FINAL PLANS FOR

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

CITY PROJECT NO. 3400
(JCSMP PROJECT NO. TC-21-072)

SE QTR. SECTION 11, TOWNSHIP 12S, RANGE 24E
CITY OF SHAWNEE, JOHNSON COUNTY, KANSAS

LEGEND

- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL MANHOLE
- TRAFFIC SIGNAL POLE W/ ARM
- TRAFFIC SIGNAL POLE
- TRAFFIC SIGNAL CONTROL BOX
- TRAFFIC SIGNAL PEDESTAL
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC RISER
- ELECTRIC BOX
- ELECTRIC CABINET
- ELECTRIC JUNCTION BOX
- SPH SPRINKLER HEAD
- SCV SPRINKLER CONTROL VALVE
- WATER METER PIT
- FIRE HYDRANT
- WM WATER METER
- WV WATER VALVE
- FP FLAG POLE
- SIGN
- BOLLARD
- WOOD POST
- STEEL POST
- COL COLUMN
- BORE HOLE
- CTL SURVEY CONTROL POINT
- SURVEY BENCHMARK
- TBM SURVEY TEMPORARY BENCHMARK
- GM GAS METER
- GAR GAS RISER
- GAS MANHOLE
- GR GAS REGULATOR
- TVP TELEVISION PEDESTAL
- FIBER BOX
- FIBER PEDESTAL
- CABLE BOX
- CV CABLE VAULT
- TP TELEPHONE PEDESTAL
- STORM MANHOLE
- STORM GRATE
- STORM SEWER STRUCTURE DESIGNATION
- SANITARY MANHOLE
- YL YARD LIGHT
- LTP LIGHT POLE
- POWER POLE
- LPPP POWER POLE W/ LIGHT
- GUY WIRE
- BU STUMP
- BUSH
- EVERGREEN TREE
- DECIDUOUS TREE
- TREE TO BE REMOVED
- SECTION LINE
- PL PROPERTY LINE
- CENTER LINE
- PROPOSED ROW LINE
- R/W EXISTING ROW LINE
- UTILITY EASEMENT
- 1371 EXISTING CONTOUR
- 1371 EXISTING CONTOUR
- 1371 PROPOSED MINOR CONTOUR
- 1371 PROPOSED MAJOR CONTOUR
- TEL EXISTING TELEPHONE LINE
- SS EXISTING SANITARY LINE
- SD EXISTING STORM LINE
- G EXISTING GAS LINE
- W EXISTING WATER LINE
- EXISTING CHAIN LINK FENCE
- EXISTING WOOD PRIVACY FENCE
- P-OH EXISTING OVERHEAD ELECTRIC
- P EXISTING PIPE LINE
- CONSTRUCTION LIMITS
- TCE TEMPORARY CONSTRUCTION EASEMENT
- PROPOSED CHAIN LINK FENCE
- PROPOSED WOOD PRIVACY FENCE
- EXISTING TREELINE
- PROPOSED HANDRAIL
- # PROPOSED STORM SEWER ID

OA CONTROL POINTS

OA #205
Set 1/2" Rebar with OA Cap
N: 266346.091
E: 2245737.204
Elev.: 962.77'

1. (NNW) ±100.8' to center of power pole
2. (W) ±113.8' to near edge of back of curb
3. (SW) 41.9' to corner of asphalt parking lot

OA #207
Found 1/2" Rebar
N: 265253.640
E: 2246816.028
Elev.: 956.45'

1. (NE) ±9.3' to center of a fiber optic box
2. (W) ±104.7' to top center of a fire hydrant
3. (WSW) 19.4' to center of a "No Parking" sign
4. (S) ±2.4' to near edge of back of curb

OA #21001
Set 1/2" Rebar with OA Cap
N: 266042.335
E: 2245851.136
Elev.: 958.65'
1. (E) ±26.8' to centerline of concrete drainage ditch
2. (WSW) 15.9' to center of a power pole
3. (SSW) ±49.6' to center of a bollard

OA Benchmarks:

JOCO Benchmark #172
Elev.: 949.78'
Found 2" Aluminum Berntsen Disk Stamped "BM 172" set on SE corner of East bridge abutment on South side of Shawnee Mission Parkway and on East side of Goddard.

UTILITY COMPANIES

Consolidated Communications
Mr. Clarence Griffin
14859 W. 95th St.
Lenexa, KS 66219-1205
(913) 322-9619
Email: clarence.griffin@consolidated.com

Johnson Co. Wastewater
Mr. Charles McAllister
4800 Nall Ave.
Mission, KS 66202
(913) 715-8537
Email: cmcalli@jcw.org

Kansas City Power & Light
Mr. Justin Amberson
16215 W. 108th Street
Lenexa, KS 66219
(913) 894-3072
Email: james.amberson@kcpl.com

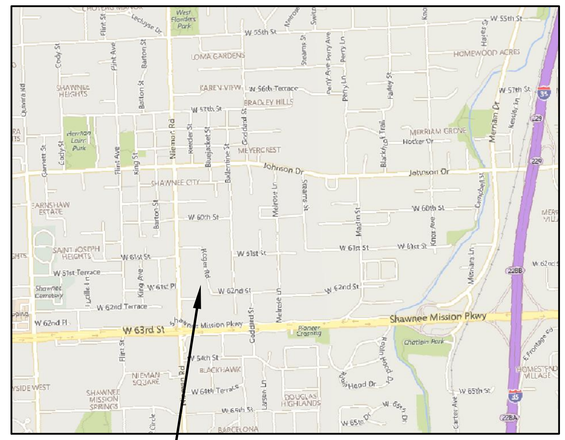
Time Warner Cable
Mr. Ron Frank
8221 W. 119th Street
Overland Park, KS 66213
(913) 643-1961
Email: ron.frank@twcable.com

WaterOne of Johnson County
Mr. Kiel Johnson
10747 Renner Blvd.
Lenexa, KS 66219-9624
(913) 895-5767
Email: kjohnson@waterone.org

Kansas Gas Service
Mr. David Teefey
11401 W. 89th Street
Overland Park, KS 66214
(913) 599-8933
Email: david.teefey@oneok.com

AT&T
Mr. Rich Pearl
9444 Nall Ave.
Overland Park, KS 66207
(913) 383-6948
Email: rp2187@att.net

Google Fiber
Mr. Bill Staton
2812 W. 47th Ave.
Kansas City, KS 66103
(618) 531-4491
Email: wstaton@google.com


W 55th St
Shawnee Mission Pkwy
W 63rd St
Johnson Dr
W 60th St
W 62nd St
Nieman Rd
Metcalf
Goddard St
Lackman Rd
Quivira Rd
Antioch
Mission Rd
Roe Ave
Lamar Ave
Pflumm Rd
Maurer Rd
Mur-Len Rd
Renner Blvd
Kansas Ave
Kansas Expy
Lenexa
Overland Park
Shawnee
Merriam
Prairie Village
Mission
Roeland Park
Leawood
Lenexa
Shawnee Mission East
Shawnee Mission Northwest
Shawnee Mission West
Shawnee Mission South
Shawnee Mission Center for the Arts
Nieman Square
Douglas Highlands
Barcelona
Bradley Hills
Meyer Crest
Shawnee City
Homewood Acres
Merriam Grove
Oak Gardens
Fairview
Shawnee Heights
Earnshaw Estate
Saint Joseph Heights
Shawnee Cemetery
Hocker Grove
Black Hawk
Mission Hills
Mission Chateau
Mission Farms
Mission Hills Manor
Mission Woods
Mission Hills Estates
Mission Hills Terrace
Mission Hills Heights
Mission Hills Acres

GENERAL NOTES:

1. THE SHAWNEE MANUAL OF TECHNICAL SPECIFICATIONS AND THE STANDARD SPECIFICATIONS AND DESIGN CRITERIA OF THE KANSAS CITY METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION SHALL GOVERN THE CONSTRUCTION OF ALL PUBLIC IMPROVEMENTS FOR THIS PROJECT WHERE A CONFLICT MAY OCCUR, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
2. THE CITY OF SHAWNEE'S PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CITY OF SHAWNEE MUNICIPAL CODE AND MANUAL OF TECHNICAL SPECIFICATIONS AND DESIGN CRITERIA. THE APPROVAL OF THESE IMPROVEMENT PLANS SHALL NOT BE CONSTRUED TO BE AN APPROVAL OF ANY VIOLATION OF THE CITY OF SHAWNEE'S MUNICIPAL CODE, INCLUDING BUILDING AND ZONING CODES, AND ANY OTHER CITY ORDINANCE. THE CITY OF SHAWNEE IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, OR DIMENSIONS AND ELEVATIONS, WHICH SHALL BE CONFIRMED AND CORRELATED AT THE PROJECT SITE. THE CITY OF SHAWNEE THROUGH ITS APPROVAL OF THESE IMPROVEMENT PLANS ASSUMES NO RESPONSIBILITY OTHER THAN AS STATED ABOVE FOR ACCURACY AND COMPLETENESS.
3. THESE IMPROVEMENT PLANS ARE APPROVED INITIALLY FOR ONE (1) YEAR AFTER WHICH THEY ARE AUTOMATICALLY VOID AND MUST BE UPDATED AND RE-APPROVED BY THE CITY ENGINEER BEFORE ANY CONSTRUCTION WILL BE PERMITTED.
4. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE IMPROVEMENT PLANS, APPROVED BY THE CITY OF SHAWNEE, AT THE PROJECT SITE AT ALL TIMES.
5. THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THESE PLANS SHALL NOT BE INITIATED, OR ANY PART THEREOF UNDERTAKEN, UNTIL THE CITY ENGINEER IS NOTIFIED OF SUCH INTENT, AND ALL REQUIRED PERMITS AND FEES, PROPERLY EXECUTED BONDS, AND CONTRACT AGREEMENTS ARE RECEIVED AND APPROVED BY THE CITY ENGINEER.
6. THE CONTRACTOR SHALL CONTACT THE ENGINEERING INSPECTOR AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE TO SCHEDULE A REQUIRED INSPECTION.
7. THE CONTRACTOR SHALL NOT WORK ON SUNDAYS OR HOLIDAYS. WORK ON SATURDAYS IS ALLOWED WHEN REQUESTED AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE AND WHEN APPROVED BY THE CITY ENGINEER.
8. ALL EXISTING UTILITIES INDICATED ON THESE IMPROVEMENT PLANS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE DESIGN ENGINEER; HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR.
9. ALL BACKFILL SHALL BE TAMPED OR COMPACTED AS SPECIFIED IN THE PLANS OR SPECIFICATIONS. ALL BACKFILL UNDER PAVEMENT WITHIN RIGHT-OF-WAY SHALL BE FLOWABLE FILL.
10. ALL SILTATION AND EROSION CONTROL MEASURES SPECIFIED ON THE PLANS SHALL BE IN PLACE PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES ON THE SITE. CONTRACTOR SHALL BE REQUIRED TO SIGN AND ABIDE BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). CONTRACTOR SHALL BE REQUIRED TO ABIDE BY LAND DISTURBANCE PERMIT CONDITIONS, AS ISSUED BY THE CITY.
11. CONTRACTOR SHALL CLEAR AND GRUB ALL TREES MARKED FOR REMOVAL. REMOVAL OF THE TREE INCLUDES REMOVAL OF ALL BRANCHES, ROOTS AND BRUSH WITHIN THE CANOPY LIMITS OF THE TREE. **ALL TREES NOT MARKED FOR REMOVAL SHALL BE PROTECTED AND SAVED.** THE CONTRACTOR IS REQUIRED TO EXERCISE PARTICULAR CARE DURING EXCAVATION TO PREVENT UNNECESSARY DAMAGE TO TREES, RETAINING WALLS, STRUCTURES, UTILITIES, ETC. IN THE VICINITY OF CONSTRUCTION. ONLY THOSE TREES IN DIRECT CONFLICT WITH CONSTRUCTION OPERATIONS SHALL BE REMOVED, AS AGREED UPON BETWEEN THE CONTRACTOR AND CITY REPRESENTATIVE. ALL TREES THAT ARE DEFINITELY TO BE SAVED SHALL BE MARKED "SAVE" AND SHALL BE FENCED AT THE DRIP LINE WITH T-POSTS AND ORANGE CONSTRUCTION FENCING.
12. CLEARING AND GRUBBING OPERATIONS AND DISPOSAL OF ALL DEBRIS THEREFROM SHALL BE PERFORMED BY THE CONTRACTOR IN STRICT ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS, CODES AND ORDINANCES. OPEN BURNING OF DEBRIS SHALL NOT BE PERMITTED.
13. CONTRACTOR SHALL STRIP TOPSOIL AND VEGETATION A MINIMUM OF 6" INCHES AND STOCKPILE FOR USE AS TOPSOIL WHERE VEGETATION IS TO BE RE-ESTABLISHED.
14. EXCESS SOIL OR ROCK MATERIAL RESULTING FROM THE PROJECT SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR UNLESS THE CONTRACTOR SECURES WRITTEN PERMISSION FROM THE RESIDENTS AND THE CITY TO PLACE ON INDIVIDUAL PROPERTY. ALL FILL SHALL BE TOP SOILED, GRADED TO DRAIN, THEN SODDED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
15. THE UNDERGROUND UTILITY LOCATIONS SHOWN ON THESE PLANS ARE TAKEN FROM UTILITY COMPANY RECORDS AND ARE APPROXIMATE ONLY. SOME SERVICE LINES FROM BUILDING TO MAIN HAVE UNKNOWN LOCATIONS AND MAY CONFLICT WITH THE PLAN. THE CONTRACTOR, PRIOR TO CONSTRUCTION, SHALL VERIFY THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES. THE REPAIR OF ANY DAMAGE TO SAID UTILITIES SHALL BE AT THE COST OF THE CONTRACTOR. ANY UTILITIES FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL NOTIFY THOSE COMPANIES WHICH HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED. ENCROACHMENTS SUCH AS TELEPHONE, POWER AND CABLE T.V. POLES SHALL BE MOVED BY THE UTILITY OWNER AND COORDINATED BY THE CONTRACTOR AFTER WRITTEN APPROVAL FROM THE OWNER, UNLESS OTHERWISE NOTED.
16. THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND ELEVATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AT THE JOB SITE. IF THE CONTRACTOR FINDS ANY DIMENSIONS TO BE IN ERROR OR IN QUESTION, THE ENGINEER SHALL BE PROMPTLY CONTACTED FOR CLARIFICATION PRIOR TO THE CONTINUATION OF THE WORK.
17. ALL EXISTING DRAINAGE TILES, FOUNDATION DRAINS AND/OR ROOF DRAINS ENCOUNTERED OR DAMAGED DURING CONSTRUCTION ARE TO BE RESTORED TO THEIR ORIGINAL CONDITION, PROPERLY REROUTED AND/OR CONNECTED TO THE STORM SEWER SYSTEM. THE EXTENSION, RESTORATION OR REROUTING OF THESE TILES OR DRAINS SHALL BE CONSIDERED SUBSIDIARY TO THE CONSTRUCTION OF THE PROPOSED STORM SEWER.
18. ALL STORM SEWER PIPE LENGTHS SHOWN ON THE PLANS ARE MEASURED FROM CENTER OF DOWNSTREAM STRUCTURE TO CENTER OF UPSTREAM STRUCTURE. ALIGNMENT STATIONING, BEARINGS, PIPE SLOPES & STRUCTURE FLOW LINES SHOWN ON THE PLANS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. (FOR DESIGN PURPOSES).
19. ALL SIGNS, MAILBOXES, AND FENCING IN CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED AND RESET, WHETHER SO NOTED ON THE PLANS OR NOT. TEMPORARY FENCING SHALL BE INSTALLED AT LOCATIONS WHERE EXISTING PERMANENT FENCING IS TO BE REMOVED; LOCATION SHALL BE DETERMINED IN THE FIELD.
20. DRIVEWAYS, SIDEWALK, AND OTHER AREAS DAMAGED BY THE CONTRACTOR, BUT NOT SHOWN TO BE DISTURBED IN THE PLANS, SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING BEFORE DAMAGE OCCURRED, AT THE CONTRACTOR'S EXPENSE.
21. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNERS AND SECTION CORNERS. ANY PROPERTY CORNERS OR SECTION CORNERS DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A REGISTERED LAND SURVEYOR LICENSED IN THE STATE OF KANSAS, AT THE CONTRACTOR'S EXPENSE.
22. ALL STORM SEWER STRUCTURES USED FOR THIS PROJECT SHALL BE PRECAST. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CASTING OF STRUCTURES. ALL STORM SEWER STRUCTURE LIDS SHALL BE CAST-IN-PLACE.
23. ALL DRAIN LINES ENCOUNTERED, WHICH ARE PRESENTLY CONNECTED TO THE EXISTING STORM SEWER, SHALL BE CONNECTED BY THE CONTRACTOR TO THE NEW STORM SEWER SYSTEM AS DIRECTED BY THE CITY OF SHAWNEE OR ITS REPRESENTATIVE. THIS WORK SHALL BE SUBSIDIARY TO OTHER BID ITEMS. THE LOCATION OF DRAIN LINES MAY OR MAY NOT BE NOTED IN THE PLANS.
24. ALL EXISTING FENCING, PLANTER WALLS, WALKS, ETC. OUTSIDE THE PERMANENT EASEMENT, TEMPORARY EASEMENT, OR RIGHT-OF-WAY LIMITS THAT ARE DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION. CONTRACTOR SHALL SATISFY HIMSELF BY SITE VISIT AS TO THE EXTENT AND NATURE OF SUCH WORK IN PREPARING HIS BID.
25. THE CONTRACTOR TO REMOVE ONLY THE SOD NECESSARY TO CONSTRUCT THE IMPROVEMENTS. SOD SHALL BE REPLACED USING SIMILAR MATERIALS TO THAT WHICH WERE REMOVED. IN THE EVENT THE SOD QUANTITY EXCEEDS PLAN QUANTITY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OVERRUN COSTS UNLESS OTHERWISE APPROVED BY THE CITY.
26. ACCESS TO PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. IF CONSTRUCTION ACROSS A DRIVEWAY IS TO TAKE MORE THAN 24 HRS, ONE HALF THE DRIVE SHALL REMAIN IN SERVICE UNTIL THE OTHER HALF IS RECONSTRUCTED AND IN SERVICE.
27. ALL FENCING WITHIN THE WORK LIMITS SHALL BE PROTECTED OR RESTORED TO PRIOR CONDITIONS UPON COMPLETION OF THE WORK, WHETHER SO NOTED ON THE PLANS OR NOT. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING FOR ANY RESIDENTS WHO OWN PETS THAT NEED TO BE FENCED IN OR WHO OTHERWISE REQUEST TEMPORARY FENCING. CONTRACTOR SHALL COORDINATE THE TEMPORARY FENCING LOCATION WITH THE RESIDENT, CITY, AND ENGINEER.
28. ALL TRUCKS UTILIZED BY THE CONTRACTOR OR ANY SUBCONTRACTORS SHALL BE ROUTED ALONG TRUCK ROUTES AS DESIGNATED BY THE CITY OF SHAWNEE.
29. THE CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY FOR CONSTRUCTION. DEWATERING SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
30. ALL EQUIPMENT USED BY THE CONTRACTOR HAVING METAL TRACKS SHALL NOT BE DRIVEN OVER CITY STREETS OTHER THAN THOSE SHOWN ON THE PLANS AS BEING DISRUPTED BY STORM SEWER TRENCHING. SUCH EQUIPMENT MUST BE TRANSPORTED.
31. CONTRACTOR SHALL NOTIFY EACH IMPACTED PROPERTY OWNER OF THE ANTICIPATED CONSTRUCTION ACTIVITY 48 HOURS PRIOR TO BEGINNING WORK. THE NOTIFICATION METHOD SHALL BE OF SUITABLE MEANS, AND APPROVED BY THE CITY ENGINEER.
32. PRE-CONSTRUCTION MEETING: PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING TO ADDRESS ANY ISSUES. THIS MEETING SHALL INCLUDE THE PROJECT MANAGER AND CONSTRUCTION SITE FOREMAN.
33. CONCRETE DRIVEWAYS SHALL BE REPLACED TO THE NEAREST JOINT UP TO 6 FEET BEYOND THE AREA THAT NEEDS TO BE REPLACED. IF NO JOINT IS WITHIN 6 FEET THEN A SAW-CUT WILL BE MADE AT THE PLANNED REPLACEMENT. ALL GRAVEL DRIVEWAYS DISTURBED AS PART OF PROJECT SHALL BE REPAIRED WITH AN ASPHALT DRIVEWAY WHERE DISTURBED.
34. ALL ITEMS MARKED TO SALVAGE SHALL BE PROVIDED TO OWNER OR CITY FOR THEIR ACCEPTANCE AND USE. ANY ITEMS MARKED FOR SALVAGE, BUT WHICH ARE REFUSED BY THE RESIDENT AND CITY, SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR REMOVAL AND/OR DISPOSAL IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
35. THE EXISTING ITEMS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. ALL ITEMS NOT SHOWN ON THE PLANS, BUT WHICH MAY INTERFERE WITH COMPLETION OF THE WORK INDICATED, SHALL BE SALVAGED OR REMOVED AND DISPOSED OF AS DIRECTED BY CITY OR ENGINEER.
36. THE CONTRACTOR SHALL GIVE NOTICE TO THE CITY 48 HOURS IN ADVANCE OF BEGINNING CONSTRUCTION WORK ON ANY EXISTING STREET.
37. DURING THE PERIOD OF TWO YEARS FROM THE DATE OF FINAL PAYMENT, BY THE CITY, THE CONTRACTOR IS RESPONSIBLE FOR MAKING ANY NECESSARY REPAIRS ARISING OUT OF DEFECTIVE WORKMANSHIP OR MATERIALS. THE CONTRACTOR'S RESPONSIBLE FOR REPAIRING ALL TRENCH SETTLEMENT INCLUDING REMOVING AND REPLACING SIDEWALK, STREET, DRIVEWAYS AND ENTRANCE WALKS CONSTRUCTED SINCE THE PROJECT WAS ACCEPTED BY THE CITY. REPRESENTATIVES FROM THE THE CITY AND THE CONTRACTOR SHALL CONDUCT AN INSPECTION OF THIS PROJECT 23 MONTHS AFTER THE PROJECT HAS BEEN ACCEPTED TO DETERMINE REQUIRED REPAIRS.
38. ACCESS TO THE PROJECT SHALL BE THROUGH THE CITY R.O.W. AND TEMPORARY CONSTRUCTION EASEMENTS AS SHOWN ON THE PLANS. SHOULD THE CONTRACTOR REQUIRE ADDITIONAL ACCESS, THEN THE CONTRACTOR MAY NEGOTIATE THE ADDITIONAL ACCESS WITH INDIVIDUAL PROPERTY OWNERS. WRITTEN PERMISSION SHALL BE OBTAINED PRIOR TO MOBILIZATION AND COPIES OF AGREEMENTS FURNISHED TO THE CITY.
39. THE CONTRACTOR IS REQUIRED TO PHASE CONSTRUCTION AND TRAFFIC CONTROL ON ALL AFFECTED STREETS IN THE PROJECT AREA. ALSO, THE CONTRACTOR IS REQUIRED TO PROVIDE ACCESS TO ALL RESIDENTS AFFECTED BY CONSTRUCTION.
40. ALL REPAIRS, ADJUSTMENTS. ENCASEMENT, OR MODIFICATIONS TO THE SANITARY SEWER LINES OR STRUCTURES SHALL BE PREFORMED BY A CONTRACTOR WHO IS PREQUALIFIED WITH THE JOHNSON COUNTY WASTEWATER DISTRICT (JCW). REQUESTS FOR PRE-QUALIFICATION SHALL BE DIRECTED TO THE OFFICE OF THE JCW. ALL CONTRACTORS DESIRING PREQUALIFICATION WILL BE REQUIRED TO COMPLETE A QUESTIONNAIRE AND SUBMIT A FINANCIAL REPORT. THE CONTRACTOR MUST DEMONSTRATE TO THE SATISFACTION OF JCW THAT HE HAS SUFFICIENT EQUIPMENT AND EXPERIENCE TO COMPLETE THE WORK INVOLVED. CONTRACTOR SHALL CONTACT JCW FOR INSPECTION PRIOR TO ANY SANITARY WORK. ALL ADJUSTMENTS OF FACILITIES ARE SUBJECT TO THE APPROVAL OF JCW "CONSTRUCTION AND MATERIAL SPECIFICATION FOR SANITARY SEWERS, KDHE NO. 20969" AND THE JCW STANDARD DETAIL SHEETS. INSPECTION OF ALL REPAIRS, MODIFICATIONS OR ADJUSTMENTS BY JCW IS REQUIRED.
41. CONTRACTOR SHALL MAKE ALL PROVISIONS NECESSARY TO ADEQUATELY SUPPORT AND MAINTAIN EXPOSED UTILITIES. CONTRACTOR IS RESPONSIBLE FOR DAMAGES AND RELOCATION NEEDS, AND FOR ADEQUATE COMPACTION AROUND DISTURBED UTILITIES. CONTRACTOR SHALL ALSO MAKE ALL PROVISIONS NECESSARY TO PROTECT EXPOSED LINES FROM FREEZING TEMPERATURES
42. CONTRACTOR SHALL TELEVISE ALL CONSTRUCTED STORM LINES. SEE SPECIAL CONDITIONS FOR DETAILS.
43. STORM SEWER BID ITEMS SHALL INCLUDE TRENCHING, BACKFILL, 12" SUBGRADE BEDDING, PIPE AND ALL OTHER LABOR, MATERIALS & EQUIPMENT TO INSTALL STORM SEWER ACCORDING TO PLANS.

SUMMARY OF QUANTITIES
(SEE ESTIMATE)

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olssonassociates.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

GENERAL NOTES

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_GEN_NOTE_53269.dwg USER: kfulton
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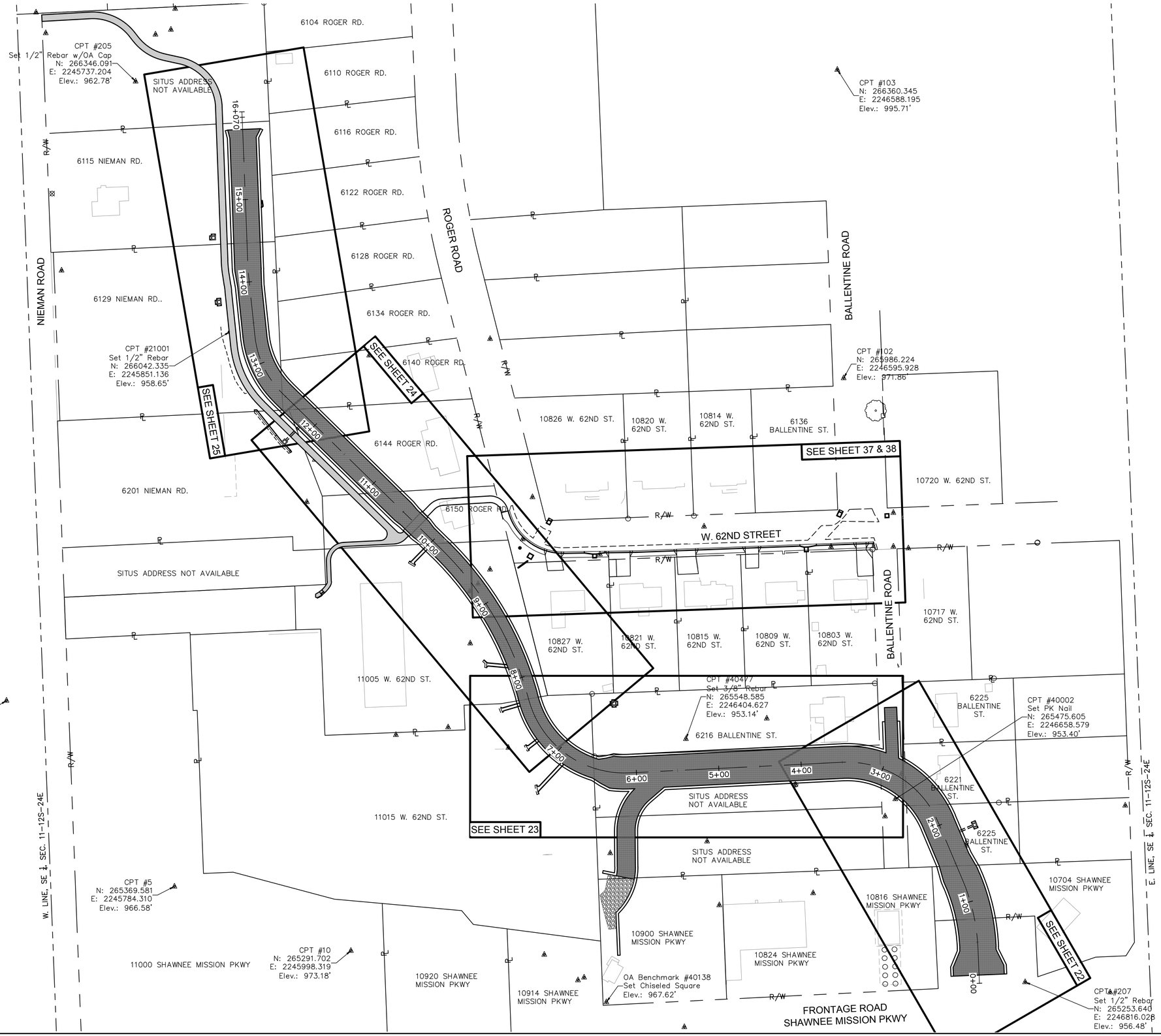

LEGEND

- SECTION LINE
- R/W RIGHT-OF-WAY LINE
- PROPERTY LINE
- PROPOSED CHANNEL

N

0' 30' 60' 120'
SCALE IN FEET

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_GEN_LAY_53269.dwg USER: kfulton
DATE: May 11, 2016 2:14pm XREFS: V_TOPO_153269 V_XBOU_153269 W_TBLK_53269 W_PBASE_53269

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

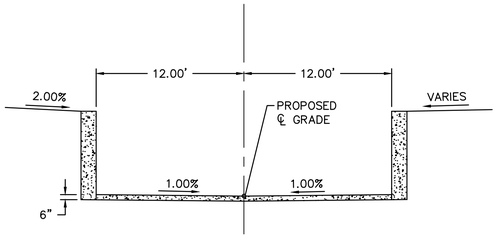
GENERAL LAYOUT & PROJECT CONTROL

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

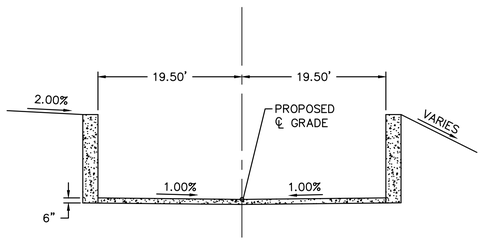
2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	05/12/16



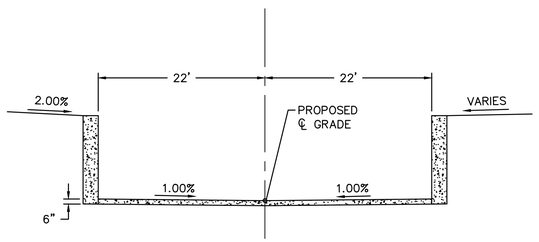
LINE A
RECTANGLE CONCRETE CHANNEL - 24' WIDE
STA. 6+50 TO STA. 10+10

NOT TO SCALE
SEE LINE A CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



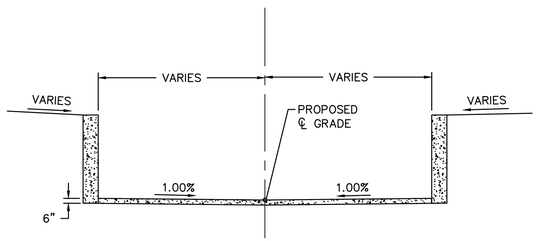
LINE A
RECTANGLE CONCRETE CHANNEL - 39' WIDE
STA. 1+55 TO STA. 6+30

NOT TO SCALE
SEE LINE A CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



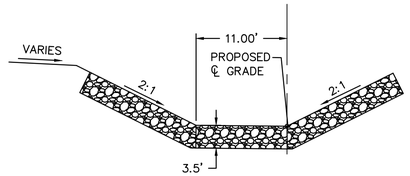
LINE A
RECTANGLE CONCRETE CHANNEL - 44' WIDE
STA. 0+40 TO STA. 1+35

NOT TO SCALE
SEE LINE A CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



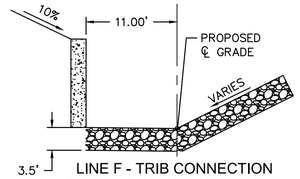
LINE A
RECTANGLE CONCRETE CHANNEL - VARYING WIDTH
STA. 0+10 TO STA. 0+40
STA. 1+35 TO STA. 1+55
STA. 6+30 TO STA. 6+50
STA.10+10 TO STA. 10+50
STA. 13+95 TO STA. 14+15

NOT TO SCALE
SEE LINE A CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



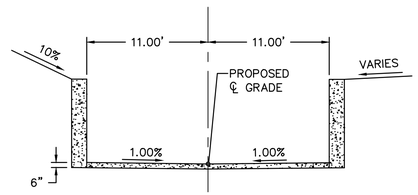
LINE F - TRIB CONNECTION
RIPRAP CHANNEL
STA. 21+90 TO STA. 22+00

NOT TO SCALE



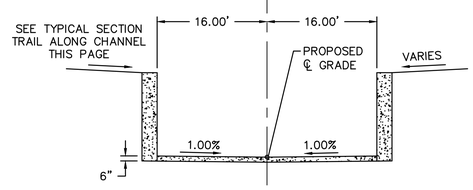
LINE F - TRIB CONNECTION
RIPRAP CHANNEL WITH WALL
STA. 21+50 TO STA. 21+90

NOT TO SCALE
SEE LINE F CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



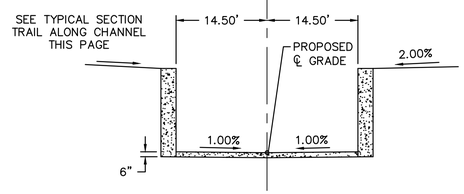
LINE F - TRIB CONNECTION
RECTANGLE CONCRETE CHANNEL - 22' WIDE
STA. 20+31 TO STA. 21+50

NOT TO SCALE
SEE LINE F CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



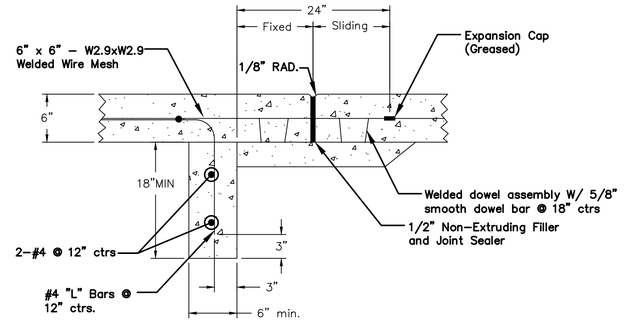
LINE A
RECTANGLE CONCRETE CHANNEL - 32' WIDE
STA. 14+15 TO STA. 15+75

NOT TO SCALE
SEE LINE A CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)

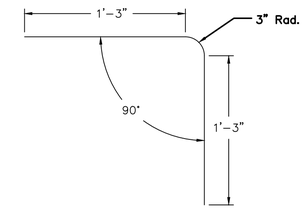


LINE A
RECTANGLE CONCRETE CHANNEL - 29' WIDE
STA. 10+50 TO STA. 13+95

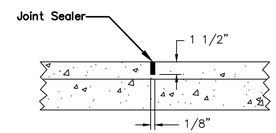
NOT TO SCALE
SEE LINE A CROSS SECTIONS FOR WALL HEIGHTS
BLOCK WIDTH PER MANUFACTURER (TYP.)



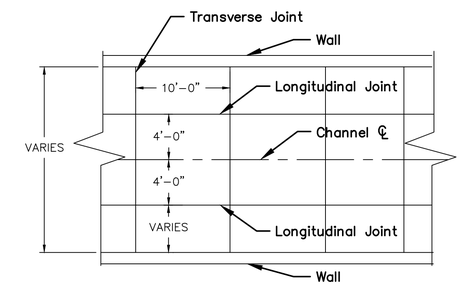
CUTOFF WALL DETAIL



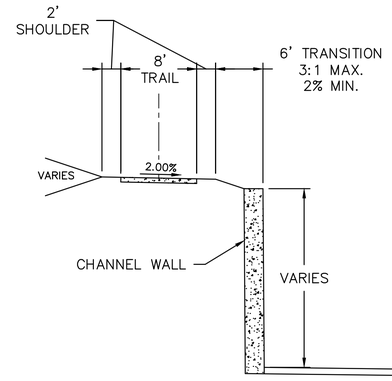
BENDING DIAGRAM FOR "L" BARS



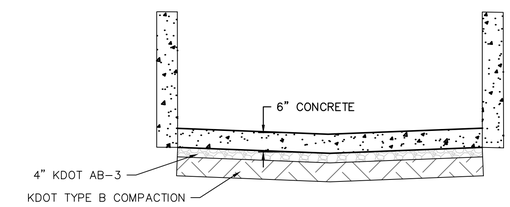
CONTRACTION JOINT



JOINTING PLAN



TYPICAL SECTION
TRAIL ALONG CHANNEL
NOT TO SCALE



TYPICAL CONCRETE DITCH LINER SECTION

CONCRETE DITCH LINING NOTES

1. DITCH SUBGRADE AND GRANULAR BASE COURSE SHALL CONFORM WITH CITY OF SHAWNEE SPECIFICATION FOR SUBGRADE FOR RESIDENTIAL DRIVEWAY APPROACH, SIDEWALK AND TRAIL CONSTRUCTION.
2. EXPANSION JOINTS SHALL BE PLACED WHERE DITCH LINER ABUTS ANOTHER STRUCTURE, AT 250' CTRS. MAXIMUM, AND AT POINTS OF CURVATURE. TRANSVERSE CONTRACTION JOINTS SHALL BE PLACED AT 10' INTERVALS. IF A POUR IS DELAYED 30 MINUTES OR MORE A TRANSVERSE CONSTRUCTION JOINT SHALL BE SUBSTITUTED FOR A CONTRACTION JOINT AND EXCESS CONCRETE WASTED.
3. DITCH LINER CONSTRUCTION TO BE MINIMUM 6" KCMMB4K CONCRETE.
4. CONCRETE REINFORCEMENT TO BE 6"X6" –W2.9X2.9 WELDED WIRE FABRIC. ALL FABRIC SHALL BE SUPPLIED IN FLAT SHEET FORM.
5. LONGITUDINAL CONSTRUCTION JOINTS SHALL BE PLACED AS SHOWN WHEN WIDTH IS GREATER THAN 10'. DISTANCE BETWEEN JOINTS SHALL NOT EXCEED 10'.
6. ALL CONCRETE USED IN THIS WORK SHALL MEET THE REQUIREMENTS OF THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
7. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
8. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/– ⅛" SHALL BE PERMITTED.
9. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
10. ALL CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENT OF STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, LATEST EDITION, EXCEPT AS MODIFIED IN SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
11. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'–0" MAXIMUM SPACING.
12. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER PRIOR TO CONSTRUCTION.
13. CUTOFF WALLS SHALL BE CONSTRUCTED AT THE STARTING AND ENDING POINTS OF EACH CONCRETE DITCH LINER SECTION. CUTOFF WALLS WILL NOT BE MEASURED SEPARATELY AND SHALL BE CONSIDERED SUBSIDIARY TO DITCH LINER CONSTRUCTION.
14. ALL CONTRACTION JOINTS SHALL BE SEALED WITH A NON–EXTRUDING JOINT SEALER.

