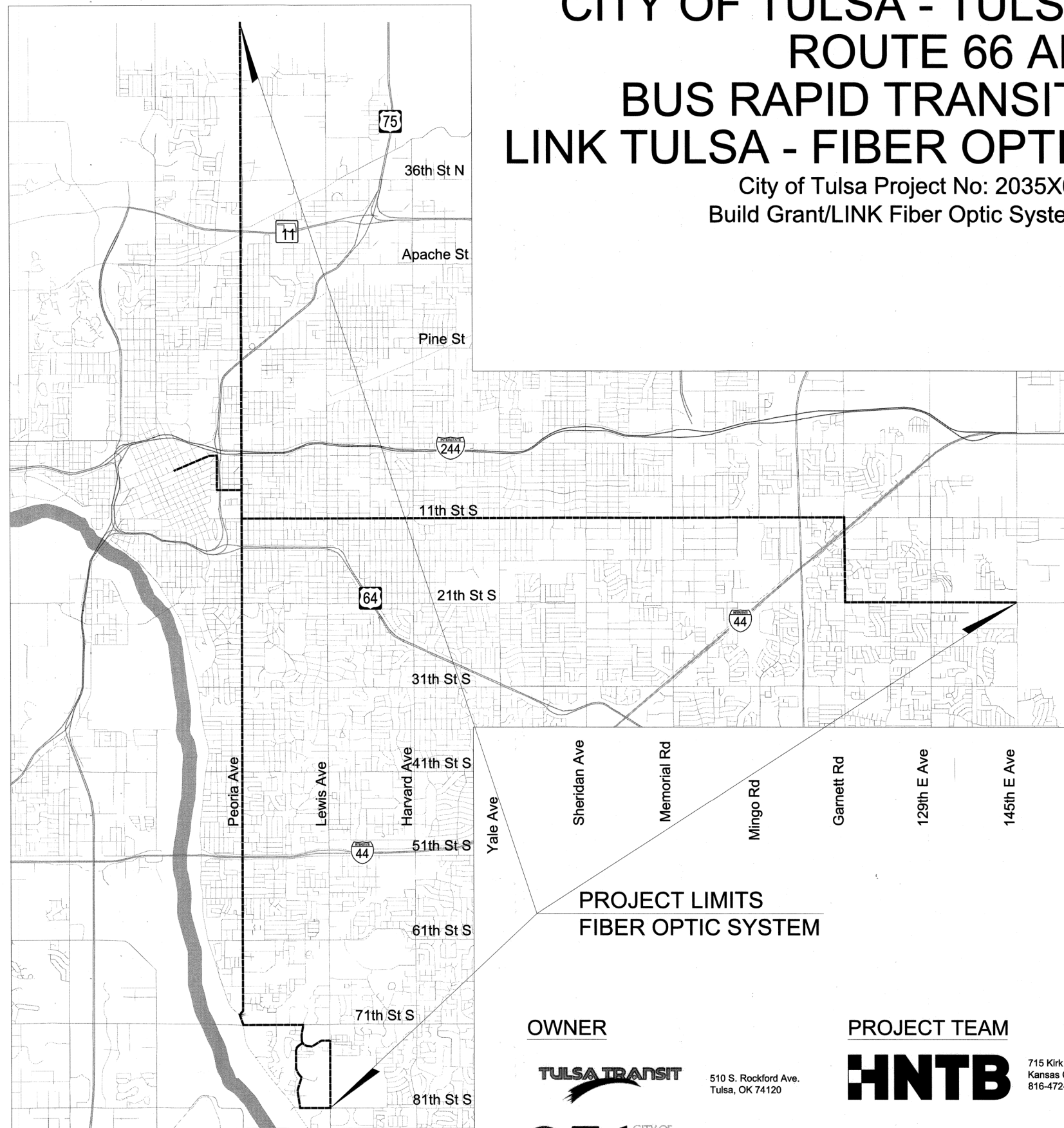


CITY OF TULSA - TULSA, OKLAHOMA
ROUTE 66 AERO
BUS RAPID TRANSIT STATIONS
LINK TULSA - FIBER OPTIC INSTALLATION

City of Tulsa Project No: 2035X001Z, Phase 1
Build Grant/LINK Fiber Optic System Improvements


SHEET INDEX

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PROJECT LOCATION MAP

N



Scale: NTS

OWNER



510 S. Rockford Ave.
Tulsa, OK 74120

175 E. 2nd St.
Tulsa, OK 74103

PROJECT TEAM



715 Kirk Dr.
Kansas City, MO 64105
816-472-1201



1623 E. 6th Street
Tulsa, OK 74120
918-835-9588




ENTIRE PROJECT IS WITHIN THE CORPORATE AND
URBAN LIMITS OF THE CITY OF TULSA

CITY OF TULSA MAP

Scale: 1" = 3 MILES



COVER SHEET

REVISION	BY	DATE	APPROVED:
			
			CITY ENGINEER
			DATE: 6/13/2022
			SHEET 1 OF 99 SHEETS

1 UNLESS OTHERWISE NOTED, ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE CURRENT CITY OF TULSA ENGINEERING SERVICES DEPARTMENT'S STANDARD SPECIFICATIONS AND STANDARD DETAILS AND STANDARD DRAWINGS AND CITY OF TULSA SPECIAL PROVISIONS.

3 PAY ITEMS SHALL BE AS SPECIFIED ON THE CITY OF TULSA OR ON THE ODOT
STANDARD DRAWINGS EXCEPT AS MODIFIED BY THE CONTRACT.

5 THE LOCATIONS OF THE UTILITIES ARE SHOWN ACCORDING TO ALL AVAILABLE INFORMATION. THE CONTRACTOR SHALL NOTIFY EACH UTILITY OWNER PRIOR TO COMMENCEMENT OF WORK TO VERIFY BOTH HORIZONTAL AND VERTICAL LOCATIONS. THE FOLLOWING IS A LIST OF UTILITY OWNERS; AT&T, PUBLIC SERVICE COMPANY OF OKLAHOMA (AEP), OKLAHOMA NATURAL GAS (ONG), COX COMMUNICATIONS, MCI/VERIZON, EASYTEL COMMUNICATIONS, WELLSCO VALLOR TELECOM, CITY OF TULSA-WATER AND SEWER, CITY OF TULSA-TRAFFIC OPERATIONS. SEE TITLE SHEET FOR CONTACT INFORMATION.

7 THE CONTRACTOR SHALL TAKE REASONABLE PRECAUTIONS TO PREVENT EXCESS
MOISTURE FROM INCLEMENT WEATHER OR OTHER SOURCES FROM ENTERING ANY
SIDEWALK EXCAVATION. IF EXCESS MOISTURE DOES ENTER THE EXCAVATION
THROUGH THE NEGLIGENCE OF THE CONTRACTOR AND THE ADJOINING PAVEMENT IS
ADVERSELY AFFECTED BY THE EXCESS MOISTURE, THE CONTRACTOR SHALL REPLACE
THE ADJOINING PAVEMENT AND SUBBASE AT HIS SOLE EXPENSE.

9 THE CONTRACTOR SHALL WORK IN COOPERATION WITH THE CITY OF TULSA TO ESTABLISH, INSTALL, MAINTAIN, AND OPERATE COMPLETE, ADEQUATE, AND SAFE TRAFFIC CONTROLS DURING THE ENTIRE CONSTRUCTION PERIOD. ALL FLAGMEN, BARRICADES, AND TRAFFIC CONTROL DEVICES SHALL BE APPROVED BY THE FIELD ENGINEERING REPRESENTATIVE.

11 THE CONTRACTOR SHALL NOTIFY THE CITY OF TULSA FIELD ENGINEERING,
918-596-9404, A MINIMUM OF 48 HOURS PRIOR TO COMMENCING WORK OR PRIOR
TO REMOVING TRAFFIC SIGNS.

13 ALL PUBLIC AND PRIVATE STREETS AND DRIVES SHALL BE ACCESSIBLE AT ALL
TIMES.

14 ALL BROKEN CONCRETE, WASTE MATERIAL, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

16 WHERE MATERIALS ARE TRANSPORTED IN THE PROSECUTION OF WORK,
VEHICLES SHALL NOT BE LOADED BEYOND THE CAPACITY RECOMMENDED BY THE
VEHICLE MANUFACTURER OR AS PRESCRIBED BY ANY FEDERAL, STATE OR LOCAL LAW
OR REGULATION.

18 IF THE CONTRACTOR ENCOUNTERS VOIDS WHEN PATCHING SIDEWALKS, THE
CONTRACTOR SHALL CALL FIELD ENGINEERING AT 918-596-7814 FOR AN INSPECTION
BEFORE PROCEEDING WITH WORK.

20 CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY QUALITY CONTROL TESTING
TO ENSURE THAT PROJECT REQUIREMENTS ARE MET.

22 THE CONTRACTOR SHALL REPLACE ANY SECTION CORNERS OR OTHER
PERMANENT RIGHT OF WAY MARKERS REMOVED OR DISTURBED AS A RESULT OF THE
CONSTRUCTION OF THIS PROJECT. REPLACEMENT OF SECTION CORNERS OR ANY
OTHER MONUMENTS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR
AUTHORIZED TO PERFORM WORK IN THE STATE OF OKLAHOMA.

24 STRAW OR HAY BALES AS STORMWATER BEST MANAGEMENT PRACTICES ARE
NO LONGER ALLOWED ON CONSTRUCTION PROJECTS.

26 ALL FEATURES OF THIS PROJECT INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, CURB RAMPS, AND CROSSWALKS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, ACCESSIBILITY GUIDELINES, AND THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY, PUBLISHED ON JULY 26, 2011 BY THE U.S. ACCESS BOARD. WHERE SPATIAL LIMITATIONS OR EXISTING FEATURES WITHIN THE LIMITS OF THE PROJECT PREVENT FULL COMPLIANCE WITH THIS ACT, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER UPON DISCOVERY OF SUCH FEATURES. THE CONTRACTOR SHALL NOT PROCEED WITH ANY ASPECT OF THE WORK, WHICH IS NOT IN FULL COMPLIANCE WITH THE ADA WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. ANY WORK, WHICH IS NOT PERFORMED WITHIN THE GUIDELINES OF THE ADA, FOR WHICH THE CONTRACTOR DOES NOT HAVE WRITTEN APPROVAL, SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

27 THE CONTRACTOR SHALL NOTIFY THE METROPOLITAN TULSA TRANSIT
AUTHORITY (MTTA), ERIC SMITH 918-830-0024, A MINIMUM OF 48 HOURS PRIOR TO
COMMENCING WORK, LANE CLOSURES OR PRIOR TO DETOURING TRAFFIC.

29 CONTRACTOR SHALL NOT STORE EQUIPMENT OR MATERIALS IN THE
FLOODPLAIN.

31 PULL STRINGS ARE REQUIRED IN ALL NEW EMPTY CONDUIT.

33 THE CONTRACTOR SHALL COORDINATE WITH GARY CUMMINS OF THE CITY OF
TULSA FOR ACCESS TO FIRE STATION 5, FIRE STATION 29, MINGO VALLEY POLICE, OTC
AND THE 911 CENTER. GARY CAN BE REACHED BY EMAIL AT
GCUMMINS@CITYOFTULSA.ORG.

34 THE CONTRACTOR SHALL COORDINATE WITH MICHAEL MCCLISTER OF MTTA
FOR ACCESS TO BUILDING AND CABINETS REQUIRED TO COMPLETE SPLICE WORK.


35 AERIAL PHOTOGRAPHY SHOWN ON PLANS IS FOR REFERENCE ONLY AND MAY
NOT MATCH EXISTING CONDITIONS.

36 ALL EXISTING ITS DEVICES AND COT FIBER SHALL BE KEPT IN OPERATION AT ALL
TIMES. CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING POWER AND
COMMUNICATION CABLES AND DEVICES DURING CONSTRUCTION UNLESS OTHERWISE
DIRECTED BY THE ENGINEER.

37 THE PLAN LOCATIONS OF UNDERGROUND AND AERIAL UTILITIES, WHEN SHOWN, ARE APPROXIMATE ONLY. IN ADDITION, A PORTION OF UTILITY INFORMATION MAY NOT HAVE BEEN PROVIDED. ALL UTILITIES SHALL BE LOCATED AND MARKED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING UTILITIES AND LOCATOR SERVICES AND SCHEDULING THE LOCATION OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL ALSO CONTACT ANY AND ALL UTILITIES AND LOCAL GOVERNMENT AGENCIES NOT PARTICIPATING IN LOCATION SERVICES.

38 PROPOSED ITS EQUIPMENT LOCATIONS ARE APPROXIMATE AND MAY REQUIRE
MODIFICATION TO AVOID CONFLICTS WITH UNDERGROUND AND AERIAL UTILITIES OR
OTHER OBSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO
DETERMINE ANY CONFLICTS WITH EXISTING UTILITIES AT SITES IN THE FIELD PRIOR TO
INITIATION OF CONSTRUCTION AT THAT SITE. AS THE FUTURE CCTV LOCATION IS
LOCATION SENSITIVE, THE CONTRACTOR SHALL RECEIVE APPROVAL FROM THE
ENGINEER PRIOR TO REVISING THE STAKED LOCATIONS OF ANY CONDUIT, CAMERA
FOUNDATIONS, CABINET FOOTINGS, TYPE IV HANDHOLES, OR POWER LOCATIONS.

39 THE CONTRACTOR SHALL BORE ALL CROSSINGS BENEATH ROADWAYS, STREETS
OTHER PAVED SURFACES, RAILROAD, OR OTHER STRUCTURE. DEPTH OF ALL BORES
SHALL BE A MINIMUM OF 36 INCHES UNLESS OTHERWISE SPECIFIED IN PLANS.

REVISION	BY	DATE	DRAWN DESIGNED SURVEY PROFILE SCALE: PROJ. MGR. <i>RA 6/22</i> HORIZONTAL: LEAD ENGR. <i>DN 6/22</i> FIELD MGR. <i>RA 7/22</i> VERTICAL: RECOMMENDED: <i>HA 8.2.22</i> DESIGN MANAGER			APPROVED:  CITY ENGINEER DATE: 6/13/2022
ATLAS PAGE NO:			DRAWING:			SHEET 2 OF 99 SHEETS



40 ALL CONDUIT SHALL BE HDPE CONDUIT. RIGID P.V.C. CONDUIT (SCHEDULE 40
OR AS APPROVED) MAY BE SUBSTITUTED FOR UNDERGROUND CONDUIT RUNS UNDER
25 FEET OR AS OTHERWISE DIRECTED BY THE ENGINEER.

42 THE CONTRACTOR SHALL TRENCH ALL CONDUIT WHERE EXISTING CONDITIONS
ALLOW UNLESS OTHERWISE SPECIFIED ON THE PLANS. THE CONTRACTOR MAY BORE
IN LIEU OF TRENCHING AT THE CONTRACTOR'S EXPENSE.

44 ANY AND ALL IMPROVEMENTS SUCH AS ASPHALT OR CONCRETE PAVEMENTS,
CURBS, GUTTERS, WALKS, DRAINAGE DITCHES, CULVERTS, DRAIN TILES,
EMBANKMENTS, SHRUBS, TREES, GRASS, SOD, ETC., IF DAMAGED, SHALL BE RESTORED
TO PRE-CONSTRUCTION CONDITIONS (OR BETTER) AS DIRECTED BY THE ENGINEER AT
NO ADDITIONAL COST TO THE COT.

46 THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREA(S) WILL BE SUBJECT TO THE APPROVAL OF THE RESIDENT CONSTRUCTION ENGINEER.

48 THE CONTRACTOR IS EXPECTED TO HAVE MATERIALS, EQUIPMENT, AND LABOR
AVAILABLE ON A DAILY BASIS TO INSTALL AND MAINTAIN EROSION CONTROL
FEATURES ON THE PROJECT. THIS MAY INVOLVE SEEDING, SILT FENCE, ROCK DITCH
CHECKS, SILT BASINS, OR SILT DIKES.

50 CONTRACTOR SHALL PLACE TAGS ON ALL FIBER OPTIC CABLE IDENTIFYING THE
OWNER AND DIRECTION OF THE CABLE AT EACH TERMINATION POINT AND IN EVERY
HANDHOLE AND SPLICE VAULT. TAGS SHALL CLEARLY IDENTIFY WHERE EACH
INDIVIDUAL CABLE RUN ORIGINATED AND WHERE IT ENDS (PULLBOX TO PULLBOX,
PULLBOX TO CABINET, PULLBOX TO BUILDING, ETC.) FOR FIBER INSTALLATIONS WITH
JOINT CITY/OTHER AGENCY (OR ENTITY) USE WHERE THE FIBER WILL BE OWNED BY
THE OTHER AGENCY (OR ENTITY), INSTALL TYPICAL IDENTIFIERS AND/OR MARKINGS
FOR THAT FIBER.

52 IN THE EVENT IT IS SUSPECTED THAT CABLE DAMAGE HAS OCCURRED PRIOR TO
FINAL ACCEPTANCE, CONTRACTOR SHALL PERFORM OTDR TESTING OF ALL FIBER
STRANDS WITHIN SEVENTY TWO (72) HOURS AFTER NOTIFICATION AND SUBMIT A
COPY OF THE OTDR TEST TO THE ENGINEER UPON COMPLETION.

54 CONTRACTOR SHALL REPAIR OR REPLACE ANY DEFECT IN THE INSTALLED CABLE
AT NO ADDITIONAL COST TO THE COT. CONSIDER A DEFECT TO BE ANY CONDITION
RESULTING IN A NEGATIVE OR ADVERSE EFFECT ON CURRENT OR FUTURE
OPERATIONS OF THE COMPLETED FIBER OPTIC COMMUNICATION SYSTEM AS
DETERMINED BY THE ENGINEER.

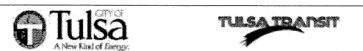
56 CONTRACTOR SHALL COORDINATE WITH THE SIGNAL EQUIPMENT CONTRACTOR
(PROJECT NUMBER 2035X001Z PHASE 2) ON INSTALLATION OF CONDUIT AND FIBER
OPTIC CABLE INTO THE NEW SIGNAL CABINETS.

58 THE PROJECT SHALL BE COMPLETED IN SEQUENTIAL PHASES. SUBSTANTIAL
COMPLETION OF THE PREVIOUS PHASE MUST BE AGREED UPON WITH THE ENGINEER
BEFORE THE CONTRACTOR CAN MOVE ONTO THE NEXT PHASE. REFER TO THE
CONSTRUCTION PHASING SHEET FOR MORE INFORMATION.

60 CONTRACTOR TO COORDINATE WITH GARY CUMMINS OF THE CITY OF TULSA
(GCUMMINS@CITYOFTULSA.ORG) FOR EXISTING PULLBOX TIE IN LOCATIONS ALONG
RIVERSIDE DR. THE PULLBOX LOCATIONS SHOWN ON THE PLAN SHEETS ARE
APPROXIMATE ONLY AND WILL NEED TO BE FIELD VERIFIED.

7 THE MAXIMUM RAMP SLOPE SHALL BE 1/12 (8.33%)

CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1



	DRAWN	T.J.W		APPROVED:
	DESIGNED	NW		
	SURVEY			
SCALE:	PROJ. MGR.	<i>df</i>	<i>4/22</i>	
ENTAL:	LEAD ENGR.	<i>(signature)</i>	<i>6/12</i>	
	FIELD MGR.	<i>Bm</i>	<i>7/12</i>	
AL	RECOMMENDED:	<i>HAS</i>	<i>8.22</i>	
	DESIGN MANAGER			<i>(signature)</i> CITY ENGINEER

SHEET 3 OF 99 SHEETS

PLOTTED BY: nshare
 PLOT DATE: 6/16/2022
 FILENAME: pw://pw-int.hntb.org:PWCentralDiv/Documents/Kansas City Projects/65870 Tulsa BRT DS02/PlanProduction/Sheets-FOD/65870_FOD_General Notes2.dgn

PLOT BY: nhrs
PLOT DATE: 16 JUN 2022 11:11 AM
FILENAME: pw://pw-int.hntb.org/PWCentralDiv/Documents/Kansas City Projects/65870 Tulsa BRT DS02/PlanProduction/Sheets-FOD/65870_FOD_Pay Items.dgn

BID ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE	UNIT
COMMUNICATIONS				
1	SPECIAL	12 SM DIELECTRIC FIBER OPTIC CABLE		LF
2	SPECIAL	48 SM DIELECTRIC FIBER OPTIC CABLE		LF
3	SPECIAL	96 SM DIELECTRIC FIBER OPTIC CABLE		LF
4	SPECIAL	TRACER WIRE		LF
5	SPECIAL	FUSION SPLICE		EA
6	SPECIAL	FIBER OPTIC PIGTAIL		EA
7	SPECIAL	FIBER OPTIC JUMPER		EA
8	SPECIAL	FIBER OPTIC SPLICE CLOSURE (WITH STORAGE BASKETS)		EA
9	SPECIAL	FIBER OPTIC SPLICE TRAY (SIZE)		EA
10	SPECIAL	SINGLE PANEL HOUSING		EA
11	SPECIAL	PATCH PANEL MODULES		EA
12	SPECIAL	FIBER OPTIC ACCEPTANCE TESTING		LS
13	601	PULL BOX SIZE TYPE III	3	EA
14	SPECIAL	PULL BOX SIZE SPLICE VAULT	3	EA
15	602	CONDUIT - TRENCHED	1, 3, 4, 11, 21	LF
16	602	CONDUIT - DIRECTIONAL BORE - OUTSIDE IDL	1, 3, 4, 11, 22	LF
17	602	1.5" HDPE SCH 40 CONDUIT	20	LF

BID ITEM	SPEC NO.	DESCRIPTION	PAY ITEM NOTE	UNIT
18	COT 102	PROJECT SIGNS		LS
19	201 (A)	CLEARING AND GRUBBING		LS
20	COT 327	SAFETY FENCE		LS
21	221 (C)	SILT FENCE		LS
22	641	MOBILIZATION		EA
23	642	CONSTRUCTION STAKING	2	EA
24	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION		EA



PAY ITEM NOTES

- ALL COSTS FOR REMOVING TREES (UP TO 6"), SHRUBS, STUMPS, POSTS, AND ALL OTHER DEBRIS AND/OR OBSTRUCTIONS NOT COVERED BY A SEPARATE PAY ITEM ARE INCLUDED IN THE PRICE BID.
- CONSTRUCTION STAKING SHALL INCLUDE SURVEYING AND THE FURNISHING, PLACING, AND MAINTAINING OF THE CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION AND INSPECTION OF THE ENTIRE PROJECT.
- WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.
- CONTRACTOR SHALL REPAIR ANY IRRIGATION SYSTEMS DAMAGED OR REQUIRING RELOCATION DURING THE CONSTRUCTION OF THIS PROJECT TO THE SATISFACTION OF THE PROPERTY OWNER AND CITY ARBORIST. COST SHALL BE INCLUDED IN THE PRICE BID.
- EROSION PROTECTION SHALL BE PLACED AROUND DRAINAGE INLETS AS REQUIRED TO PREVENT ENTRANCE OF EROSION MATERIAL. EROSION PROTECTION SHALL BE PLACED AS NECESSARY TO PREVENT EROSION WASH TO ADJACENT PROPERTY. ALL EROSION PROTECTION INSTALLED MUST BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE PROJECT. EROSION PROTECTION SHALL BE REMOVED AT THE END OF THE PROJECT AS DIRECTED BY THE ENGINEER, COST TO BE INCLUDED IN THE PRICE BID. THE PRICE INCLUDES THE COST OF SEDIMENT REMOVAL PER THE STORMWATER MANAGEMENT PLAN.
- THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.
- REFLECTORIZED SHEETING ON SIGNS AND BARRICADES SHALL BE OF A CUBIC PRISMATIC TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE IX RETROREFLECTIVE SHEETING. REFLECTORIZED SHEETING ON DRUMS AND TUBE CHANNELIZERS SHALL BE OF A HIGH-INTENSITY TYPE AND SHALL MEET THE SPECIFICATIONS ESTABLISHED FOR ASTM D 4956-01 TYPE III RETROREFLECTIVE SHEETING.
- IF WARNING LIGHTS ARE TO BE USED ON TRAFFIC CONTROL DEVICES, TYPE "A " LIGHTS SHALL ONLY BE USED ON DEVICES WARNING OF UNEXPECTED HAZARDS, AND SHALL NOT BE USED FOR DELINEATION OF THE TRAVELED WAY. ONLY TYPE "C" WARNING LIGHTS SHALL BE USED FOR DELINEATION OF THE TRAVELED WAY, AND TYPE "C" LIGHTS SHALL NOT BE USED FOR ANY OTHER PURPOSE.
- A CERTIFIED ARBORIST SHALL OVERSEE ALL PLANTINGS AND OR REMOVAL OF TREES. CONTACT CITY ARBORIST TO ACCEPT FINAL PLANTINGS. CONTACT #:
918-596-2548
- TREE GRATES ARE NOT ACCEPTABLE PER CITY ARBORIST. CONCRETE PAVERS ARE TO BE USED AS NECESSARY AROUND TREES.
- THIS PAY ITEM SHALL BE COMPLETE IN PLACE AND SHALL INCLUDE ALL PIPE, STANDARD BEDDING MATERIAL AND TRENCH EXCAVATION, JOINT GASKETS AND ALL OTHER INCIDENTALS. NO ADDITIONAL COST WILL BE MADE.
- PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL REQUIRED FOR COMPLETION OF THE PROJECT.
- THE COST TO REPLACE REMOVED OR DAMAGED SECTION CORNERS AND ALL OTHER PERMANENT RIGHT OF WAY MARKERS SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NO ADDITIONAL PAYMENT WILL BE MADE.
- ALL EXISTING DRAINAGE STRUCTURES SHALL BE CLEANED AND CLEARED OF ALL SEDIMENTATION AND DEBRIS TO THE RIGHT OF WAY. COST OF CLEARING SHALL BE INCLUDED IN THE PRICE BID.
- PAY ITEM INCLUDES REMOVAL OF ALL STRUCTURES AND OBSTRUCTIONS WITHIN PROJECT LIMITS NOT SPECIFIED BY OTHER ITEMS OF WORK.

PAY ITEM NOTES

- MOBILIZATION FOR THE PROJECT (EXCLUDING WATER MOBILIZATION) IS TO BE INCLUDED IN THIS PAY ITEM. THE MAXIMUM ALLOWABLE AMOUNT WILL BE IN ACCORDANCE WITH THE OKLAHOMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION TABLE 641:1.
- CONTRACTOR SHALL COORDINATE WITH HOMEOWNERS TO RESET ALL PAVERS, LANDSCAPE STONE, PRIVATE SIDEWALKS AND FENCES THAT ARE DISTURBED DURING CONSTRUCTION OPERATIONS. ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED FOR RESETTING OF SUCH ITEMS IS TO BE INCLUDED IN PRICE BID FOR URBAN RIGHT OF WAY RESTORATION.
- UNCLASSIFIED EXCAVATION INCLUDES REMOVAL OF AGGREGATE BASE AND MODIFIED SUBGRADE UNDER EXISTING PAVEMENT TO BE REPAIRED.
- PRICE BID SHALL INCLUDE MAINTENANCE, SEDIMENT REMOVAL, DISPOSAL, AND REMOVAL OF FILTERS AT PROJECT COMPLETION.
- THIS PAY ITEM SHALL INCLUDE THE MATERIAL COSTS OF ALL CONDUIT, RELATED COUPLERS, AND PULL TAPE NECESSARY TO COMPLETE THE JOB.
- THIS PAY ITEM COVERS THE COST OF TRENCHING IN CONDUIT FOR THE PROJECT. SOME SEGMENTS WILL HAVE MULTIPLE CONDUITS INSTALLED WITHIN THE SAME TRENCH. REFER TO THE TABLE ON THE PLAN SHEETS FOR THE DETAILED SEGMENT BREAKDOWN.
- THIS PAY ITEM COVERS THE COST OF DIRECTIONAL BORING CONDUIT FOR THE PROJECT. SOME SEGMENTS WILL HAVE MULTIPLE CONDUITS INSTALLED WITHIN THE SAME BORE PATH. REFER TO THE TABLE ON THE PLAN SHEETS FOR THE DETAILED SEGMENT BREAKDOWN.



REVISION			BY	DATE	DRAWN			TJW	APPROVED:		
						DESIGNED	NW		 CITY ENGINEER		
						SURVEY					
					PROFILE SCALE:	PROJ. MGR.	RF	6/22			
					HORIZONTAL:	LEAD ENGR.	RF	6/22			
						FIELD MGR.	RF	7/22			
					VERTICAL	RECOMMENDED:	HRS	8.22	 DESIGN MANAGER		
					FILE:	DRAWING:					
					ATLAS PAGE NO:				DATE: 6/13/2022	SHEET 4	OF 99 SHEETS

PAY ITEMS AND NOTES

CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1

BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS



HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKD 1623 E. 6th Street
Tulsa, OK 74119
918-877-6000


PLOTTED BY: mshare
PLOT DATE: 6/16/2022 11:13:02 AM
FILENAME: pw://pw-rhntb.org/PW/CentralDiv/Documents/Kansas City Projects/656870 Tulsa BRT DS02/PlanProduction/Sheets-FOD/656870_FOD_Quantities.dgn

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QUANTITY
COMMUNICATIONS				
1	SPECIAL	12 SM DIELECTRIC FIBER OPTIC CABLE	LF	19,465
2	SPECIAL	48 SM DIELECTRIC FIBER OPTIC CABLE	LF	28,030
3	SPECIAL	96 SM DIELECTRIC FIBER OPTIC CABLE	LF	106,511
4	SPECIAL	TRACER WIRE	LF	112,524
5	SPECIAL	FUSION SPLICE	EA	1,522
6	SPECIAL	FIBER OPTIC PIGTAIL	EA	272
7	SPECIAL	FIBER OPTIC JUMPER	EA	272
8	SPECIAL	FIBER OPTIC SPLICE CLOSURE (WITH STORAGE BASKETS)	EA	61
9	SPECIAL	FIBER OPTIC SPLICE TRAY	EA	61
10	SPECIAL	SINGLE PANEL HOUSING	EA	68
11	SPECIAL	PATCH PANEL MODULES	EA	68
12	SPECIAL	FIBER OPTIC ACCEPTANCE TESTING	LS	1
13	601	PULL BOX SIZE TYPE III	EA	233
14	SPECIAL	PULL BOX SIZE SPLICE VAULT	EA	53
15	602	CONDUIT - TRENCHED	LF	17,775
16	602	CONDUIT - DIRECTIONAL BORE - OUTSIDE IDL	LF	93,782
17	602	1.15" HDPE SCH 40 CONDUIT	LF	322,863
18	COT 102	PROJECT SIGNS	LS	1
19	201 (A)	CLEARING AND GRUBBING	LS	1
20	COT 327	SAFETY FENCE	LS	1
21	221 (C)	SILT FENCE	LS	1
22	641	MOBILIZATION	LS	1
23	642	CONSTRUCTION STAKING	LS	1
24	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	LS	1

BID ALTERNATE 1				
BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QUANTITY
COMMUNICATIONS				
1	SPECIAL	12 SM DIELECTRIC FIBER OPTIC CABLE	LF	2,668
2	SPECIAL	48 SM DIELECTRIC FIBER OPTIC CABLE NOT USED	LF	28,030
3	SPECIAL	96 SM DIELECTRIC FIBER OPTIC CABLE	LF	10,870
4	SPECIAL	TRACER WIRE	LF	10,101
5	SPECIAL	FUSION SPLICE	EA	94
6	SPECIAL	FIBER OPTIC PIGTAIL	EA	20
7	SPECIAL	FIBER OPTIC JUMPER	EA	20
8	SPECIAL	FIBER OPTIC SPLICE CLOSURE (WITH STORAGE BASKETS)	EA	5
9	SPECIAL	FIBER OPTIC SPLICE TRAY	EA	5
10	SPECIAL	SINGLE PANEL HOUSING	EA	5
11	SPECIAL	PATCH PANEL MODULES	EA	5
12	SPECIAL	FIBER OPTIC ACCEPTANCE TESTING	LS	1
13	601	PULL BOX SIZE TYPE III	EA	18
14	SPECIAL	PULL BOX SIZE SPLICE VAULT	EA	7
15	602	CONDUIT - TRENCHED	LF	4,329
16	602	CONDUIT - DIRECTIONAL BORE - OUTSIDE IDL	LF	8,782
17	602	1.15" HDPE SCH 40 CONDUIT	LF	27,883
18	COT 102	PROJECT SIGNS	LS	1
19	201 (A)	CLEARING AND GRUBBING	LS	1
20	COT 327	SAFETY FENCE	LS	1
21	221 (C)	SILT FENCE	LS	1
22	641	MOBILIZATION	LS	1
23	642	CONSTRUCTION STAKING	LS	1
24	SPECIAL	URBAN RIGHT-OF-WAY RESTORATION	LS	1





REVISION	BY	DATE



DRAWN	TJW	APPROVED:
DESIGNED	NW	
SURVEY		
PROFILE SCALE:	PROJ. MGR. <i>RS 6/22</i>	 CITY ENGINEER DATE: 6/13/2022
HORIZONTAL:	LEAD ENGR. <i>RS 6/22</i>	
VERTICAL:	FIELD MGR. <i>RS 8-22</i>	
RECOMMENDED:	DESIGN MANAGER	
FILE:	DRAWING:	ATLAS PAGE NO:

QUANTITIES

CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1

BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS

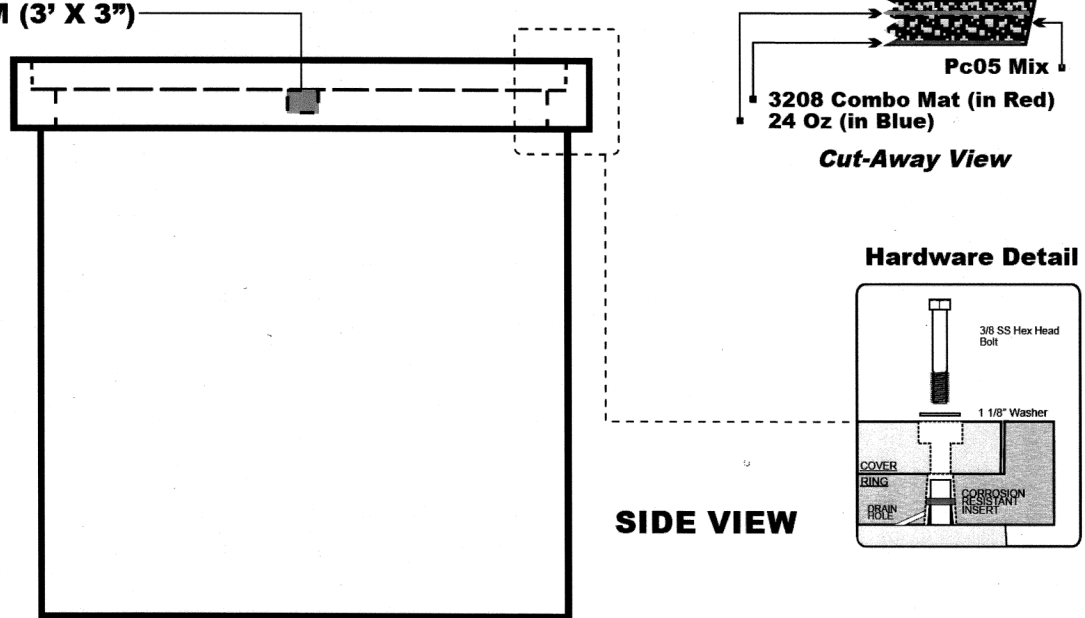
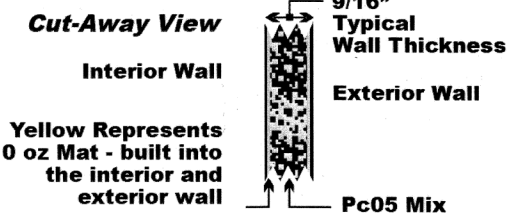
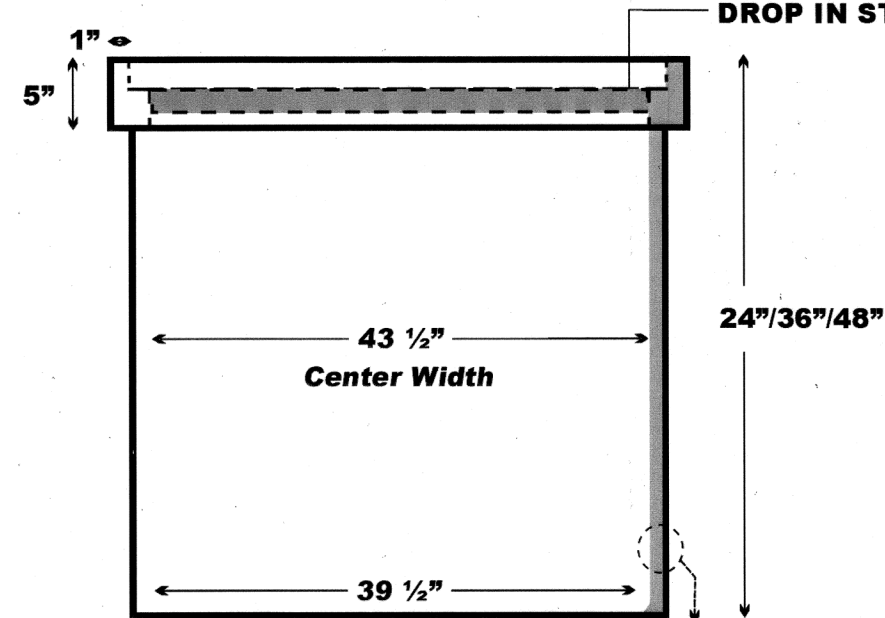
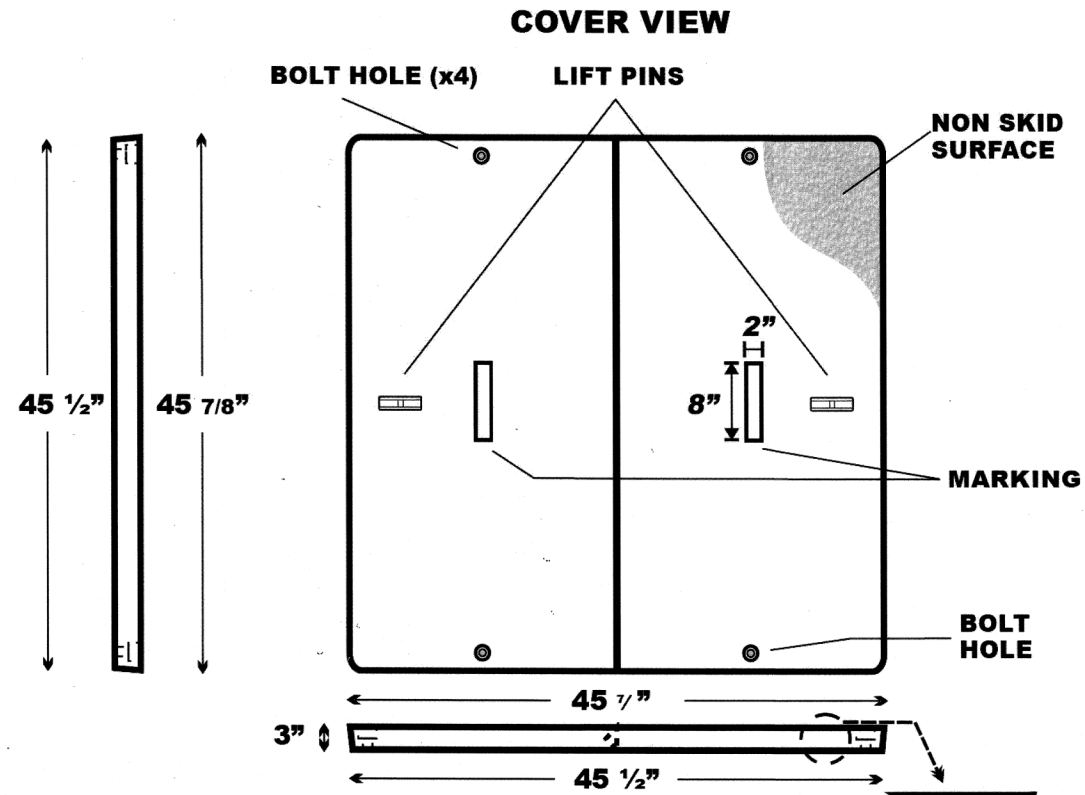
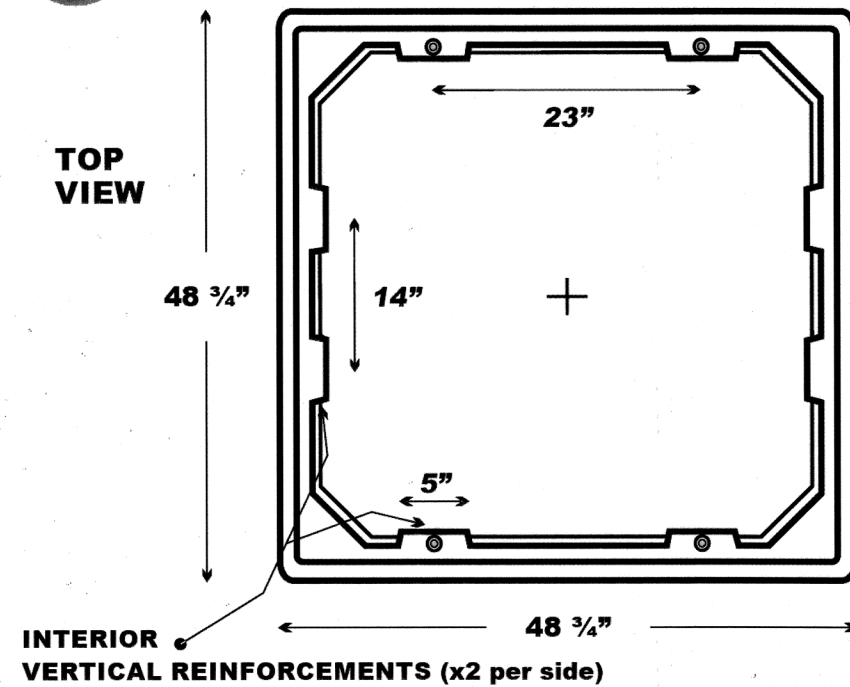



715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

1623 E. 8th Street
Tulsa, OK 74119
918-877-6000

4848 Polymer Concrete Series / Tier 15 & 22

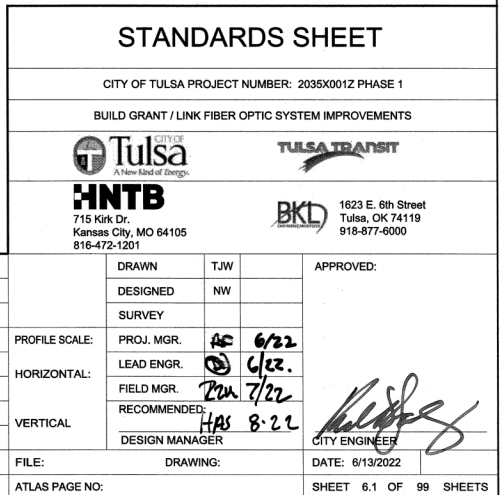


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CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1									
BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS									
715 Kerk Dr. Kansas City, MO 64105 816-472-1201		1623 E. 6th Street Tulsa, OK 74119 918-877-6000							
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								CITY ENGINEER	
								SHEET 6 OF 99 SHEETS	

