAT	GALLON	750.00
1254/1109	HOT MIX ASPHALT TYPE 6 TOP COURSE	TON	550.00

SIGNED BY: BV	DRAWN BY: RP	CHECKED BY: DA	BATTERY PARK CITY AUTHORITY			
		REVISIONS	ROADWAY	ATTERY PLACE PAVEMENT RES AVING PLAN K, BOROUGH	TORATION OF MANHATTAN	
			KSE KS ENGINEERS, P.C.	65 Broadway, S	/eyors • Construction Managers uite 401, New York, N.Y. 10006 6-2657, Fax: (212) 616-3060	
PROFESSIO	ALAIMO DNAL ENGINEER E NO. 053085-1	SCALE:	DATE: PF 07/19/2013	ROJECT NO.:	SHEET NO.: C-5	

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SCALE IN FEET

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LEGEND:

ST - STORM MANHOLE

SA - SANITARY SEWER MANHOLE

W - WATER MANHOLE

C - GAS

T - TELEPHONE

E ~ ELECTRIC

U - UTILITY (UNKNOWN)

WV - WATER VALVE CE - CONSOLIDATED EDISON

TP - TEST PIT

ESTIMATE OF QUANTITIES					
ITEM NUMBER	. ITEM DESCRIPTION	UNIT	QUANTITY		
1254/11-10	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES ~ 20 MILS	FEET	270.00		
1254/11-11	685.12 YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	FEET	230.00		

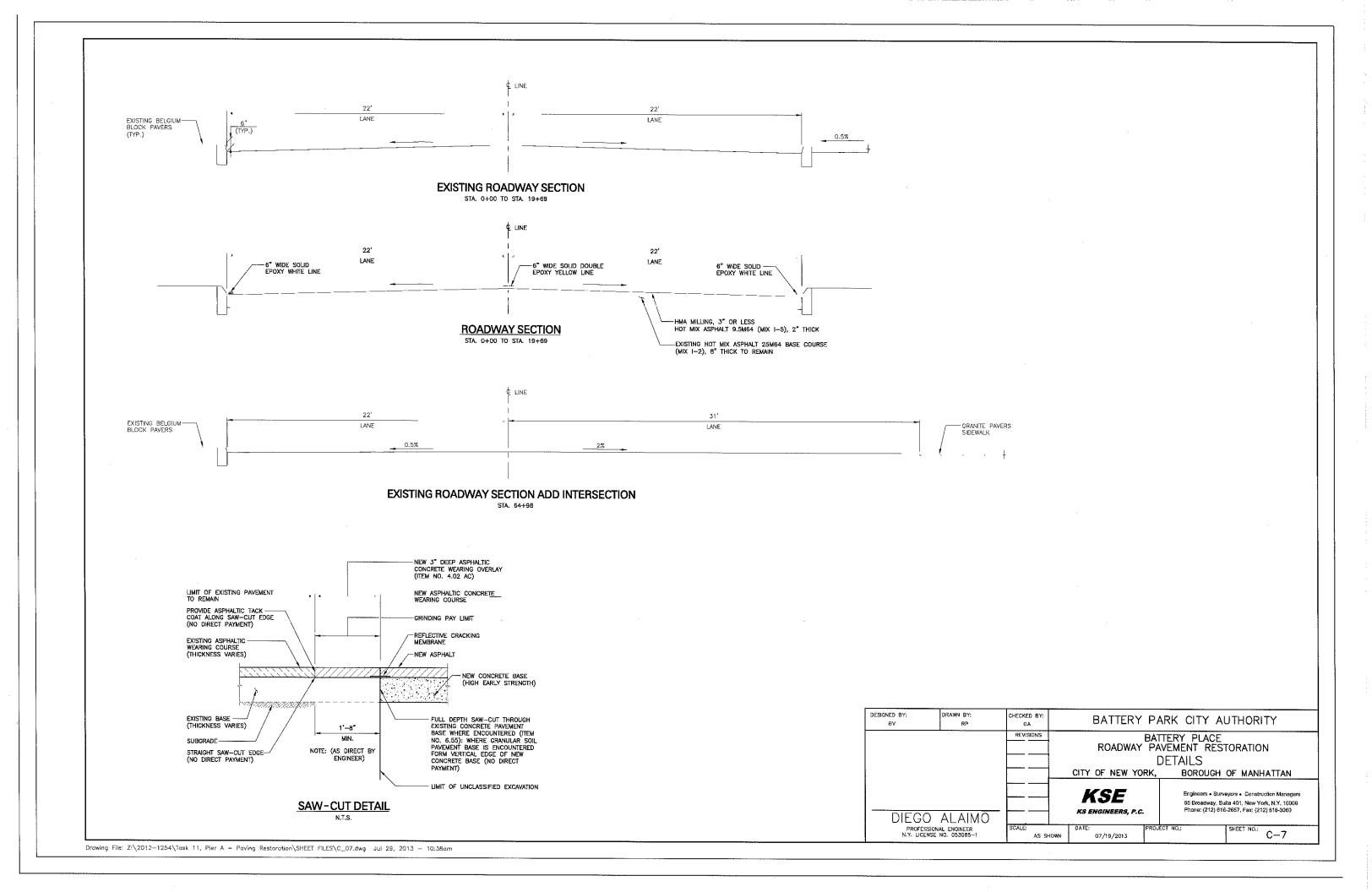
DRAWN BY: CHECKED BY: DA BATTERY PARK CITY AUTHORITY REVISIONS BATTERY PLACE ROADWAY PAVEMENT RESTORATION STRIPPING PLAN CITY OF NEW YORK, BOROUGH OF MANHATTAN KSE 65 Broadway, Suite 401, New York, N.Y. 10006 Phone: (212) 616-2657, Fax: (212) 616-3060 DIEGO ALAIMO PROFESSIONAL ENGINEER N.Y. LICENSE NO. 053085-1 C-6