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olssonassociates.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TYPICAL SECTIONS - LINE A & F

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015–3269
drawing no.:	
date:	05/12/16

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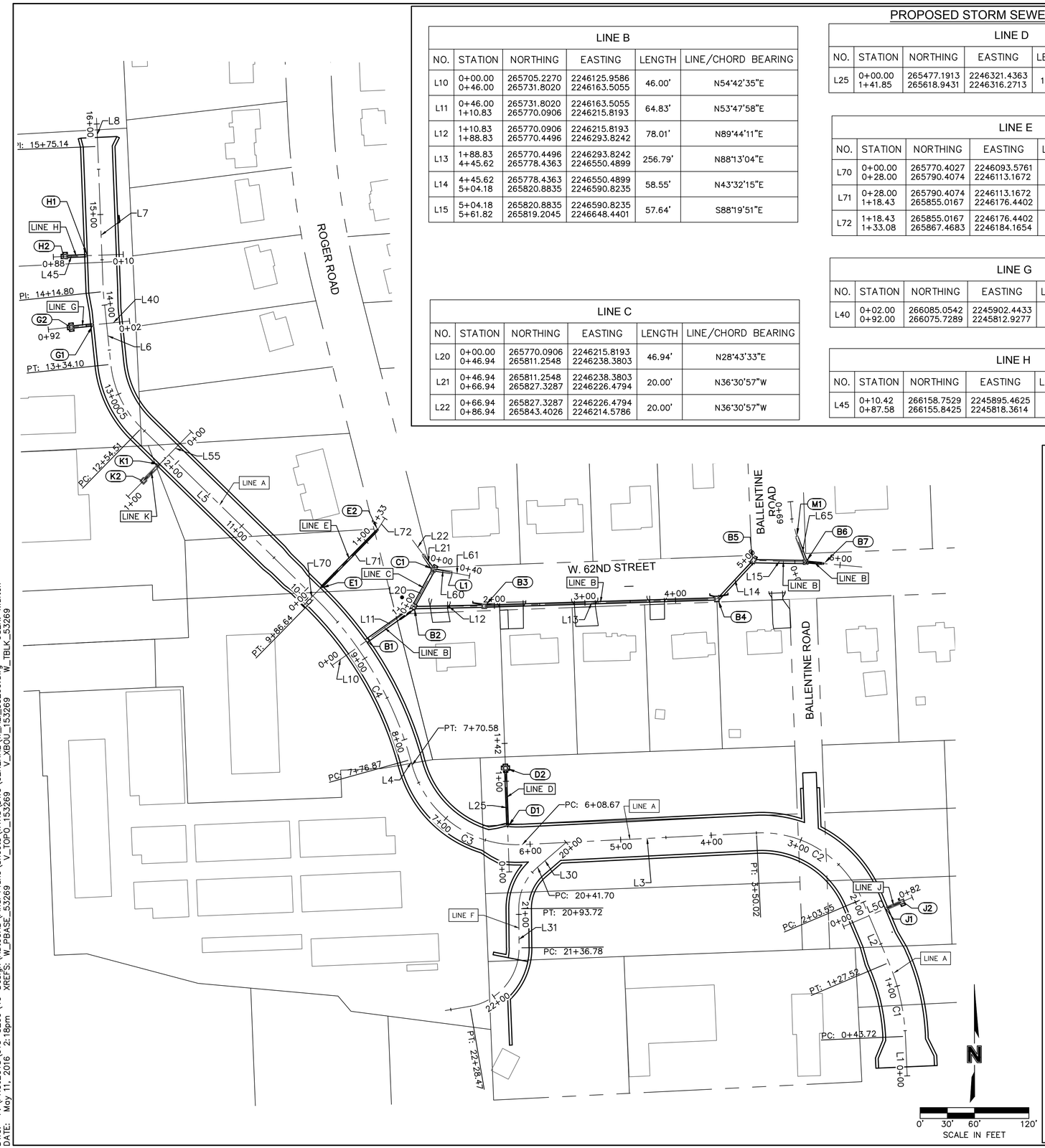
DATE: May 11, 2016 2:17pm XREFS: W_TBLK_53269 W_PCORR_01_53269



PROPOSED STORM SEWER ALIGNMENTS

LINE B

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L10	0+00.00 0+46.00	265705.2270 265731.8020	2246125.9586 2246163.5055	46.00'	N54°42'35"E
L11	0+46.00 1+10.83	265731.8020 265770.0906	2246163.5055 2246215.8193	64.83'	N53°47'58"E
L12	1+10.83 1+88.83	265770.0906 265770.4496	2246215.8193 2246293.8242	78.01'	N89°44'11"E
L13	1+88.83 4+45.62	265770.4496 265778.4363	2246293.8242 2246550.4899	256.79'	N88°13'04"E
L14	4+45.62 5+04.18	265778.4363 265820.8835	2246550.4899 2246590.8235	58.55'	N43°32'15"E
L15	5+04.18 5+61.82	265820.8835 265819.2045	2246590.8235 2246648.4401	57.64'	S88°19'51"E

LINE C

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L20	0+00.00 0+46.94	265770.0906 265811.2548	2246215.8193 2246238.3803	46.94'	N28°43'33"E
L21	0+46.94 0+66.94	265811.2548 265827.3287	2246238.3803 2246226.4794	20.00'	N36°30'57"W
L22	0+66.94 0+86.94	265827.3287 265843.4026	2246226.4794 2246214.5786	20.00'	N36°30'57"W

LINE D

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L25	0+00.00 1+41.85	265477.1913 265618.9431	2246321.4363 2246316.2713	141.85'	N2°05'12"W

LINE E

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L70	0+00.00 0+28.00	265770.4027 265790.4074	2246093.5761 2246113.1672	28.00'	N44°24'05"E
L71	0+28.00 1+18.43	265790.4074 265855.0167	2246113.1672 2246176.4402	90.43'	N44°24'05"E
L72	1+18.43 1+33.08	265855.0167 265867.4683	2246176.4402 2246184.1654	14.65'	N31°48'58"E

LINE G

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L40	0+02.00 0+92.00	266085.0542 266075.7289	2245902.4433 2245812.9277	90.00'	S84°03'10"W

LINE H

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L45	0+10.42 0+87.58	266158.7529 266155.8425	2245895.4625 2245818.3614	77.16'	S87°50'17"W

LINE J

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L50	0+00.00 0+82.39	265416.9191 265449.0050	2246690.3049 2246766.1891	82.39'	N67°04'48"E

LINE K

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L55	0+00.00 1+00.00	265962.8163 265891.3707	2245970.7041 2245900.7361	100.00'	S44°24'05"W

LINE L

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L60	0+00.00 0+20.00	265811.2548 265807.5855	2246238.3803 2246258.0408	20.00'	S79°25'42"E
L61	0+20.00 0+40.00	265807.5855 265803.9162	2246258.0408 2246277.7013	20.00'	S79°25'42"E

LINE M

NO.	STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L65	0+00.00 0+29.99	265819.2045 265847.5221	2246648.4401 2246638.5592	29.99'	N19°14'07"W

PROPOSED CONCRETE CHANNEL ALIGNMENTS

LINE A

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1		0+00.00 0+43.72	265252.0337 265295.7119	2246760.5151 2246758.6172	43.72'	N2°29'17"W			
C1	PC= PI= PT=	0+43.72 0+86.07 1+27.52	265295.7119 265338.0230 265377.0303	2246758.6172 2246756.7788 2246740.2854	83.80'	N12°42'14"W	20°25'55"	42.35'	235.00'
L2		1+27.52 2+03.55	265377.0303 265447.0557	2246740.2854 2246710.6767	76.03'	N22°55'12"W			
C2	PC= PI= PT=	2+03.55 2+87.48 3+50.02	265447.0557 265524.3556 265520.1731	2246710.6767 2246677.9921 2246594.1704	146.47'	N57°53'18"W	69°56'12"	83.93'	120.00'
L3		3+50.02 6+08.67	265520.1731 265507.2832	2246594.1704 2246335.8460	258.65'	S87°08'36"W			
C3	PC= PI= PT=	6+08.67 7+04.65 7+70.58	265507.2832 265502.5002 265594.9624	2246335.8460 2246239.9896 2246214.2587	161.91'	N54°12'14"W	77°18'20"	95.98'	120.00'
L4		7+70.58 7+76.87	265594.9624 265601.0217	2246214.2587 2246212.5725	6.29'	N15°33'04"W			
C4	PC= PI= PT=	7+76.87 8+84.23 9+86.64	265601.0217 265704.4490 265779.5649	2246212.5725 2246183.7902 2246107.0879	209.77'	N30°34'30"W	30°02'51"	107.36'	400.00'
L5		9+86.64 12+54.51	265779.5649 265966.9904	2246107.0879 2245915.7044	267.87'	N45°35'55"W			
C5	PC= PI= PT=	12+54.51 12+95.97 13+34.10	265966.9904 265995.9997 266037.2373	2245915.7044 2245886.0825 2245881.7866	79.59'	N25°46'23"W	39°39'05"	41.46'	115.00'
L6		13+34.10 14+14.80	266037.2373 266117.5051	2245881.7866 2245873.4248	80.70'	N5°56'50"W			
L7		14+14.80 15+75.14	266117.5051 266277.7320	2245873.4248 2245867.3764	160.34'	N2°09'43"W			
L8		15+75.14 16+06.52	266277.7320 266309.0842	2245867.3764 2245866.0189	31.38'	N2°28'45"W			

LINE F

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L30		20+00.00 20+41.70	265509.6995 265482.4454	2246384.2696 2246352.7075	41.70'	S49°11'21"W			
L31		20+93.72 21+36.78	265436.5277 265393.4619	2246331.9234 2246332.2861	43.07'	S0°28'57"E			

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

ALIGNMENT DATA - STORM

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

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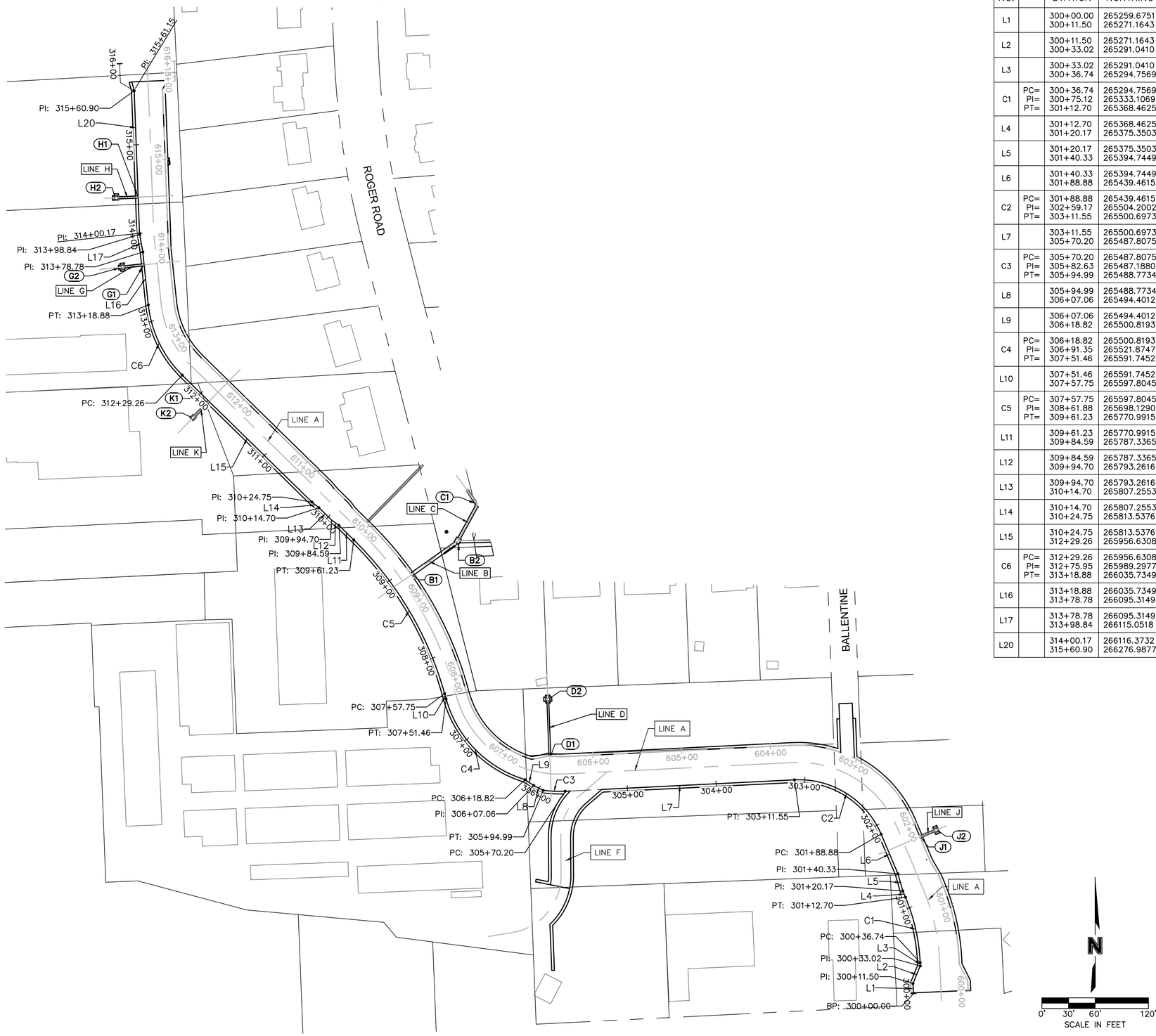

LINE A - LEFT WALL									
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1		300+00.00 300+11.50	265259.6751 265271.1643	2246729.0528 2246728.5536	11.50'	N2°29'17"W			
L2		300+11.50 300+33.02	265271.1643 265291.0410	2246728.5536 2246736.7994	21.52'	N22°31'52"E			
L3		300+33.02 300+36.74	265291.0410 265294.7569	2246736.7994 2246736.6379	3.72'	N2°29'17"W			
C1	PC= PI= PT=	300+36.74 300+75.12 301+12.70	265294.7569 265333.1069 265368.4625	2246736.6379 2246734.9716 2246720.0223	75.96'	N12°42'14"W	20°25'55"	38.39'	213.00'
L4		301+12.70 301+20.17	265368.4625 265375.3503	2246720.0223 2246717.1099	7.48'	N22°55'12"W			
L5		301+20.17 301+40.33	265375.3503 265394.7449	2246717.1099 2246711.6236	20.16'	N15°47'42"W			
L6		301+40.33 301+88.88	265394.7449 265439.4615	2246711.6236 2246692.7162	48.55'	N22°55'12"W			
C2	PC= PI= PT=	301+88.88 302+59.17 303+11.55	265439.4615 265504.2002 265500.6973	2246692.7162 2246665.3429 2246595.1422	122.67'	N57°53'18"W	69°56'12"	70.29'	100.50'
L7		303+11.55 305+70.20	265500.6973 265487.8075	2246595.1422 2246336.8178	258.65'	S87°08'36"W			
C3	PC= PI= PT=	305+70.20 305+82.63 305+94.99	265487.8075 265487.1880 265488.7734	2246336.8178 2246324.4026 2246312.0734	24.80'	N87°45'52"W	10°11'03"	12.43'	139.50'
L8		305+94.99 306+07.06	265488.7734 265494.4012	2246312.0734 2246301.4047	12.06'	N62°11'18"W			
L9		306+07.06 306+18.82	265494.4012 265500.8193	2246301.4047 2246291.5438	11.77'	N62°11'18"W			
C4	PC= PI= PT=	306+18.82 306+91.35 307+51.46	265500.8193 265521.8747 265591.7452	2246291.5438 2246222.1420 2246202.6980	132.64'	N44°20'13"W	57°34'19"	72.53'	132.00'
L10		307+51.46 307+57.75	265591.7452 265597.8045	2246202.6980 2246201.0118	6.29'	N15°33'04"W			
C5	PC= PI= PT=	307+57.75 308+61.88 309+61.23	265597.8045 265698.1290 265770.9915	2246201.0118 2246173.0930 2246098.6918	203.48'	N30°34'30"W	30°02'51"	104.14'	388.00'
L11		309+61.23 309+84.59	265770.9915 265787.3365	2246098.6918 2246082.0015	23.36'	N45°35'55"W			
L12		309+84.59 309+94.70	265787.3365 265793.2616	2246082.0015 2246073.8075	10.11'	N54°07'46"W			
L13		309+94.70 310+14.70	265793.2616 265807.2553	2246073.8075 2246059.5183	20.00'	N45°35'55"W			
L14		310+14.70 310+24.75	265807.2553 265813.5376	2246059.5183 2246051.6741	10.05'	N51°18'33"W			
L15		310+24.75 312+29.26	265813.5376 265956.6308	2246051.6741 2245905.5591	204.51'	N45°35'55"W			
C6	PC= PI= PT=	312+29.26 312+75.95 313+18.88	265956.6308 265989.2977 266035.7349	2245905.5591 2245872.2022 2245867.3647	89.62'	N25°46'23"W	39°39'05"	46.69'	129.50'
L16		313+18.88 313+78.78	266035.7349 266095.3149	2245867.3647 2245861.1580	59.90'	N5°56'50"W			
L17		313+78.78 313+98.84	266095.3149 266115.0518	2245861.1580 2245857.5938	20.06'	N10°14'11"W			
L20		314+00.17 315+60.90	266116.3732 266276.9877	2245857.4561 2245851.3931	160.73'	N2°09'43"W			

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

ALIGNMENT DATA - LINE A LEFT WALL

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
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DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_ALL_WALL_LEFT_53269.dwg
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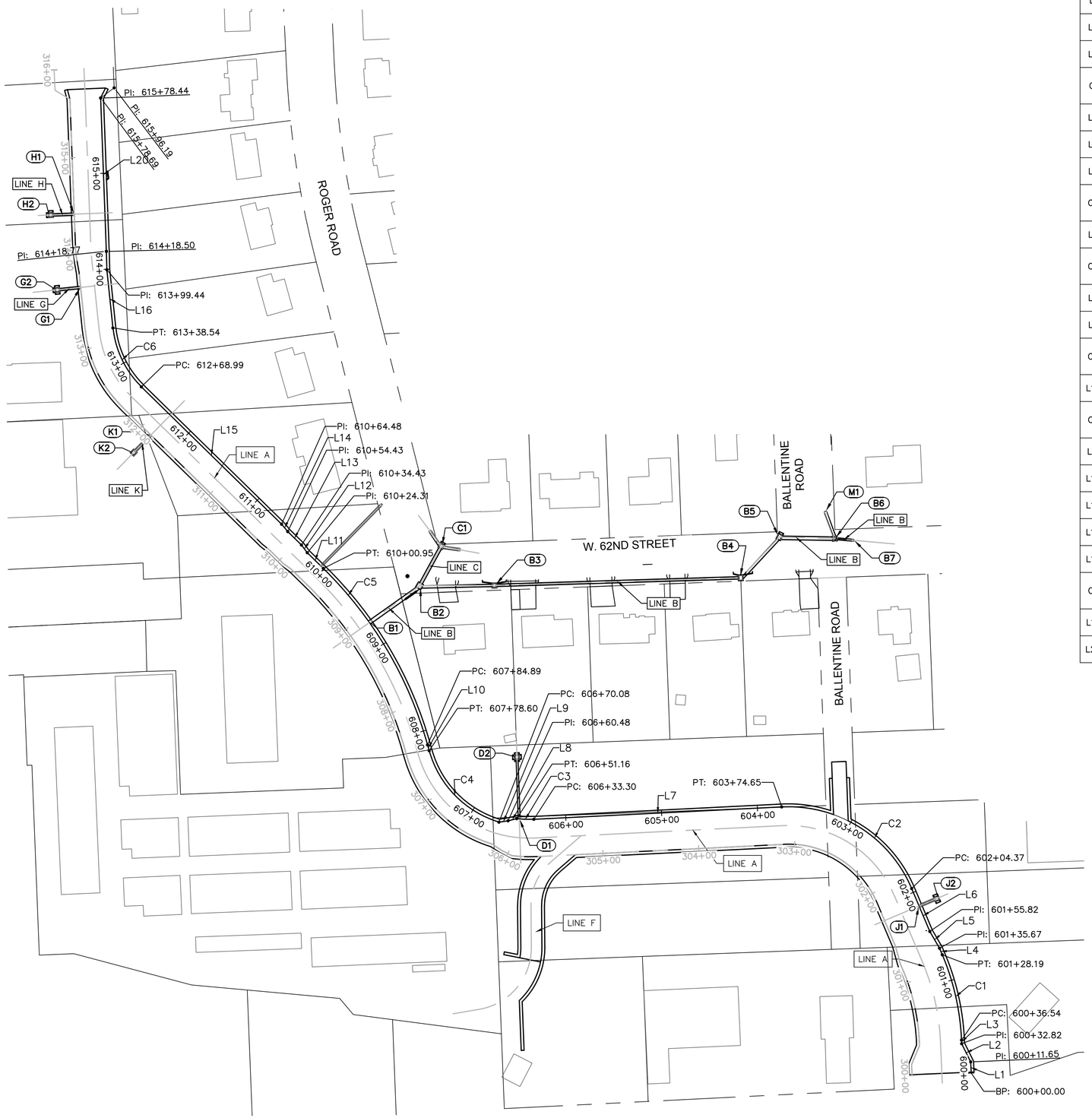

LINE A - RIGHT WALL									
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1		600+00.00 600+11.65	265262.3534 265273.9925	2246790.6920 2246790.1863	11.65'	N2°29'17"W			
L2		600+11.65 600+32.82	265273.9925 265292.9510	2246790.1863 2246780.7579	21.17'	N26°26'30"W			
L3		600+32.82 600+36.54	265292.9510 265296.6670	2246780.7579 2246780.5965	3.72'	N2°29'17"W			
C1	PC= PI= PT=	600+36.54 600+82.86 601+28.19	265296.6670 265342.9390 265385.5981	2246780.5965 2246778.5859 2246760.5485	91.65'	N12°42'14"W	20°25'55"	46.32'	257.00'
L4		601+28.19 601+35.67	265385.5981 265392.4859	2246760.5485 2246757.6361	7.48'	N22°55'12"W			
L5		601+35.67 601+55.82	265392.4859 265409.9333	2246757.6361 2246747.5446	20.16'	N30°02'42"W			
L6		601+55.82 602+04.37	265409.9333 265454.6499	2246747.5446 2246728.6371	48.55'	N22°55'12"W			
C2	PC= PI= PT=	602+04.37 603+01.94 603+74.65	265454.6499 265544.5111 265539.6489	2246728.6371 2246690.6413 2246593.1986	170.28'	N57°53'18"W	69°56'12"	97.56'	139.50'
L7		603+74.65 606+33.30	265539.6489 265526.7590	2246593.1986 2246334.8742	258.65'	S87°08'36"W			
C3	PC= PI= PT=	606+33.30 606+42.25 606+51.16	265526.7590 265526.3127 265527.4549	2246334.8742 2246325.9299 2246317.0476	17.86'	N87°45'52"W	10°11'03"	8.96'	100.50'
L8		606+51.16 606+60.48	265527.4549 265525.2011	2246317.0476 2246308.0089	9.32'	S81°31'24"W			
L9		606+60.48 606+70.08	265525.2011 265523.7856	2246308.0089 2246298.5114	9.60'	S81°31'24"W			
C4	PC= PI= PT=	606+70.08 607+29.42 607+78.60	265523.7856 265541.0128 265598.1795	2246298.5114 2246241.7281 2246225.8194	108.52'	N44°20'13"W	57°34'19"	59.34'	108.00'
L10		607+78.60 607+84.89	265598.1795 265604.2388	2246225.8194 2246224.1332	6.29'	N15°33'04"W			
C5	PC= PI= PT=	607+84.89 608+95.47 610+00.95	265604.2388 265710.7690 265788.1384	2246224.1332 2246194.4874 2246115.4841	216.06'	N30°34'30"W	30°02'51"	110.58'	412.00'
L11		610+00.95 610+24.31	265788.1384 265804.4835	2246115.4841 2246098.7939	23.36'	N45°35'55"W			
L12		610+24.31 610+34.43	265804.4835 265812.5520	2246098.7939 2246092.6988	10.11'	N37°04'04"W			
L13		610+34.43 610+54.43	265812.5520 265826.5456	2246092.6988 2246078.4097	20.00'	N45°35'55"W			
L14		610+54.43 610+64.48	265826.5456 265834.2568	2246078.4097 2246071.9648	10.05'	N39°53'17"W			
L15		610+64.48 612+68.99	265834.2568 265977.3500	2246071.9648 2245925.8498	204.51'	N45°35'55"W			
C6	PC= PI= PT=	612+68.99 613+05.22 613+38.54	265977.3500 266002.7016 266038.7397	2245925.8498 2245899.9628 2245896.2086	69.55'	N25°46'23"W	39°39'05"	36.23'	100.50'
L16		613+38.54 613+99.44	266038.7397 266099.3143	2245896.2086 2245889.8983	60.90'	N5°56'50"W			
L20		614+18.77 615+78.44	266118.6370 266278.1948	2245889.3934 2245883.3703	159.67'	N2°09'43"W			

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

ALIGNMENT DATA - LINE A RIGHT WALL

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

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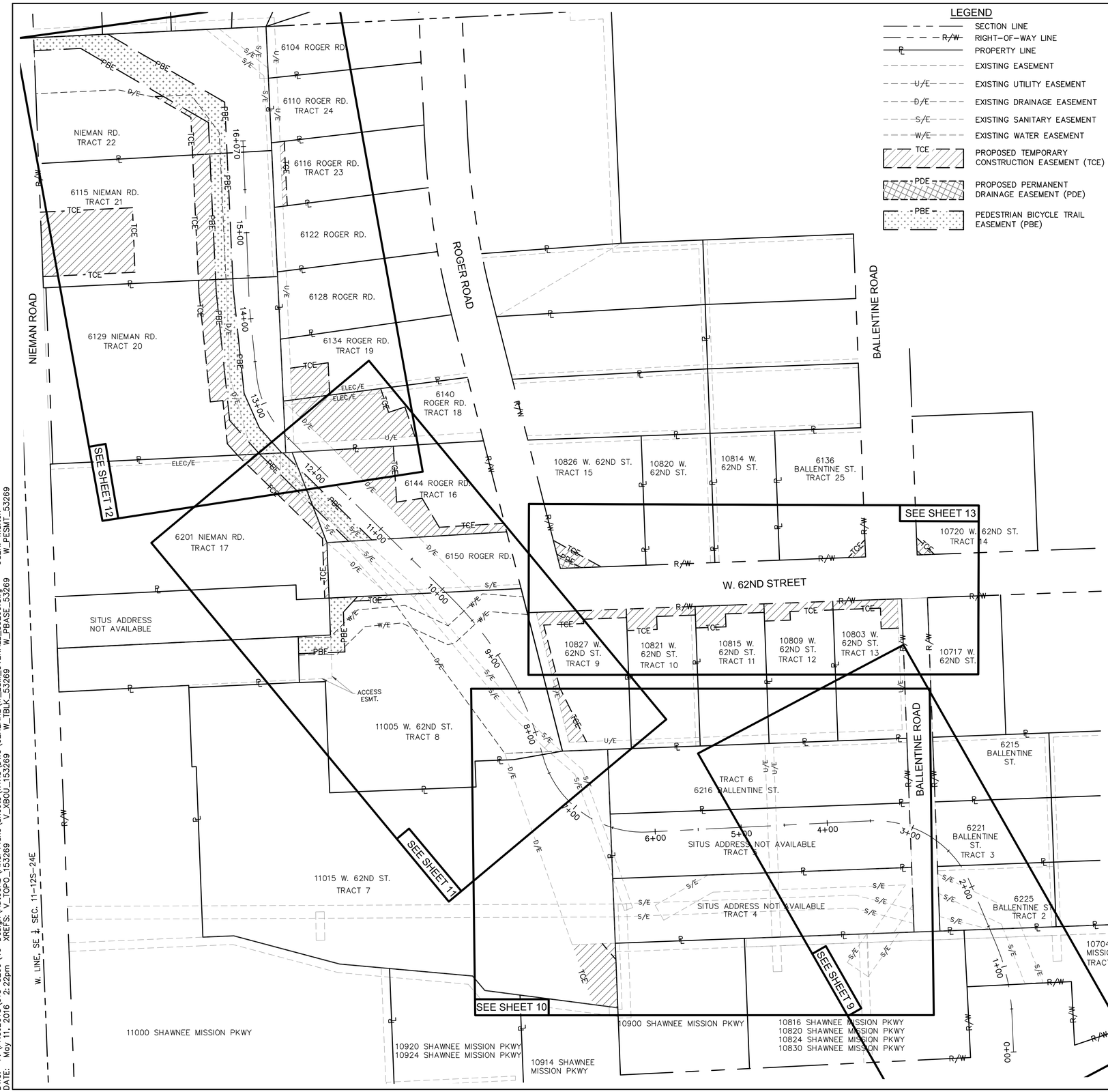

LEGEND

- SECTION LINE
- RIGHT-OF-WAY LINE
- PROPERTY LINE
- EXISTING EASEMENT
- EXISTING UTILITY EASEMENT
- EXISTING DRAINAGE EASEMENT
- EXISTING SANITARY EASEMENT
- EXISTING WATER EASEMENT
- TCE — PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
- PDE — PROPOSED PERMANENT DRAINAGE EASEMENT (PDE)
- PBE — PEDESTRIAN BICYCLE TRAIL EASEMENT (PBE)

Tract No.	Owner Mailing Address	Situs	T.C.E. (S.F.)	P.D.E. (S.F.)	P.B.E. (S.F.)
1					
2					
3					
4					
5					
6					
7	Security Storage Properties 1717 N. Waterfront Parkway Wichita, KS 67207	11015 W. 62nd Street	2,817		
8	T & M Zarda Family, LLC 22712 Midland Drive Shawnee, KS 66226	11005 W. 62nd Street	201		1,911
9	John Douglas and Gay Cowick 10827 W. 62nd Street Shawnee, KS 66203	10827 W. 62nd Street	2,476		
10	Warren L. Sr. and Viola M. Day 10821 W. 62nd Street Shawnee, KS 66203	10821 W. 62nd Street	1,324		
11	Shauna M. Wassmer 10815 W. 62nd Street Shawnee, KS 66203	10815 W. 62nd Street	1,324		
12	Dina Lee 10809 W. 62nd Street Shawnee, KS 66203	10809 W. 62nd Street	1,099		
13	Suzanne Zarda 10803 W. 62nd Street Shawnee, KS 66203	10803 W. 62nd Street	1,229		
14	Teresa J. Bush Living Trust 10720 W. 62nd Street Shawnee, KS 66203	10720 W. 62nd Street	187	12	
15	Donald Bruce and Audrey F. Madison 10826 W. 62nd Street Shawnee, KS 66203	10826 W. 62nd Street	573	199	
16	Russell Family Partnership, L.P. 9209 W. 47th Street Merriam, KS 66203	6144 Roger Road	5,010		1,781
17	United States Postal Service 300 W. Pershing Rd., Apt. 235 Kansas City, MO 64108	6201 Nieman Road	2,518		1,110
18	Russell Family Partnership, L.P. 9209 W. 47th Street Merriam, KS 66203	6140 Roger Road	6,022		
19	Jake C. and Amy M. Beverlin-Coleman 6134 Roger Road Shawnee, KS 66203	6134 Roger Road	1,640		
20	Russell Family Partnership, L.P. 9209 W. 47th Street Merriam, KS 66203	6129 Nieman Road	3,662		4,506
21	Shawnee Properties, LLC 5350 W. 94th Terrace, Apt. 104 Prairie Village, KS 66207	6115 Nieman Road	8,012 2,916		2,919
22	Shawnee Properties, LLC 5350 W. 94th Terrace, Apt. 104 Prairie Village, KS 66207	Situs Address unavailable	1,074		6,933
23	Judith M. Gresco 6116 Roger Road Shawnee, KS 66203	6116 Roger Road	374		
24					
25	John & Lela Watson 6136 Ballentine Street Shawnee, KS 66203	6136 Ballentine Street	200		

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

OVERALL EASEMENT PLAN

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

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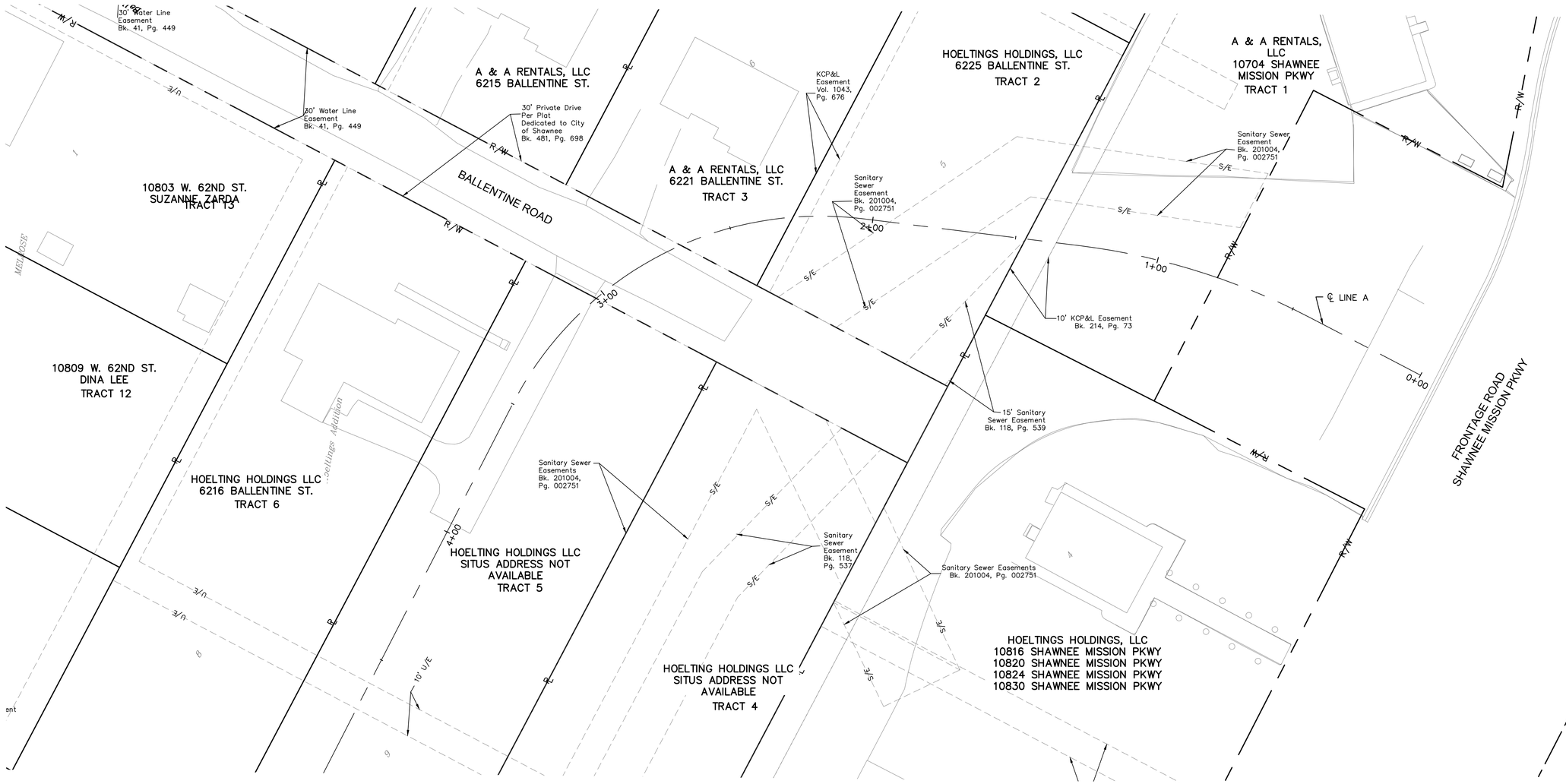

LEGEND

- R/W — RIGHT OF WAY
- PL — PROPERTY LINE
- EXISTING EASEMENT
- U/E — EXISTING UTILITY EASEMENT
- D/E — EXISTING DRAINAGE EASEMENT
- S/E — EXISTING SANITARY EASEMENT
- TCE — PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
- PDE — PROPOSED PERMANENT DRAINAGE EASEMENT (PDE)

N

0' 10' 20' 40'
SCALE IN FEET

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REVISIONS

EASEMENT PLAN

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
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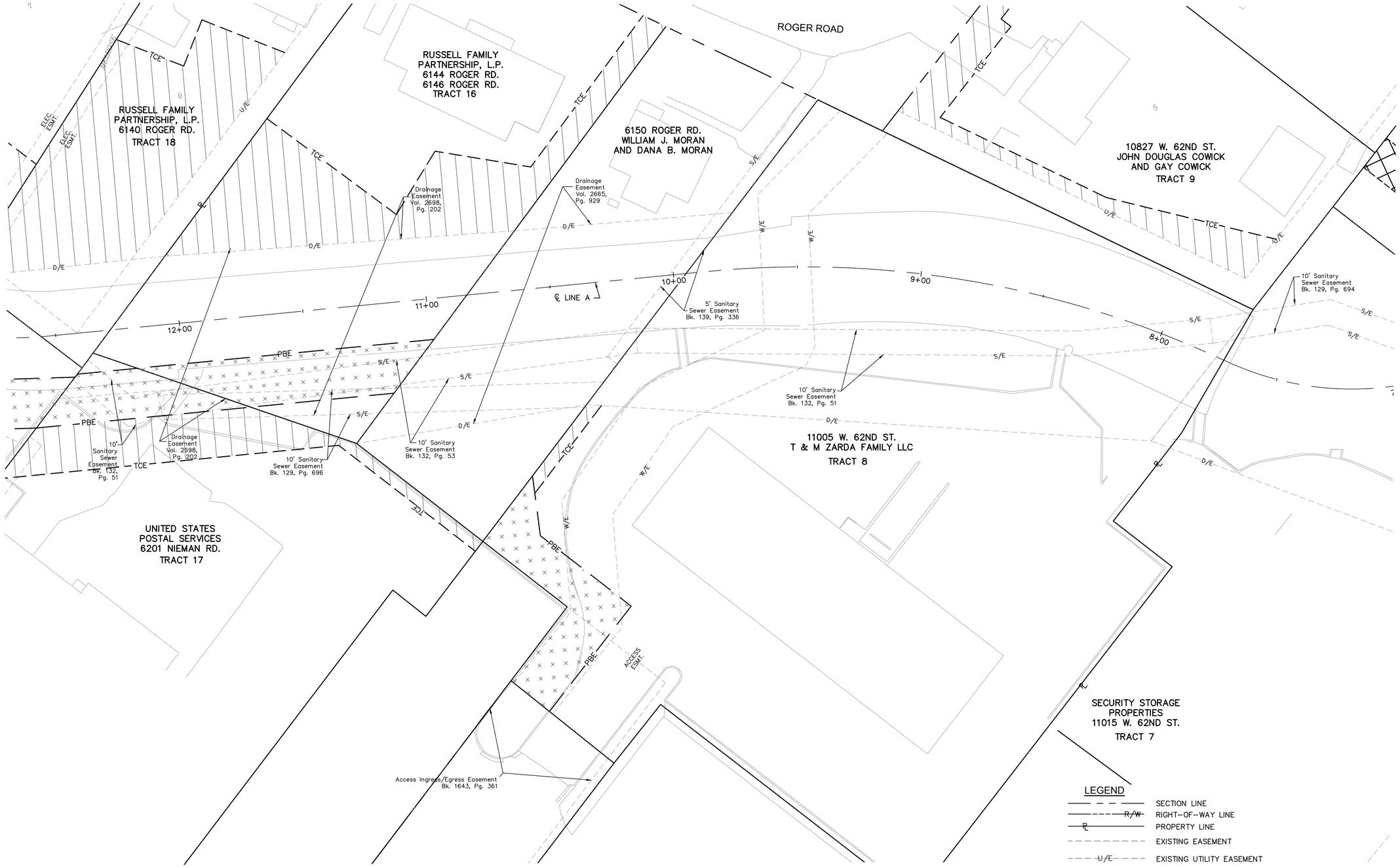

LEGEND

	SECTION LINE
R/W	RIGHT-OF-WAY LINE
PL	PROPERTY LINE
	EXISTING EASEMENT
U/E	EXISTING UTILITY EASEMENT
D/E	EXISTING DRAINAGE EASEMENT
S/E	EXISTING SANITARY EASEMENT
W/E	EXISTING WATER EASEMENT
TCE	PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
PDE	PROPOSED PERMANENT DRAINAGE EASEMENT (PDE)
PBE	PEDESTRIAN BICYCLE TRAIL EASEMENT (PBE)

N

0' 10' 20' 40'
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STORMWATER IMPROVEMENTS

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date: 05/12/16

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12 of 84

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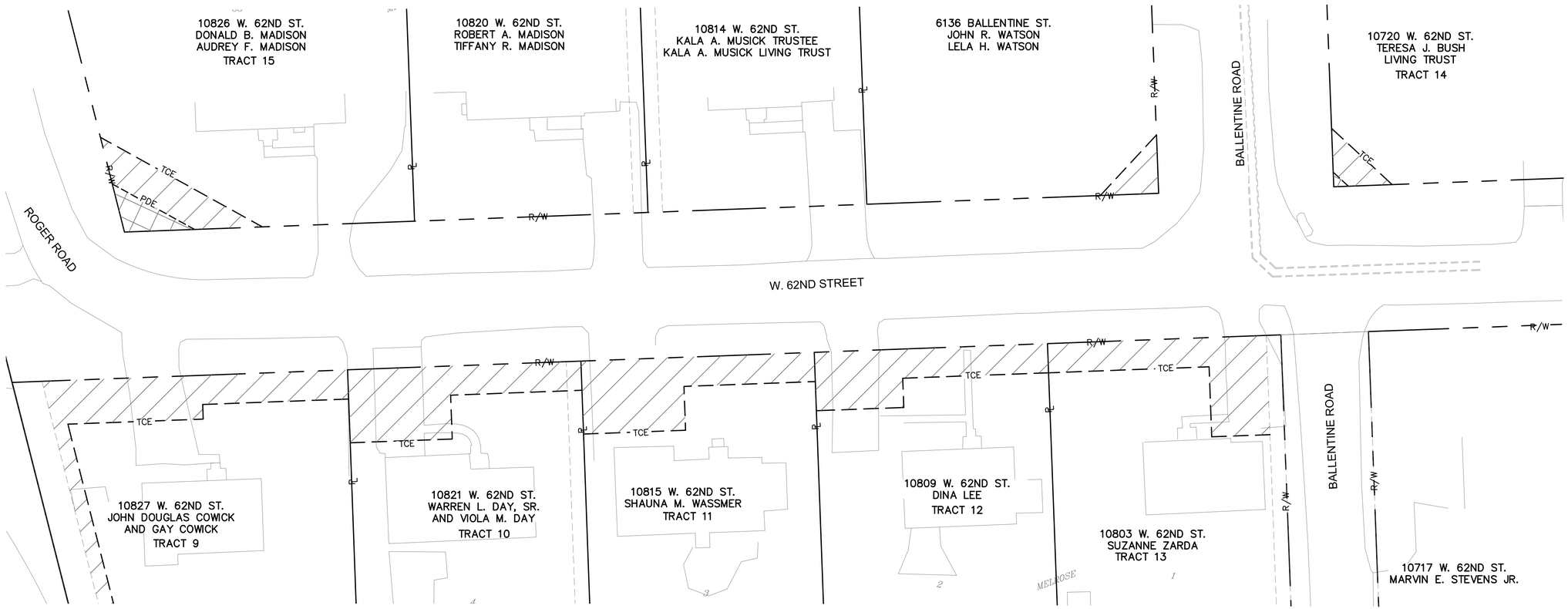

LEGEND

R/W	RIGHT OF WAY
PL	PROPERTY LINE
	EXISTING EASEMENT
U/E	EXISTING UTILITY EASEMENT
D/E	EXISTING DRAINAGE EASEMENT
S/E	EXISTING SANITARY EASEMENT
TCE	PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
PDE	PROPOSED PERMANENT DRAINAGE EASEMENT (PDE)

N

0' 10' 20' 40'
SCALE IN FEET

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STORMWATER IMPROVEMENTS

SHAWNEE, KS

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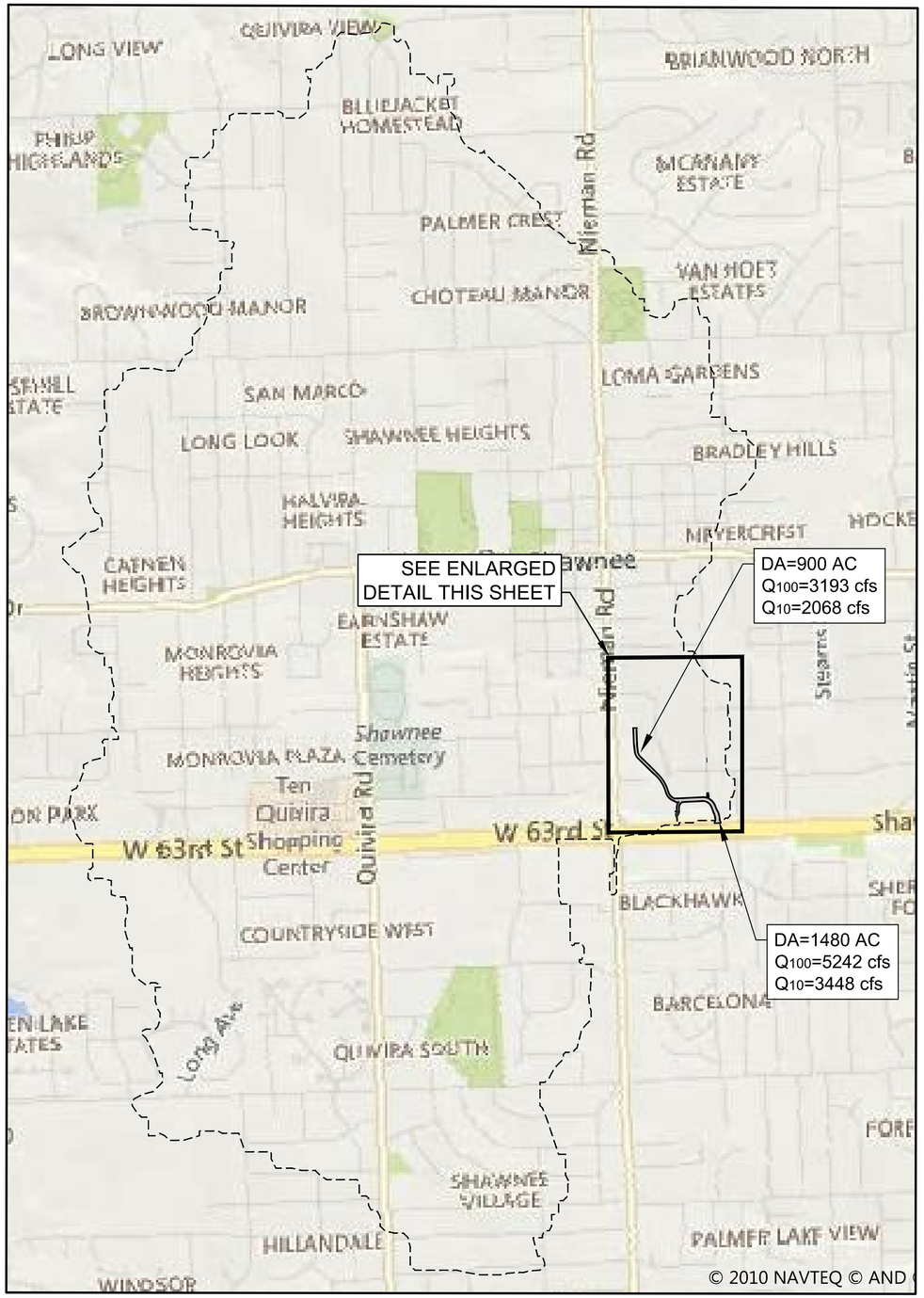

