

SURVEY CONTROL DATA

1. HORIZONTAL CONTROL MONUMENTS
OKLAHOMA STATE PLANE COORDINATE SYSTEM - LAMBERT NORTH PROJECTION
2. BASIS OF BEARING:
OKLAHOMA STATE PLANE COORDINATE SYSTEM NAD 83
3. VERTICAL CONTROLS (BM):
NAVD 1988
4. SECTION NUMERICAL DESCRIPTION (S-T-R):
SECTION 11, T-18-N, R-14-E

BEFORE YOU DIG! CALL OKIE 1-800-522-6543



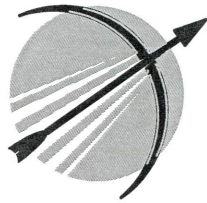
UTILITIES LOCATION SHOWN ON PLAN AND PROFILE WERE OBTAINED FROM INFORMATION PROVIDED BY UTILITY SYSTEM OWNER IN CONJUNCTION WITH EXISTING PHYSICAL FEATURES VISIBLE AT THE TIME OF THE TOPOGRAPHIC SURVEY. LOCATIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

UTILITY CONTACTS

CITY OF BROKEN ARROW, OKLAHOMA ENGINEERING MANAGER, ROGER HUGHES P.E. 485 N. POPLAR AVE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 EXT. 5260 (918) 259-8453 (FAX)	CITY OF BROKEN ARROW, OKLAHOMA UTILITIES, CHARLES VOKES 485 N. POPLAR AVE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 X7382 (918) 251-3383 (FAX)
CITY OF BROKEN ARROW, OKLAHOMA STREETS/STORMWATER, ROCKY HENKEL 2302 S. 1ST PLACE BROKEN ARROW, OKLAHOMA 74012 (918) 259-7000 X7380 (918) 251-3383 (FAX)	OKLAHOMA NATURAL GAS (GOV'T RELOCATIONS) ATTN.: TIM HELBIG 5848 EAST 15TH STREET TULSA, OKLAHOMA 74112 (918) 831-8387 (918) 729-4681 (CELL)
COX COMMUNICATIONS ATTN.: CHRIS LONG 11811 E. 51ST STREET TULSA, OK 74146 (918) 286-4665 (918) 286-4018 (FAX)	OKLAHOMA NATURAL GAS (EXISTING CONST.) ATTN.: DUANE COOPER 5848 EAST 15TH STREET TULSA, OKLAHOMA 74112 (918) 645-1953
WINDSTREAM COMMUNICATION ATTN.: JOSEPH MINOR 1814 W. TACOMA STREET BROKEN ARROW, OKLAHOMA 74012 (918) 451-3421	AEP / PSO ATTN.: LONNY HICKS 5223 S. GARNETT TULSA, OK 74149 (918) 250-6211 (918) 247-8466 (FAX)

CONVENTIONAL SYMBOLS

---	SECTION LINES
---	PROPOSED ROAD
R/W	RIGHT-OF-WAY LINES - NEW
PRES. R/W	RIGHT-OF-WAY LINES - EXISTING
-X-	FENCES
-OE-	OVERHEAD ELECTRIC LINES
-OT-	OVERHEAD TELEPHONE LINES
-SS-	SANITARY SEWERS
-G-	GAS LINES
-W-	WATER LINES
-UT-	UNDERGROUND TELEPHONE LINES
-CTV-	CABLE TELEVISION LINES
-STM-	STORM SEWER
-UCT-	UNDERGROUND CABLE TELEVISION LINES
-UE-	UNDERGROUND ELECTRIC

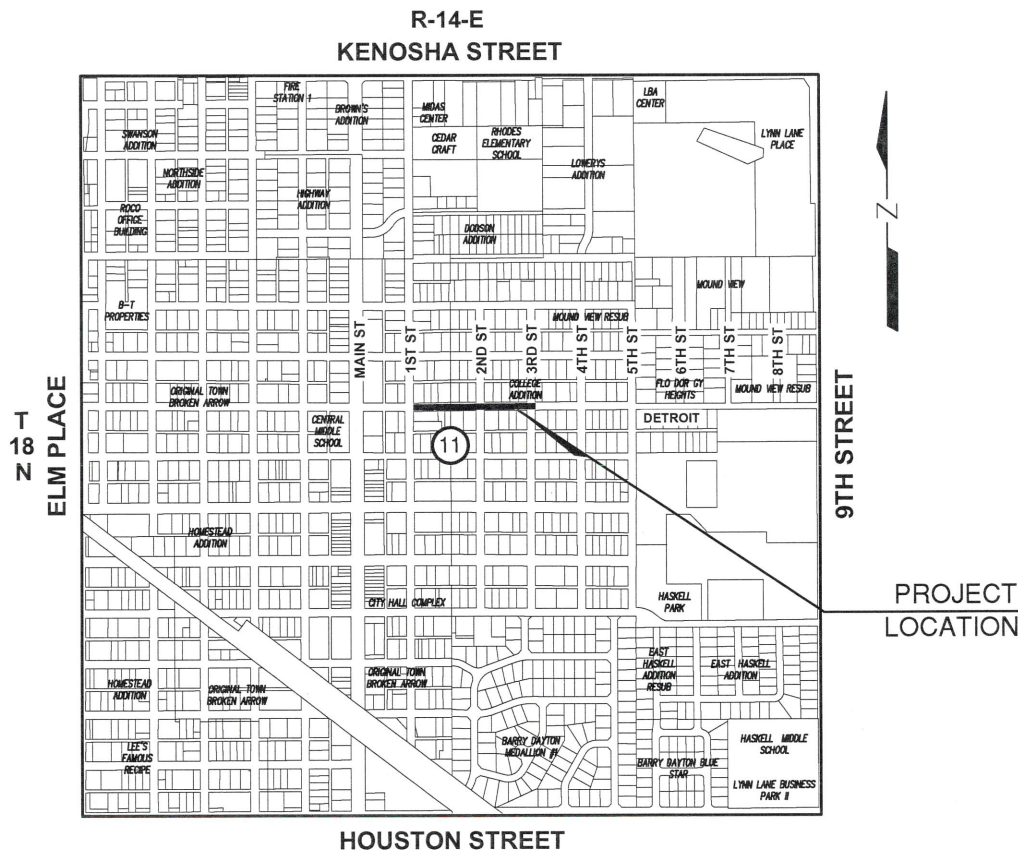


CITY OF
BROKEN ARROW

Where opportunity lives

DETROIT 1ST TO 3RD STREET STREET REHABILITATION

PROJECT NUMBER ST1947



PROJECT LOCATION SECTION 11, T-18-N, R-14-E, TULSA COUNTY

ENGINEERING & CONSTRUCTION DEPARTMENT
485 NORTH POPLAR AVENUE
BROKEN ARROW, OK. 74012

CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS, AUGUST 19, 1999, SHALL GOVERN ALL CONSTRUCTION AS SUPPLEMENTED BY OKLAHOMA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, APPROVED BY THE DEPARTMENT OF TRANSPORTATION 2009.

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CROSS SECTIONS	XS1-XS13

BROKEN ARROW CITY COUNCIL

MAYOR	CRAIG THURMOND
VICE MAYOR	SCOTT EUDEY
MEMBER-WARD ONE	DEBRA WIMPÉE
MEMBER-WARD THREE	CHRISTI GILLESPIE
MEMBER-AT LARGE	JOHNNIE PARKS

APPROVED

Kenneth D. Schwab DATE 4-15-20
KENNETH D. SCHWAB P.E., CFM
ASSISTANT CITY MANAGER-OPERATIONS

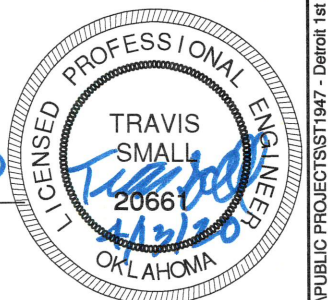
RECOMMENDED FOR APPROVAL

Ethan J. Edwards DATE 4/13/2020
ETHAN J.L. EDWARDS, P.E.
DIRECTOR OF ENGINEERING & CONSTRUCTION

Rocky Henkel DATE 4/13/2020
ROCKY HENKEL
DIRECTOR OF STREETS & STORMWATER

Charles Vokes DATE 4/15/2020
CHARLES VOKES
DIRECTOR OF UTILITIES

Travis Small DATE 4/13/20
TRAVIS SMALL P.E., CFM
TRANSPORTATION MANAGER
ENGINEER OF RECORD



PAY QUANTITIES					
ROADWAY					
ITEM NO.	SPEC. NO.	DESCRIPTION	NOTES	UNIT	QUANTITY
1	202(A)	UNCLASSIFIED EXCAVATION	1,3,14	CY	255
2	205(A)	TYPE A-SALVAGED TOPSOIL		LS	1
3	221(C)	TEMPORARY SILT FENCE	5,6,7	LF	1,132
4	221(K)	TEMPORARY FIBER LOG	5,6,22	LF	225
5	230(A)	SOLID SLAB SODDING	8,9,10,11	SY	1,828
6	303(A)	AGGREGATE BASE TYPE A	12	CY	5
7	411(C)	SUPERPAVE,TYPE S4 (PG 64-22 OK), INSOLUBLE	16	TON	460
8	411(H)	SUPERPAVE, TYPE S3 (PG 64-22 OK) (FULL DEPTH PATCH)	16,26,27	TON	53
9	412	1" COLD MILLING PAVEMENT	2,18	SY	2,640
10	414(E)	FULL DEPTH P.C.C. PATCH (COMPLETE-IN-PLACE)	15,27,32	SY	15
11	509(B)	CLASS A CONCRETE (HES)	13,33	CY	56
12	610(A)	4" CONCRETE SIDEWALK		SY	634
13	610(B)	6" CONCRETE DRIVEWAY	32	SY	369
14	610(I)	TACTILE WARNING DEVICE-NEW		SF	70
15	612(A)	MANHOLE ADJUST TO GRADE	19	EA	1
16	612(E)	VALVE BOX ADJUST TO GRADE	19	EA	6
17	613(E)	12" CORRUGATED POLYPROPYLENE PIPE (CPP) (COMPLETE-IN-PLACE)	31	LF	168
18	619(B)	REMOVAL OF EXISTING DRIVEWAYS	20,21,29	SY	307
19	619(B)	REMOVAL OF EXISTING CULVERTS	21,29	LF	89
20	619(B)	REMOVAL OF TREE	21,29	EA	6
21	619(B)	REMOVAL OF EXISTING SIDEWALKS	20,21,29	SY	156
22	629(E)	REMOVE AND RESET MAILBOX	17	EA	19
23	641	MOBILIZATION		LS	1
24	642(B)	CONSTRUCTION STAKING LEVEL II	28	LS	1
25	805(D)	REMOVE AND RESET LIGHT POLE		EA	2
26	805(D)	REMOVE AND RESET SIGNS		EA	5
27	880(J)	CONSTRUCTION TRAFFIC CONTROL	23,24,25	LS	1
28	SPECIAL 1	TYPE "B" ADA RAMP	30	EA	7
29	SPECIAL 2	OWNERS ALLOWANCE		LS	1

PAY NOTES :

1. EXCESS SOIL MATERIAL (WASTE) TO BECOME THE PROPERTY OF, AND BE DISPOSED OF, BY THE CONTRACTOR IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR. ESTIMATED EMBANKMENT TO BE FIGURED WITH 15% SWELL. AN ADDITIONAL 100 C.Y. INCLUDED FOR UNSUITABLE AREAS AND USED WHERE DEEMED NECESSARY BY CONTRACT ADMINISTRATOR.
2. SAWING PAVEMENT: IN ORDER TO OBTAIN A SMOOTH INTERFACE FOR PAVEMENT TIE-IN, SAWING OF EXISTING PAVEMENT MAY BE REQUIRED AT VARIOUS LOCATIONS ON THE PROJECT, AS DIRECTED BY THE CONTRACT ADMINISTRATOR. COST TO BE INCLUDED IN PRICE BID FOR MILLING. WHERE REQUIRED, SAWING WILL BE CARRIED OUT THROUGH THE FULL PAVEMENT SECTION.
3. UNCLASSIFIED EXCAVATION SHALL BE PAID PER PLAN QUANTITY PER SECTION 109.01(B) OF ODOT STANDARD SPECIFICATIONS.
4. NOT USED
5. THIS IS A ESTIMATED QUANTITY TO BE USED WHERE DEEMED NECESSARY BY CONTRACT ADMINISTRATOR.
6. PRICE BID TO INCLUDE ALL COST FOR REMOVAL AND DISPOSAL OF SEDIMENT AS WELL AS RESTORATION OF ERODED SLOPE AS REQUIRED AND DIRECTED BY THE CONTRACT ADMINISTRATOR.
7. AN ESTIMATED 100 LF TO BE USED IN APPROPRIATE AREAS OR AS DIRECTED BY CONTRACT ADMINISTRATOR.
8. ESTIMATED QUANTITY SOLID SLAB SOD IS FOR 3' STRIP ADJACENT TO REPLACED CURB, INLET HOODS, SIDEWALKS, RAMPS, DRIVES. ALL DISTURBED AREAS SHALL BE SODDED AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR
9. SOLID SLAB SODDING SHALL BE U3 BERMUDA.
10. UNIT PRICE BID SHALL INCLUDE FERTILIZING (10-20-10) AT THE RATE OF 100 LBS PER ACRE OF SODDING AND ALL WATERING NECESSARY TO ESTABLISH ADEQUATE GROWTH AS DETERMINED BY CONTRACT ADMINISTRATOR.