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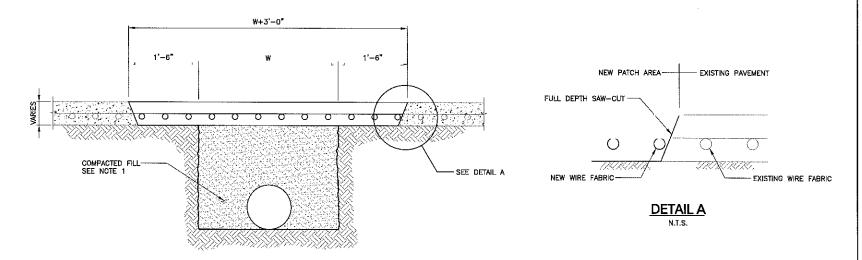
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NOTES:

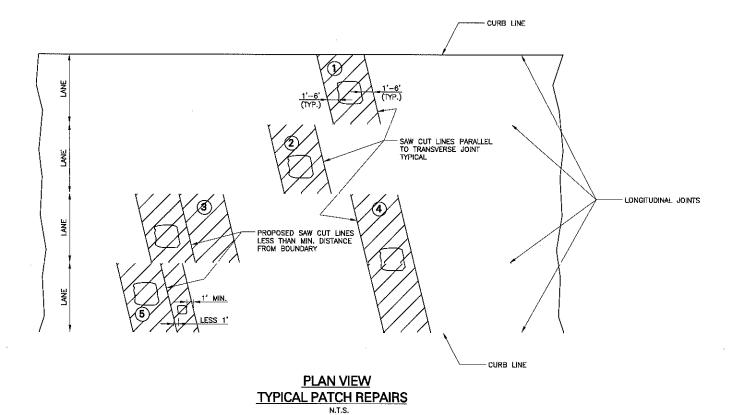
- ALL TRENCHES SHALL BE BACKFILLED WITH GOOD TO EXCELLENT FILL AS PER THE NYC DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- 2. BACKFILL MATERIAL SHALL BE DEPOSITED IN HORIZONTAL LAYERS NOT EXCEEDING 12" IN THICKNESS PRIOR TO COMPACTION. A MINIMUM OF 95% OF STANDARD MAXIMUM DENSITY WILL BE REQUIRED WHEN PLACING BACKFILL LAYERS SHALL BE DEPOSITED TO PROGRESSIVELY BURY THE UTILITY TO EQUAL DEPTHS ON BOTH SIDES. COMPACTION SHALL BE ACHIEVED BY THE USE OF IMPACT HAMMER, OR PNEUMATIC PLATE, OR DRUM VIBRATORS BUTTON HEAD COMPACTION EQUIPMENT. HAND TAMPING IS NOT PERMITTED EXCEPTION THE IMMEDIATE AREA OF THE UNDER GROUND FACILITY. GROUND FACILITY.
- ALL MATERIALS USED IN THE RESTORATION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE NYC DEPARTMENT OF TRANSPORTATION AND/OR SHALL BE APPROVED BY
- THE OUTLINE OF THE PATCH SHALL BE FULL DEPTH SAW CUTTING AT A MINIMUM DISTANCE OF 1'-8" FROM ALL EDGES OF THE EXCAVATION. THE BREAKUP WITH PNEUMATIC HAMMERS IS TO BEGIN AT THE CENTER OF THE PATCH AREA NOT AT THE SAWCUTS. IF THE CONTRACTOR SPALLS THE CONCRETE DURING THE REMOVAL, HE MUST MAKE A NEW SAW CUT OUTSIDE THE SAWED AREA AND REMOVE THE CONCRETE WITHOUT ADDITIONAL COMPENSATION.
- 5. TO MINIMIZE AND ELIMINATE PATCH HOCKING, PUMPING, AND BREAKUP, THE WIDTH OF THE PATCH TO MINIMIZE AND ELIMINATE PAICH HOCKING, PUMPING, AND BREAKUP, THE WIDTH OF THE PATCH SHALL NOT BE LESS THAN ONE FULL LANE WIDTH. HOW EVER, IF THE EXCAVATION EXTENDS INTO AN ADJACENT LANE, THE CONCRETE IN THIS ADJACENT LANE IS TO BE REMOVED TO THE NEXT LONGITUDINAL JOINT (TO THE CURB LINE IF CUT IS IN THE CURB LANE). EXISTING JOINTS THEREBY REMOVED ARE TO BE RESTORED IN SUCH A MANNER SO THAT THE STRUCTURAL INTEGRITY OF THE ORIGINAL JOINT IS RETAINED. THE BARS, IF PRESENT, SHALL IN ALL CASES BE RETAINED OR REPULACED.