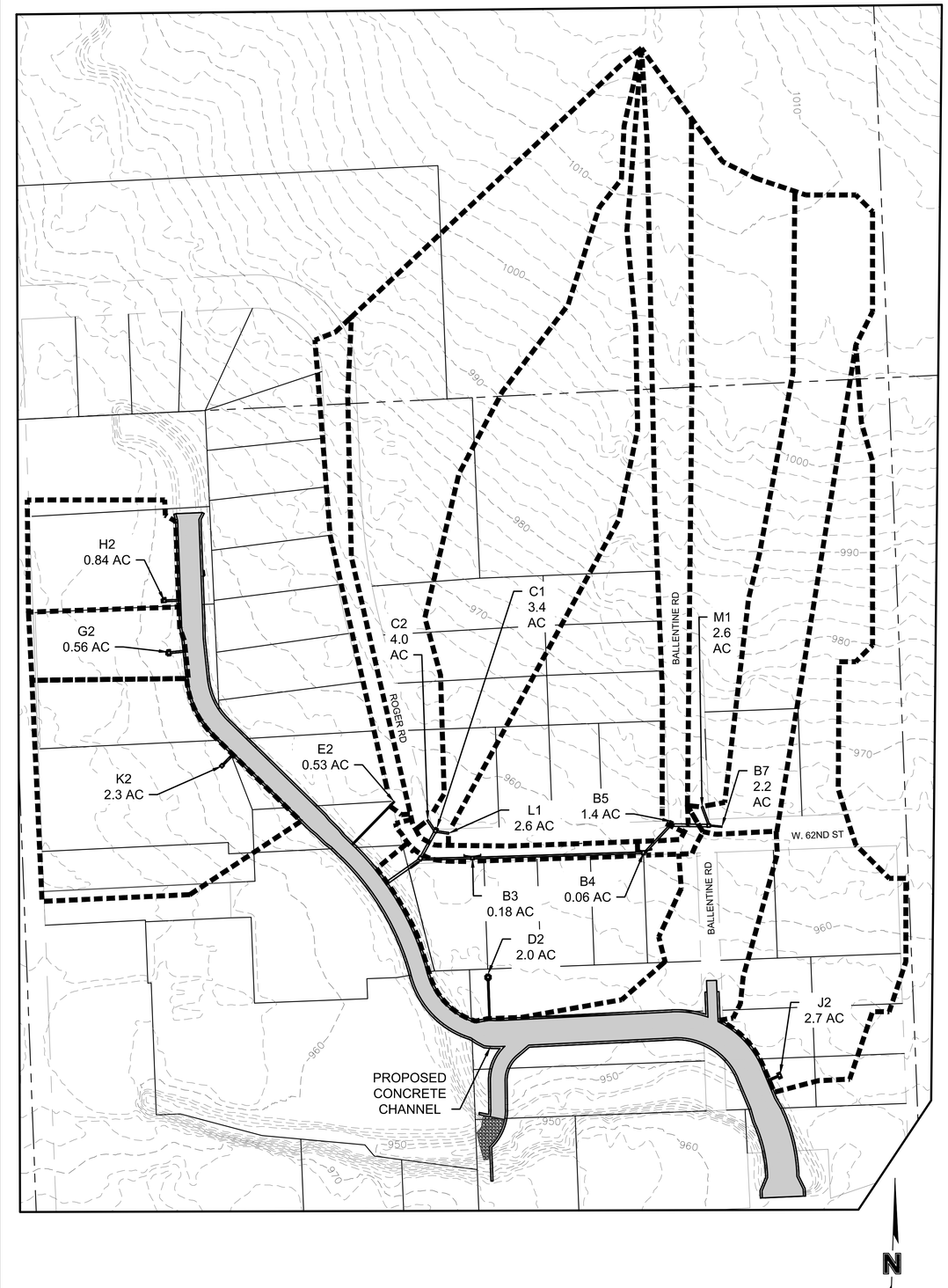

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DRAINAGE AREA MAP

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

SHEET
14 of 84

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DRAINAGE AREA\W_DRN_MAP_53269.dwg USER: kfulton
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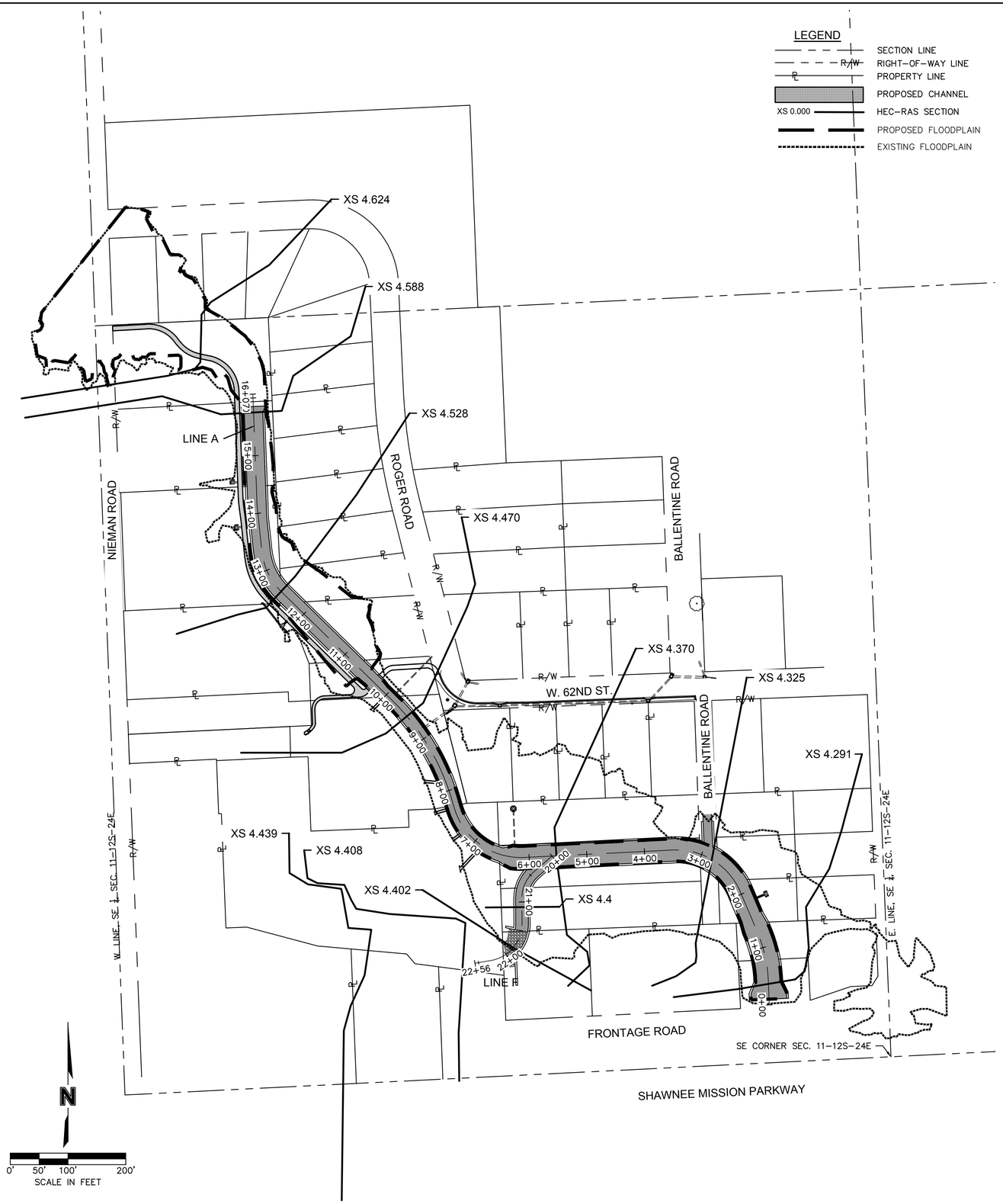

LINE A EXISTING HYDRAULIC DATA TABLE

CROSS SECTION	CENTERLINE STATION	CHANNEL ROUGHNESS	CROSS SECTION INVERT	EVENT	Q TOTAL	WATER SURFACE ELEVATION	ENERGY GRADE ELEVATION	CHANNEL VELOCITY
					(CFS)	(FT)	(FT)	(FT/SEC)
4.624	NA	0.015	953.32	10-YR	2028	960.29	960.87	6.13
4.624	NA	0.015	953.32	100-YR	3502	963.09	963.77	6.76
4.588	15+74.85	0.015	951.79	10-YR	2028	958.00	960.22	12.0
4.588	15+74.85	0.015	951.79	100-YR	3502	960.15	963.01	13.7
4.528	12+55.43	0.015	949.73	10-YR	2068	955.94	958.10	11.8
4.528	12+55.43	0.015	949.73	100-YR	3193	957.55	960.21	13.2
4.470	9+48.61	0.015	947.83	10-YR	2068	954.10	955.78	10.4
4.470	9+48.61	0.015	947.83	100-YR	3193	955.50	957.81	12.2
4.370	5+52.69	0.035	942.17	10-YR	3448	952.60	954.27	10.6
4.370	5+52.69	0.035	942.17	100-YR	5242	955.81	956.48	7.91
4.325	2+80.34	0.035	942.47	10-YR	3448	952.57	953.30	6.86
4.325	2+80.34	0.035	942.47	100-YR	5242	955.42	956.12	6.96
4.291	0+36.42	0.035	941.78	10-YR	3448	952.38	952.90	5.80
4.291	0+36.42	0.035	941.78	100-YR	5242	955.30	955.85	5.99

LINE A PROPOSED HYDRAULIC DATA TABLE

CROSS SECTION	CENTERLINE STATION	CHANNEL ROUGHNESS	CROSS SECTION INVERT	EVENT	Q TOTAL	WATER SURFACE ELEVATION	ENERGY GRADE ELEVATION	CHANNEL VELOCITY
					(CFS)	(FT)	(FT)	(FT/SEC)
4.624	NA	0.015	953.32	10-YR	2028	959.21	960.1	7.56
4.624	NA	0.015	953.32	100-YR	3502	962.89	963.64	7.00
4.588	15+74.85	0.015	951.79	10-YR	2028	956.86	959.36	12.7
4.588	15+74.85	0.015	951.79	100-YR	3502	959.09	962.65	15.2
4.528	12+55.43	0.015	949.75	10-YR	2068	955.23	957.93	13.2
4.528	12+55.43	0.015	949.75	100-YR	3193	957.31	960.63	14.7
4.470	9+48.61	0.015	947.30	10-YR	2068	953.49	956.57	14.1
4.470	9+48.61	0.015	947.30	100-YR	3193	955.55	959.66	16.3
4.370	5+52.69	0.015	946.00	10-YR	3448	952.32	955.43	14.2
4.370	5+52.69	0.015	946.00	100-YR	5242	954.64	958.39	15.6
4.325	2+80.34	0.015	945.00	10-YR	3448	951.32	954.46	14.2
4.325	2+80.34	0.015	945.00	100-YR	5242	954.5	957.66	14.3
4.291	0+36.42	0.015	944.30	10-YR	3448	950.21	953.08	13.6
4.291	0+36.42	0.015	944.30	100-YR	5242	954.51	956.69	11.8

LINE F EXISTING HYDRAULIC DATA TABLE

CROSS SECTION	CENTERLINE STATION	CHANNEL ROUGHNESS	CROSS SECTION INVERT	EVENT	Q TOTAL	WATER SURFACE ELEVATION	ENERGY GRADE ELEVATION	CHANNEL VELOCITY
					(CFS)	(FT)	(FT)	(FT/SEC)
4.439	NA	0.045	948.51	10-YR	1566	955.34	957.88	12.8
4.439	NA	0.045	948.51	100-YR	2572	957.51	960.65	14.3
4.408	NA	0.045	945.92	10-YR	1566	954.60	955.31	6.79
4.408	NA	0.045	945.92	100-YR	2572	957.78	958.49	6.78
4.402	21+82.77	0.045	943.89	10-YR	1566	954.75	954.95	3.66
4.402	21+82.77	0.045	943.89	100-YR	2572	958.00	958.20	3.61
4.400	21+08.93	0.015	946.40	10-YR	1566	952.29	954.62	12.2
4.400	21+08.93	0.015	946.40	100-YR	2572	954.33	957.77	14.9

LINE F PROPOSED HYDRAULIC DATA TABLE

CROSS SECTION	CENTERLINE STATION	CHANNEL ROUGHNESS	CROSS SECTION INVERT	EVENT	Q TOTAL	WATER SURFACE ELEVATION	ENERGY GRADE ELEVATION	CHANNEL VELOCITY
					(CFS)	(FT)	(FT)	(FT/SEC)
4.439	NA	0.045	948.51	10-YR	1566	955.34	957.88	12.8
4.439	NA	0.045	948.51	100-YR	2572	957.51	960.65	14.3
4.408	NA	0.045	945.92	10-YR	1566	955.01	955.63	6.31
4.408	NA	0.045	945.92	100-YR	2572	957.99	958.66	6.60
4.402	21+82.77	0.045	944.26	10-YR	1566	954.18	955.06	7.54
4.402	21+82.77	0.045	944.26	100-YR	2572	957.71	958.30	6.42
4.400	21+08.93	0.015	946.40	10-YR	1566	952.29	954.62	12.2
4.400	21+08.93	0.015	946.40	100-YR	2572	954.33	957.77	14.9

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Overland Park, KS 66213-4750
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

CHANNEL FLOODPLAIN MAP & HYDRAULIC DATA

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DRAINAGE AREA\W_DRN_CHANNEL_MAP_CALCS.dwg USER: ktulton
DATE: May 11, 2016 2:27pm XREFS: V_TOPO_153269 V_XBOU_153269 W_TBLK_53269 W_PBASE_53269

10-YR HYDRAULICS

US NODE	DS NODE	PIPE SIZE	LENGTH	ROUGHNESS	US INVERT	DS INVERT	FLOW	VELOCITY	WATER SURFACE ELEVATION AT US NODE
		(IN)	(FT)				(CFS)	(FT/SEC)	
B1									
B2	B1	36	64.8	0.013	950.16	949.51	49.8	8.59	952.46
B3	B2	24	78.0	0.013	951.71	951.16	18.9	6.89	953.34
B4	B3	24	256.8	0.013	956.10	951.91	17.9	6.60	957.62
B5	B4	24	58.6	0.013	960.00	956.30	17.6	7.44	961.51
B6	B5	29 x 18	57.6	0.013	961.00	960.47	13.8	4.94	962.85
B7	B6	18	19.9	0.013	962.44	961.10	6.01	4.26	963.39
M1	B6	18	30.0	0.013	962.08	959.68	7.82	5.08	963.16
C2	C1	24	20.0	0.013	954.70	953.10	12.9	5.31	955.99
L1	C1	24	20.0	0.013	954.70	953.10	7.75	3.88	955.69
C1	B2	30	46.9	0.013	952.88	952.50	31.0	8.09	954.77
D2	D1	18	64.5	0.013	948.02	947.37	4.90	4.74	948.87
E2	E1	18	90.4	0.013	955.50	950.00	2.02	3.57	956.04
G2	G1	24	24.5	0.013	953.77	953.53	3.08	3.78	954.38
H2	H1	24	24.5	0.013	954.60	953.00	4.62	4.25	955.36
J2	J1	24	20.0	0.013	949.20	948.85	10.2	5.50	950.34
K2	K1	24	25.6	0.013	953.30	952.00	12.4	5.92	954.56

10, 25, & 100-YR HYDROLOGY

NODE	AREA	IMPERVIOUS PERCENTAGE	TIME OF CONCENTRATION	FLOW 10-YR	FLOW 25-YR	FLOW 100-YR
	(ac)		(min)	(cfs)	(cfs)	(cfs)
B3	0.18	0.75	6.0	0.96	1.2	1.7
B4	0.06	0.75	6.0	0.32	0.4	0.6
B5	1.39	0.35	14	3.8	4.8 *	6.7 *
B7	2.16	0.35	13	6.0	7.7 *	11 *
C1	3.39	0.35	11	10	13 *	18 *
C2	4.01	0.35	8.9	13	16	23
D2	1.96	0.20	11	4.9	6.2	8.7
E2	0.53	0.50	8.7	2.0	2.6	3.6
G2	0.56	0.80	6.0	3.1	3.9	5.4
H2	0.84	0.80	6.0	4.6	5.9	8.1
J2	2.76	0.60	12	10	13	18
K2	2.25	0.80	6.0	12	16	22
L1	2.58	0.35	11	7.8	9.9 *	14 *
M1	2.55	0.35	10	7.8	10	14

* NOTE:

NODE B7:
25 YR: 0.66 CFS DIVERTED SOUTH ON BALLENTINE
100 YR: 3.7 CFS DIVERTED SOUTH ON BALLENTINE

NODE C1:
100 YR: 1.2 CFS DIVERTED SOUTH TO NODE B3

NODE C2:
25 YR: 2.4 CFS DIVERTED SOUTH TO NODE B3
100 YR: 8.8 CFS DIVERTED SOUTH TO NODE B3

NODE M1:
25 YR: 2.98 CFS DIVERTED SOUTH ON BALLENTINE
100 YR: 6.8 CFS DIVERTED SOUTH ON BALLENTINE

25-YR HYDRAULICS

US NODE	DS NODE	PIPE SIZE	LENGTH	ROUGHNESS	US INVERT	DS INVERT	FLOW	VELOCITY	WATER SURFACE ELEVATION AT US NODE
		(IN)	(FT)				(CFS)	(FT/SEC)	
B1									
B2	B1	36	64.8	0.013	950.16	949.51	59.8	9.42	952.66
B3	B2	24	78.0	0.013	951.71	951.16	22.8	7.26	953.95
B4	B3	24	256.8	0.013	956.10	951.91	19.2	6.67	957.67
B5	B4	24	58.6	0.013	960.00	956.30	18.8	7.66	961.56
B6	B5	29 x 18	57.6	0.013	961.00	960.47	14.0	5.00	962.98
B7	B6	18	19.9	0.013	962.44	961.10	7.00	4.71	963.46
M1	B6	18	30.0	0.013	962.08	959.68	7.00	4.70	963.11
C2	C1	24	20.0	0.013	954.70	953.10	14.0	5.43	956.05
L1	C1	24	20.0	0.013	954.70	953.10	9.90	4.36	955.82
C1	B2	30	46.9	0.013	952.88	952.50	37.0	8.56	954.94
D2	D1	18	64.5	0.013	948.02	947.37	6.25	5.19	948.99
E2	E1	18	90.4	0.013	955.50	950.00	2.58	3.83	956.11
G2	G1	24	24.5	0.013	953.77	953.53	3.93	4.07	954.46
H2	H1	24	24.5	0.013	954.60	953.00	5.90	4.58	955.46
J2	J1	24	20.0	0.013	949.20	948.85	13.0	6.02	950.50
K2	K1	24	25.6	0.013	953.30	952.00	15.8	6.57	954.73

100-YR HYDRAULICS

US NODE	DS NODE	PIPE SIZE	LENGTH	ROUGHNESS	US INVERT	DS INVERT	FLOW	VELOCITY	WATER SURFACE ELEVATION AT US NODE
		(IN)	(FT)				(CFS)	(FT/SEC)	
B1									
B2	B1	36	64.8	0.013	950.16	949.51	77.7	11.2	953.24
B3	B2	24	78.0	0.013	951.71	951.16	33.0	10.5	955.65
B4	B3	24	256.8	0.013	956.10	951.91	21.3	6.78	958.62
B5	B4	24	58.6	0.013	960.00	956.30	20.7	7.07	961.63
B6	B5	29 x 18	57.6	0.013	961.00	960.47	14.0	5.00	962.98
B7	B6	18	19.9	0.013	962.44	961.10	7.00	4.71	963.46
M1	B6	18	30.0	0.013	962.08	959.68	7.00	4.71	963.11
C2	C1	24	20.0	0.013	954.70	953.10	14.0	5.34	956.05
L1	C1	24	20.0	0.013	954.70	953.10	13.7	5.26	956.03
C1	B2	30	46.9	0.013	952.88	952.50	44.7	9.11	955.56
D2	D1	18	64.5	0.013	948.02	947.37	8.70	6.34	949.16
E2	E1	18	90.4	0.013	955.50	950.00	3.60	4.80	956.22
G2	G1	24	24.5	0.013	953.77	953.53	5.40	5.04	954.59
H2	H1	24	24.5	0.013	954.60	953.00	8.10	5.67	955.61
J2	J1	24	20.0	0.013	949.20	948.85	18.0	7.66	950.73
K2	K1	24	25.6	0.013	953.30	952.00	21.8	8.43	954.97

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TEL 913.381.1170
FAX 913.381.1174
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REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

DRAINAGE AREA HYDROLOGY & HYDRAULIC CALCULATIONS

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DRAINAGE AREA\W_DRN_CALC_53269.dwg USER: kfulton
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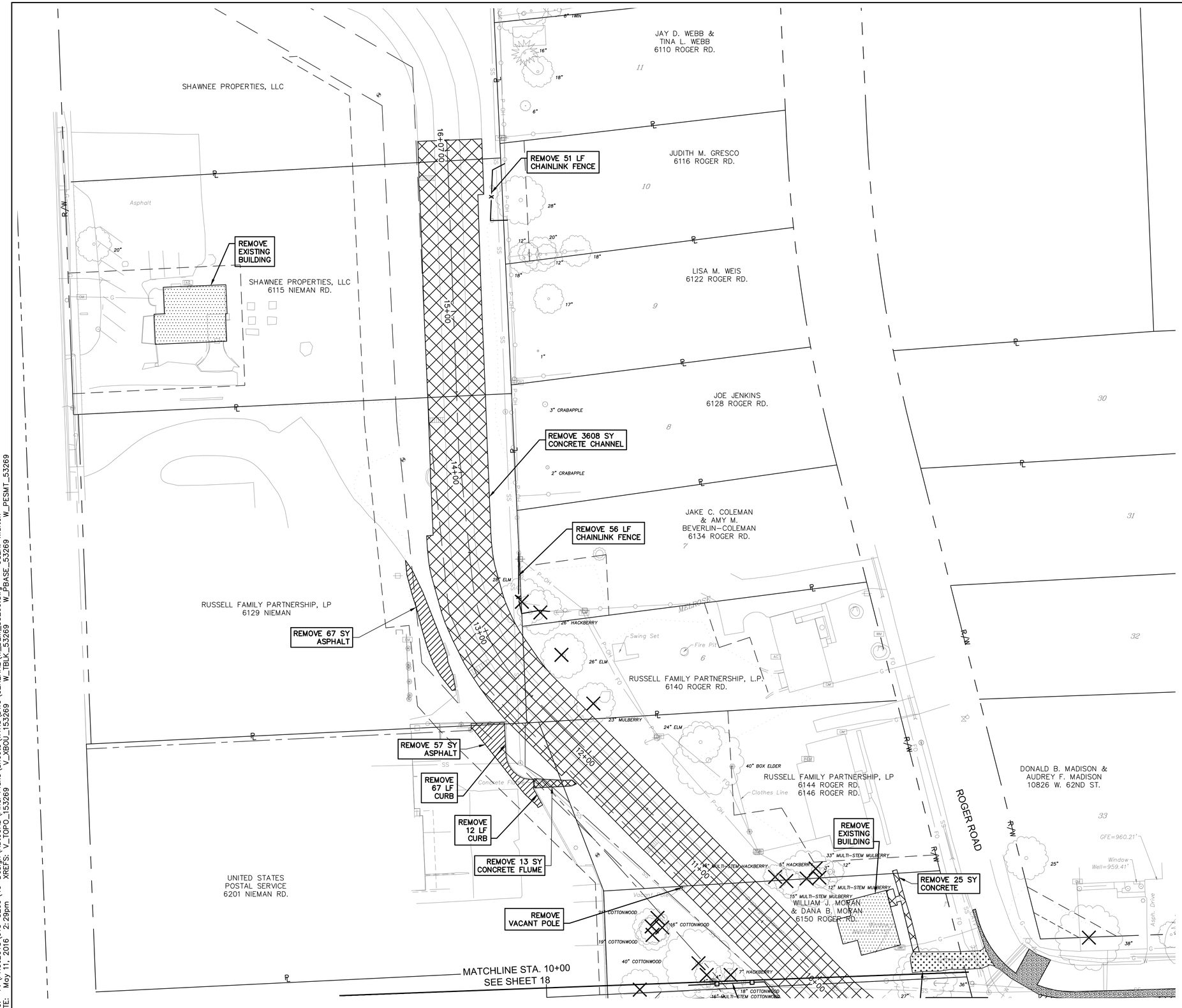

NOTE: CONTRACTOR TO CUT AND CAP ALL UTILITIES AND REMOVE ALL BUILDING AND FOUNDATION.

ADDRESSES:
6115 NIEMAN RD.
6150 ROGER RD.

LEGEND

- PROPERTY LINE
- RIGHT OF WAY LINE
- HOUSE DEMOLITION
- GRAVEL TO BE REMOVED
- ASPHALT TO BE REMOVED
- CONCRETE TO BE REMOVED
- ASPHALT ROAD TO BE REMOVED

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Overland Park, KS 66213-4750
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DEMOLITION PLAN - NORTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_DEM_53269.dwg USER: kfulton
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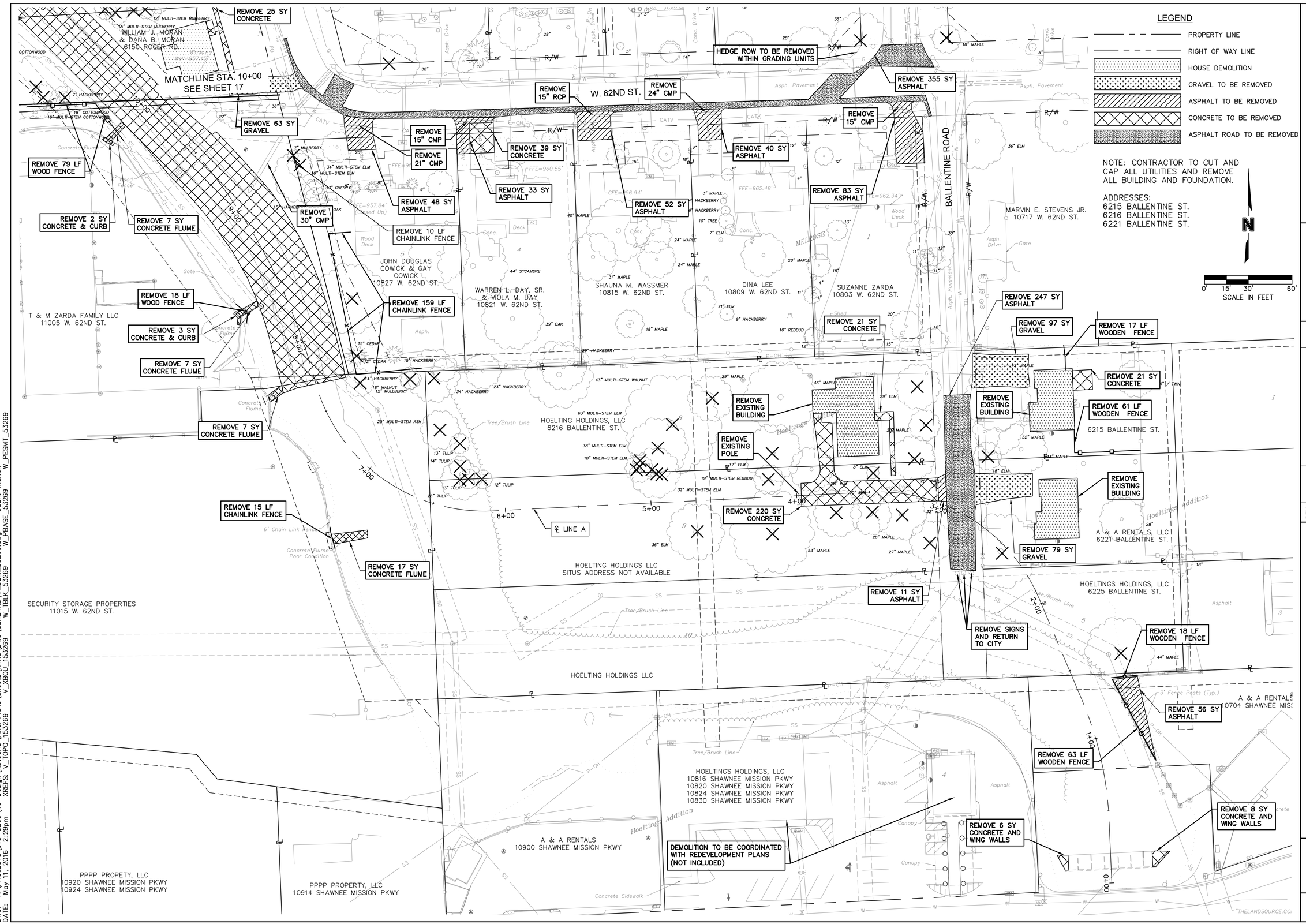

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DEMOLITION PLAN - SOUTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

SHEET
18 of 84

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_DEM_53269.dwg USER: kfulton
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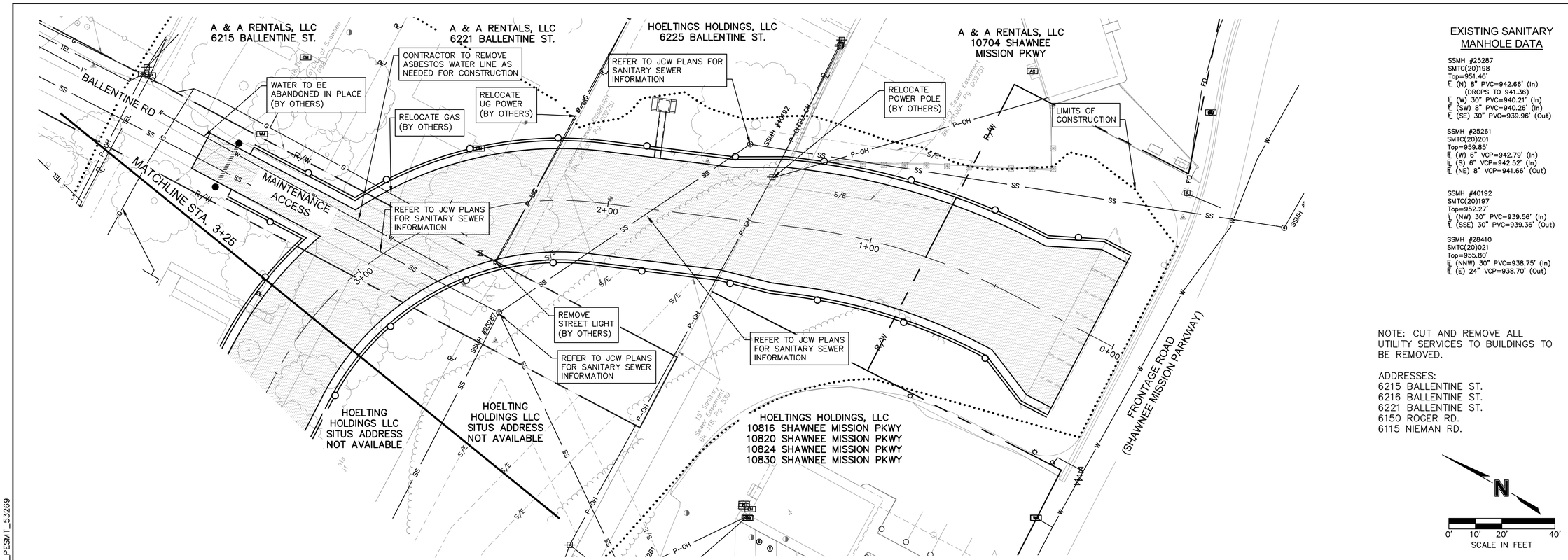


EXISTING SANITARY MANHOLE DATA

SSMH #25287
SMTC(20)198
Top=951.46'
FL (N) 8" PVC=942.66' (In)
(DROPS TO 941.36)
FL (W) 30" PVC=940.21' (In)
FL (SW) 8" PVC=940.26' (In)
FL (SE) 30" PVC=939.96' (Out)

SSMH #25261
SMTC(20)201
Top=959.85'
FL (W) 6" VCP=942.79' (In)
FL (S) 6" VCP=942.52' (In)
FL (NE) 8" VCP=941.66' (Out)

SSMH #40192
SMTC(20)197
Top=952.27'
FL (NW) 30" PVC=939.56' (In)
FL (SSE) 30" PVC=939.36' (Out)

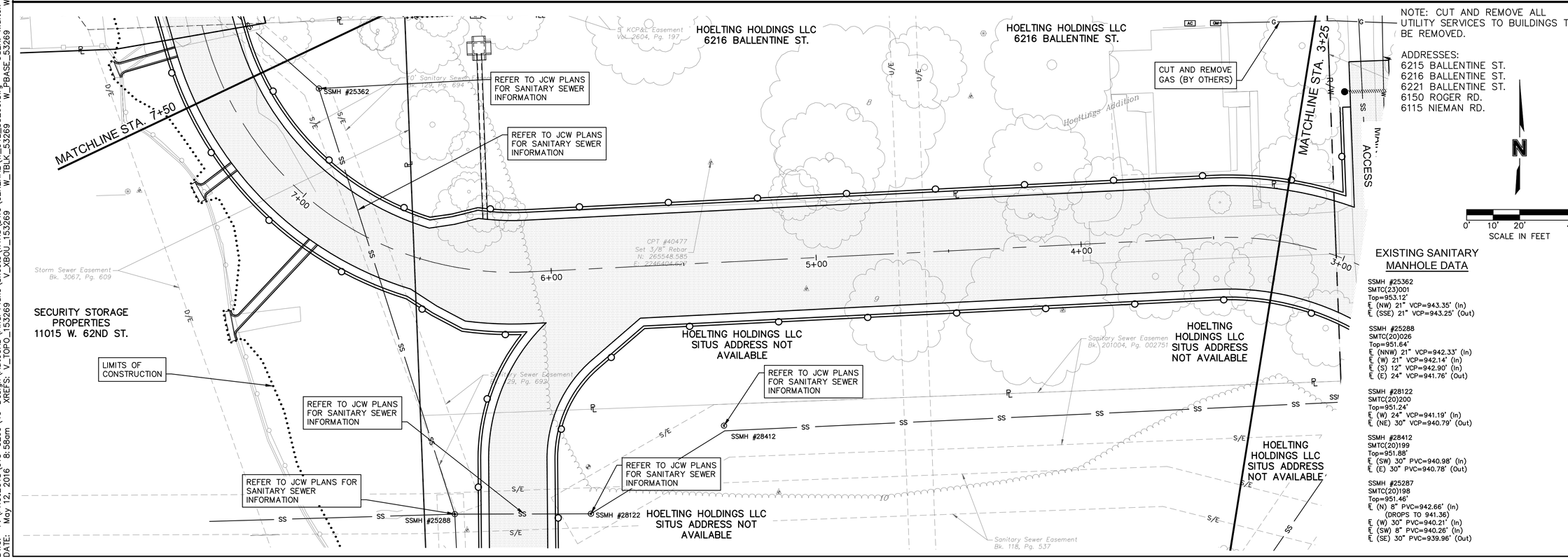
SSMH #28410
SMTC(20)021
Top=955.80'
FL (NNW) 30" PVC=938.75' (In)
FL (E) 24" VCP=938.70' (Out)

NOTE: CUT AND REMOVE ALL UTILITY SERVICES TO BUILDINGS TO BE REMOVED.

ADDRESSES:
6215 BALLENTINE ST.
6216 BALLENTINE ST.
6221 BALLENTINE ST.
6150 ROGER RD.
6115 NIEMAN RD.

N

0' 10' 20' 40'
SCALE IN FEET



NOTE: CUT AND REMOVE ALL UTILITY SERVICES TO BUILDINGS TO BE REMOVED.

ADDRESSES:
6215 BALLENTINE ST.
6216 BALLENTINE ST.
6221 BALLENTINE ST.
6150 ROGER RD.
6115 NIEMAN RD.

N

0' 10' 20' 40
SCALE IN FEET

EXISTING SANITARY MANHOLE DATA

SSMH #25362
SMTC(23)001
Top=953.12'
FL (NW) 21" VCP=943.35' (In)
FL (SSE) 21" VCP=943.25' (Out)

SSMH #25288
SMTC(20)026
Top=951.64'
FL (NNW) 21" VCP=942.33' (In)
FL (W) 21" VCP=942.14' (In)
FL (S) 12" VCP=942.90' (In)
FL (E) 24" VCP=941.76' (Out)

SSMH #28122
SMTC(20)200
Top=951.24'
FL (W) 24" VCP=941.19' (In)
FL (NE) 30" VCP=940.79' (Out)

SSMH #28412
SMTC(20)199
Top=951.88'
FL (SW) 30" PVC=940.98' (In)
FL (E) 30" PVC=940.78' (Out)

SSMH #25287
SMTC(20)198
Top=951.46'
FL (N) 8" PVC=942.66' (In)
(DROPS TO 941.36)
FL (W) 30" PVC=940.21' (In)
FL (SW) 8" PVC=940.26' (In)
FL (SE) 30" PVC=939.96' (Out)

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

UTILITY PLAN

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_UTL_53269.dwg USER: kfulton
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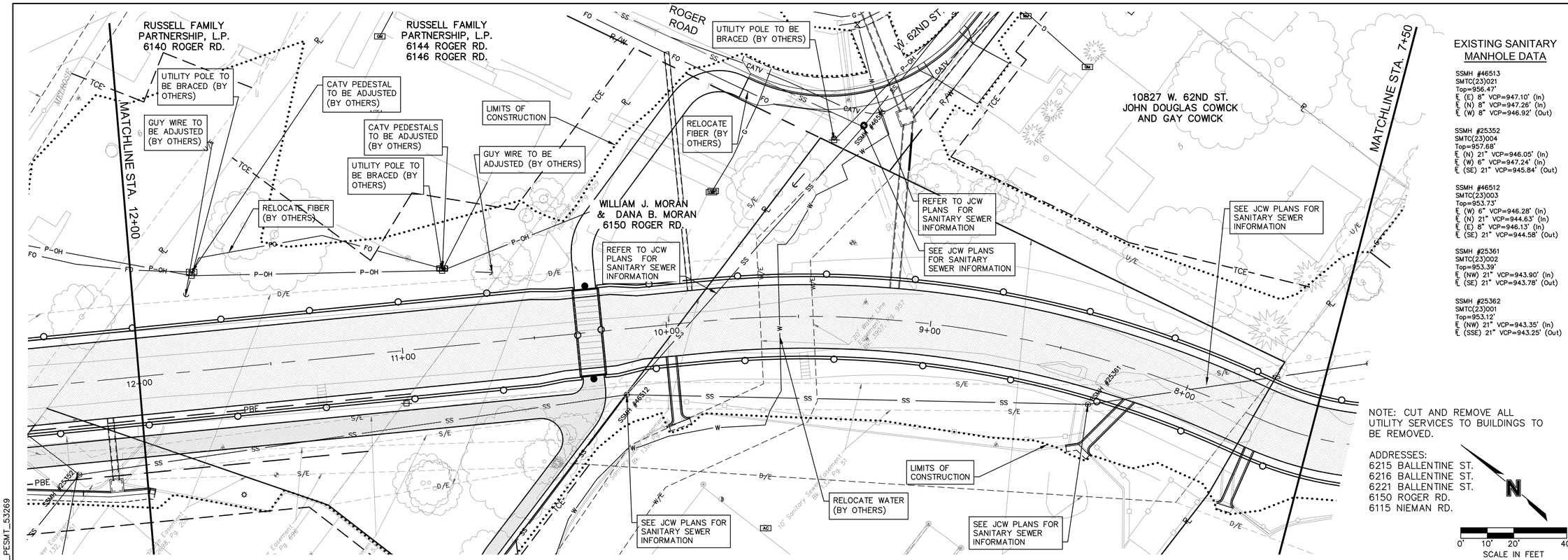


EXISTING SANITARY MANHOLE DATA

SSMH #46513
SMTC(23)021
Top=956.47'
℄ (E) 8" VCP=947.10' (In)
℄ (N) 8" VCP=947.26' (In)
℄ (W) 8" VCP=946.92' (Out)

SSMH #25352
SMTC(23)004
Top=957.68'
℄ (N) 21" VCP=946.05' (In)
℄ (W) 6" VCP=947.24' (In)
℄ (SE) 21" VCP=945.84' (Out)

SSMH #46512
SMTC(23)003
Top=953.73'
℄ (W) 6" VCP=946.28' (In)
℄ (N) 21" VCP=944.63' (In)
℄ (E) 8" VCP=946.13' (In)
℄ (SE) 21" VCP=944.58' (Out)

SSMH #25361
SMTC(23)002
Top=953.39'
℄ (NW) 21" VCP=943.90' (In)
℄ (SE) 21" VCP=943.78' (Out)

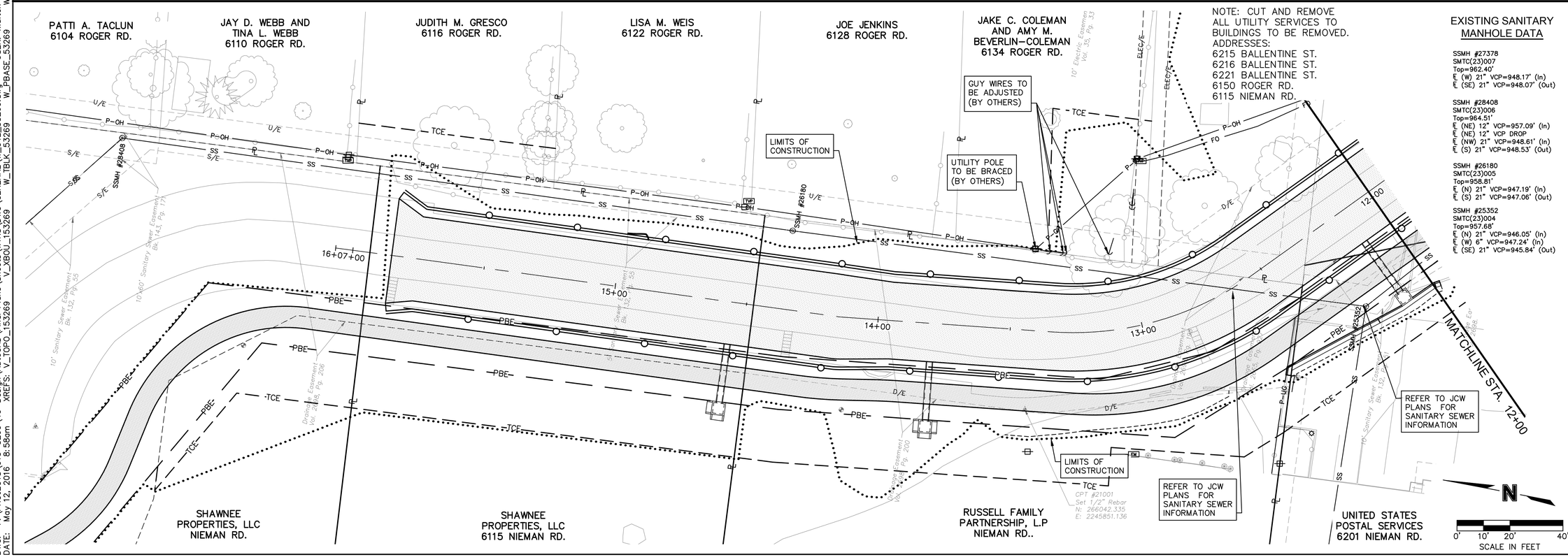
SSMH #25362
SMTC(23)001
Top=953.12'
℄ (NW) 21" VCP=943.35' (In)
℄ (SSE) 21" VCP=943.25' (Out)

NOTE: CUT AND REMOVE ALL UTILITY SERVICES TO BUILDINGS TO BE REMOVED.

ADDRESSES:
6215 BALLENTINE ST.
6216 BALLENTINE ST.
6221 BALLENTINE ST.
6150 ROGER RD.
6115 NIEMAN RD.

N

0' 10' 20' 40'
SCALE IN FEET



NOTE: CUT AND REMOVE ALL UTILITY SERVICES TO BUILDINGS TO BE REMOVED.
ADDRESSES:
6215 BALLENTINE ST.
6216 BALLENTINE ST.
6221 BALLENTINE ST.
6150 ROGER RD.
6115 NIEMAN RD.