PAY NOTES CONTINUED:

11. WATER WILL BE PROVIDED VIA THE NEAREST CITY OF BROKEN ARROW HYDRANT AT NO COST TO THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN A CONSTRUCTION METER FROM THE CITY, PAYING \$1,200.00 ESCROW DEPOSIT FOR USE OF THE METER. THE ESCROW MONEY WILL BE RETURNED TO THE CONTRACTOR WHEN THE CONSTRUCTION METER IS RETURNED. FAILURE TO RETURN THE METER WITHIN 2 WORKING DAYS AFTER THE CONTRACT ADMINISTRATOR DETERMINES THE METER IS NO LONGER REQUIRED ON THE PROJECT, COULD RESULT IN WATER CHARGES AND LOSS OF SOME OR ALL OF THE ESCROW DEPOSIT AND CONTRACTOR EARNINGS WITHHELD. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO METER OR HYDRANT HE MAY CAUSE. CONTRACTOR IS RESPONSIBLE FOR TRANSPORT AND DISTRIBUTION OF WATER AS NEEDED. IF WATER IS OBTAINED FROM ANOTHER ENTITY THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS, FEES AND ALL OTHER INCIDENTALS FROM THE ENTITY.
12. AGGREGATE BASE IS AN ESTIMATED QUANTITY TO BE USED AT THE DISCRETION OF THE CONTRACT ADMINISTRATOR. PRICE BID SHALL INCLUDE BUT NOT LIMITED TO EXCAVATION OF UNSUITABLE SOILS, AGGREGATE BASE AND COMPACTION TO 98% MODIFIED PROCTOR DENSITY.
13. WELDED WIRE FABRIC SHALL BE INCLUDED IN THE COST OF CLASS A CONCRETE. WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH SECTION 723 OF THE ODOT STANDARD SPECIFICATIONS.
14. PLACING AND COMPACTING UNCLASSIFIED EXCAVATION AS EMBANKMENT SHALL BE IN ACCORDANCE WITH SECTION 202 OF ODOT STANDARD SPECIFICATIONS AND INCLUDED IN THE COST OF UNCLASSIFIED EXCAVATION.
15. PRICE BID SHALL INCLUDE ALL P.C. CONCRETE AND PLACEMENT OF P.C. CONCRETE IN ACCORDANCE WITH SECTION 414 OF ODOT STANDARD SPECIFICATIONS AND THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR A COMPLETE PATCH IN PLACE. INCLUDES BUT NOT LIMITED TO SAW CUTTING, REMOVAL OF ASPHALT, REMOVAL OF UNSUITABLE SUBGRADE, UNCLASSIFIED EXCAVATION, SUBGRADE METHOD B, HES CONCRETE.
16. ESTIMATE AT 112 LBS. PER SQ. YD. PER 1" THICK.
17. CONTRACTOR SHALL MAINTAIN POSTAL SERVICES DURING CONSTRUCTION. ALL COST TO BE INCLUDED IN PRICE BID FOR REMOVE AND RESET MAILBOXES
18. MILLING THICKNESS SHALL BE 1".
19. CONTRACTOR TO INSTALL CONCRETE COLLAR AROUND MANHOLES AND WATER VALVES PER CITY OF BROKEN ARROW STANDARD SPECIFICATIONS. ALL COSTS TO BE "ADJUST TO GRADE" PAY ITEMS.
20. PRICE BID FOR THIS ITEM INCLUDES, BUT NOT LIMITED TO SAW CUTTING.
21. TO BECOME PROPERTY OF AND BE DISPOSED BY THE CONTRACTOR IN A MANNER APPROVED BY CONTRACT ADMINISTRATOR.
22. ROLLED EROSION CONTROL SHALL BE PLACED 50' TO 150' APART. EROSION CONTROL SHALL BE MAINTAINED THROUGHOUT THE PROJECT, EROSION CONTROL SHALL BE PLACED AS SHOWN ON PLAN SET OR PER CONTRACT ADMINISTRATOR. TEMPORARY FIBER LOGS SHALL EQUATE TO ROLLED EROSION CONTROL.
23. THE LUMP SUM PRICE BID FOR TRAFFIC OPERATIONS SHALL INCLUDE TYPE 'C' STEADY BURN LIGHTS TO BE IMPLEMENTED AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
24. CONSTRUCTION SIGNING WILL BE INSTALLED IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION, AND APPLICABLE ODOT STANDARD DRAWINGS. THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE CONTRACT MANAGER PRIOR TO BEGINNING WORK. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.
25. REFLECTIVE SHEETING SHALL BE EITHER "3-M" BRAND HIGH INTENSITY SHEETING OR APPROVED EQUAL.
26. THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR A COMPLETE PATCH IN PLACE. INCLUDES BUT NOT LIMITED TO SAW CUTTING, REMOVAL OF ASPHALT, REMOVAL OF UNSUITABLE SUBGRADE, UNCLASSIFIED EXCAVATION, SUBGRADE METHOD B, SEPARATOR FABRIC, AGGREGATE BASE, TYPE S3 ASPHALT AND TACK COAT.
27. IN AREAS WHERE PATCHING IS REQUIRED, UNDERCUTTING AND BACKFILLING OF SUBGRADE SHALL BE DONE IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR. BACKFILL SHALL BE COMPACTED TO NOT LESS THAN 95% (NINETY-FIVE PERCENT) OF STANDARD DENSITY. COST OF UNDERCUTTING AND BACKFILLING TO BE INCLUDED IN OTHER ITEMS OF WORK.
28. INCLUDES THE COST OF RESETTING CONTROL THAT IS LOST OR DAMAGED PRIOR OR DURING CONSTRUCTION. NO SURVEY TO PROVIDE ORIGINAL AND FINAL CROSS SECTIONS FOR EARTHWORK WILL BE PROVIDED.
29. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBLE AND ALL MATERIAL RESULTING IN DEMOLITION OPERATIONS DISPOSAL WILL BE IN ACCORDANCE WITH LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS, AND TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR.
30. UNIT PRICE BID SHALL INCLUDE BUT NOT BE LIMITED TO EXCAVATION, LABOR, FORMING, EQUIPMENT AND ALL MATERIALS REQUIRED TO CONSTRUCT TYPE B ADA RAMPS. ALL CURB RAMPS SHALL BE ADA COMPLIANT. COORDINATE WITH CONTRACT ADMINISTRATOR ON LOCATIONS OF RAMPS DUE TO OBSTRUCTIONS.
31. ALL COSTS FOR MATERIALS, LABOR AND EQUIPMENT TO CONSTRUCT C.E.T.'S. CONCRETE HEADWALLS WITH REINFORCING STEEL FOR CULVERTS SHALL BE INCLUDED IN THE COST OF 12" CORRUGATED POLYPROPYLENE PIPE (CPP) (COMPLETE-IN-PLACE).
32. H.E.S. P.C. CONCRETE SHALL BE USED IN DRIVES AND P.C. CONCRETE PATCHING.
32. THIS QUANTITY IS FOR VALLEY GUTTER AND FLAT BOTTOM CHANNEL.

EARTHWORK TABLE					
EXCAVATION CY	ADDITIONAL CY	TOTAL EXCAVATION CY	EMBANKMENT CY	SWELL CY	NET WASTE CY
155	100	255	22	3	268

DATE

REVISIONS



CITY OF

BROKEN ARROW

Where opportunity lives



DETROIT 1ST TO 3RD STREET

STREET REHABILITATION

QUANTITIES AND NOTES

DESIGN	DATE	DRAFTED	DATE
DDS	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	2 13	PROJECT NO. ST1947	

GENERAL NOTES:

THE CONTRACTOR WILL BE REQUIRED TO ESTABLISH VEGETATIVE COVER ON ANY DISTURBED AREAS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL.

COMPACTION TESTING ON THE ASPHALT OVERLAY WILL BE AS SPECIFIED IN THE CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS.

ACCESS MUST BE MAINTAINED TO ALL COMMERCIAL AND RESIDENTIAL PROPERTIES DURING THE PROJECT.

THE CONTRACTOR OR CONTRACTOR’S REPRESENTATIVE SHALL ATTEND A PUBLIC MEETING BEFORE PROJECT KICKOFF, IF REQUIRED.

FOR RECONSTRUCTION AND RESURFACING PROJECTS, THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP–OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE CONTRACT ADMINISTRATOR FOR APPROVAL, BEFORE OPERATIONS BEGIN.

THE CONTRACTOR SHALL KEEP OPEN TRENCHES DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL CONSTRUCT PROJECT IN ACCORDANCE WITH ALL APPLICABLE OSHA REQUIREMENTS.

ANY ITEM REQUIRED TO COMPLETE THE CONSTRUCTION OF THIS PROJECT THAT IS SPECIFICALLY NOT ADDRESSED WILL BE CONSIDERED INCIDENTAL AND INCLUDED IN OTHER ITEMS BID.

THE CONTRACTOR SHALL PLAN THE MILLING AND OVERLAY OPERATIONS TO MINIMIZE THE TIME BETWEEN THE MILLING ACTIVITY AND COMPLETING THE OVERLAY OF THE STREET. THE CONTRACTOR SHALL NOT PLAN MILLING IN ADVANCE OF 48 HOURS OF OVERLAY UNLESS OTHERWISE APPROVED BY THE CONTRACT ADMINISTRATOR.

ALL PAVING, DRAINAGE AND EROSION CONTROL SHALL BE DESIGNED IN ACCORDANCE WITH THE CURRENT CITY OF BROKEN ARROW ENGINEERING DESIGN CRITERIA MANUAL, LAND SUBDIVISION CODE, AND CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS.

SUBGRADE SHALL BE FREE OF ALL ORGANIC MATTER, TREATED, AND COMPACTED ACCORDING TO THE PLANS AND SPECIFICATIONS.

ALL MATERIAL COMPACTION TESTS SHALL BE TAKEN IN ACCORDANCE WITH CITY OF BROKEN ARROW STANDARD SPECIFICATIONS.

SUBGRADES SHALL BE PROOF ROLLED.

THE CONTRACTOR SHALL FURNISH THE FOLLOWING TESTING SERVICES BY A REPUTABLE INDEPENDENT TESTING LABORATORY APPROVED BY THE CITY:

FIELD DENSITY TESTS OF EMBANKMENT, SUBGRADE, OR BASE, AT LOCATIONS SPECIFIED BY THE INSPECTOR.

STABILITY, DENSITY, BITUMEN CONTENT AND GRADATION TESTS OF ASPHALTIC CONCRETE EVERY 200 TONS OR DAILY WHICH EVER IS LESS.

COMPRESSION TEST OF CONCRETE CYLINDERS AT SEVEN (7) AND TWENTY–EIGHT (28) DAYS WITH ONE (1) OF EACH TESTS CONDUCTED FOR EVERY 100 CUBIC YARDS PLACED.

ONE CORE SAMPLE, AT A LOCATION SPECIFIED BY THE INSPECTOR FOR EVERY 8,000 SQUARE FEET OF PAVEMENT.

EROSION CONTROL SHALL START WITH INITIAL CONSTRUCTION AND BE PRACTICED THROUGHOUT THE PROJECT.

SILT DIKES OR SILT FENCES SHALL BE CONSTRUCTED ADJACENT TO ALL DRAINAGE WAYS.

VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL DISTURBED AREAS AS SOON AS THE WORK IS COMPLETED.

SAFETY FENCE, FENCE REPAIR, TESTING, DEWATERING, BONDING, AND ANY OTHER SERVICES OR ITEMS NECESSARY FOR THE COMPLETION OF THE PROJECT NOT SPECIFICALLY LISTED IN THE PROPOSAL ARE INCIDENTAL AND THE COST IS TO BE INCLUDED UNDER OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE HE MAY INFLICT TO THE EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF HIS DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES: THE “OKIE” NOTIFICATION CENTER 811 OR 1–800–522–6543. DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

TACTILE WARNING DEVICES SHALL BE YELLOW ARMOR TILE OR APPROVED EQUAL.

PRIOR TO STARTING CONSTRUCTION THE CONTRACTOR SHALL PARTICIPATE IN A PRE–CONSTRUCTION CONFERENCE WITH THE ENGINEERING AND CONSTRUCTION DEPARTMENT. AT THIS CONFERENCE THE CONTRACTOR SHALL FURNISH CERTIFICATION FROM THE MANUFACTURE/SUPPLIER THAT ALL MATERIALS MEET APPLICABLE SPECIFICATION. THIS INFORMATION SHALL INCLUDE MOISTURE DENSITY CURVES FOR MATERIAL TO BE USED FOR EMBANKMENT OR SUBGRADE CONSTRUCTION, AGGREGATE GRADATION TESTS, AND MIX DESIGNS FOR PORTLAND CEMENT CONCRETE AND/OR ASPHALTIC CONCRETE WORK. CERTIFICATIONS SHALL BE SUPPLIED IN FIVE (5) COPIES. MATERIALS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE CITY.

ALL CONSTRUCTION SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT CITY OF BROKEN ARROW STANDARD CONSTRUCTION SPECIFICATIONS AS SUPPLEMENTED BY THE OKLAHOMA STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION APPROVED BY THE DEPARTMENT OF TRANSPORTATION 2009.

MILLINGS WILL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED IN A MANNER APPROVED BY THE CONTRACT ADMINISTRATOR.

ALL PAVING, DRAINAGE AND EROSION CONTROL CONSTRUCTION SHALL BE INSPECTED BY THE ENGINEERING AND CONSTRUCTION DEPARTMENT CONTRACT ADMINISTRATORS.

IN AREAS WHERE UNSTABLE PAVEMENT BASE IS ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE CONTRACT ADMINISTRATOR BEFORE ANY PATCHING OR OVERLAY OPERATIONS.

TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS. THE CONTRACT ADMINISTRATOR MAY ADD OR DELETE CONTROL MEASURES AS NECESSARY.

CONTRACTOR SHALL COORDINATE WITH THE CITY OF BROKEN ARROW CONSTRUCTION ADMINISTRATOR PRIOR TO PLACING SIDEWALKS.

CONTRACTORS SHALL PROTECT AND USE CAUTION AROUND ALL TREES NOT MARKED FOR REMOVAL.

THE CONTRACTOR SHALL PRESERVE PUBLIC AND PRIVATE PROPERTY DURING THE PROSECUTION OF THE WORK AND NOT MOVE, DISTURB, OR DAMAGE LAND MONUMENTS AND PROPERTY MARKS UNTIL DIRECTED BY THE CONTRACT ADMINISTRATOR.

THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO PUBLIC AND PRIVATE PROPERTY RESULTING FROM ANY OF THE FOLLOWING:

- * ACTS, OMISSIONS, NEGLIGENCE, OR MISCONDUCT IN THE CONTRACTORS METHOD OF PERFORMING THE WORK.
- * DEFECTIVE WORK OR MATERIALS, OR
- * NON–PERFORMANCE OF THE CONTRACT.

THE CONTRACTOR IS RESPONSIBLE FOR RESTORING DAMAGED PROPERTY TO A SIMILAR OR EQUAL TO THAT EXISTING BEFORE DAMAGE OCCURRED, AT NO ADDITIONAL COST TO THE CITY.

ROAD CLOSURES ,MUST BE COORDINATED A MINIMUM OF TWENTY FOUR (24) HOURS IN ADVANCE. ROADS WILL NOT BE CLOSED FOR OVER EIGHT (8) HOURS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSTRUCTION DEPARTMENT DIRECTOR.