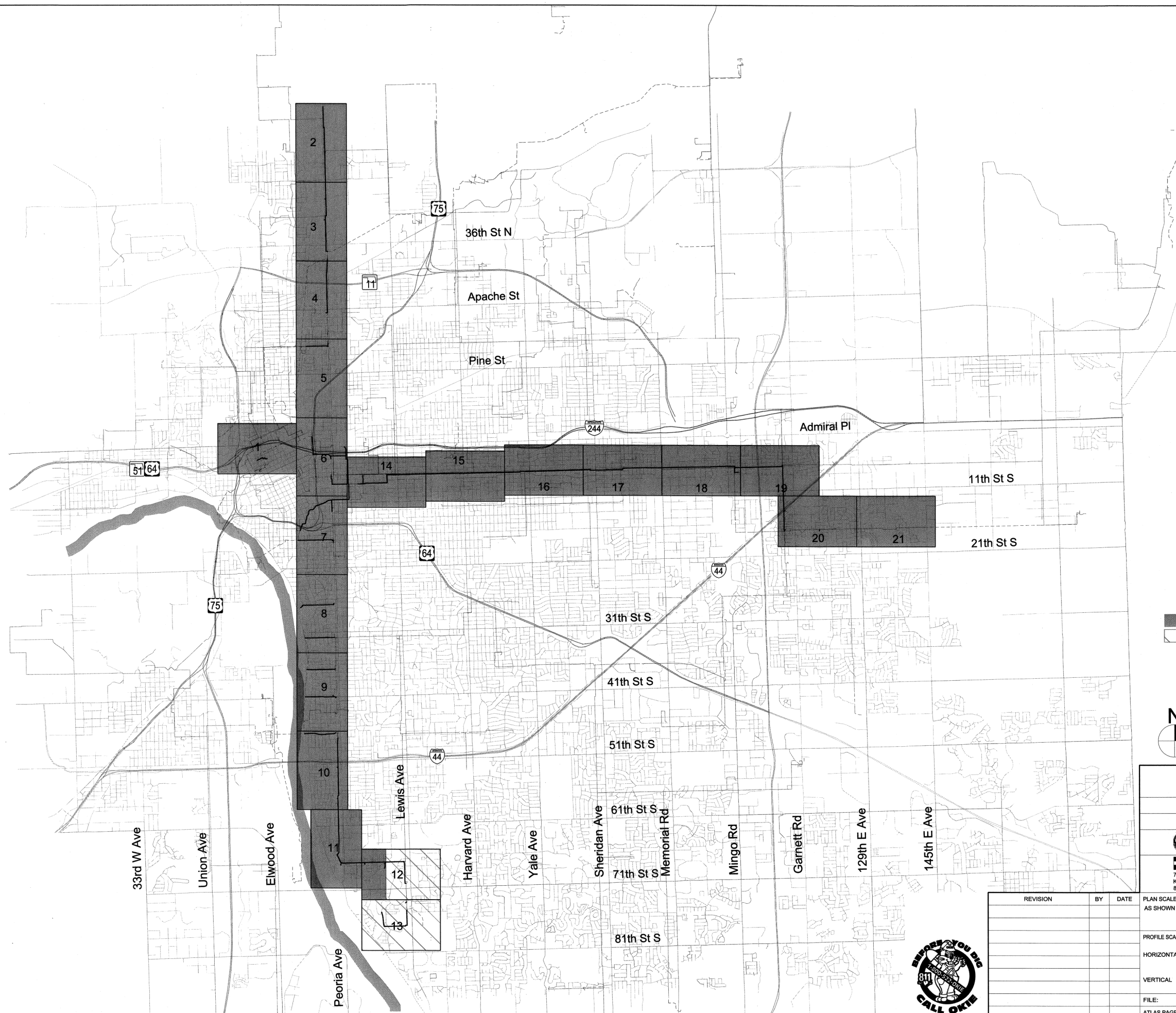
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NO.	TITLE
126	STANDARD SILT FENCE AND CONSTRUCTION ENTRANCE
304	BEDDING DETAIL - RIGID PIPE
313	VALVE BOX
314	MANHOLE STEPS
315	THRUST BLOCKS AND TRENCH CONDITIONS
601	PULL BOX INSTALLATION
602	CONDUIT INSTALLATION
610A	332 CONTROLLER CABINET DETAIL
610C	332 CABINET WIRING DETAIL
612	CABINET GUARD DETAIL
618	BONDING DIAGRAM
701	RESIDENTIAL CONCRETE DRIVEWAY CONCRETE STREET
706	COMMERCIAL DRIVEWAY
707	COMMERCIAL DRIVEWAY
708	COMMERCIAL DRIVEWAY ASPHALT
713	PAVEMENT REMOVAL AND REPLACEMENT
714	PAVEMENT CUTS
726	ASPHALT PAVEMENT STANDARD DETAILS FOR RESIDENTIAL AND
727	CONCRETE PAVEMENT STANDARD DETAILS FOR RESIDENTIAL AND
	STREETS (1 OF 2)
729	CONCRETE PAVEMENT STANDARD DETAILS FOR RESIDENTIAL AND
	STREETS (2 OF 2)
790	STANDARD SIDEWALK RAMP

SHEET NO.	DESIGN NO.	STANDARD NAME
T-501	TCS1-1-01	TRAFFIC CONTROL CONSTRUCTION NOTES
T-503	TCS3-1-01	TEMPORARY TRAFFIC CONTROL ELEMENTS
T-506	TCS6-1-02	CHANNELIZING DEVICES
T-507	TCS7-1	ADVANCE WARNING SIGNS
T-508	TCS8-1-00	CONSTRUCTION SIGNS
T-509	TCS9-1-01	CONSTRUCTION SIGNS
T-510	TCS10-1-00	CONSTRUCTION SIGNS
T-511	TCS11-1-01	CONSTRUCTION SIGNS
T-514	TCS14-1-00	CONSTRUCTION SIGNS
T-519	TCS19-1-01	CONSTRUCTION SIGNS
T-521	TCS21-1-02	CONSTRUCTION ZONE PAVEMENT MARKINGS
T-522	TCS22-1-00	CONSTRUCTION ZONE PAVEMENT MARKINGS



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LEGEND
PLAN SHEET
BID ALTERNATE 1 PLAN SHEET



4000' 0' 4000' 8000'

SCALE: 1" = 4000'

KEY MAP

CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1

BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS



HNTB
715 Kirk Dr.
Kansas City, MO 641
816-472-1201

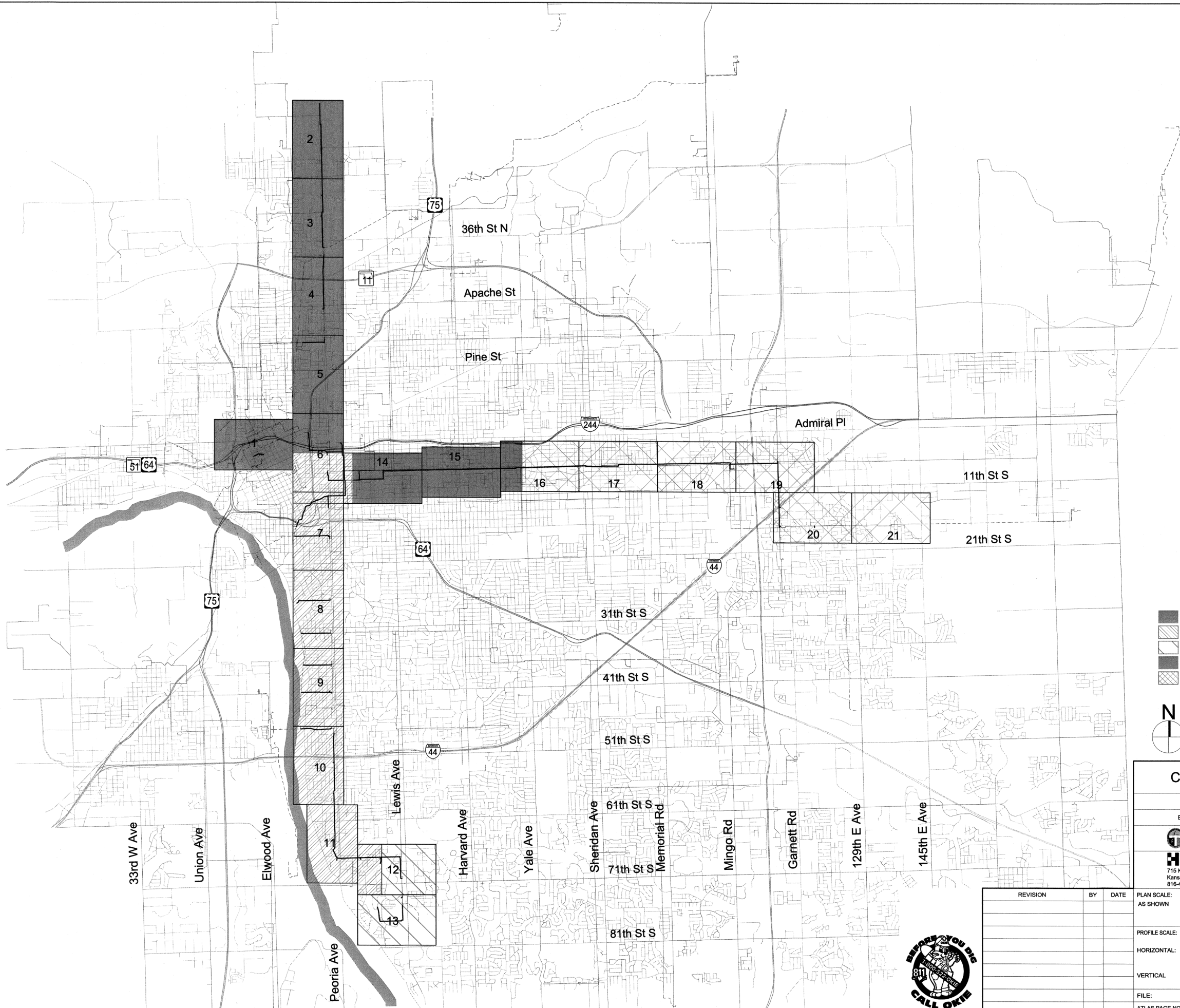


BKL
BUILDING KILLING

1623 E. 6th Street
Tulsa, OK 74119
918-877-6000

REVISION			BY	DATE	DRAWN	TJW	APPROVED:
PLAN SCALE:					DESIGNED	NW	
AS SHOWN					SURVEY		
PROFILE SCALE:					PROJ. MGR.	RF 6/22	
HORIZONTAL:					LEAD ENGR.	② 6/22	
VERTICAL					FIELD MGR.	RF 7/22	
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ATLAS PAGE NO:					CITY ENGINEER		
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					SHEET 7 OF 99 SHEETS		

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LEGEND

- PHASE 1
- PHASE 2
- PHASE 2 - BID ALTERNATE 1
- PHASE 3
- PHASE 4

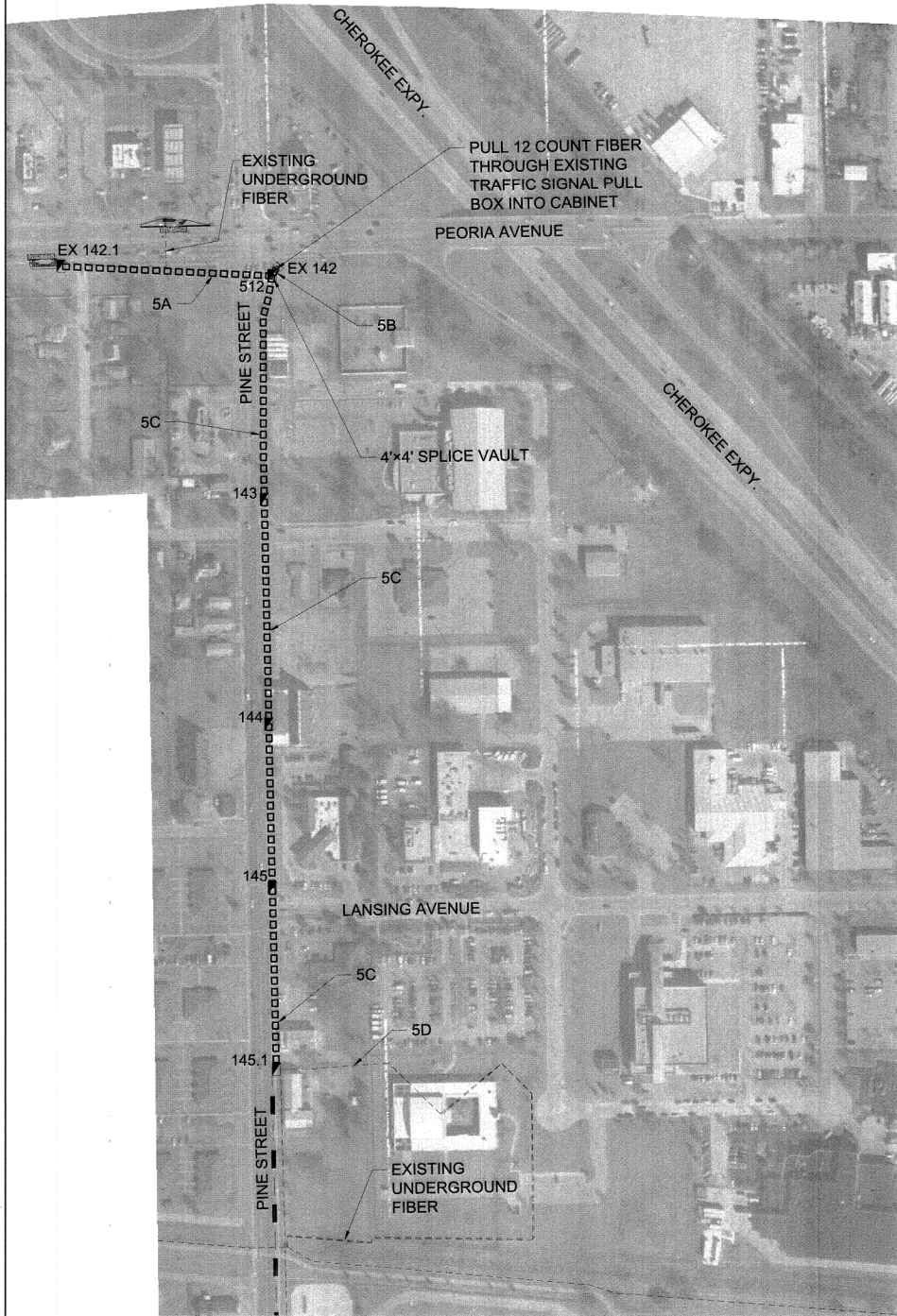
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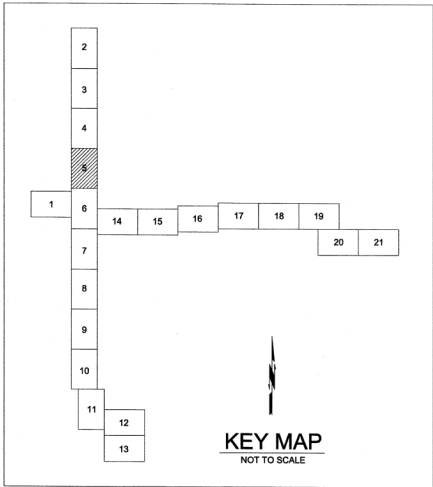
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BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS			
 HNTB 715 Kirk Dr. Kansas City, MO 64105 816-472-1201		 BKL 1623 E. 6th Street Tulsa, OK 74119 918-877-6000	
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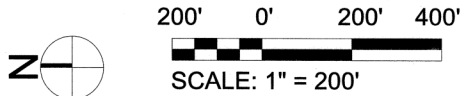


Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
5A	EX 142.1	512	477	0	477	0	0	3	1	2
5B	512	EX 142	17	0	17	0	0	1	1	0
5C	512	145.1	1770	0	0	1770	0	3	1	2
5D	145.1	BUILDING	0	0	0	400	0	0	0	0



PLAN NOTE
 CONTRACTOR TO COORDINATE WITH GARY CUMMINS OF THE CITY OF TULSA FOR BUILDING ACCESS (SEGMENT 5D). CONTRACTOR TO TERMINATE NEW FIBER INTO EXISTING FIBER RACK.

- LEGEND**
- PROPOSED PULL BOX/SPLICE VAULT
 - EXISTING PULL BOX
 - PROPOSED BORED UNDERGROUND FIBER
 - PROPOSED TRENCHED UNDERGROUND FIBER
 - EXISTING AERIAL FIBER
 - EXISTING UNDERGROUND FIBER



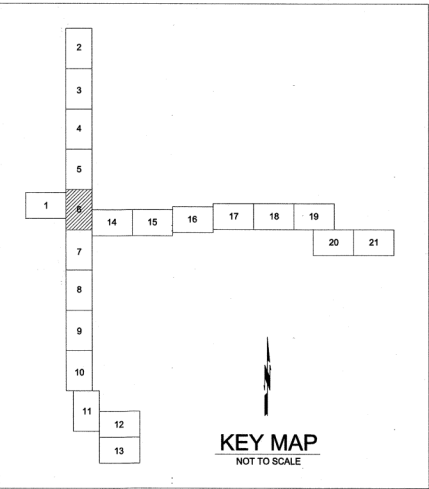
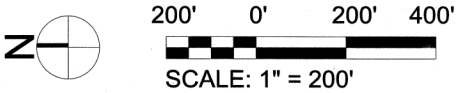
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BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS				
715 Kirk Dr. Kansas City, MO 64105 816-472-1201		1623 E. 6th Street Tulsa, OK 74119 918-877-6000		
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			DESIGNED: NW	
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			PROJ. MGR. <i>GF 6/22</i>	
			LEAD ENGR. <i>DF 6/22</i>	
			FIELD MGR. <i>DM 7/22</i>	
			RECOMMENDED: <i>HAS 8/22</i>	
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			DRAWING:	
			DATE: 6/13/22	
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Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
6A	BUILDING	514	804	0	0	804	0	1	1	0
6B	514	515	1255	0	0	0	1255	3	1	2
6C	515	EX 151	51	0	51	0	0	1	1	0
6D	515	152	210	0	210	0	0	1	1	0
6E	515	EX 159.1	1711	1274	0	0	2985	3	1	2
6I	514	165.1	2447	0	0	0	2447	3	1	2
6F	166.1	519	1887	0	0	1887	0	6	2	4
6G	519	171	17	0	17	0	0	1	1	0
6H	519	EX 172	64	0	64	0	0	1	1	0
6J	165.1	166.1	120	0	0	120	120	3	1	2
6K	EX 159.1	OTC	0	0	0	3200	0	0	0	0

PLAN NOTE
1. SLACK FOR SEGMENT 6K TO OTC HAS NOT BEEN ACCOUNTED FOR IN THE PLAN QUANTITIES. REFER TO GENERAL NOTE 40 FOR SLACK REQUIREMENTS FOR PULL BOXES ENCOUNTERED.
2. COORDINATE WITH MICHAEL MCCLISTER, MTTA, FOR FIBER ACCESS TO BUILDING AND TERMINATIONS ON SEGMENT 6A.



- LEGEND
- PROPOSED PULL BOX/SPLICE VAULT
 - EXISTING PULL BOX
 - PROPOSED BORED UNDERGROUND FIBER
 - PROPOSED TRENCHED UNDERGROUND FIBER
 - EXISTING AERIAL FIBER
 - EXISTING UNDERGROUND FIBER



REVISION	BY	DATE	PLAN SCALE: 1" = 200'	DRAWN	TJW	APPROVED:
			DESIGNED	NW		
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				FIELD MGR.	RF 7/22	
			VERTICAL	RECOMMENDED:	HKS 8-22	
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			ATLAS PAGE NO:			

PLAN SHEET

CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1

BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS

Tulsa
A New Kind of Energy.

TULSA TRANSIT

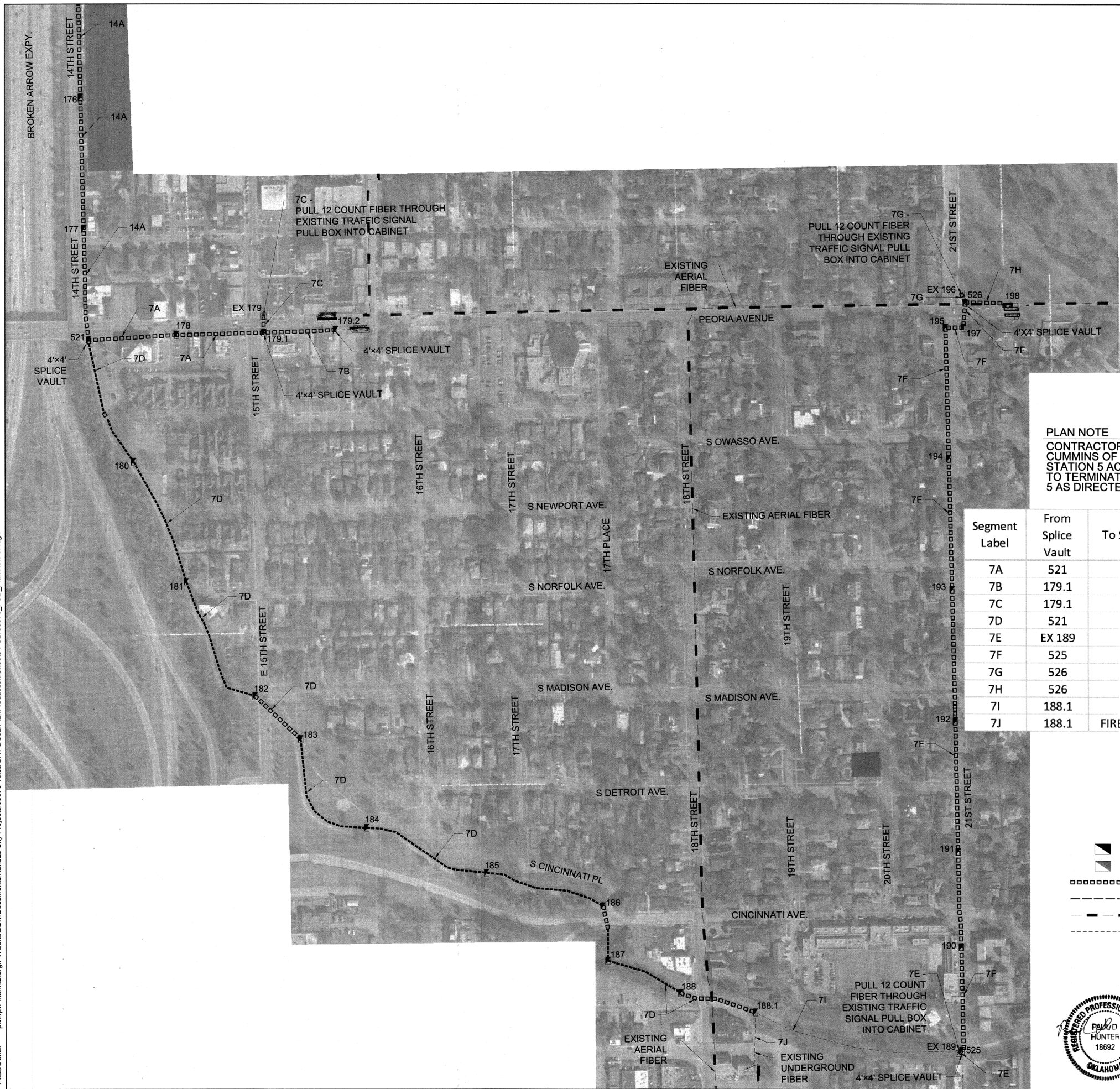
HNTB
715 Kirk Dr.
Kansas City, MO 64105
816-472-1201

BKL
1623 E. 6th Street
Tulsa, OK 74119
918-577-6000

DATE: 6/13/2022

SHEET 14 OF 99 SHEETS

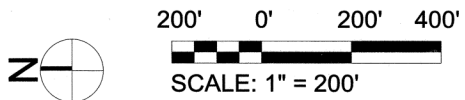
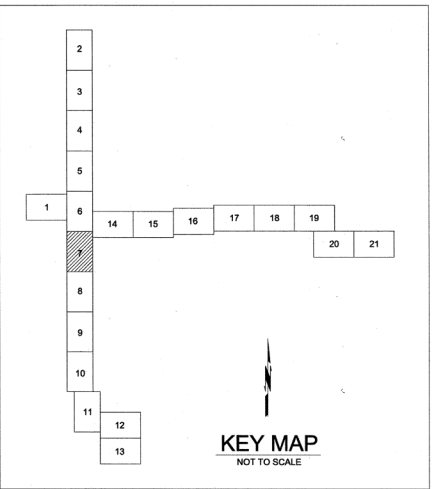
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PLAN NOTE
CONTRACTOR TO COORDINATE WITH GARY CUMMINS OF THE CITY OF TULSA FOR FIRE STATION 5 ACCESS (SEGMENT 7J). CONTRACTOR TO TERMINATE NEW FIBER INSIDE FIRE STATION 5 AS DIRECTED BY GARY CUMMINS.

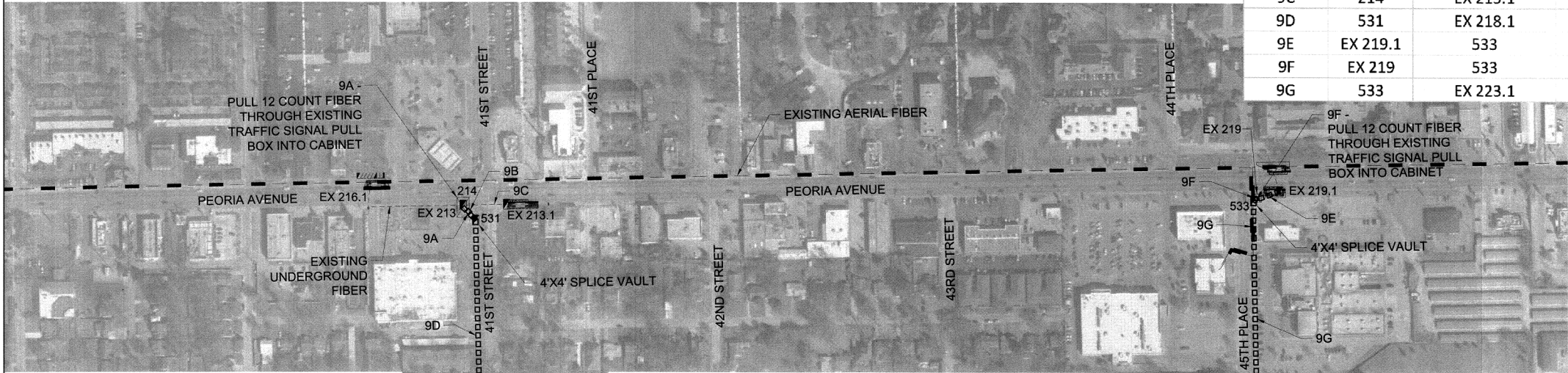
Segment Label	From Splice Vault	To Splice Vault	Bore Distance	Trench Distance	Linear Feet			Each		
					12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
7A	521	179.1	664	0	1328	0	0	1	1	0
7B	179.1	179.2	273	0	273	0	0	1	1	0
7C	179.1	EX 179	62	0	62	0	0	1	1	0
7D	521	188.1	646	3398	0	0	4044	3	1	2
7E	EX 189	525	15	0	15	0	0	1	1	0
7F	525	526	2984	0	0	2984	0	3	1	2
7G	526	EX 196	36	0	36	0	0	1	1	0
7H	526	198	154	0	154	0	0	1	1	0
7I	188.1	525	0	0	0	808	0	0	0	0
7J	188.1	FIRE STATION 5	0	0	0	230	230	0	0	0

- LEGEND
- PROPOSED PULL BOX/SPLICE VAULT
 - EXISTING PULL BOX
 - PROPOSED BORED UNDERGROUND FIBER
 - PROPOSED TRENCHED UNDERGROUND FIBER
 - EXISTING AERIAL FIBER
 - EXISTING UNDERGROUND FIBER

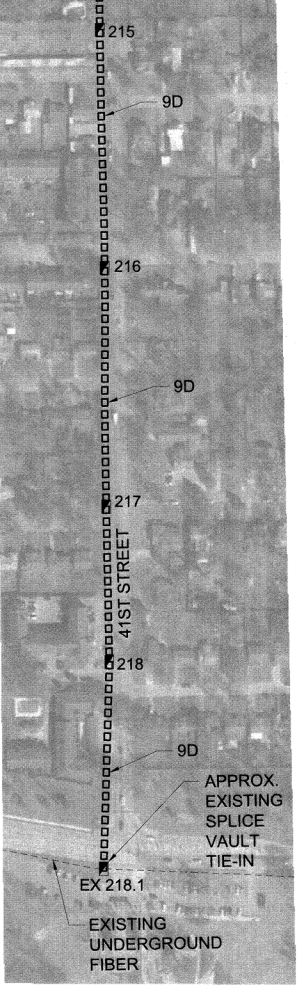


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BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS			
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REVISION	BY	DATE	APPROVED:
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	DESIGNED: NW		
	SURVEY		
PROFILE SCALE:	PROJ. MGR. RF 6/22		
HORIZONTAL:	LEAD ENGR. DJR 6/22		
	FIELD MGR. E.M. 6/22		
VERTICAL:	RECOMMENDED: HAS 8-22		
	DESIGN MANAGER		
FILE:	DRAWING:	DATE: 6/13/22	
ATLAS PAGE NO:		SHEET 15 OF 99 SHEETS	

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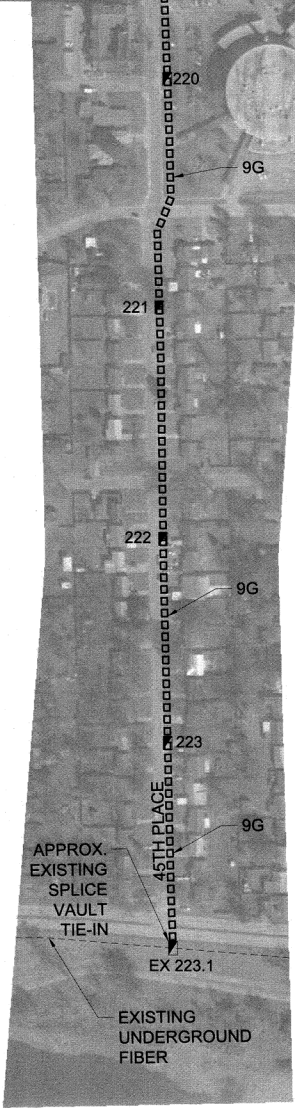
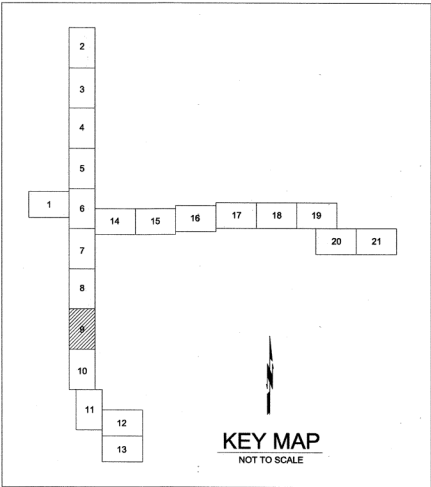


Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
9A	531	EX 213	51	0	51	0	0	1	1	0
9B	531	214	55	0	55	0	0	1	1	0
9C	214	EX 213.1	0	0	178	0	0	0	0	0
9D	531	EX 218.1	2264	0	0	2264	0	3	1	2
9E	EX 219.1	533	79	0	79	0	0	1	1	0
9F	EX 219	533	12	0	12	0	0	1	1	0
9G	533	EX 223.1	2488	0	0	2488	0	3	1	2

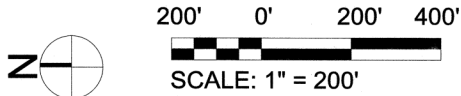


PLAN NOTE

CONTRACTOR TO COORDINATE WITH GARY CUMMINS OF THE CITY OF TULSA FOR EXISTING PULLBOX TIE IN LOCATIONS ALONG RIVERSIDE DR. THE PULLBOX LOCATIONS SHOWN ALONG RIVERSIDE DR ARE APPROXIMATE ONLY AND WILL NEED TO BE ADJUSTED IN THE FIELD.



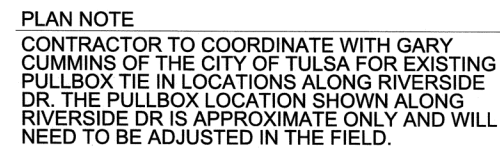
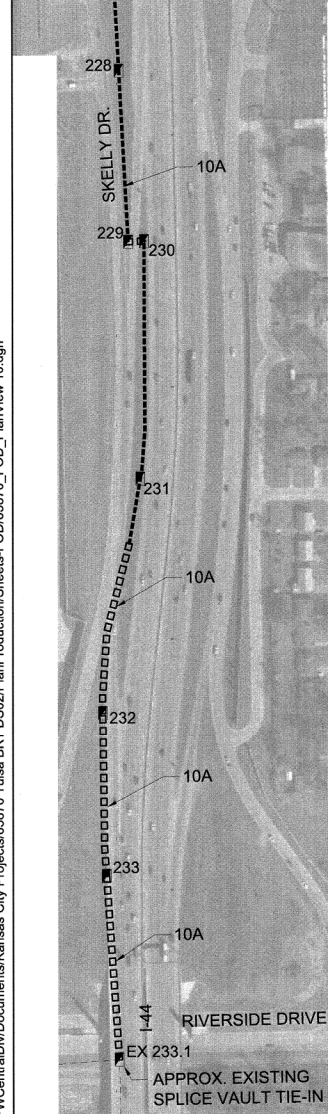
- LEGEND**
- PROPOSED PULL BOX/SPICE VAULT
 - EXISTING PULL BOX
 - PROPOSED BORED UNDERGROUND FIBER
 - PROPOSED TRENCHED UNDERGROUND FIBER
 - EXISTING AERIAL FIBER
 - EXISTING UNDERGROUND FIBER



PLAN SHEET				
CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1				
BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS				
715 Kirk Dr. Kansas City, MO 64105 816-472-1201		1623 E. 8th Street Tulsa, OK 74119 918-877-6000		
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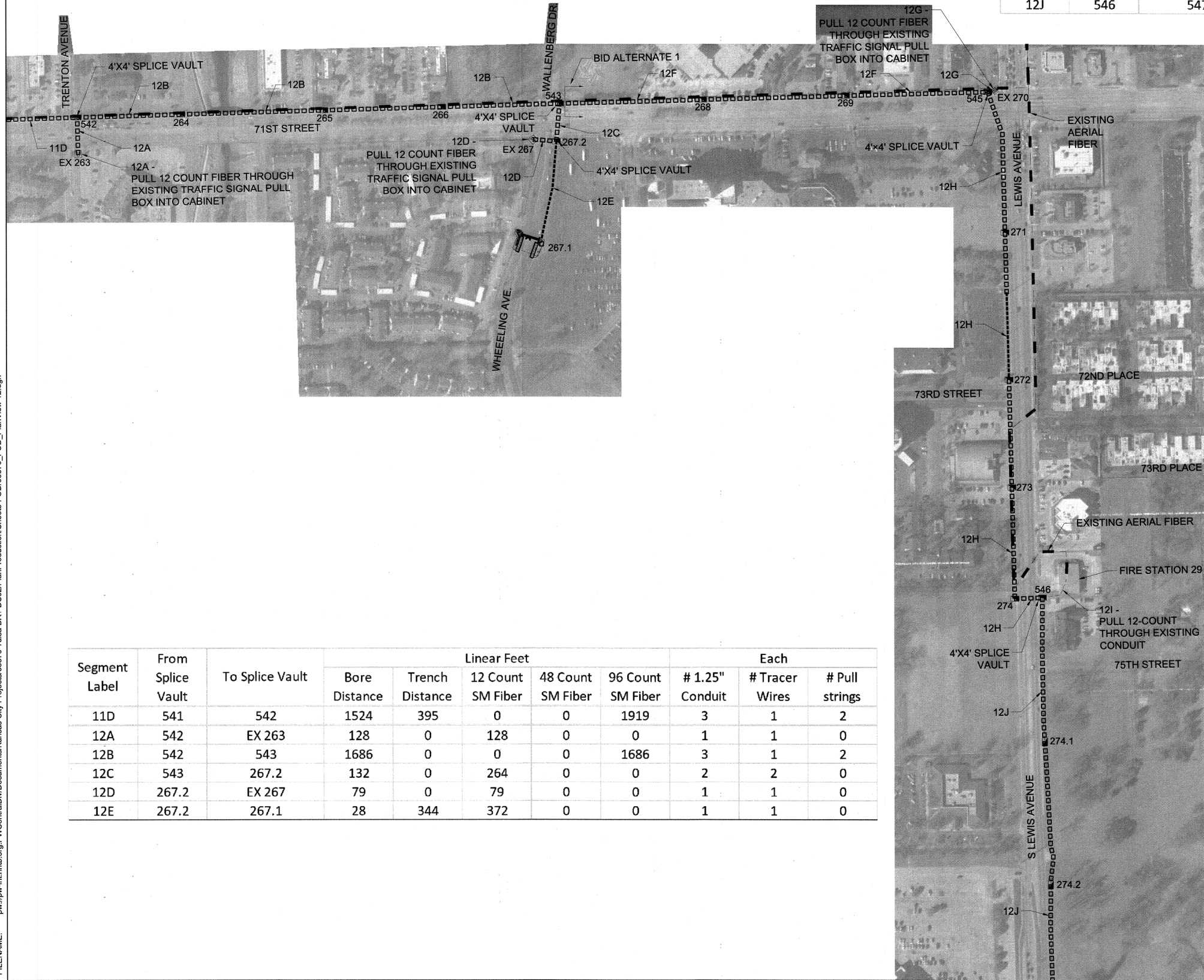


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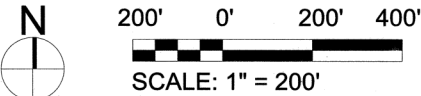
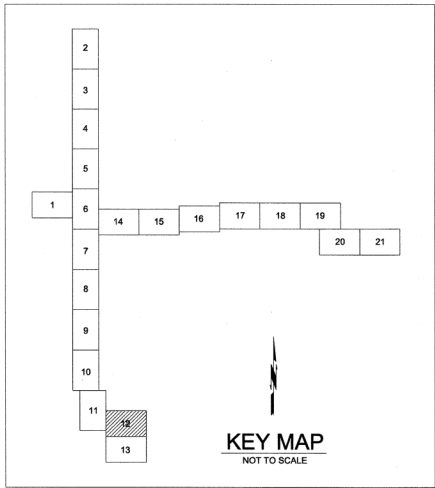





Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
12F	543	545	1497	0	0	0	1497	3	1	2
12G	545	EX 270	25	0	25	0	0	1	1	0
12H	545	546	1573	307	0	0	1880	3	1	2
12I	546	FIRE STATION 29	0	0	114	0	0	0	0	0
12J	546	547	1515	0	0	0	1515	3	1	2

PLAN NOTE
1. ALL WORK CONTINUING EAST OF SPLICE VAULT 543 ALONG 71ST STREET AND SOUTH ALONG LEWIS AVENUE IS PART OF BID ALTERNATIVE 1.
2. COORDINATE WITH GARY CUMMINS OF THE CITY OF TULSA FOR ACCESS TO FIRE STATION 29 WITH SEGMENT 12I. GARY CAN BE REACHED BY EMAIL AT GCUMMINS@CITYOFTULSA.ORG.

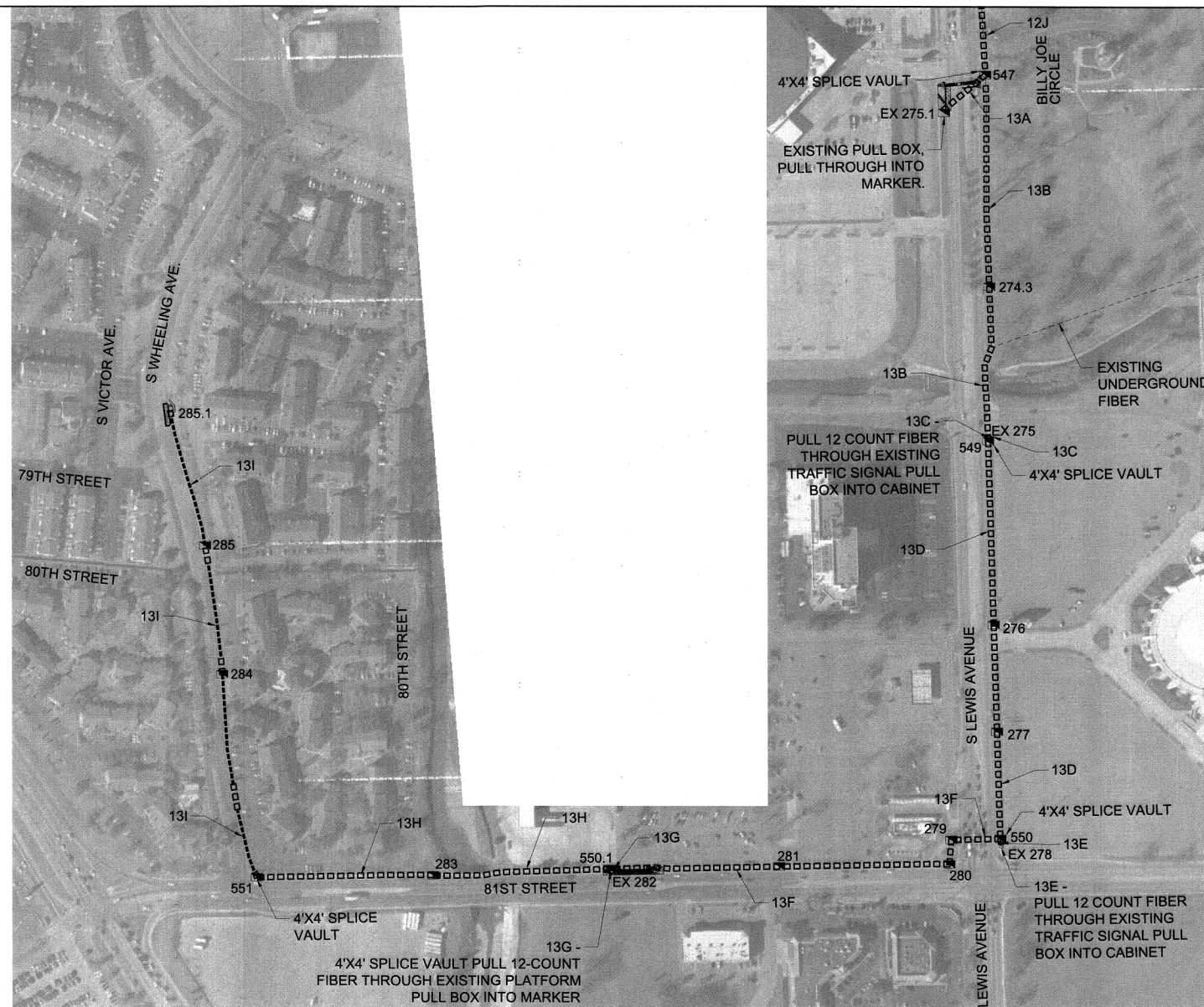
- LEGEND
- PROPOSED PULL BOX/SPLICE VAULT
 - EXISTING PULL BOX
 - PROPOSED BORED UNDERGROUND FIBER
 - PROPOSED TRENCHED UNDERGROUND FIBER
 - EXISTING AERIAL FIBER
 - EXISTING UNDERGROUND FIBER

Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
11D	541	542	1524	395	0	0	1919	3	1	2
12A	542	EX 263	128	0	128	0	0	1	1	0
12B	542	543	1686	0	0	0	1686	3	1	2
12C	543	267.2	132	0	264	0	0	2	2	0
12D	267.2	EX 267	79	0	79	0	0	1	1	0
12E	267.2	267.1	28	344	372	0	0	1	1	0



PLAN SHEET			
CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1			
BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS			
 HNTB 715 Kirk Dr. Kansas City, MO 64105 816-472-1201		 BKL 1623 E. 6th Street Tulsa, OK 74119 918-577-6000	
REVISION	BY	DATE	APPROVED:
PLAN SCALE: 1" = 200'	DRAWN: TJB	DESIGNED: NW	 CITY ENGINEER DATE: 6/13/2022 SHEET 20 OF 99 SHEETS
PROFILE SCALE:	PROJ. MGR. RF	LEAD ENGR. 6/22	
HORIZONTAL:	FIELD MGR. 2017/12	RECOMMENDED: HAS 8-22	
VERTICAL:	DESIGN MANAGER	DRAWING:	
FILE:	ATLAS PAGE NO:		



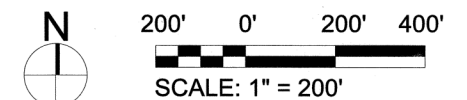
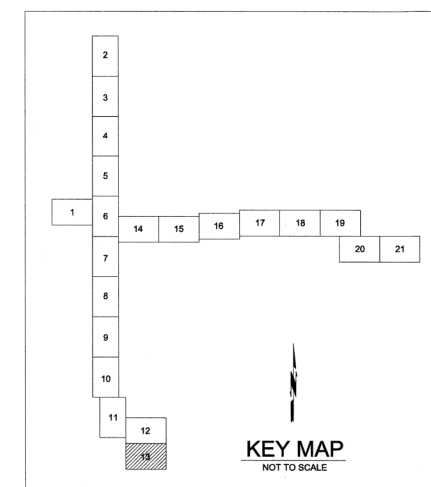


Bid Alternate 1										
Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
12J	546	547	1515	0	0	0	1515	3	1	2
13A	547	EX 275.1	137	0	137	0	0	1	1	0
13B	547	549	890	0	0	0	890	3	1	2
13C	549	EX 275	10	0	10	0	0	1	1	0
13D	549	550	997	0	0	0	997	3	1	2
13E	550	EX 278	15	0	15	0	0	1	1	0
13F	550	550.1	1036	0	0	0	1036	3	1	2
13G	550.1	EX 282	23	0	23	0	23	1	1	0
13H	550.1	551	882	0	0	0	882	3	1	2
13I	551	285.1	182	1012	1194	0	0	3	1	2

PLAN NOTE
ALL WORK ON THIS SHEET IS PART OF BID
ALTERNATIVE 1.