EXISTING SANITARY MANHOLE DATA

SSMH #27378
SMTC(23)007
Top=962.40'
℄ (W) 21" VCP=948.17' (In)
℄ (SE) 21" VCP=948.07' (Out)

SSMH #28408
SMTC(23)006
Top=964.51'
℄ (NE) 12" VCP=957.09' (In)
℄ (NE) 12" VCP DROP
℄ (NW) 21" VCP=948.61' (In)
℄ (S) 21" VCP=948.53' (Out)

SSMH #26180
SMTC(23)005
Top=958.81'
℄ (N) 21" VCP=947.19' (In)
℄ (S) 21" VCP=947.06' (Out)

SSMH #25352
SMTC(23)004
Top=957.68'
℄ (N) 21" VCP=946.05' (In)
℄ (W) 6" VCP=947.24' (In)
℄ (SE) 21" VCP=945.84' (Out)

N

0' 10' 20' 40'
SCALE IN FEET

OLSSON ASSOCIATES
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FAX 913.381.1174
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

UTILITY PLAN

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
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project no.: 015-3269
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DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_UTL_53269.dwg USER: kfulton
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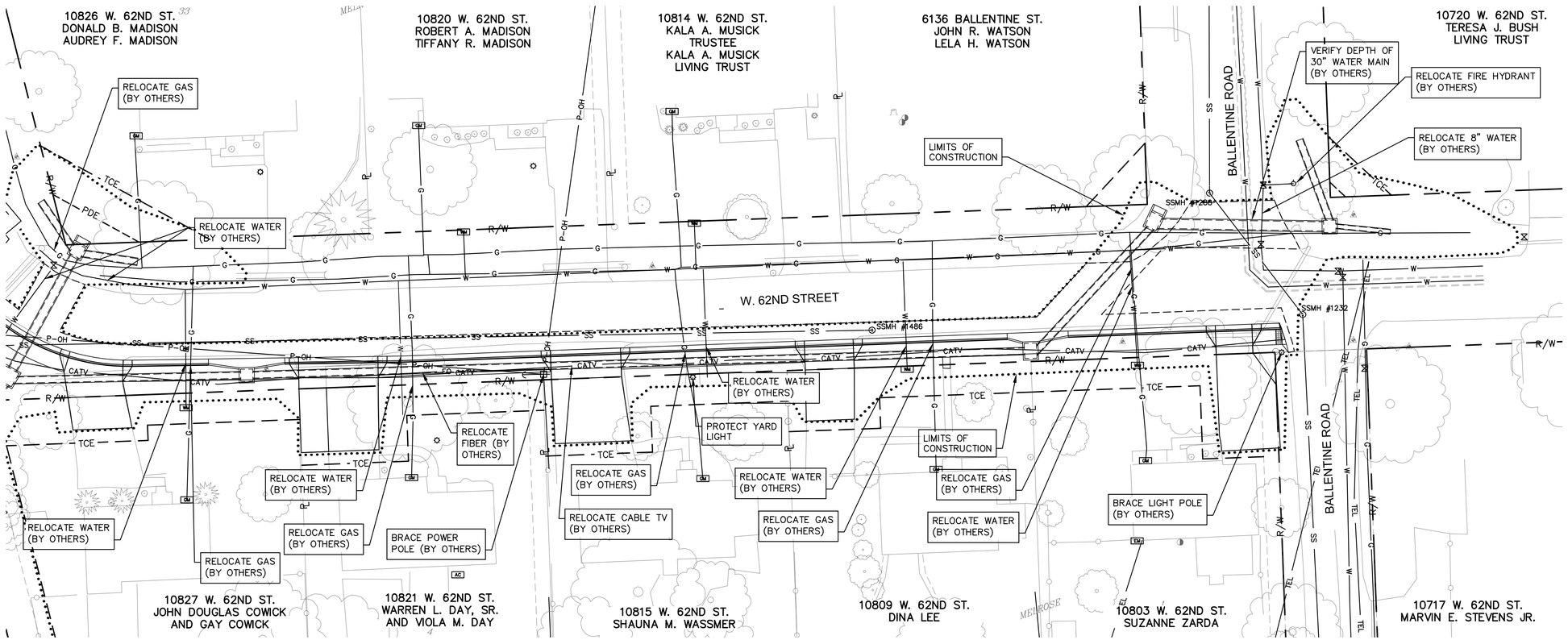

EXISTING SANITARY MANHOLE DATA

SSMH #1232
SMTC(20)129
Top=964.10'
FL (NW) 8" VCP=952.84' (In)
FL (S) 8" VCP=952.80' (Out)

SSMH #1288
SMTC(20)130
Top=964.99'
FL (N) 8" VCP=953.25' (In)
FL (SE) 8" VCP=953.19' (Out)

SSMH #1486
SMTC(23)022
Top=959.96'
FL (S) 6" VCP=950.16' (In)
FL (N) 6" VCP=950.16' (In)
FL (W) 8" VCP=949.71' (Out)

SSMH #20055
SMTC(23)023
Top=959.135'
FL (N) 8" VCP=951.44' (In)
FL (S) 8" VCP=950.74' (Out)

SSMH #46513
SMTC(23)021
Top=956.47'
FL (E) 8" VCP=947.10' (In)
FL (N) 8" VCP=947.26' (In)
FL (W) 8" VCP=946.92' (Out)

N

0' 10' 20' 40'
SCALE IN FEET

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NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
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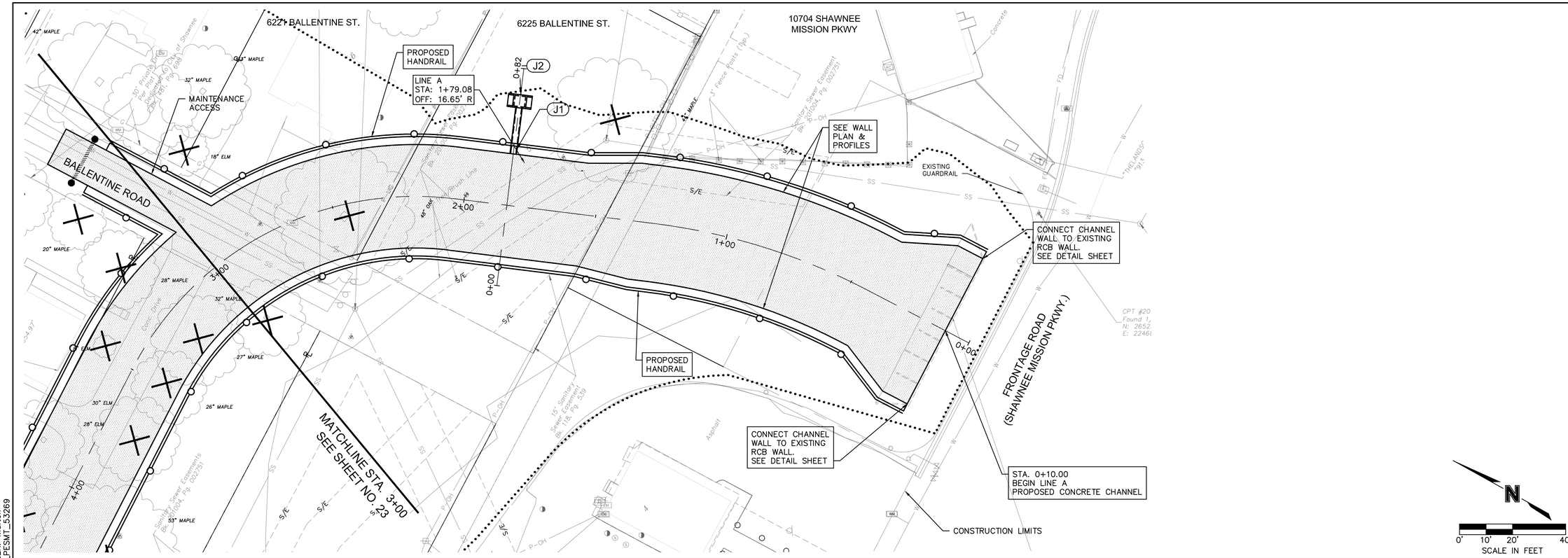
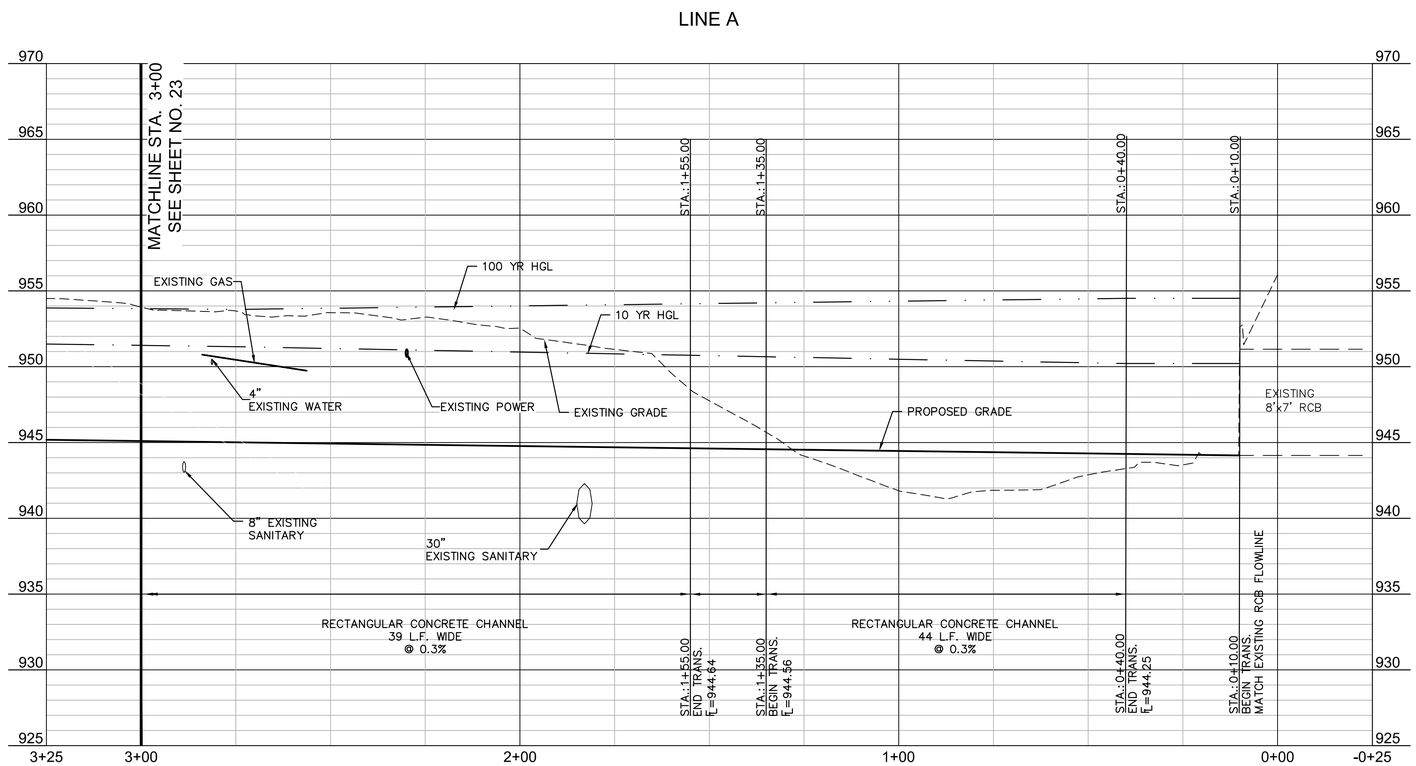
DATE: May 12, 2016 8:58am XREFS: V_TOPO_153269 V_XBOU_153269 W_TBLK_53269 W_PBASE_53269 W_PESMT_53269





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REVISIONS

PLAN & PROFILE - LINE A

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_STM_PP01_53269.dwg
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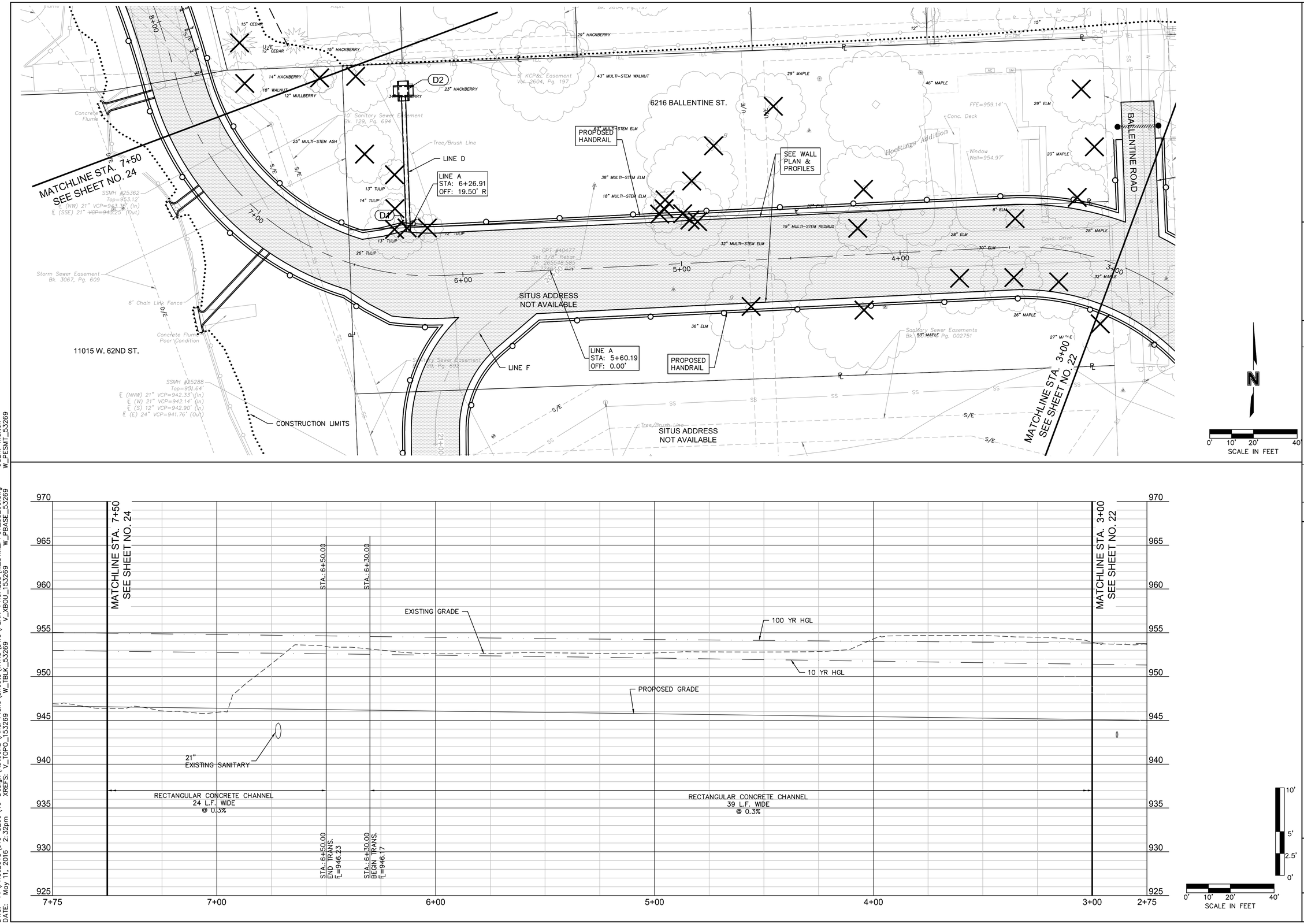

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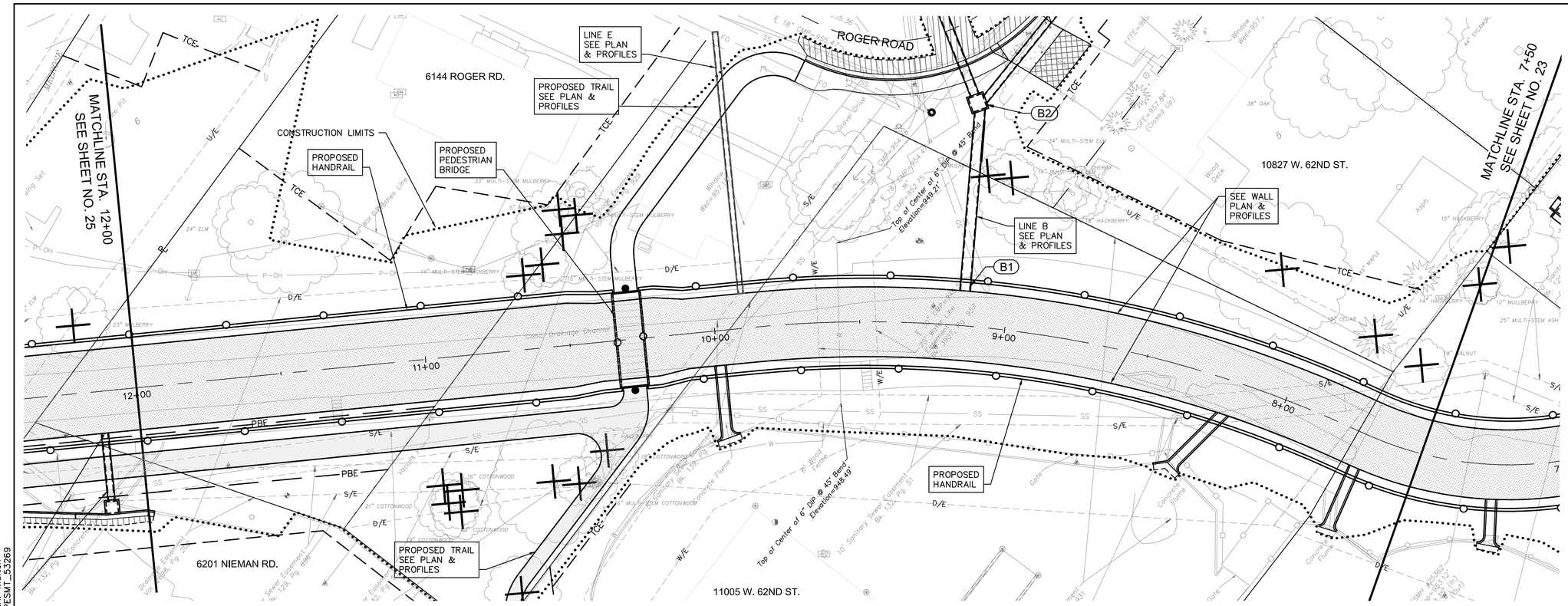

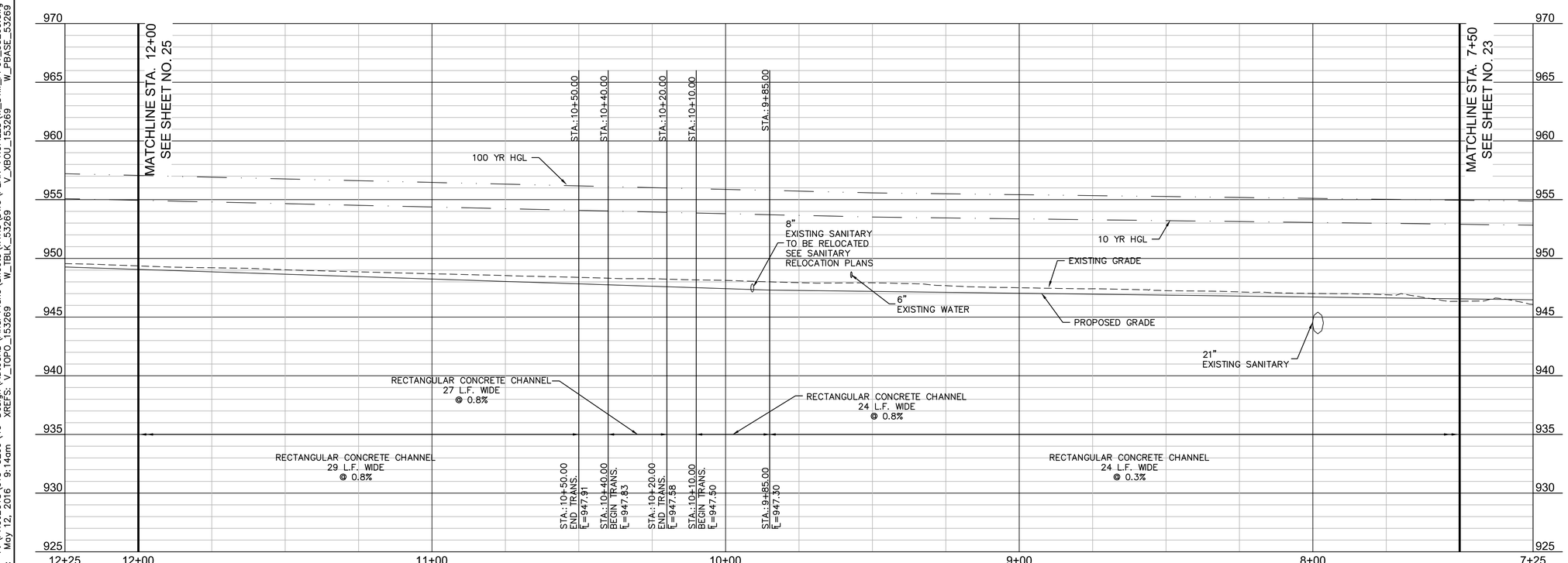

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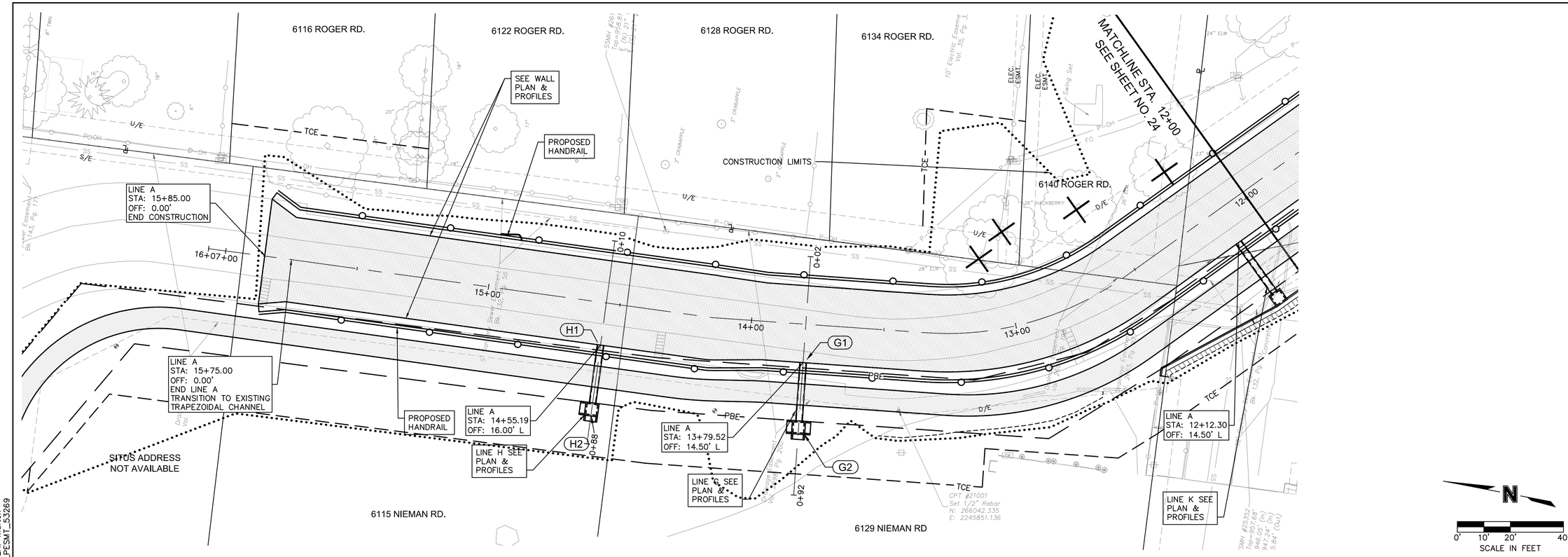

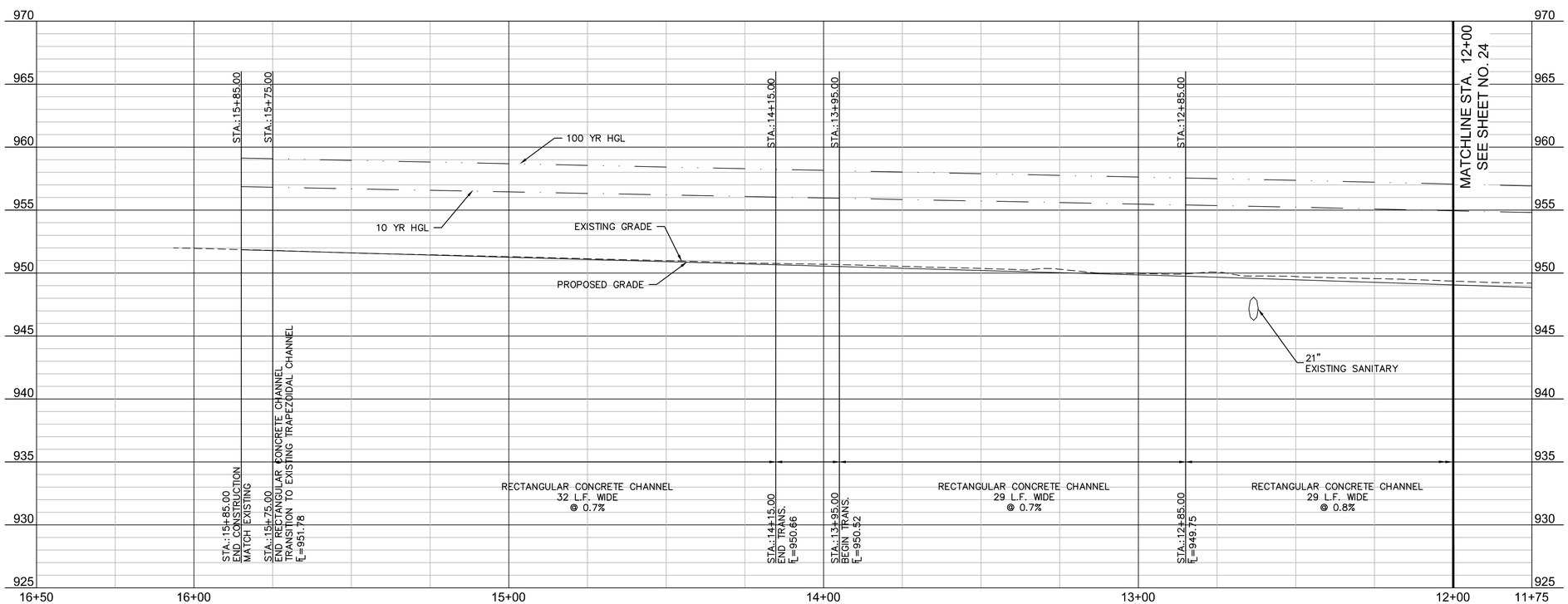

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DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_STM_PP01_53269.dwg
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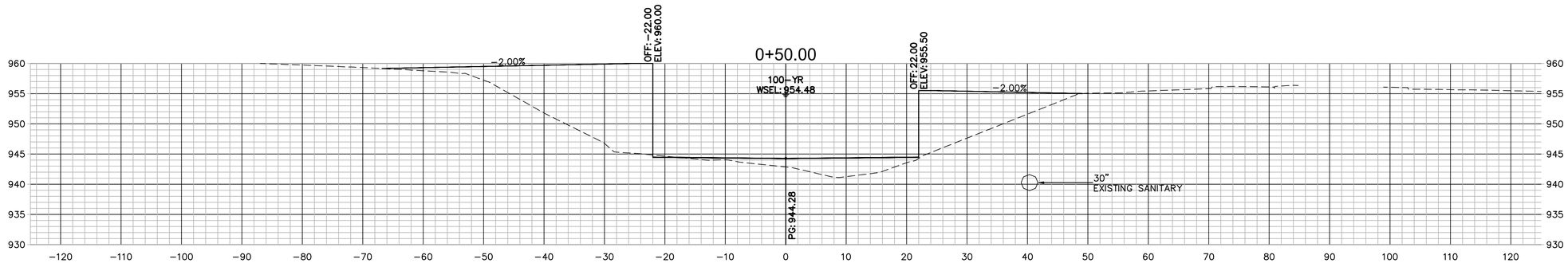

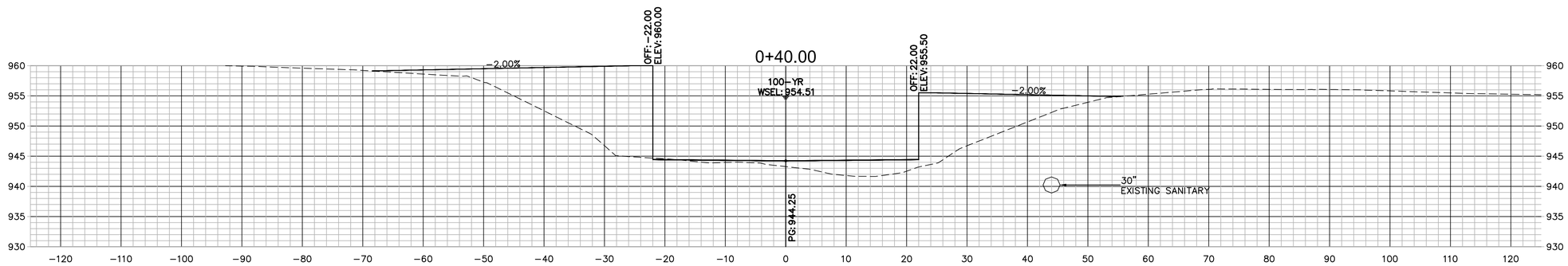

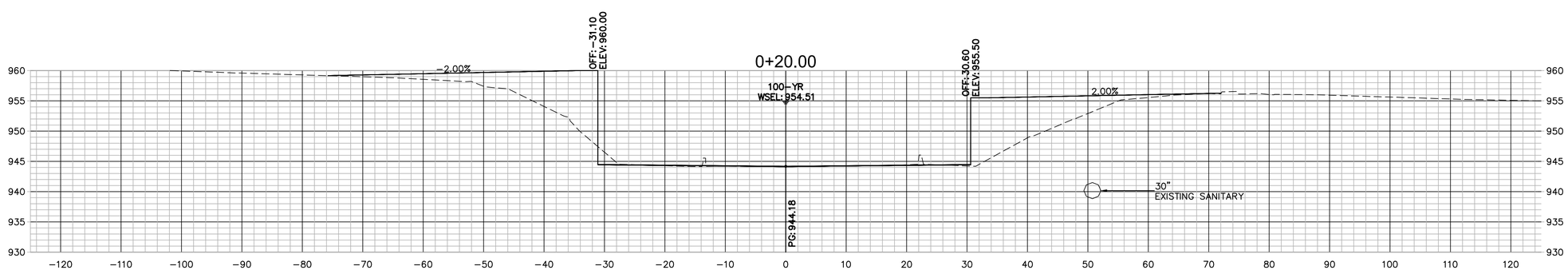

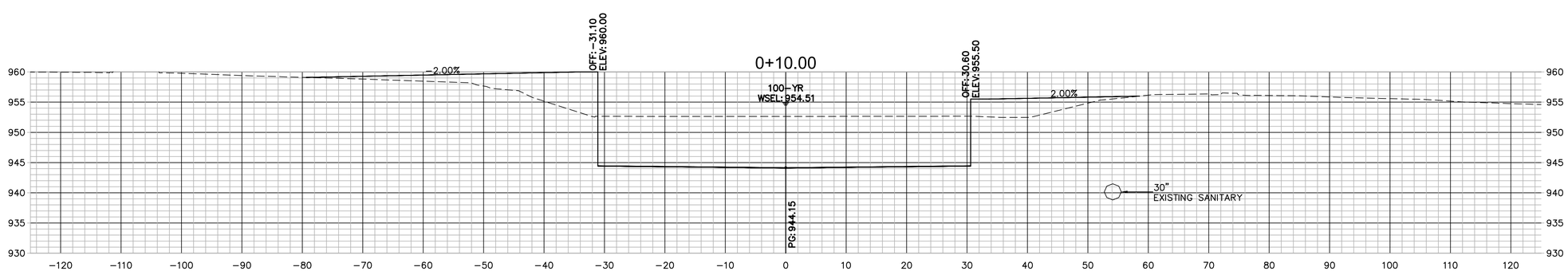

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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CROSS SECTIONS - LINE A

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

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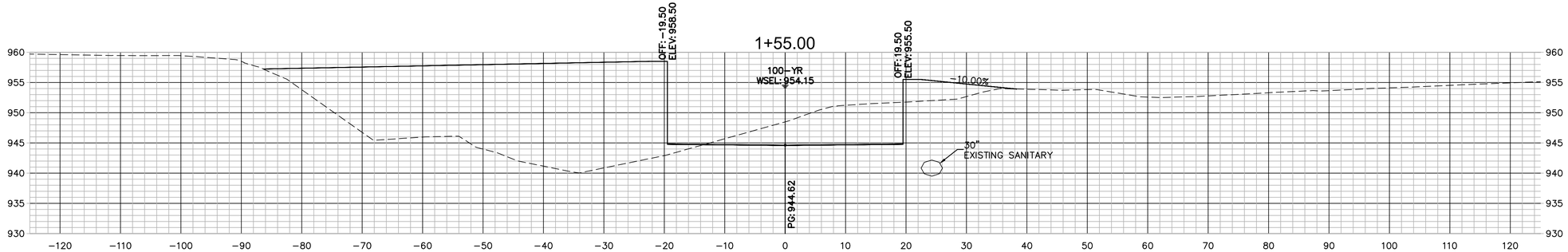

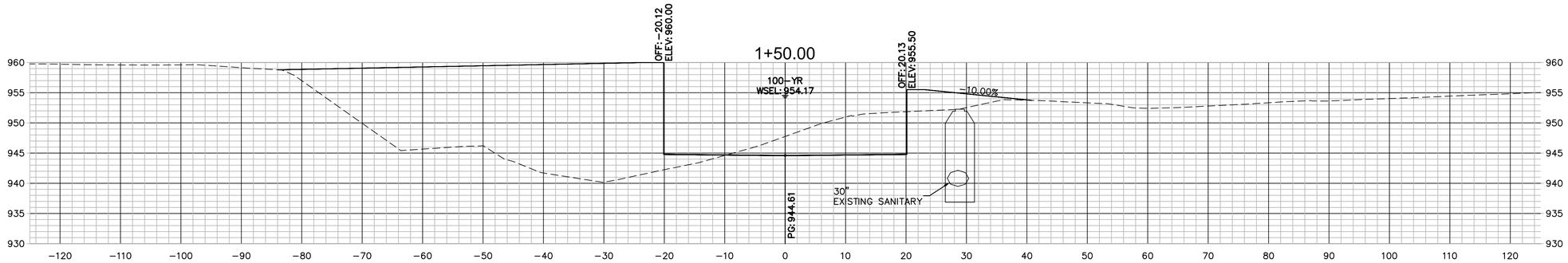

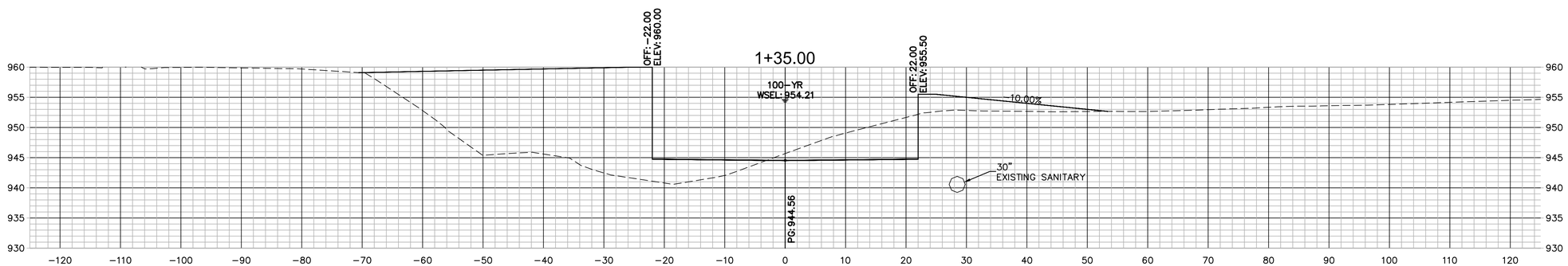

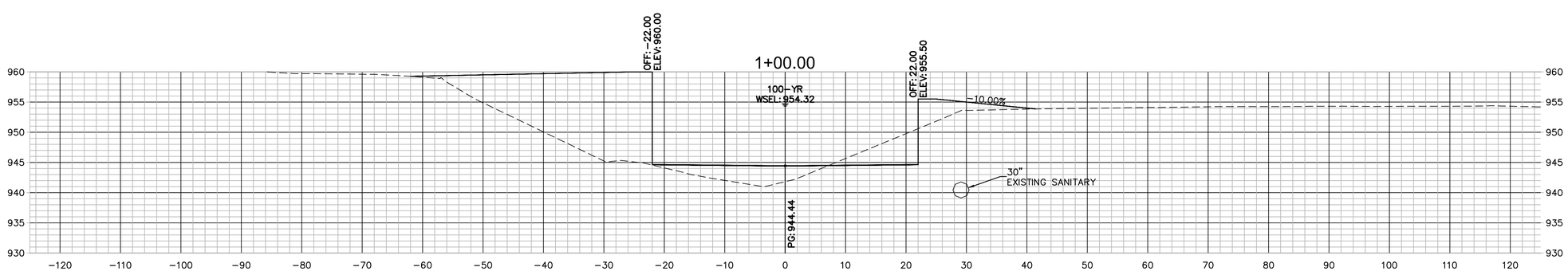

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SCALE IN FEET

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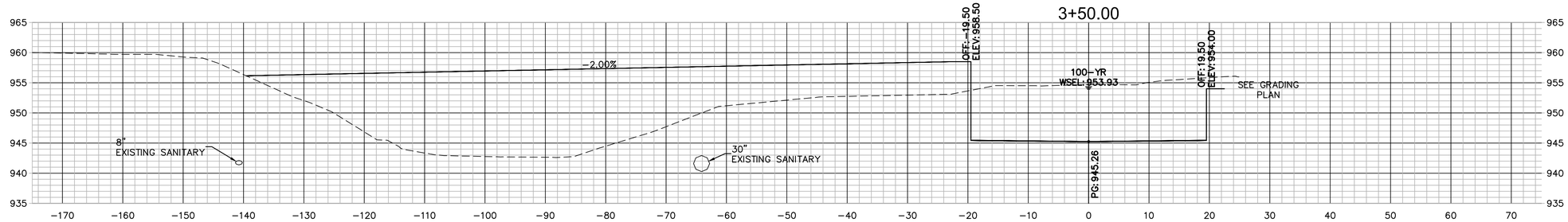

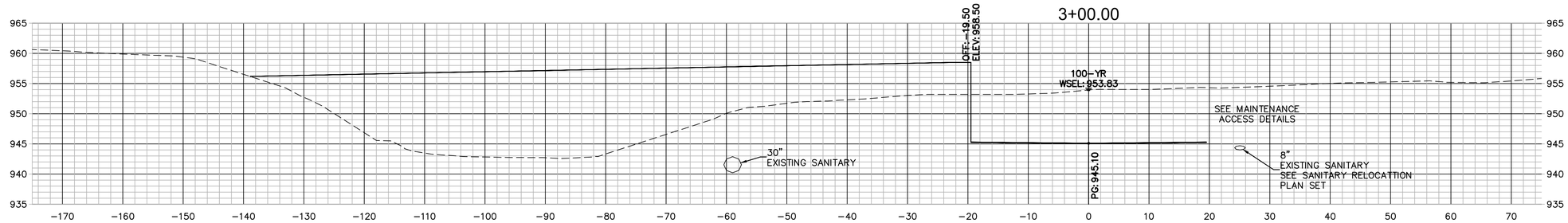

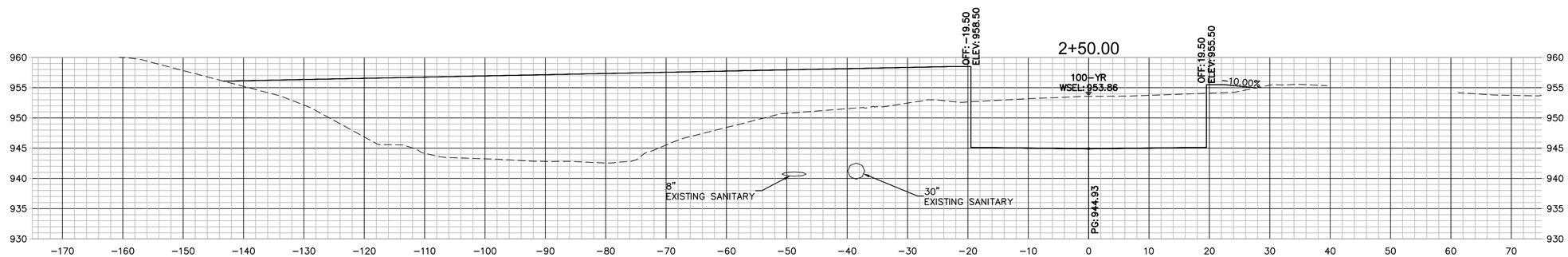

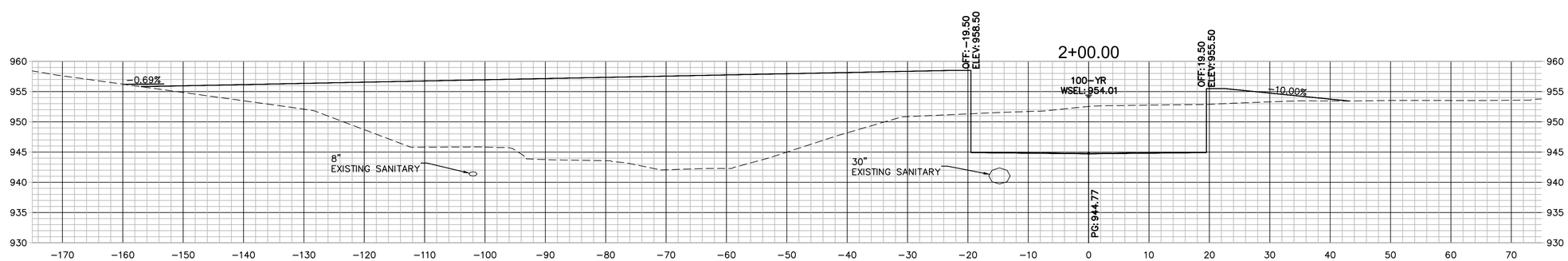

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SCALE IN FEET

20' 10' 5' 0'

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28 of 84

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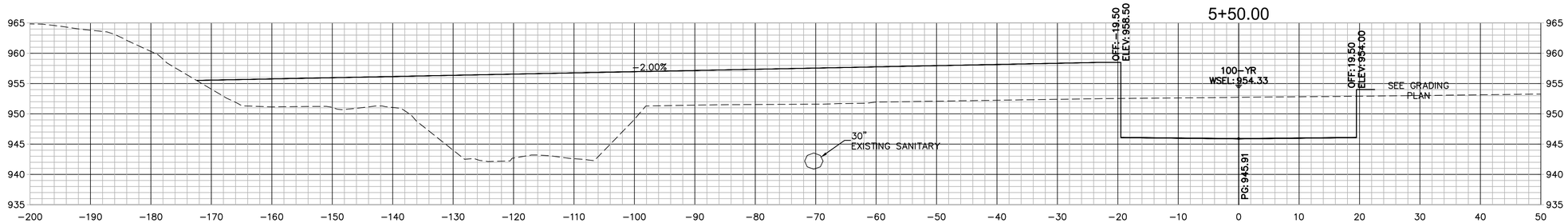

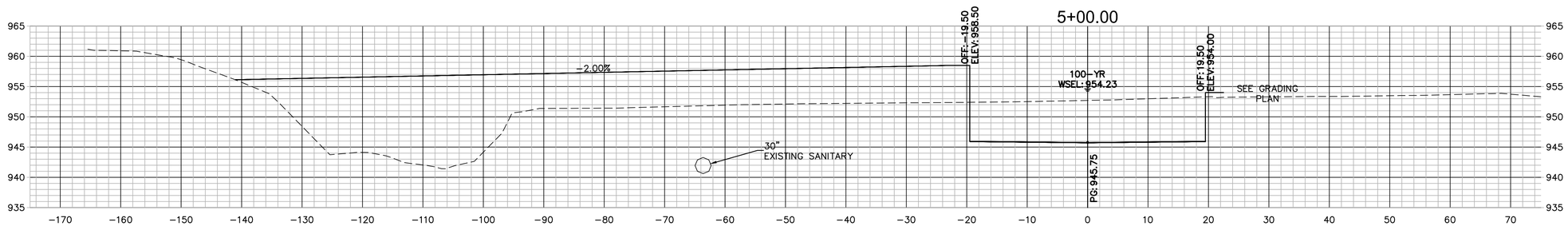

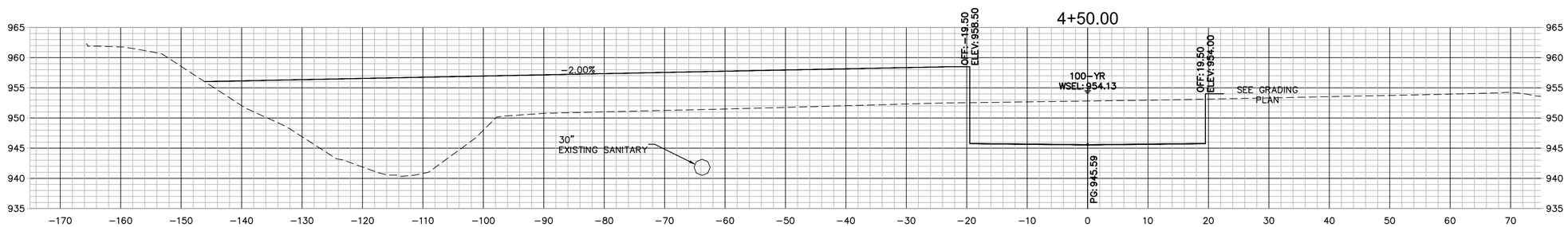

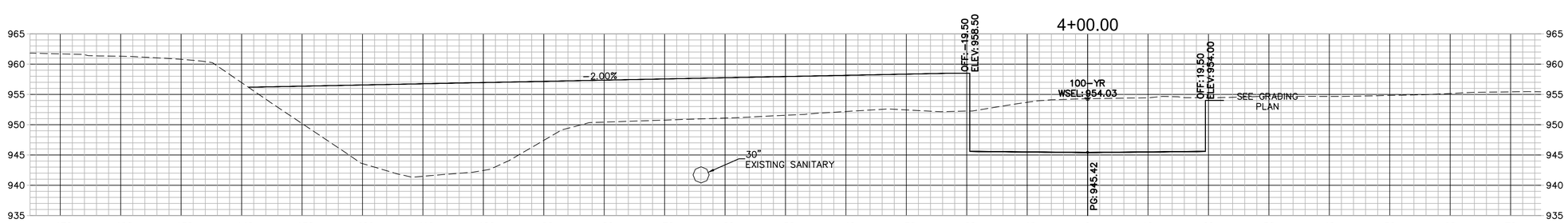

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SCALE IN FEET

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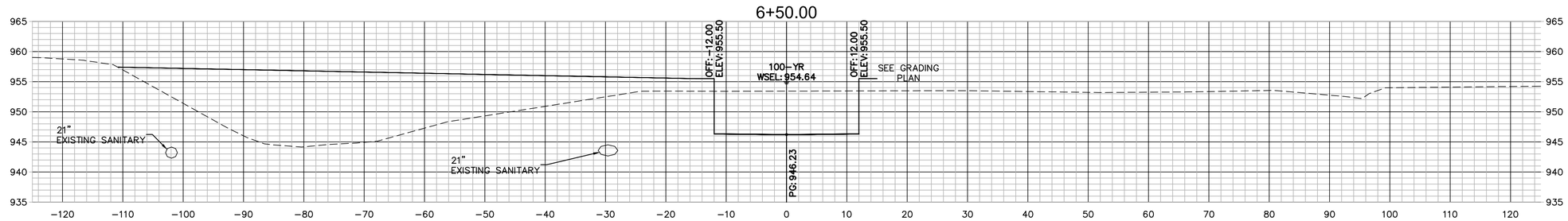