DATE

REVISIONS



CITY OF

BROKEN ARROW

Where opportunity lives

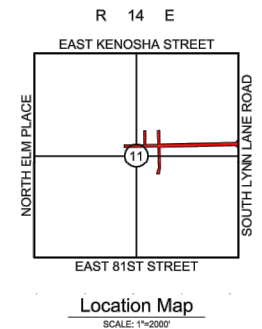


DETROIT 1ST TO 3RD STREET

STREET REHABILITATION

GENERAL NOTES

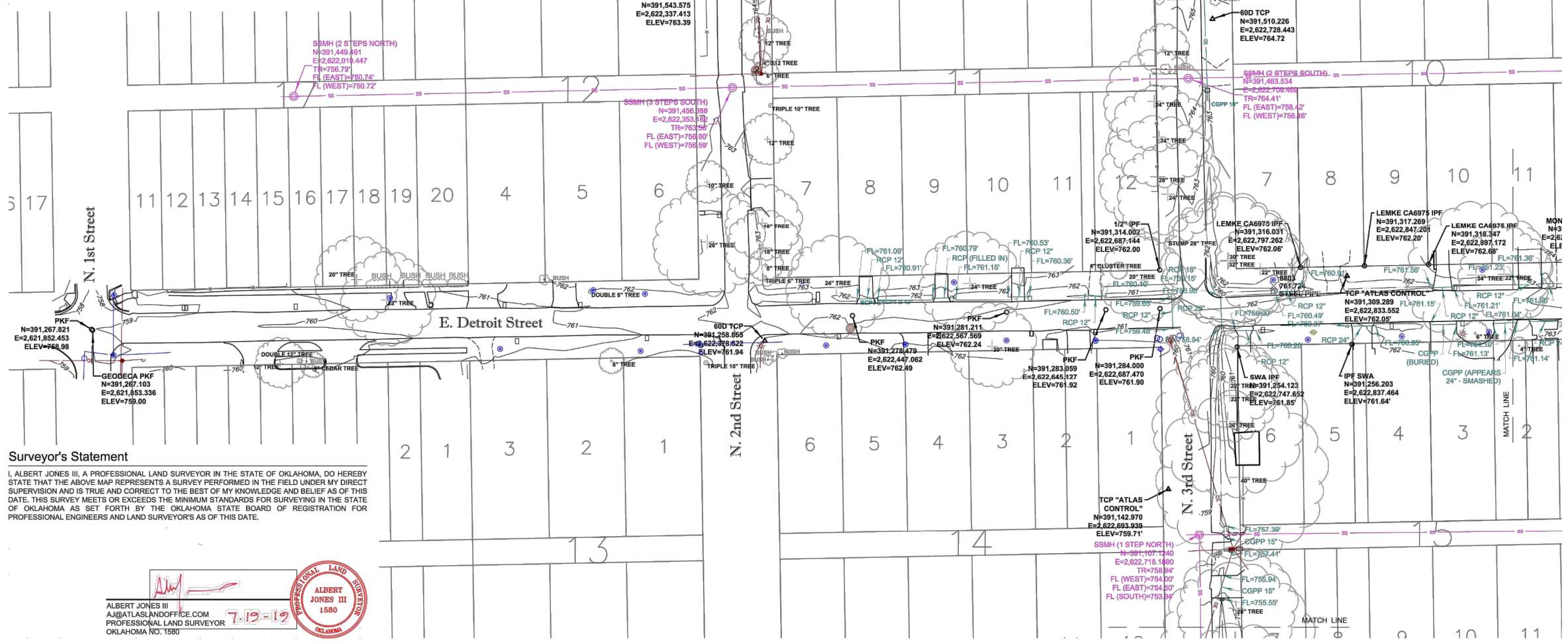
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PPW	12/2019	TS	12/2019
SHEET	3	PROJECT NO. ST1947	
OF	13		



Topographic Survey
OF A PART OF
Section 11, T-18-N, R-14-E
TULSA COUNTY, OKLAHOMA

Notes

1. ABSTRACT OF TITLE OR ATTORNEY'S TITLE OPINION NOT AVAILABLE TO SURVEYOR AT DATE OF SURVEY.
2. THIS FIRM WAS NOT CONTRACTED TO RESEARCH EASEMENTS OR ENCUMBRANCES OF RECORD. NO ATTEMPT TO RESEARCH THE COUNTY RECORDS OR OTHER RECORD OFFICES WAS PERFORMED BY THIS FIRM. THEREFORE EASEMENTS MAY AFFECT THE SUBJECT TRACT THAT ARE NOT REFLECTED BY THIS PLAN.
3. ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN. (CALL "OKIE" BEFORE DIGGING)
4. THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON NAVD88 GPS DATA.
5. THE HORIZONTAL DATUM FOR THIS SURVEY IS BASED ON THE OKLAHOMA STATE PLANE COORDINATE SYSTEM NAD83.



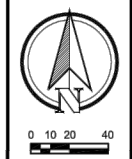
Surveyor's Statement

I, ALBERT JONES III, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF OKLAHOMA, DO HEREBY STATE THAT THE ABOVE MAP REPRESENTS A SURVEY PERFORMED IN THE FIELD UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AS OF THIS DATE. THIS SURVEY MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR SURVEYING IN THE STATE OF OKLAHOMA AS SET FORTH BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AS OF THIS DATE.

ALBERT JONES III
ALBERTJONESIII@GMAIL.COM
PROFESSIONAL LAND SURVEYOR
OKLAHOMA NO. 1580
7-19-19

Legend

3/8" IRON PIN FOUND (UNLESS OTHERWISE NOTED)	FIRE HYDRANT	SANITARY SEWER CLEANOUT	WATER METER	RCP - REINFORCED CONCRETE PIPE	UC - UNDERGROUND CABLE
3/8" IPS W/ PINK "ATLAS 8080" CAP (UNLESS OTHERWISE NOTED)	FLAG POLE	SANITARY SEWER LAMPPOLE	WATER VALVE	SAT - SATELLITE DISH	UE - UNDERGROUND ELECTRIC
AIR CONDITIONER UNIT	GAS METER	SANITARY SEWER MANHOLE	BOREHOLE	TT - TERMITE TRAP	UG - UNDERGROUND GAS LINE
BENCHMARK	GAS RISER	SPRINKLER HEAD	CGMP - CORRUGATED METAL PIPE	----- BUILDING SETBACK LINE	UT - UNDERGROUND TELEPHONE
CABLE/TV PEDESTAL	GAS VALVE	STORM DRAIN INLET	CGPP - CORRUGATED PLASTIC PIPE	----- EASEMENT	WL - WATERLINE
DOWN SPOUT	GROUND LIGHT	TELEPHONE PEDESTAL	CHXF - CHISELED 'X' FOUND	OC - OVERHEAD CABLE	
DOWN GUY	GUARD POST	STORM DRAIN MANHOLE	CHXS - CHISELED 'X' SET	OE - OVERHEAD ELECTRIC	
ELECTRIC METER	IRRIGATION CONTROL VALVE	TRAFFIC SIGNAL LIGHT POLE	IPF - IRON PIN FOUND	OT - OVERHEAD TELEPHONE	
ELECTRIC PEDESTAL-RISER	LIGHT POLE	TRAFFIC SIGNAL MANHOLE	IPS - IRON PIN SET	OH - OVERHEAD UTILITIES MISC.	
	MAILBOX	TRANSFORMER	PKF - PK NAIL FOUND	SS - SANITARY SEWER	
	POWER POLE	UTILITY MANHOLE	PKS - PK NAIL SET	SD - STORM DRAIN	



PREPARED FOR: PATRICK WILSON, CITY OF BROKEN ARROW

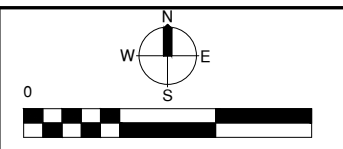
CHECKED BY:	ARJ	SCALE:	1"=40'
DRAFTED BY:	JMH		
SURVEY DATE:	07/15/2019		
JOB NUMBER:	11370.20		
BOOK/PAGE:	DIGITAL	FILE NUMBER:	1814.100



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BEFORE YOU DIG
CONTACT OKLAHOMA
ONE CALL
1-800-522-6543
EXISTING UNDERGROUND
UTILITIES HAVE BEEN LOCATED
TO THE EXTENT KNOWN

DATE	REVISIONS



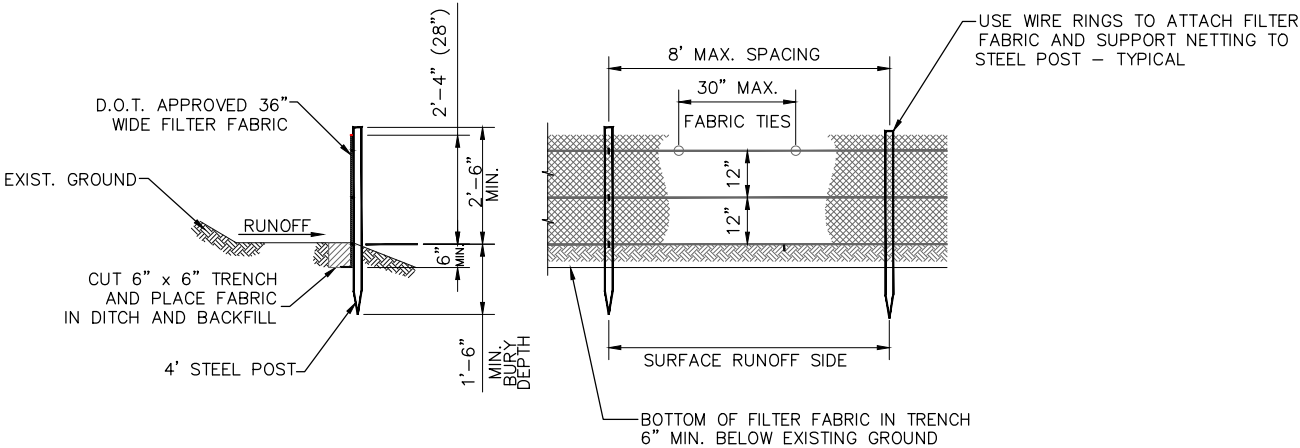
**DETROIT 1ST TO 3RD STREET
STREET REHABILITATION**

SURVEY

DESIGN	DATE	DRAFTED	DATE
PPW	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	4 13	PROJECT NO.	ST1947

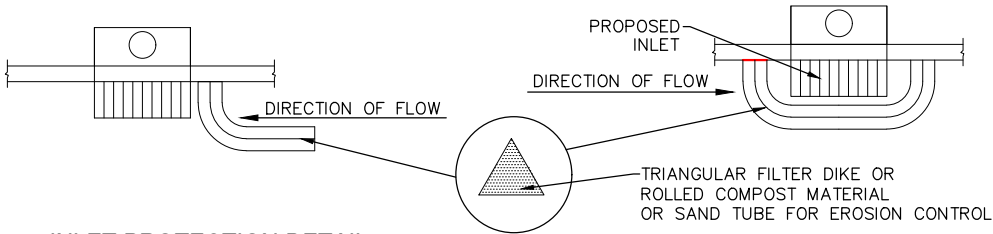
EROSION CONTROL NOTES:

1. SILT FENCE SHALL BE MAINTAINED AND SEDIMENT BUILD-UP REGULARLY REMOVED UNTIL PAVING OPERATIONS ARE COMPLETE AND/OR SEEDING IS IN PLACE OR 75% VEGETATION STABILIZATION IS OBTAINED.
2. ALL DISTURBED AREAS SHALL BE RE-VEGETATED.
3. ALL FLOW LINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY COMPACTED TO 95% STANDARD PROCTOR DENSITY BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES.
4. IN ORDER TO ALLEVIATE DUST CONDITIONS WITHIN THE CITY LIMITS DURING GRADING OPERATIONS, AND AFTER GRADING OPERATIONS ARE COMPLETED, BUT BEFORE PAVEMENT AND/OR PERMANENT EROSION CONTROL WORK IS STARTED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE CITY.
5. CONTRACTOR SHALL PROVIDE INLET EROSION CONTROL PROTECTION IN ACCORDANCE WITH DETAILS AS SHOWN ON THIS SHEET.
6. STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AND MAINTAINED DURING THE COURSE OF CONSTRUCTION IN ACCORDANCE WITH CITY STANDARDS.
7. ALL SILT FENCING SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF DISTURBED EARTH.



SILT FENCE DETAIL

SCALE: N.T.S.

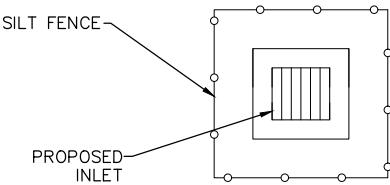


INLET PROTECTION DETAIL

SCALE: N.T.S

CURB INLET PROTECTION DETAIL

SCALE: N.T.S

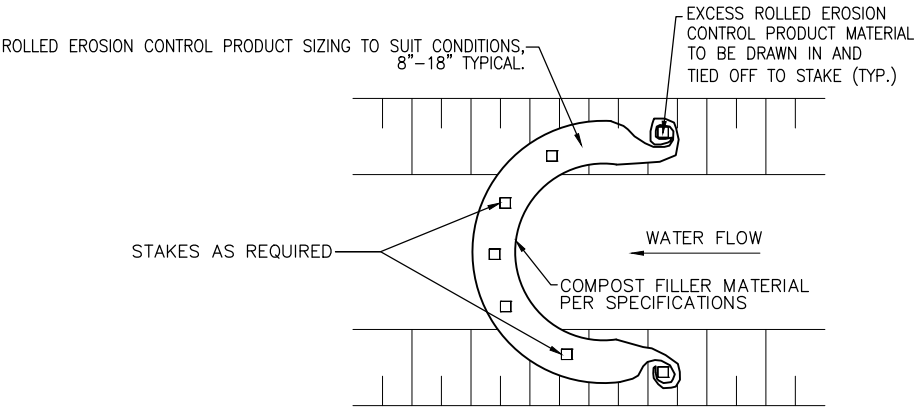


AREA INLET PROTECTION DETAIL

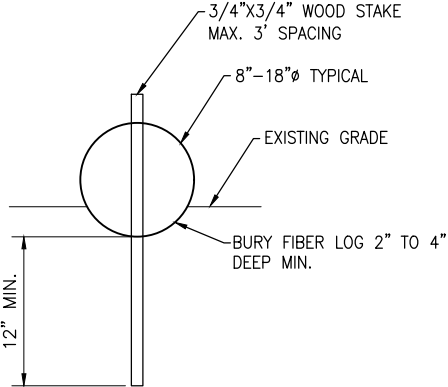
SCALE: N.T.S

ROLLED EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN THE ROLLED EROSION CONTROL IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
2. WHERE THE BERM REQUIRES REPAIR, IT WILL BE ROUTINELY REPAIRED.
3. THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE BERM WHEN THEY EACH 1/3 OF THE EXPOSED HEIGHT OF THE BERM, OR AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
4. THE ROLLED EROSION CONTROL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE CONTRACT ADMINISTRATOR.



FIBER LOG DETAIL

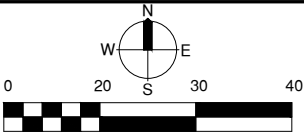


SCALE: N.T.S.

DATE	REVISIONS



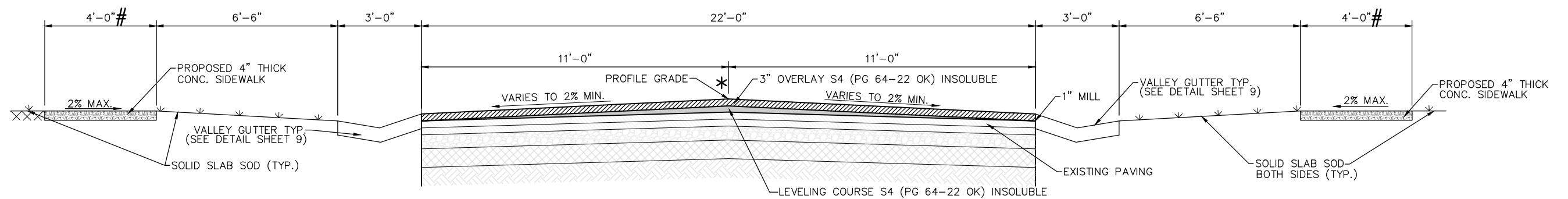
CITY OF
BROKEN ARROW
Where opportunity lives



DETROIT 1ST TO 3RD STREET
STREET REHABILITATION

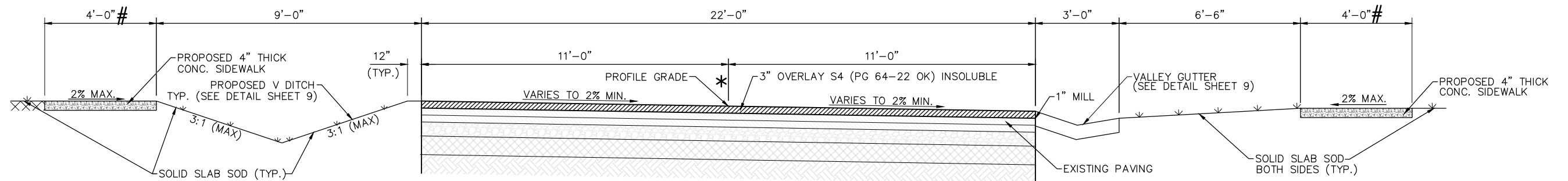
EROSION CONTROL
DETAILS

DESIGN	DATE	DRAFTED	DATE
DDS	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	7 13	PROJECT NO. ST1947	