LEGEND

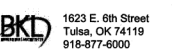
	PROPOSED PULL BOX/SPLICE VAULT
	EXISTING PULL BOX
	PROPOSED BORED UNDERGROUND FIBER
	PROPOSED TRENCHED UNDERGROUND FIBER
	EXISTING AERIAL FIBER
	EXISTING UNDERGROUND FIBER




PLAN SHEET

CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1

BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS

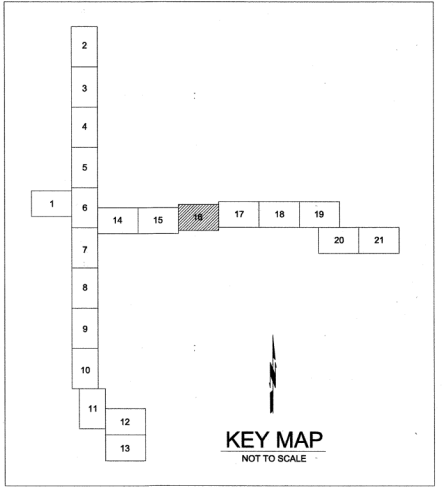
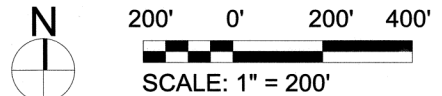
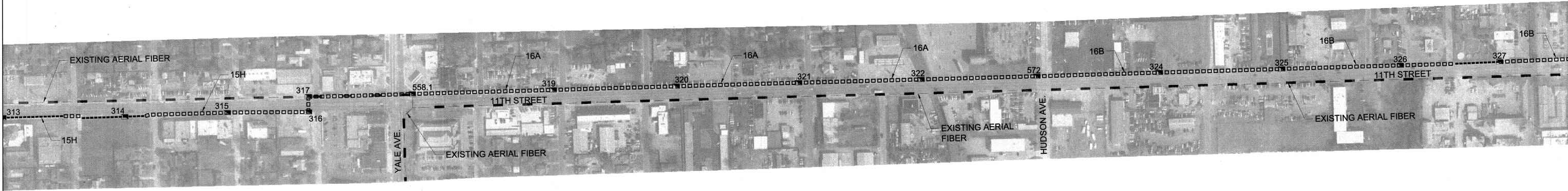


REVISION			BY	DATE	DRAWING			TJW	APPROVED:	
PLAN SCALE:					1" = 200'					 CITY ENGINEER
					DESIGNED			NW		
					SURVEY					
PROFILE SCALE:					PROJ. MGR.			RF 6/22		
HORIZONTAL:					LEAD ENGR.			SW 4/22		
					FIELD MGR.			DW 7/22		
					RECOMMENDED:			HAC 8.22		
VERTICAL					DESIGN MANAGER					
FILE:					DRAWING:				DATE: 6/13/2022	
ATLAS PAGE NO:									SHEET 21 OF 99 SHEETS	



PLOTTED BY: mihare
PLOT DATE: 16-JUN-2022 11:24 AM
FILENAME: pw://pw-nt.hntb.org/P/CentralDiv/Documents/Kansas City Projects/65870 Tulsa BRT DSO2/PlanProduction/Sheets-FOD/65870_FOD_PlanView 16.dgn

Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
15H	558	558.1	2215	511	0	0	2726	3	1	2
16A	558.1	572	2551	0	0	0	2551	3	1	2
16B	572	559	2766	181	0	0	2947	3	1	2



- LEGEND**
- PROPOSED PULL BOX/SPLICE VAULT
 - EXISTING PULL BOX
 - PROPOSED BORED UNDERGROUND FIBER
 - PROPOSED TRENCHED UNDERGROUND FIBER
 - EXISTING AERIAL FIBER
 - EXISTING UNDERGROUND FIBER



REVISION			BY	DATE

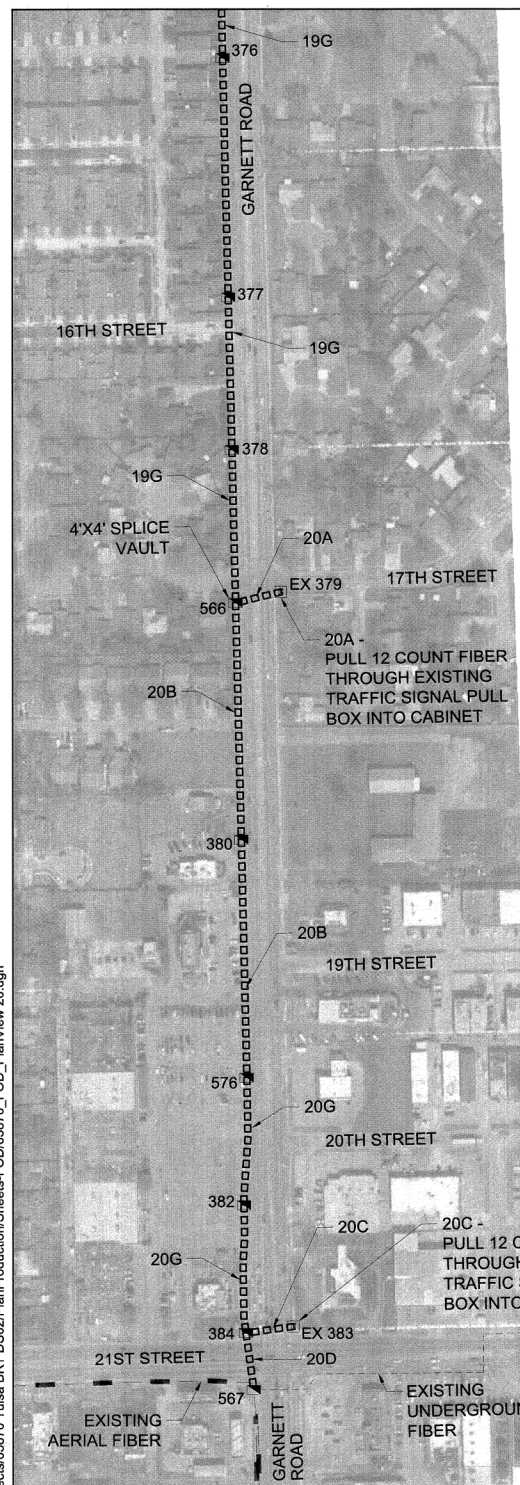
PLAN SCALE: 1" = 200'	DRAWN DESIGNED SURVEY	TJW NW	APPROVED:
PROFILE SCALE:	PROJ. MGR. LEAD ENGR. FIELD MGR.	RF 9/22 6/22 2/22/22	
HORIZONTAL:	RECOMMENDED:		
VERTICAL:	DESIGN MANAGER		
FILE:	DRAWING:		
ATLAS PAGE NO:			

DATE: 6/13/2022	CITY ENGINEER
SHEET 24 OF 99 SHEETS	

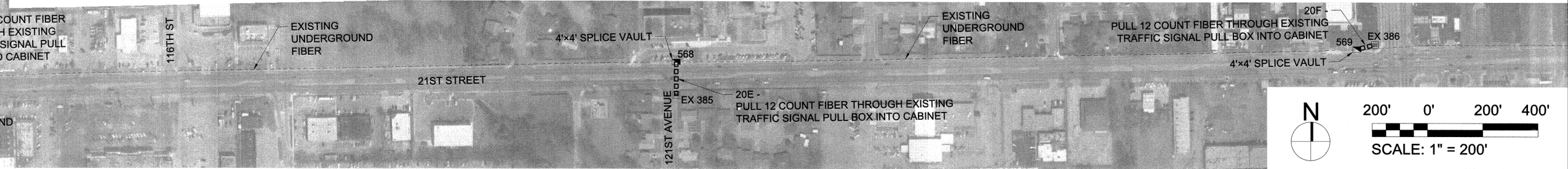
PLAN SHEET
CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1
BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS




715 KKK Dr.
Kansas City, MO 64105
816-472-1201


1623 E. 6th Street
Tulsa, OK 74119
918-577-6000



Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
19G	575	566	1640	0	0	0	1640	3	1	2
20A	566	EX 379	98	0	98	0	0	1	1	0
20B	566	576	999	0	0	0	999	3	1	2
20C	384	EX 383	101	0	101	0	0	1	1	0
20D	384	567	122	0	122	0	122	4	2	2
20E	568	EX 385	114	0	114	0	0	1	1	0
20F	569	EX 386	50	0	50	0	0	1	1	0
20G	576	384	536	0	0	0	536	3	1	2

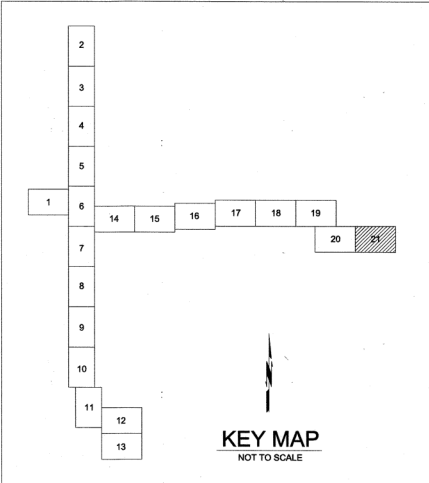
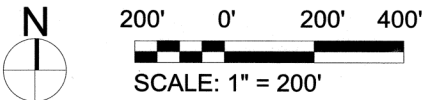
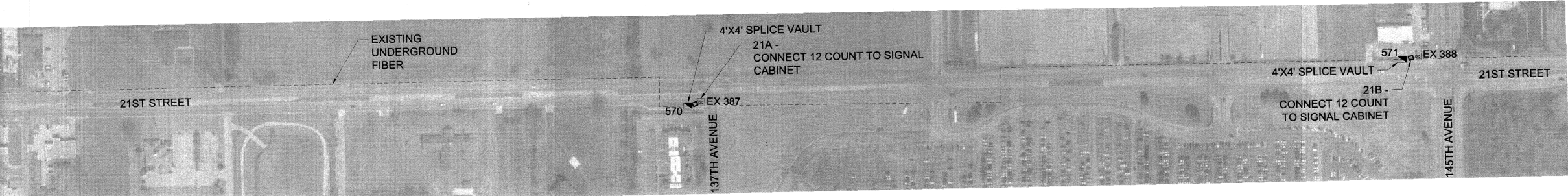








<h1 style="margin: 0;">PLAN SHEET</h1>			
CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1			
BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS			
 <div style="display: inline-block; vertical-align: middle;"> Tulsa <small>A new kind of Energy.</small> </div>			
HNTB 715 Kirk Dr. Kansas City, MO 64105 816-472-1201		 <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> 1623 E. 6th Street Tulsa, OK 74119 918-577-5000 </div>	

PLAN SCALE: 1" = 200'	DRAWN DESIGNED SURVEY	TJW NW	APPROVED:
PROFILE SCALE:	PROJ. MGR. <i>RF</i>	<i>6/22</i>	 CITY ENGINEER
HORIZONTAL:	LEAD ENGR. <i>JD</i>	<i>6/22</i>	
VERTICAL	FIELD MGR. <i>22m</i>	<i>7/22</i>	
RECOMMENDED:	DESIGN MANAGER <i>145</i>	<i>8-2-22</i>	
FILE:	DRAWING:		DATE: 6/13/2022
ATLAS PAGE NO:			SHEET 28 OF 99 SHEETS





PLOTTED BY: mhare
 DATE: 16-JUN-2022 11:28 AM
 PLOT DATE:
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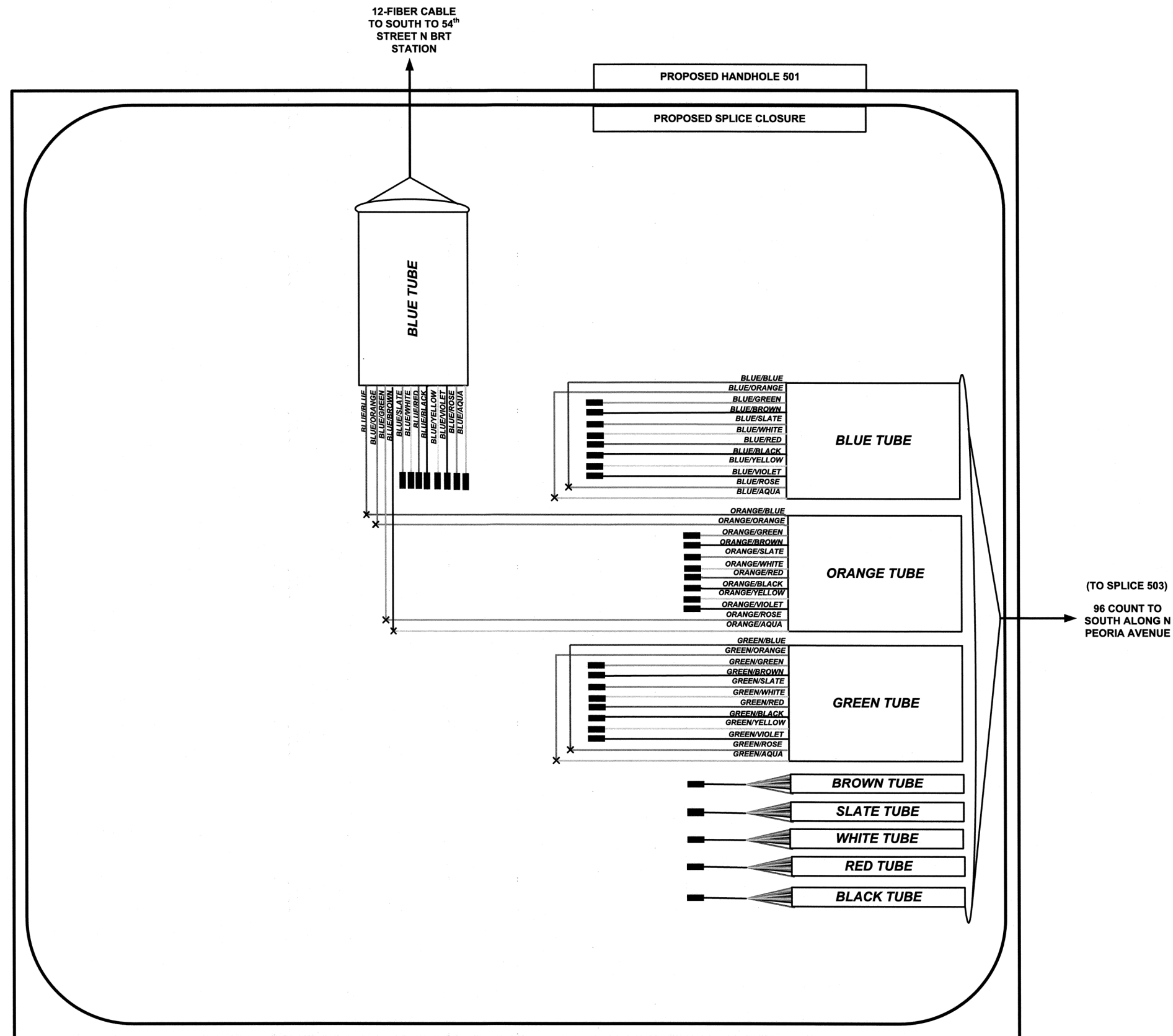
Segment Label	From Splice Vault	To Splice Vault	Linear Feet					Each		
			Bore Distance	Trench Distance	12 Count SM Fiber	48 Count SM Fiber	96 Count SM Fiber	# 1.25" Conduit	# Tracer Wires	# Pull strings
21A	570	EX 387	20	0	20	0	0	1	1	0
21B	571	EX 388	20	0	20	0	0	1	1	0



-  PROPOSED PULL BOX/SPLICE VAULT
 EXISTING PULL BOX
 PROPOSED BORED UNDERGROUND FIBER
 PROPOSED TRENCHED UNDERGROUND FIBER
 EXISTING AERIAL FIBER
 EXISTING UNDERGROUND FIBER



<h1 style="text-align: center;">PLAN SHEET</h1>				
CITY OF TULSA PROJECT NUMBER: 2035X001Z PHASE 1				
BUILD GRANT / LINK FIBER OPTIC SYSTEM IMPROVEMENTS				
 <div style="display: inline-block; vertical-align: middle;"> Tulsa <small>A New Kind of Energy.</small> </div>				
<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> HNTB 1715 Kirk Dr. Kansas City, MO 64105 816-472-1201 </div> <div>  </div> </div>		1623 E. 6th Street Tulsa, OK 74119 918-877-6000		
PLAN SCALE: 1" = 200'	DRAWN	TJW	APPROVED:	
	DESIGNED	NW		
	SURVEY			
PROFILE SCALE:	PROJ. MGR.	RF		
HORIZONTAL:	LEAD ENGR.	6/22		
	FIELD MGR.	7/22		
VERTICAL	RECOMMENDED:	HAS		
	DESIGN MANAGER	8-22		
FILE:	DRAWING:		CITY ENGINEER	
ATLAS PAGE NO:			DATE: 6/13/2022	
			SHEET 29 OF 99 SHEETS	



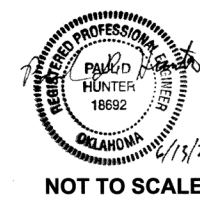
KEY

- | | |
|---------|---|
| E238.2D | DEVICE IDENTIFIER |
| | CCTV CAMERA |
| | EXISTING CCTV CAMERA |
| | REAL TIME ARRIVAL SIGN |
| | EXISTING REAL TIME ARRIVAL SIGN |
| | PATCH THROUGH FIBER OPTIC JUMPER |
| | EQUIPMENT CONNECTION FIBER OPTIC JUMPER |
| | FIBER OPTIC PIGTAIL |
| | BARE FIBER LEFT COILED IN SPLICE TRAY |
| | FUSION SPLICE |
| | PATCH PANEL MODULE |
| | EXISTING COAX CABLE |
| | EXISTING TWISTED PAIR CABLE |
| | EXISTING FIBER OR FIBER OPTIC CABLE |

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

NOTES

1. MAXIMUM SPLICE LOSS SHALL BE 0.1 dB.
2. NO INTERMEDIATE SPLICES ALLOWED.
3. ALL SPLICES SHALL BE FUSION SPLICES.
4. WHEN SPLICING UNDERGROUND, ONLY TUBES CONTAINING FIBERS TO BE SPLICED SHALL BE CUT. ALL OTHER TUBES SHALL RUN UN-CUT BETWEEN OTHER SPLICES.

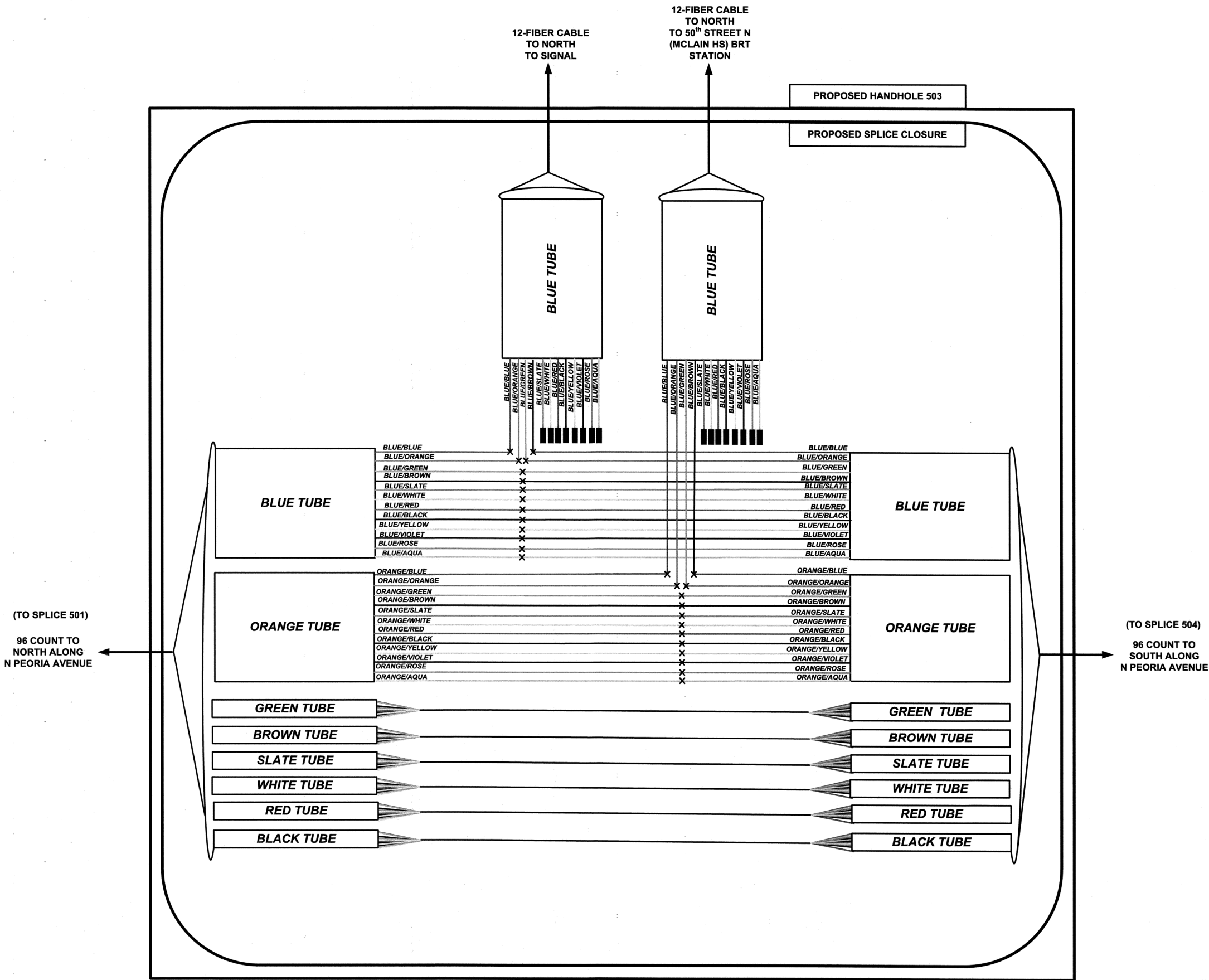


NOT TO SCALE



FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

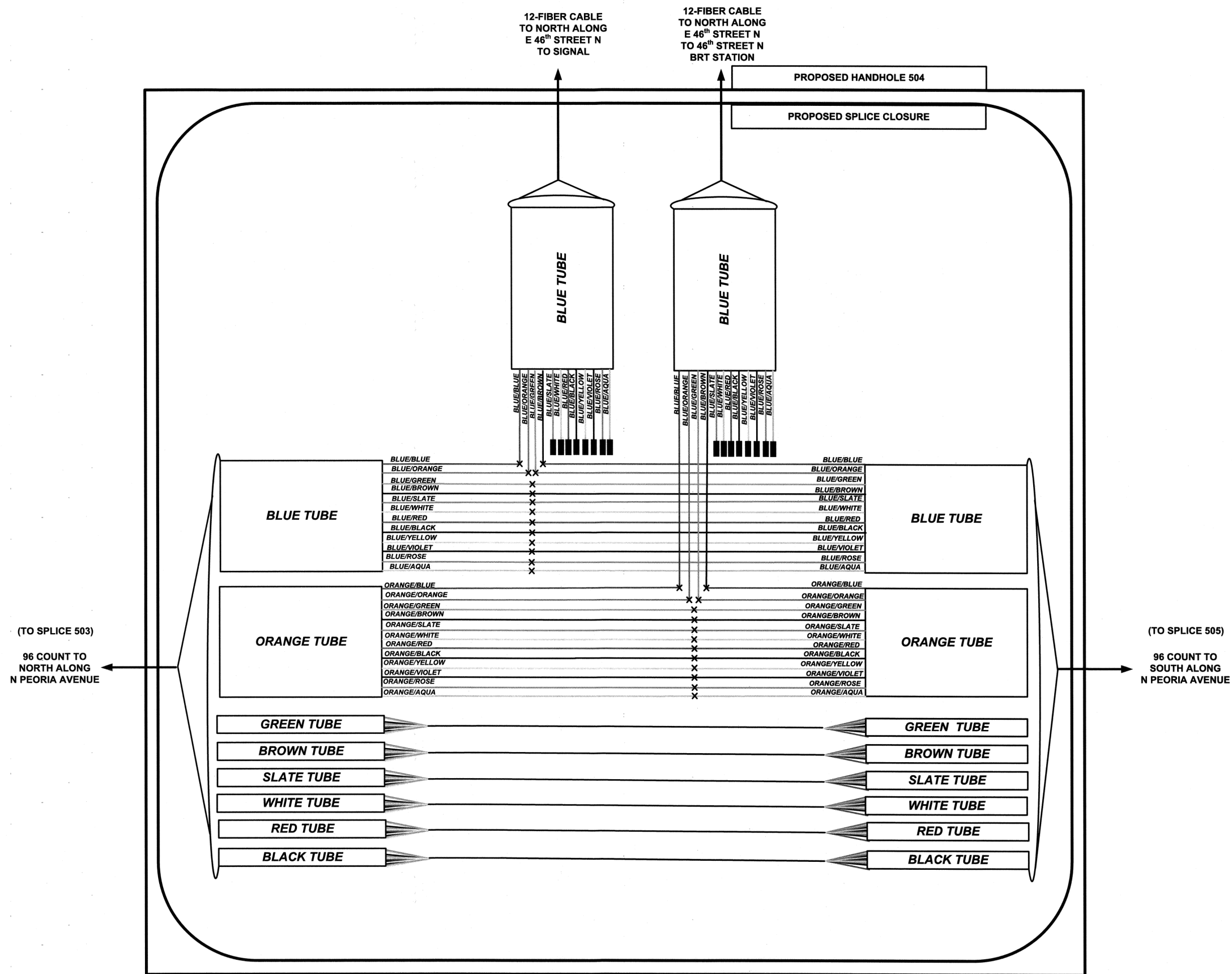
EXISTING TWISTED PAIR CABLE

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NOT TO SCALE



KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
TIME ARRIVAL
SIGN



PATCH THROUGH
FIBER OPTIC JUMPER



EQUIPMENT CONNECTION
FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT
COILED IN SPICE TRAY



FUSION SPICE



PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED
PAIR CABLE



EXISTING FIBER OR
FIBER OPTIC CABLE

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TUBES CONTAINING FIBERS TO BE
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OTHER SPICES.

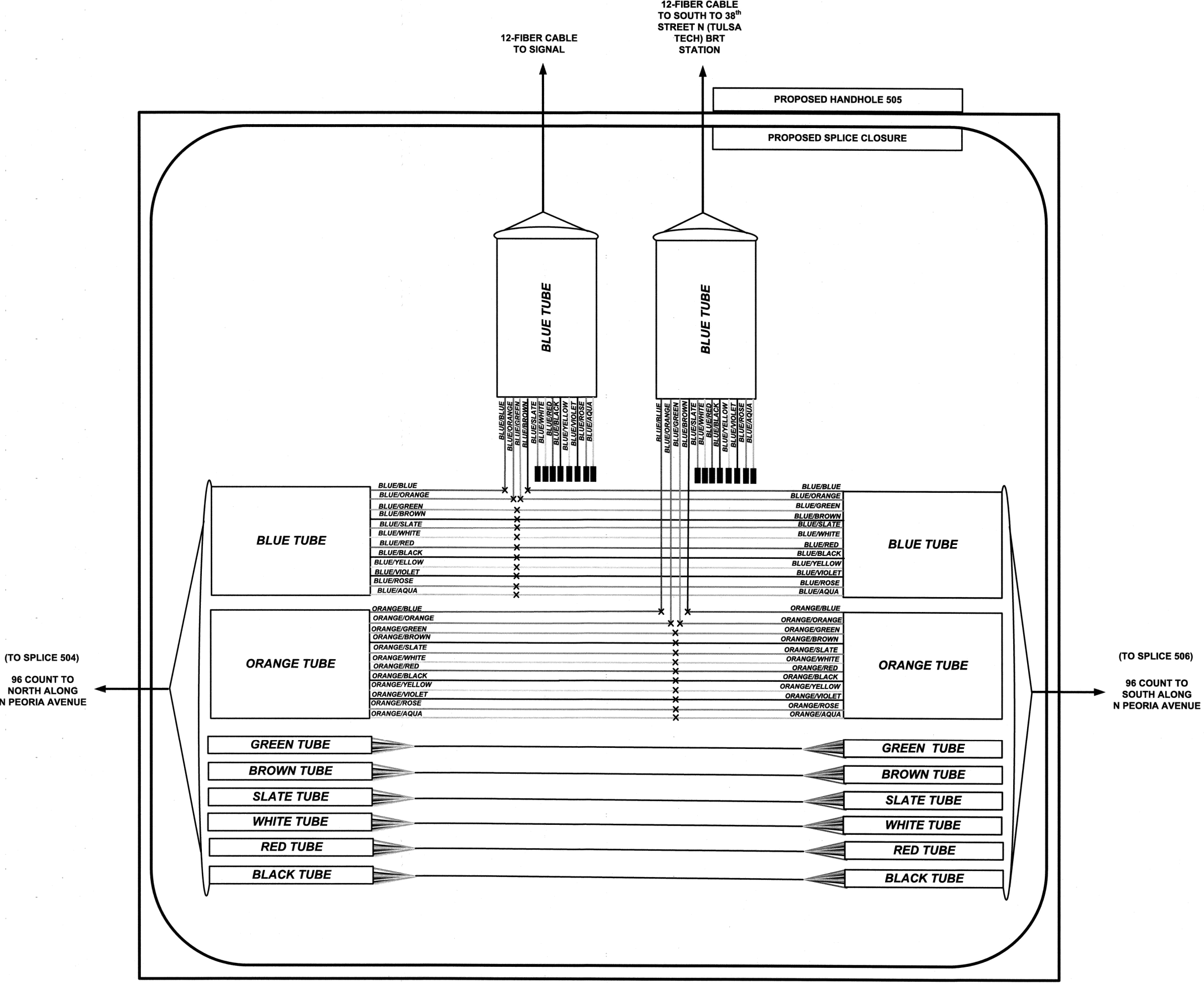


NOT TO SCALE



FIBER SPlicing AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

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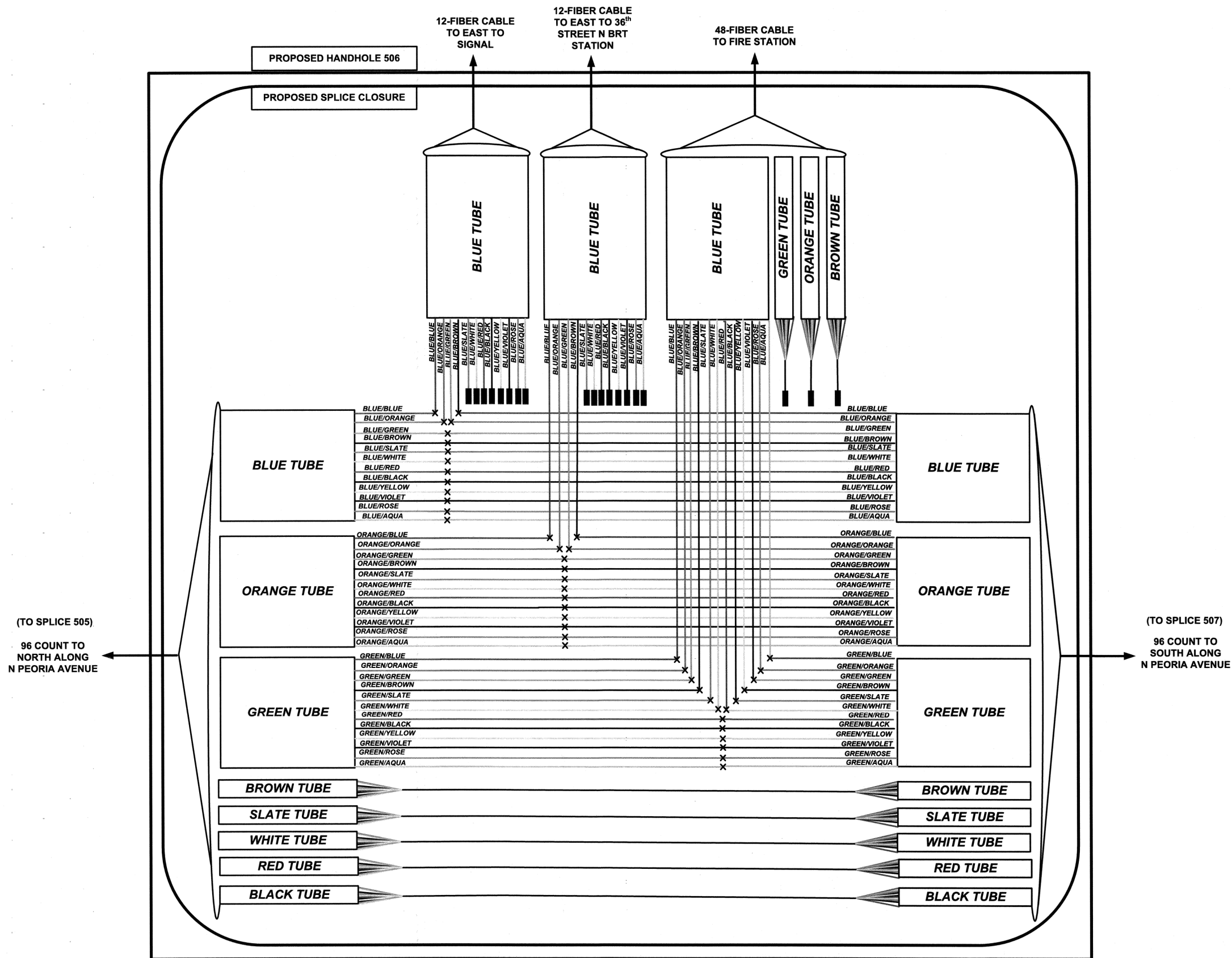
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NOT TO SCALE



KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA REAL TIME ARRIVAL SIGN

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PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

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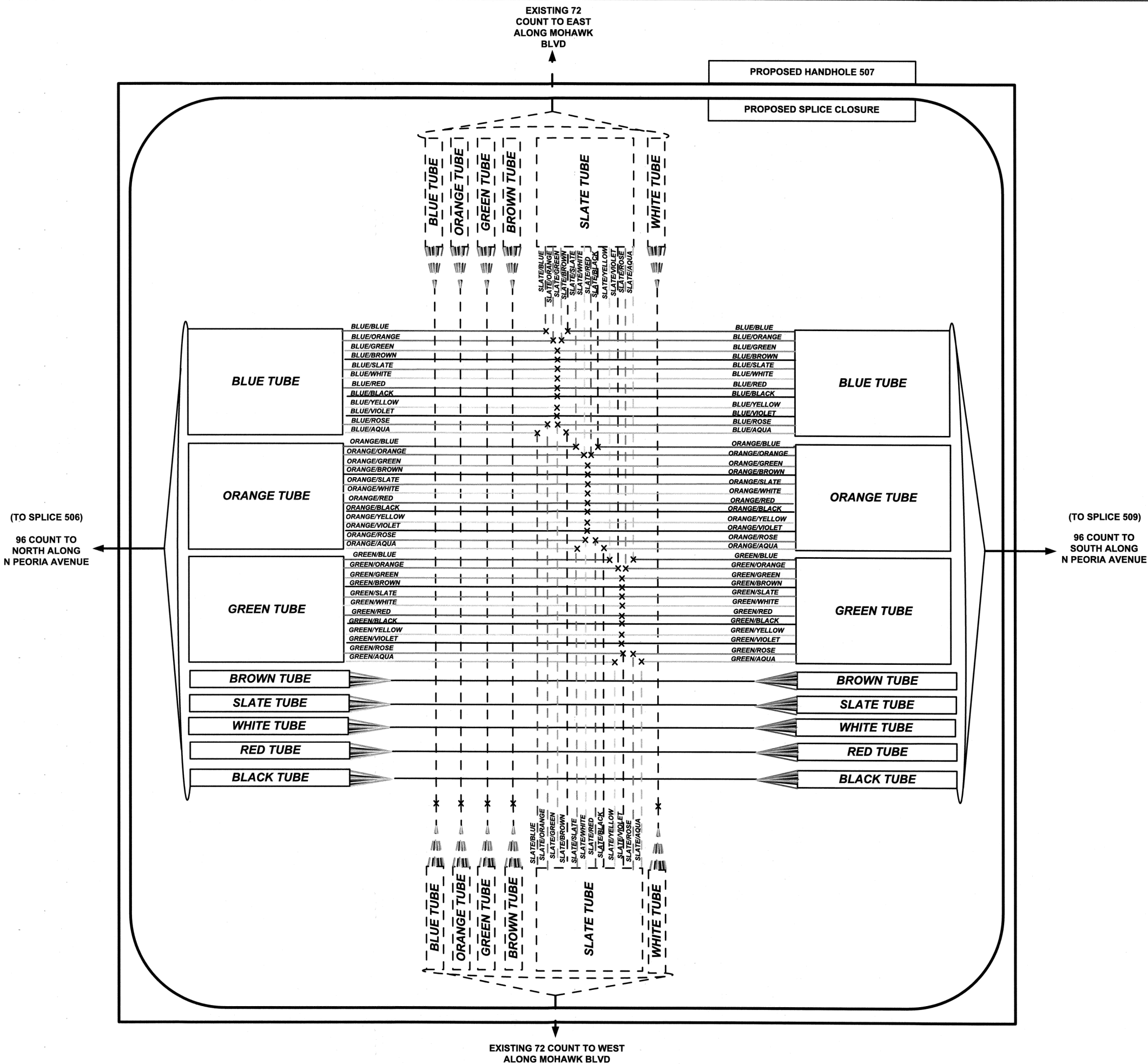
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NOT TO SCALE





BEFORE SPLICING FIBER, VERIFY FINAL SPLICE DETAILS WITH GARY CUMMINS WITH CITY OF TULSA.

KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

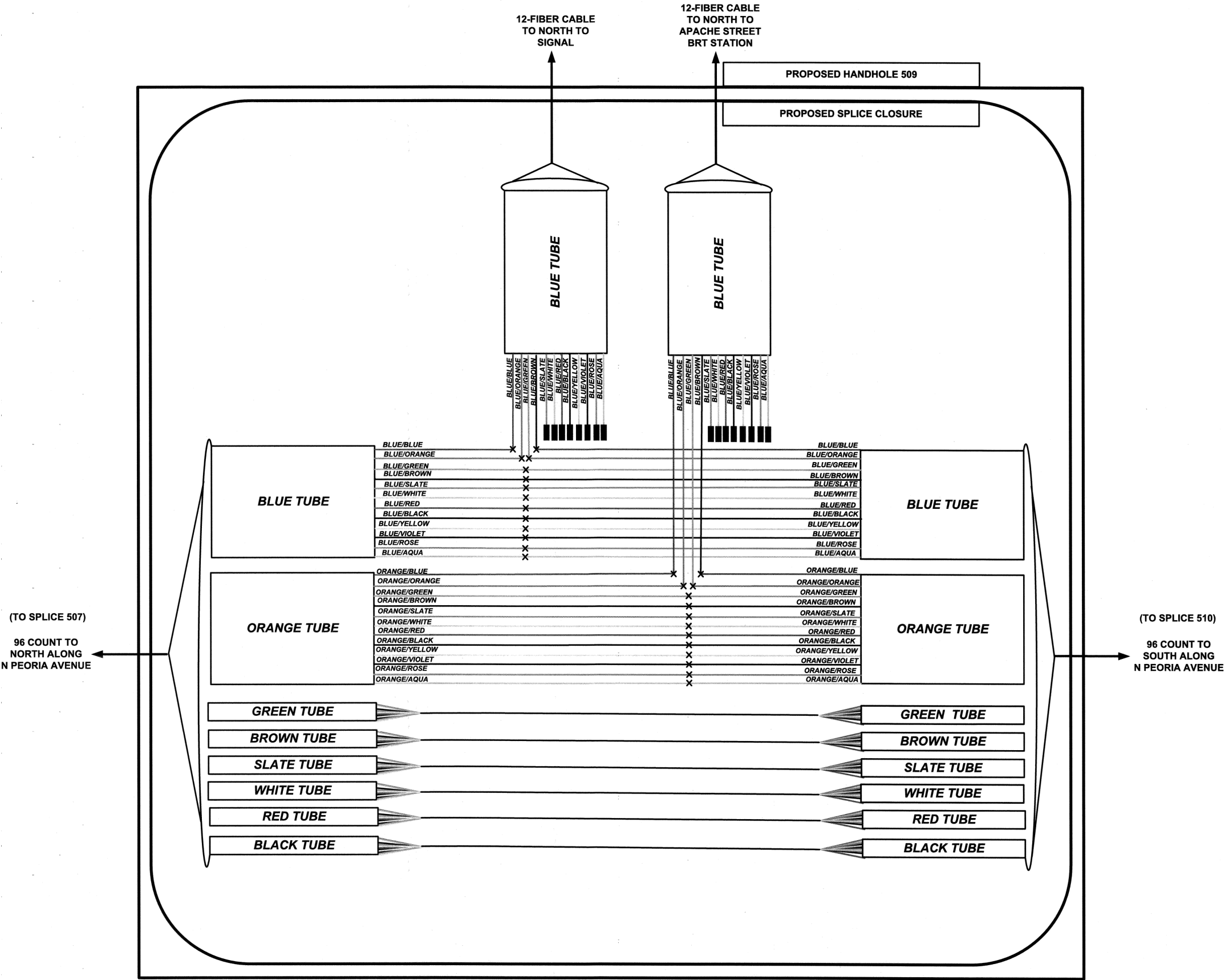
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REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
4/13/22
NOT TO SCALE

FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

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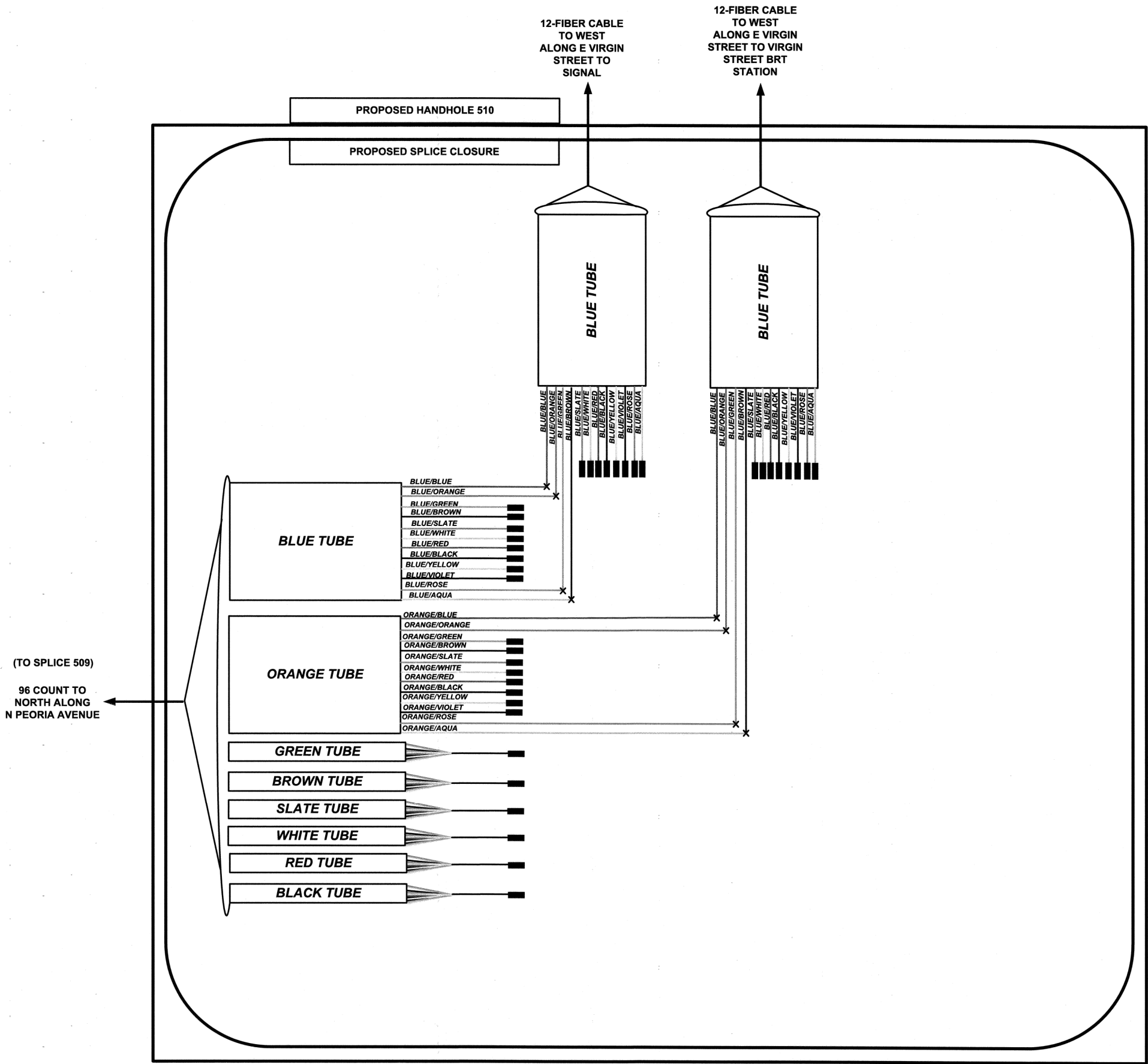
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PAUL D. HUNTER
18692
OKLAHOMA

6/13/22

NOT TO SCALE



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

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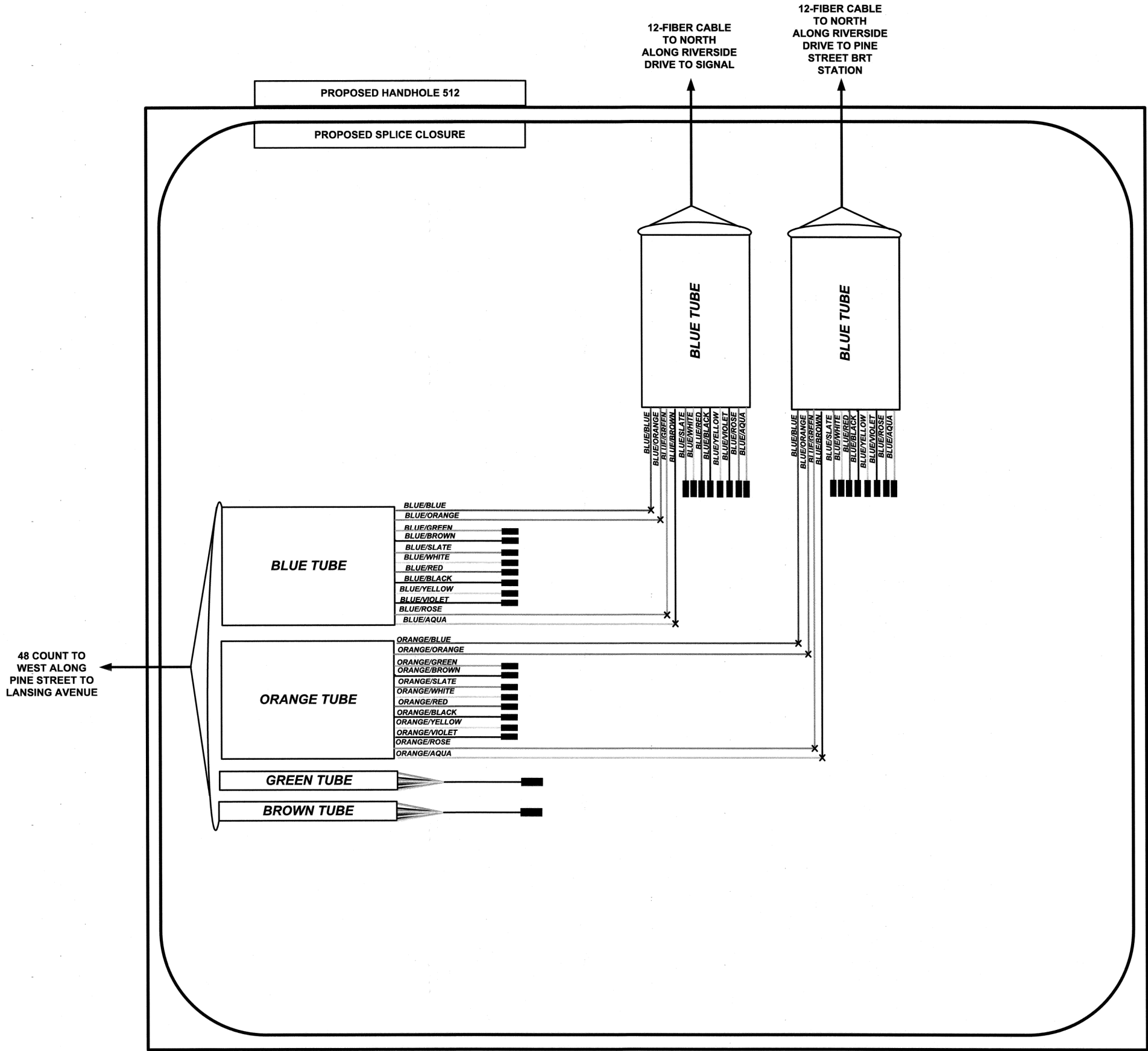
NOT TO SCALE

FIBER SPLICING AND CONNECTION DETAIL

CITY OF

Tulsa

A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

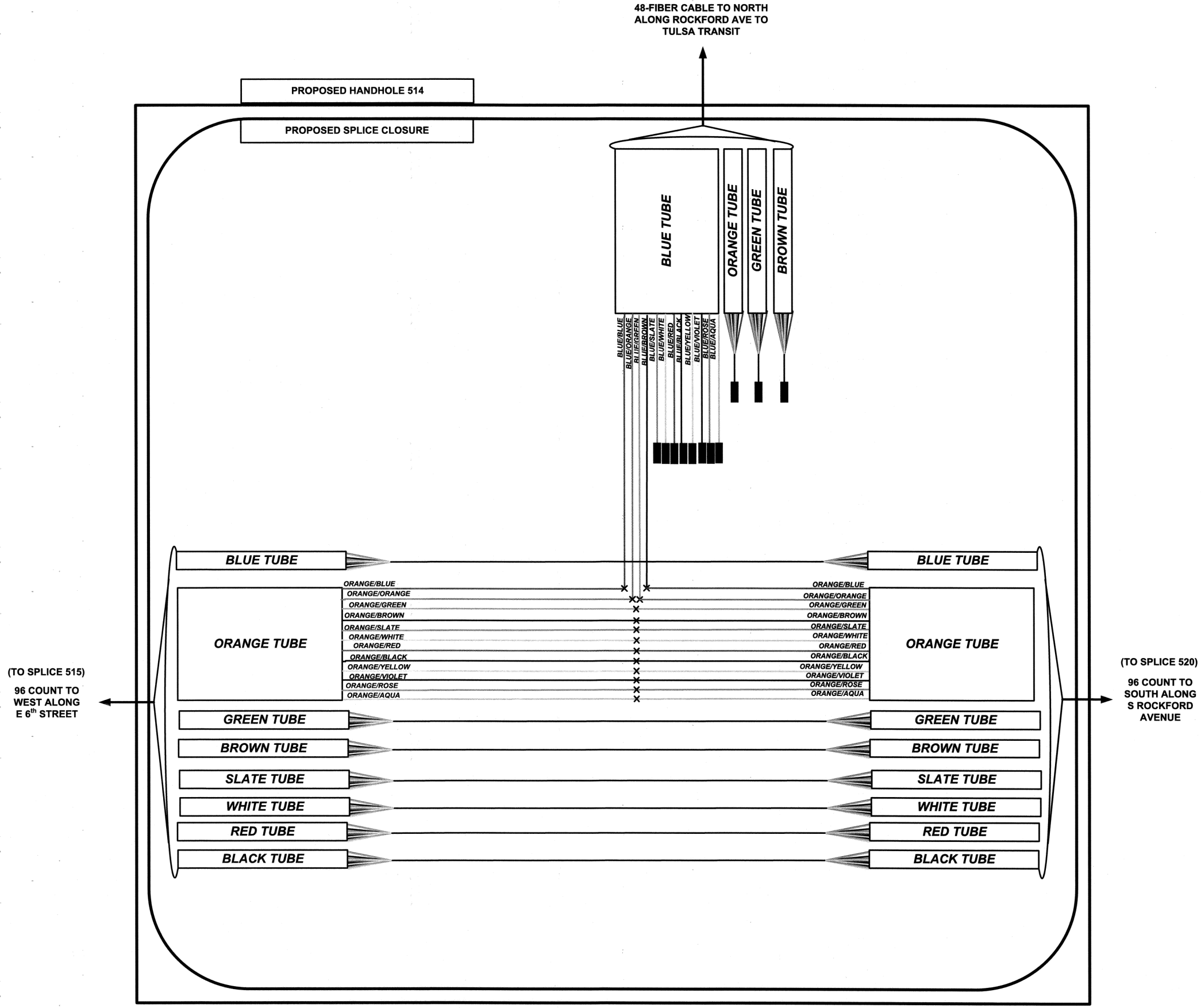
EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

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NOT TO SCALE



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

REAL TIME
ARRIVAL SIGN

EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICED

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED
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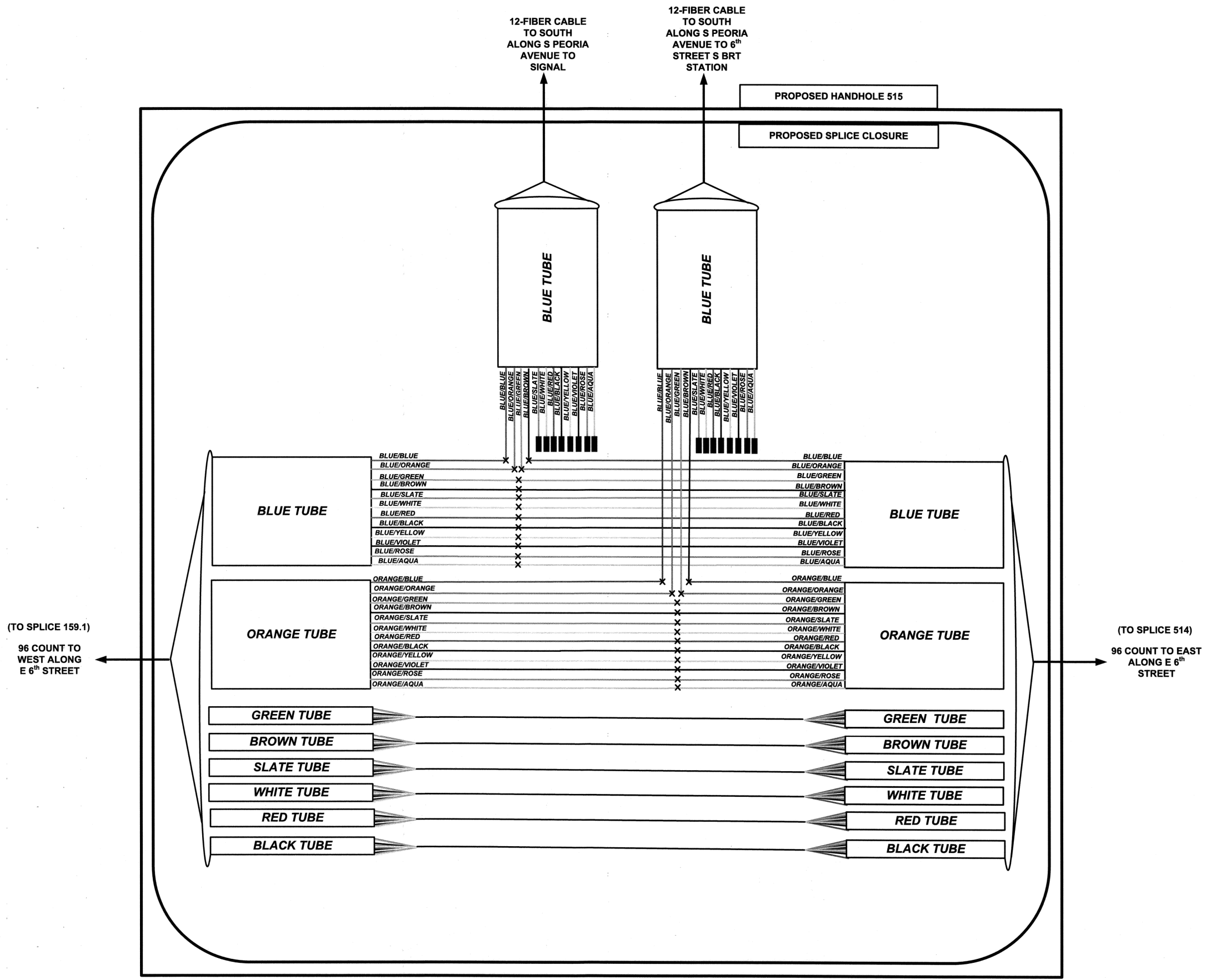
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NOT TO SCALE

FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

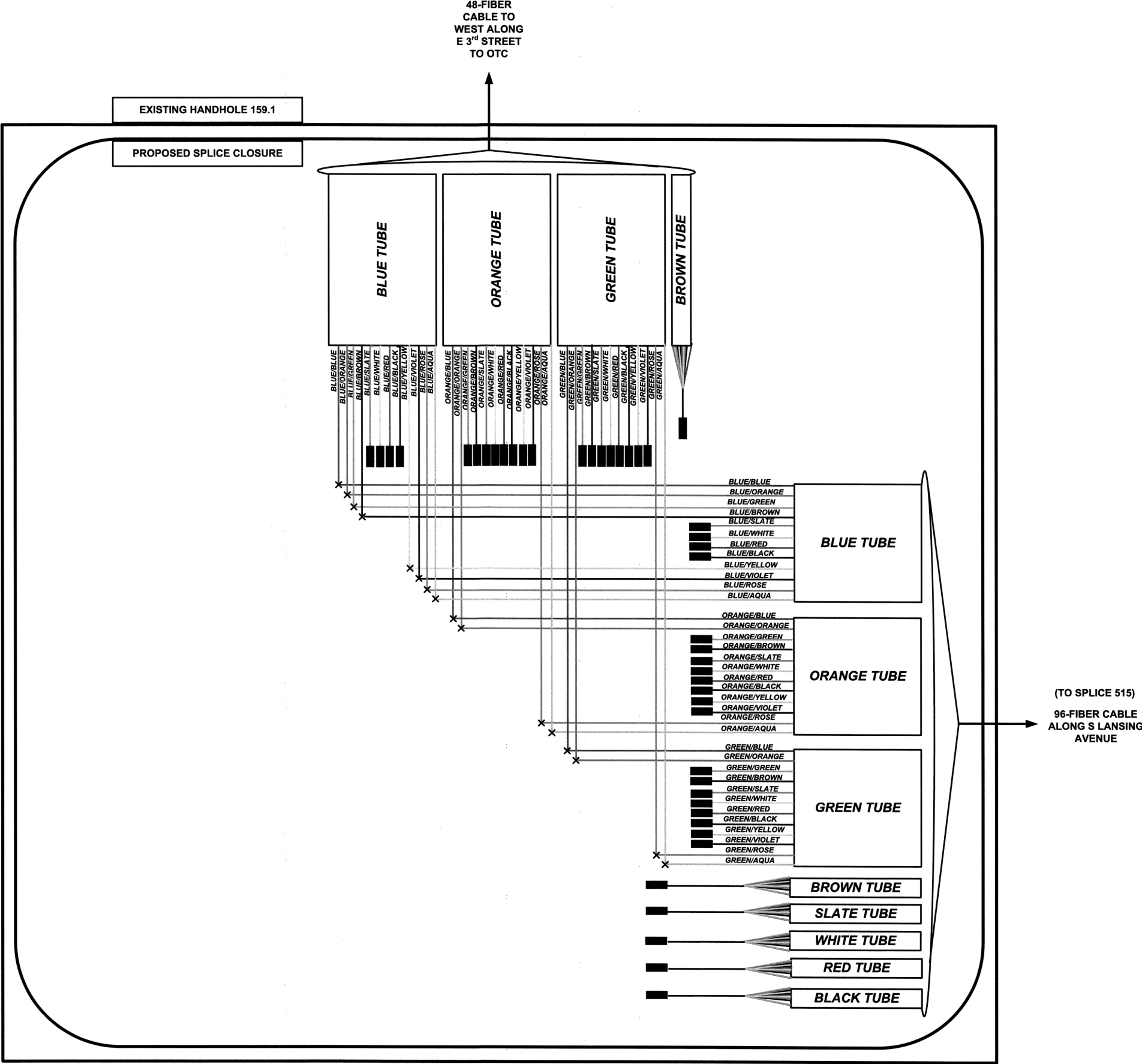
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4. WHEN SPLICING UNDERGROUND, ONLY TUBES CONTAINING FIBERS TO BE SPLICED SHALL BE CUT. ALL OTHER TUBES SHALL RUN UN-CUT BETWEEN OTHER SPLICES.

NOT TO SCALE



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

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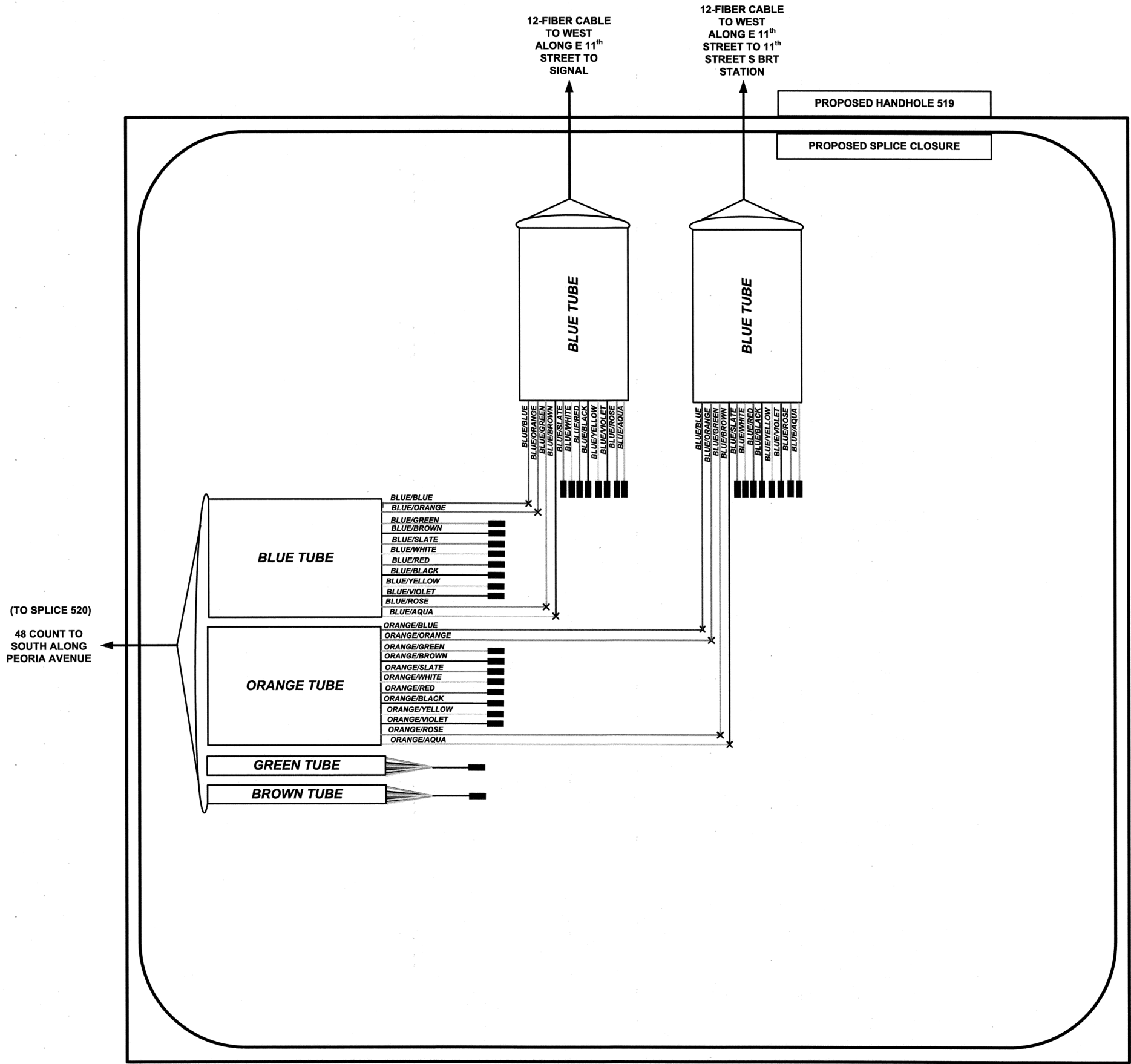
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NOT TO SCALE

FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



REGISTERED PROFESSIONAL ENGINEER
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18692
OKLAHOMA
6/13/22
NOT TO SCALE

(TO SPLICE 552)
96-FIBER CABLE TO EAST
ALONG E 12TH ST.

PROPOSED HANDHOLE 520

PROPOSED SPLICE CLOSURE

(TO SPLICE 514)
96 COUNT TO NORTH ALONG
S ST. LOUIS AVENUE

(TO SPLICE 521)
96 COUNT TO SOUTH ALONG
S ST. LOUIS AVENUE

48-FIBER CABLE
TO WEST ALONG
12TH ST.
(TO SPLICE 519)

KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA
REAL TIME
ARRIVAL SIGN

RTA
EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

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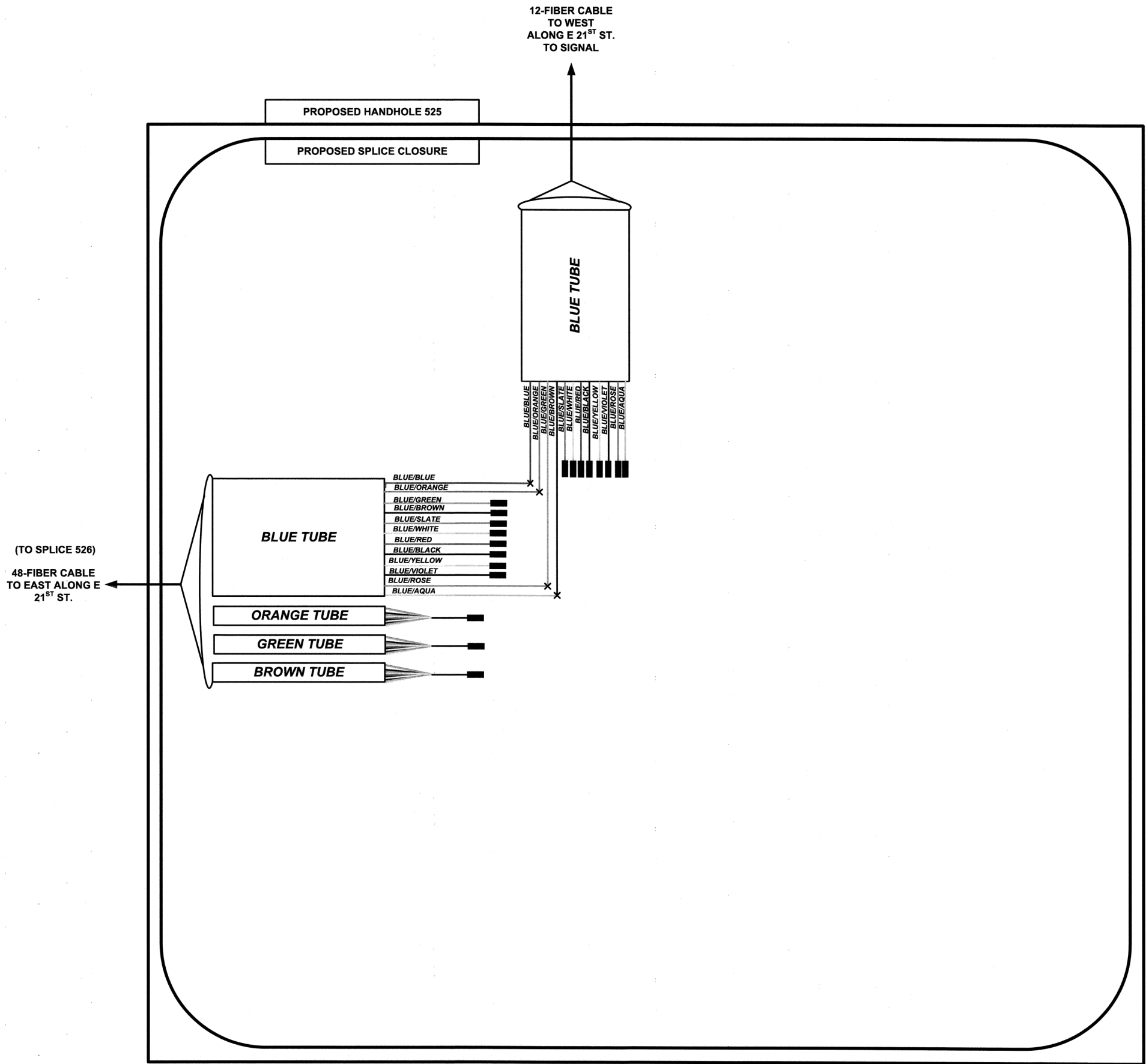


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FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

REAL TIME
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PATCH THROUGH
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EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

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EXISTING COAX CABLE

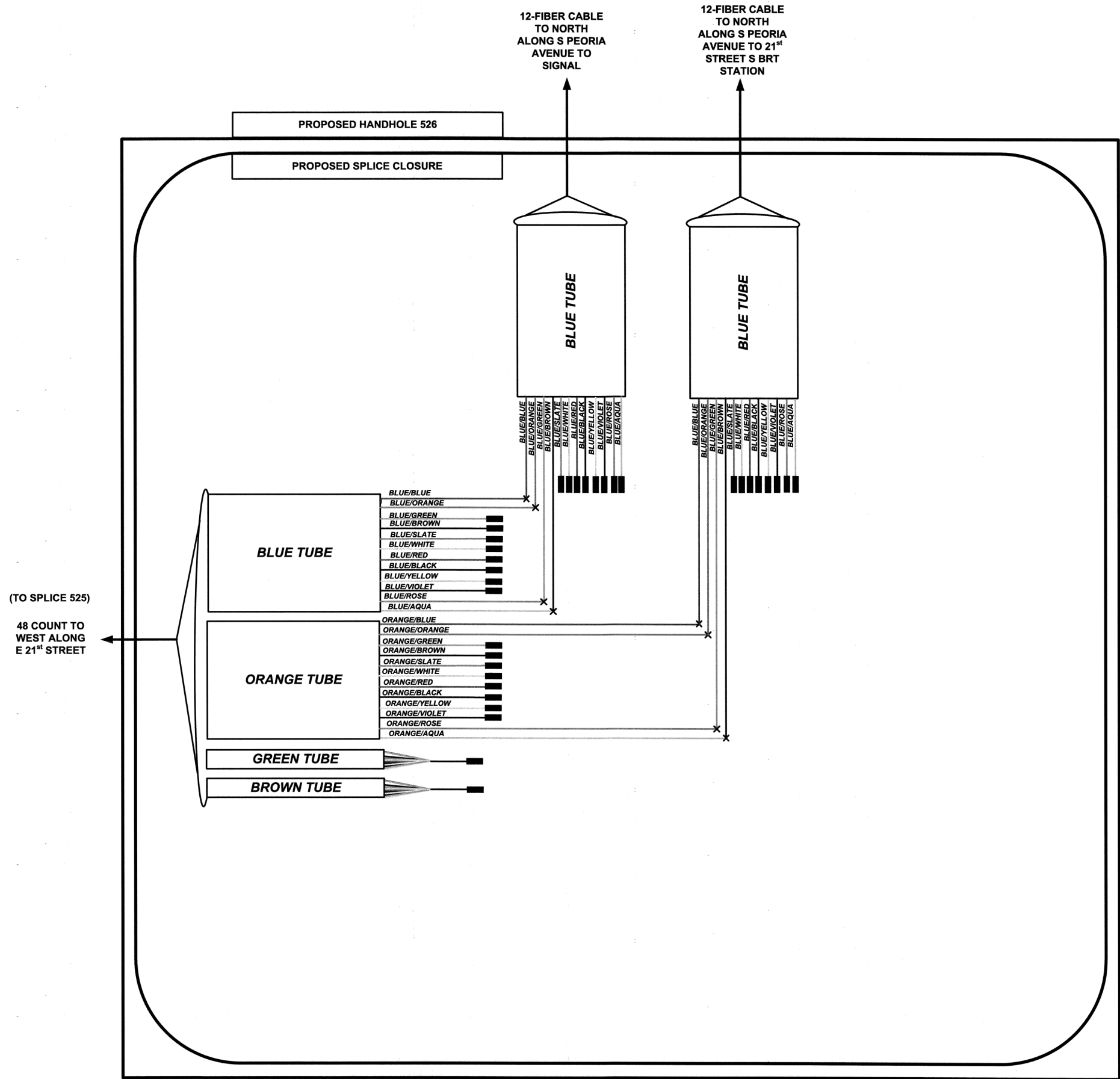
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E238.2D	DEVICE IDENTIFIER
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	EXISTING CCTV CAMERA
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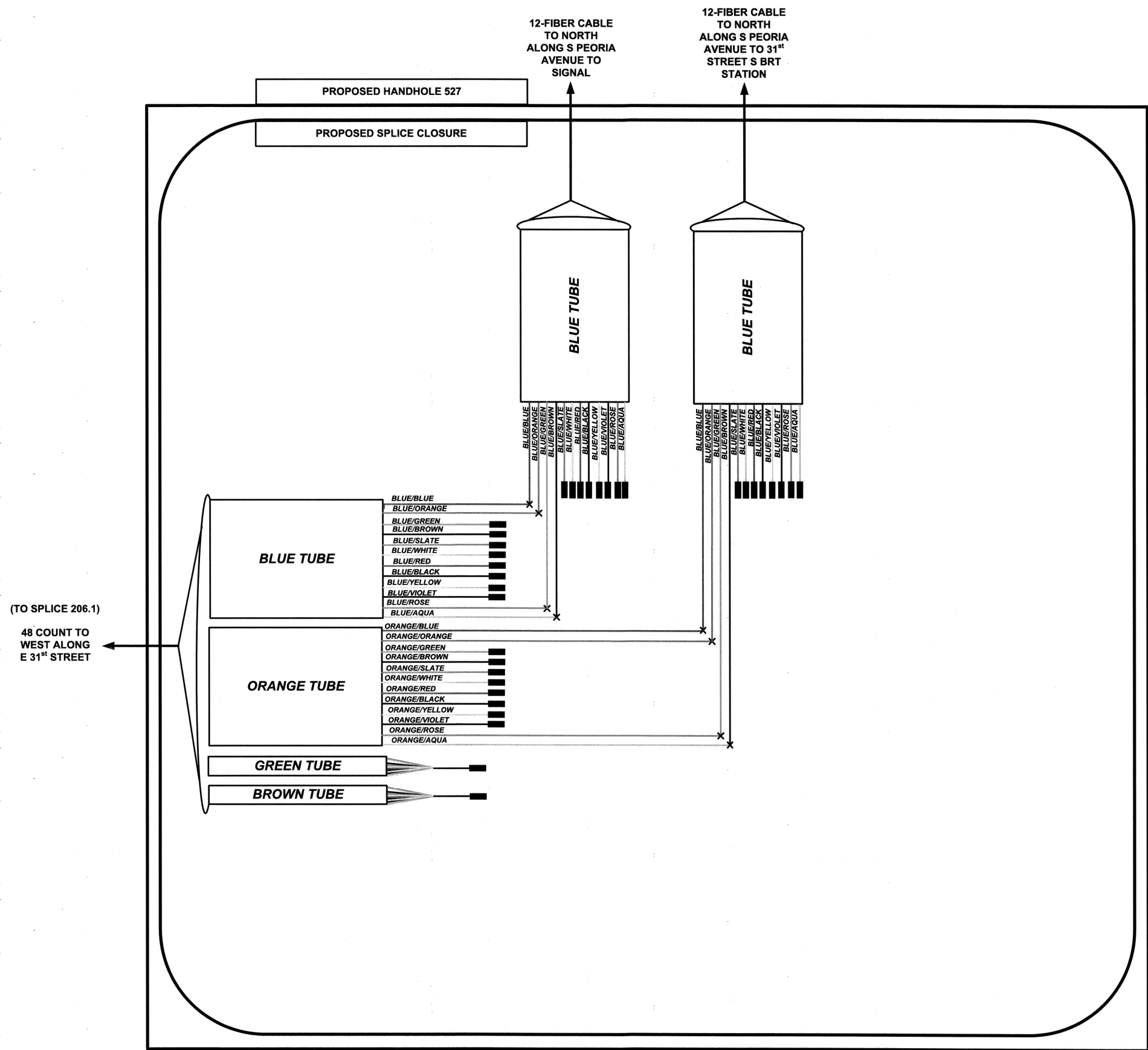
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18692
OKLAHOMA
6/13/22
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FIBER SPLICING AND CONNECTION DETAIL

CITY OF Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

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FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.

BEFORE SPlicing FIBER, VERIFY FINAL
SPlice DETAILS WITH GARY CUMMINS
WITH CITY OF TULSA.

KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

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REAL TIME
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PATCH PANEL MODULE

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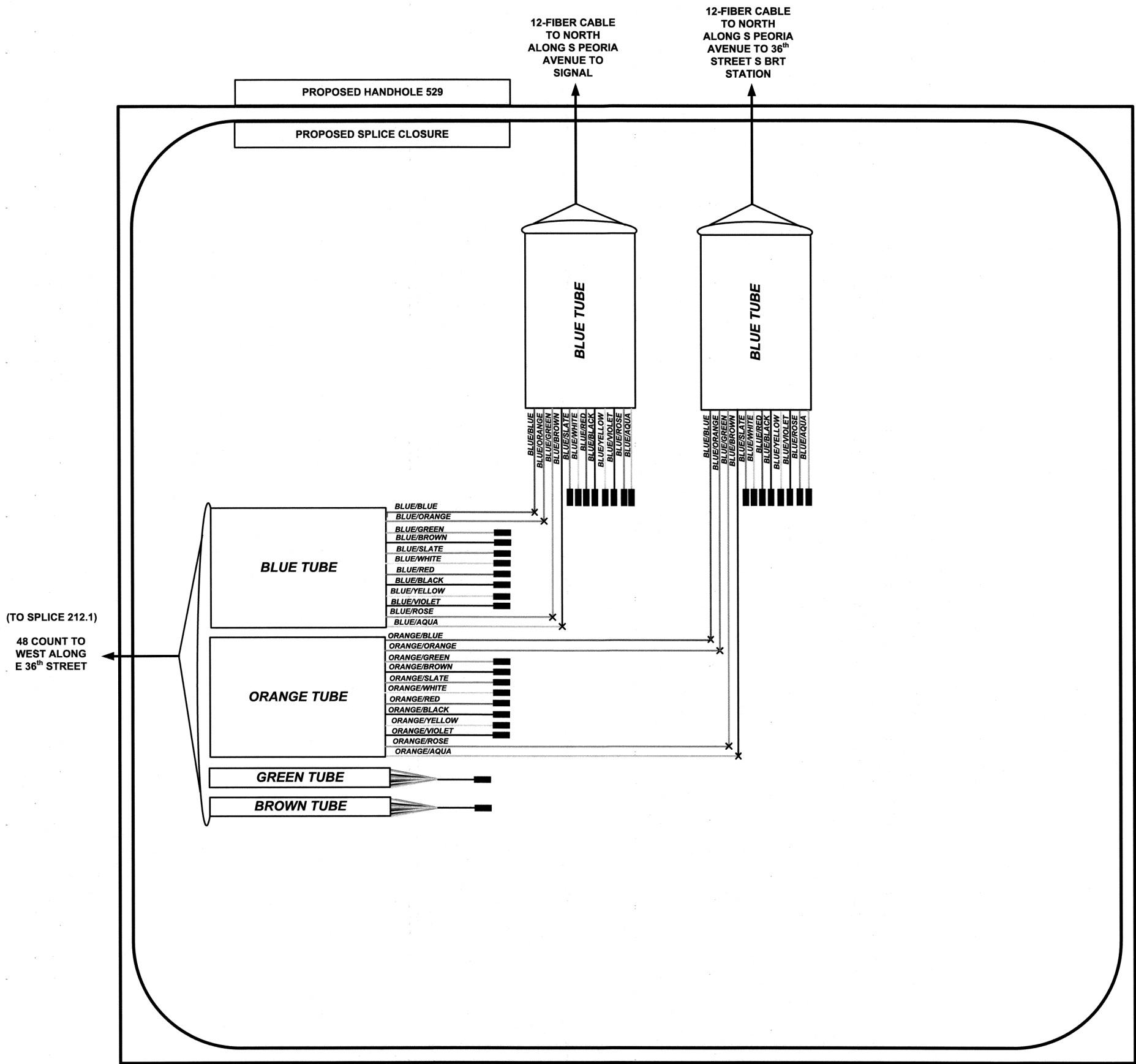
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KEY

E238.2D

DEVICE IDENTIFIER

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EXISTING
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RTA

REAL TIME
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PATCH THROUGH
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EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
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FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

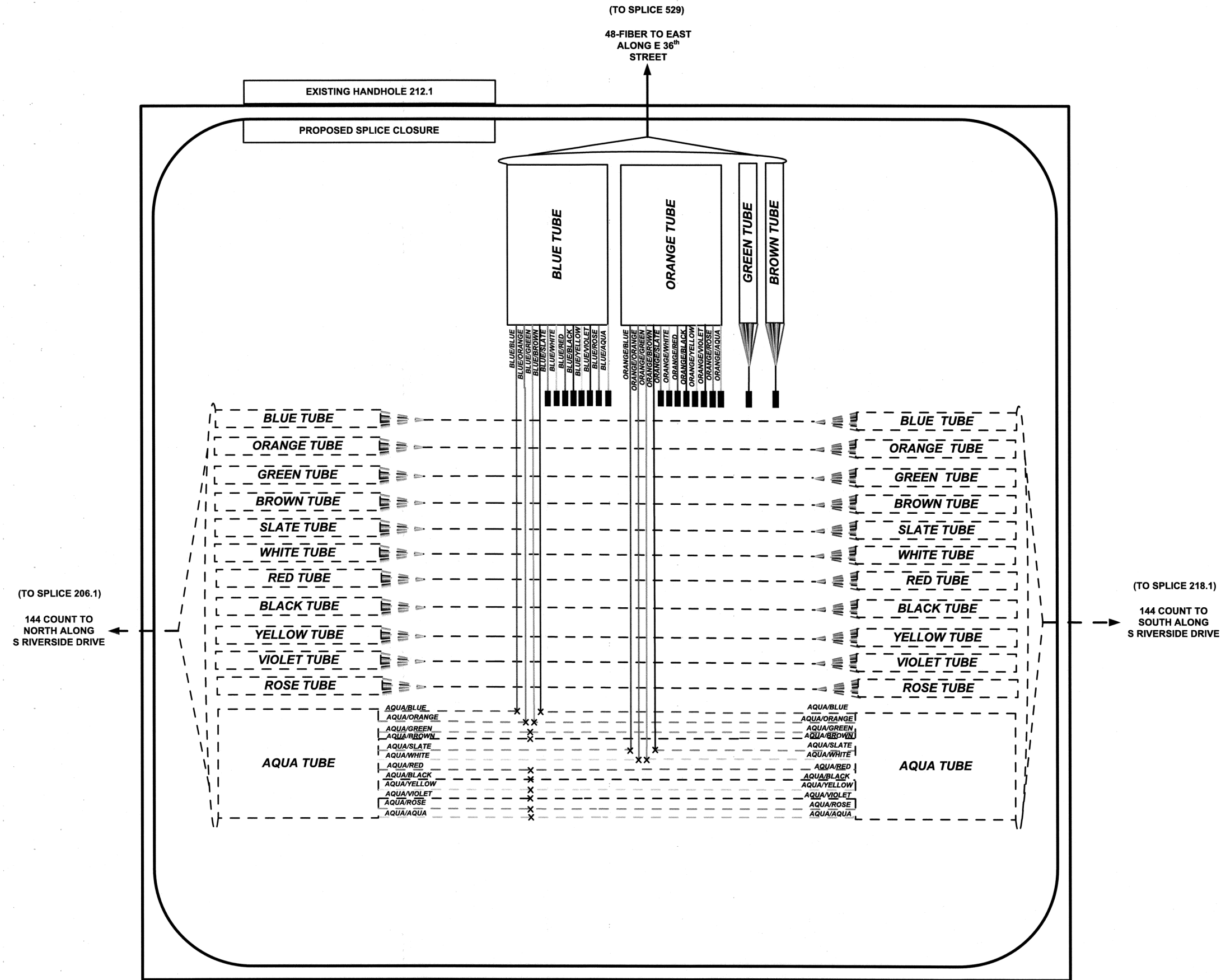
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OKLAHOMA
6/13/22
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BEFORE SPLICING FIBER, VERIFY FINAL
SPLICE DETAILS WITH GARY CUMMINS
WITH CITY OF TULSA.

KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA REAL TIME
ARRIVAL SIGN

RTA EXISTING REAL
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PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
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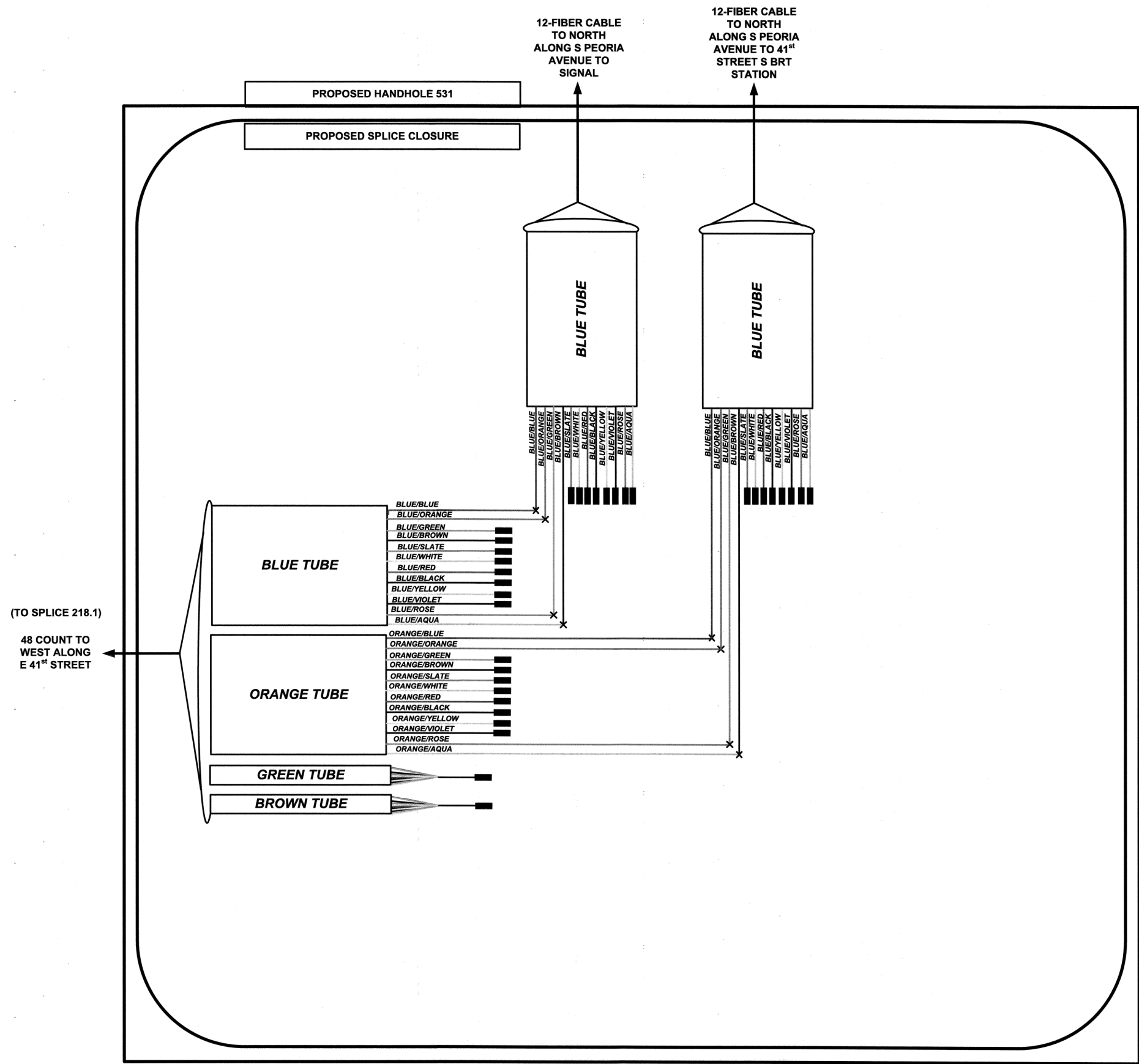
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FIBER SPLICING AND
CONNECTION DETAIL

CITY OF
Tulsa
A New Kind of Energy.



KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
TIME ARRIVAL
SIGN



PATCH THROUGH
FIBER OPTIC JUMPER



EQUIPMENT CONNECTION
FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT
COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED
PAIR CABLE

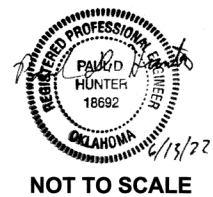


EXISTING FIBER OR
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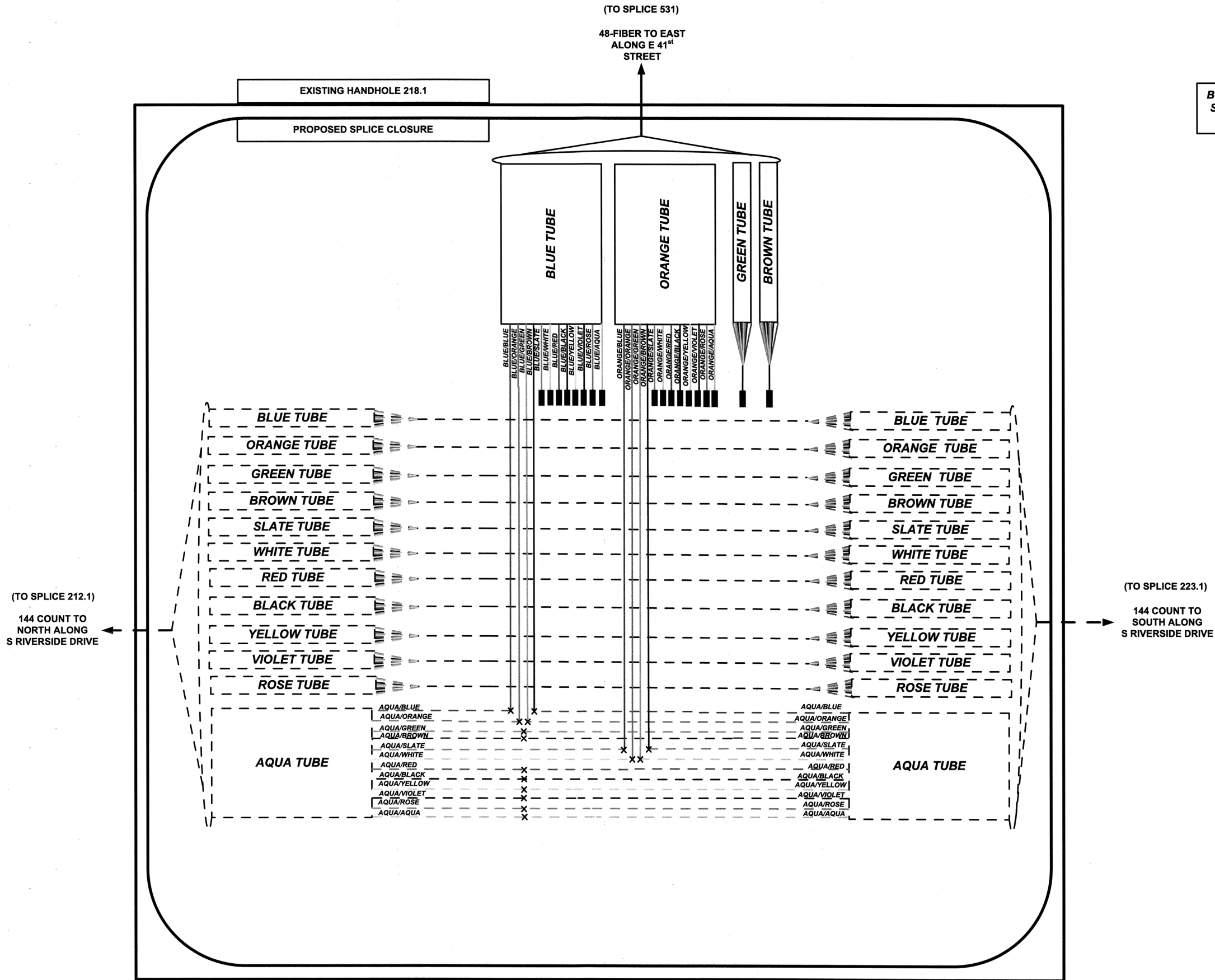
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FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.

BEFORE SPLICING FIBER, VERIFY FINAL
SPlice DETAILS WITH GARY CUMMINS
WITH CITY OF TULSA.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICE

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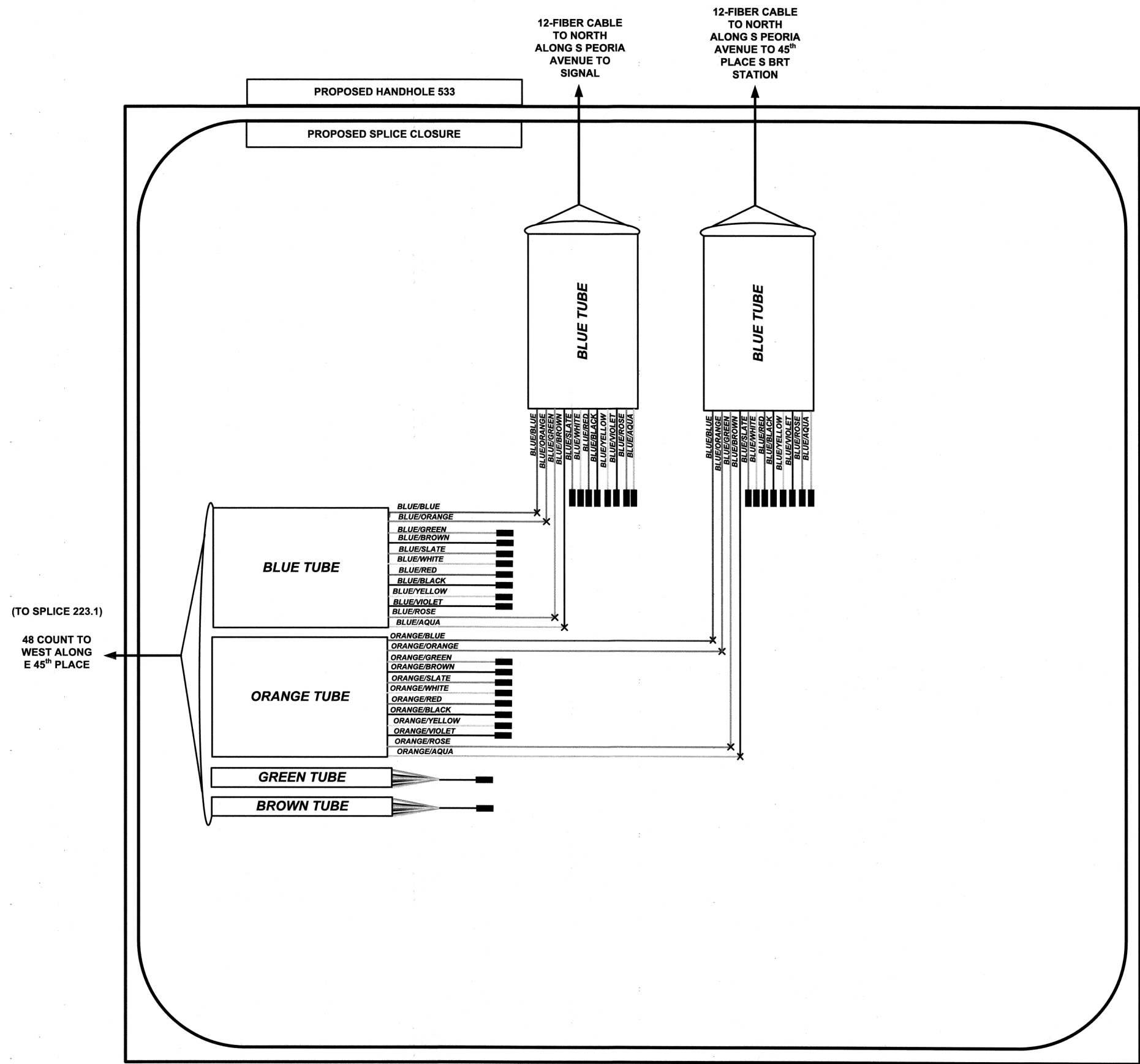
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E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN



PATCH THROUGH FIBER OPTIC JUMPER



EQUIPMENT CONNECTION FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED PAIR CABLE



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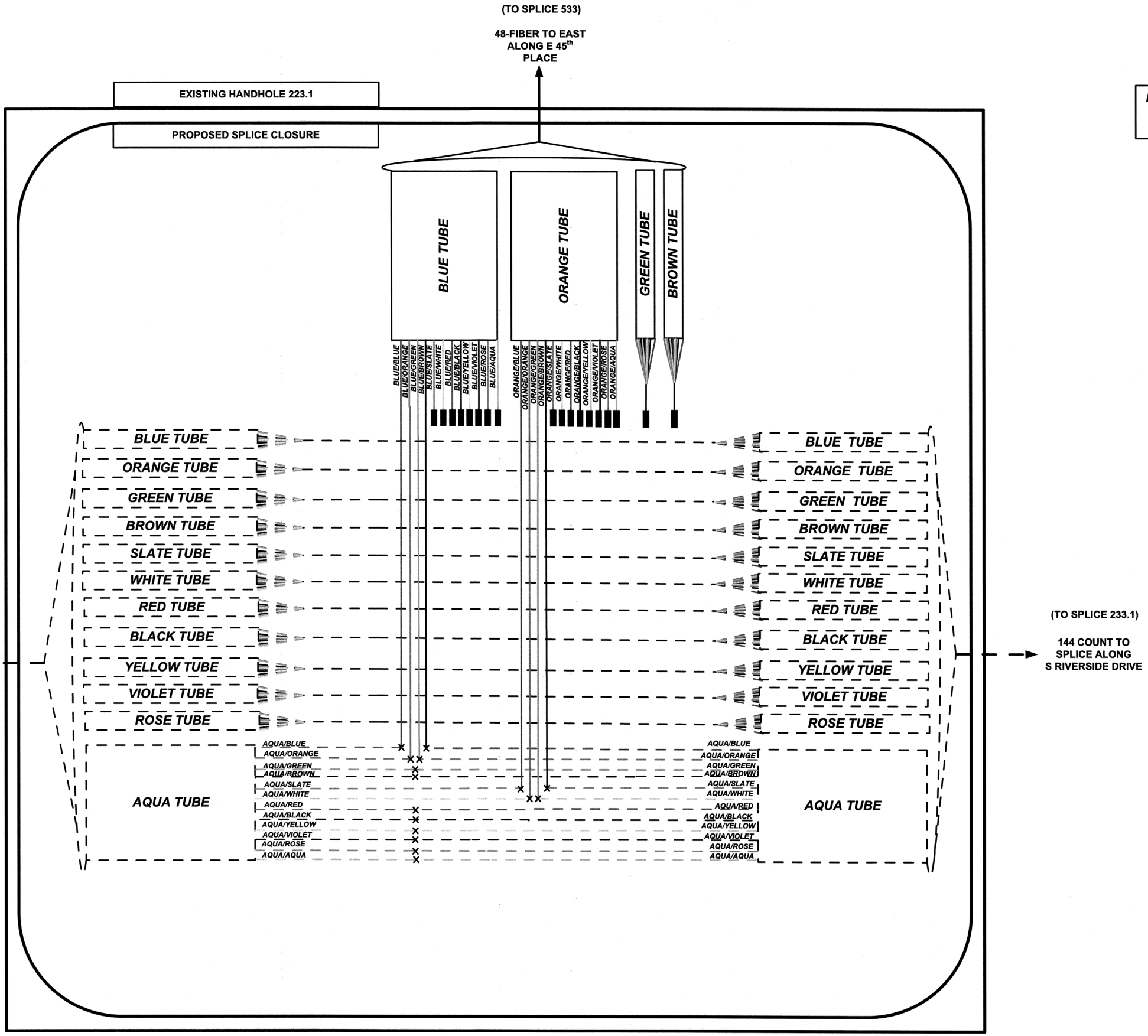
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FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



BEFORE SPLICING FIBER, VERIFY FINAL
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KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

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ARRIVAL SIGN

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PATCH THROUGH
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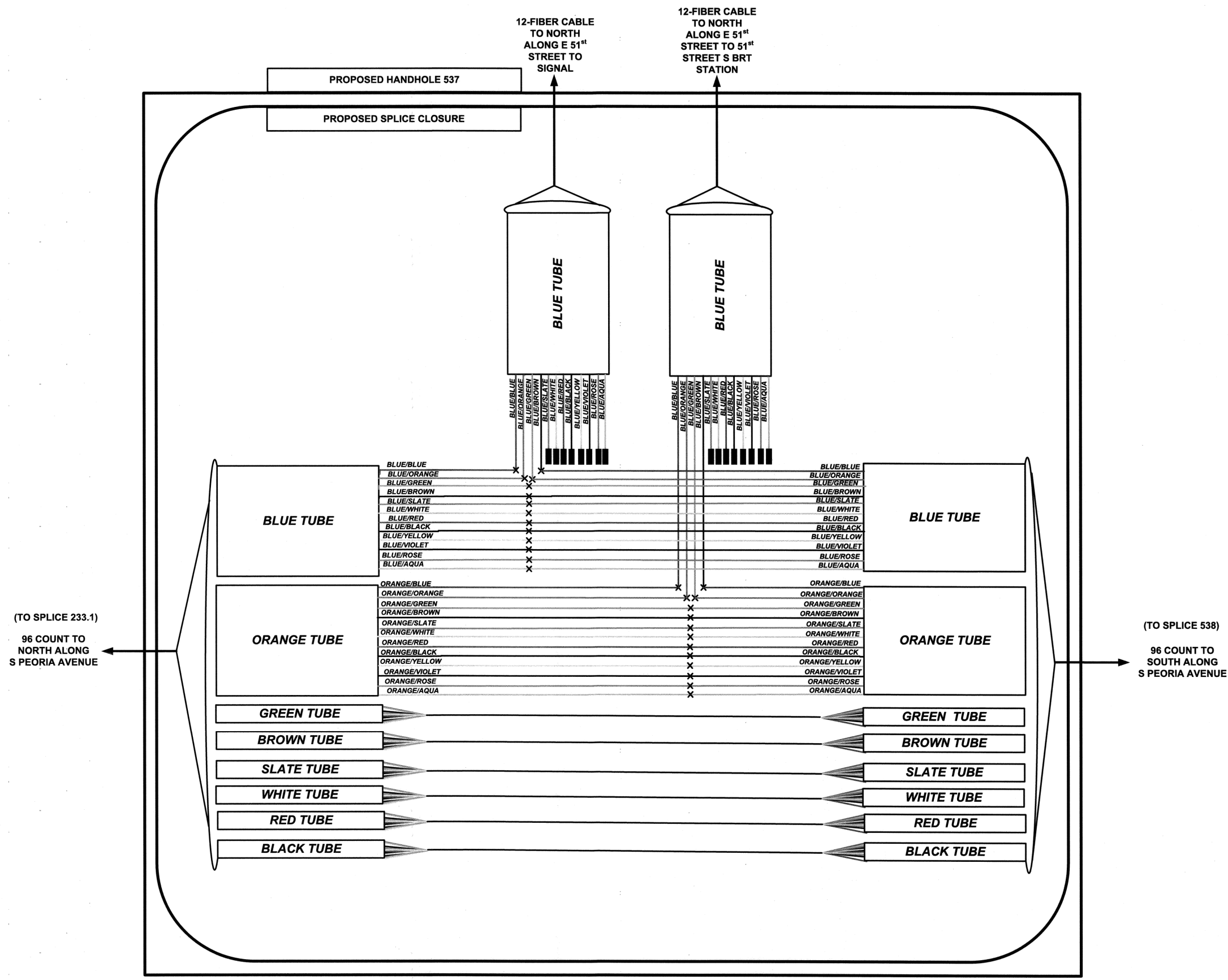
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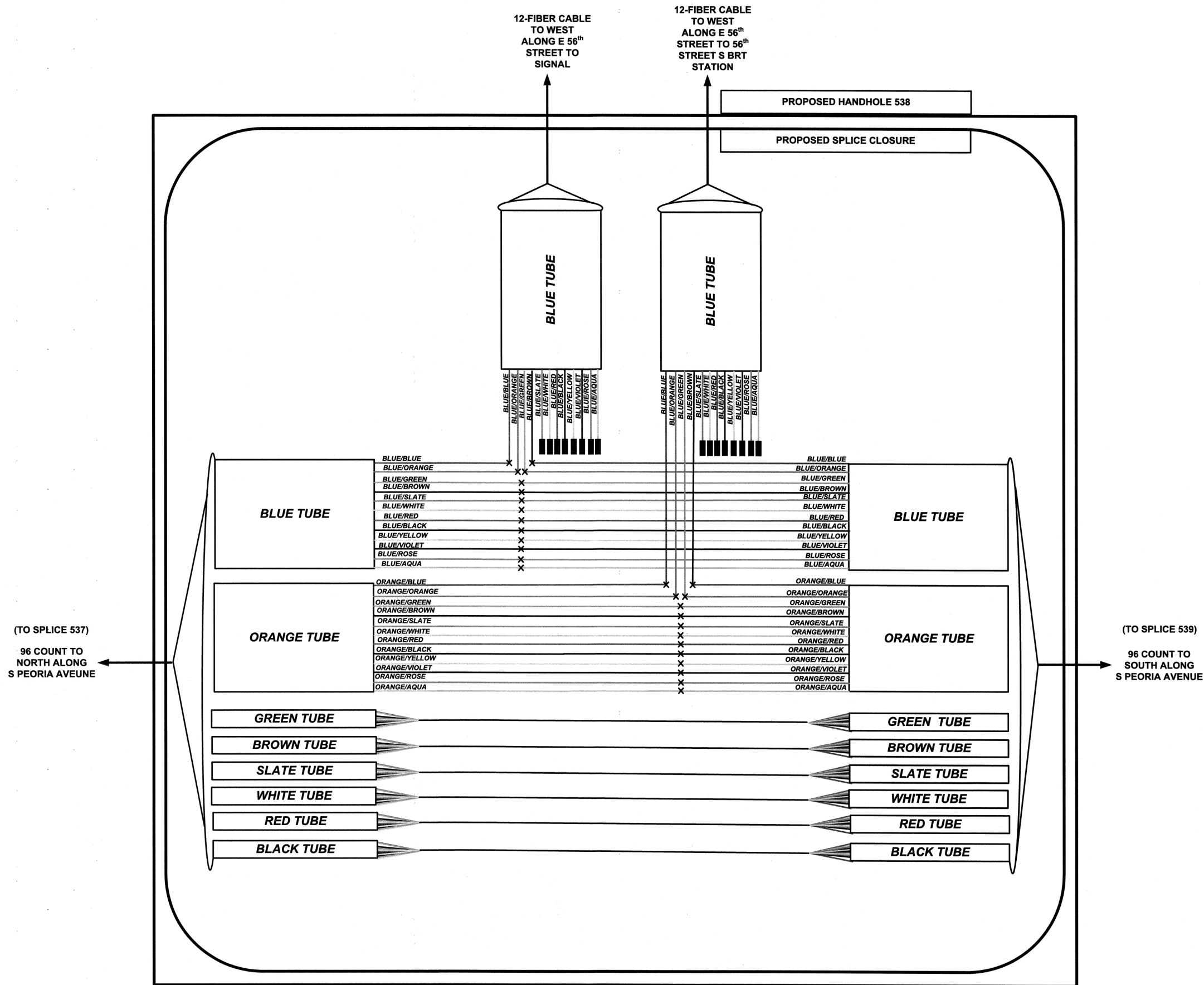
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E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
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SIGN



PATCH THROUGH
FIBER OPTIC JUMPER



EQUIPMENT CONNECTION
FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT
COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



EXISTING COAX CABLE



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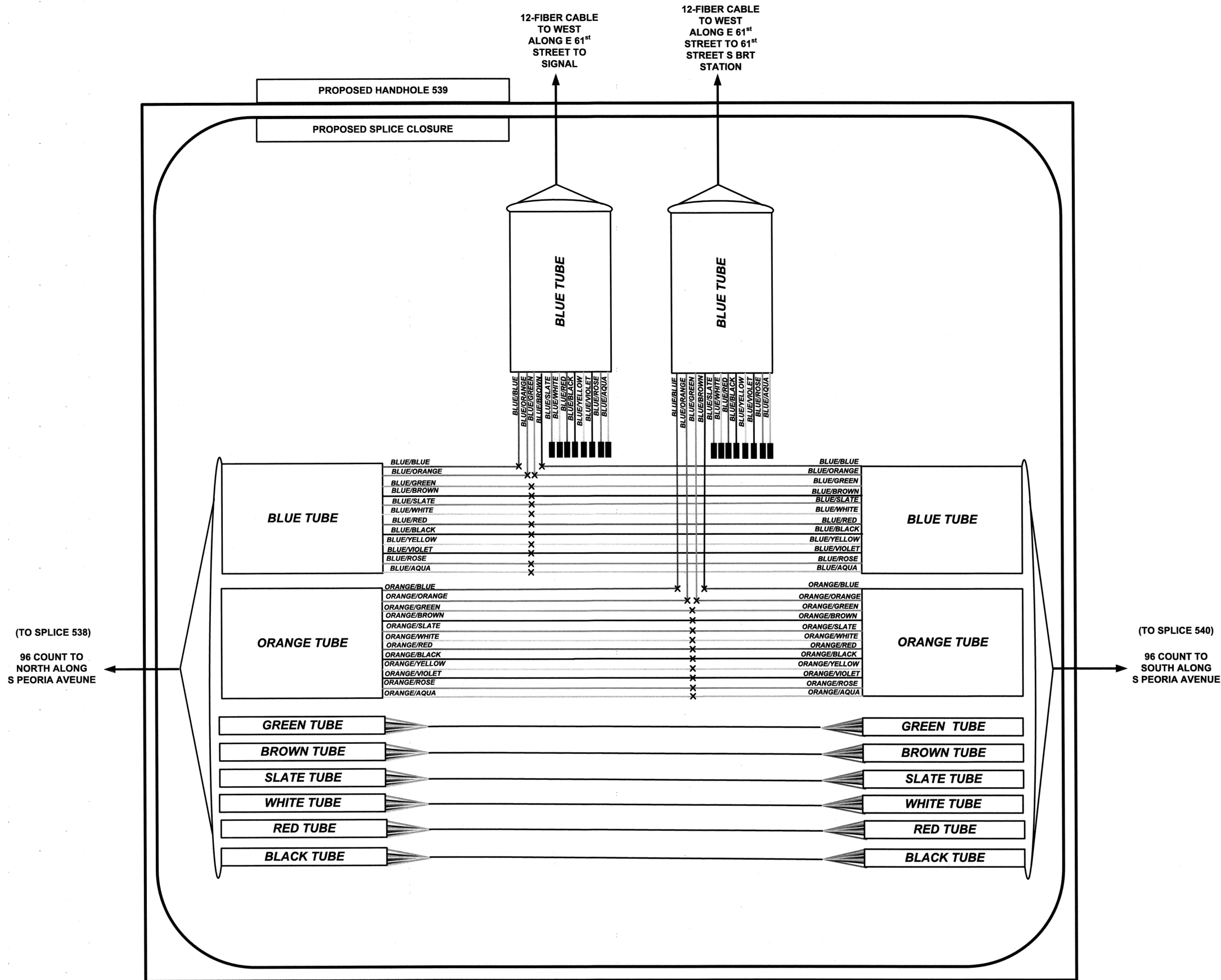


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FIBER SPLICING AND
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Tulsa
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KEY

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DEVICE IDENTIFIER

CCTV CAMERA

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REAL TIME ARRIVAL SIGN

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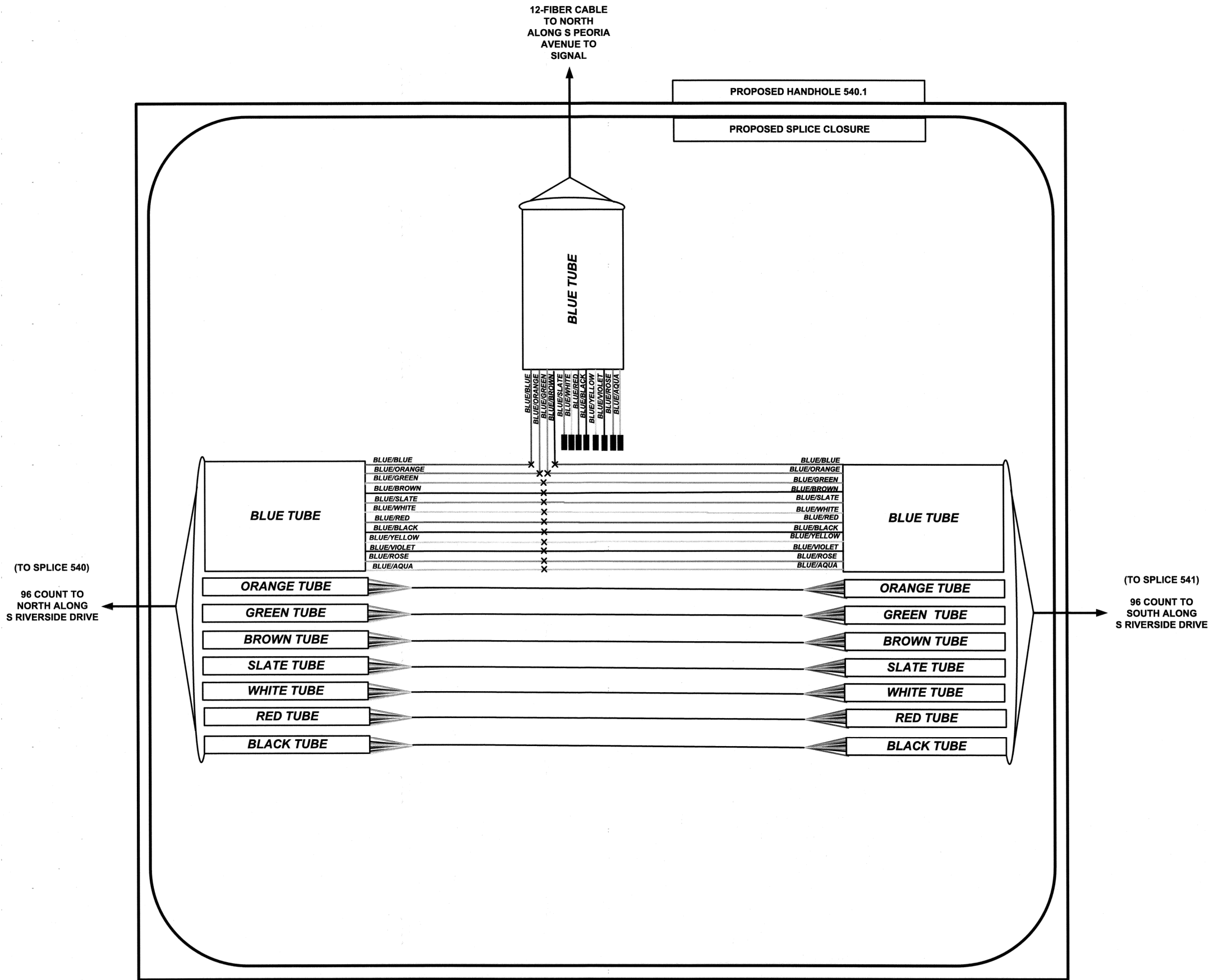
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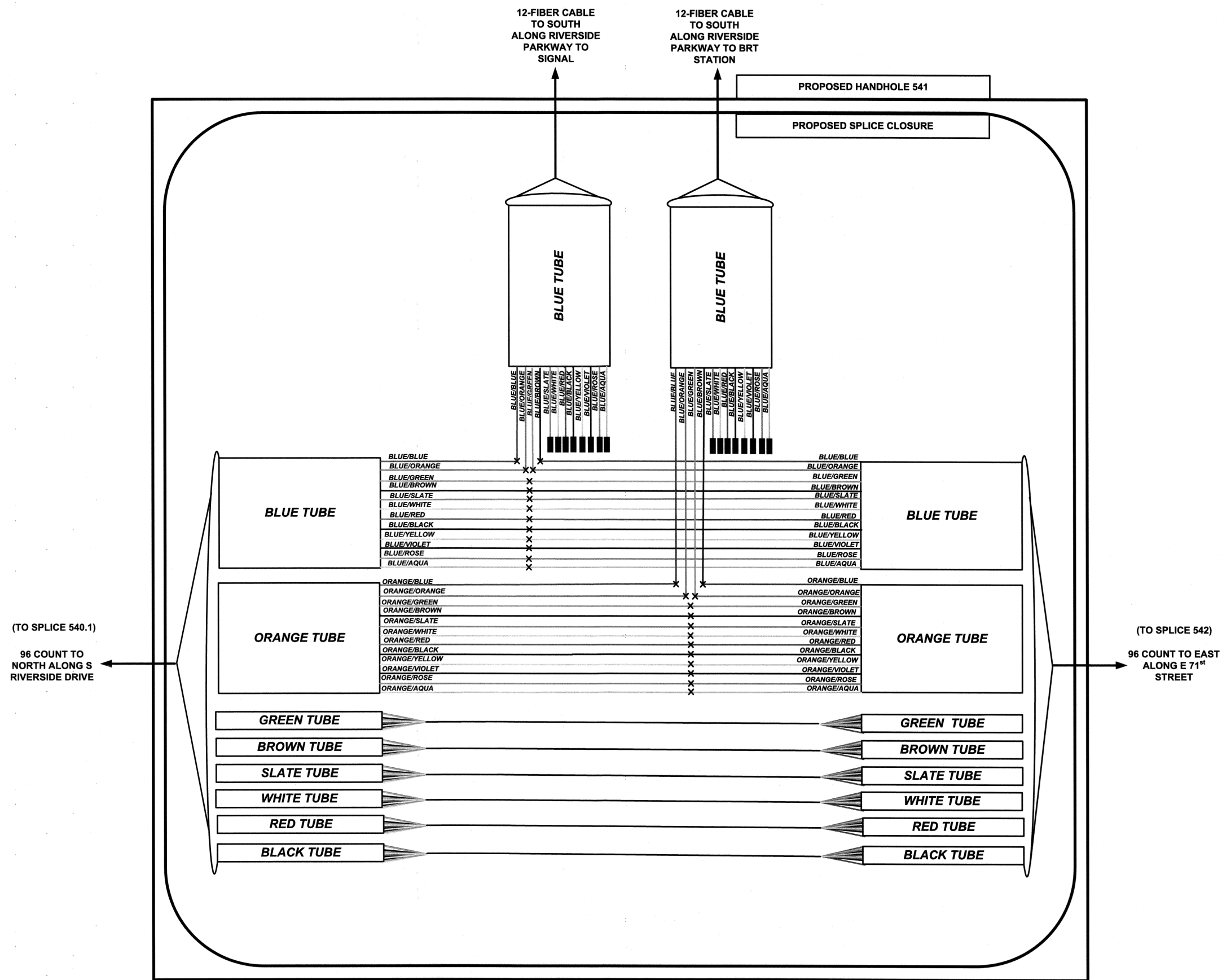
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CCTV CAMERA

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PATCH PANEL MODULE

EXISTING COAX CABLE

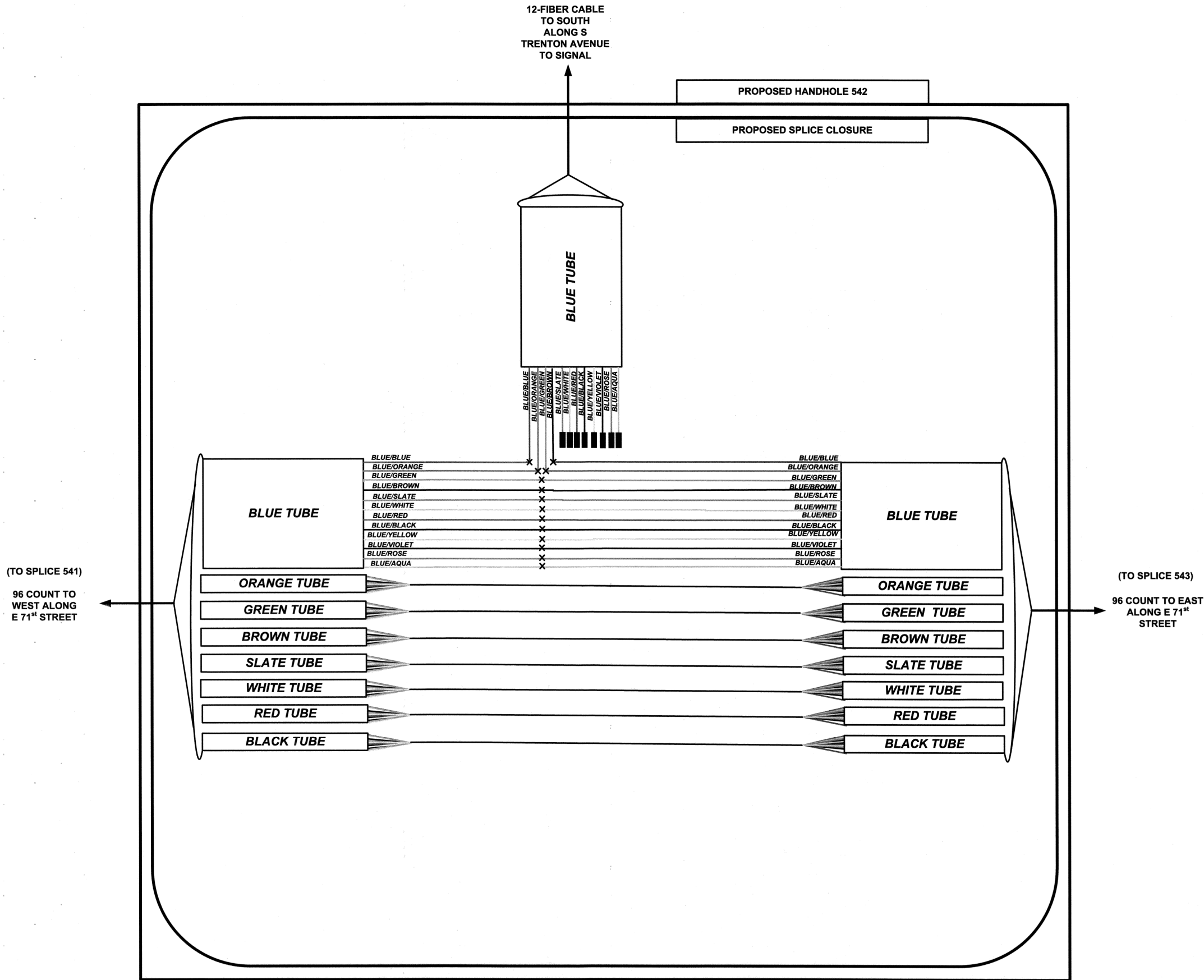
EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

- NOTES
1. MAXIMUM SPLICE LOSS SHALL BE 0.1 dB.
 2. NO INTERMEDIATE SPLICES ALLOWED.
 3. ALL SPLICES SHALL BE FUSION SPLICES.
 4. WHEN SPLICING UNDERGROUND, ONLY TUBES CONTAINING FIBERS TO BE SPLICED SHALL BE CUT. ALL OTHER TUBES SHALL RUN UN-CUT BETWEEN OTHER SPLICES.