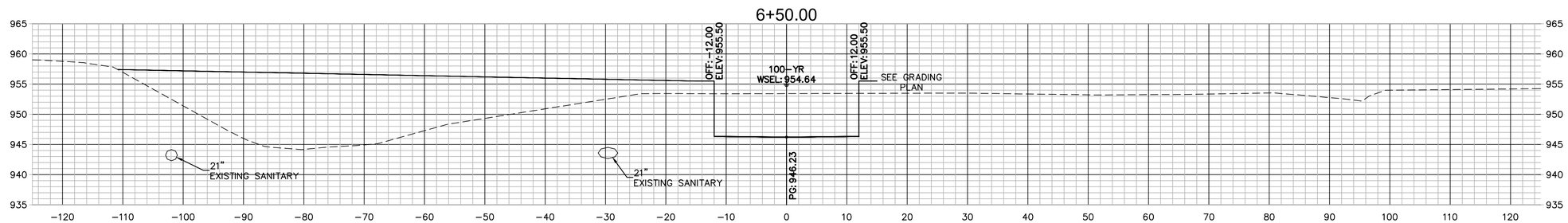

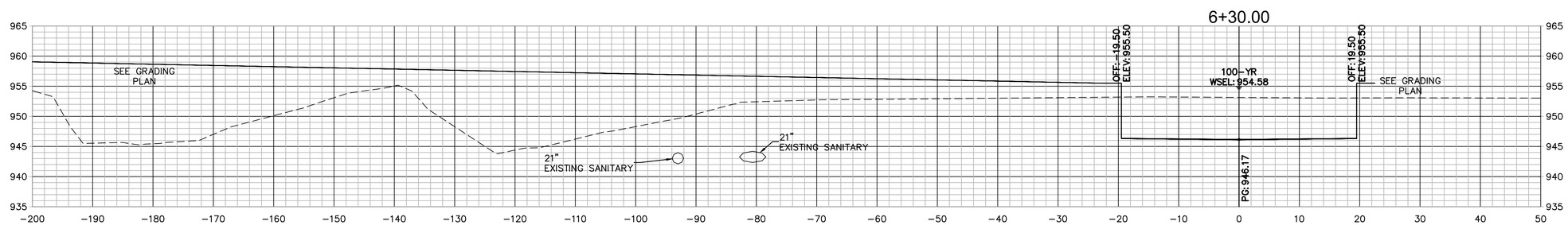

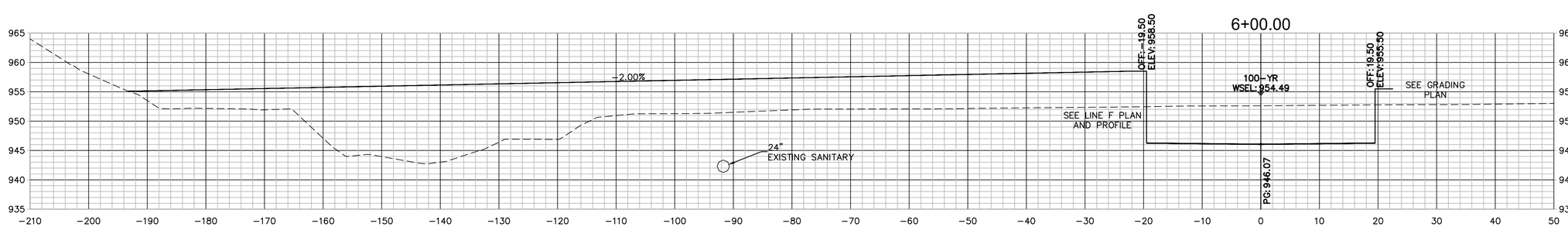

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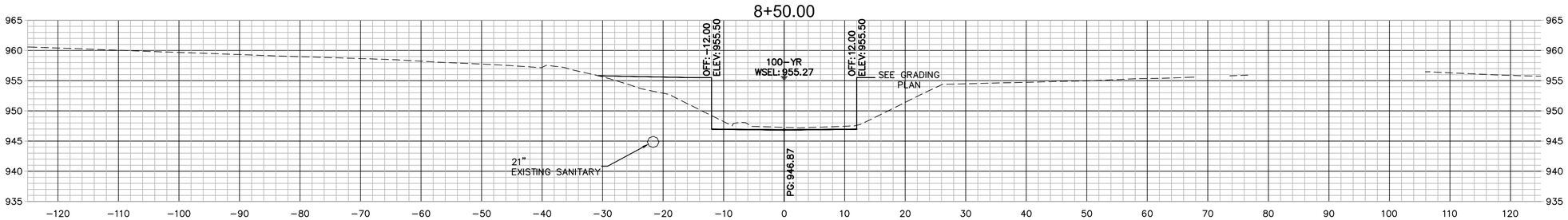

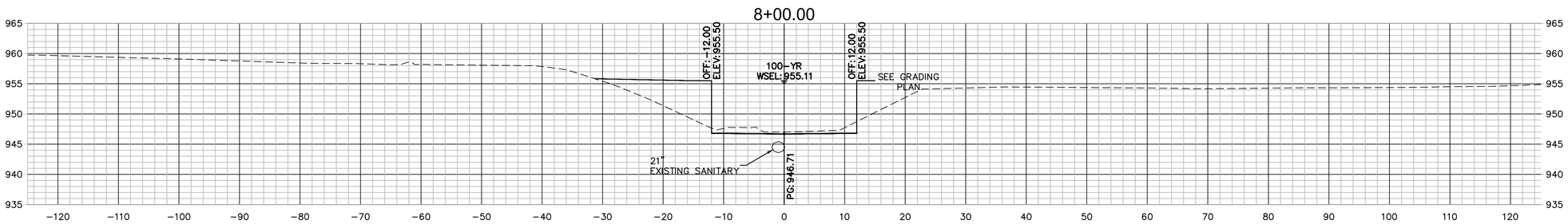

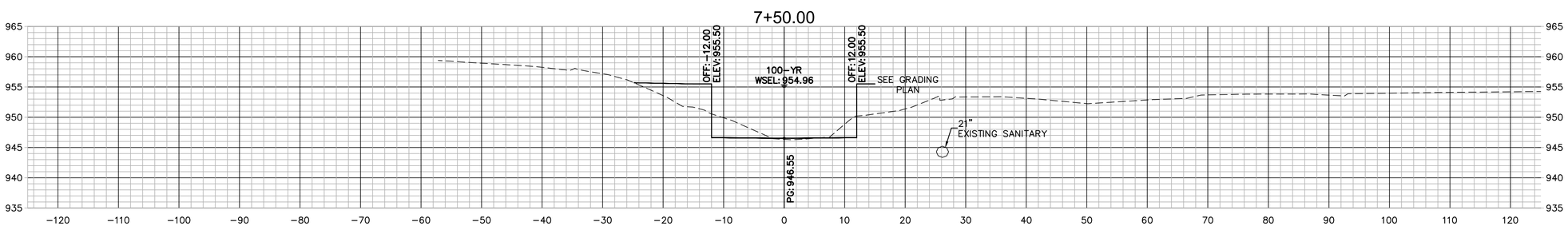

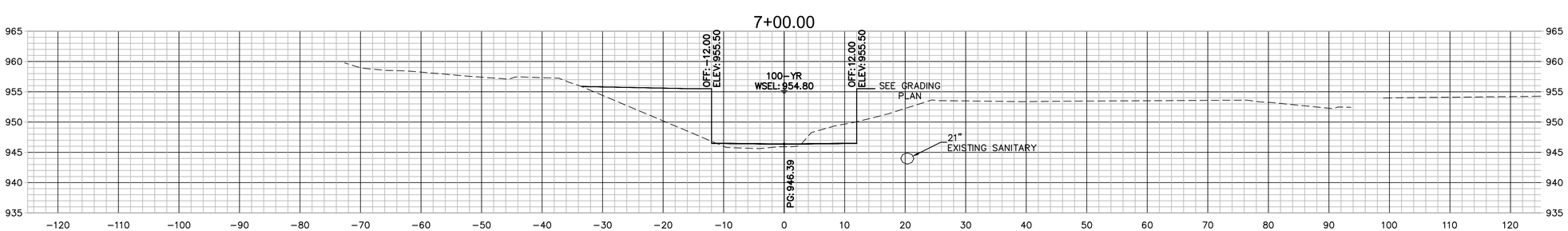

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0' 5' 10' 20'

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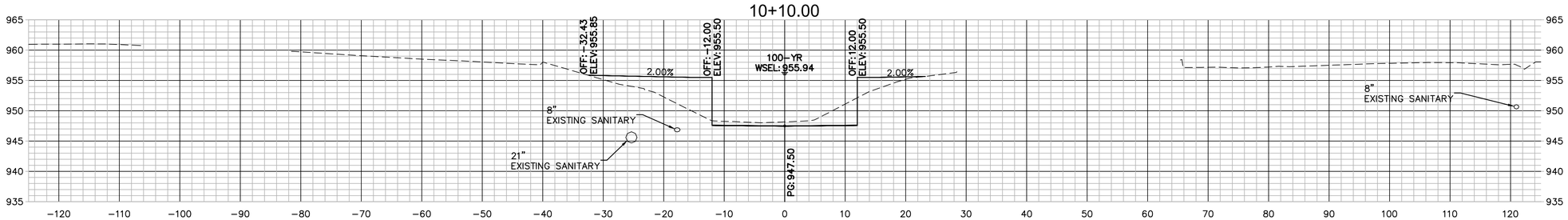

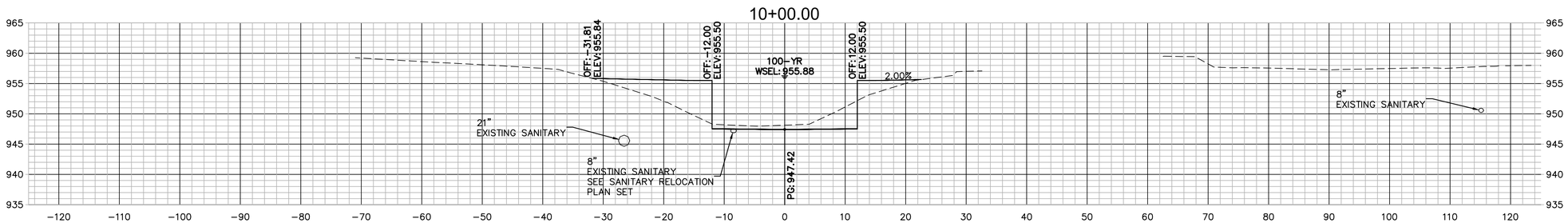

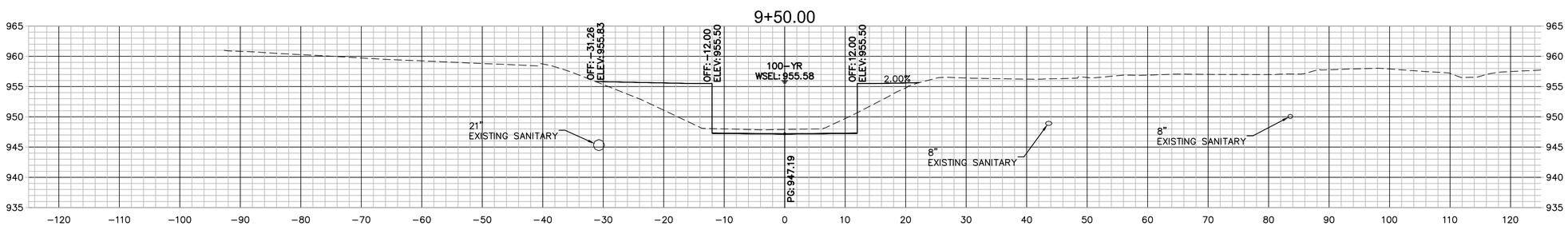

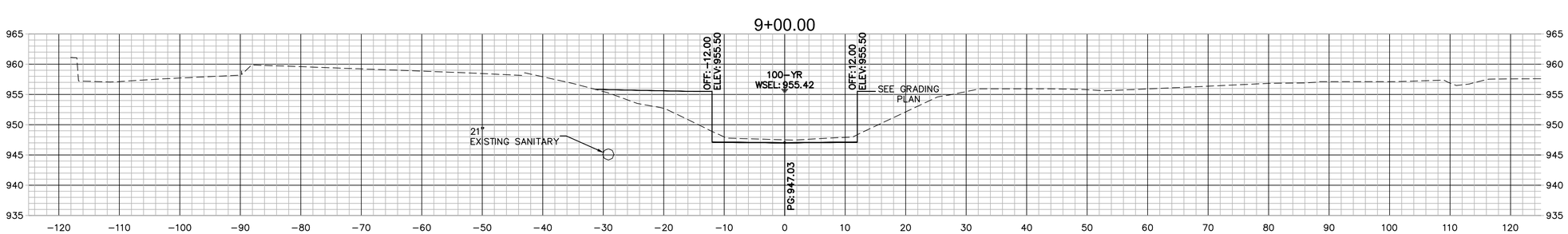

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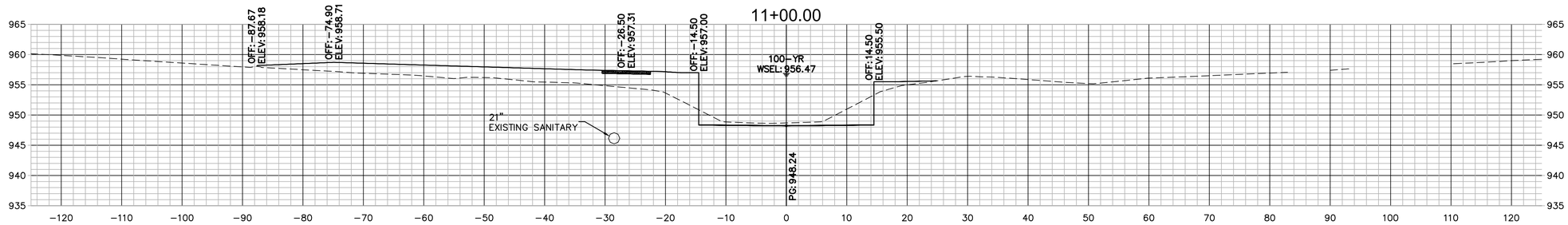

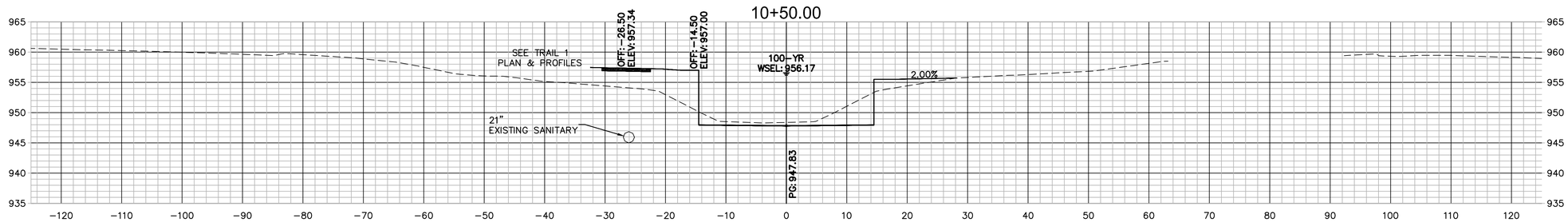

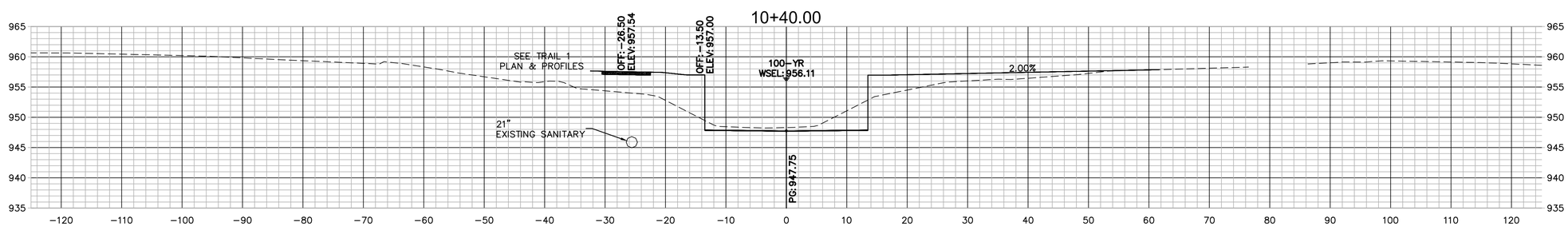

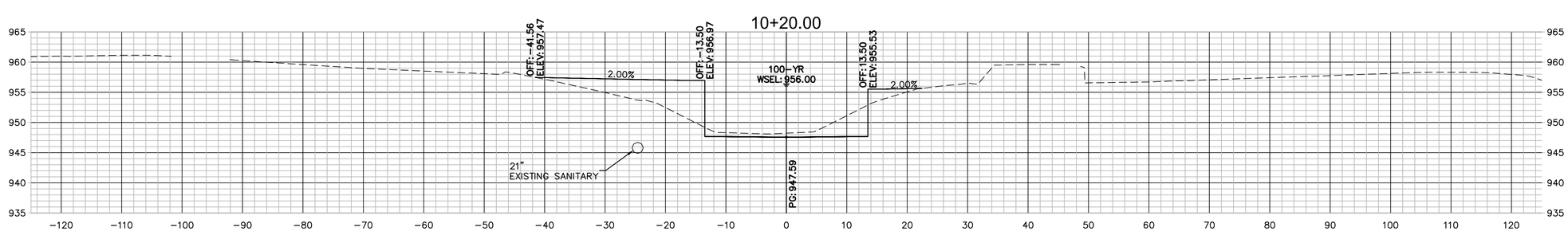

0' 5' 10' 20'
SCALE IN FEET

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FAX 913.381.1174
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

CROSS SECTIONS - LINE A

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\SECTIONS\W_XSC_53269.dwg USER: kfulton
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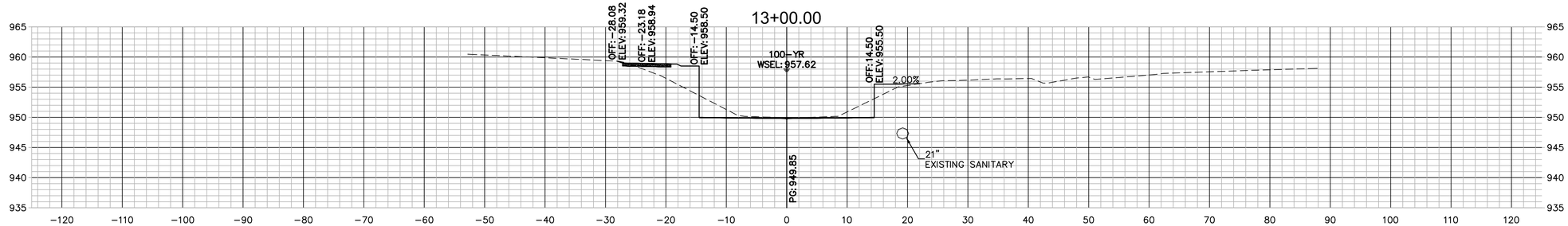

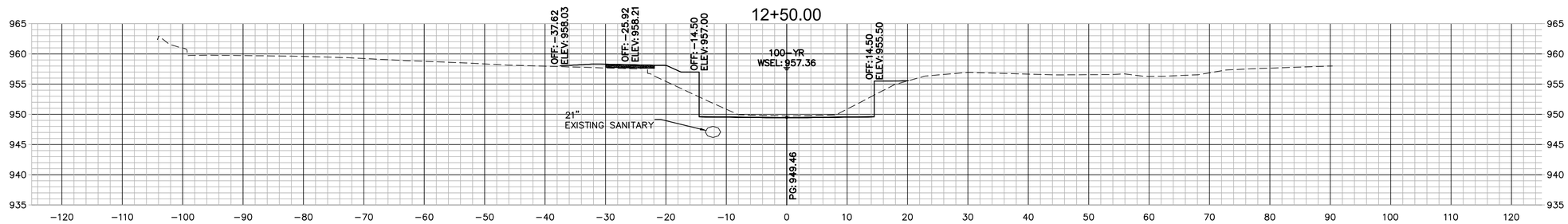

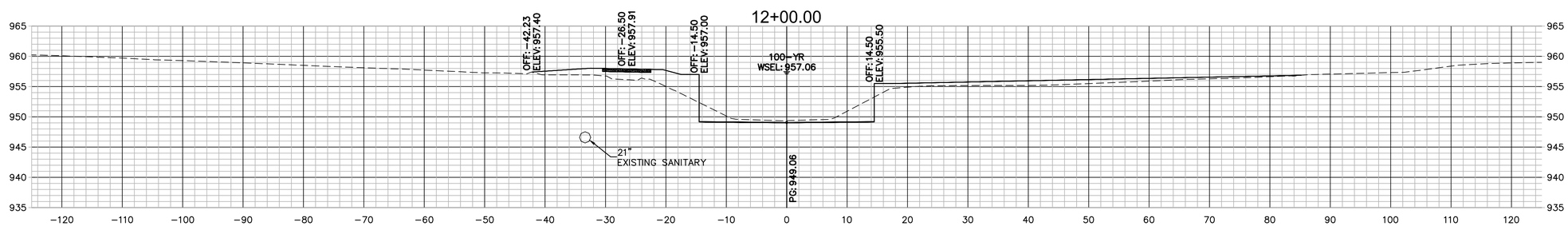

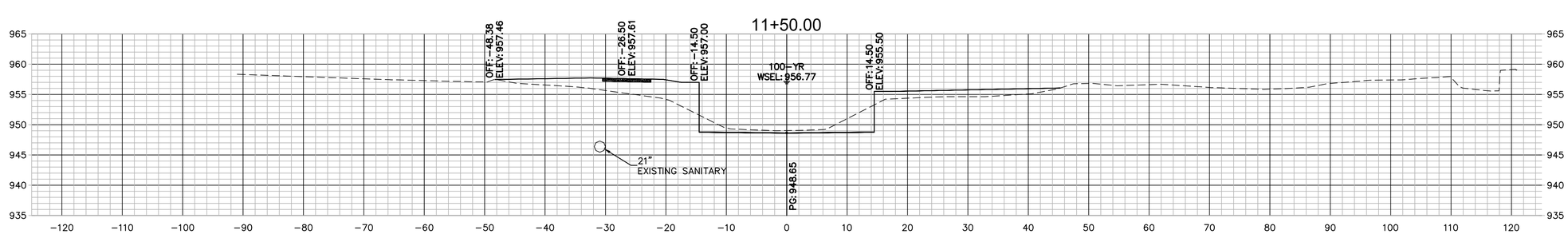

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CROSS SECTIONS - LINE A

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STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

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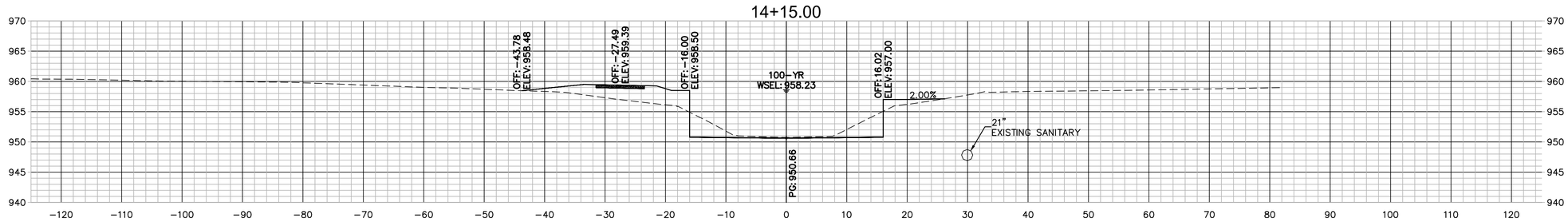

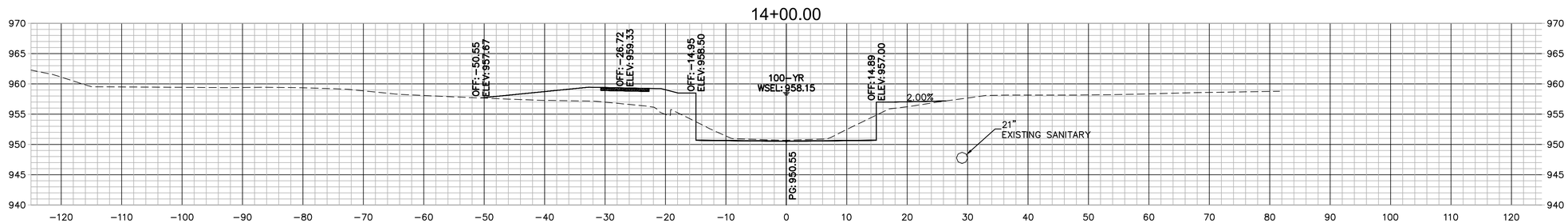

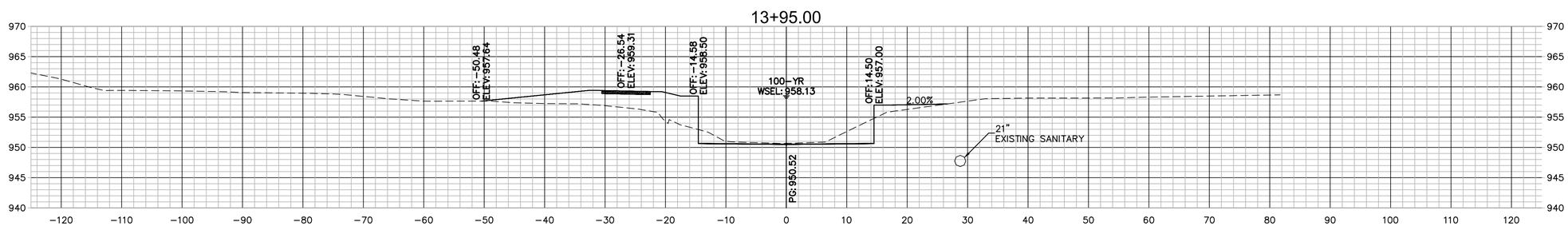

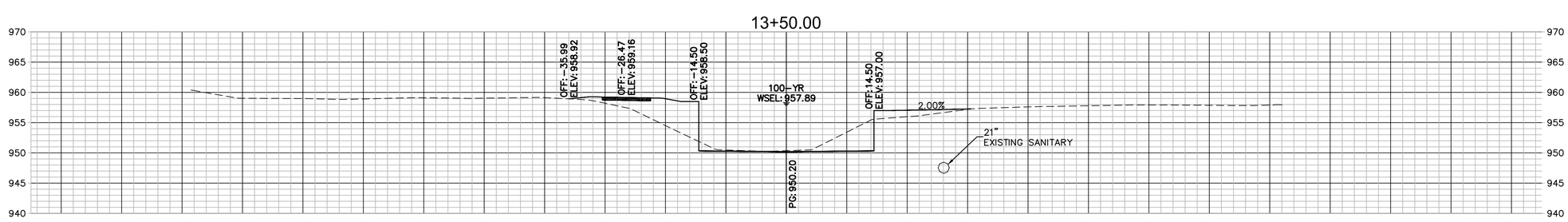

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STORMWATER IMPROVEMENTS

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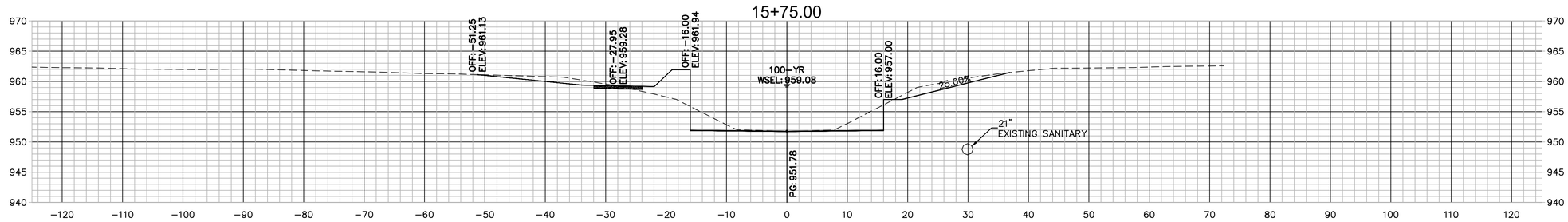

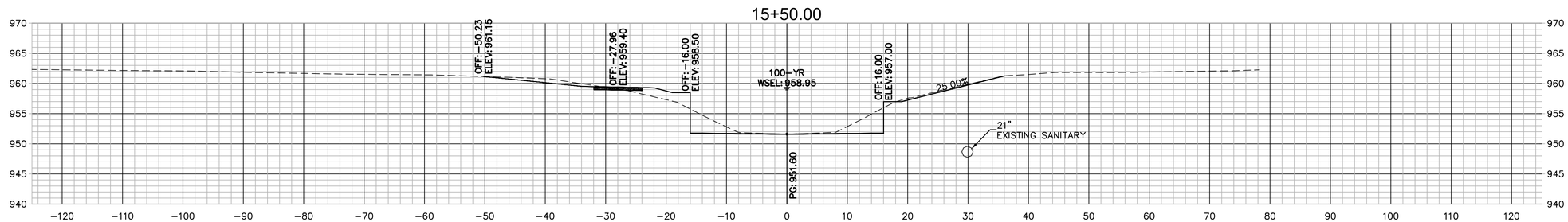

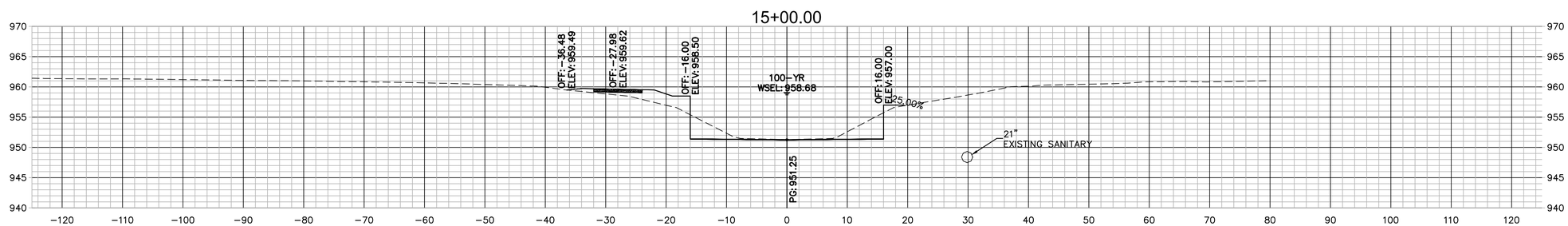

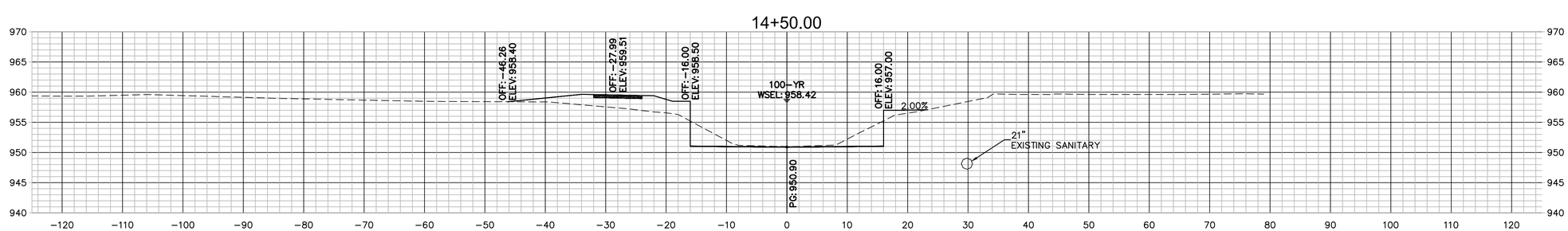

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CROSS SECTIONS - LINE A

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STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

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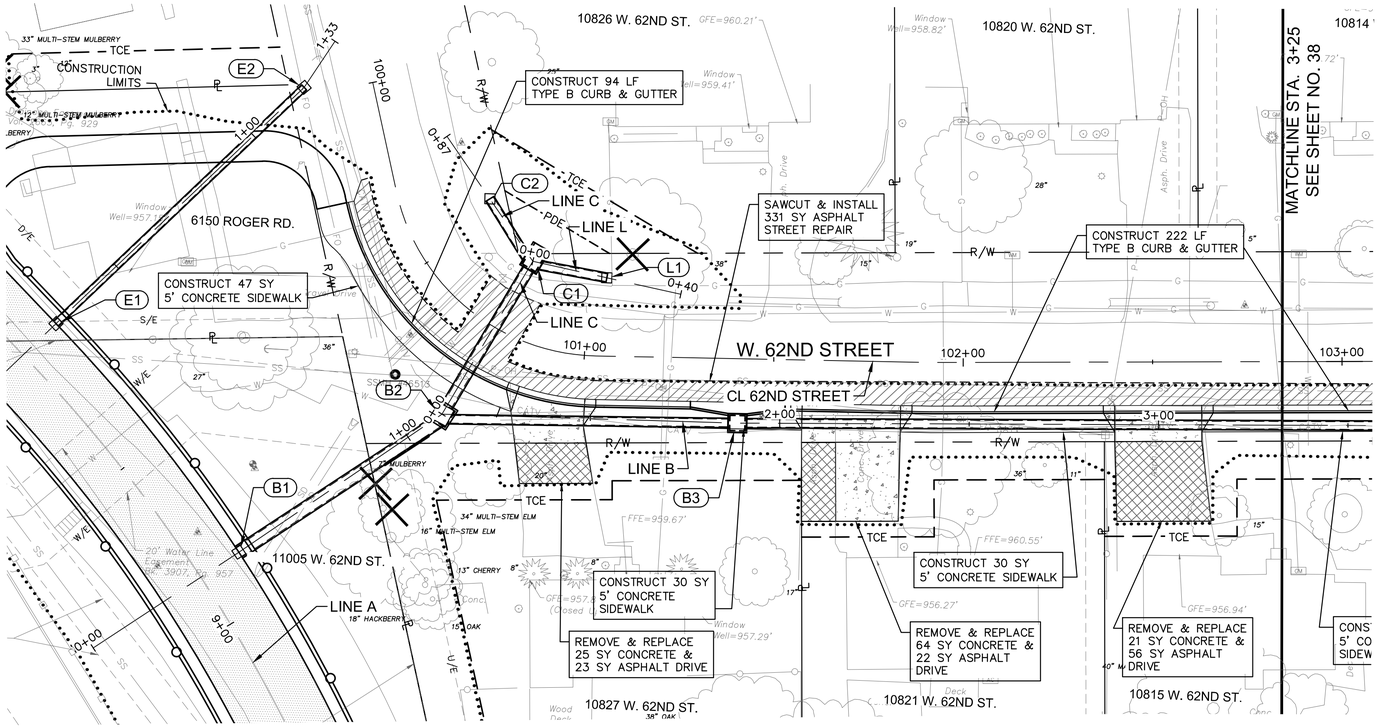


EXISTING SANITARY MANHOLE DATA

SSMH #1486
SMTC(23)022
Top=959.96'
E (S) 6" VCP=950.16' (In)
E (N) 6" VCP=950.16' (In)
E (W) 8" VCP=949.71' (Out)

SSMH #20055
SMTC(23)023
Top=959.135'
E (N) 8" VCP=951.44' (In)
E (S) 8" VCP=950.74' (Out)

SSMH #46513
SMTC(23)021
Top=956.47'
E (E) 8" VCP=947.10' (In)
E (N) 8" VCP=947.26' (In)
E (W) 8" VCP=946.92' (Out)

SSMH #25352
SMTC(23)004
Top=957.68'
E (N) 21" VCP=946.05' (In)
E (W) 6" VCP=947.24' (In)
E (SE) 21" VCP=945.84' (Out)

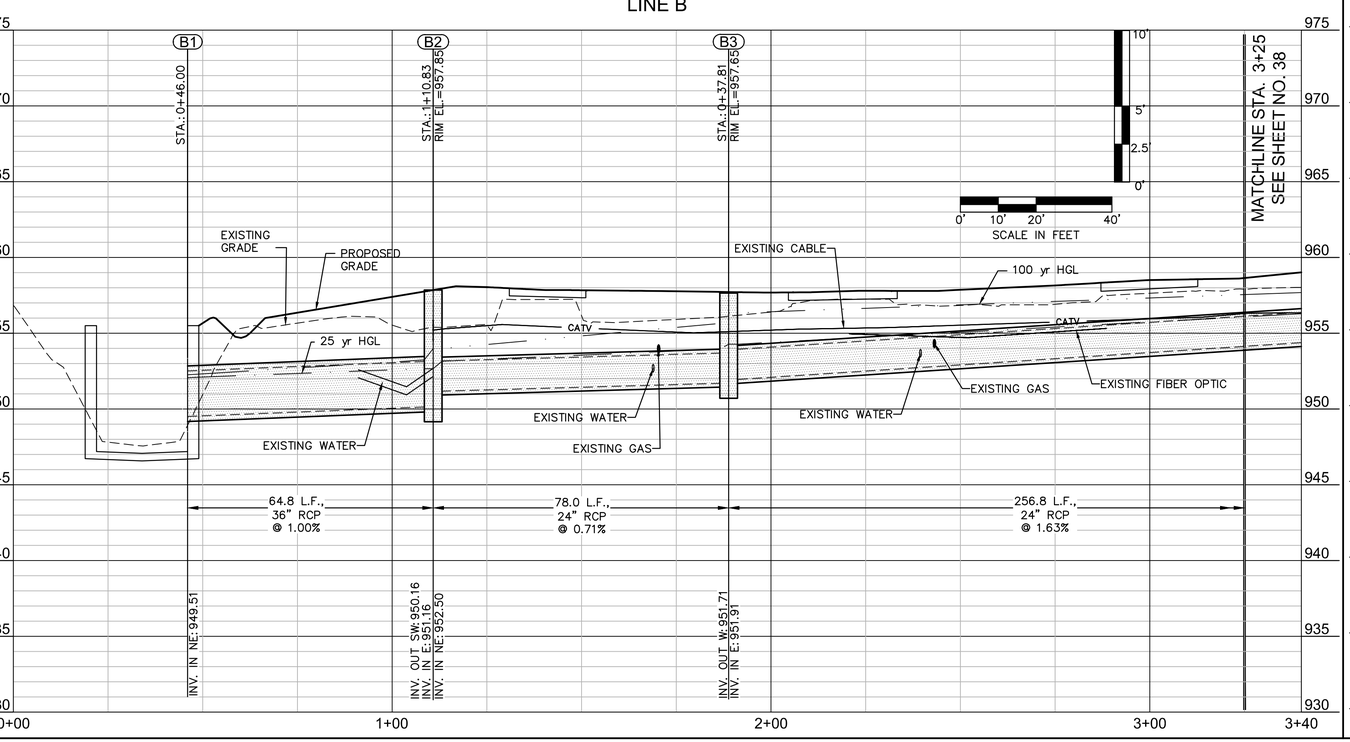
SSMH #46512
SMTC(23)003
Top=953.73'
E (W) 6" VCP=946.28' (In)
E (N) 21" VCP=944.63' (In)
E (E) 8" VCP=946.13' (In)
E (SE) 21" VCP=944.58' (Out)

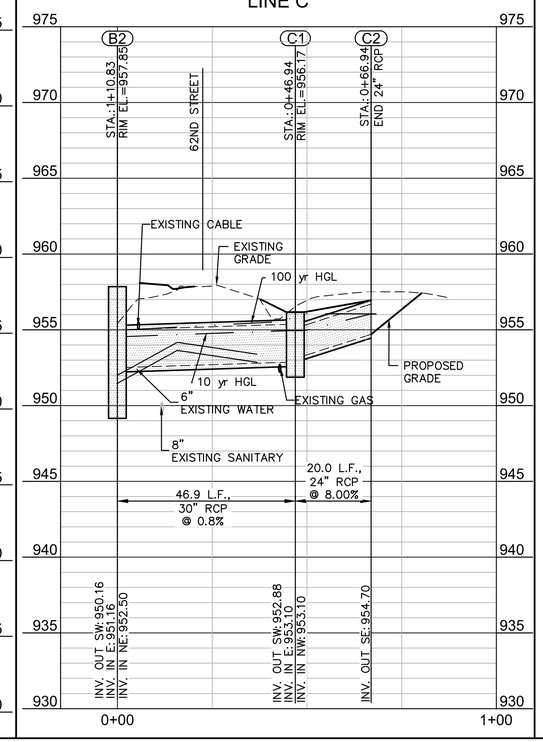
STORM SEWER

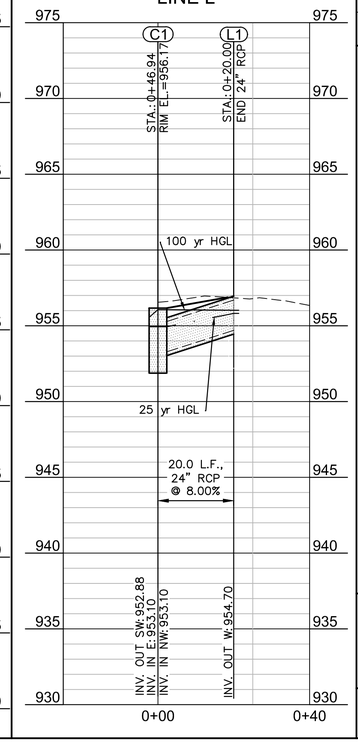
STRUCTURE	DESCRIPTION
B1	STA: 0+46.00 LINE B CONNECT TO PROPOSED CHANNEL N: 265731.8020 E: 2246163.5055
B2	STA: 1+10.83 LINE B CONSTRUCT STD. 5'X5' JUNCTION BOX N: 265770.0906 E: 2246215.8193
B3	STA: 0+37.81 LINE C CONSTRUCT STD. 4'X4' CURB INLET N: 265770.4496 E: 2246293.8242
C1	STA: 0+46.94 LINE C CONSTRUCT STD. 4'X4' AREA INLET OPEN NW N: 265811.2548 E: 2246238.3803
C2	STA: 0+66.94 LINE C END 24" RCP N: 265827.3287 E: 2246226.4794
L1	STA: 0+20.00 LINE L END 24" RCP N: 265807.5855 E: 2246258.0408

NOTE:
1. SEE SHEET 84 FOR 62ND STREET TYPICAL SECTION.