- 6. THE EDGE OF THE PATCH SHALL NOT BE CLOSER THAN 10' TO THE NEAREST TRANSVERSE JOINT.
 IF SAID EDGE FALLS WITHIN THIS TEN (10') FOOT DISTANCE ALL CONCRETE UP TO THE JOINT SHALL BE REMOVED AND REPLACED TO SAID BOUNDARY LIKEWISE, THE EDGE OF THE PATCH SHALL NOT BE CLOSER THAN 1'-O" BEYOND THE FAR SIDE OF THE HARDWARE JOINTS MAY BE ROUGH FACED OR SMOOTH FACED BUT IN ALL CASES THE STRUCTURAL INTEGRITY OF THE EXISTING JOINT IS TO BE RETAINED. LOAD TRANSFER DEVICES, IF PRESENT, SHALL BE RETAINED OR REPLACED.
- IMMEDIATELY PRIOR TO THE PLACING OF THE NEW CONCRETE ALL EXPOSED EDGES OF THE OLD CONCRETE SHALL HAVE A CEMENT—WATER—SAND GROUT OR EPOXY BONDING COMPOUND BRUSHED
- 8. A WIRE MESH OF THE SAME SIZE AS THAT IN THE ORIGINAL PAYEMENT SHALL BE PLACED IN THE PATCH AREA. NO PHYSICAL TIE TO THE EXISTING MESH WILL BE REQUIRED. THIS MESH WILL BE PLACED APPROX. 3-1/2" BELOW THE ROADWAY SURFACE.
- A CONVENTIONAL CONCRETE MIXTURE CONTAINING INCREASED CEMENT FACTOR (IN BAG MIX TYPE IN CEMENT) REDUCED WATER CONTENT, SUPERPLASTICIZER AND AN ACCELERATOR IS TO BE USED SO THAT THE PATCH CAN BE OPENED TO TRAFFIC WITHIN A TWENTY-FOUR HOUR PERIOD OR BEFORE. IF AND WHEN THE CONCRETE HAS OBTAINED A STREMENTH OF 250 OPS OR BETTER. UNTIL THIS TIME THE PATCH SHALL BE PROTECTED FROM TRAFFIC BY BARRICADING.
- 10. EXTRA ATTENTION IS TO BE GIVEN TO ENSURE THAT THE PATCH IS WELL VIBRATED AROUND THE EDGES AND THAT IT IS NOT OVER FINISHED. THE PITCH SHOULD BE STRUCK OFF TWO OR THREE TIMES TO ENSURE THAT ITS SURFACE IS EVEN WITH THE ADJACENT CONCRETE. THE FINISHED TEXTURE SHALL MATCH THAT OF THE ADJACENT PAVEMENT.