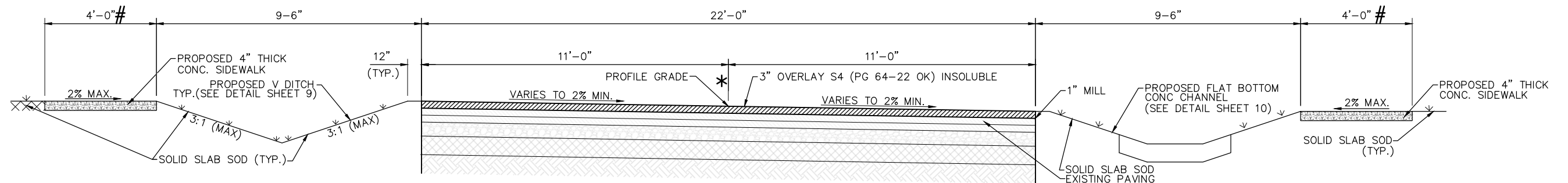
TYPICAL SECTION 1
STA.10+32.00 TO STA.14+82.00
 SCALE: 1/2"=1'-0"

*DEPTH VARIES AT CL 3" MIN TO 3"+ AT PROFILE GRADE
4' WIDE CONCRETE SIDEWALK TYPICAL BUT 5' WIDE THROUGH DRIVES



TYPICAL SECTION 2
STA.15+28.24 TO STA.17+85.33
 SCALE: 1/2"=1'-0"

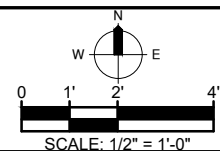
* DEPTH VARIES AT CL 3" MIN TO 3"+ AT PROFILE GRADE
4' WIDE CONCRETE SIDEWALK TYPICAL BUT 5' WIDE THROUGH DRIVES



TYPICAL SECTION 3
STA.17+85.33 TO STA.18+53.00
 SCALE: 1/2"=1'-0"

* DEPTH VARIES AT CL 3" MIN TO 3"+ AT PROFILE GRADE
4' WIDE CONCRETE SIDEWALK TYPICAL BUT 5' WIDE THROUGH DRIVES

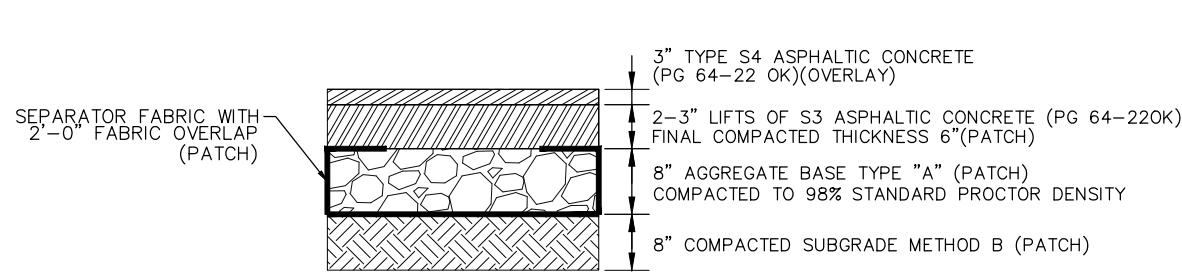
DATE	REVISIONS



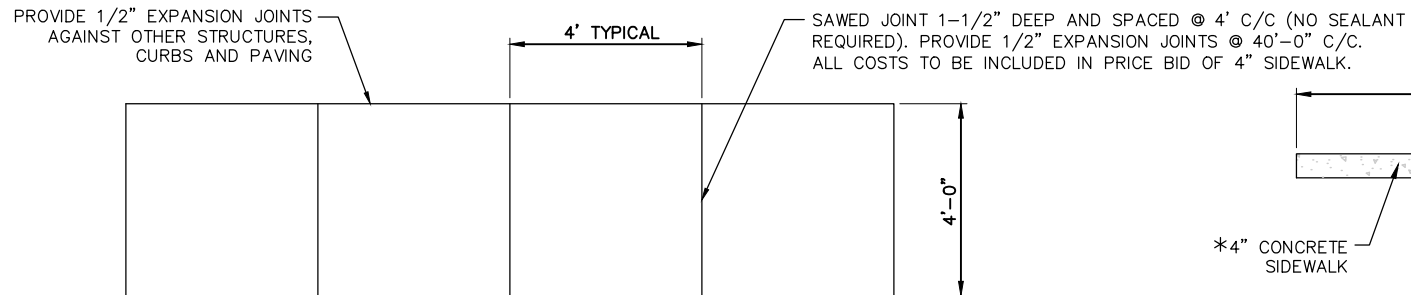
DETROIT 1ST TO 3RD STREET STREET REHABILITATION

TYPICAL SECTIONS

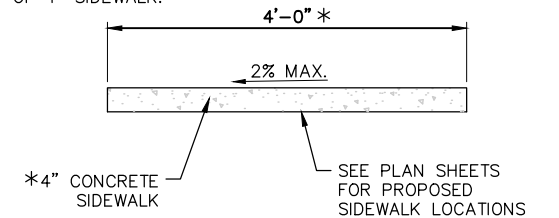
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DDS	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET	8	PROJECT NO.	
OF	13	ST1947	



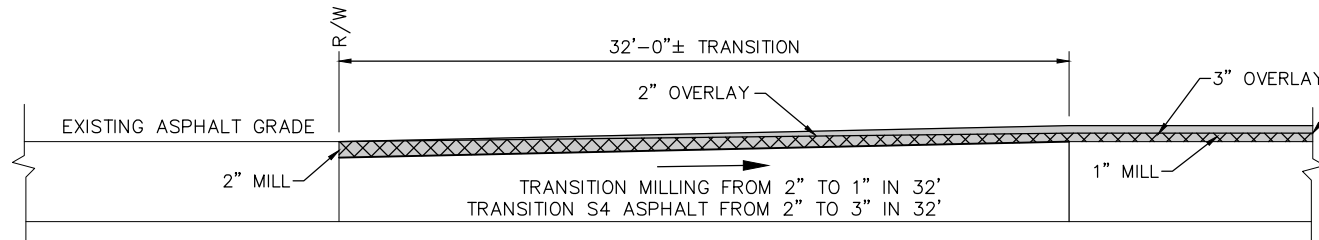
ASPHALT STREET PATCH
SCALE: NOT TO SCALE



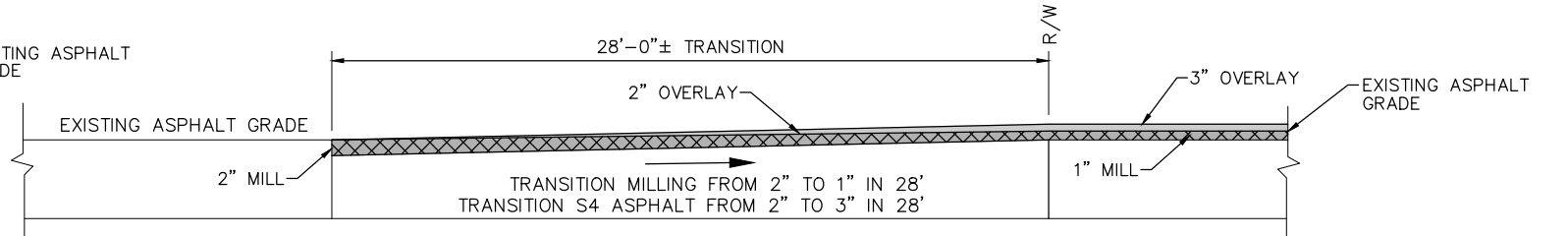
SIDEWALK PLAN
SCALE: N.T.S.