N
0' 10' 20' 40'
SCALE IN FEET







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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN & PROFILE - LINES B, C & L

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_STM_PP02_53269.dwg
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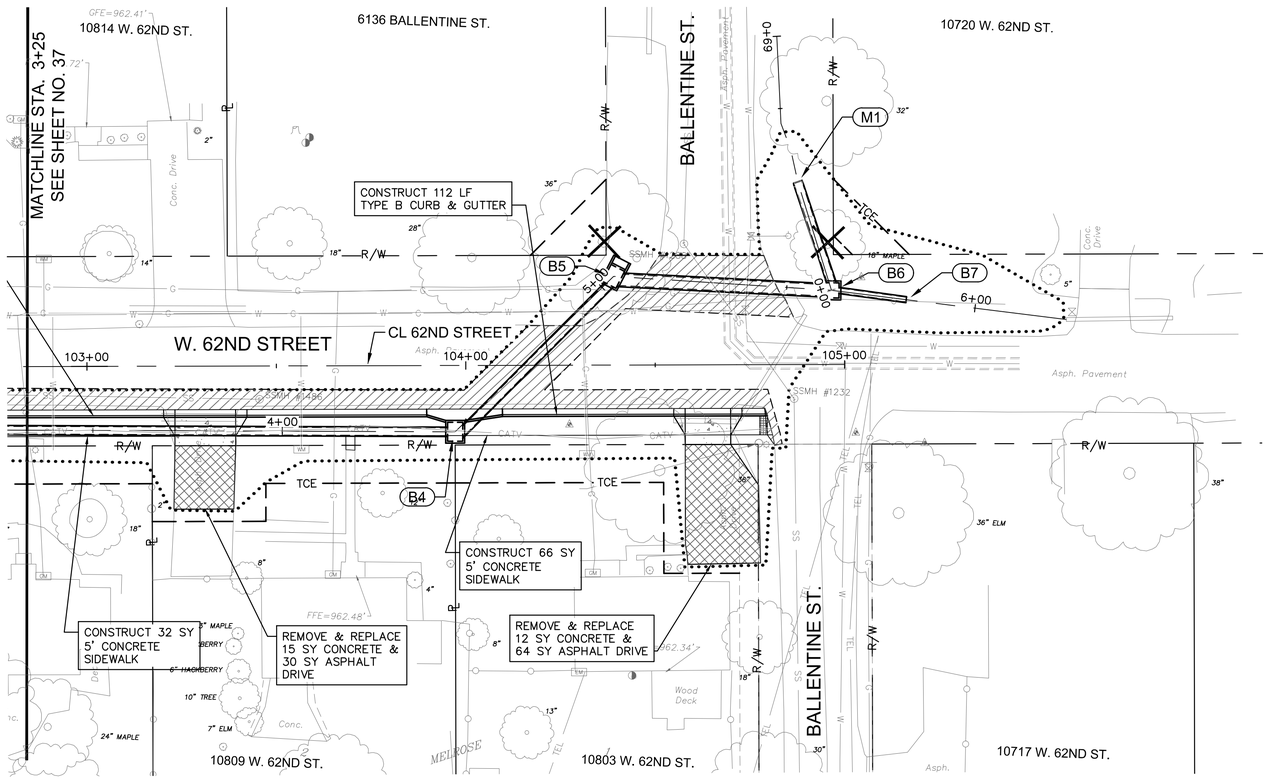
USER: kfulton
W_PESMT_53269



EXISTING SANITARY MANHOLE DATA

SSMH #1232
SMTC(20)129
Top=964.10'
℄ (NW) 8" VCP=952.84' (In)
℄ (S) 8" VCP=952.80' (Out)

SSMH #1288
SMTC(20)130
Top=964.99'
℄ (N) 8" VCP=953.25' (In)
℄ (SE) 8" VCP=953.19' (Out)

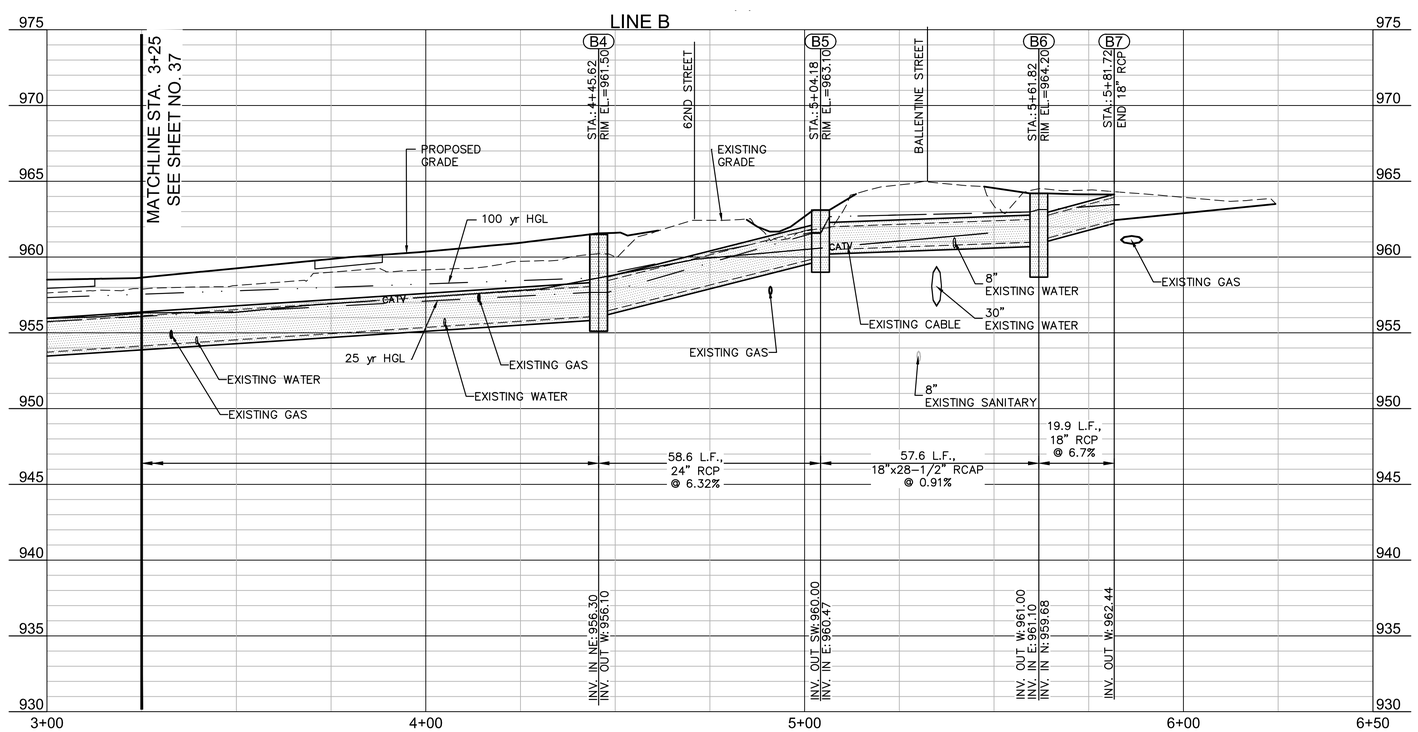
SSMH #1486
SMTC(23)022
Top=959.96'
℄ (S) 6" VCP=950.16' (In)
℄ (N) 6" VCP=950.16' (In)
℄ (W) 8" VCP=949.71' (Out)

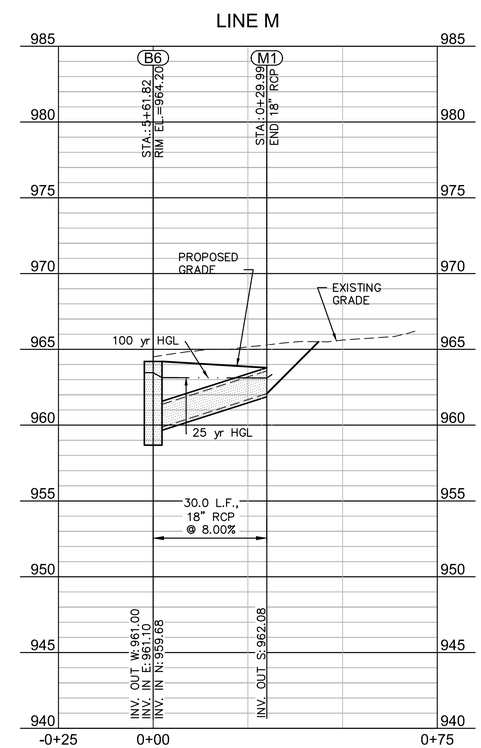
STORM SEWER

STRUCTURE	DESCRIPTION
B4	STA: 4+45.62 LINE B CONSTRUCT STD. 4'X5' STD. CURB INLET N: 265778.4363 E: 2246550.4899
B5	STA: 5+04.18 LINE B CONSTRUCT STD 4'X5' AREA INLET OPEN NE N: 265820.8835 E: 2246590.8235
B6	STA: 5+61.82 LINE B CONSTRUCT STD. 4'X4' JUNCTION BOX N: 265819.2045 E: 2246648.4401
B7	STA: 5+81.72 LINE B END 18" RCP N: 265817.4436 E: 2246668.2620
M1	STA: 0+29.99 LINE M END 18" RCP N: 265847.5221 E: 2246638.5592

N

0' 10' 20' 40'
SCALE IN FEET





10' 5' 2.5' 0'

0' 10' 20' 40'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN & PROFILE - LINES B & M

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
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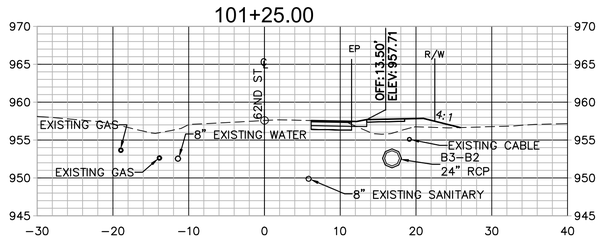

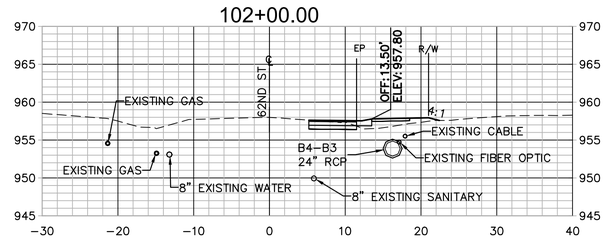

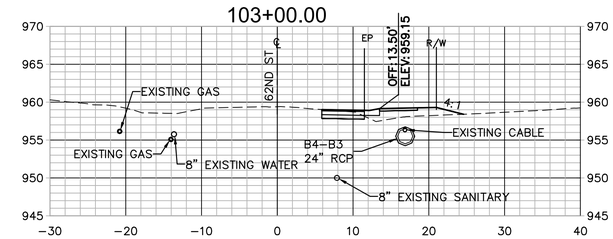

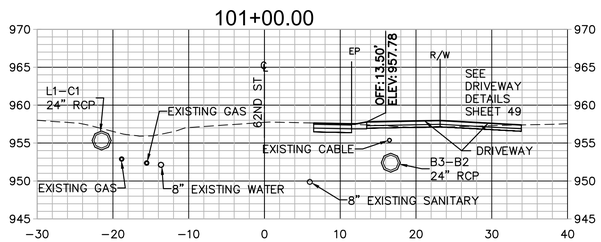

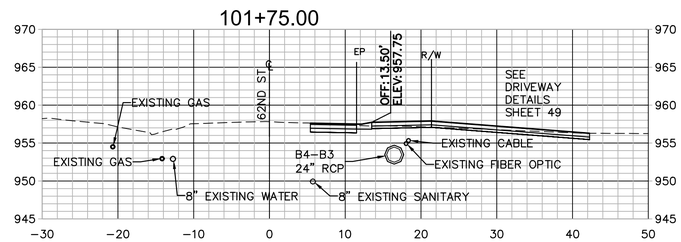

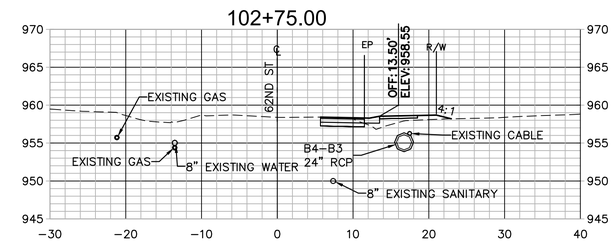

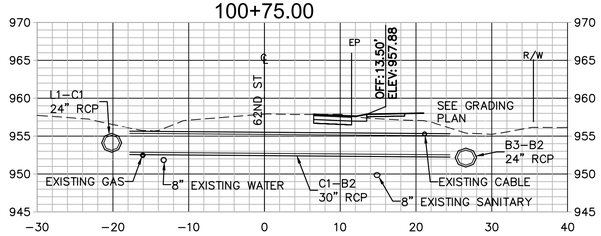

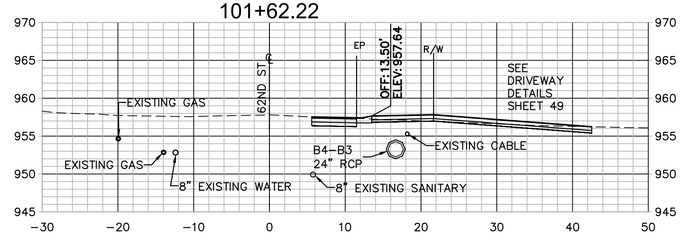

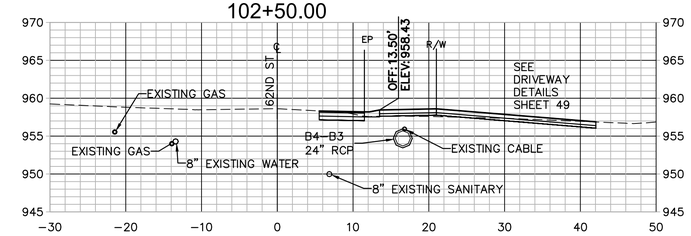

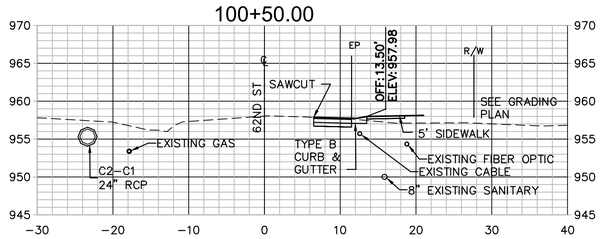

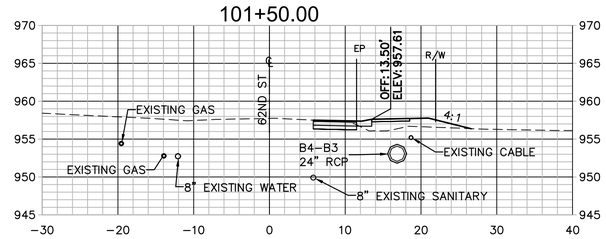

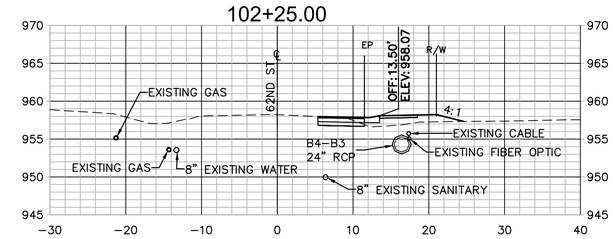

0' 5' 10' 20'
SCALE IN FEET

20'
10'
5'
0'

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

CROSS SECTIONS - CENTERLINE 62ND ST

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
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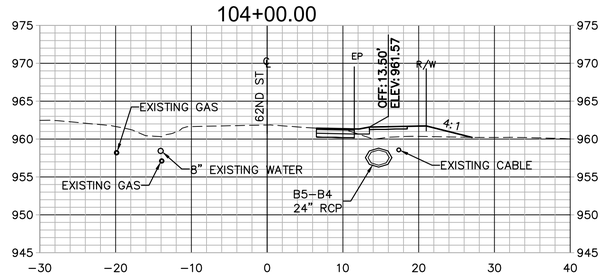

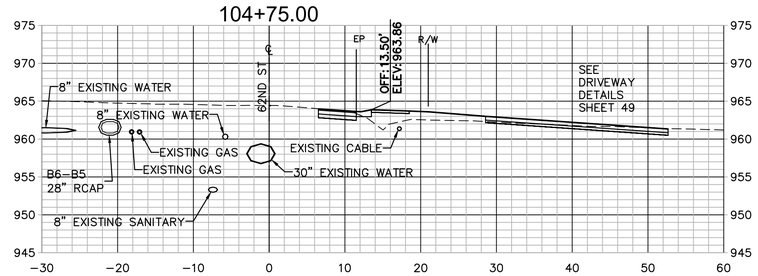

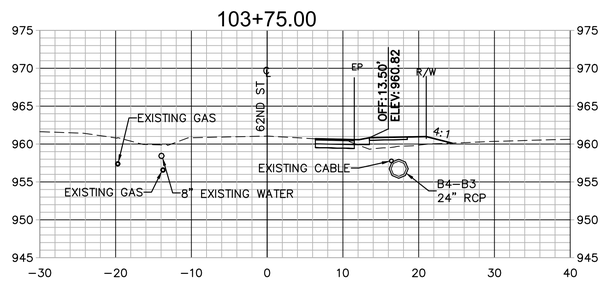

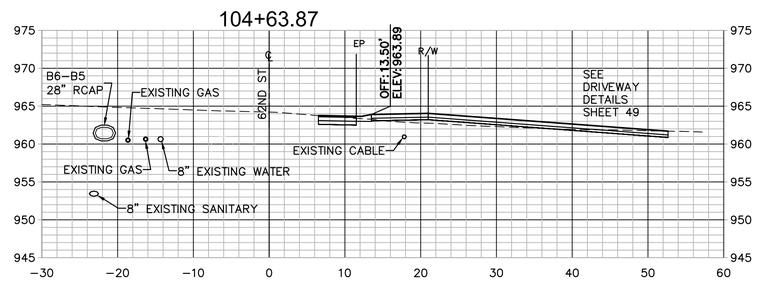

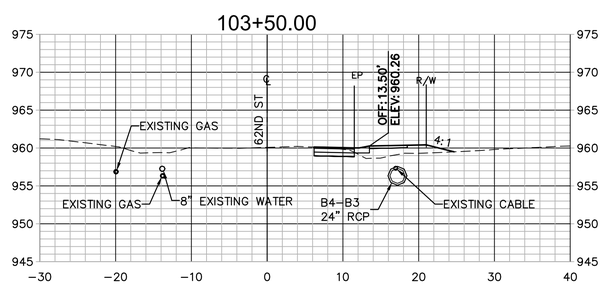

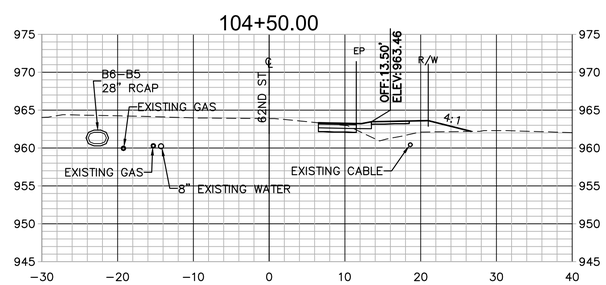

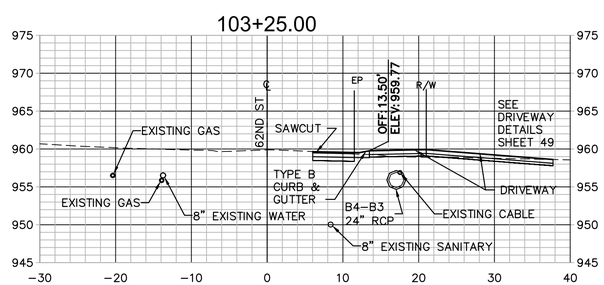

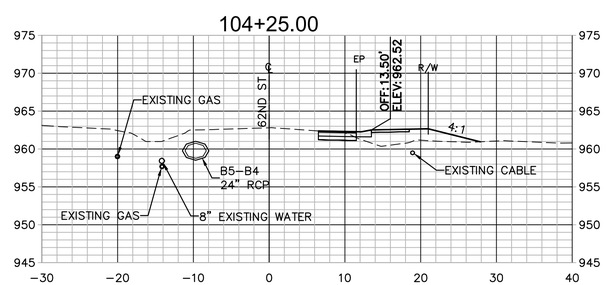

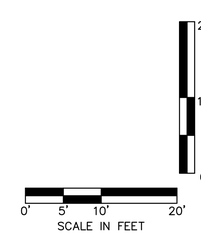

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TEL 913.381.1170
FAX 913.381.1174
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

CROSS SECTIONS - CENTERLINE 62ND ST

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\SECTIONS\W_XSC_02_53269.dwg USER: ktulton
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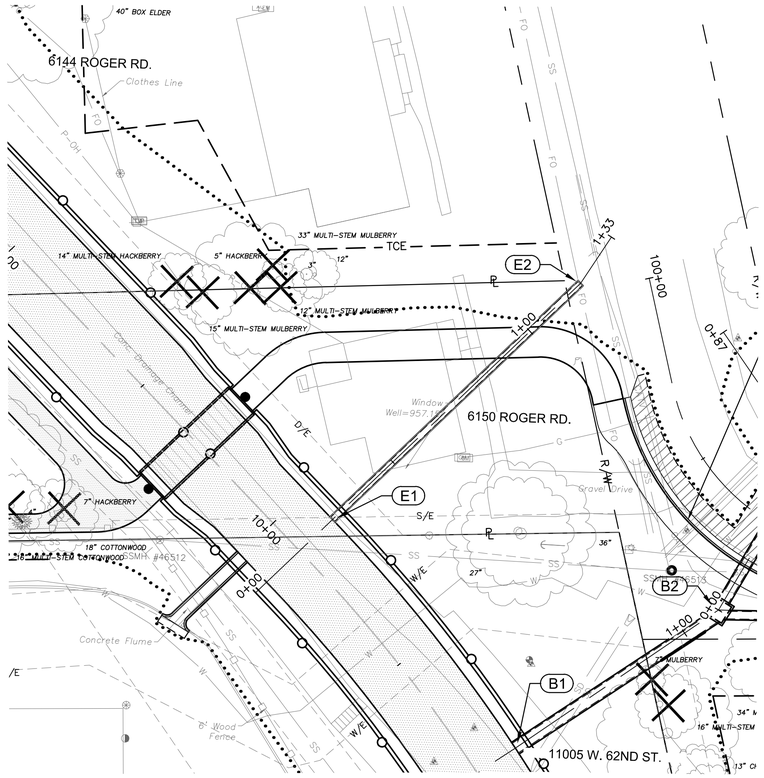
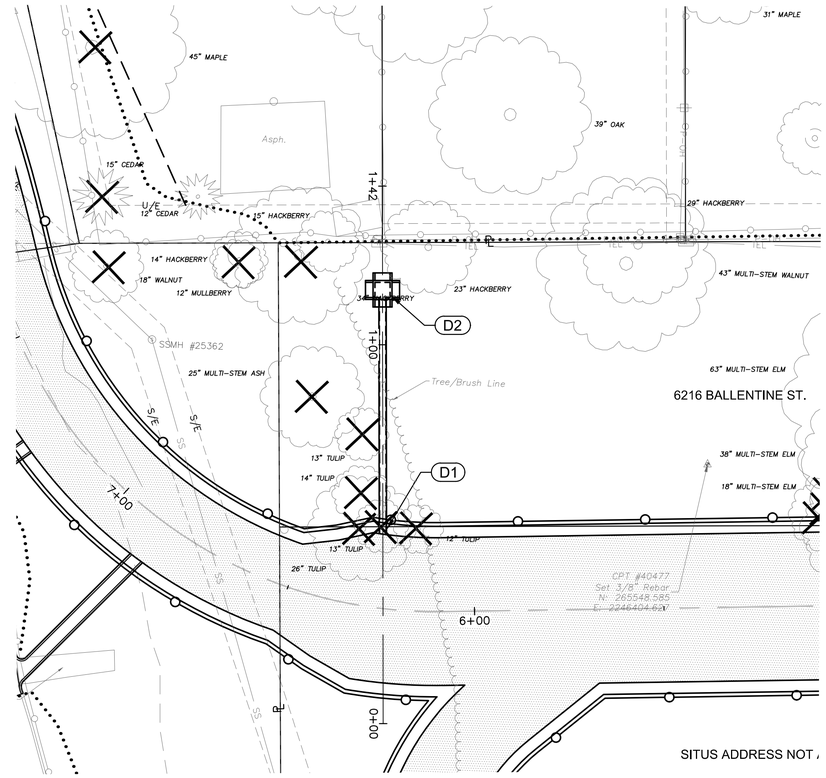
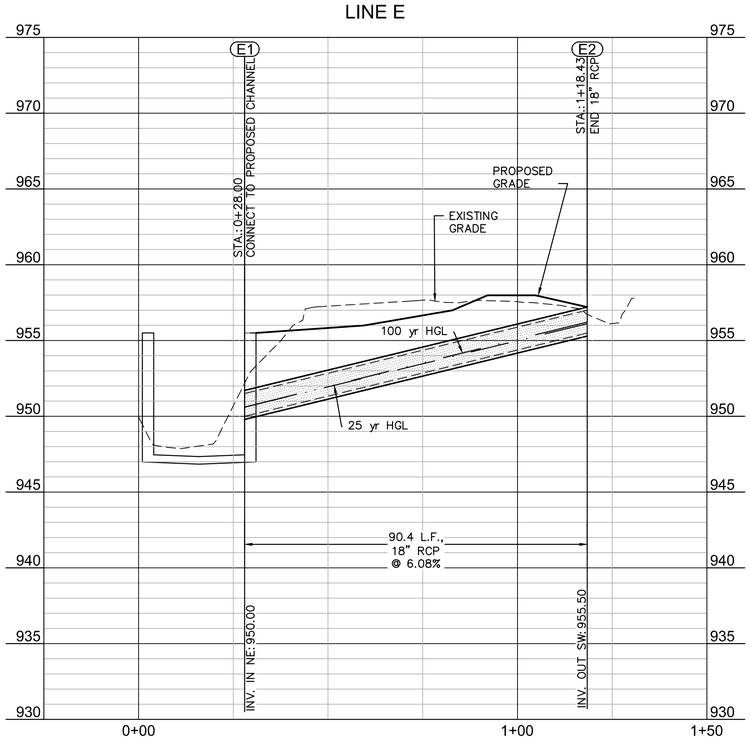


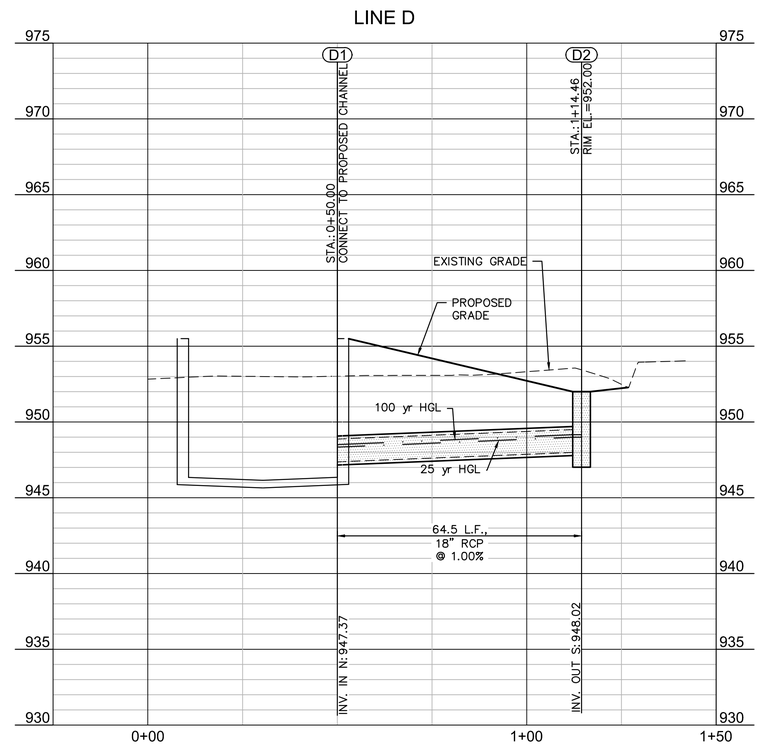


STORM SEWER	
STRUCTURE	DESCRIPTION
D1	STA: 0+50.00 LINE D CONNECT TO PROPOSED CHANNEL N: 265527.1582 E: 2246319.6157
D2	STA: 1+14.46 LINE D CONSTRUCT STD. 4'X4' AREA INLET OPEN 4 SIDES N: 265591.5727 E: 2246317.2686
E1	STA: 0+28.00 LINE E CONNECT TO PROPOSED CHANNEL N: 265790.4074 E: 2246113.1672
E2	STA: 1+18.43 LINE E END 18" RCP N: 265855.0167 E: 2246176.4402

N

0' 10' 20' 40'
SCALE IN FEET





EXISTING SANITARY MANHOLE DATA

SSMH #20055
SMTC(23)023
Top=959.135'
℄ (N) 8" VCP=951.44' (In)
℄ (S) 8" VCP=950.74' (Out)

SSMH #46513
SMTC(23)021
Top=956.47'
℄ (E) 8" VCP=947.10' (In)
℄ (N) 8" VCP=947.26' (In)
℄ (W) 8" VCP=946.92' (Out)

SSMH #46512
SMTC(23)003
Top=953.73'
℄ (W) 6" VCP=946.28' (In)
℄ (N) 21" VCP=944.63' (In)
℄ (E) 8" VCP=946.13' (In)
℄ (SE) 21" VCP=944.58' (Out)

SSMH #25361
SMTC(23)002
Top=953.39'
℄ (NW) 21" VCP=943.90' (In)
℄ (SE) 21" VCP=943.78' (Out)

SSMH #25362
SMTC(23)001
Top=953.12'
℄ (NW) 21" VCP=943.35' (In)
℄ (SSE) 21" VCP=943.25' (Out)

SSMH #25288
SMTC(20)026
Top=951.64'
℄ (NNW) 21" VCP=942.33' (In)
℄ (W) 21" VCP=942.14' (In)
℄ (S) 12" VCP=942.90' (In)
℄ (E) 24" VCP=941.76' (Out)

10'
5'
2.5'
0'

0' 10' 20' 40'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN & PROFILE - LINES D & E

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_STM_PP02_53269.dwg
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USER: kfulton
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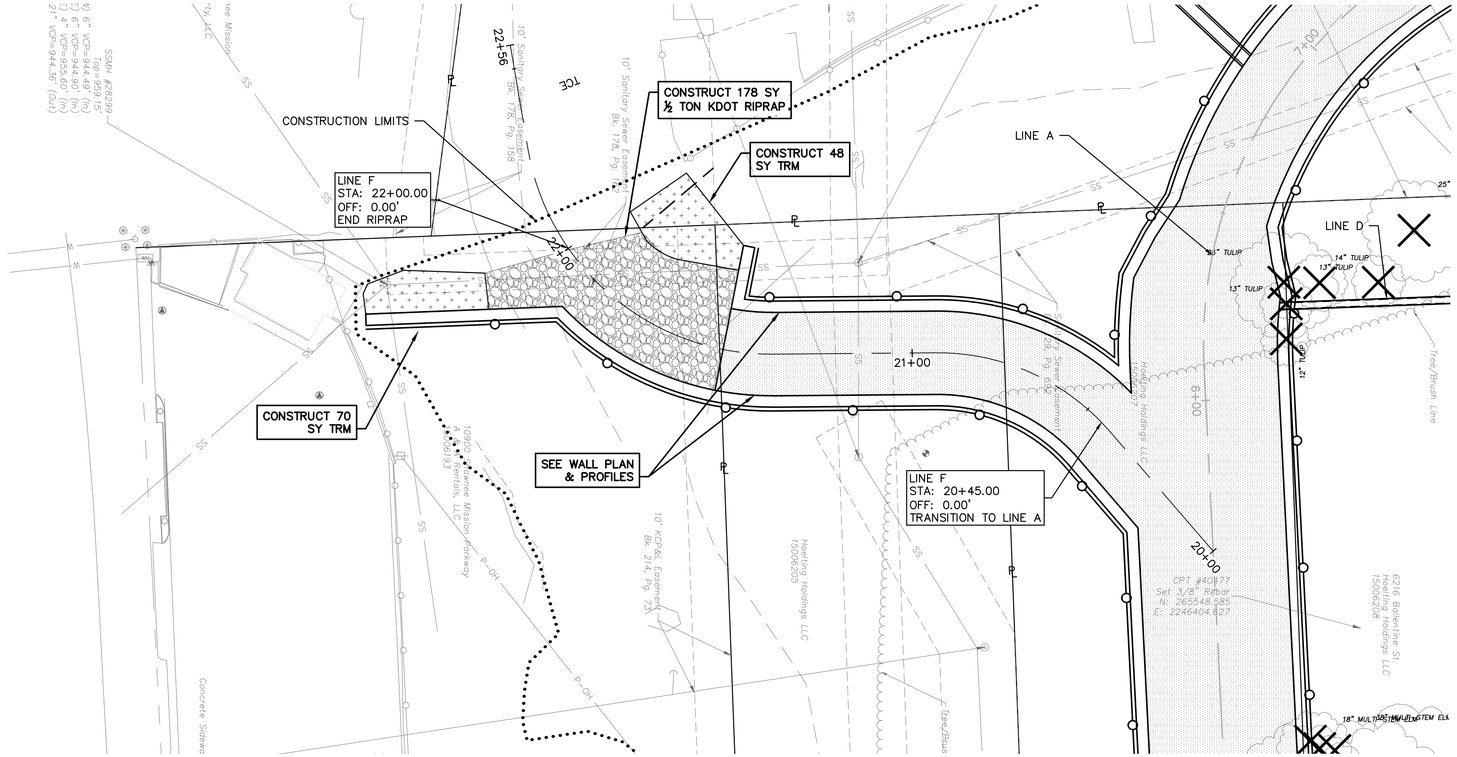
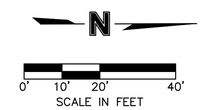
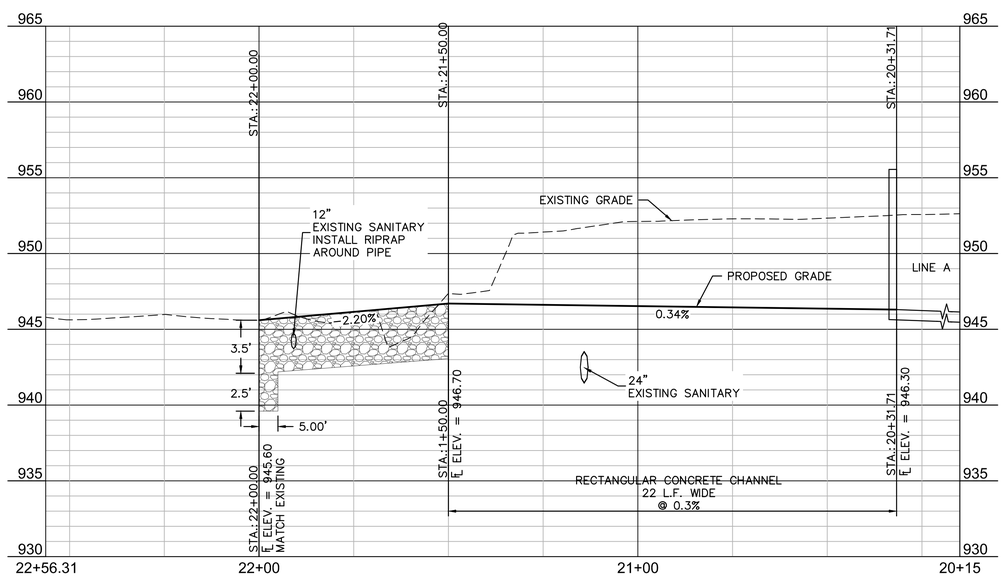
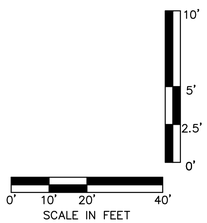




LINE F





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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN & PROFILE - LINE F

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_STM_PP03_LINE F_53269.dwg USER: kfulton
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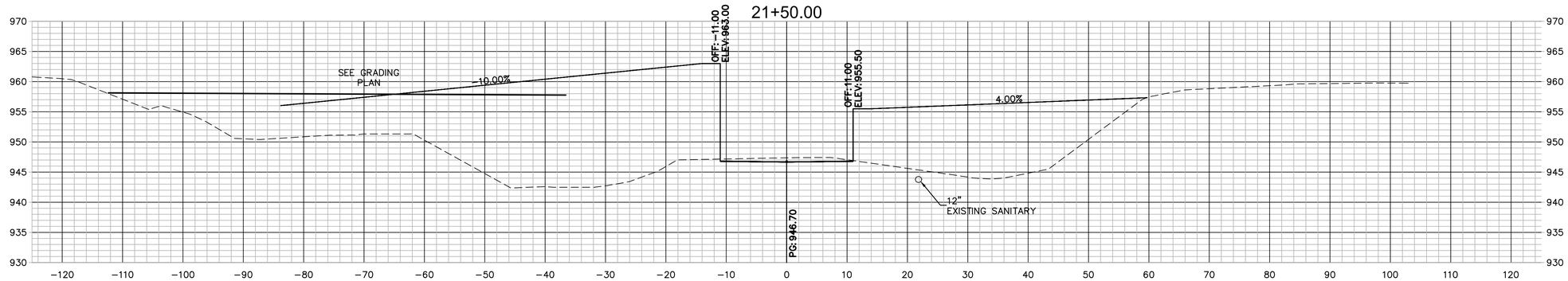

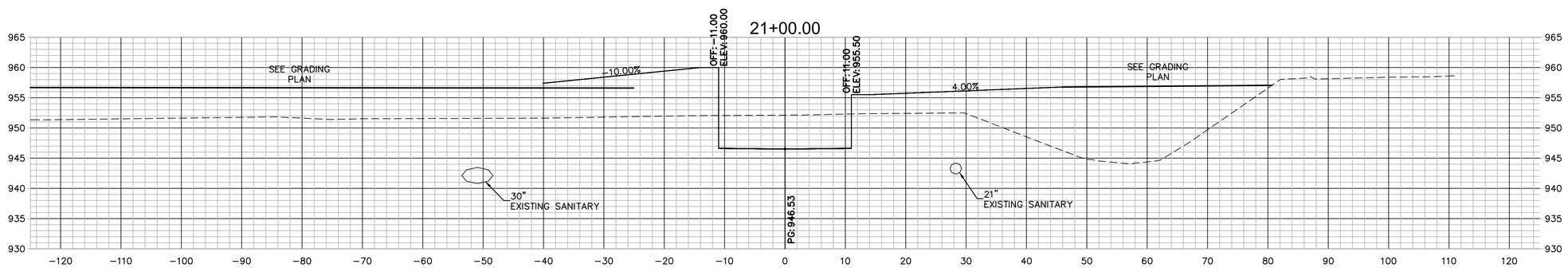

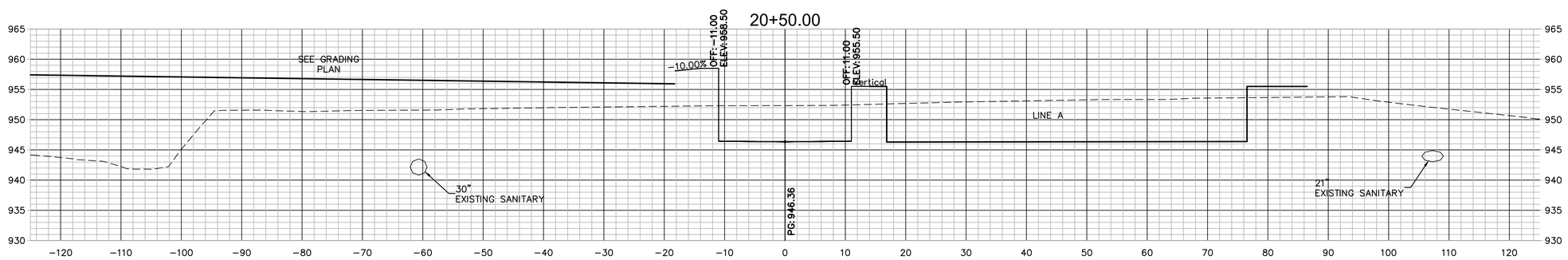

1" = 10'
0' 5' 10' 20'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

CROSS SECTIONS - LINE F

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\SECTIONS\W_XSC_03_LINE F_53269.dwg USER: kfulton
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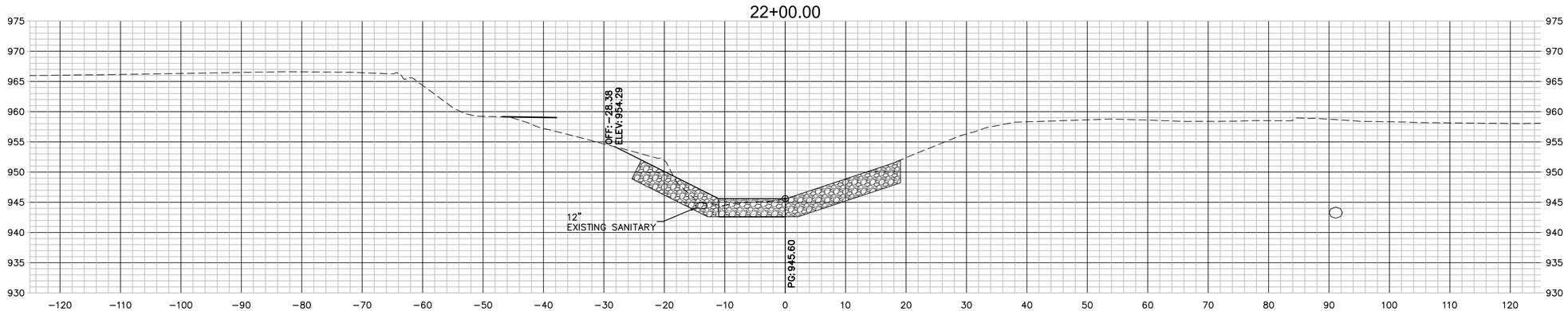

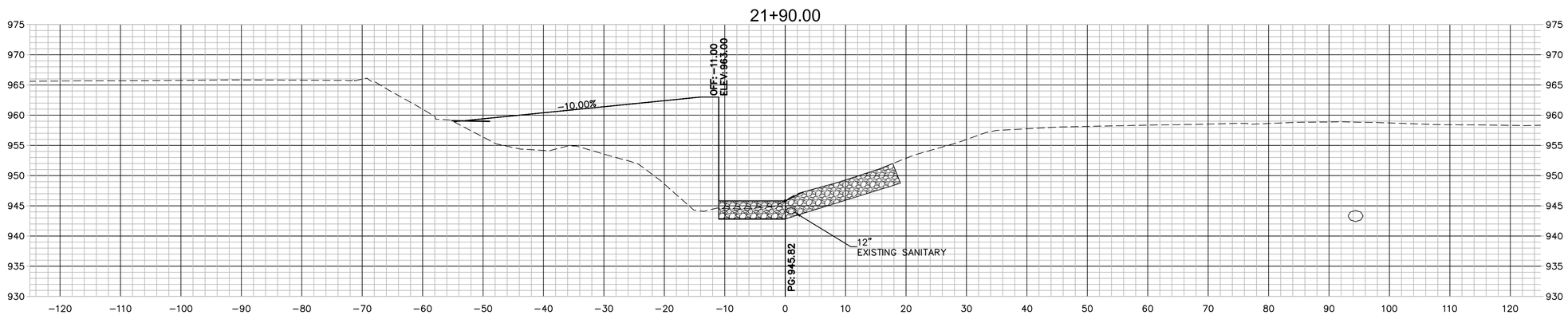

1" = 10'

0' 5' 10' 20'

SCALE IN FEET

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DATE: May 11, 2016 3:32pm XREFS: W_TBLK_53269 W_PCORR_01_53269

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

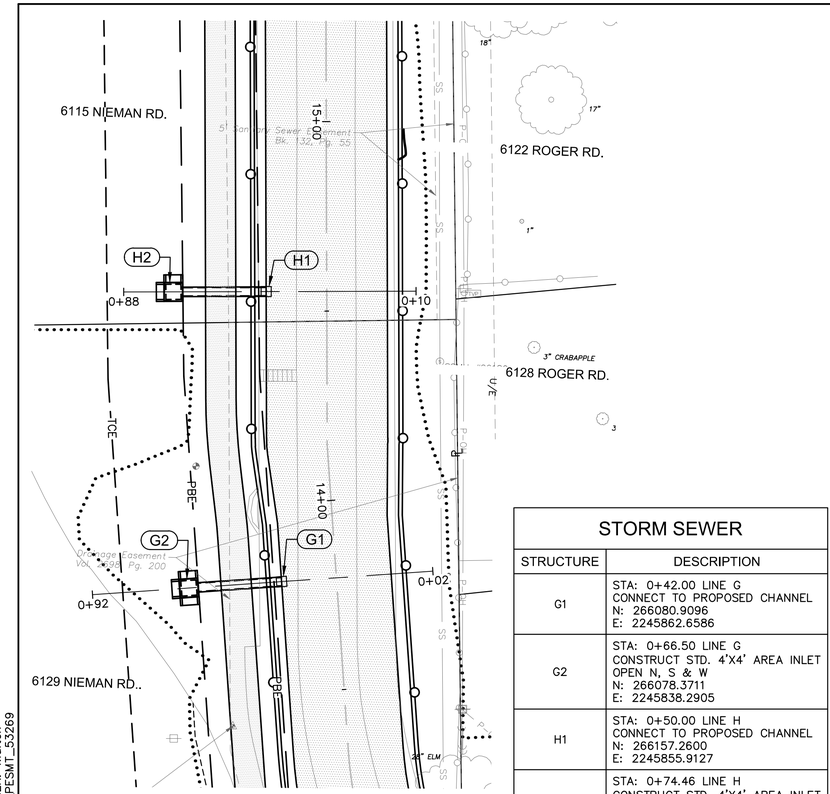
CROSS SECTIONS - LINE F

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

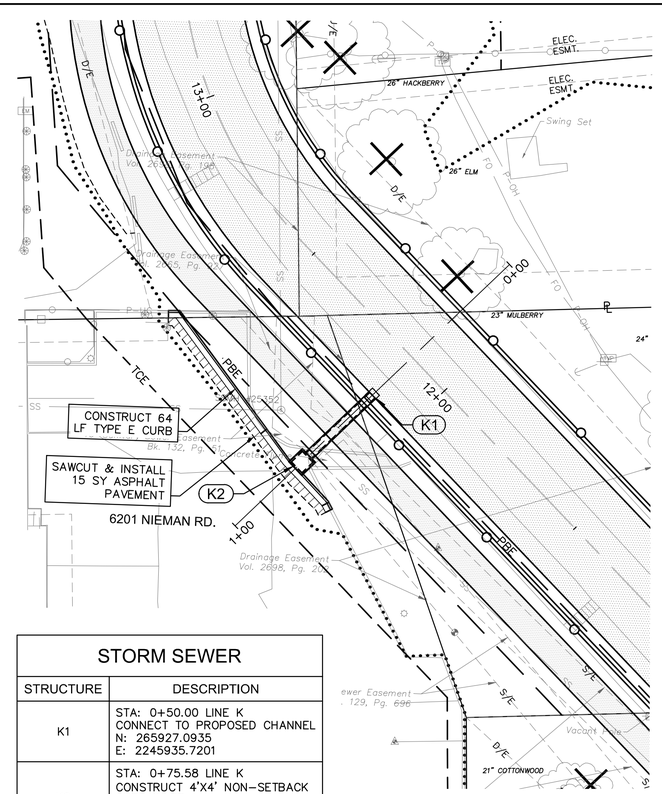
2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16