NOT TO SCALE



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED
PAIR CABLE

EXISTING FIBER OR
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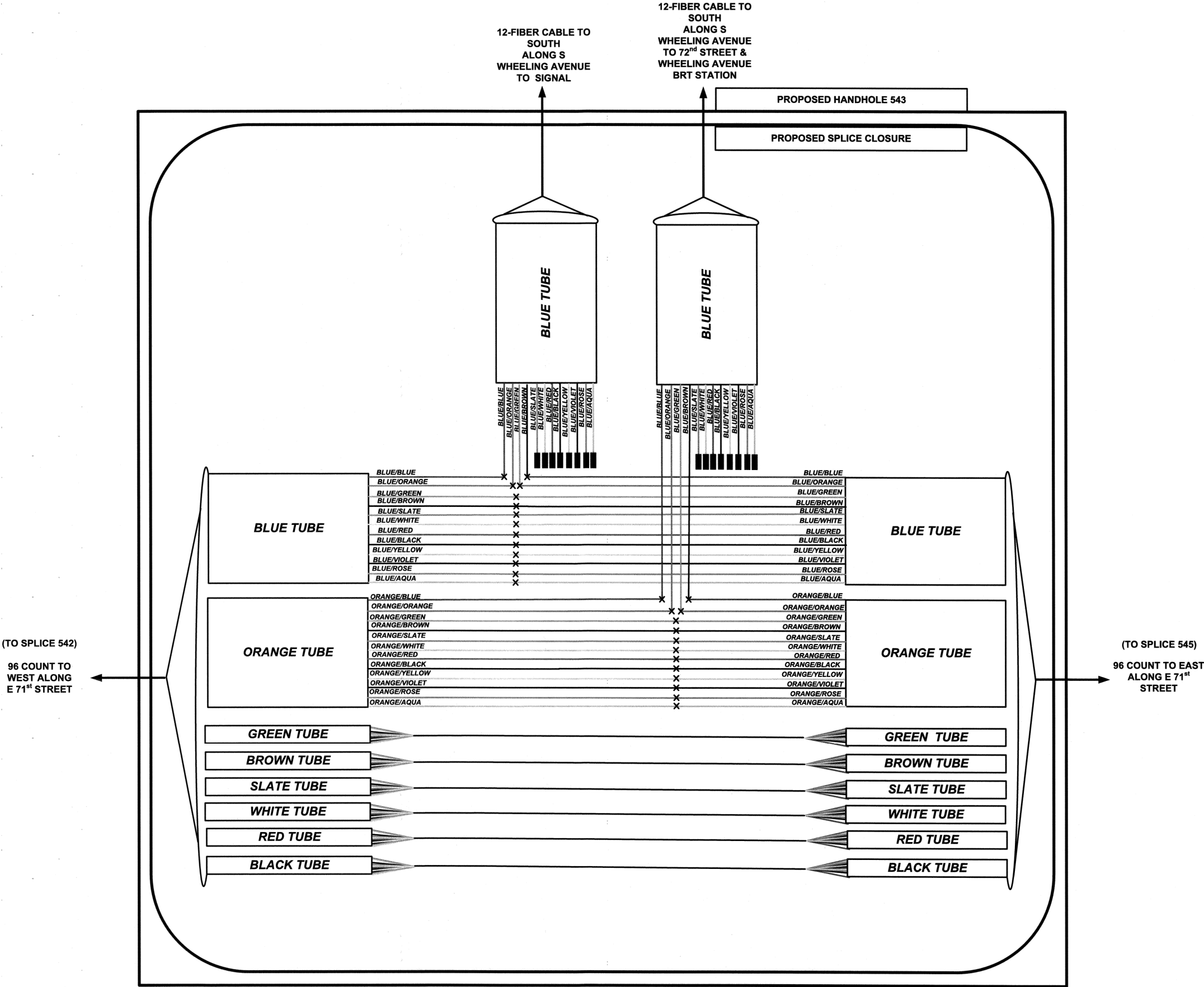
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NOT TO SCALE

FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

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EXISTING REAL
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PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

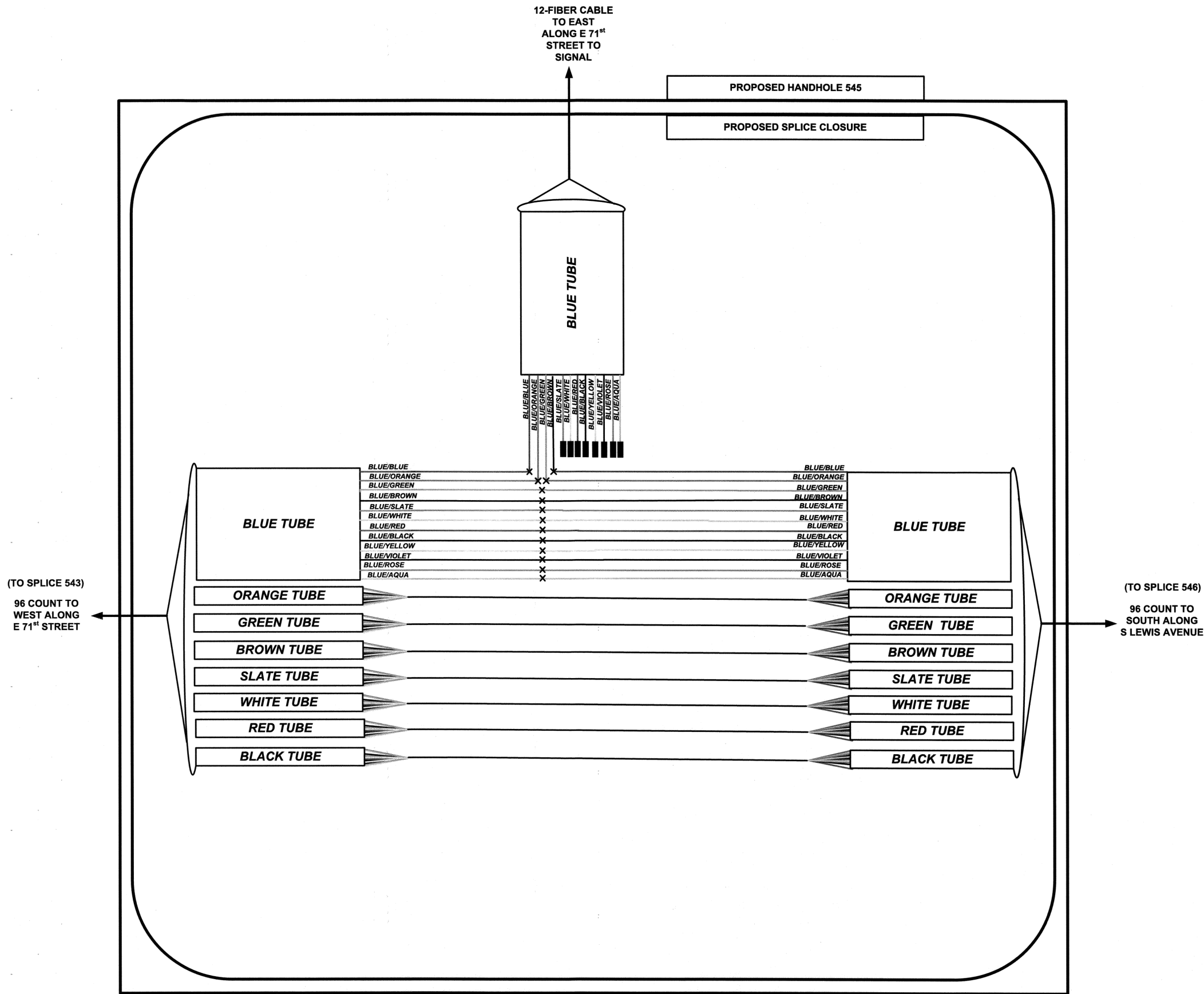
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| E238.2D | DEVICE IDENTIFIER |
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| | EXISTING CCTV CAMERA |
| | REAL TIME ARRIVAL SIGN |
| | EXISTING REAL TIME ARRIVAL SIGN |
| | PATCH THROUGH FIBER OPTIC JUMPER |
| | EQUIPMENT CONNECTION FIBER OPTIC JUMPER |
| | FIBER OPTIC PIGTAIL |
| | BARE FIBER LEFT COILED IN SPLICE TRAY |
| | FUSION SPLICE |
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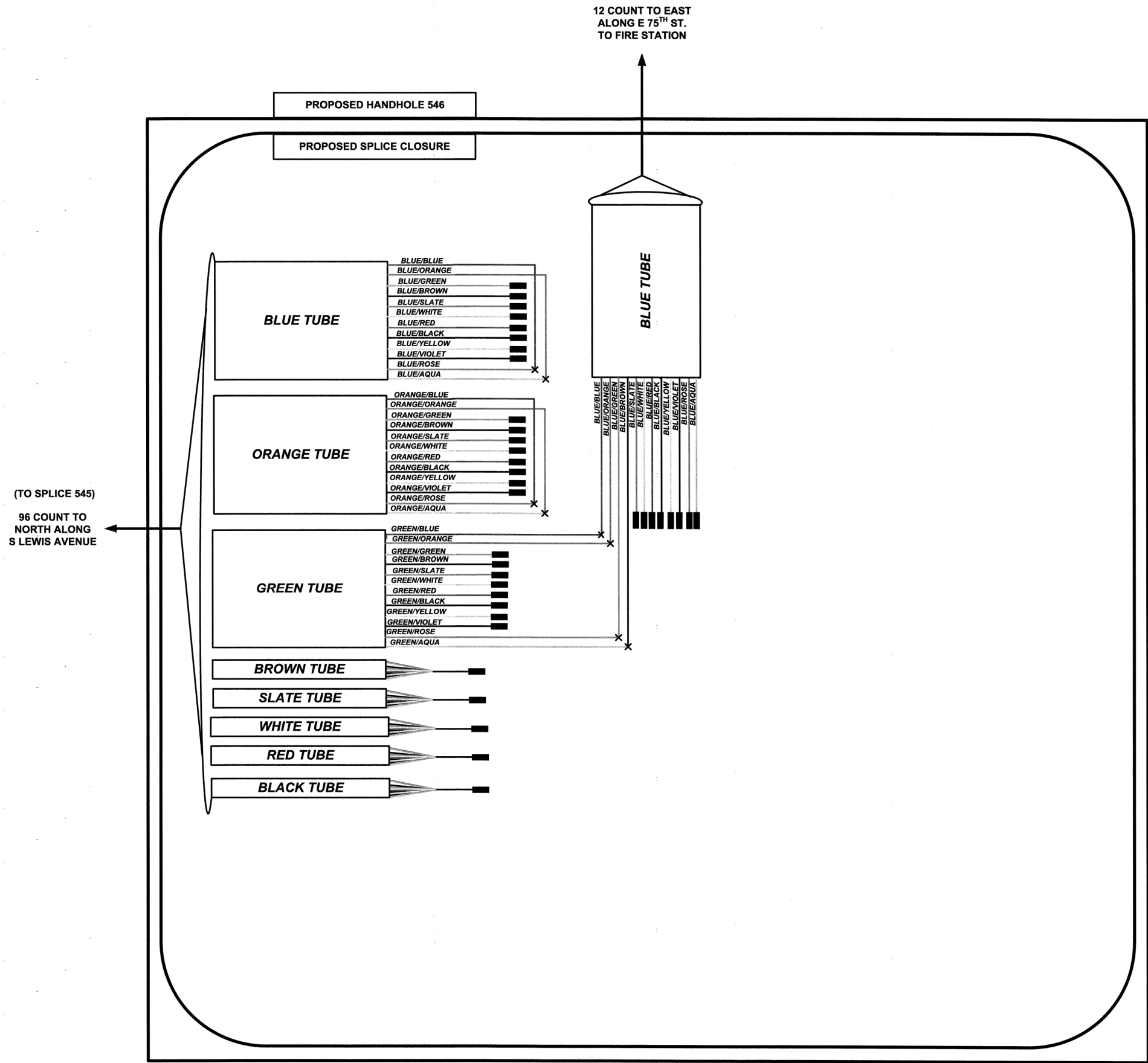
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E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
TIME ARRIVAL
SIGN



PATCH THROUGH
FIBER OPTIC JUMPER



EQUIPMENT CONNECTION
FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT
COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED
PAIR CABLE



EXISTING FIBER OR
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FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.

BID ALTERNATE #1

KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

REAL TIME
ARRIVAL SIGN

EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED
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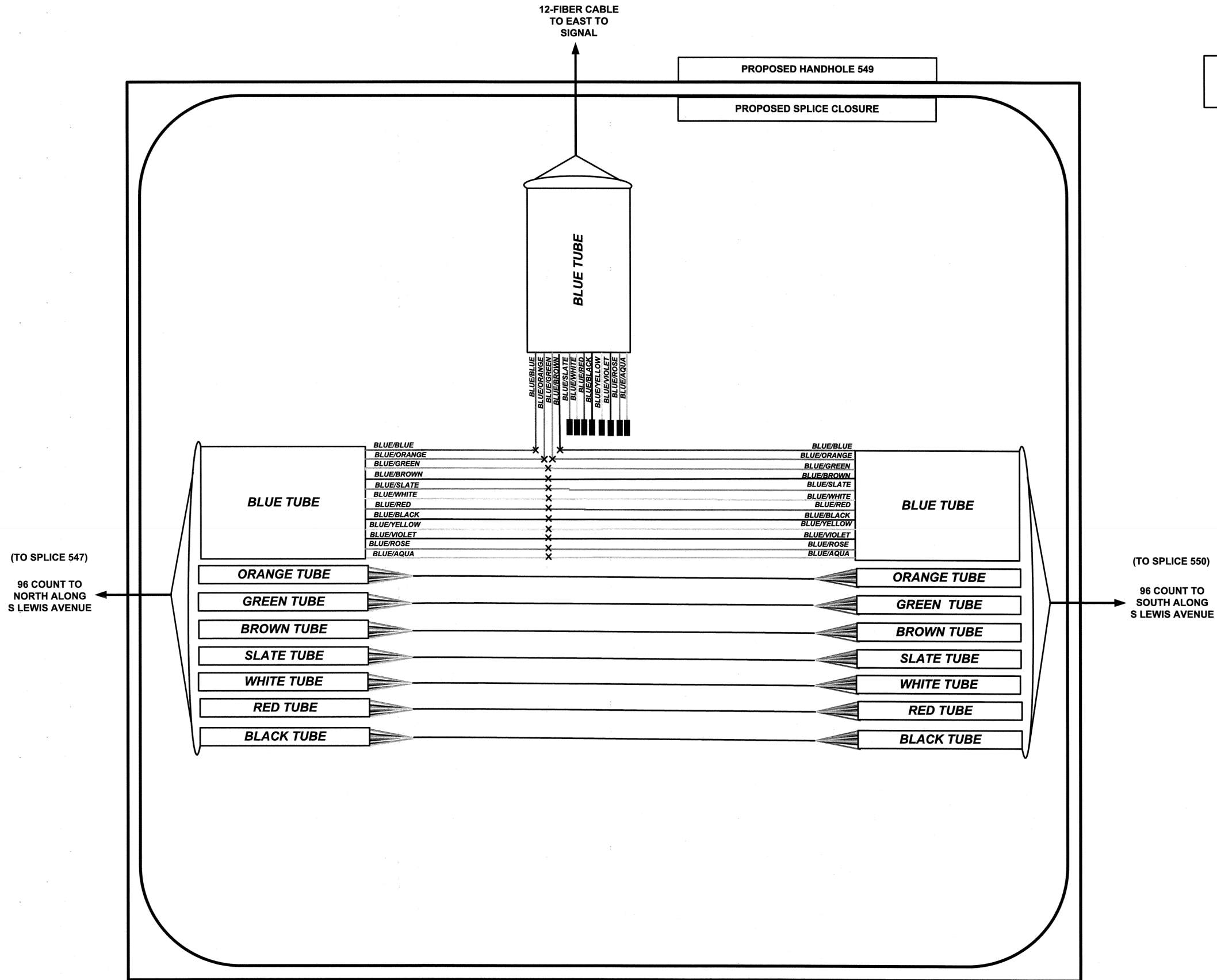
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FIBER SPLICING AND
CONNECTION DETAIL

CITY OF

Tulsa

A New Kind of Energy.



BID ALTERNATE #1

KEY

E238.2D

DEVICE IDENTIFIER

CCTV

CCTV CAMERA

CCTV

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

X

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

X

FUSION SPlice

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

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BID ALTERNATE #1


KEY

E238.2D


DEVICE IDENTIFIER




CCTV CAMERA




EXISTING
CCTV CAMERA




REAL TIME
ARRIVAL SIGN




EXISTING REAL
TIME ARRIVAL
SIGN




PATCH THROUGH
FIBER OPTIC JUMPER




EQUIPMENT CONNECTION
FIBER OPTIC JUMPER




FIBER OPTIC PIGTAIL




BARE FIBER LEFT
COILED IN SPLICE TRAY




FUSION SPLICE




PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED
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EXISTING FIBER OR
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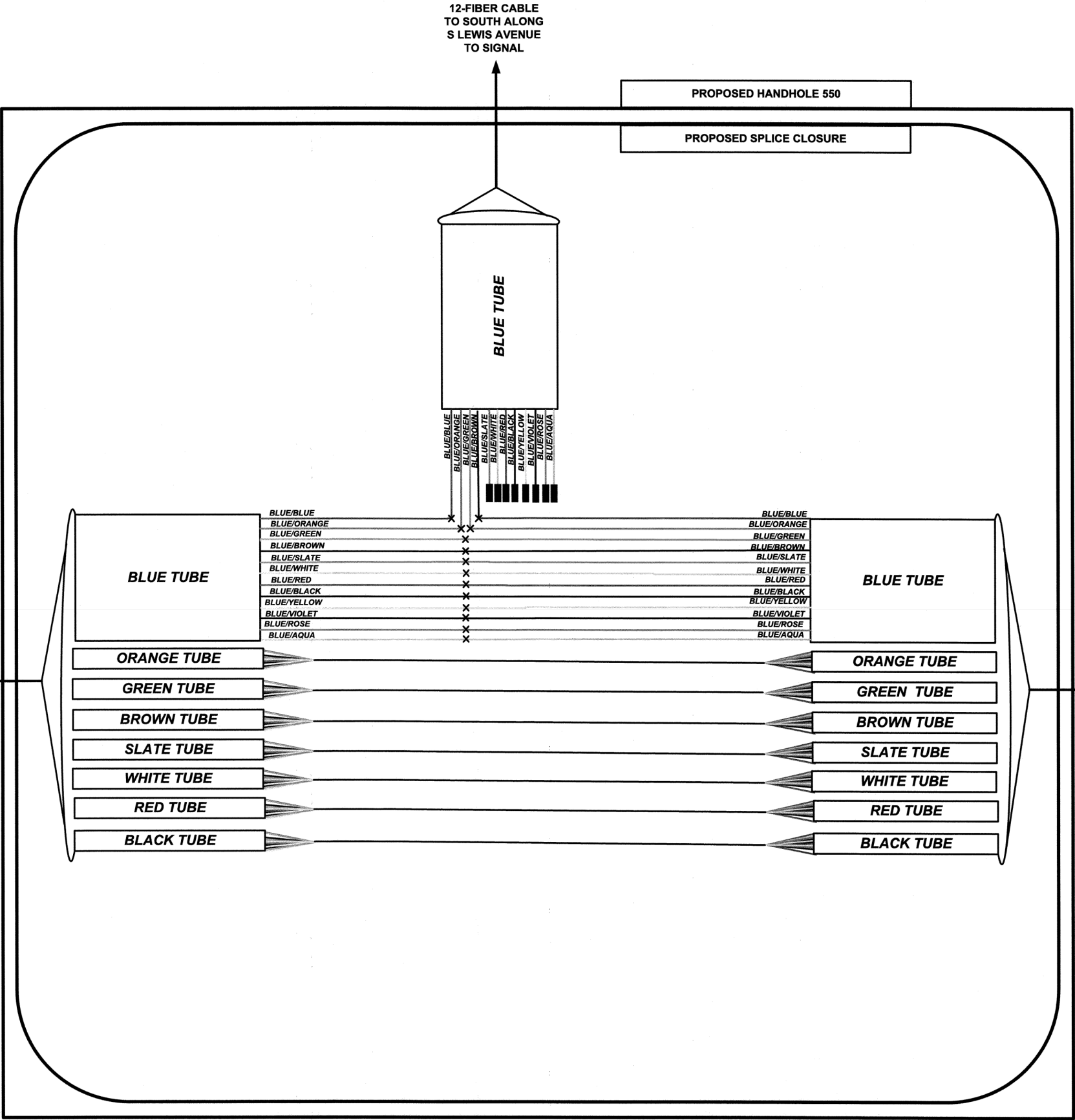
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FIBER SPLICING AND
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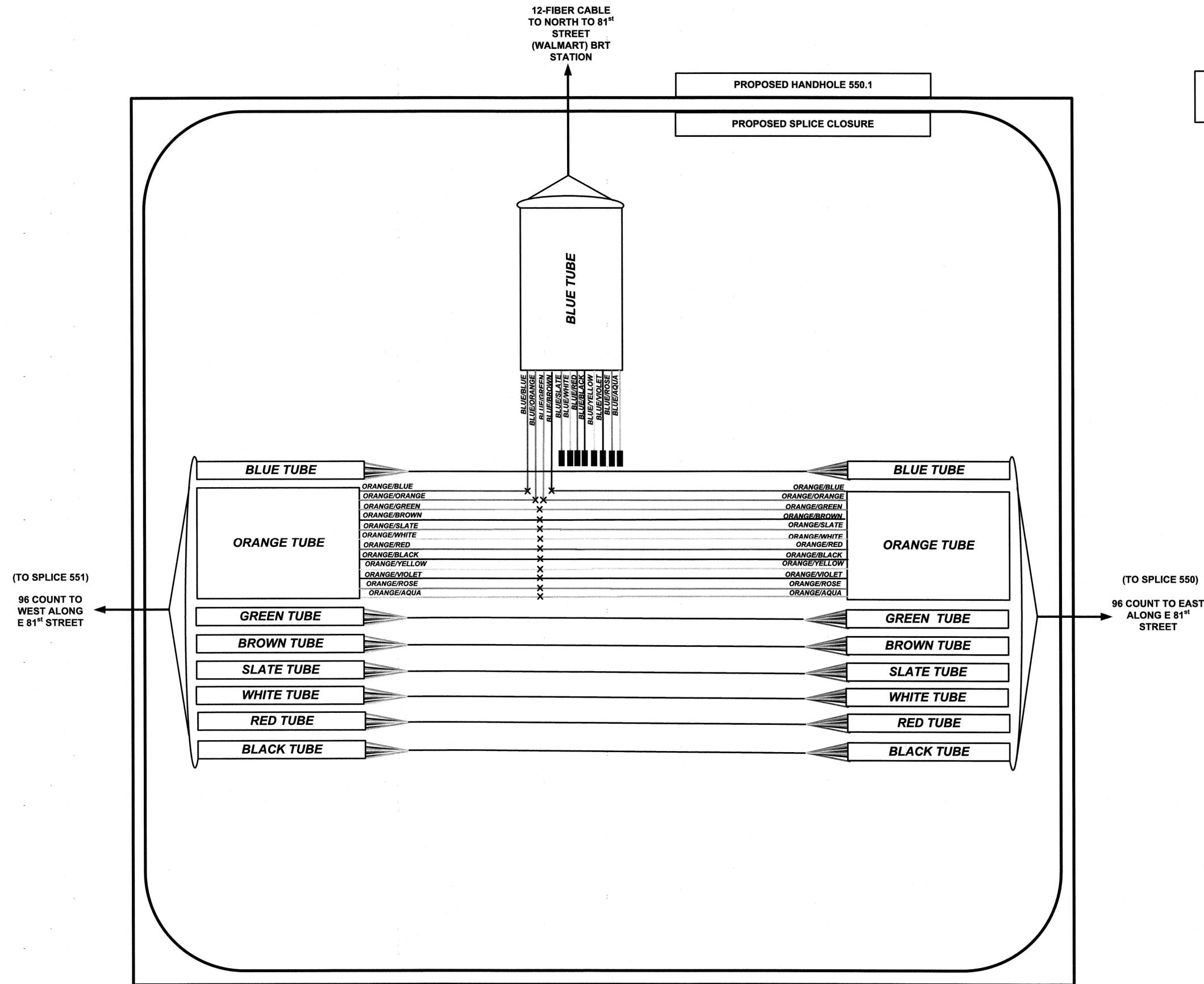


CITY OF
Tulsa
A New Kind of Energy.

(TO SPLICE 549)
96 COUNT TO
NORTH ALONG
S LEWIS AVENUE



(TO SPLICE 550.1)
96 COUNT TO
WEST ALONG
E 81st STREET



BID ALTERNATE #1

KEY

- | | |
|---------|---|
| E238.2D | DEVICE IDENTIFIER |
| | CCTV CAMERA |
| | EXISTING CCTV CAMERA |
| | REAL TIME ARRIVAL SIGN |
| | EXISTING REAL TIME ARRIVAL SIGN |
| | PATCH THROUGH FIBER OPTIC JUMPER |
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| | FUSION SPLICE |
| | PATCH PANEL MODULE |
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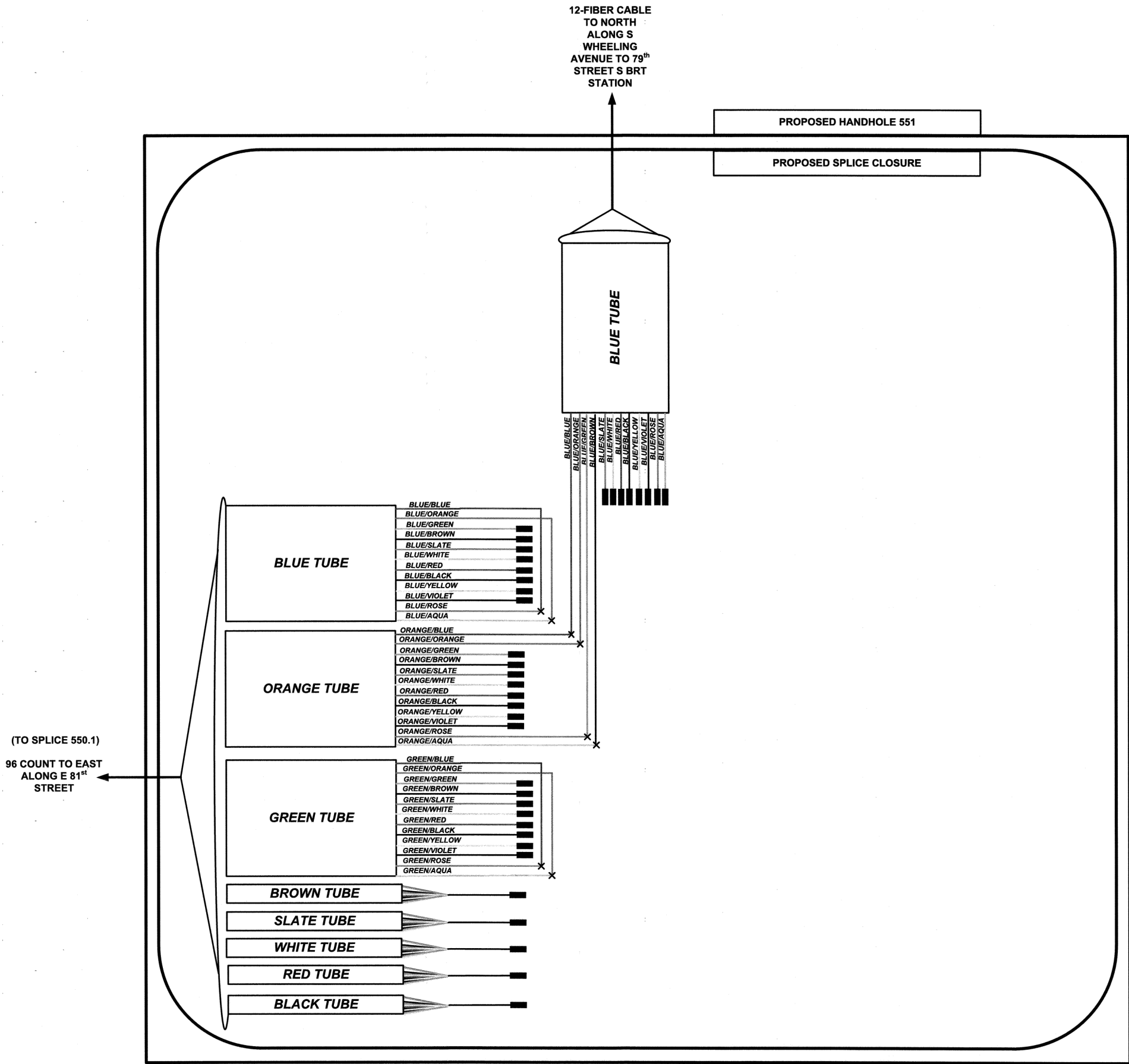
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FIBER SPLICING AND CONNECTION DETAIL



BID ALTERNATE #1



KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA REAL TIME ARRIVAL SIGN

RTA EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

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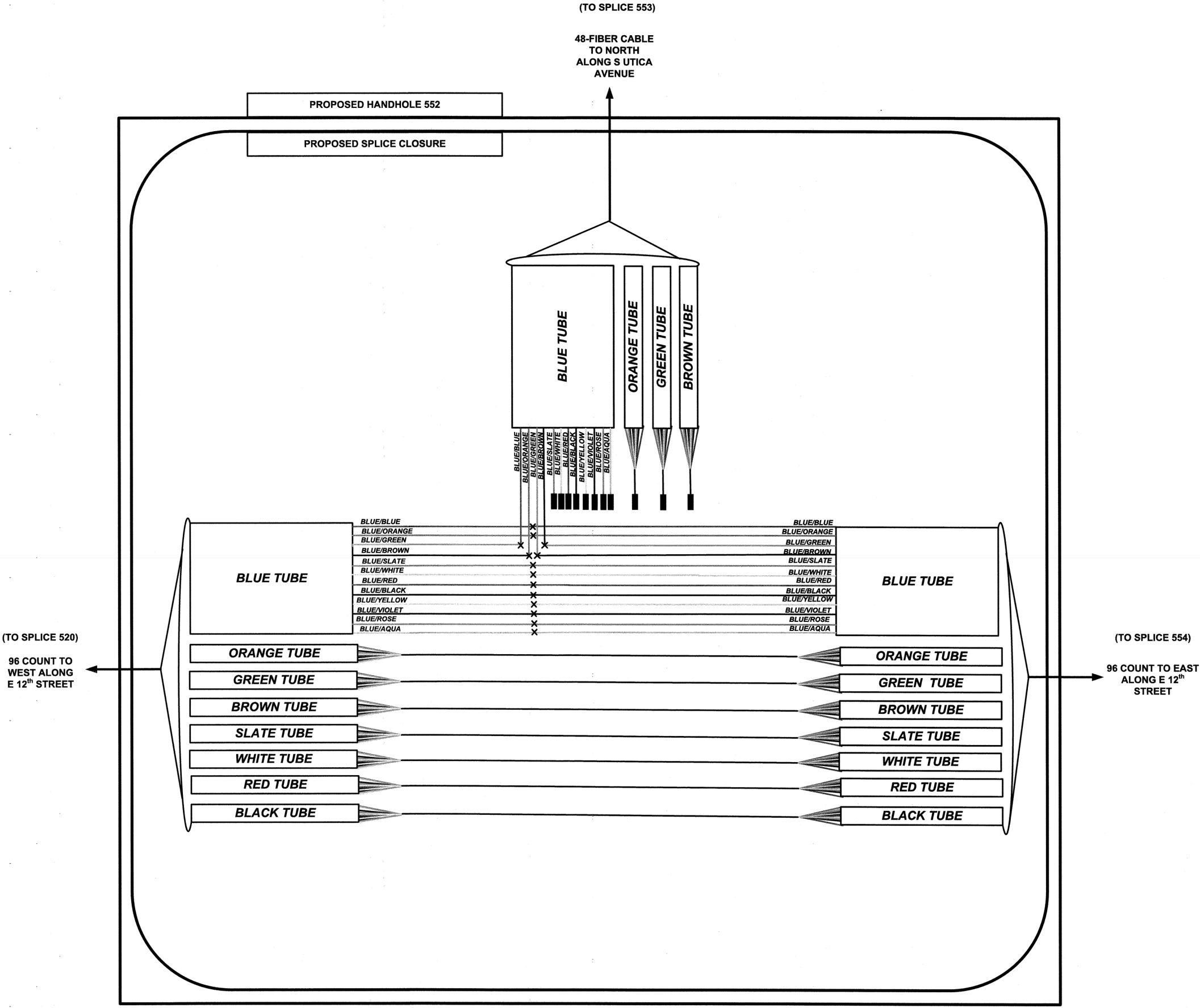
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FIBER SPLICING AND CONNECTION DETAIL

CITY OF Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

REAL TIME
ARRIVAL SIGN

EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
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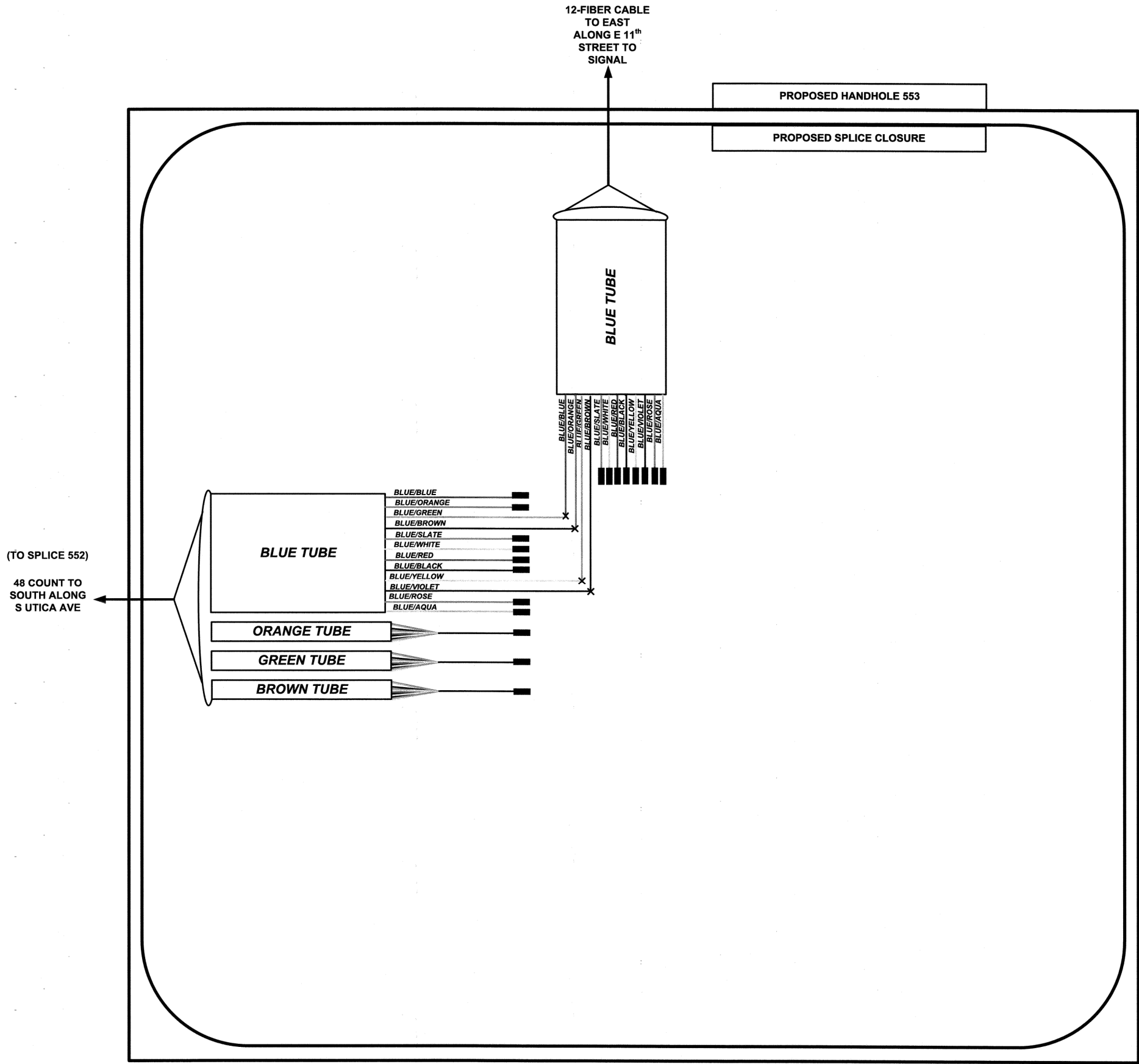
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FIBER SPLICING AND
CONNECTION DETAIL

CITY OF

Tulsa

A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA

REAL TIME
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EXISTING REAL
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PATCH THROUGH
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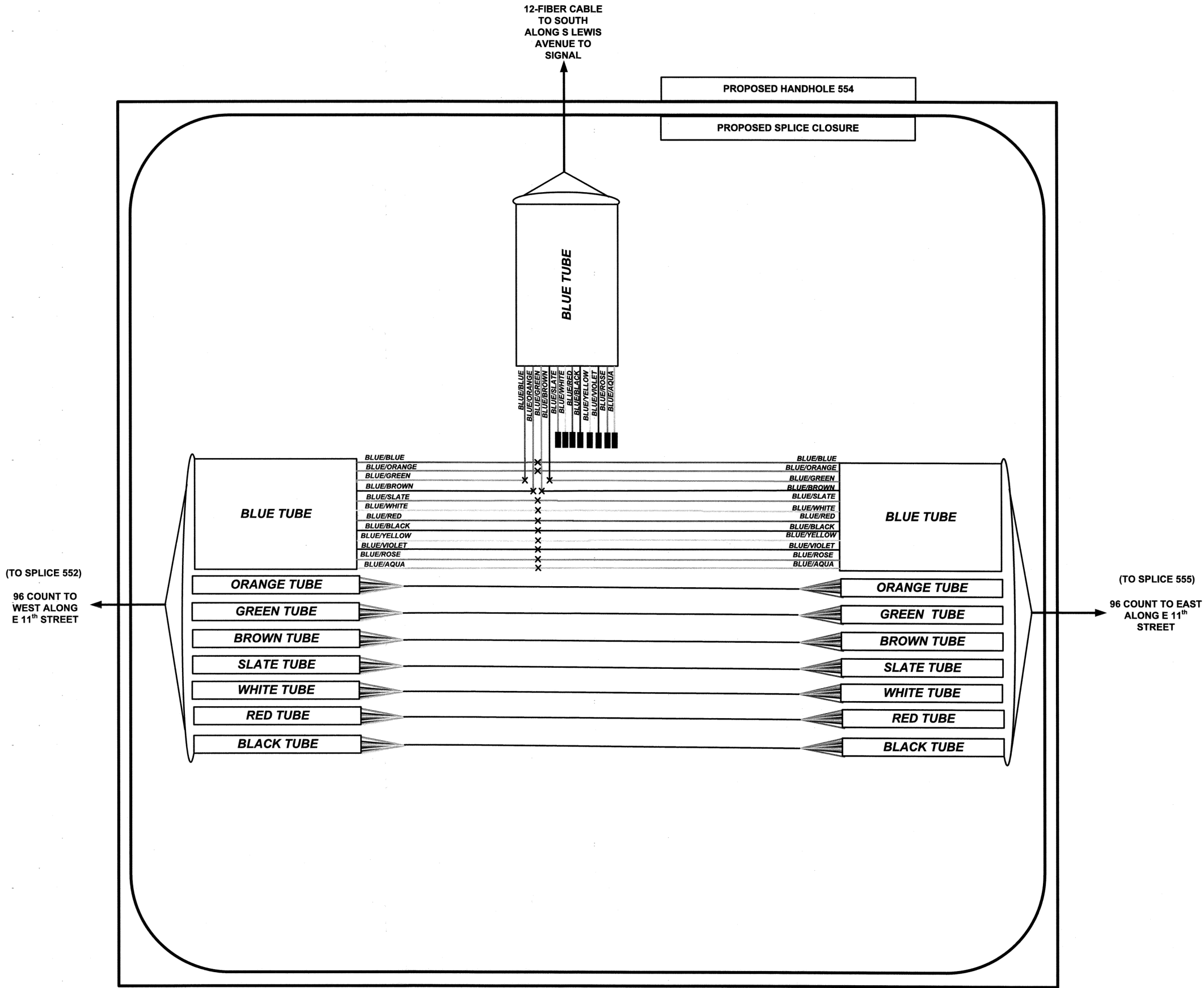
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FIBER SPLICING AND
CONNECTION DETAIL

CITY OF
Tulsa

A New Kind of Energy.



KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA REAL TIME ARRIVAL SIGN

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PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

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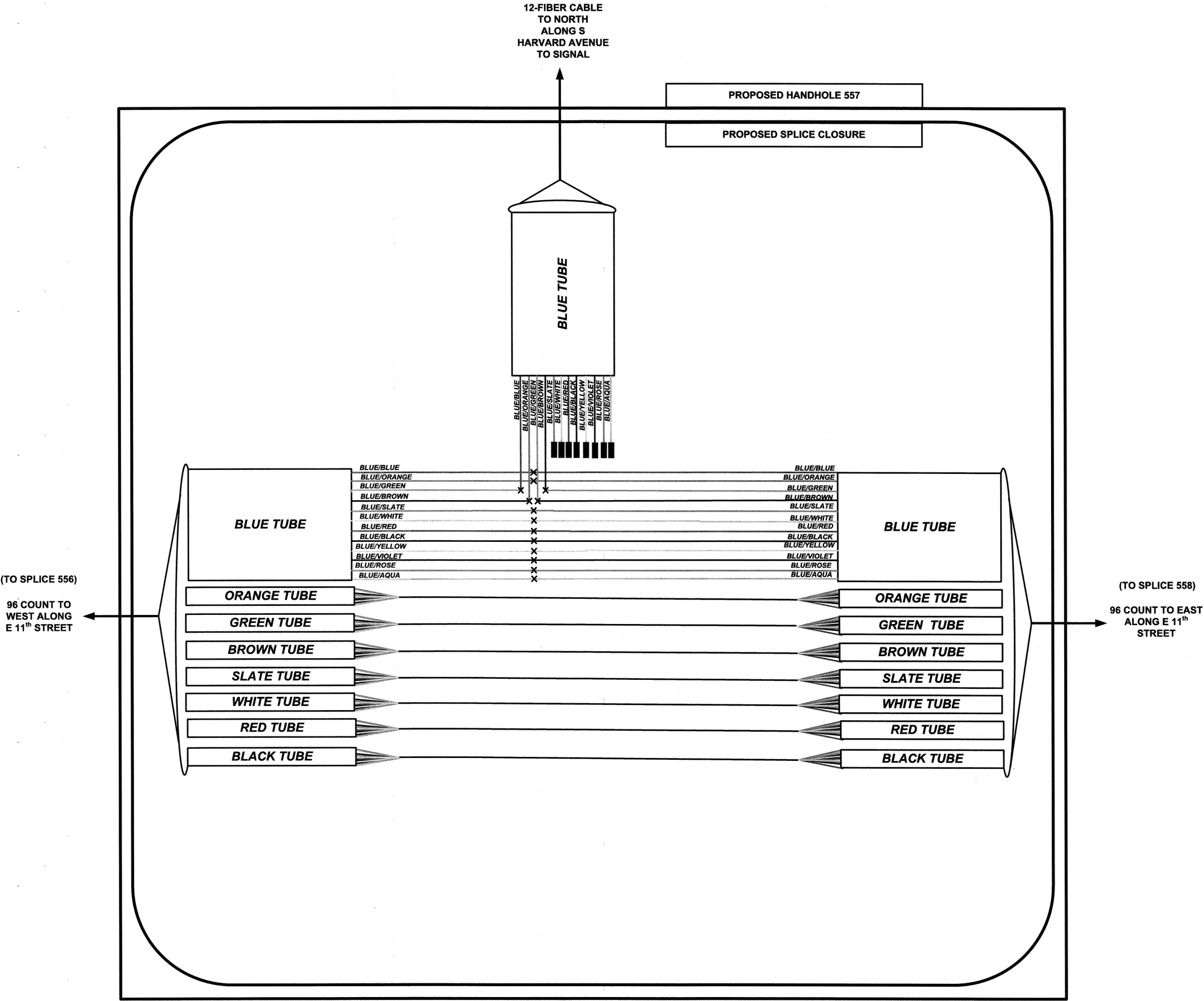
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PATCH THROUGH FIBER OPTIC JUMPER

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PATCH PANEL MODULE

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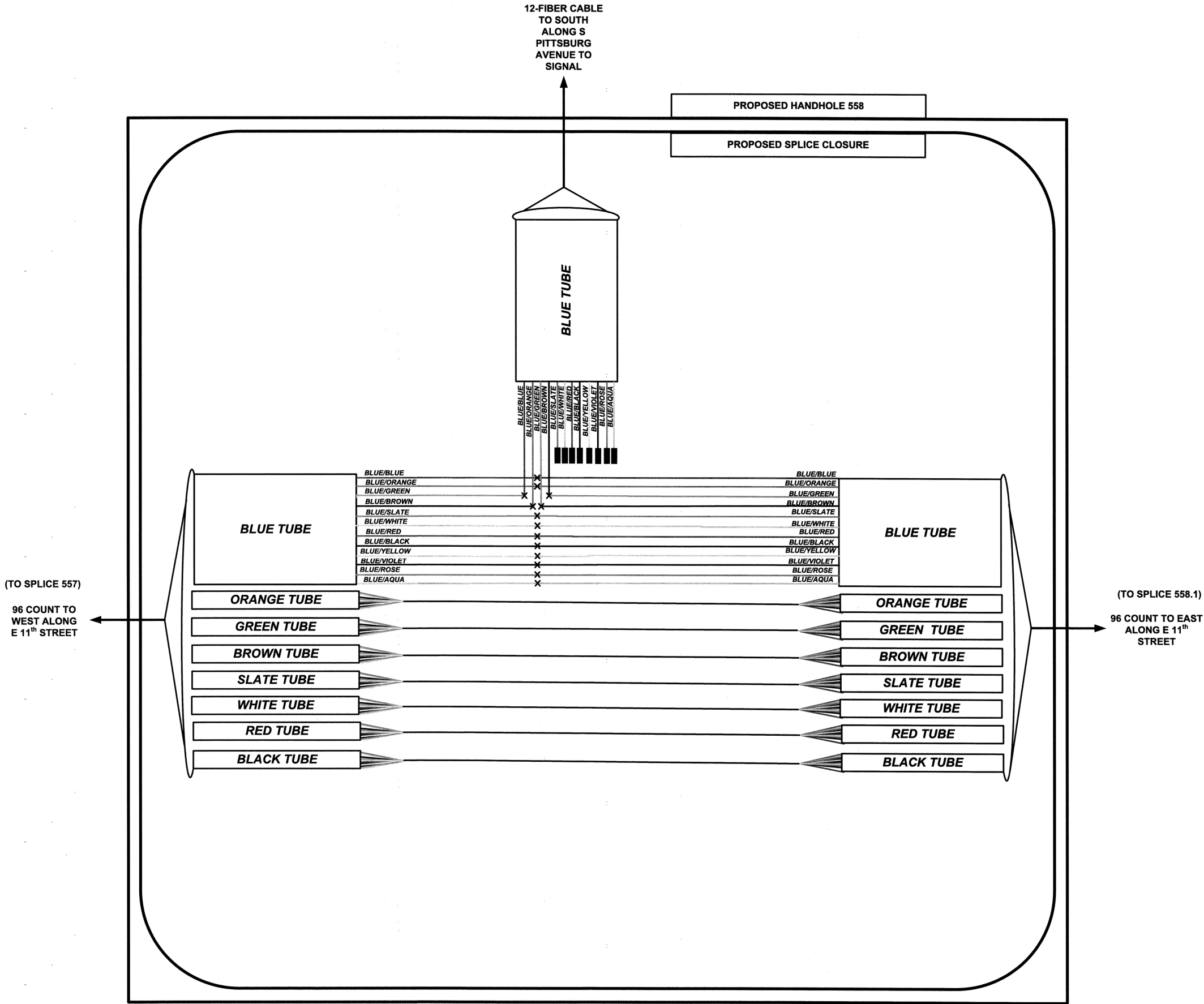
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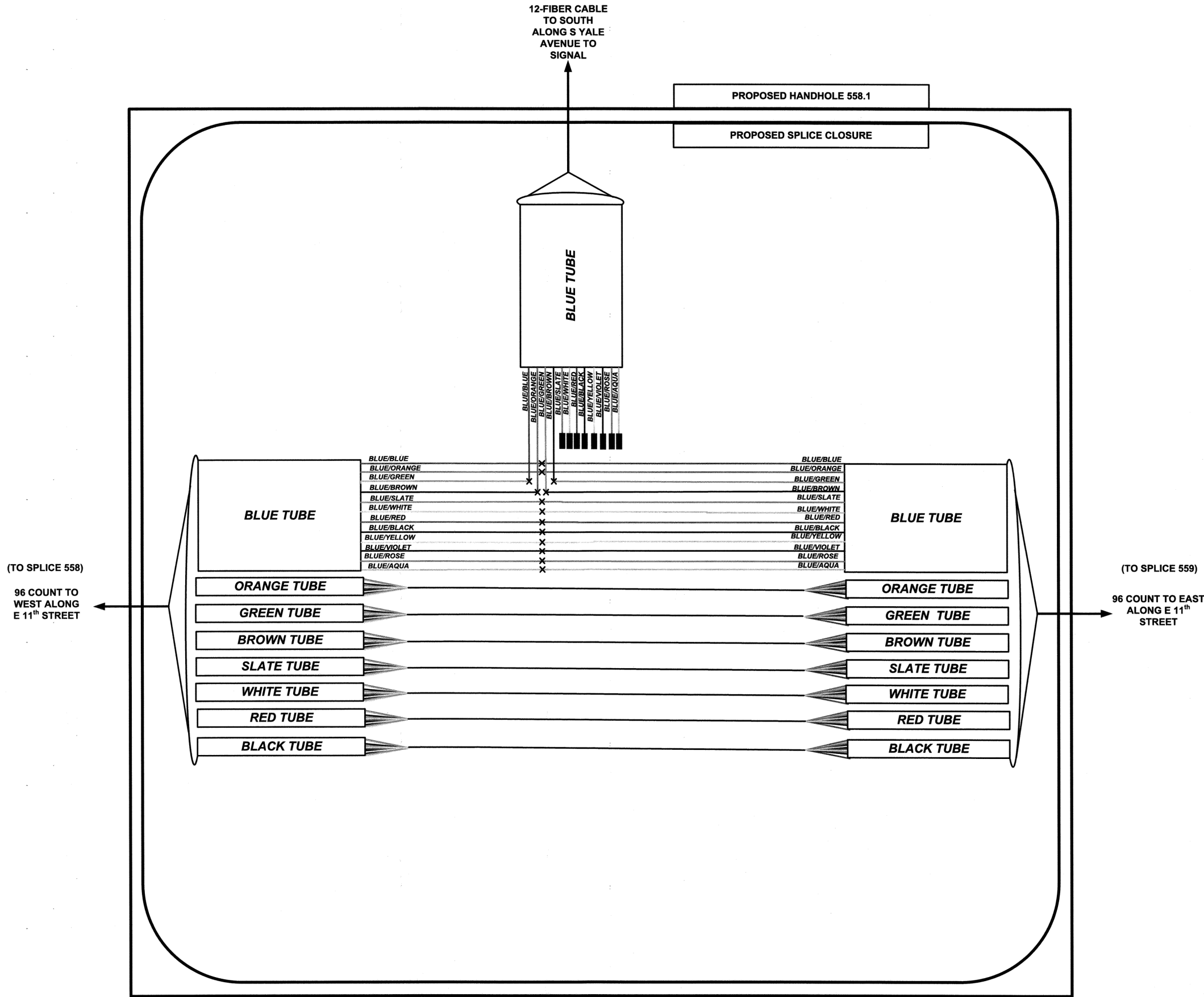
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FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



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REAL TIME ARRIVAL SIGN

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PATCH THROUGH FIBER OPTIC JUMPER

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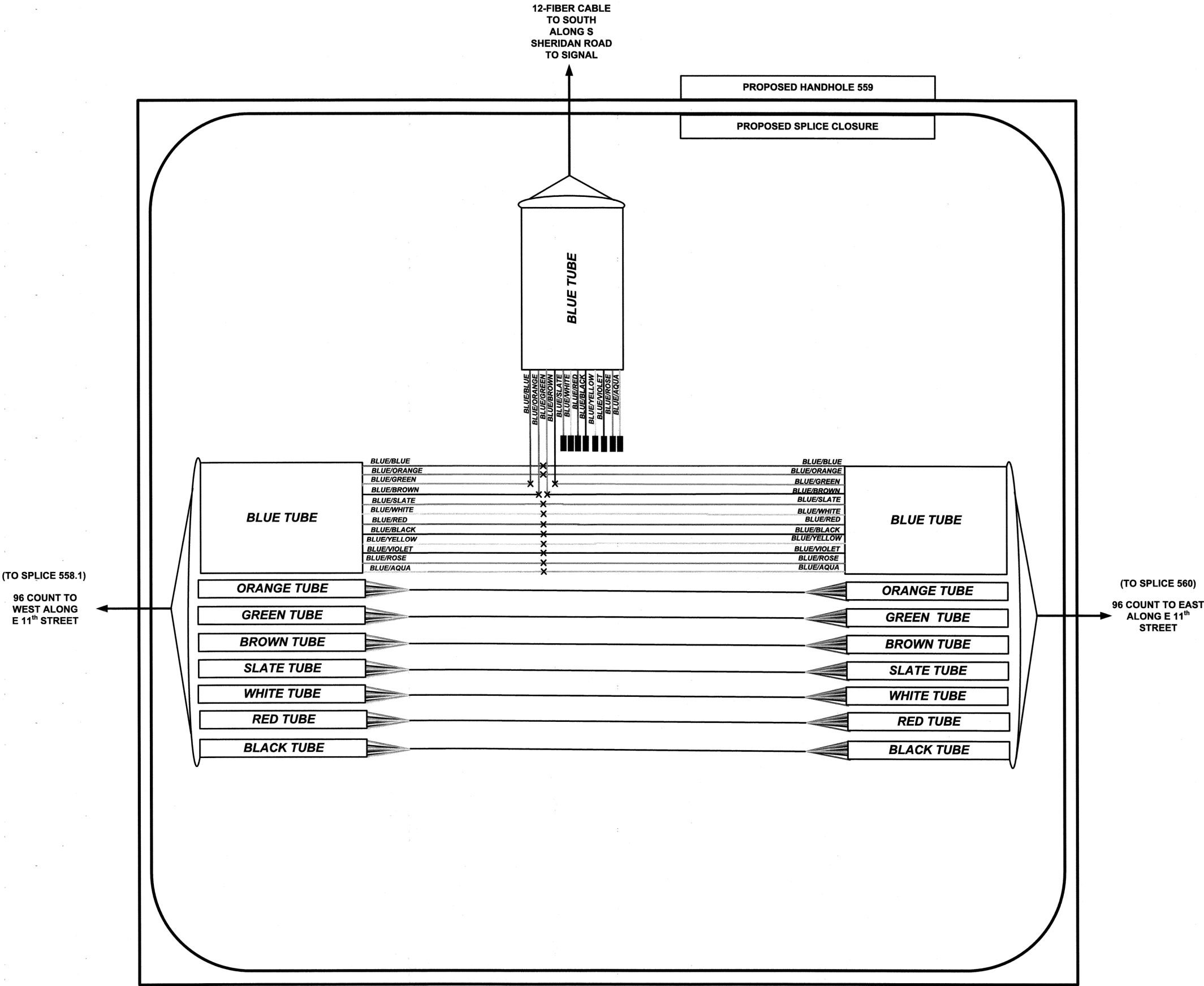


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FIBER SPLICING AND CONNECTION DETAIL

Tulsa

A New Kind of Energy.



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E238.2D

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REAL TIME
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PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

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EXISTING TWISTED
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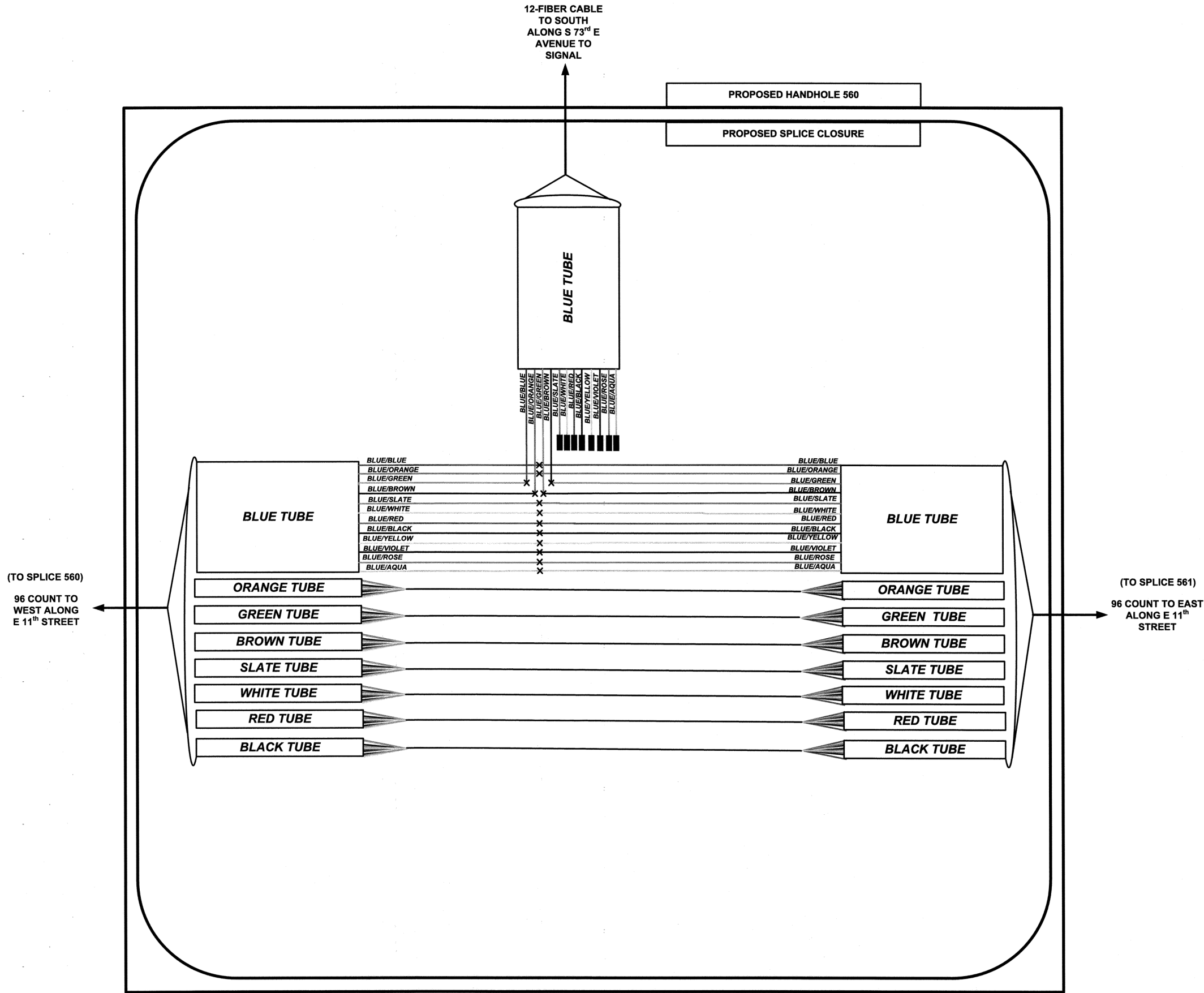
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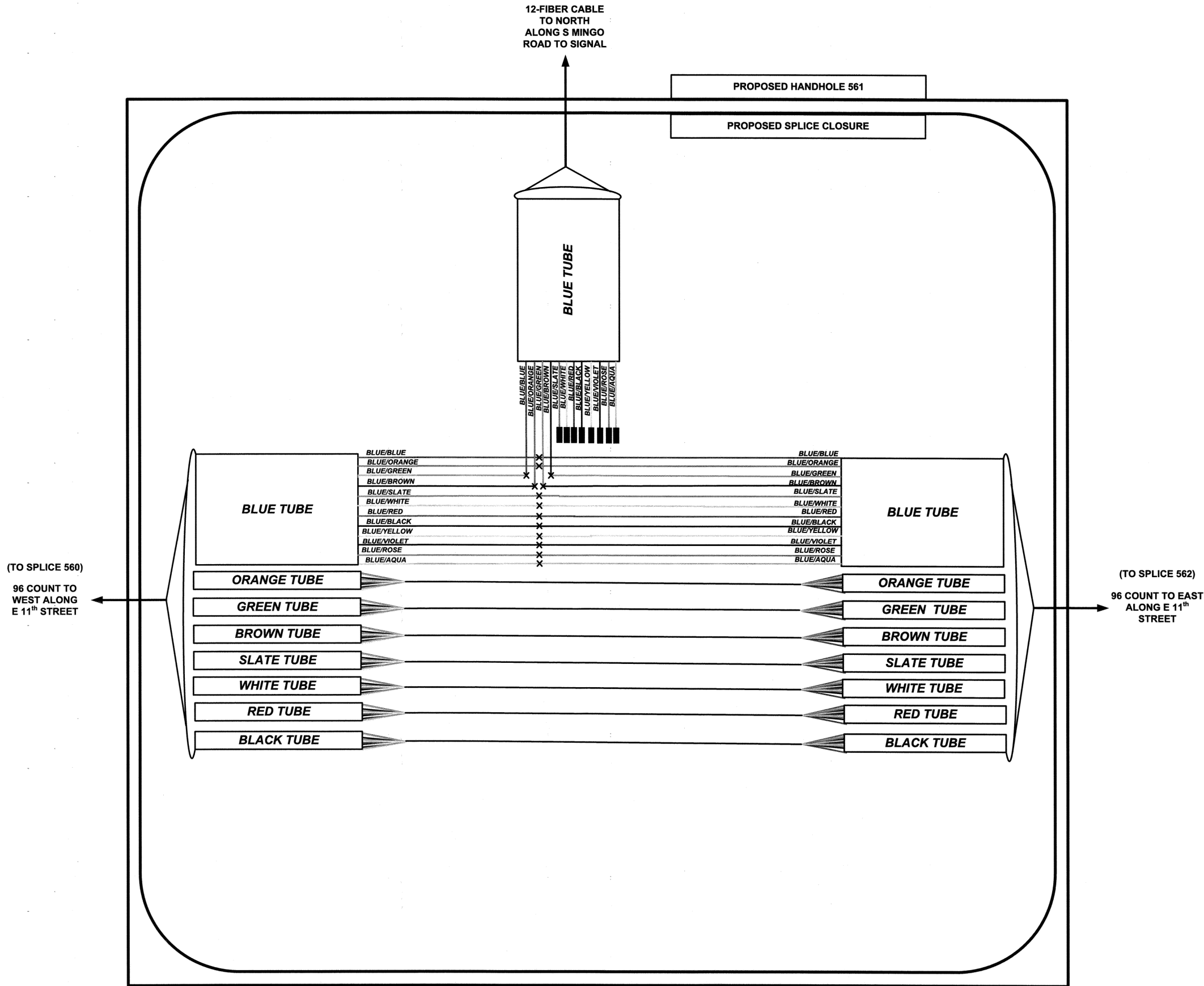
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FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

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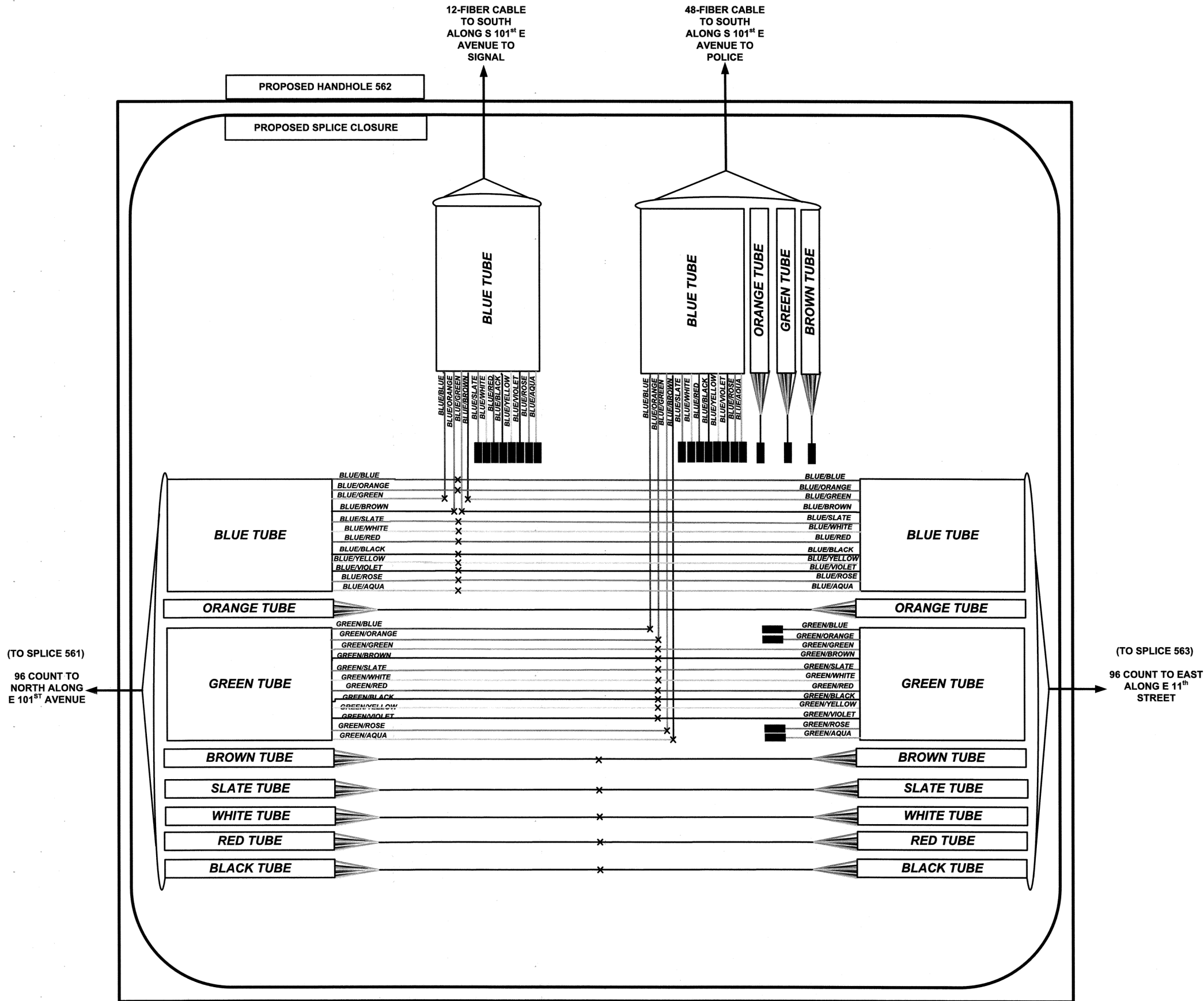
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FIBER SPLICING AND CONNECTION DETAIL

CITY OF

Tulsa

A New Kind of Energy.



KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
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SIGN



PATCH THROUGH
FIBER OPTIC JUMPER



EQUIPMENT CONNECTION
FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT
COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED
PAIR CABLE



EXISTING FIBER OR
FIBER OPTIC CABLE

NOTE: DASHED LINES DENOTE EXISTING
CABLES, DEVICES, OR ENCLOSURES.

NOTES

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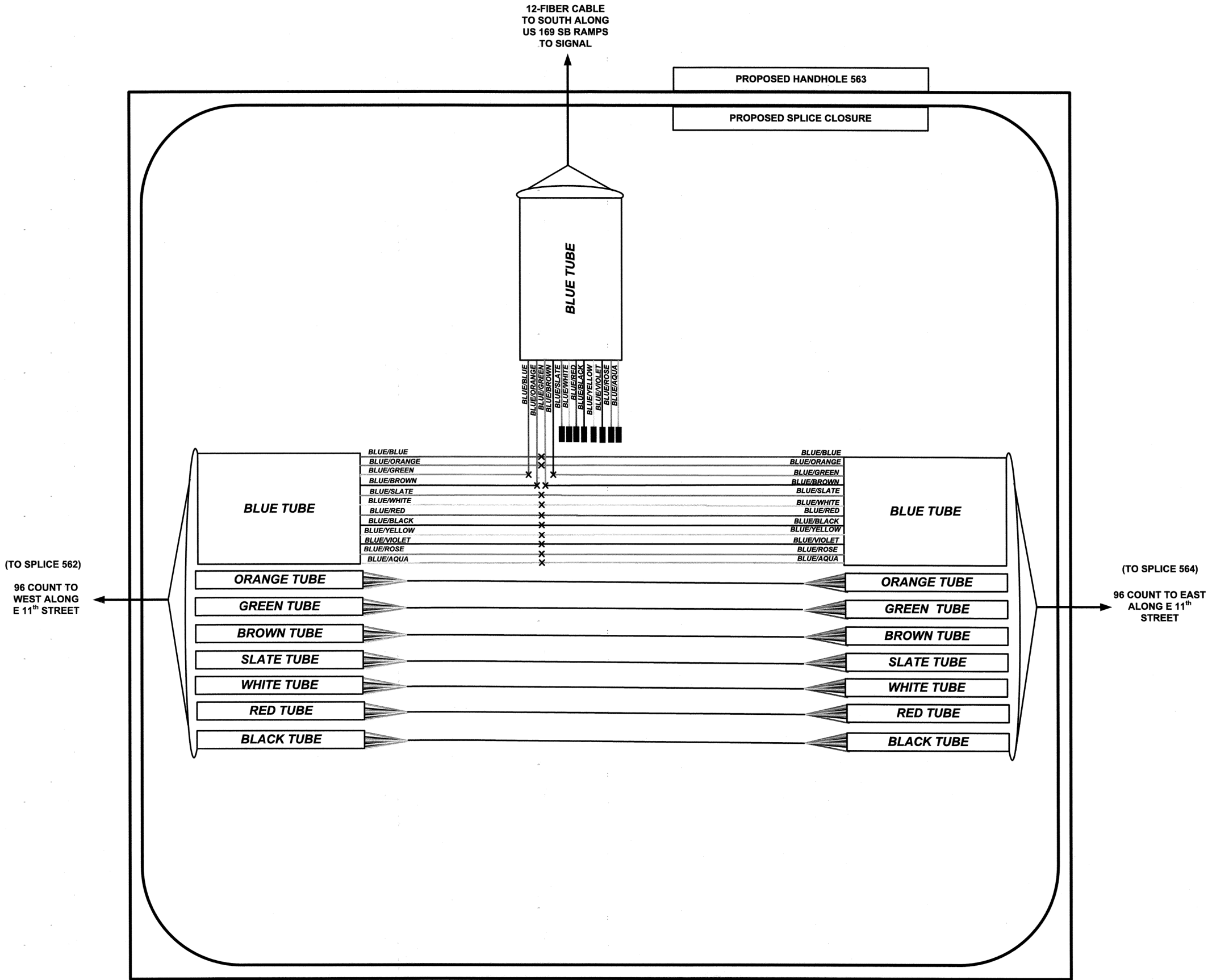


NOT TO SCALE



FIBER SPLICING AND
CONNECTION DETAIL

CITY OF
Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

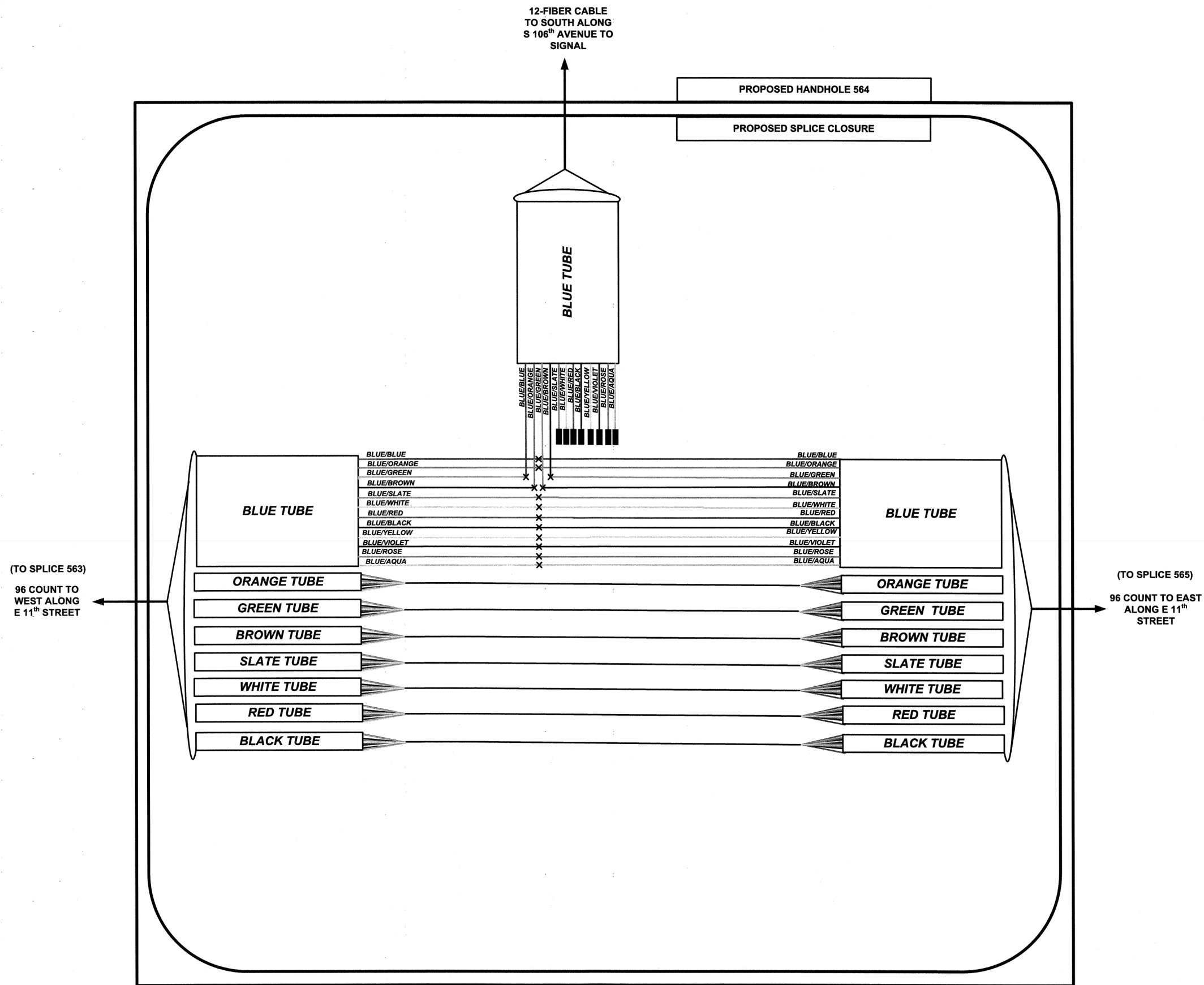
EXISTING TWISTED PAIR CABLE

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NOT TO SCALE



KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

RTA

EXISTING REAL
TIME ARRIVAL
SIGN



PATCH THROUGH
FIBER OPTIC JUMPER



EQUIPMENT CONNECTION
FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT
COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



EXISTING COAX CABLE



EXISTING TWISTED
PAIR CABLE



EXISTING FIBER OR
FIBER OPTIC CABLE

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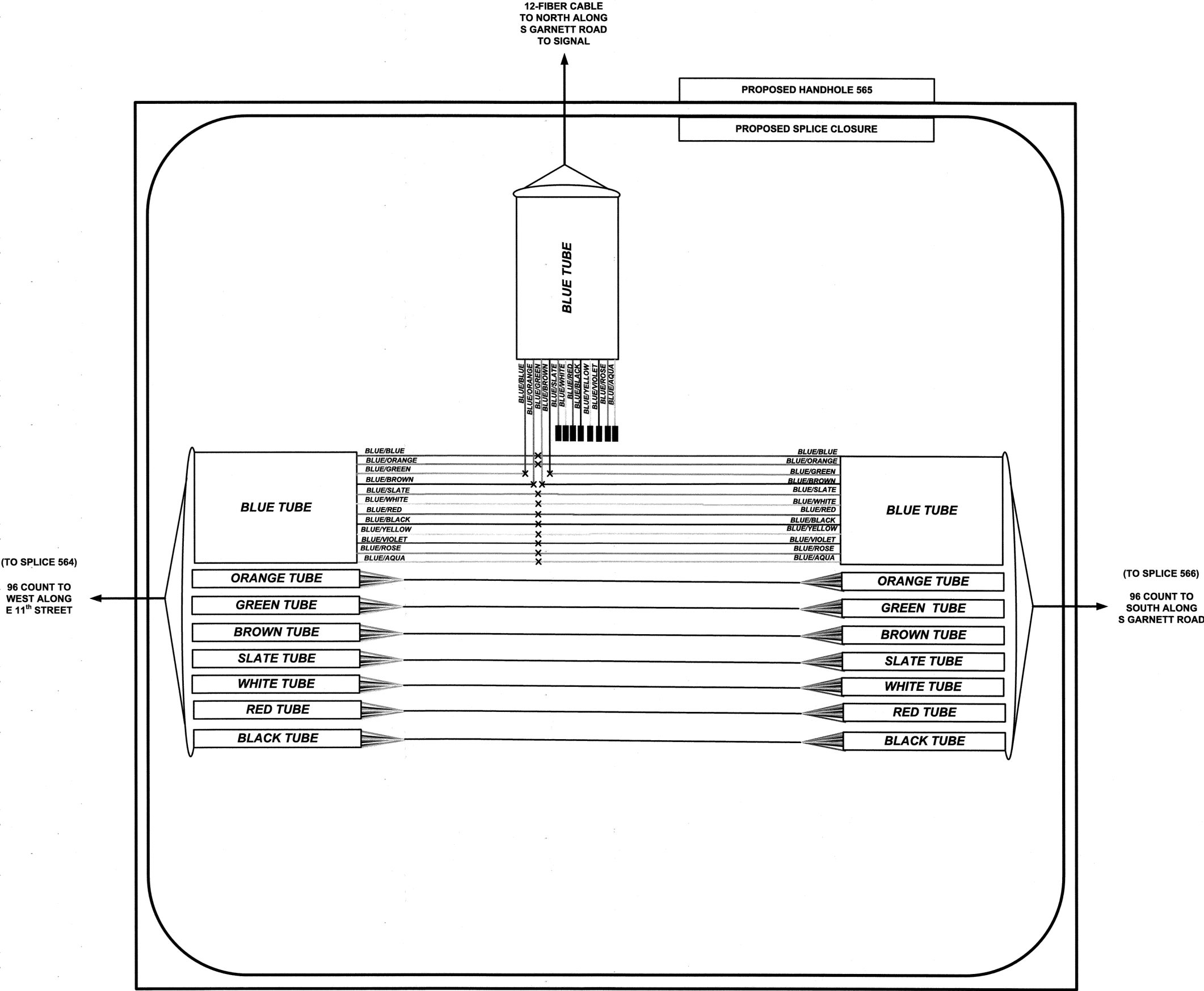


NOT TO SCALE



FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

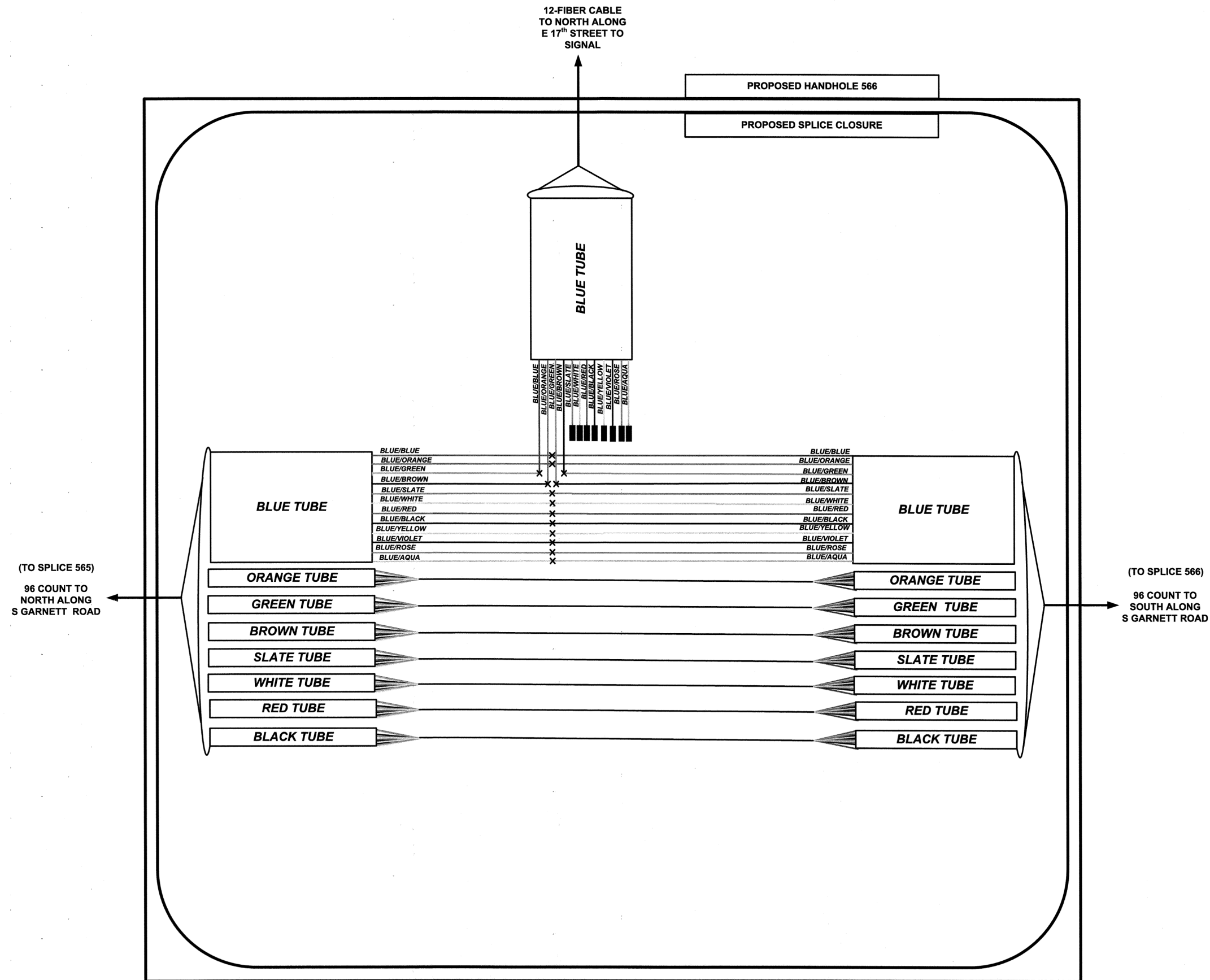
EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

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NOT TO SCALE



KEY

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| E238.2D | DEVICE IDENTIFIER |
| | CCTV CAMERA |
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| | REAL TIME ARRIVAL SIGN |
| | EXISTING REAL TIME ARRIVAL SIGN |
| | PATCH THROUGH FIBER OPTIC JUMPER |
| | EQUIPMENT CONNECTION FIBER OPTIC JUMPER |
| | FIBER OPTIC PIGTAIL |
| | BARE FIBER LEFT COILED IN SPLICE TRAY |
| | FUSION SPLICE |
| | PATCH PANEL MODULE |
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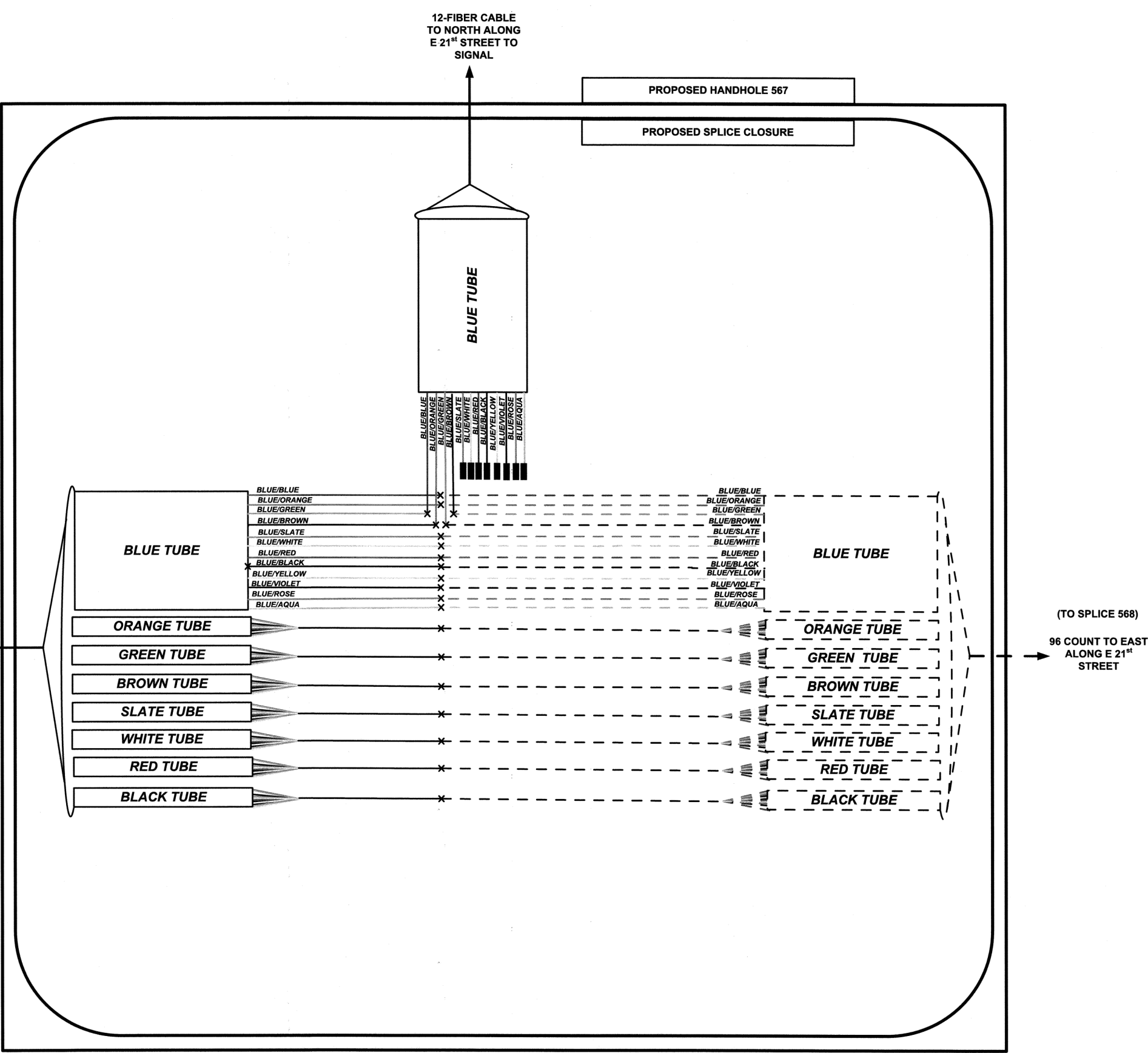
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FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.

(TO SPLICE 566)
96 COUNT TO
NORTH ALONG S
GARNETT ROAD



BEFORE SPLICING FIBER, VERIFY FINAL
SPLICE DETAILS WITH GARY CUMMINS
WITH CITY OF TULSA.