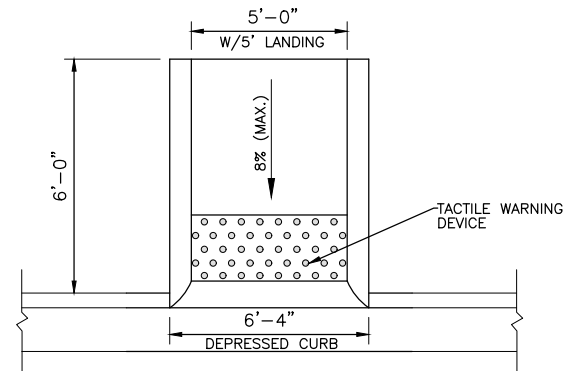
SIDEWALK DETAIL
SCALE: N.T.S.
*5'-0" WIDE AND 6" THICK @ DRIVES



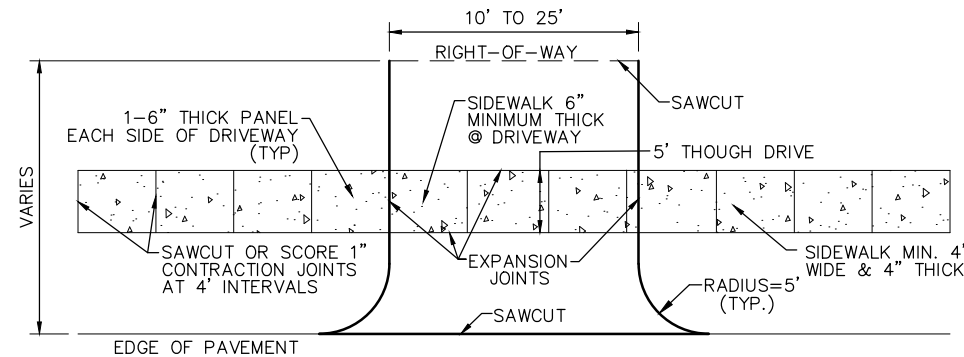
MILL TRANSITION DETAIL (ALL NORTH OF INTERSECTIONS)
SCALE: NOT TO SCALE



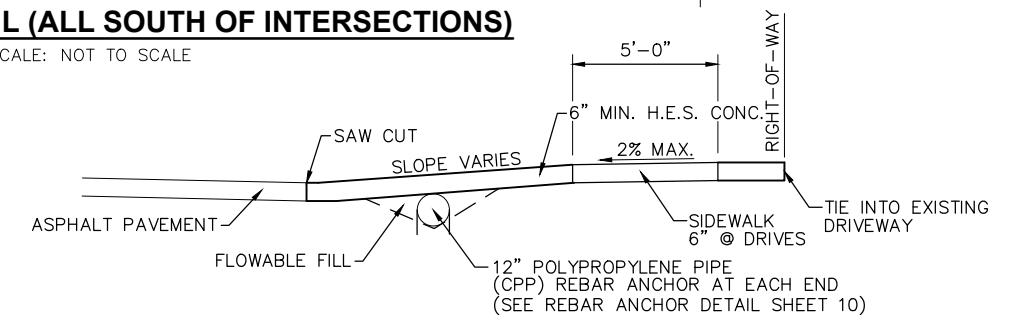
MILL TRANSITION DETAIL (ALL SOUTH OF INTERSECTIONS)
SCALE: NOT TO SCALE



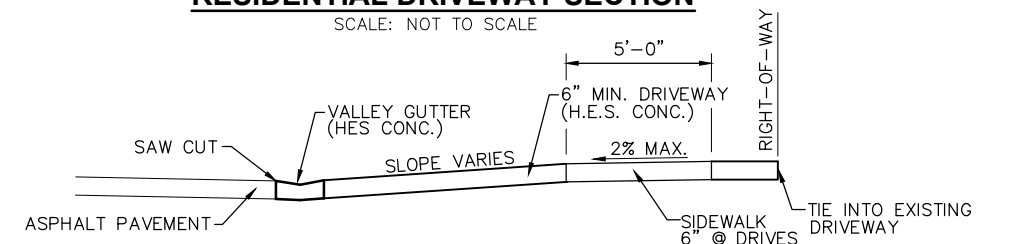
TYPE "B" ADA RAMP
SCALE: NOT TO SCALE



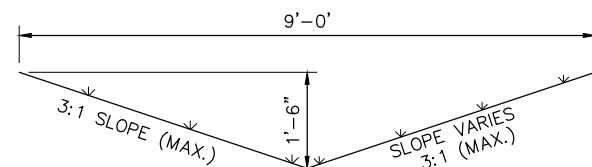
RESIDENTIAL DRIVEWAY DETAIL
SCALE: NOT TO SCALE



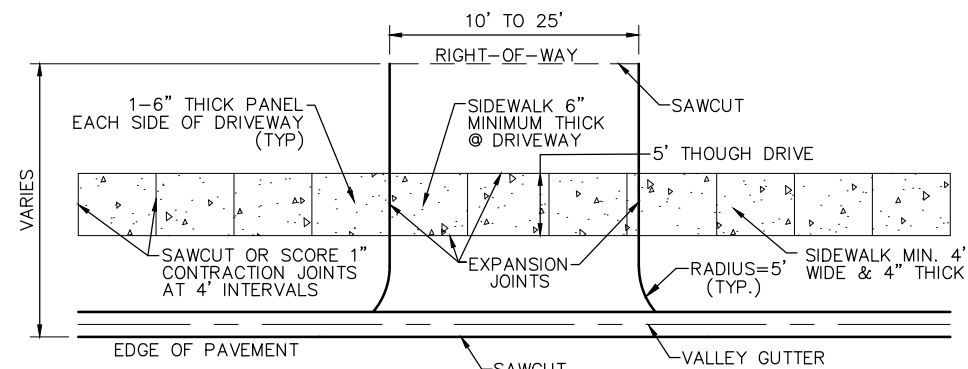
RESIDENTIAL DRIVEWAY SECTION
SCALE: NOT TO SCALE



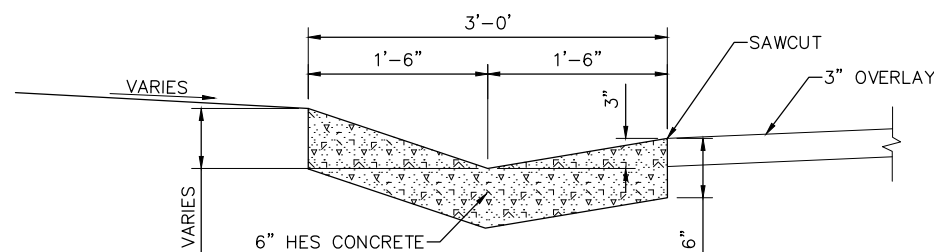
RESIDENTIAL DRIVEWAY SECTION WITH VALLEY GUTTER
SCALE: NOT TO SCALE



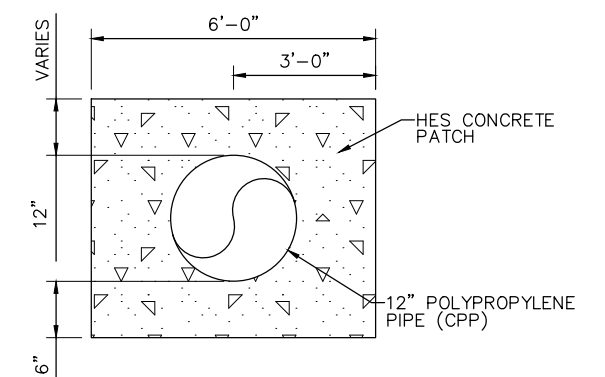
V-DITCH DETAIL
SCALE: NOT TO SCALE



RESIDENTIAL DRIVEWAY WITH VALLEY GUTTER DETAIL
SCALE: NOT TO SCALE

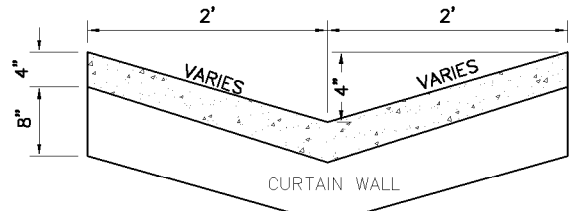
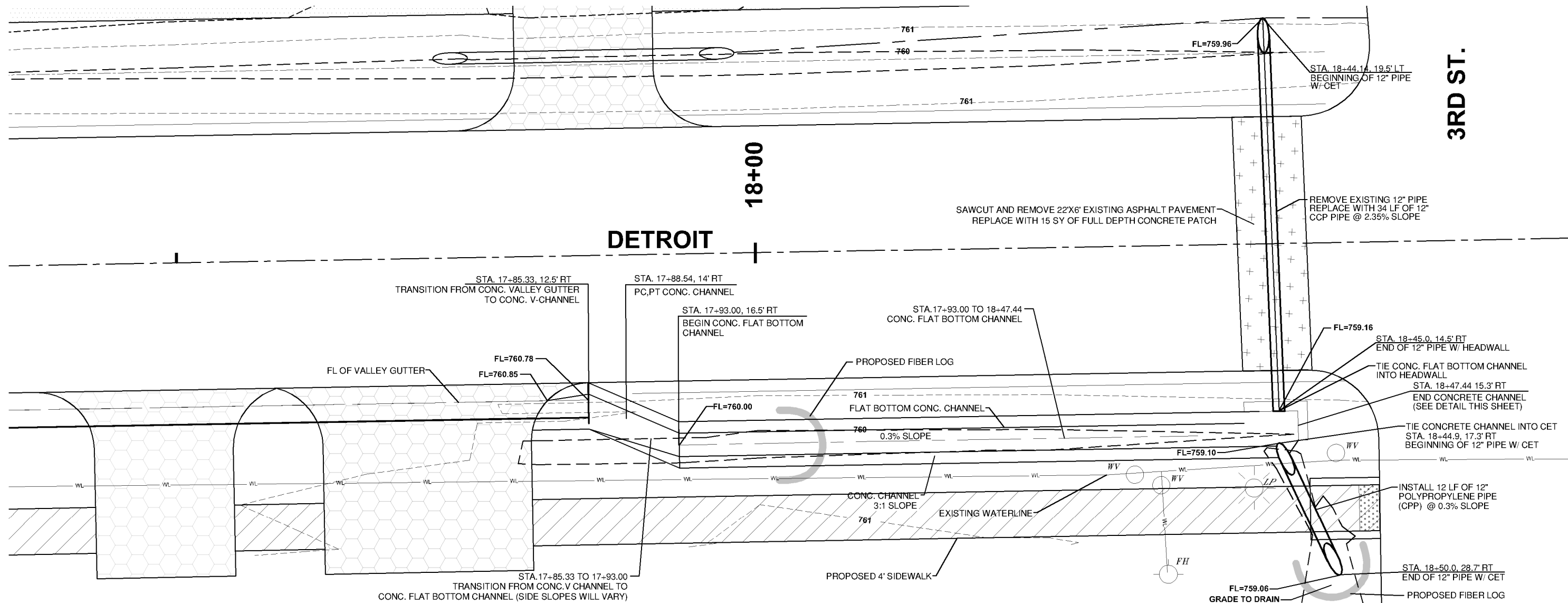


VALLEY GUTTER DETAIL
SCALE: NOT TO SCALE



CULVERT FULL DEPTH HES CONCRETE PATCH DETAIL
STA. 18+44.64
SCALE: NOT TO SCALE

DATE	REVISIONS	 CITY OF BROKEN ARROW Where opportunity lives		 AS NOTED		DETROIT 1ST TO 3RD STREET STREET REHABILITATION		DETAILS		DESIGN	DATE	DRAFTED	DATE
										DDS	12/2019	DDS	12/2019
										REVIEWED	DATE	APPROVED	DATE
										PPW	12/2019	TS	12/2019
										SHEET 9 OF 13			PROJECT NO. ST1947

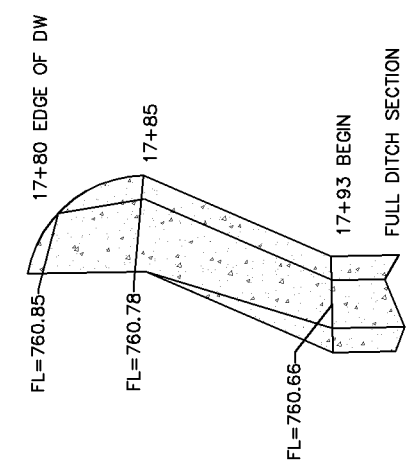


V CONCRETE CHANNEL

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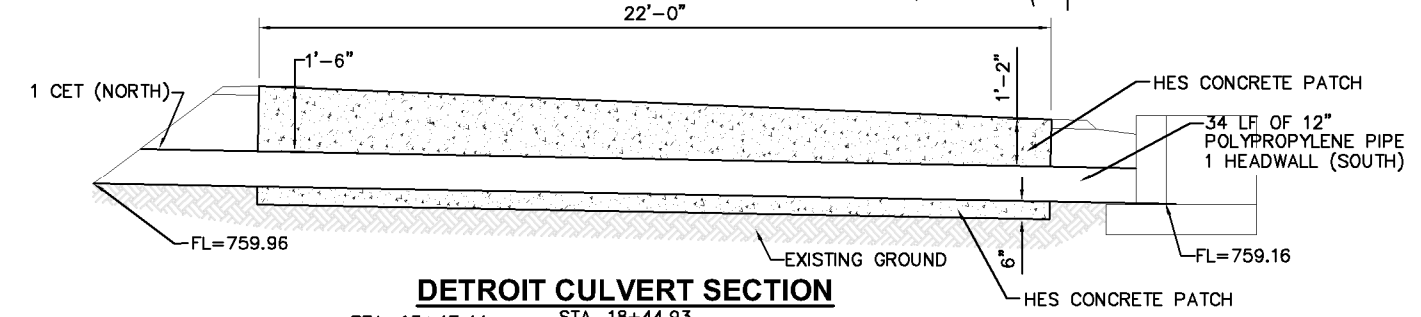
CONCRETE CHANNEL DETAIL

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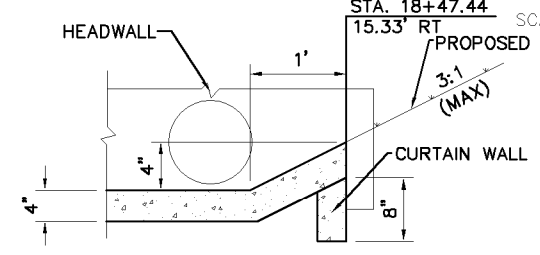
TRANSITION DETAIL PLAN VIEW

SCALE: NOT TO SCALE



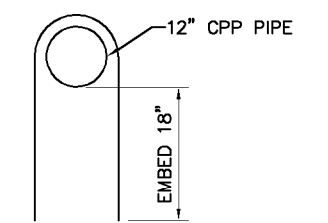
DETROIT CULVERT SECTION

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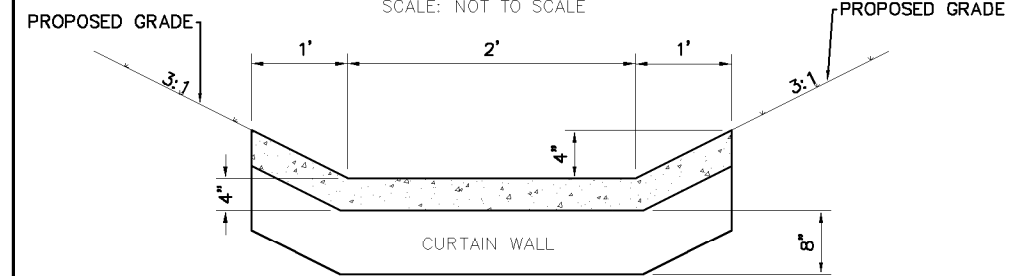
CONCRETE CHANNEL END

SCALE: NOT TO SCALE



#3 REBAR ANCHOR DETAIL

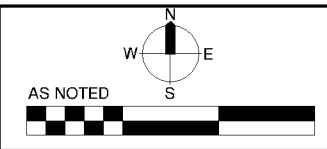
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FLAT BOTTOM CONCRETE CHANNEL

SCALE: NOT TO SCALE

DATE	REVISIONS

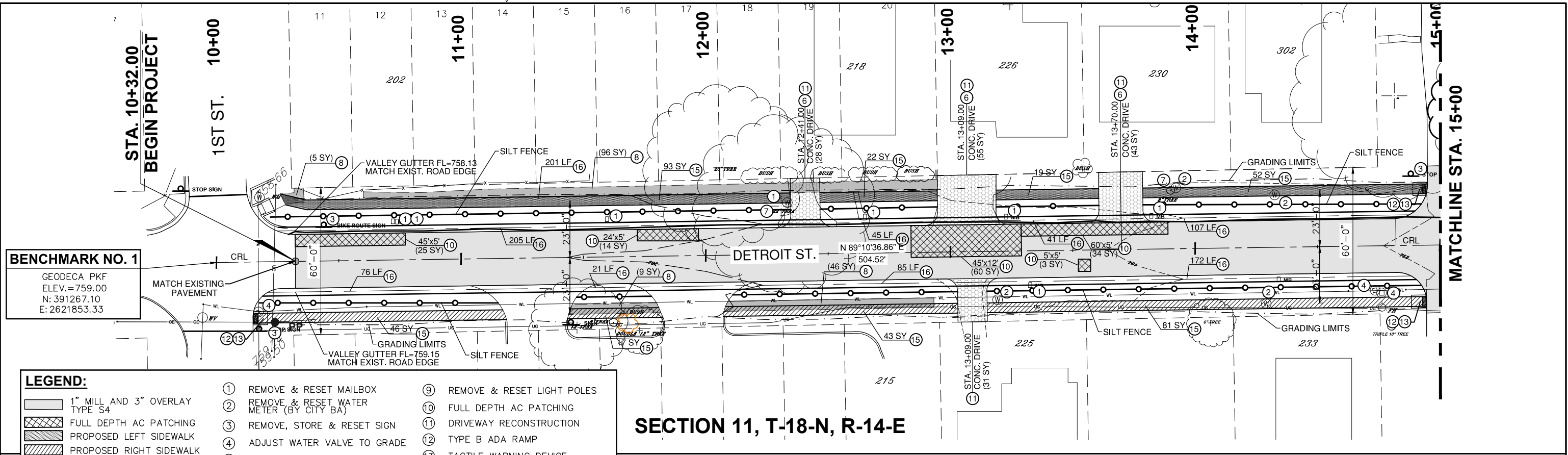


DETROIT 1ST TO 3RD STREET STREET REHABILITATION

DETAILS

DESIGN	DATE	DRAFTED	DATE
DDS	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	10 13	PROJECT NO.	ST1947

T:\PUBLIC PROJECTS\ST1947 - Detroit 1st to 4th Drawings Quantities and Notes.dwg, 4/22/2020 - 12:05 PM

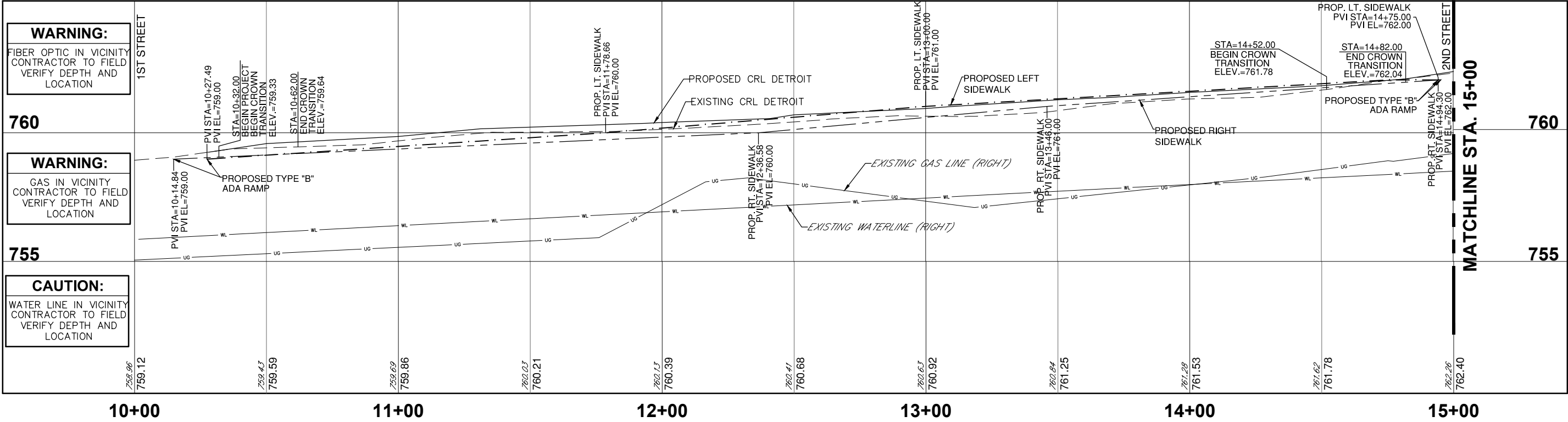


BENCHMARK NO. 1
GEODECA PKF
ELEV.=759.00
N: 391267.10
E: 2621853.33

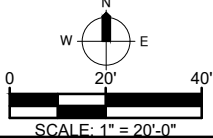
- LEGEND:**
- | | | |
|-----------------------------------|--|------------------------------|
| 1" MILL AND 3" OVERLAY
TYPE S4 | 1 REMOVE & RESET MAILBOX | 9 REMOVE & RESET LIGHT POLES |
| FULL DEPTH AC PATCHING | 2 REMOVE & RESET WATER
METER (BY CITY BA) | 10 FULL DEPTH AC PATCHING |
| PROPOSED LEFT SIDEWALK | 3 REMOVE, STORE & RESET SIGN | 11 DRIVEWAY RECONSTRUCTION |
| PROPOSED RIGHT SIDEWALK | 4 ADJUST WATER VALVE TO GRADE | 12 TYPE B ADA RAMP |
| REMOVE & REPLACE DRIVEWAY | 5 ADJUST MANHOLE TO GRADE | 13 TACTILE WARNING DEVICE |
| REMOVE SIDEWALK | 6 REMOVE CONCRETE DRIVE | 14 ROLLED EROSION CONTROL |
| CONCRETE PATCH | 7 REMOVE TREE | 15 CONSTR. CONCRETE SIDEWALK |
| SILT FENCE | 8 REMOVE CONCRETE SIDEWALK | 16 CONSTR. VALLEY GUTTER |

SECTION 11, T-18-N, R-14-E

NOTES:
ALL CULVERTS SHALL BE CORRUGATED 12" POLYPROPYLENE PIPE (CPP)
ALL ADA RAMP SHALL BE TYPE "B" W/5'X5' LANDING @ 5% MAX. SLOPE
ALL FIBER OPTIC LINES SHALL BE FIELD VERIFIED FOR DEPTH AND LOCATION.