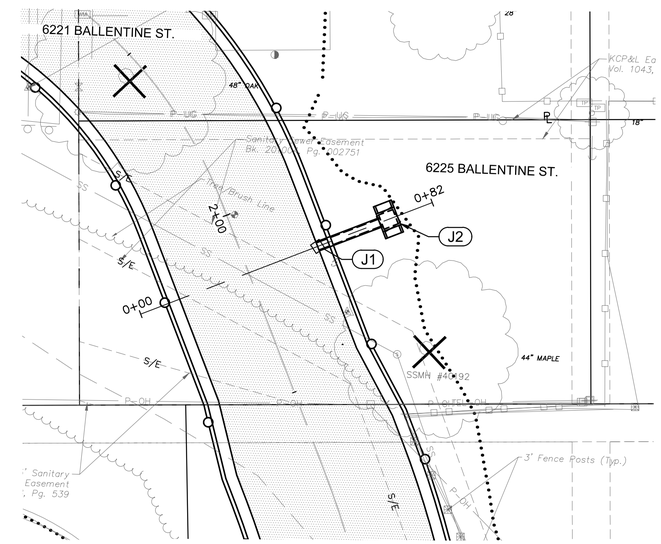
STORM SEWER

STRUCTURE	DESCRIPTION
G1	STA: 0+42.00 LINE G CONNECT TO PROPOSED CHANNEL N: 266080.9096 E: 2245862.6586
G2	STA: 0+66.50 LINE G CONSTRUCT STD. 4'X4' AREA INLET OPEN N, S & W N: 266078.3711 E: 2245838.2905
H1	STA: 0+50.00 LINE H CONNECT TO PROPOSED CHANNEL N: 266157.2600 E: 2245855.9127
H2	STA: 0+74.46 LINE H CONSTRUCT STD. 4'X4' AREA INLET OPEN N & W N: 266156.3373 E: 2245831.4695



STORM SEWER

STRUCTURE	DESCRIPTION
K1	STA: 0+50.00 LINE K CONNECT TO PROPOSED CHANNEL N: 265927.0935 E: 2245935.7201
K2	STA: 0+75.58 LINE K CONSTRUCT 4'X4' NON-SETBACK CURB INLET N: 265908.8173 E: 2245917.8219

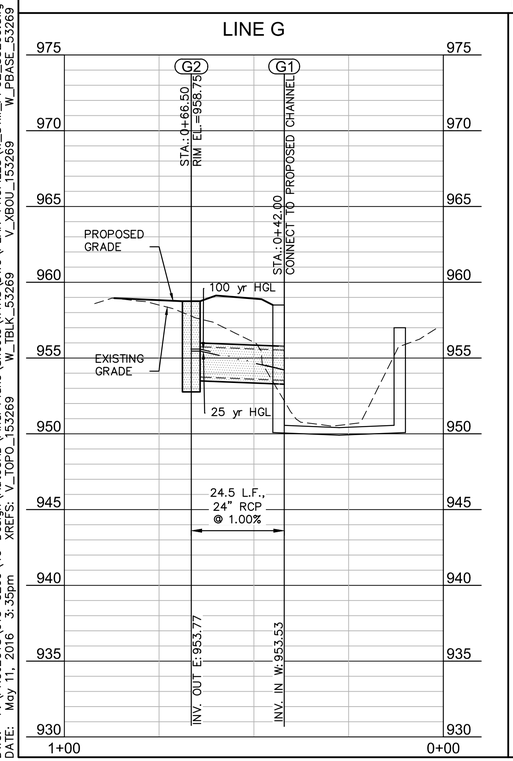


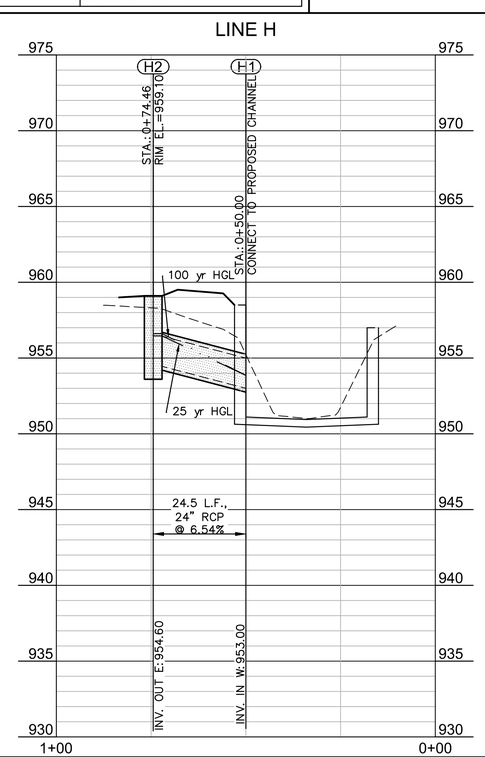
STORM SEWER

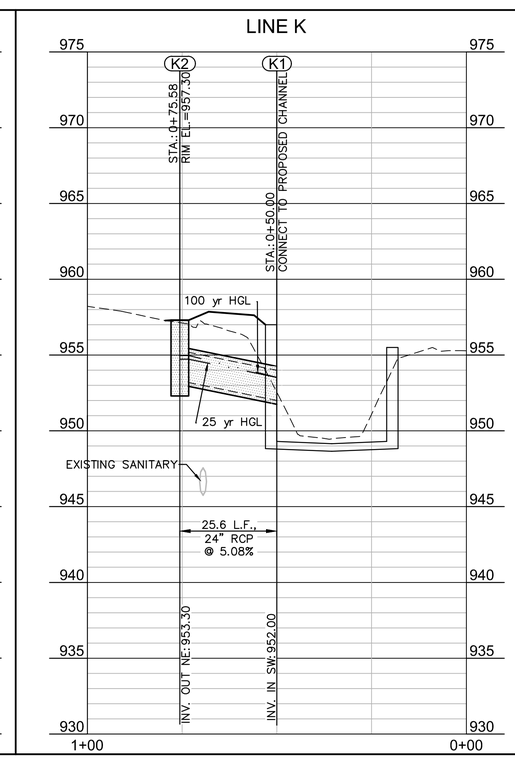
STRUCTURE	DESCRIPTION
J1	STA: 0+50.00 LINE J CONNECT TO PROPOSED CHANNEL N: 265436.3913 E: 2246736.3573
J2	STA: 0+70.00 LINE J CONSTRUCT STD. 4'X4' AREA INLET OPEN NW & SE. N: 265444.1802 E: 2246754.7783

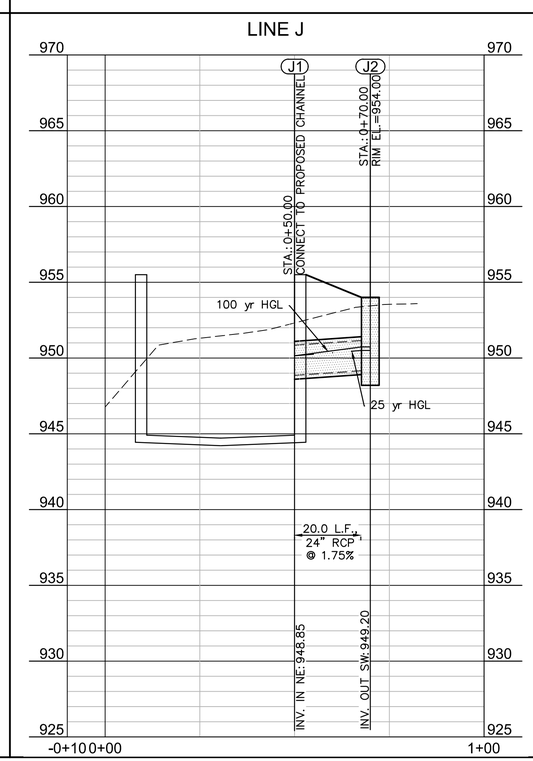
N

0' 10' 20' 40'
SCALE IN FEET









EXISTING SANITARY MANHOLE DATA

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SMTC(23)005
Top=958.81'
℄ (N) 21" VCP=947.19' (In)
℄ (S) 21" VCP=947.06' (Out)

SSMH #25352
SMTC(23)004
Top=957.68'
℄ (N) 21" VCP=946.05' (In)
℄ (W) 6" VCP=947.24' (In)
℄ (SE) 21" VCP=945.84' (Out)

SSMH #46512
SMTC(23)003
Top=953.73'
℄ (W) 6" VCP=946.28' (In)
℄ (N) 21" VCP=944.63' (In)
℄ (E) 8" VCP=946.13' (In)
℄ (SE) 21" VCP=944.58' (Out)

SSMH #25287
SMTC(20)198
Top=951.46'
℄ (N) 8" PVC=942.66' (In)
(DROPS TO 941.36)
℄ (W) 30" PVC=940.21' (In)
℄ (SW) 8" PVC=940.26' (In)
℄ (SE) 30" PVC=939.96' (Out)

SSMH #40192
SMTC(20)197
Top=952.27'
℄ (NW) 30" PVC=939.56' (In)
℄ (SSE) 30" PVC=939.36' (Out)

10' 5' 2.5' 0'
0' 10' 20' 40'
SCALE IN FEET

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Overland Park, KS 66213-4750
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PLAN & PROFILE - LINES G,H,J & K

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_STM_PP02_53269.dwg
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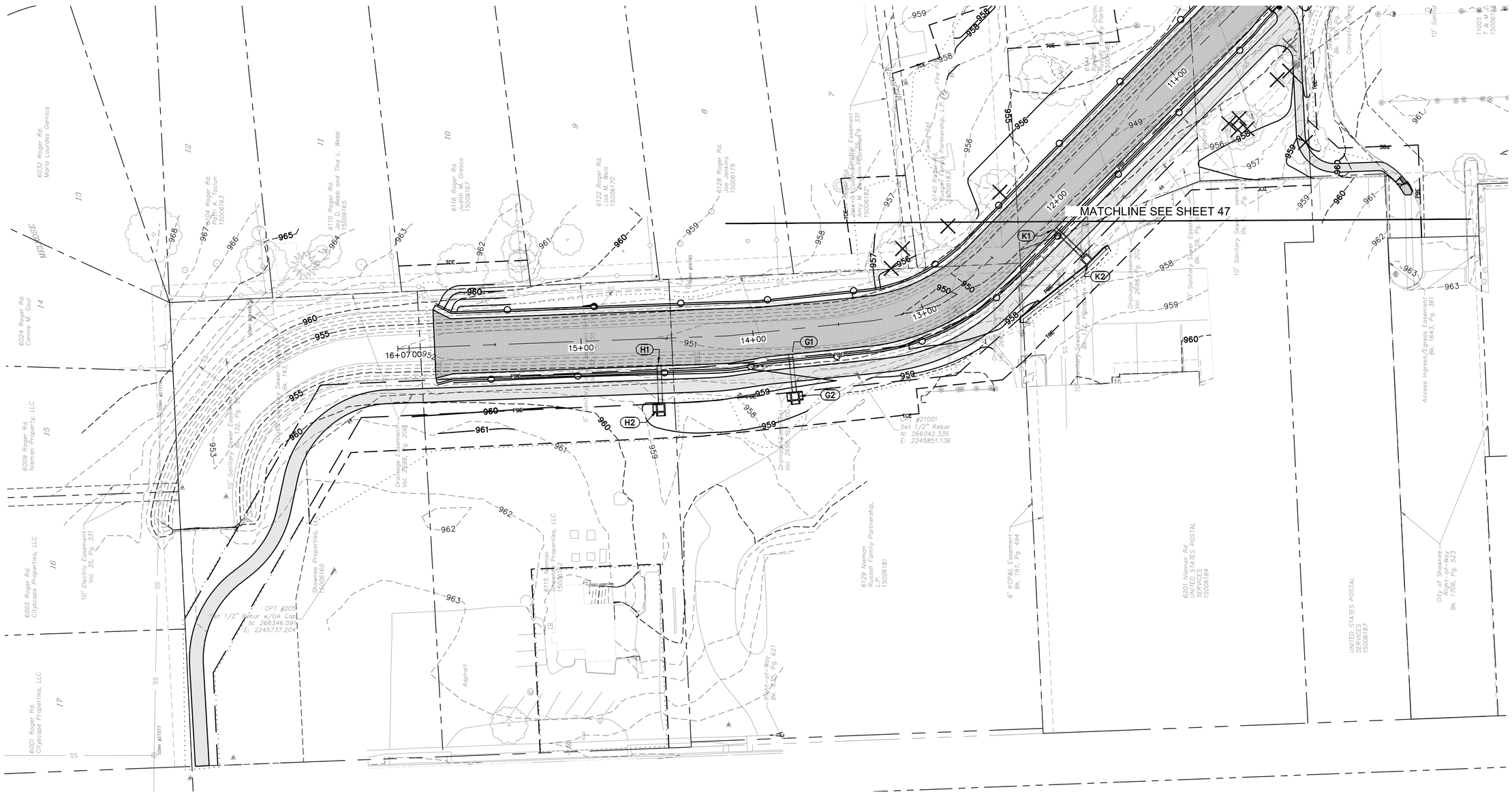
USER: kfulton
W_PESMT_53269



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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

GRADING PLAN - NORTHWEST

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

GRADING PLAN - NORTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015–3269
drawing no.:	
date:	05/12/16

SHEET
47 of 84

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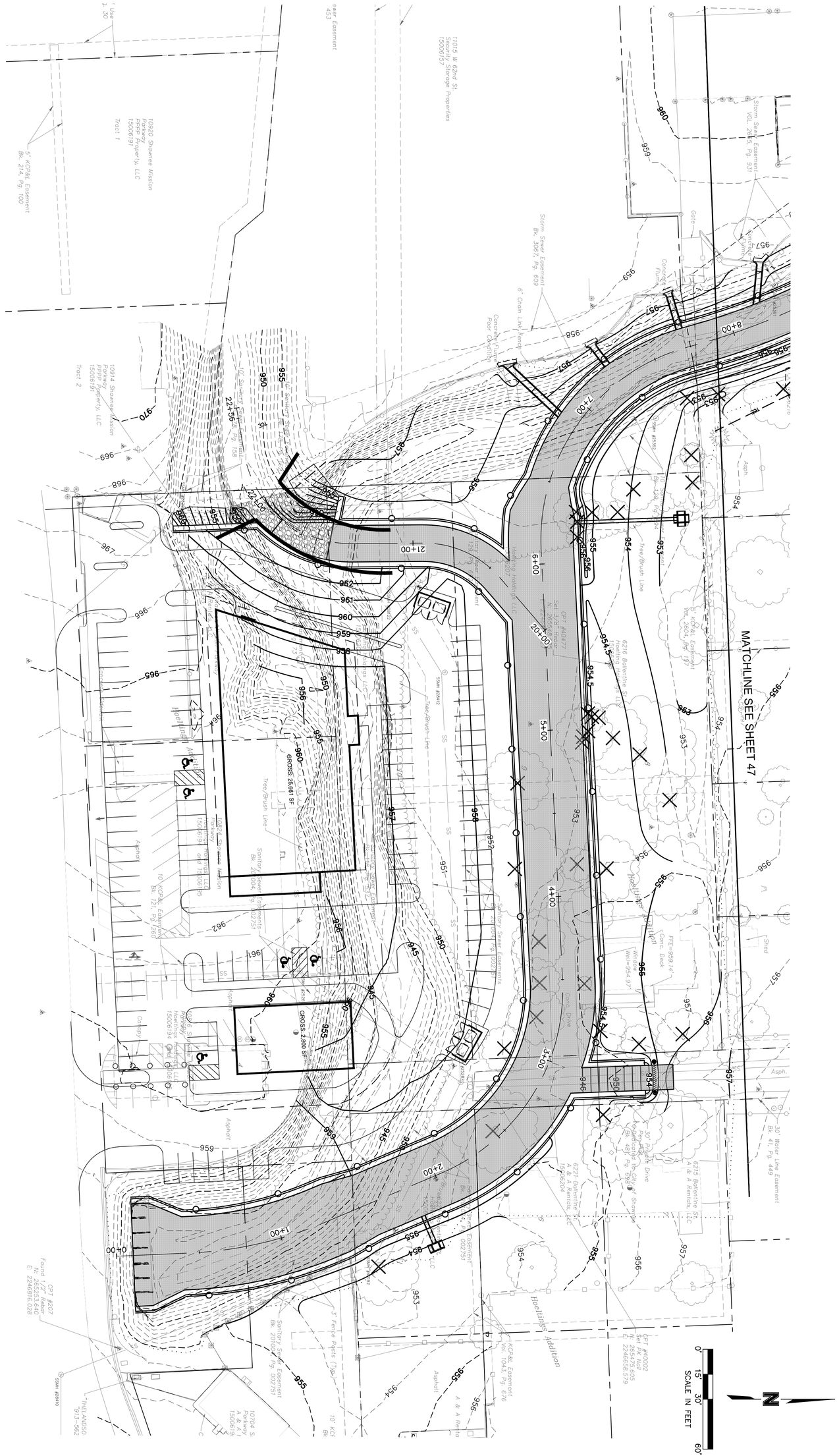

SHEET 48 of 84	drawn by: KTF checked by: JEL approved by: GPJ project no.: 015-3269 drawing no.: date: 05/12/16	GRADING PLAN - SOUTH NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS SHAWNEE, KS 2016	REV. NO. / DATE / REVISIONS DESCRIPTION / BY REVISIONS

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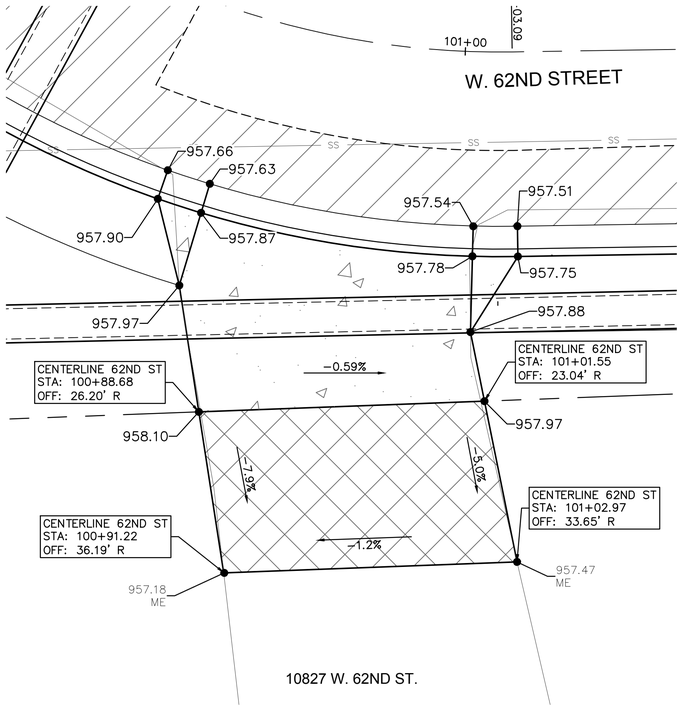
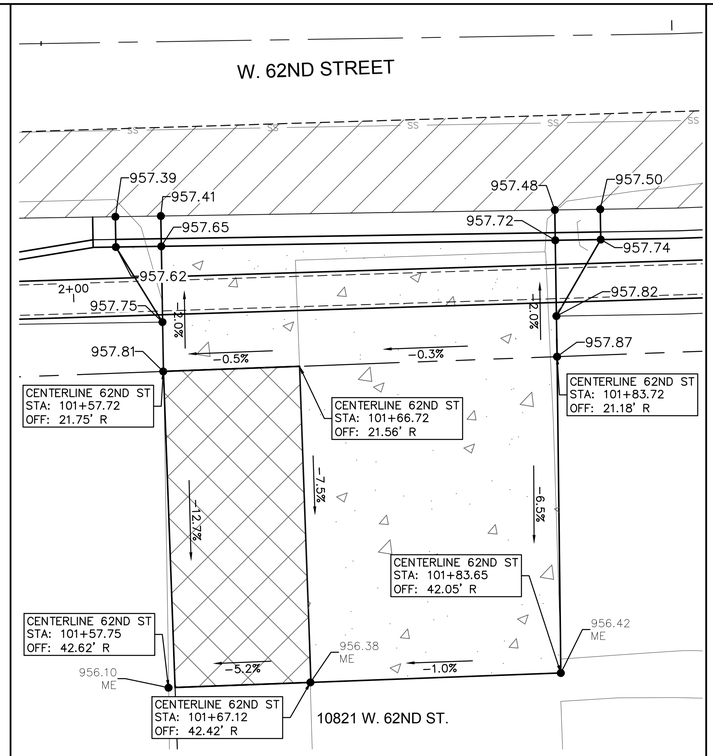


10827 W. 62ND ST.



10821 W. 62ND ST.

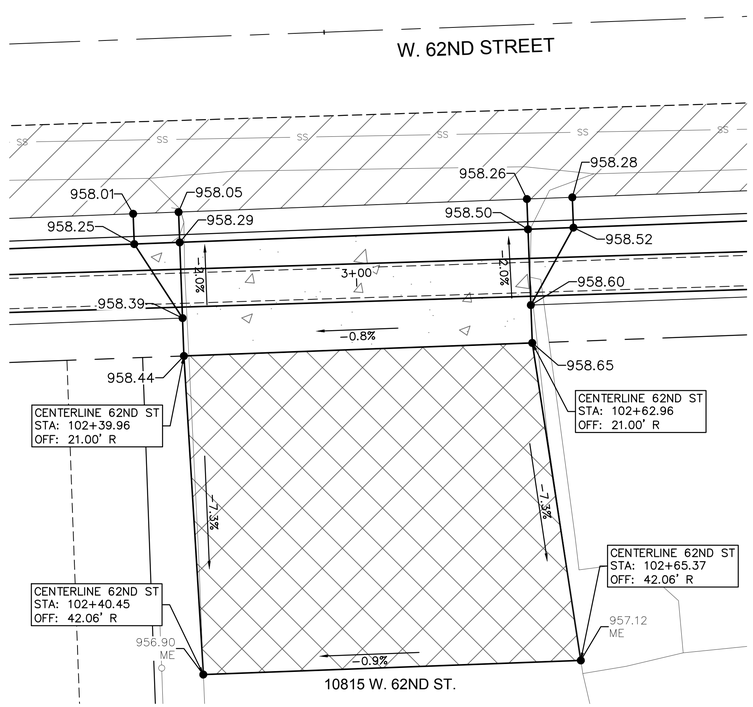
NOTE:
SEE STREET DETAILS
ON SHEET 80

LEGEND

- ASPHALT DRIVE TO BE REPLACED
- CONCRETE DRIVE TO BE REPLACED
- ASPHALT ROAD TO BE REPLACED
- 1000.00 — PROPOSED SPOT ELEVATION
- 1000.00 ME — MATCH EXISTING SPOT ELEVATION

N

0' 2.5' 5' 10'
SCALE IN FEET



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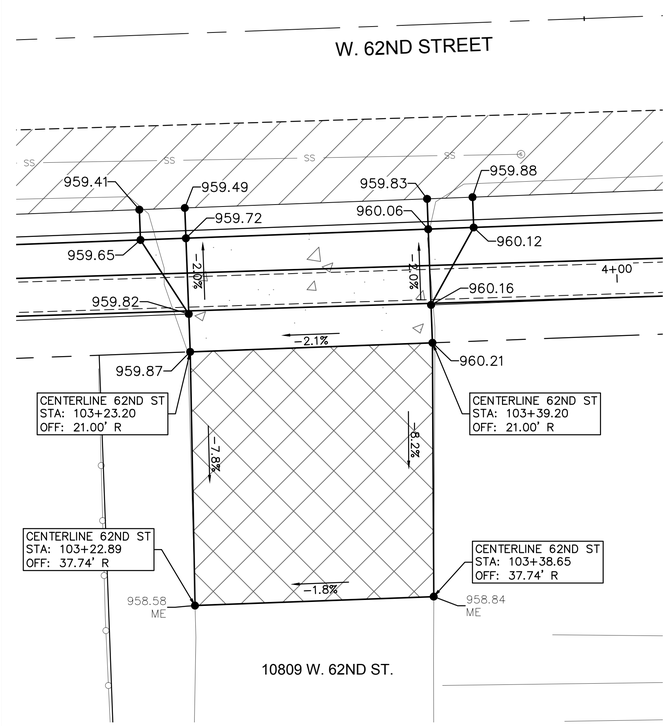

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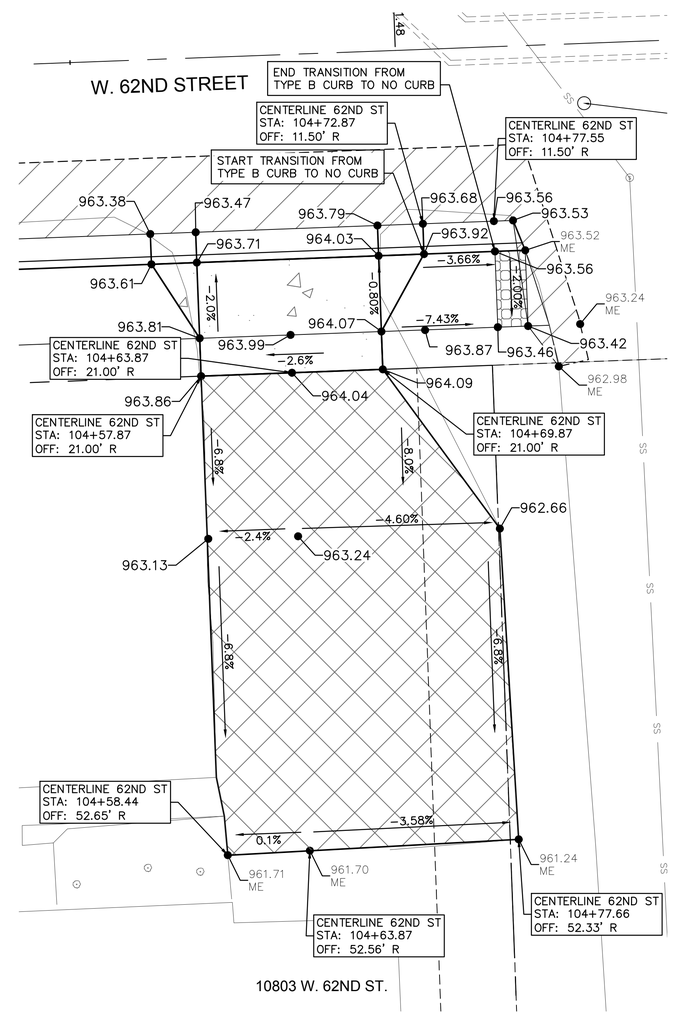

10803 W. 62ND ST.

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DRIVEWAY DETAILS

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DRIVES\W_DRV_DTL_53269.dwg USER: kfulton
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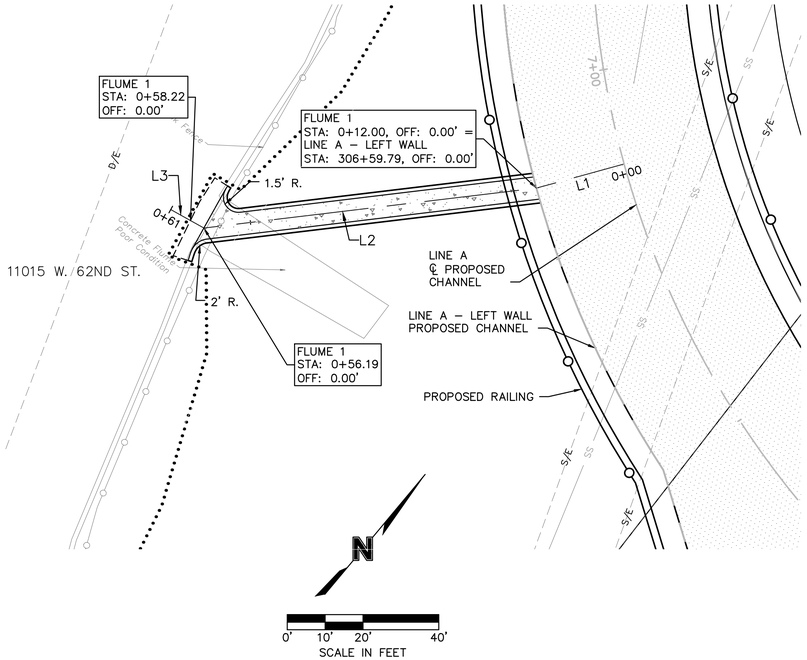
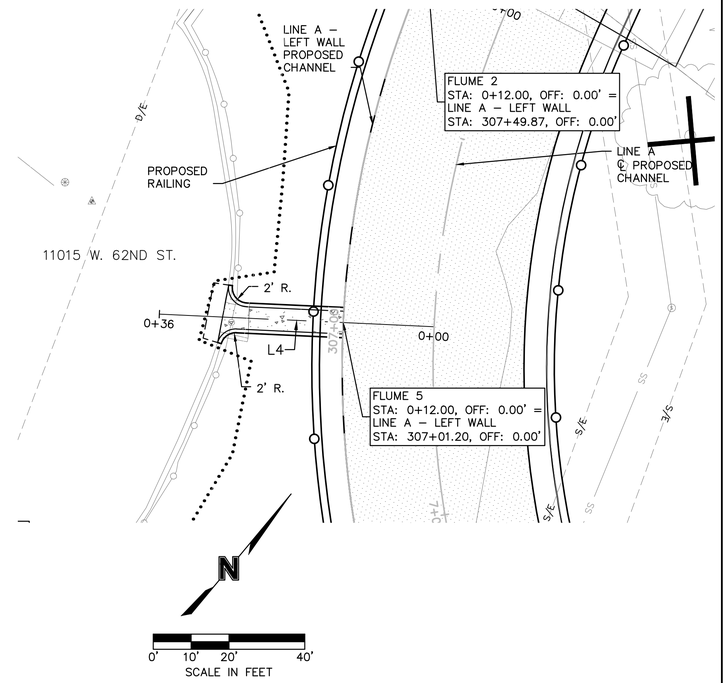
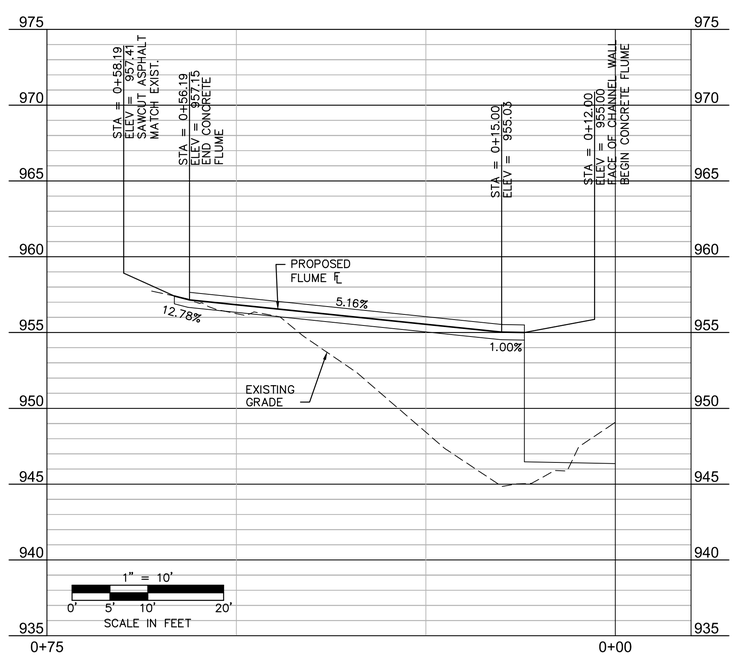
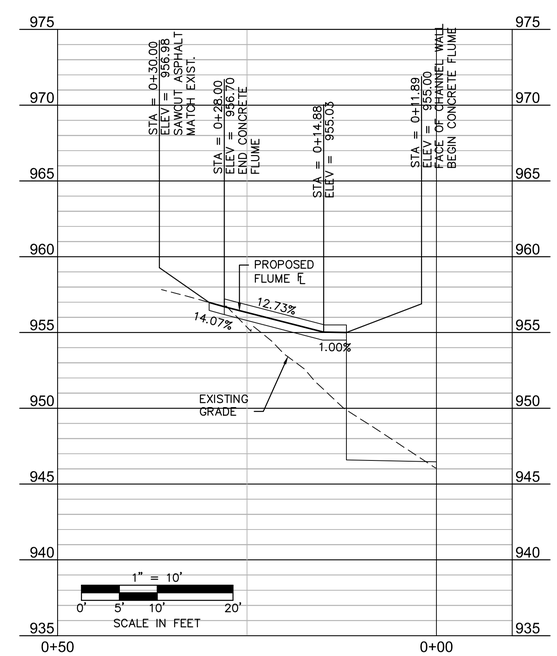




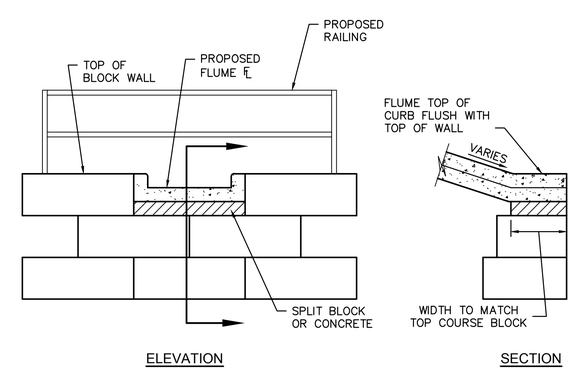
FLUME 1						
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L1		0+00.00 0+12.00	265528.4305 265518.5602	2246261.6191 2246254.7944	12.00'	S34°39'40"W
L2		0+12.00 0+56.19	265518.5602 265486.3194	2246254.7944 2246224.5703	44.19'	S43°09'03"W
L3		0+56.19 0+61.19	265486.3194 265485.3823	2246224.5703 2246219.6589	5.00'	S79°11'52"W

FLUME 5						
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L4		0+00.00 0+36.29	265554.3063 265532.2815	2246234.4922 2246205.6491	36.29'	S52°38'04"W





NOTES:
1. HANDRAIL POSTS NOT TO BE PLACED WITHIN LIMITS OF FLUME.
2. SEE CITY OF SHAWNEE STANDARD DETAIL FOR CONCRETE FLUME SECTION.



FLUME CONNECTION DETAIL
NOT TO SCALE

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REVISIONS

CONCRETE FLUME PLAN & PROFILES

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	05/12/16

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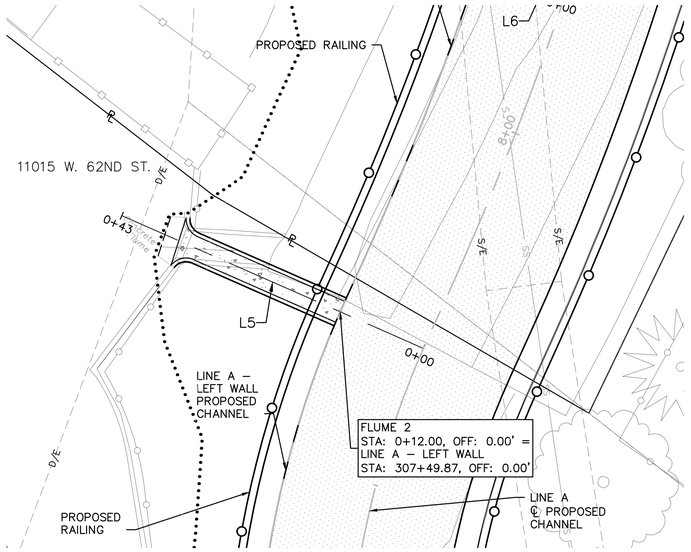
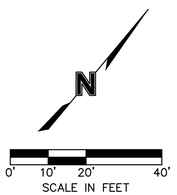
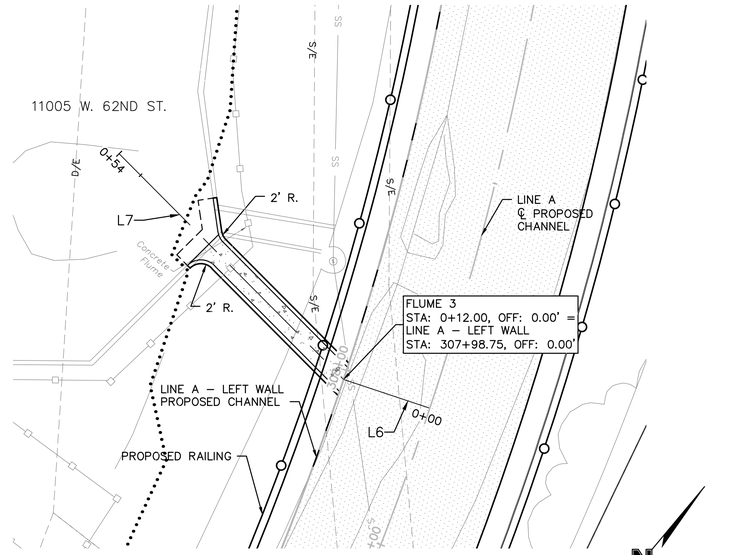
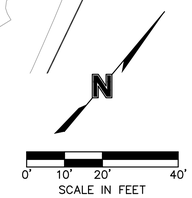


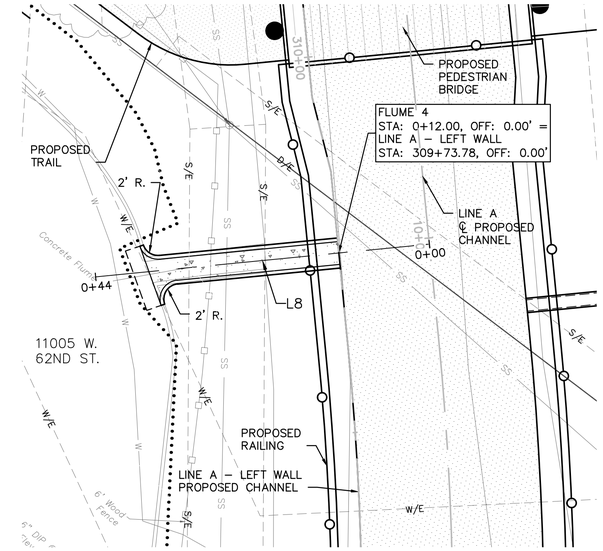


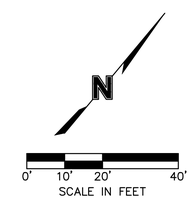
FLUME 2						
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L5		0+00.00 0+43.49	265593.5751 265581.4128	2246214.6538 2246172.8995	43.49'	S73°45'37"W



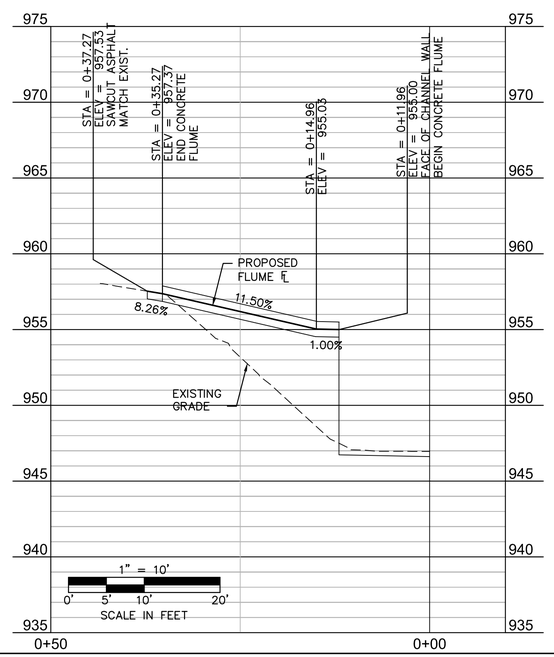


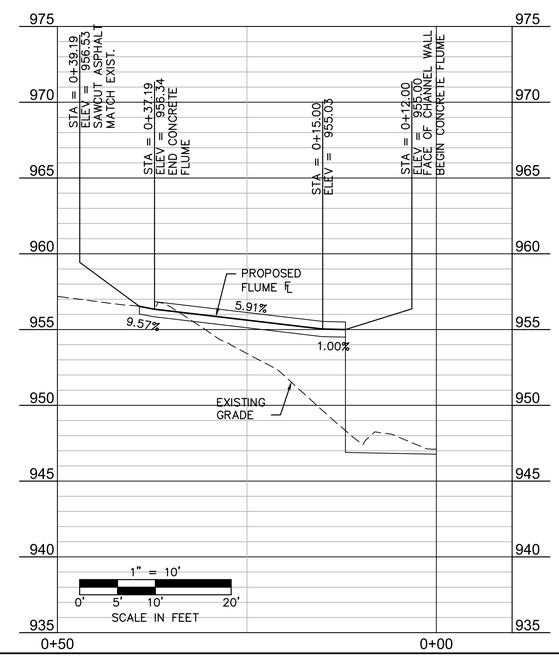
FLUME 3						
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L6		0+00.00 0+12.00	265641.0718 265636.6532	2246199.1108 2246187.9539	12.00'	S68°23'38"W
L7		0+12.00 0+54.00	265636.6532 265640.4251	2246187.9539 2246146.1237	42.00'	N84°50'51"W

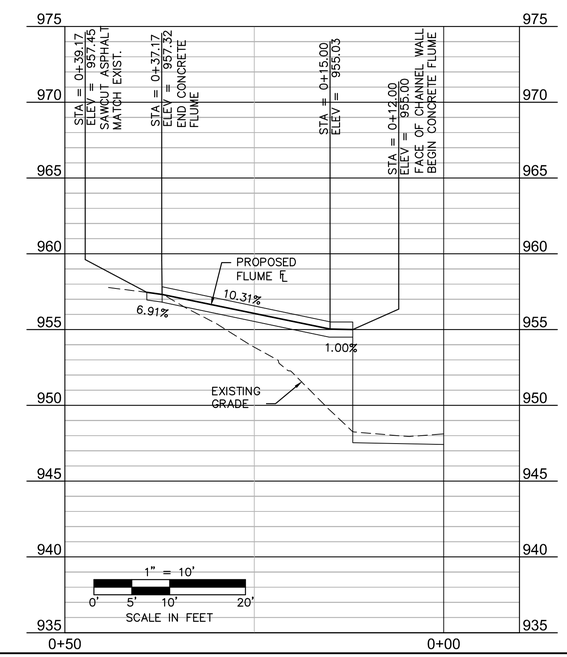




FLUME 4						
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING
L8		0+00.00 0+44.24	265788.3471 265756.7370	2246098.1203 2246067.1639	44.24'	S44°24'05"W







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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

CONCRETE FLUME PLAN & PROFILES

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

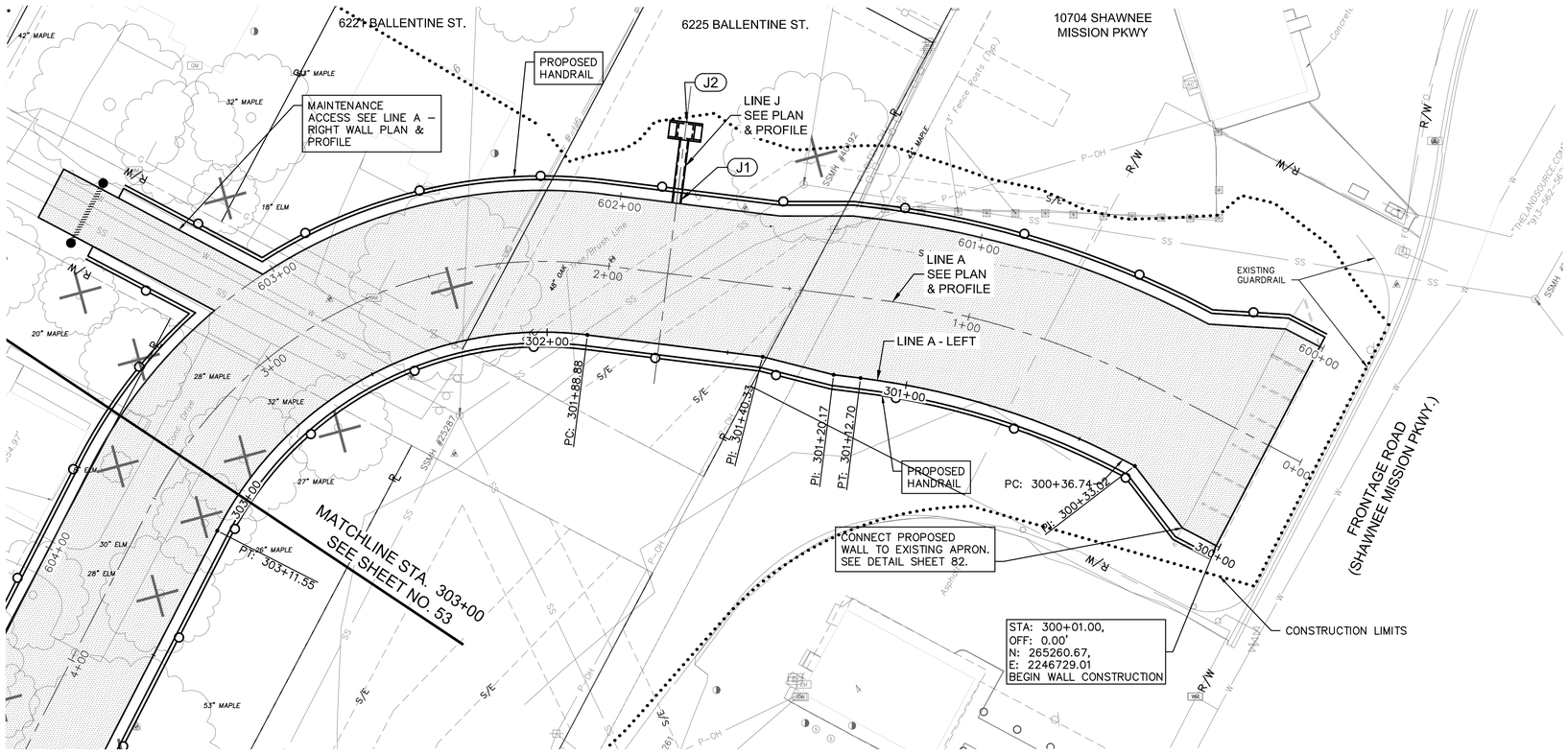
2016

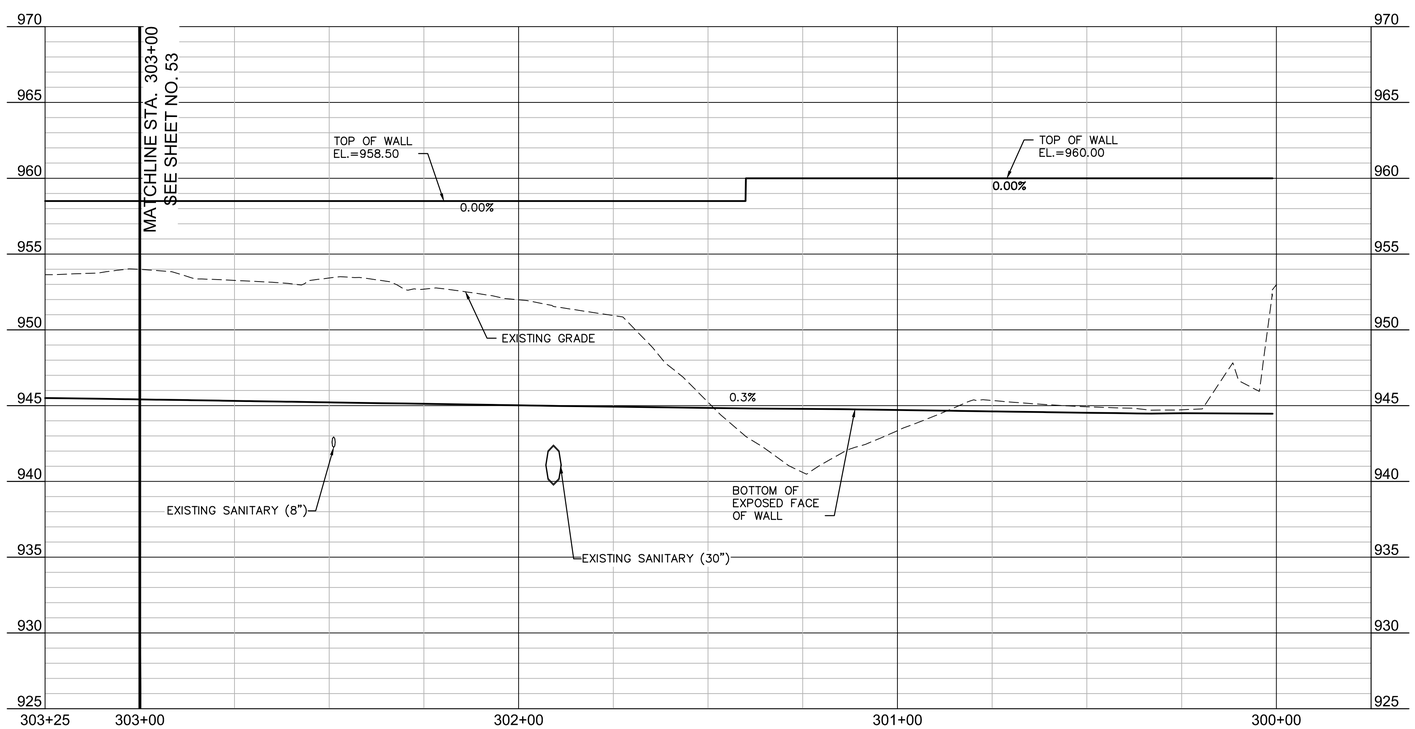
drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_FLUME_PP01_53269.dwg USER: kfulton
DATE: May 11, 2016 3:42pm XREFS: V_TOPO_153269 V_XBOU_153269 W_PBASE_53269 W_TBLK_53269 W_PESMT_53269

NOTES:
"LINE A – LEFT" BASELINE REPRESENTS THE INTERSECTION OF THE INSIDE OF THE WALL AND THE CONCRETE SLAB.