KEY

- | | |
|---------|--|
| E238.2D | DEVICE IDENTIFIER |
| | CCTV CAMERA |
| | EXISTING
CCTV CAMERA |
| | REAL TIME
ARRIVAL SIGN |
| | EXISTING REAL
TIME ARRIVAL
SIGN |
| | PATCH THROUGH
FIBER OPTIC JUMPER |
| | EQUIPMENT CONNECTION
FIBER OPTIC JUMPER |
| | FIBER OPTIC PIGTAIL |
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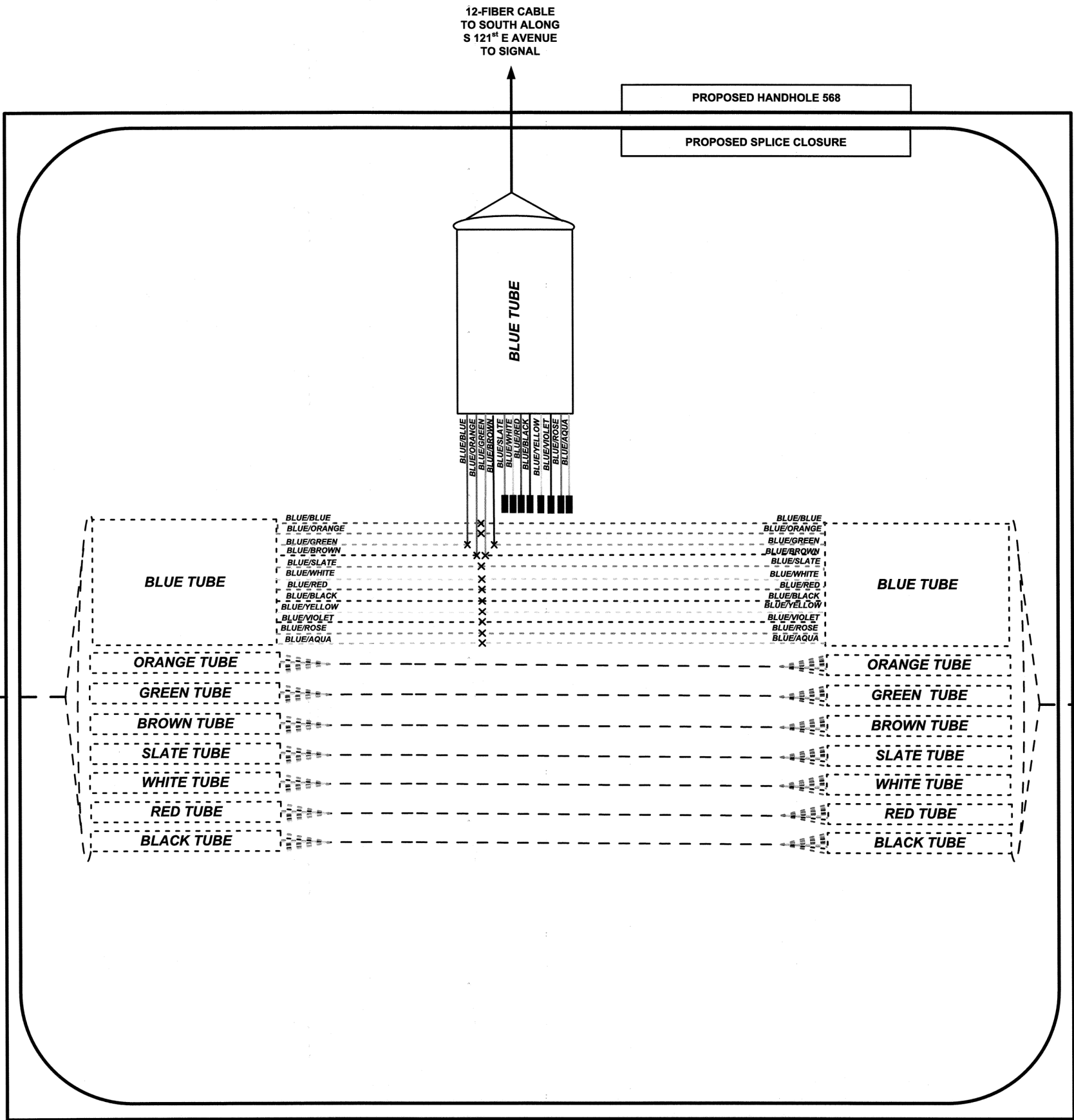
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REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
6/15/22
NOT TO SCALE

FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.



BEFORE SPLICING FIBER, VERIFY FINAL SPLICE DETAILS WITH GARY CUMMINS WITH CITY OF TULSA.

KEY

- | | |
|---------|---|
| E238.2D | DEVICE IDENTIFIER |
| | CCTV CAMERA |
| | EXISTING CCTV CAMERA |
| | REAL TIME ARRIVAL SIGN |
| | EXISTING REAL TIME ARRIVAL SIGN |
| | PATCH THROUGH FIBER OPTIC JUMPER |
| | EQUIPMENT CONNECTION FIBER OPTIC JUMPER |
| | FIBER OPTIC PIGTAIL |
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| | FUSION SPLICE |
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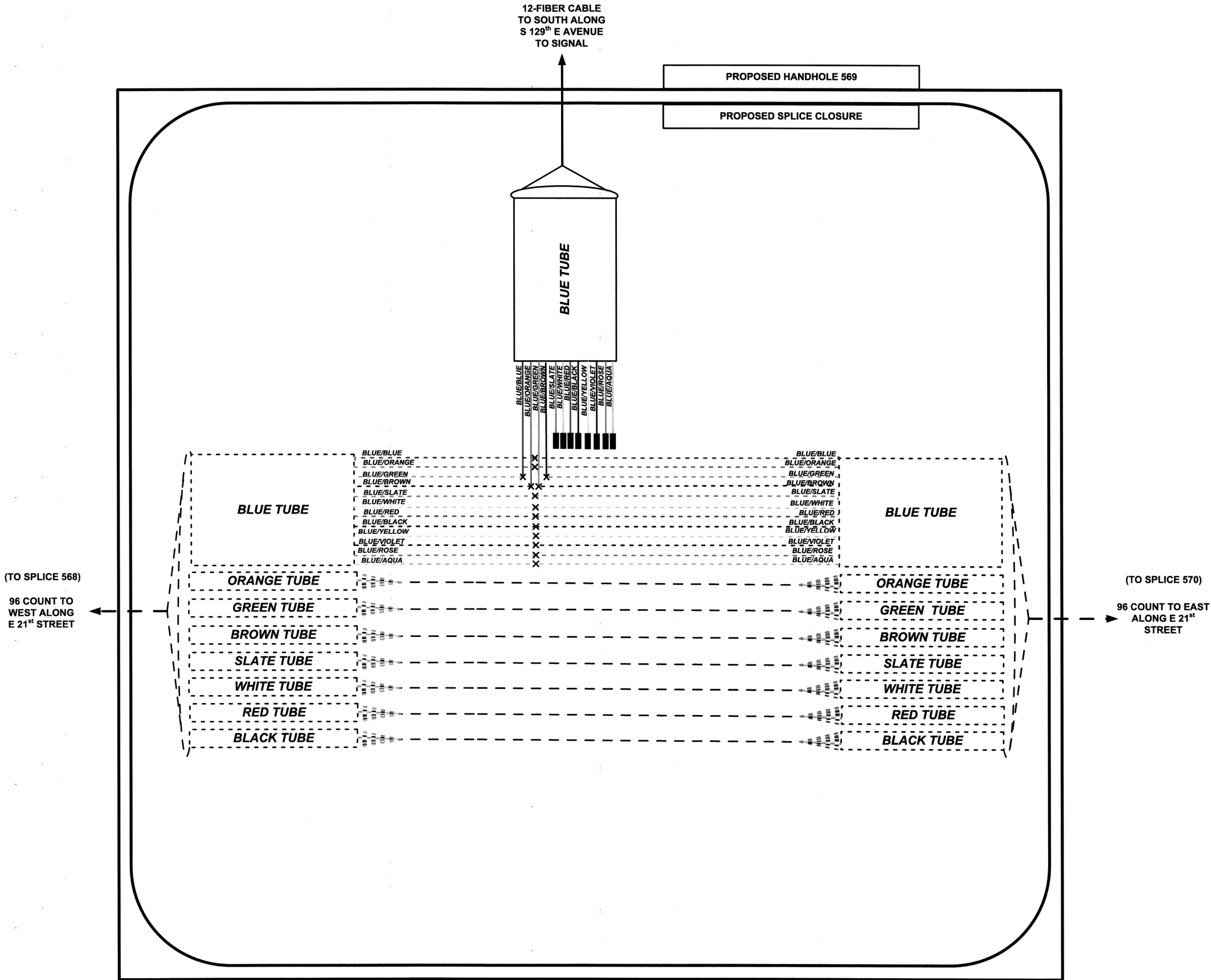
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BEFORE SPLICING FIBER, VERIFY FINAL SPLICE DETAILS WITH GARY CUMMINS WITH CITY OF TULSA.

KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN



PATCH THROUGH FIBER OPTIC JUMPER



EQUIPMENT CONNECTION FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



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EXISTING TWISTED PAIR CABLE



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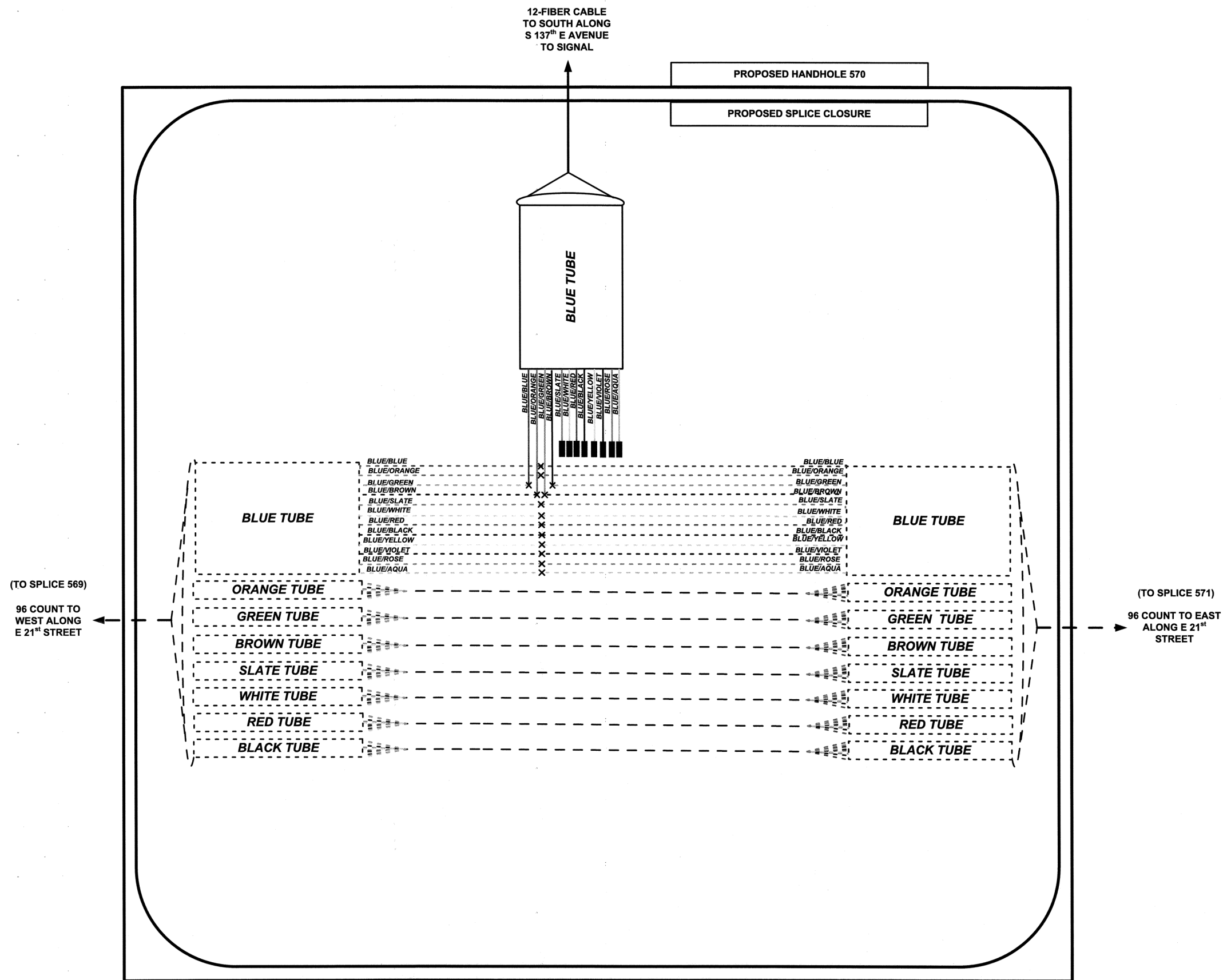


NOT TO SCALE



FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



BEFORE SPLICING FIBER, VERIFY FINAL SPLICE DETAILS WITH GARY CUMMINS WITH CITY OF TULSA.

KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA REAL TIME ARRIVAL SIGN

RTA EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

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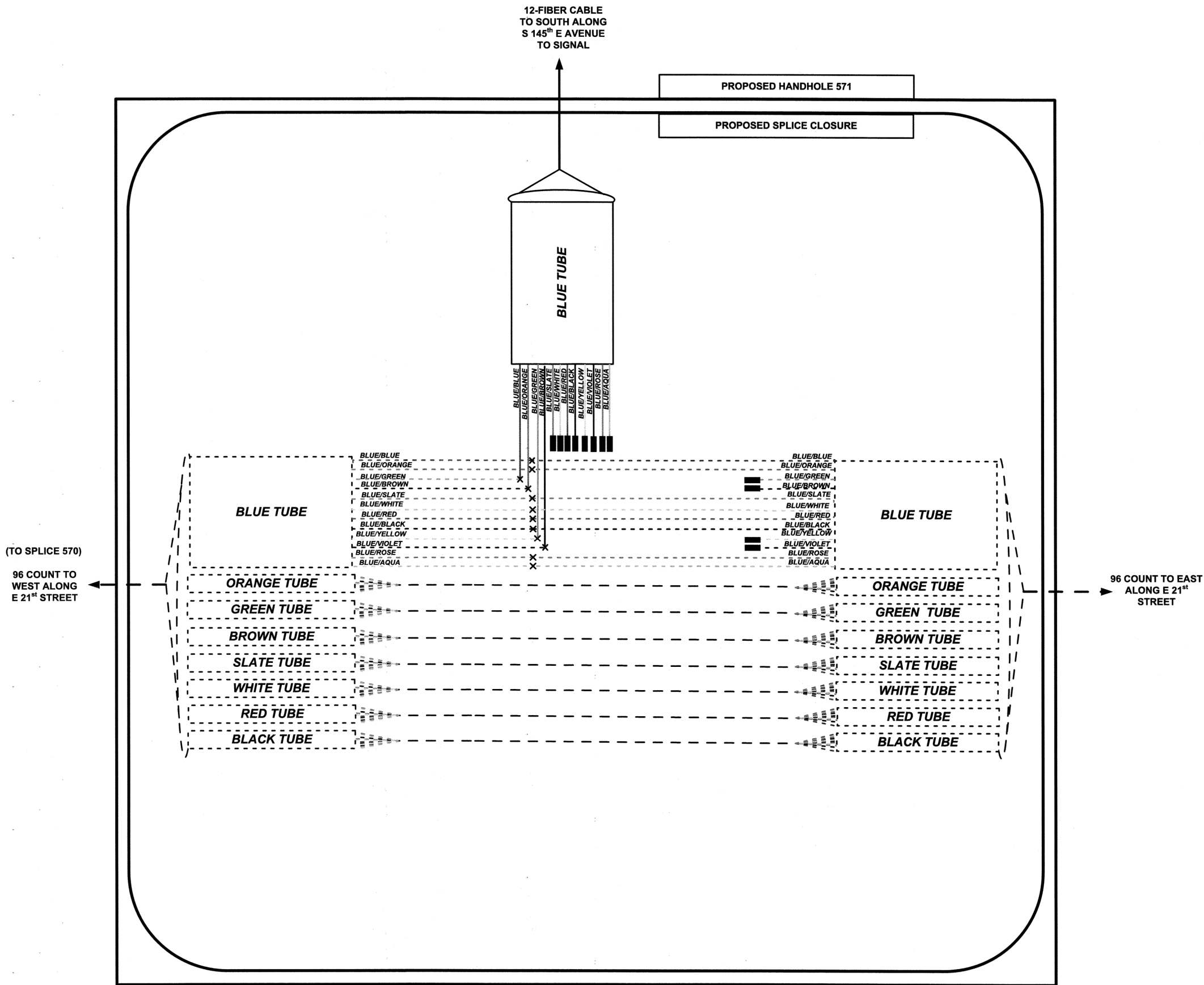


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FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



BEFORE SPLICING FIBER, VERIFY FINAL SPLICE DETAILS WITH GARY CUMMINS WITH CITY OF TULSA.

KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN



PATCH THROUGH FIBER OPTIC JUMPER



EQUIPMENT CONNECTION FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



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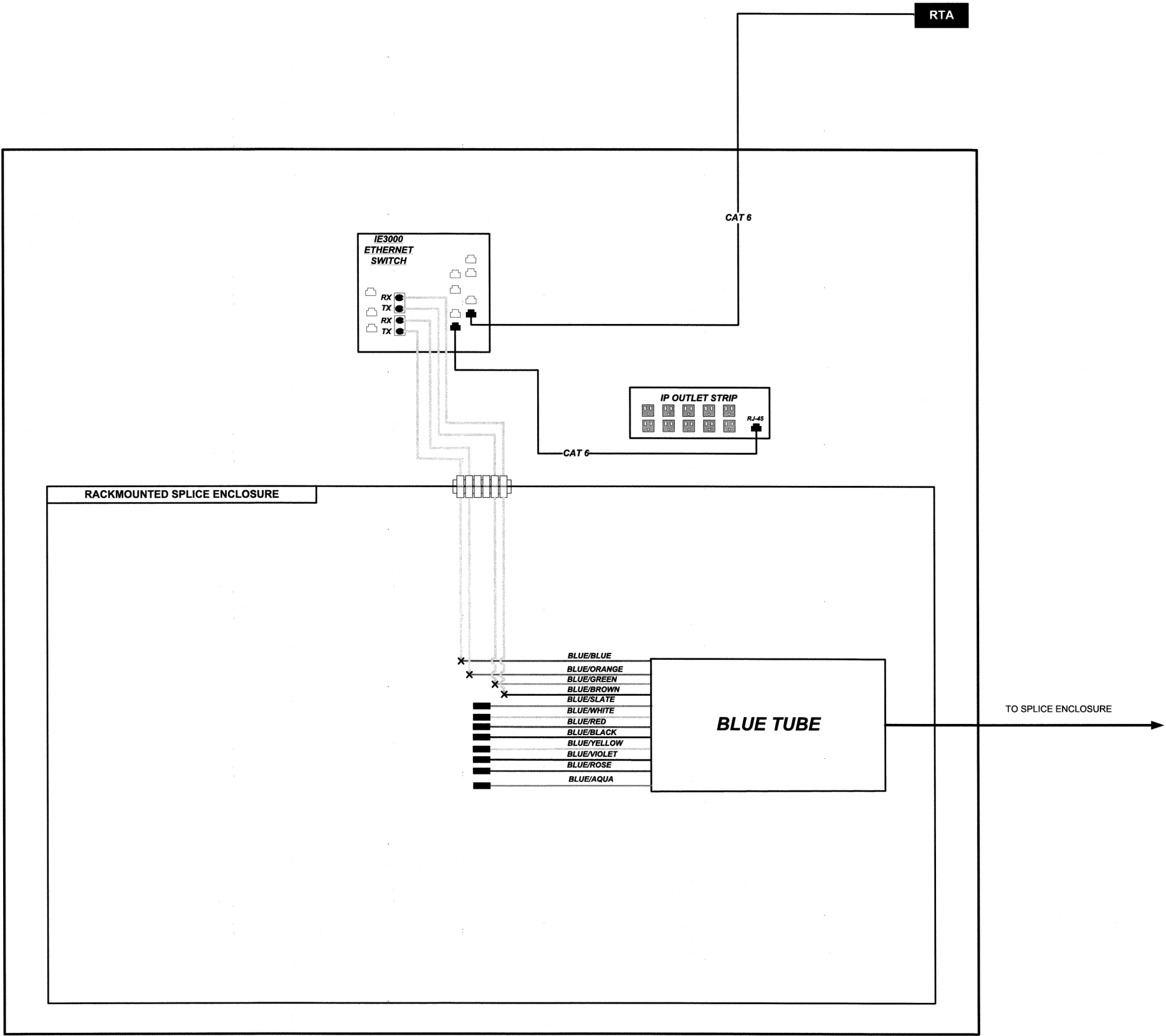


FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.

List of Applicable Splices

- 501 (Peoria Avenue and 52nd Street N)
- 503 (Peoria Avenue and 50th Street N)
- 504 (Peoria Avenue and 46th Street N)
- 505 (Peoria Avenue and 38th Street N)
- 506 (Peoria Avenue and 36th Street N)
- 509 (Peoria Avenue and Apache Street)
- 510 (Peoria Avenue and Virgin Street)
- 512 (Peoria Avenue and Pine Street)
- 515 (Peoria Avenue and 6th Street)
- 519 (Peoria Avenue and 11th Street)
- 521 (Peoria Avenue and 14th Street)
- 526 (Peoria Avenue and 21st Street)
- 527 (Peoria Avenue and 31st Street)
- 529 (Peoria Avenue and 36th Street)
- 531 (Peoria Avenue and 41st Street)
- 533 (Peoria Avenue and 45th Place)
- 537 (Peoria Avenue and 51st Street)
- 538 (Peoria Avenue and 56th Street)
- 539 (Peoria Avenue and 61st Street)
- 540 (Peoria Avenue and 67th Street)
- 541 (71st Street at Riverside Drive)
- 543 (71st Street at Wheeling Avenue)
- 547 (Lewis Avenue at Billy Joe Daugherty Circle)
- 550.1 (81st Street and Walmart)
- 551 (81st Street and Wheeling Avenue)
- EX 100.2 (Denver Ave.)



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

REAL TIME ARRIVAL SIGN

EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPLICE

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

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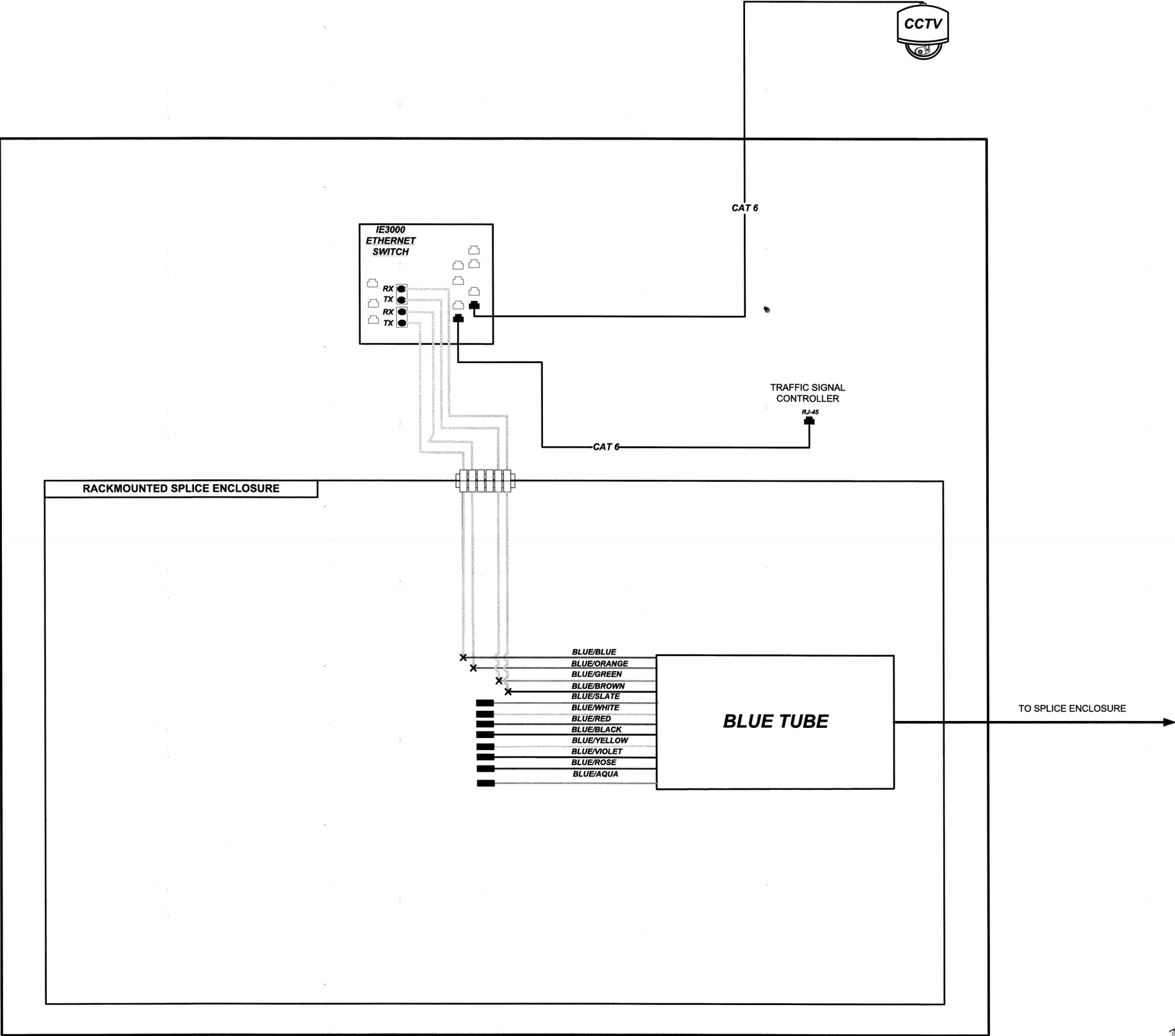
FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.

List of Applicable Splices

- 512 (Peoria Avenue and Pine Street)
- 531 (Peoria Avenue and 41st Street)
- 550 (Lewis Avenue and 81st Street)
- 553 (11th Street and Utica Avenue)
- 557 (11th Street and Harvard Avenue)
- 558.1 (11th Street and Yale Avenue)
- 559 (11th Street and Sheridan Avenue)
- 562 (11th Street and 101st E Avenue)
- 565 (11th Street and Garnett Road)
- 567 (Garnett Road and 21st Street)

ROUTE	VISIO FILENAME	LAST UPDATE DATE:	SHEET NO.
E 11 th Street	Corridor C.vsd	June 13, 2022	94



KEY

E238.2D

DEVICE IDENTIFIER

CCTV CAMERA

EXISTING
CCTV CAMERA

RTA

REAL TIME
ARRIVAL SIGN

EXISTING REAL
TIME ARRIVAL
SIGN

PATCH THROUGH
FIBER OPTIC JUMPER

EQUIPMENT CONNECTION
FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT
COILED IN SPLICE TRAY

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PATCH PANEL MODULE

EXISTING COAX CABLE

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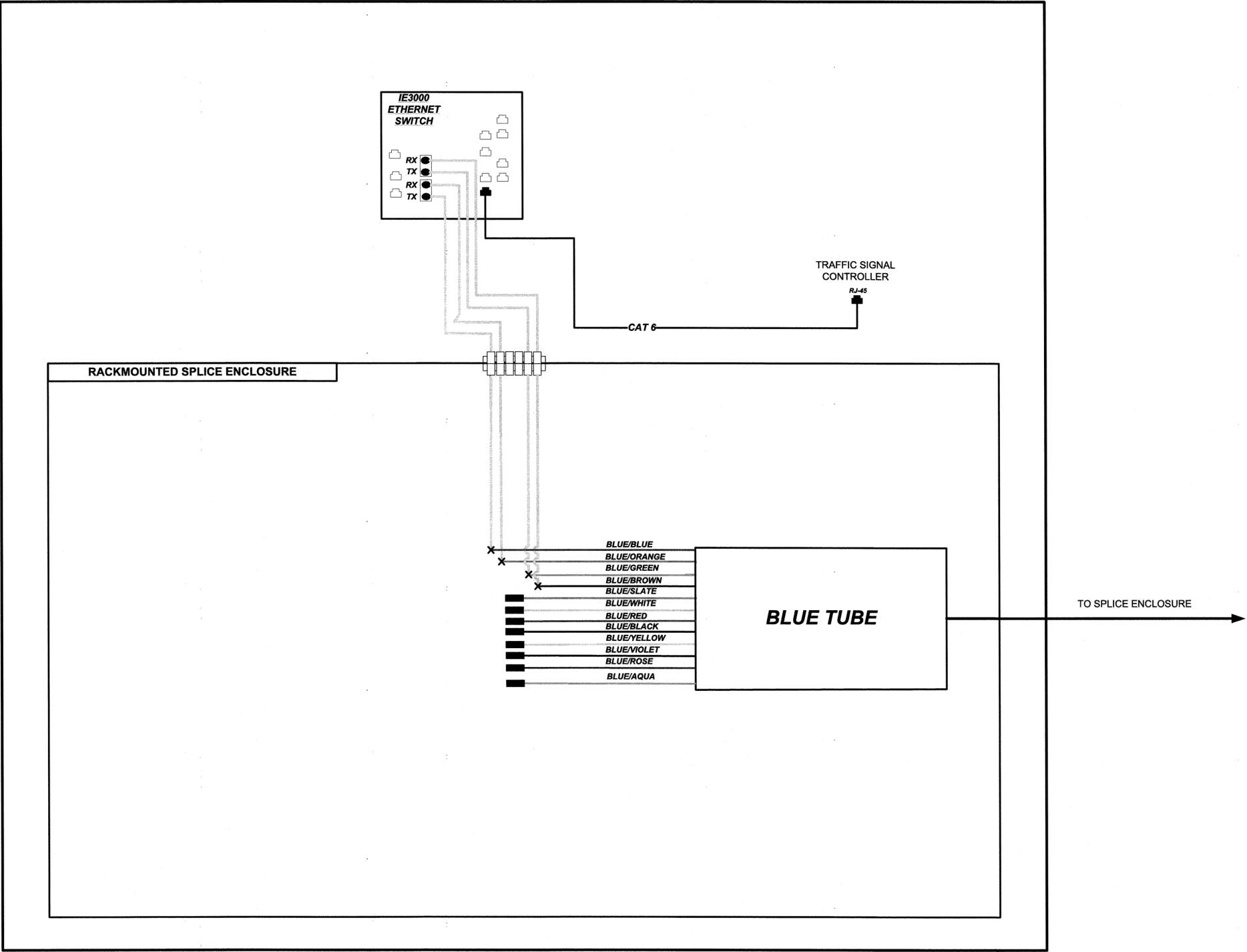
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FIBER SPLICING AND
CONNECTION DETAIL

Tulsa
A New Kind of Energy.

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- 538 (Peoria Avenue and 56th Street)
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- 540.1 (Peoria Avenue and Riverside Drive)
- 541 (71st Street and Riverside Drive)
- 542 (71st Street and Trenton Avenue)
- 543 (71st Street and Wheeling Avenue)
- 545 (71st Street and Lewis Avenue)
- 549 (Lewis Avenue and 78th Street)
- 552 (12th Street and Utica Avenue)
- 554 (11th Street and Lewis Avenue)
- 555 (11th Street and Delaware Avenue)
- 556 (11th Street and Evanston Avenue)
- 558 (11th Street and Pittsburg Avenue)
- 560 (11th Street and 73rd E Avenue)
- 561 (11th Street and Mingo Road)
- 563 (11th Street and US 169 SB)
- 564 (11th Street and US 169 NB)
- 566 (Garnett Road and 17th Street)
- 568 (21st Street and 121st E Avenue)
- 569 (21st Street and 129th E Avenue)
- 570 (21st Street and 137th E Avenue)
- 571 (21st Street and 145 E Avenue)



KEY

E238.2D DEVICE IDENTIFIER

CCTV CAMERA

EXISTING CCTV CAMERA

RTA REAL TIME ARRIVAL SIGN

RTA EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

EQUIPMENT CONNECTION FIBER OPTIC JUMPER

FIBER OPTIC PIGTAIL

BARE FIBER LEFT COILED IN SPLICE TRAY

FUSION SPlice

PATCH PANEL MODULE

EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

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




NOT TO SCALE



EXISTING HANDHOLE 100

BEFORE SPLICING FIBER, VERIFY FINAL
SPlice DETAILS WITH GARY CUMMINS
WITH CITY OF TULSA.

KEY

E238.2D	DEVICE IDENTIFIER
	CCTV CAMERA
	EXISTING CCTV CAMERA
	REAL TIME ARRIVAL SIGN
	EXISTING REAL TIME ARRIVAL SIGN
	PATCH THROUGH FIBER OPTIC JUMPER
	EQUIPMENT CONNECTION FIBER OPTIC JUMPER
	FIBER OPTIC PIGTAIL
	BARE FIBER LEFT COILED IN SPLICE TRAY
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12-FIBER CABLE
TO WEST
ALONG W 4TH ST
TO 3RD & FRISCO

BLUE TUBE

BLUE/BUE
BLUE/ORANGE
BLUE/GREEN
BLUE/BROWN
BLUE/SLATE
BLUE/WHITE
BLUE/RED
BLUE/BLACK
BLUE/YELLOW
BLUE/VIOLET
BLUE/ROSE
BLUE/AQUA

X
X
X
X
X
X
X
X
X
X
X
X

BLUE/BUE
BLUE/ORANGE
BLUE/GREEN
BLUE/BROWN
BLUE/SLATE
BLUE/WHITE
BLUE/RED
BLUE/BLACK
BLUE/YELLOW
BLUE/VIOLET
BLUE/ROSE
BLUE/AQUA

BLUE TUBE

ORANGE TUBE

GREEN TUBE

BROWN TUBE

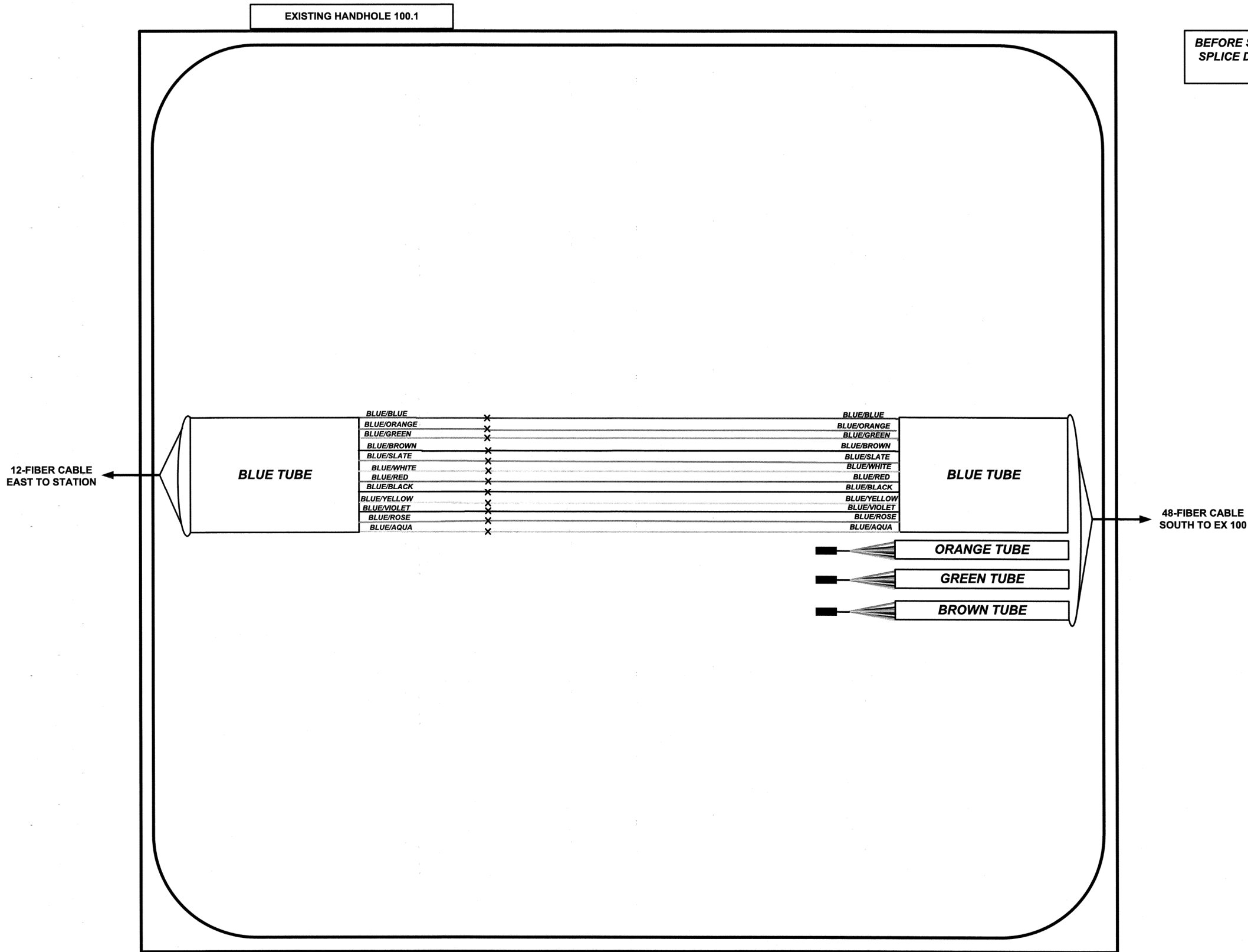
48-FIBER CABLE
TO DENVER
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FIBER SPLICING AND
CONNECTION DETAIL

CITY OF
Tulsa
A New Kind of Energy.



KEY

E238.2D DEVICE IDENTIFIER



CCTV CAMERA



EXISTING CCTV CAMERA

RTA

REAL TIME ARRIVAL SIGN

RTA

EXISTING REAL TIME ARRIVAL SIGN



PATCH THROUGH FIBER OPTIC JUMPER



EQUIPMENT CONNECTION FIBER OPTIC JUMPER



FIBER OPTIC PIGTAIL



BARE FIBER LEFT COILED IN SPLICE TRAY



FUSION SPLICE



PATCH PANEL MODULE



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EXISTING TWISTED PAIR CABLE



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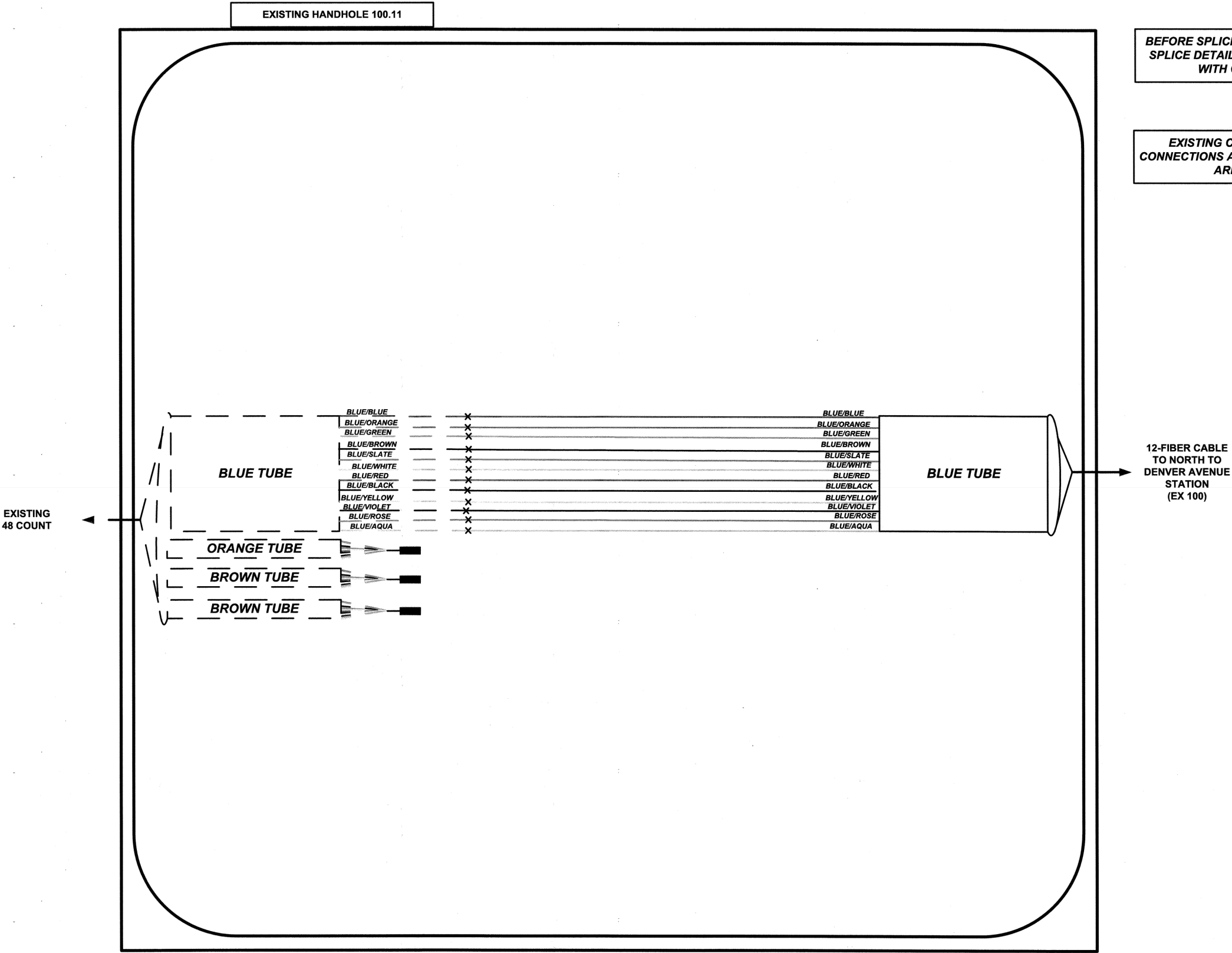


NOT TO SCALE



FIBER SPLICING AND CONNECTION DETAIL

Tulsa
A New Kind of Energy.



KEY

E238.2D DEVICE IDENTIFIER

CCTV CCTV CAMERA

EXISTING CCTV CAMERA

RTA REAL TIME ARRIVAL SIGN

RTA EXISTING REAL TIME ARRIVAL SIGN

PATCH THROUGH FIBER OPTIC JUMPER

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BARE FIBER LEFT COILED IN SPLICE TRAY

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EXISTING COAX CABLE

EXISTING TWISTED PAIR CABLE

EXISTING FIBER OR FIBER OPTIC CABLE

NOTE: DASHED LINES DENOTE EXISTING CABLES, DEVICES, OR ENCLOSURES.

- NOTES**
1. MAXIMUM SPLICE LOSS SHALL BE 0.1 dB.
 2. NO INTERMEDIATE SPLICES ALLOWED.
 3. ALL SPLICES SHALL BE FUSION SPLICES.
 4. WHEN SPLICING UNDERGROUND, ONLY TUBES CONTAINING FIBERS TO BE SPLICED SHALL BE CUT. ALL OTHER TUBES SHALL RUN UN-CUT BETWEEN OTHER SPLICES.

REGISTERED PROFESSIONAL ENGINEER
PAUL D. HUNTER
18692
OKLAHOMA
4/15/22
NOT TO SCALE

FIBER SPLICING AND CONNECTION DETAIL

Tulsa CITY OF
A New Kind of Energy.