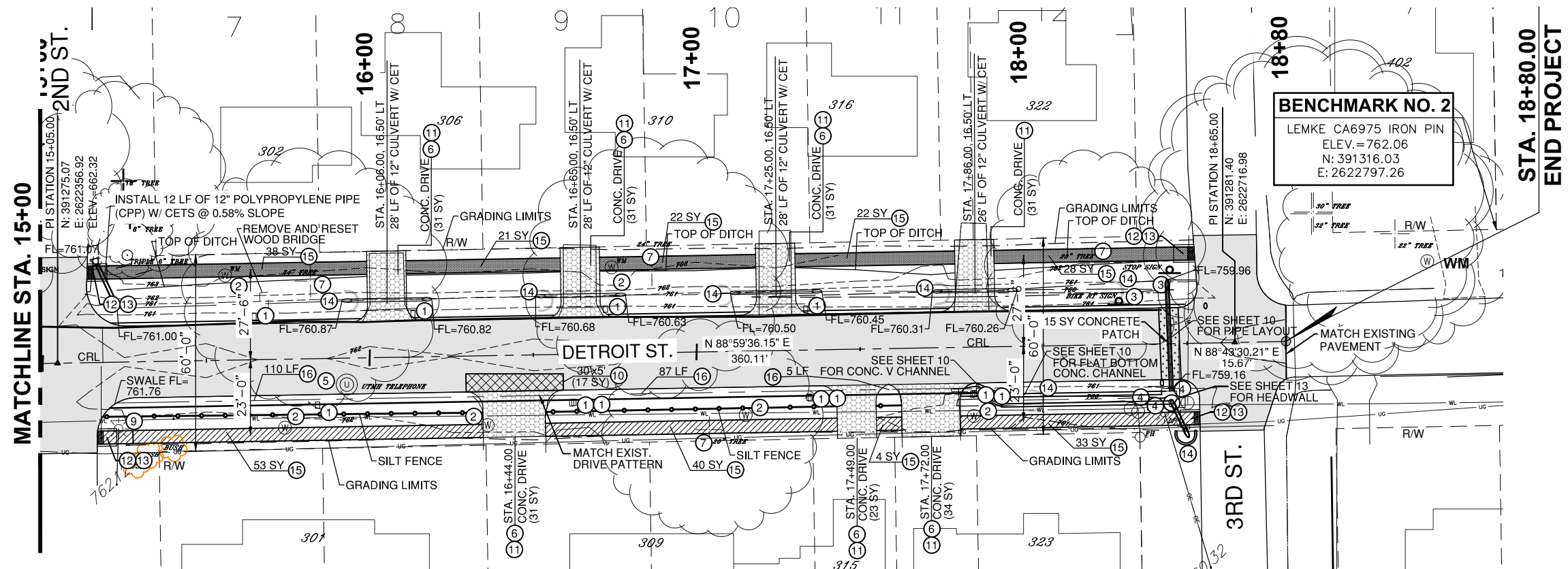
DATE	REVISIONS



**DETROIT 1ST TO 3RD STREET
REHABILITATION**

**PLAN AND PROFILE
SHEET 1 OF 2**

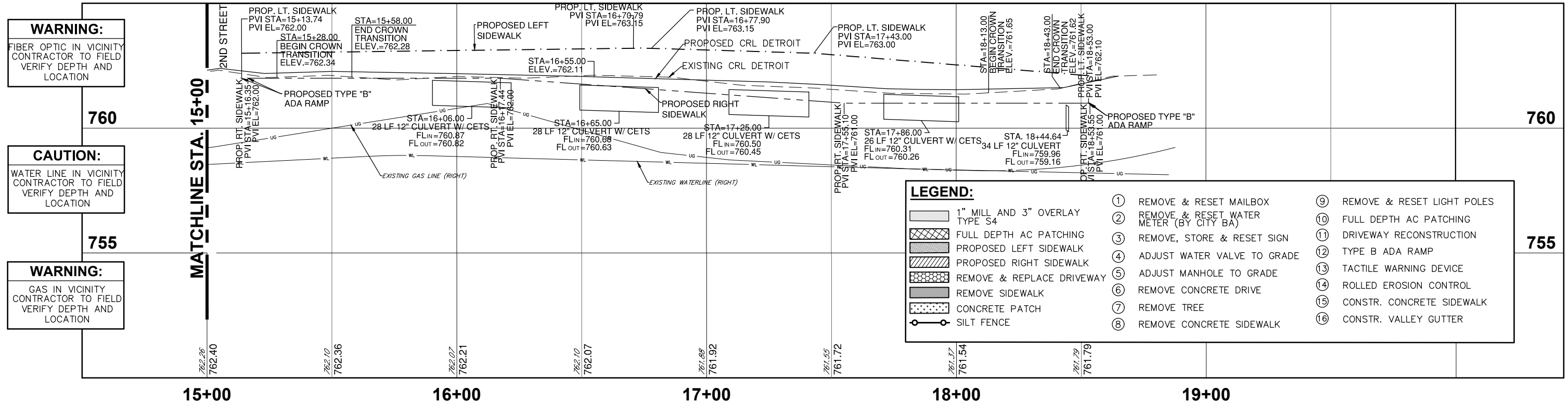
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PPW	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET	11	PROJECT NO.	ST1947
OF	13		



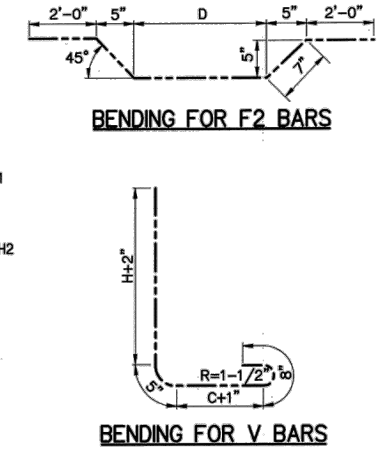
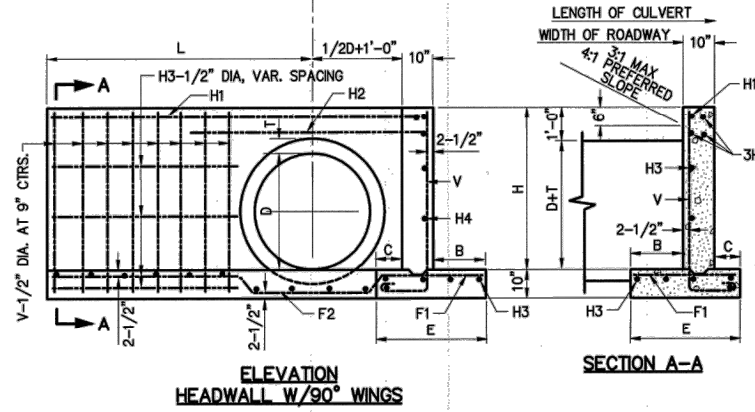
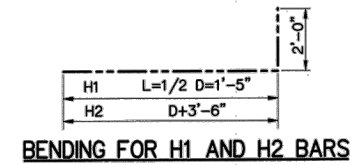
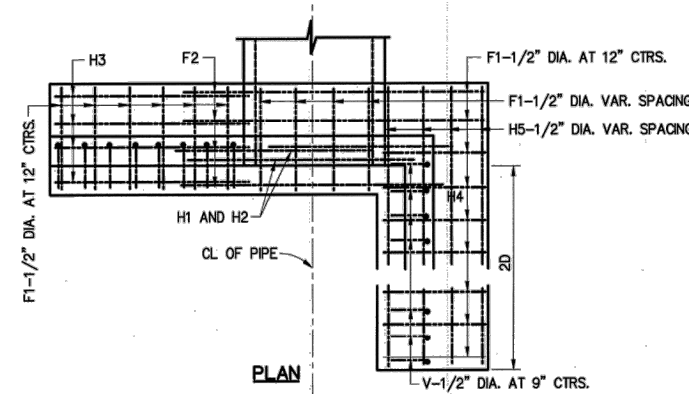
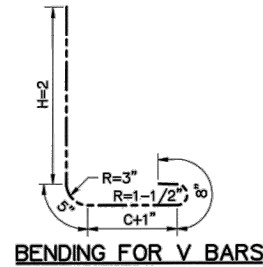
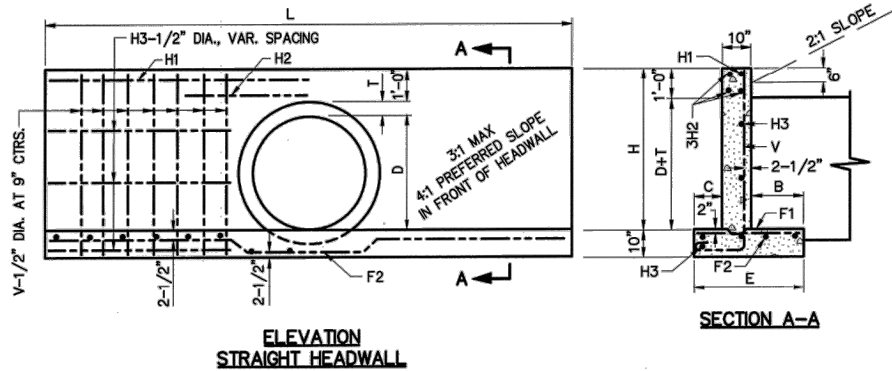
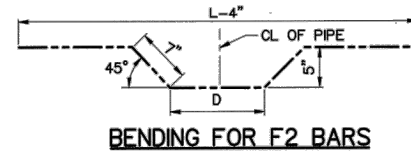
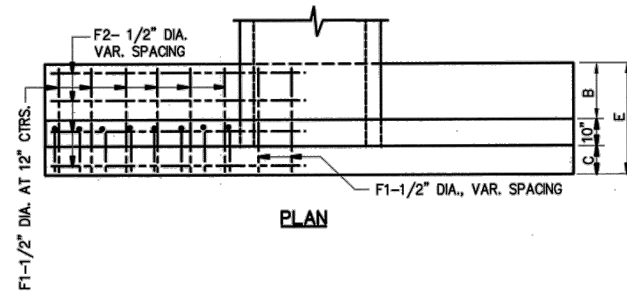
SECTION 11, T-18-N, R-14-E

NOTES:

- ALL CULVERTS SHALL BE CORRUGATED 12" POLYPROPYLENE PIPE (CPP)
- ALL ADA RAMPS SHALL BE TYPE "B" W/5'X5' LANDING @ 5% MAX. SLOPE
- ALL FIBER OPTIC LINES SHALL BE FIELD VERIFIED FOR DEPTH AND LOCATION.



PATH NAME: /E:/PARTS/STD/DGN/STD/776-STD-PIPE-HEADWALLS-15-42.DGN LFM 05/16/2012



DIMENSIONS AND QUANTITIES FOR HEADWALLS WITH 90° WINGS																									
DIMENSIONS								REINFORCING STEEL														QUANTITIES*			
D	AREA S.F.	T	H	L	E	B	C	F1-1/2" DIA.		F2-1/2" DIA.		H1-1/2" DIA.		H2-1/2" DIA.		H3-1/2" DIA.		H4-1/2" DIA.		H5-1/2" DIA.		V-1/2" DIA.		CLASS 'A' CONC., C.Y.	REINF. STEEL, LBS.
								NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.		
15"	1.23	2-1/4"	2' 5-1/4"	3'-0"	2'-2"	10"	6"	10	1'-10"	3	6'-5"	1	7'-0"	3	6'-9"	5	2'-0"	2	3'-0"	4	3'-10"	7	4'-3"	1.09	84
18"	1.77	2-1/2"	2' 8-1/2"	3'-6"	2'-3"	11"	6"	10	1'-11"	3	6'-8"	1	7'-8"	3	7'-0"	5	2'-0"	2	3'-6"	4	4'-5"	9	4'-6"	1.32	97
24"	3.14	3"	3'-3"	4'-6"	2'-7"	1'-3"	6"	14	2'-3"	3	7'-2"	1	8'-11"	3	7'-6"	6	3'-1"	3	4'-6"	4	5'-9"	11	5'-1"	1.94	131
30"	4.91	3-1/2"	3' 9-1/2"	5'-6"	2'-10"	1'-4"	8"	16	2'-6"	3	7'-8"	1	10'-2"	3	8'-0"	6	3'-9"	3	5'-6"	4	6'-10"	14	5'-9"	2.59	163
36"	7.07	4"	4'-4"	7'-0"	3'-1"	1'-7"	8"	19	2'-9"	4	8'-2"	1	11'-11"	3	8'-6"	7	5'-0"	4	6'-6"	4	8'-1"	17	6'-4"	3.47	216
42"	9.62	4-1/2"	4' 10-1/2"	8'-0"	3'-4"	1'-8"	10"	21	3'-0"	4	8'-8"	1	13'-2"	3	9'-0"	7	5'-8"	4	7'-6"	4	9'-2"	19	7'-0"	4.32	252

*FOR ONE HEADWALL

DIMENSIONS AND QUANTITIES FOR STRAIGHT HEADWALLS																					
DIMENSIONS								REINFORCING STEEL										QUANTITIES*			
D	AREA S.F.	T	H	L	E	B	C	F1-1/2" DIA.		F2-1/2" DIA.		H1-1/2" DIA.		H2-1/2" DIA.		H3-1/2" DIA.		V-1/2" DIA.		CLASS 'A' CONC., C.Y.	REINF. STEEL LBS.
								NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.		
15"	1.23	2-1/4"	2' 5-1/4"	6'-0"	2'-2"	10"	6"	6	1'-10"	3	6'-0"	1	5'-8"	3	5'-3"	4	2'-0"	6	4'-3"	0.78	56
18"	1.77	2-1/2"	2' 8-1/2"	7'-0"	2'-3"	11"	6"	8	1'-11"	3	7'-0"	1	6'-8"	3	5'-6"	4	2'-4"	8	4'-6"	0.98	70
24"	3.14	3"	3'-3"	9'-0"	2'-7"	1'-3"	6"	11	2'-3"	3	9'-0"	1	8'-8"	3	6'-0"	4	3'-1"	10	5'-1"	1.46	95
30"	4.91	3-1/2"	3' 9-1/2"	11'-0"	2'-10"	1'-4"	8"	11	2'-6"	3	11'-0"	1	10'-8"	3	6'-6"	6	3'-9"	12	5'-9"	2.00	122
36"	7.07	4"	4'-4"	14'-0"	3'-1"	1'-7"	8"	16	2'-9"	4	14'-0"	1	13'-8"	3	7'-0"	6	5'-0"	14	6'-4"	2.85	170
42"	9.62	4-1/2"	4' 10-1/2"	16'-0"	3'-4"	1'-8"	10"	16	3'-0"	4	16'-0"	1	15'-8"	3	7'-6"	6	5'-8"	16	7'-0"	3.58	198

*FOR ONE HEADWALL

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF TULSA STANDARD SPECIFICATIONS.
- ALL EXPOSED CONCRETE SURFACES SHALL HAVE A CARBORUNDUM FINISH.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4\"/>

CITY ENGINEER
DESIGN MANAGER

CITY OF TULSA, OKLAHOMA
ENGINEERING SERVICES DEPARTMENT

STANDARD PIPE HEADWALLS
15\"/>

DATE: OCTOBER 2013

STD. 776

DATE	REVISIONS



CITY OF
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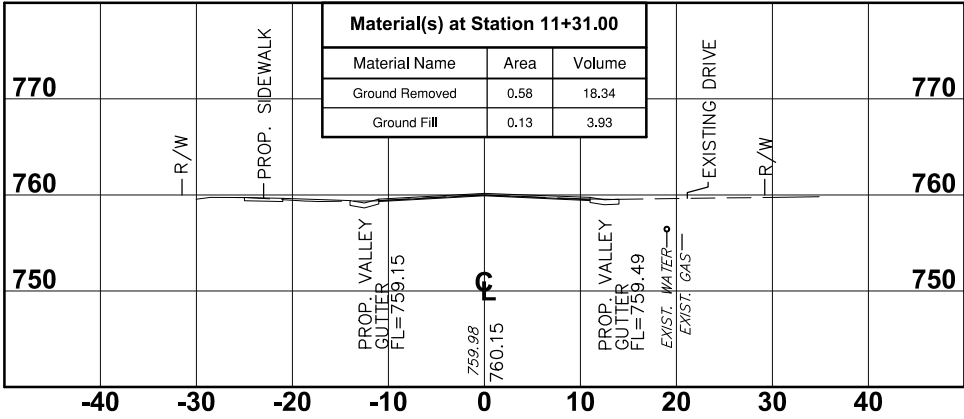