CONCRETE PAVEMENT RESTORATION DETAIL

LEGEND

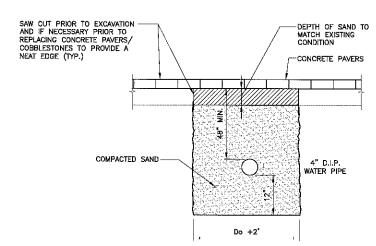
PATCH AREA



DESIGNED BY: DRAWN BY: CHECKED BY BATTERY PARK CITY AUTHORITY BV DA REVISIONS BATTERY PLACE EXCAVATION AREA ROADWAY PAVEMENT RESTORATION CONCRETE PAVEMENT RESTORATION STREET HARDWARE CITY OF NEW YORK, BOROUGH OF MANHATTAN KSE Engineers • Surveyors • Construction Managers 65 Broadway, Suite 401, New York, N.Y. 10006 Phone: (212) 616-2657, Fax: (212) 616-3060 KS ENGINEERS, P.C. DIEGO ALAIMO PROFESSIONAL ENGINEER N.Y. LICENSE NO. 053085-C-8 07/19/2013

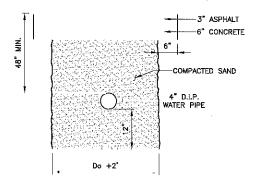
NOTES

- ALL WATER LINE CONSTRUCTION SHALL BE IN COMPLIANCE WITH CHAPTER 20, RULES GOVERNING AND RESTRICTING THE USE AND SUPPLY AND WATER DATED SEPTEMBER 20, 2000 OR LATEST REVISION. CONSTRUCTION SHALL ALSO COMPLY WITH NYCDEP INFRASTRUCTURE DESIGN STANDARDS, WATER MAIN STANDARD DRAWINGS DATED NOVEMBER 1, 2010 OR LATEST, THE CITY OF NEW YORK, BUREAU OF WATER AND SEWER OPERATIONS, DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- 2. D.I.P. SHALL BE LINED WITH CEMENT AND FITTINGS SHALL BE CLASS 52 MECHANICAL JOINT FOR DIAMETERS 4" OR LESS, AND CLASS 56 FOR 6" OR LARGER DIAMETERS WITH MEGALUR RETAINER GLANDS OR EQUAL ALL JOINTS SHALL BE RESTRAINED. THRUST BLOCKS ARE NOT PERMITTED. VERIFY DIAMETER OF EXISTING 20" WATER MAIN VIA TEST PIT PRIOR TO ORDERING TAPPING SLEEVE AND VALVE.
- 3. EXISTING UTILITY LOCATIONS AND DEPTHS ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON RECORD SEARCHES. VERTICAL LOCATIONS OF THE UTILITIES INDICATED IN THE FORCE MAIN PROFILE ARE BASED UPON ASSUMED DEPTHS FOR EACH TYPE OF UTILITY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF A CONFLICT SO THAT DIRECTION ON HOW TO PROCEED CAN BE GIVEN
- 4. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL NECESSARY SAFETY DEVICES FOR THE PROTECTION OF WORKERS AS WELL AS THE GENERAL PUBLIC. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A PLAN FOR THE MAINTENANCE AND PROTECTION OF BOTH PEDESTRIAN AND VEHICLE TRAFFIC. NO CONSTRUCTION ACTIVITIES MAY COMMENCE UNTIL THE ENGINEER HAS PROVIDED THE CONTRACTOR WRITTEN APPROVAL OF THE PLAN.
- PLUMBER IS RESPONSIBLE FOR THE WATER LINE UP TO 5' FROM THE OUTSIDE FACE OF BUILDING. SITE CONTRACTOR IS RESPONSIBLE FOR BALANCE OR WORK EXCEPT AS REQUIRED BY CODE (I.E. FOR WET TAP OR OTHERWISE APPLICABLE).
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CONSTRUCTION PERMITS AND ANY/ALL INSPECTIONS, CLEANSING, AND TESTING AS REQUIRED BY CODE.



4" WATER PIPE TRENCH DETAIL CONCRETE PAVERS/COBBLESTONES IN PLAZA AREA

N.T.S.



WATER PIPE TRENCH DETAIL IN BATTERY PLACE