**DETROIT 1ST TO 3RD STREET
REHABILITATION**

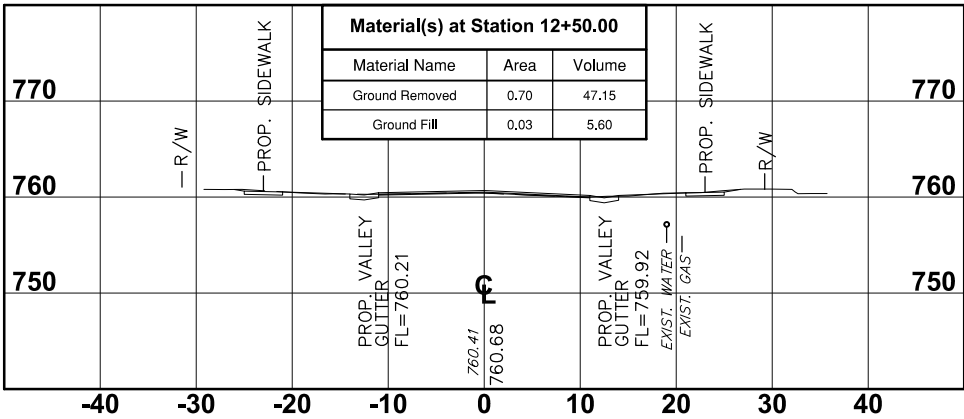
**HEADWALL
(FOR INFORMATION ONLY)**

DESIGN	DATE	DRAFTED	DATE
PPW	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	13	PROJECT NO.	ST1947

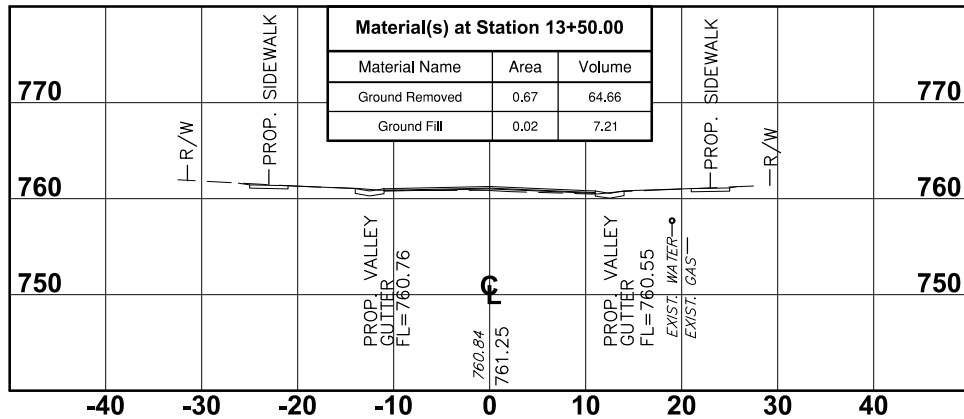
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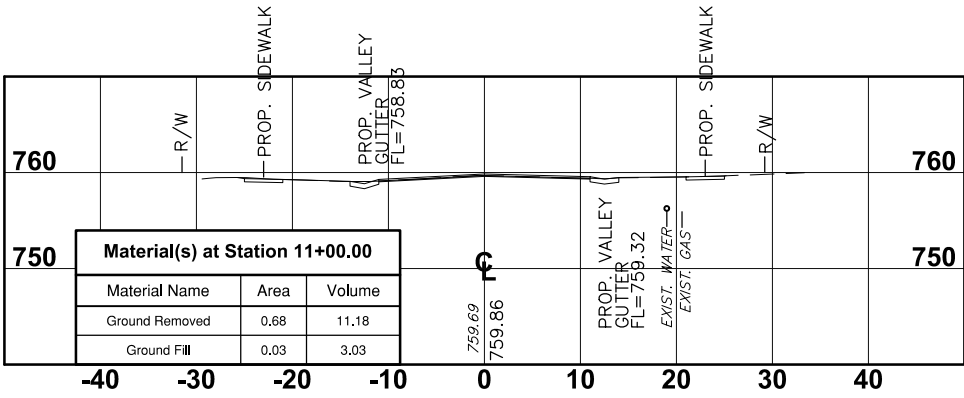
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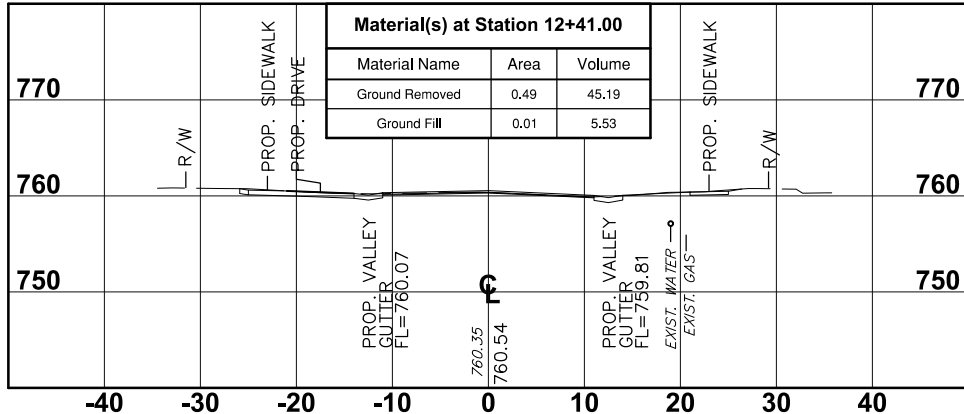
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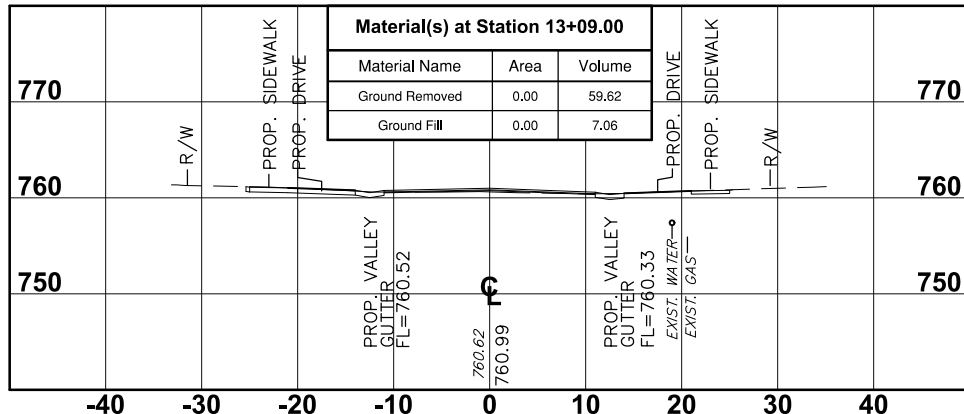
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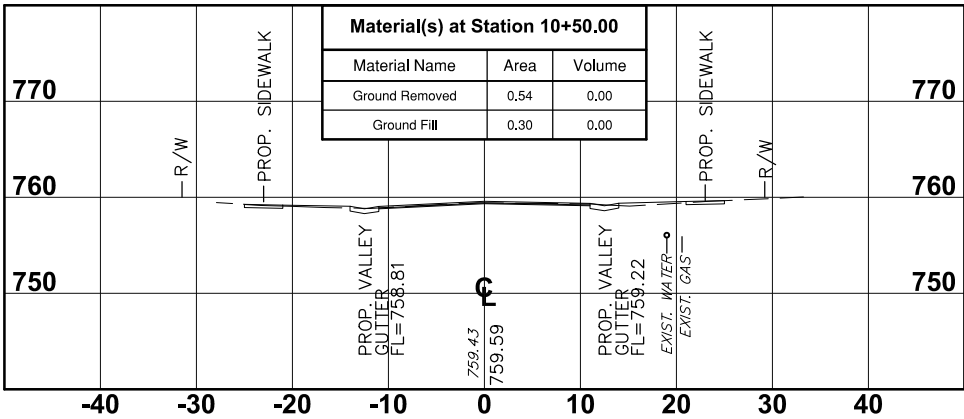
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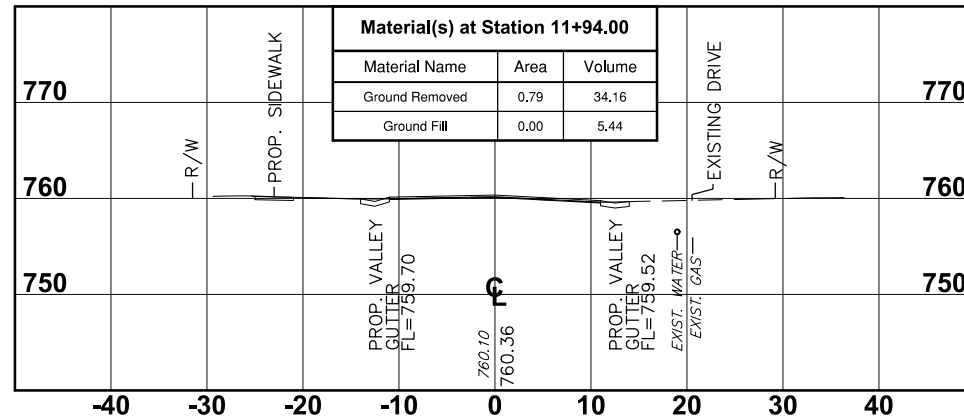
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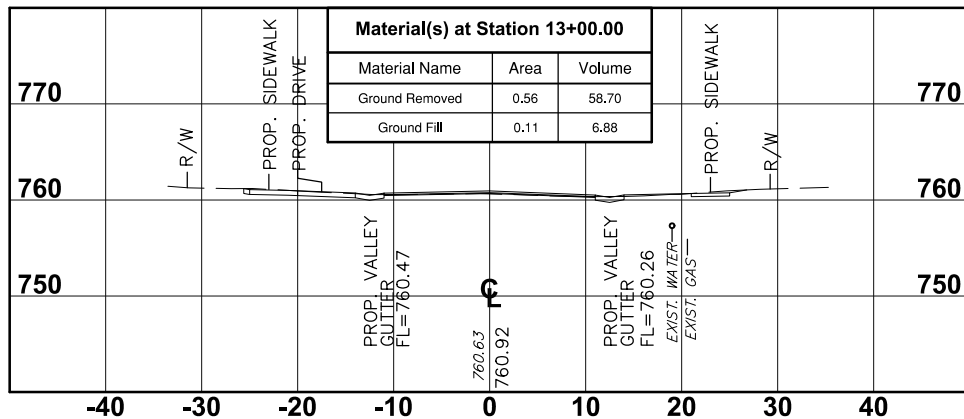
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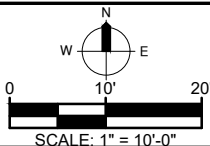


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13+00.00

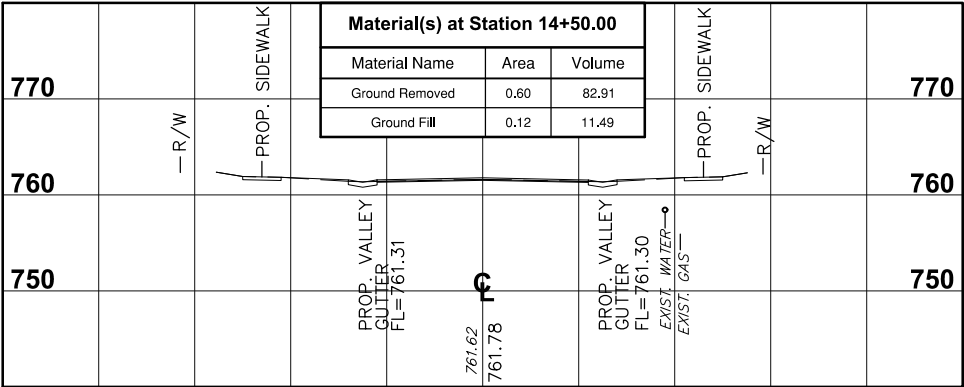
DATE	REVISIONS



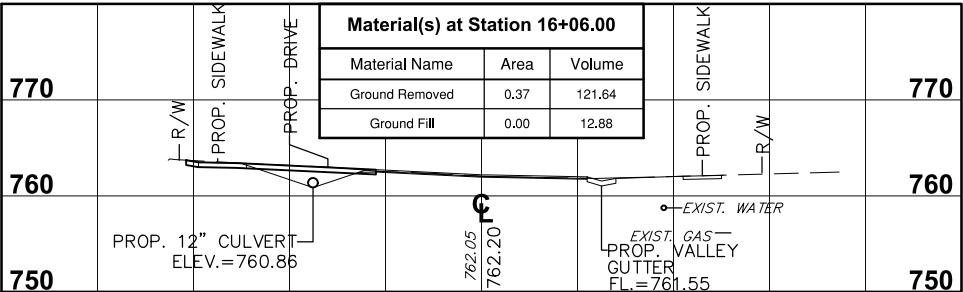
DETROIT 1ST TO 3RD STREET
REHABILITATION

CROSS SECTIONS
SHEET 1 OF 3

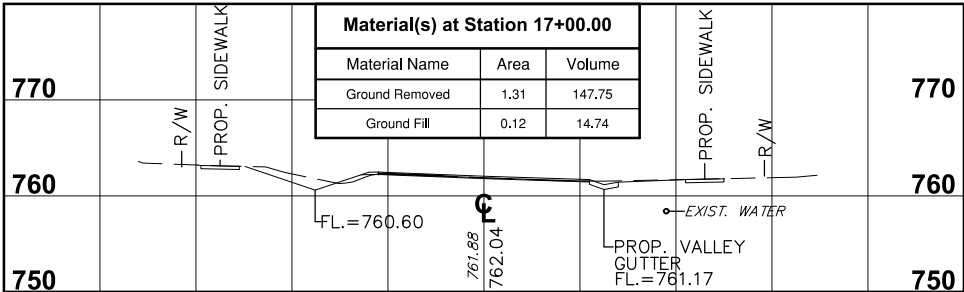
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PPW	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	XS-1 XS-3	PROJECT NO. ST1947	



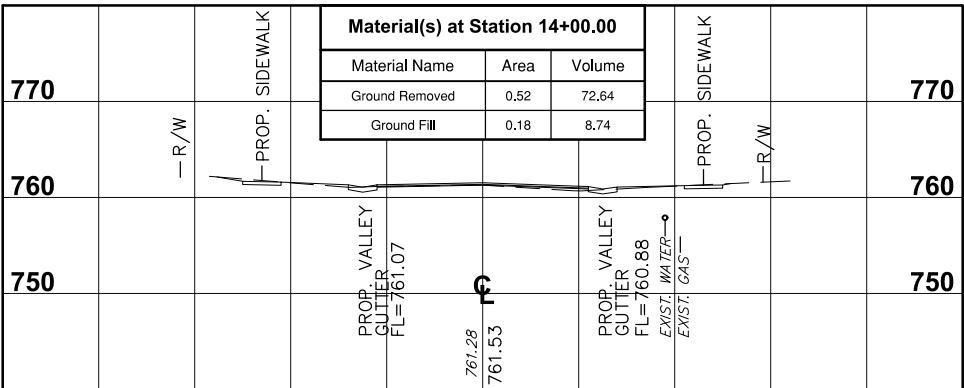
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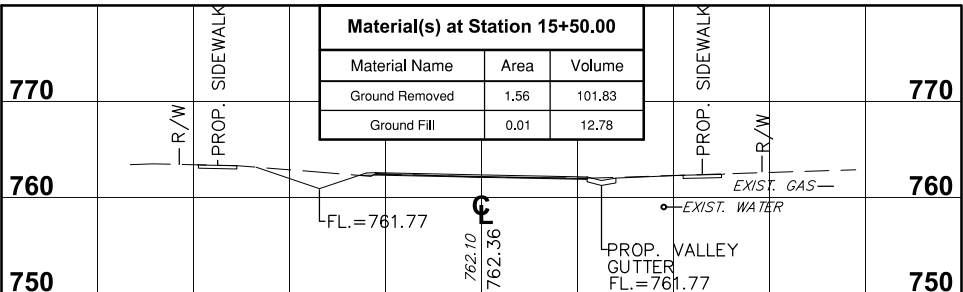
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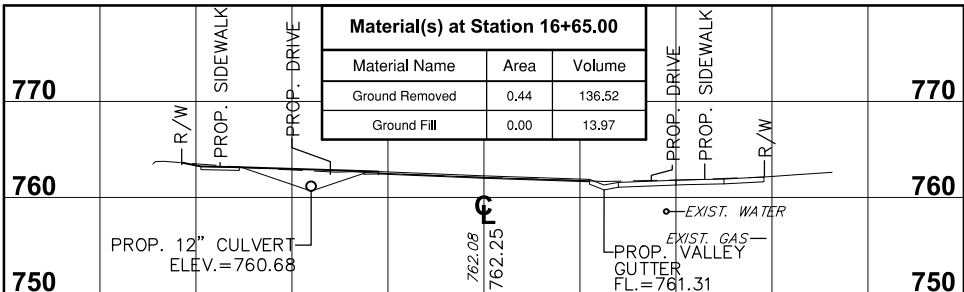
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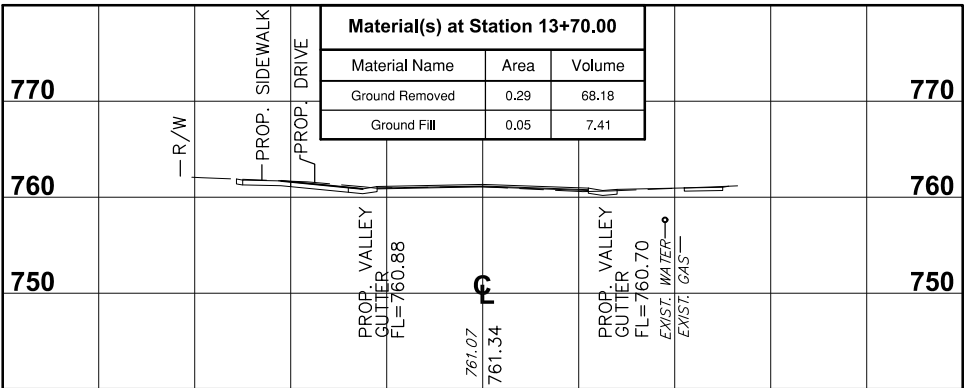
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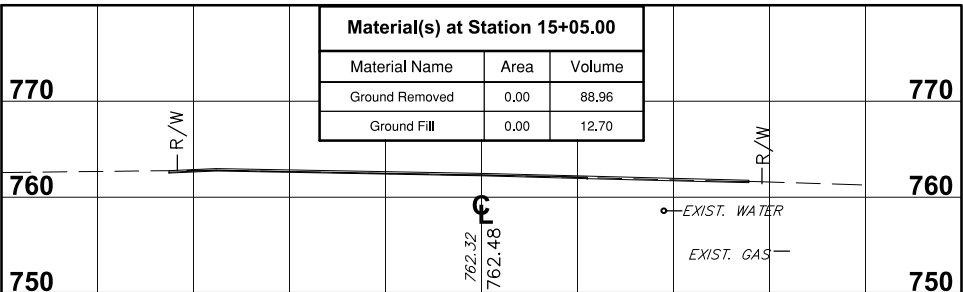
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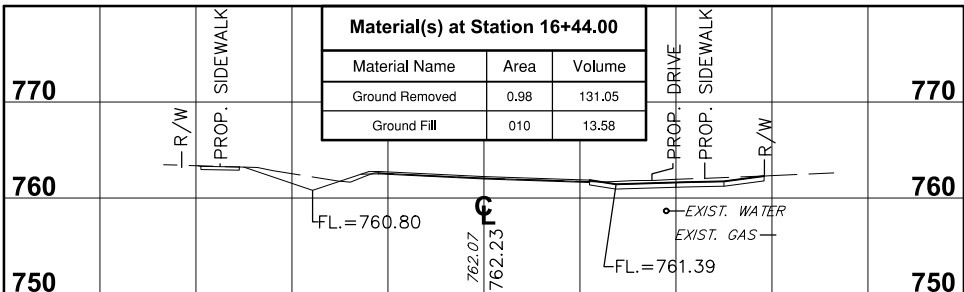
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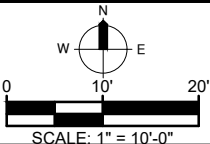


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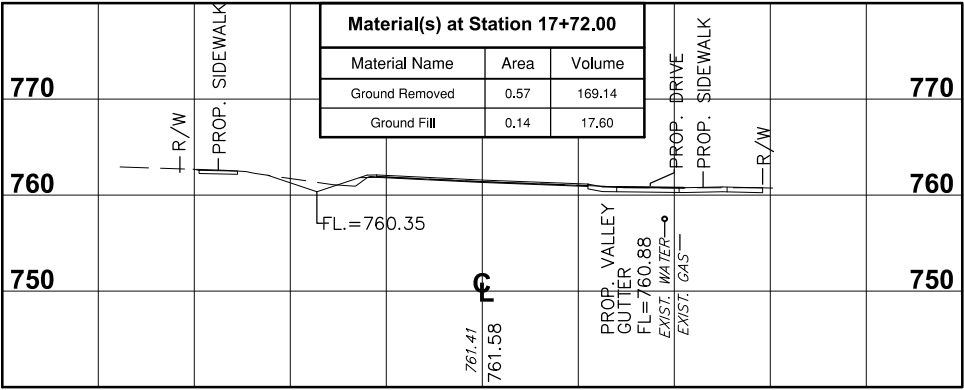
DATE	REVISIONS



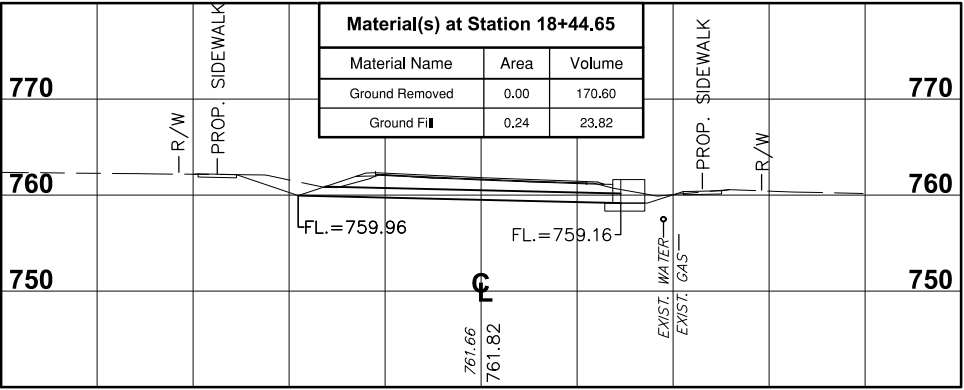
DETROIT 1ST TO 3RD STREET
REHABILITATION

CROSS SECTIONS
SHEET 2 OF 3

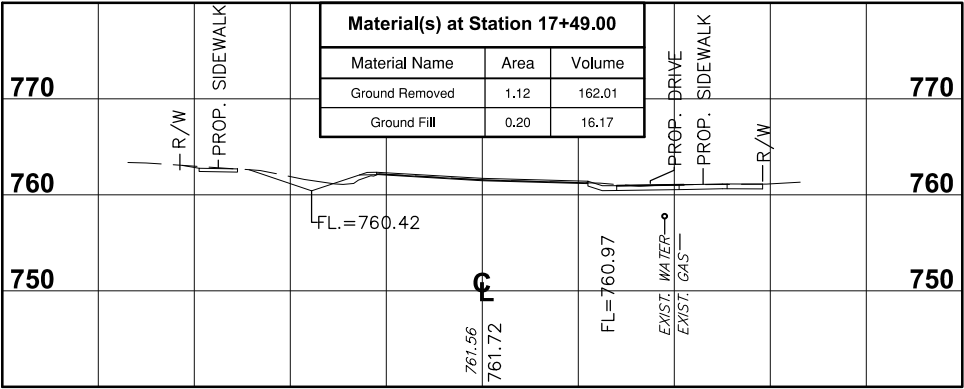
DESIGN	DATE	DRAFTED	DATE
PPW	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	XS-2 XS-3	PROJECT NO. ST1947	



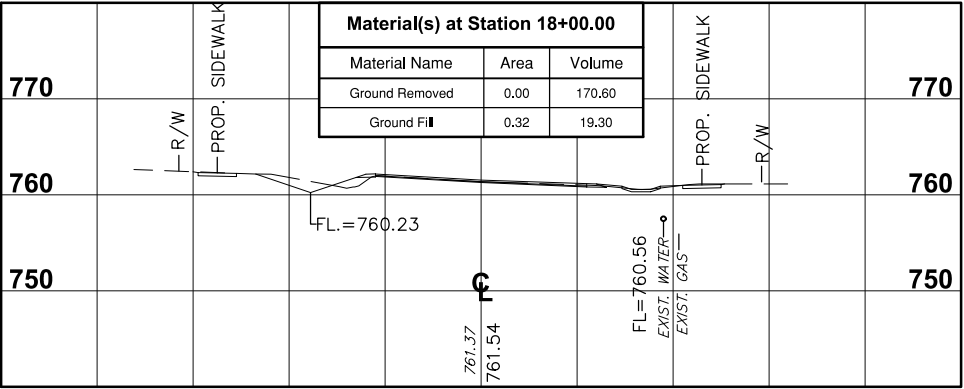
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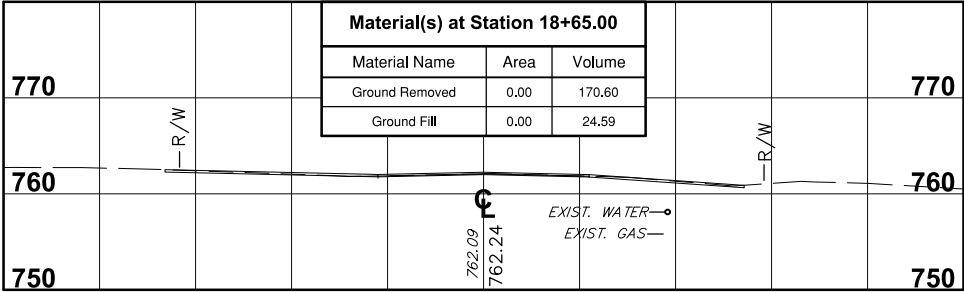
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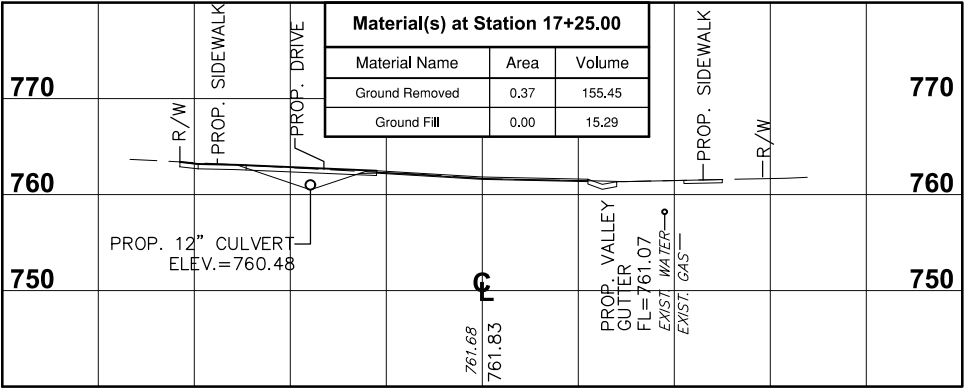
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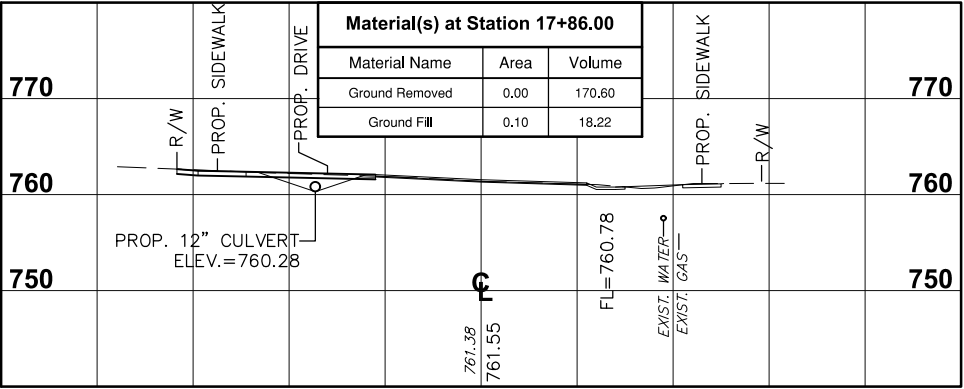
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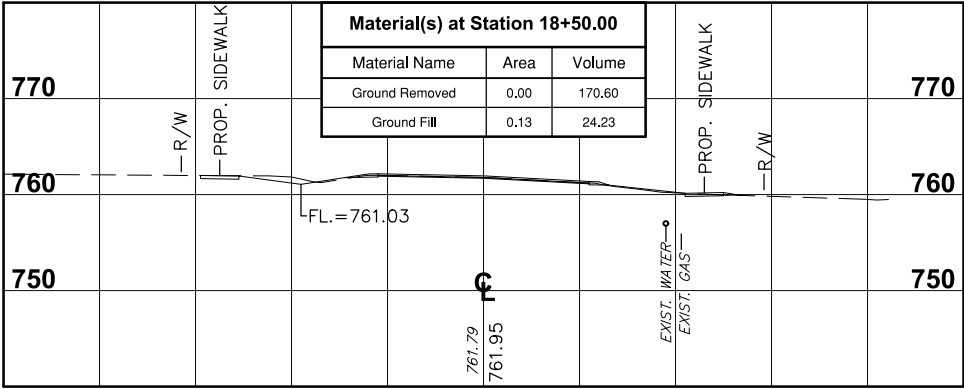
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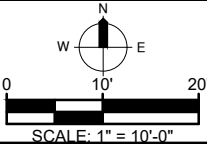


18+50.00

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DETROIT 1ST TO 3RD STREET
REHABILITATION

CROSS SECTIONS
SHEET 3 OF 3

DESIGN	DATE	DRAFTED	DATE
PPW	12/2019	DDS	12/2019
REVIEWED	DATE	APPROVED	DATE
PPW	12/2019	TS	12/2019
SHEET OF	XS-3 XS-3	PROJECT NO. ST1947	