SEE SHEETS ## –## FOR WALL CONSTRUCTION NEAR EXISTING SANITARY MANHOLES.





N

0' 10' 20' 40'
SCALE IN FEET

10' 5' 2.5' 0'
0' 10' 20' 40'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

LINE A - LEFT WALL PLAN & PROFILE

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	05/12/16

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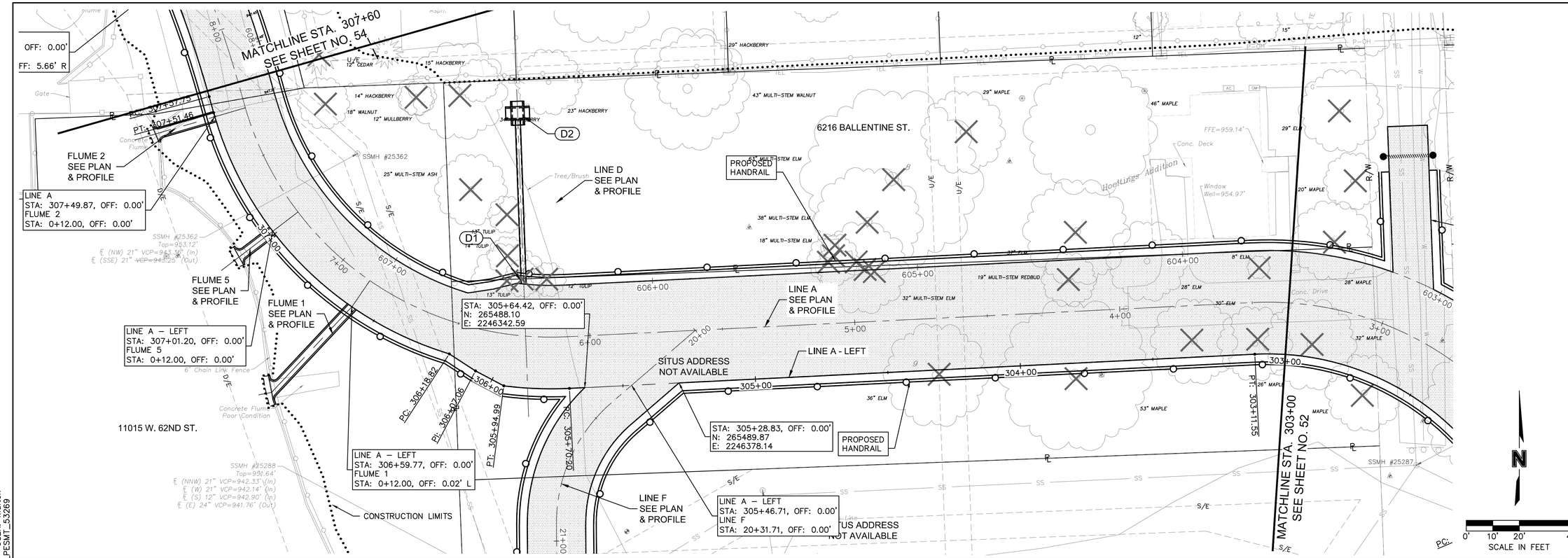

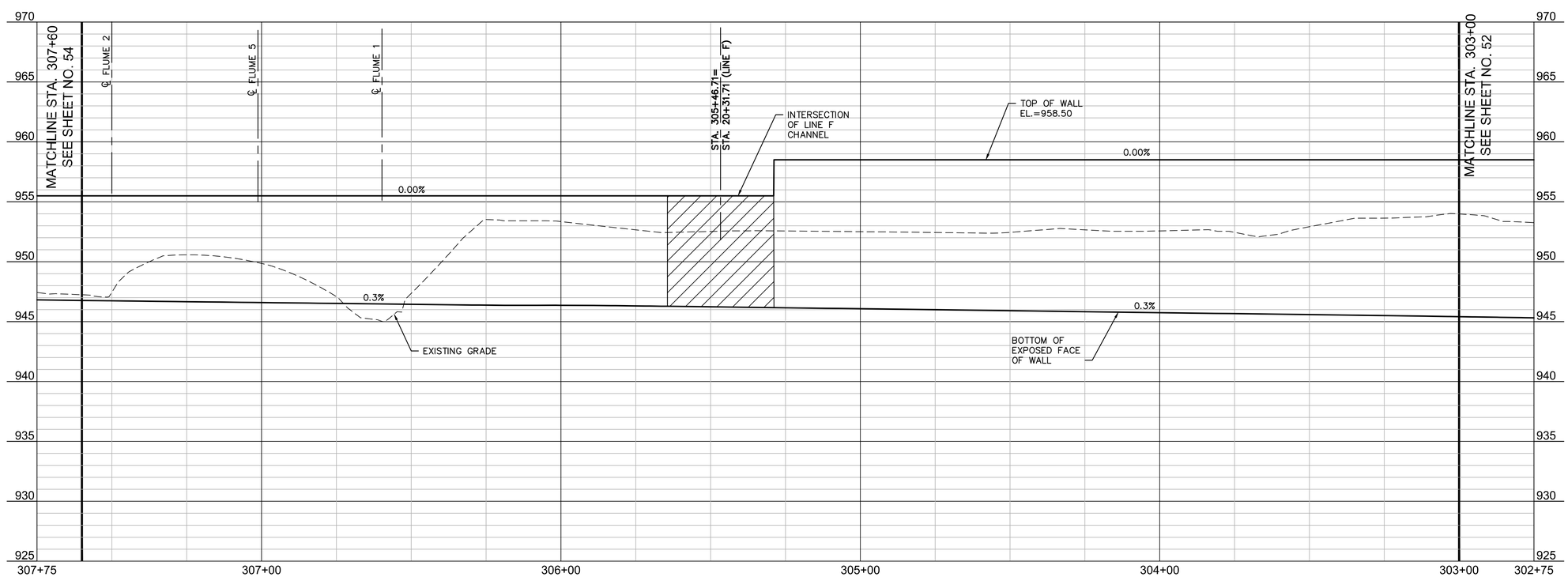

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LINE A - LEFT WALL PLAN & PROFILE

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STORMWATER IMPROVEMENTS

SHAWNEE, KS

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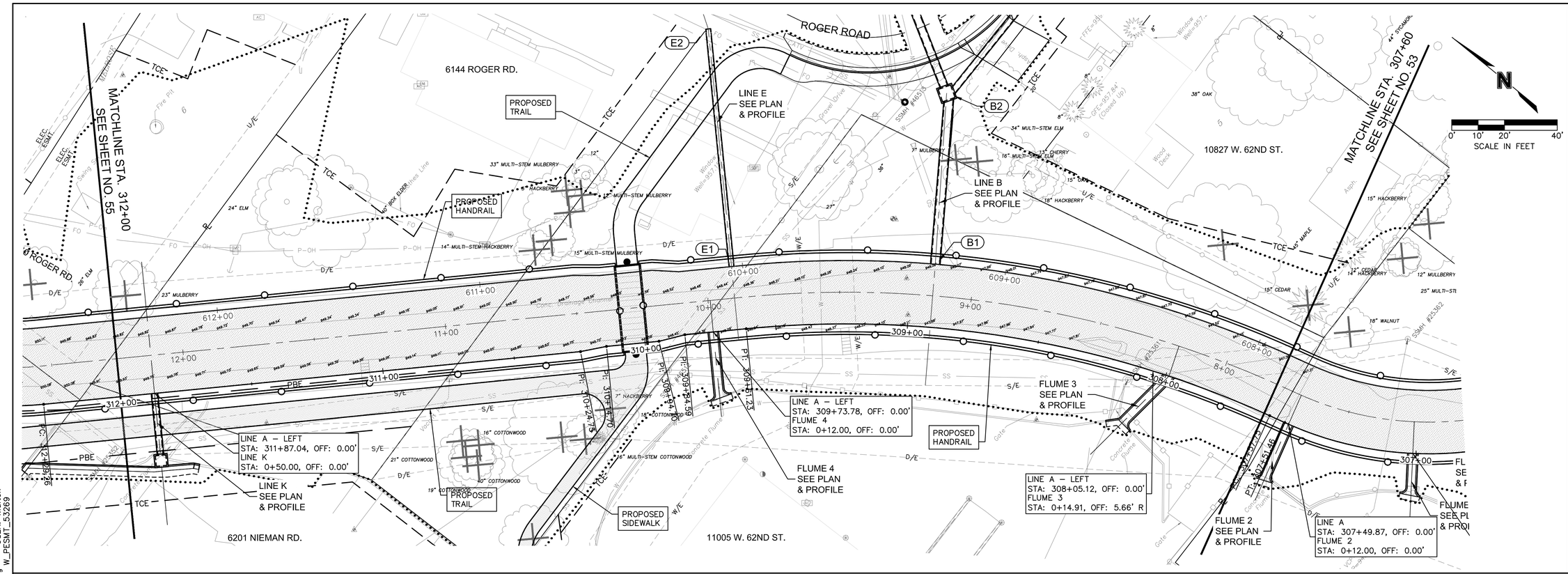

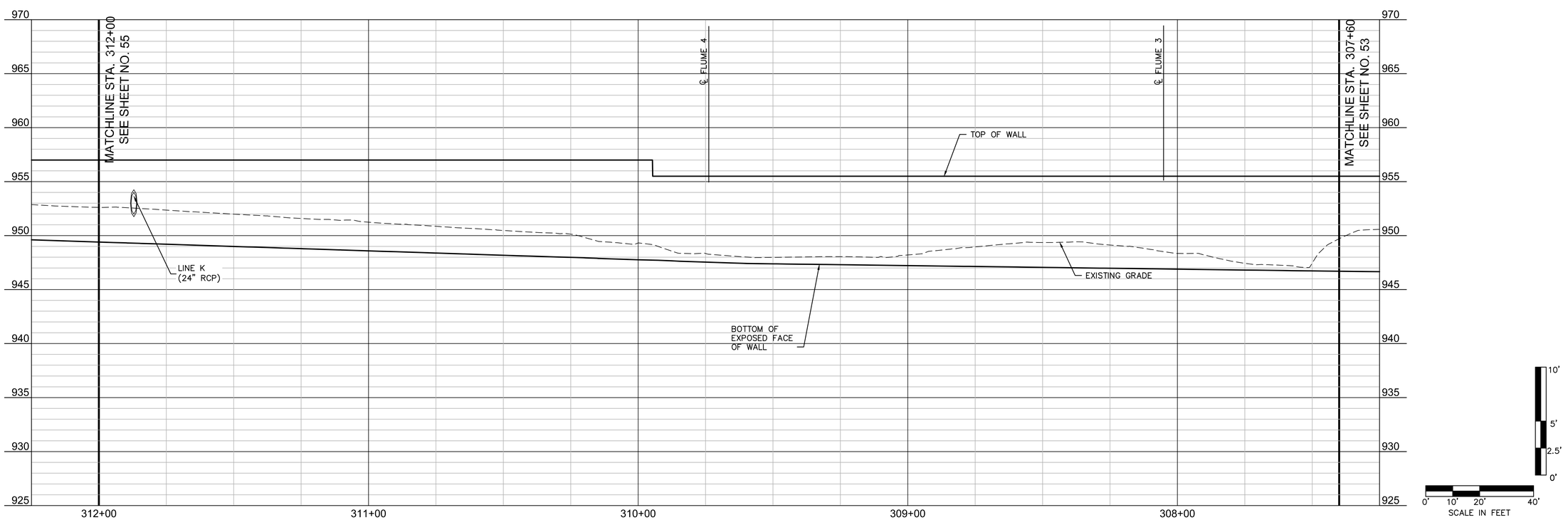

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LINE A - LEFT WALL PLAN & PROFILE

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SHAWNEE, KS

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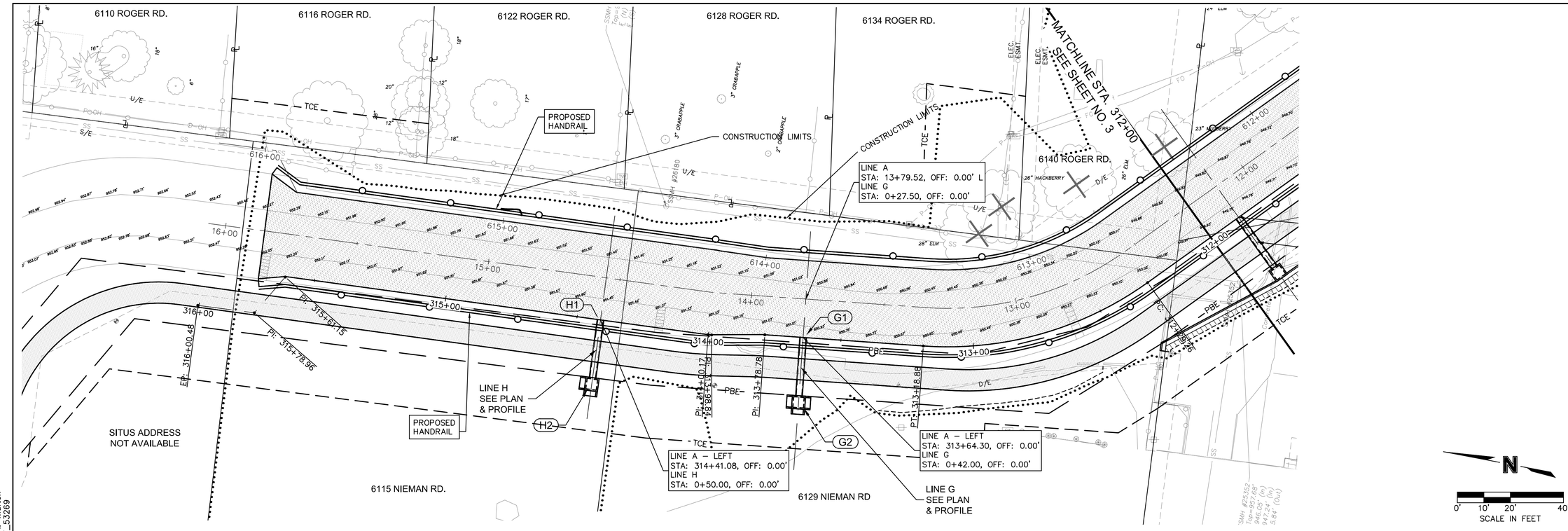

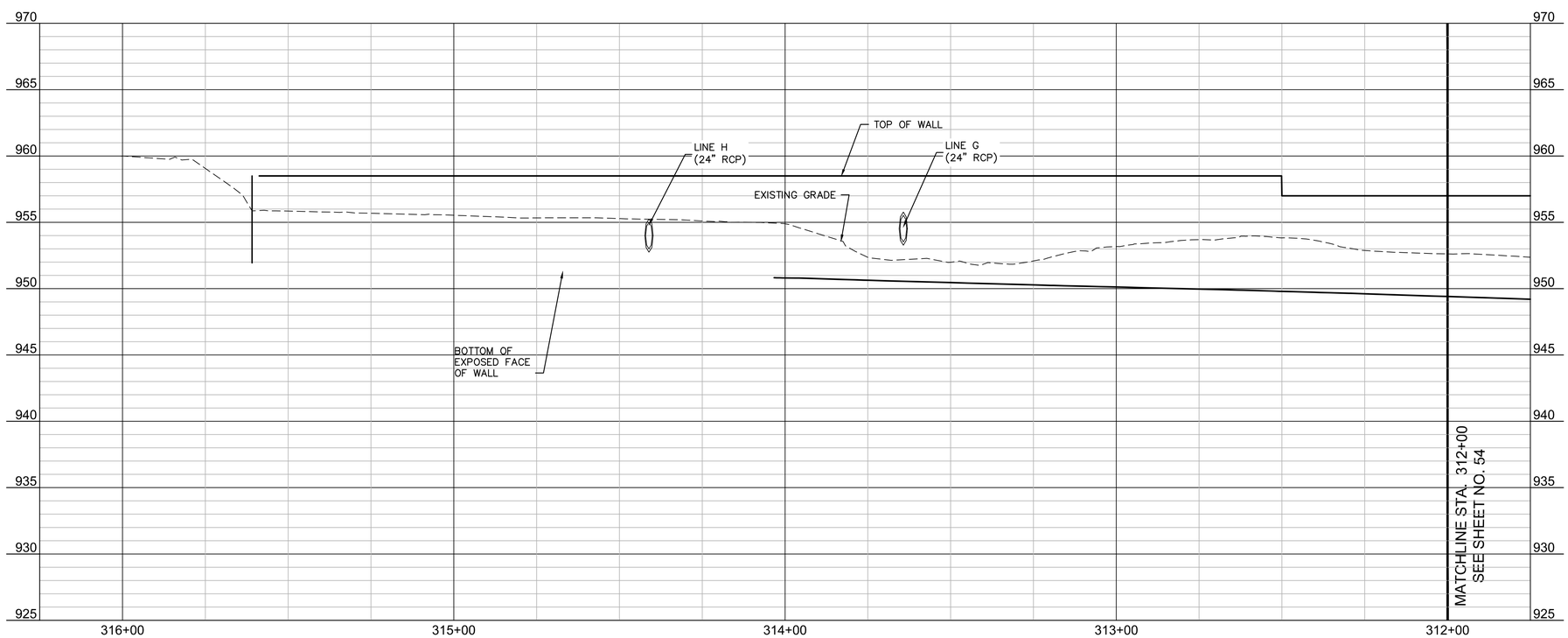

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LINE A - LEFT WALL PLAN & PROFILE

NIEMAN CORRIDOR SOUTH
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SHAWNEE, KS

2016

drawn by: KTF
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drawing no.:
date: 05/12/16

SHEET
55 of 84

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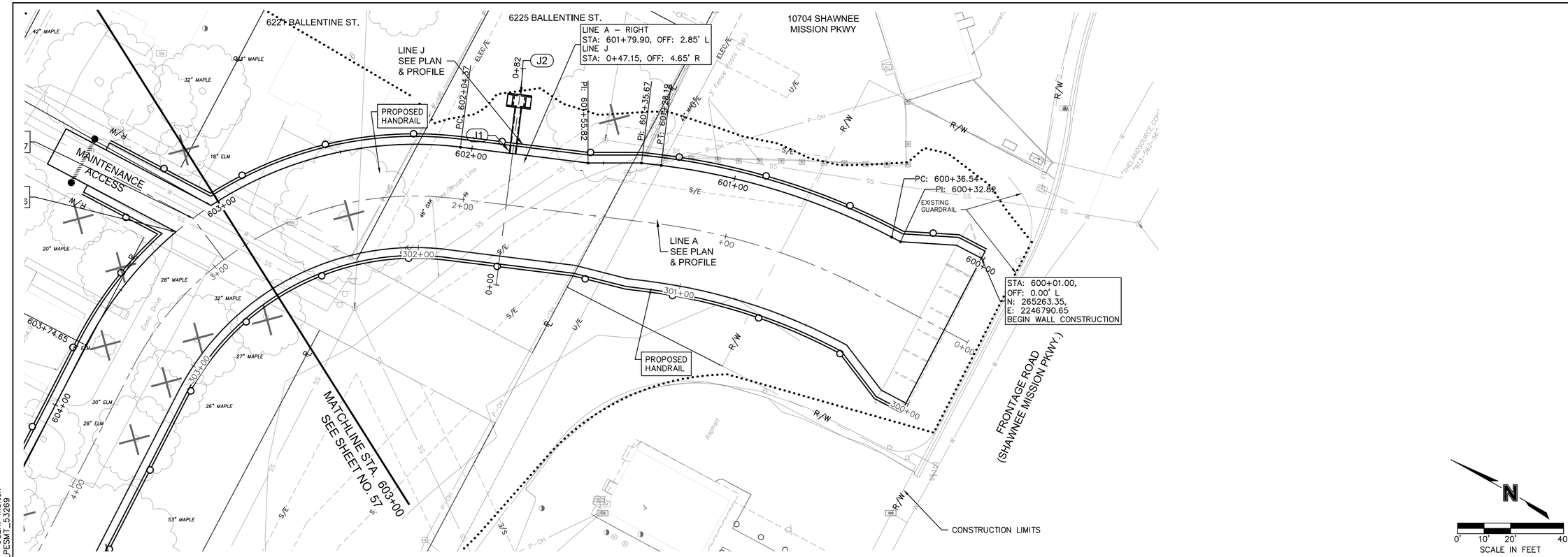

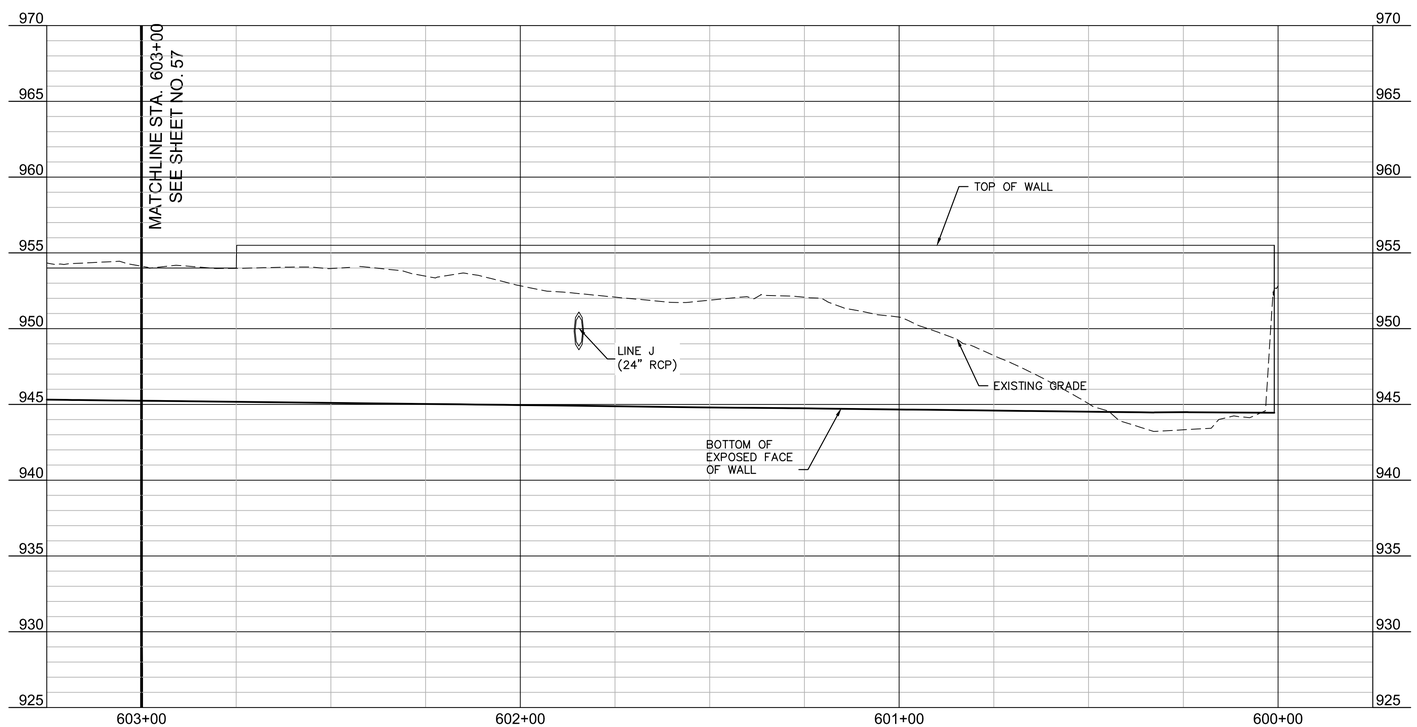

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LINE A - RIGHT WALL PLAN & PROFILE

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
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date: 05/12/16

SHEET 56 of 84

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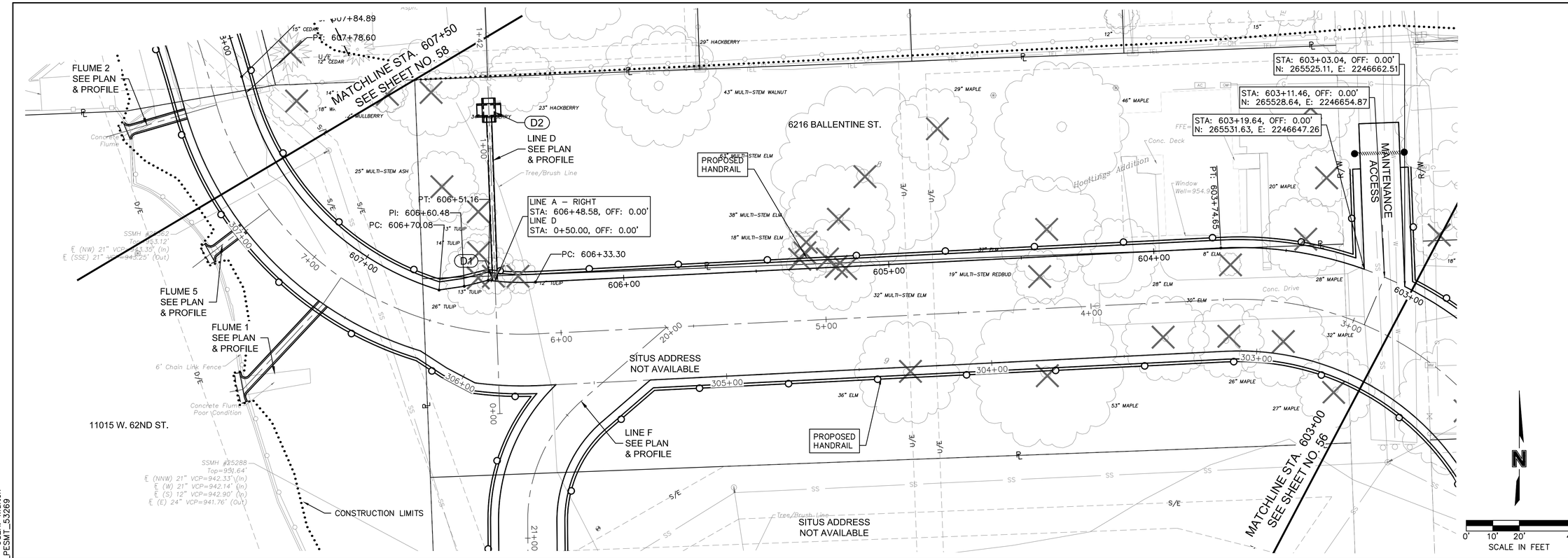

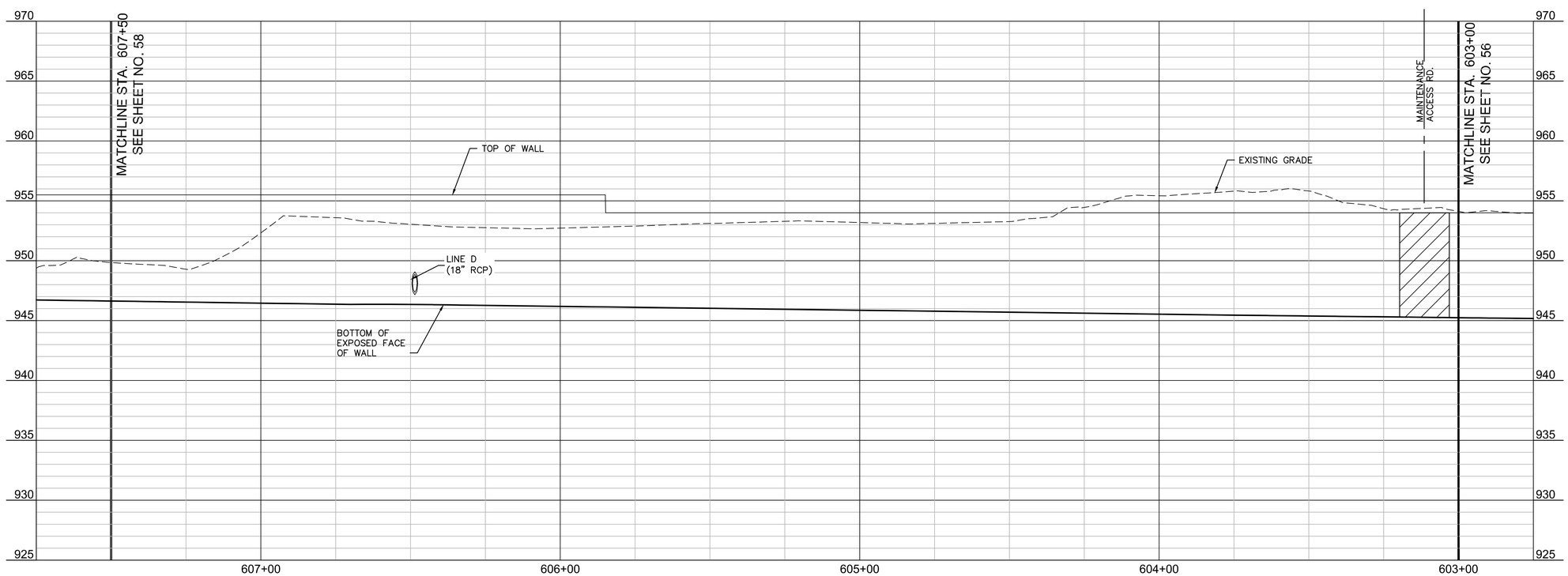

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NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

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SHEET
57 of 84

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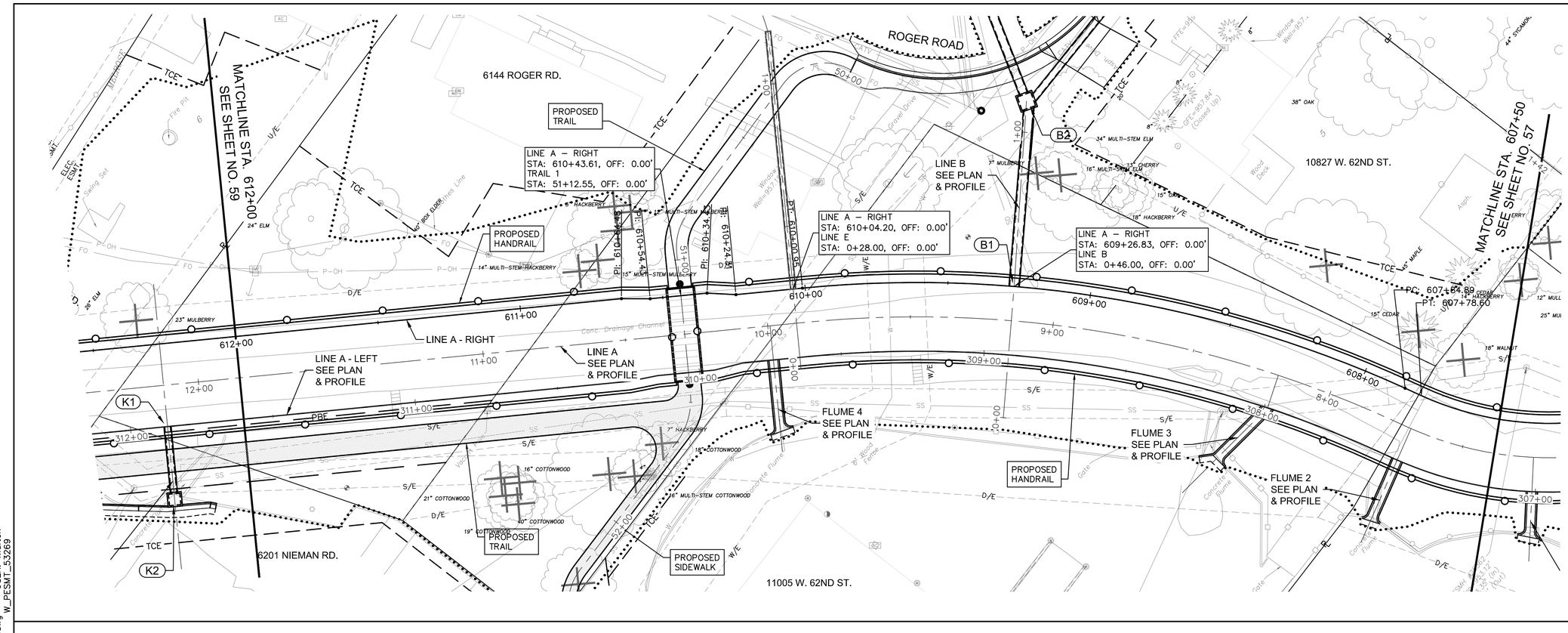

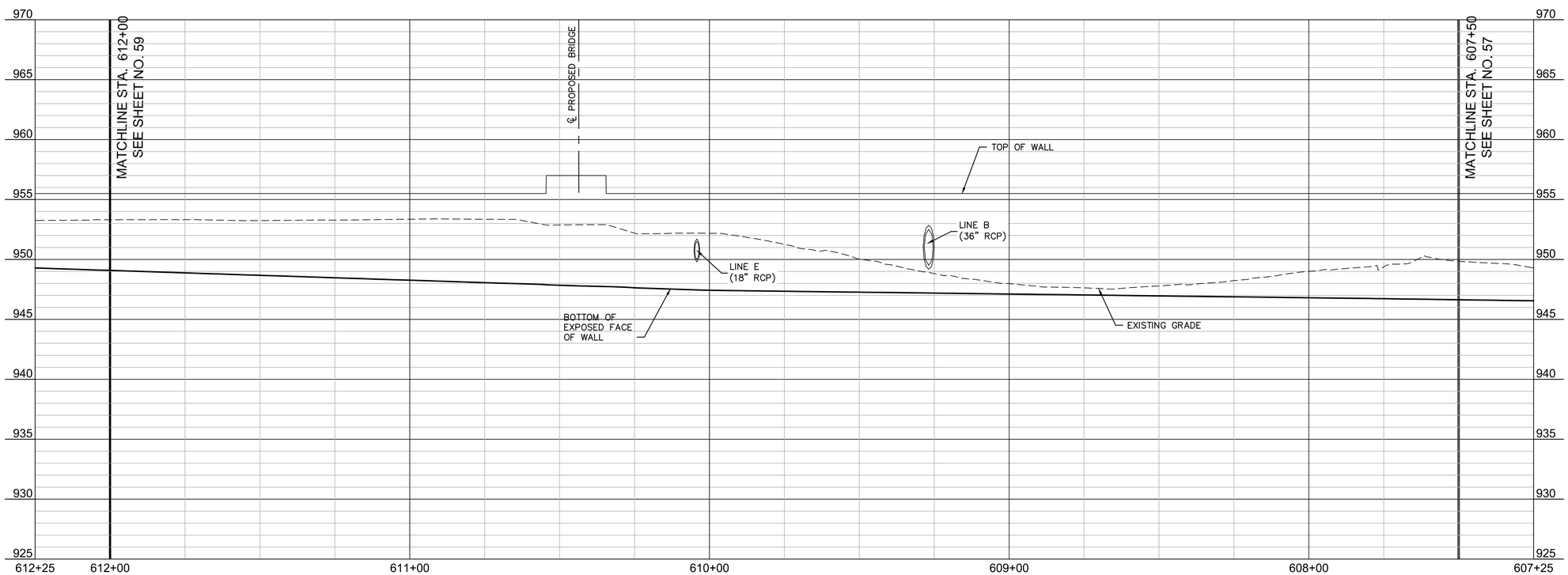

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

LINE A - RIGHT WALL PLAN & PROFILE

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_WALL_RT_PP01_53269.dwg USER: kfulton
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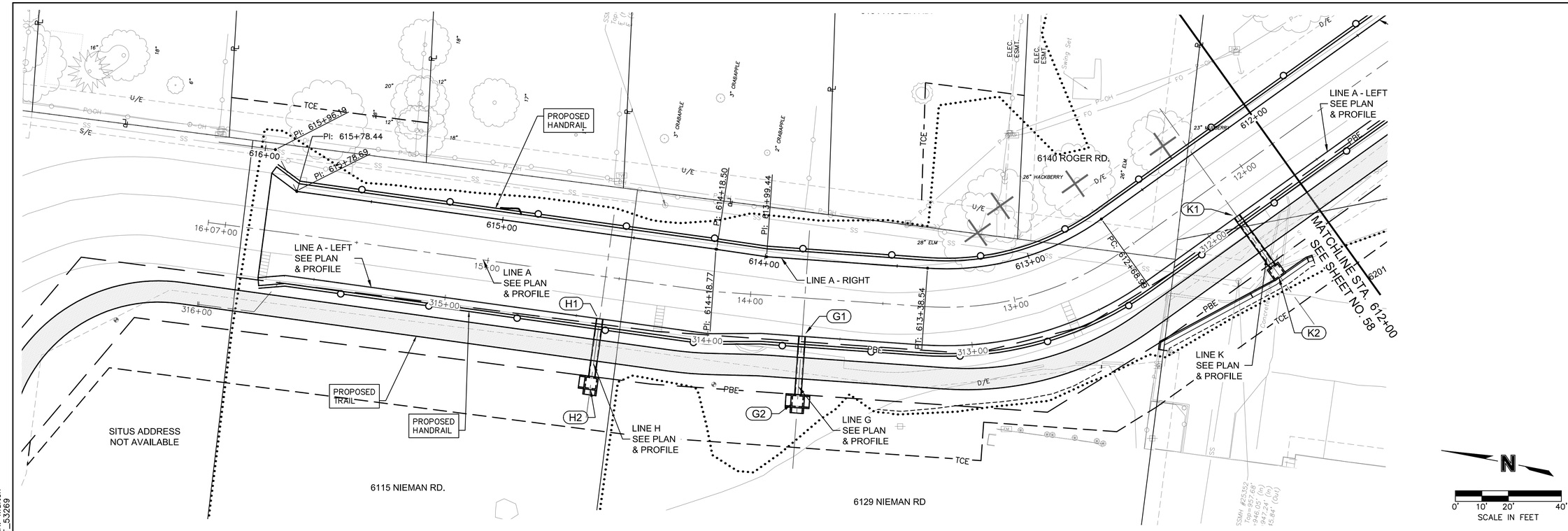

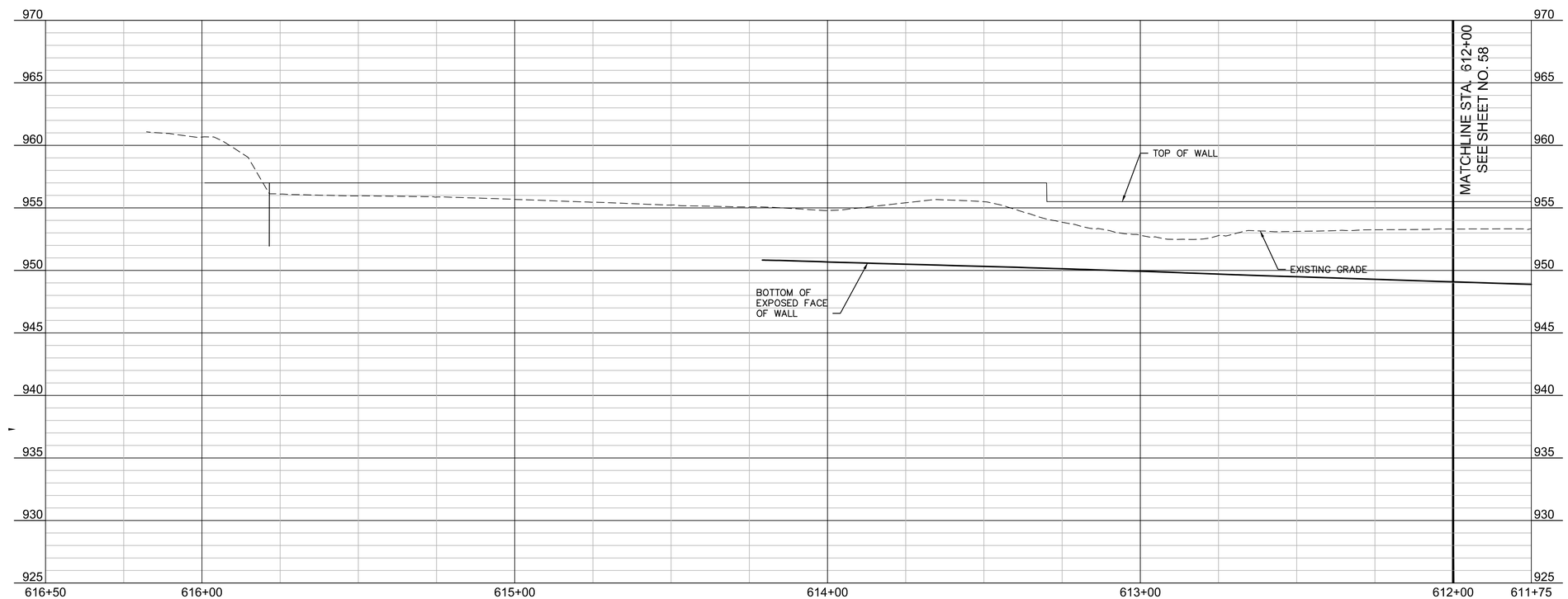

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LINE A - RIGHT WALL PLAN & PROFILE

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

SHEET
59 of 84

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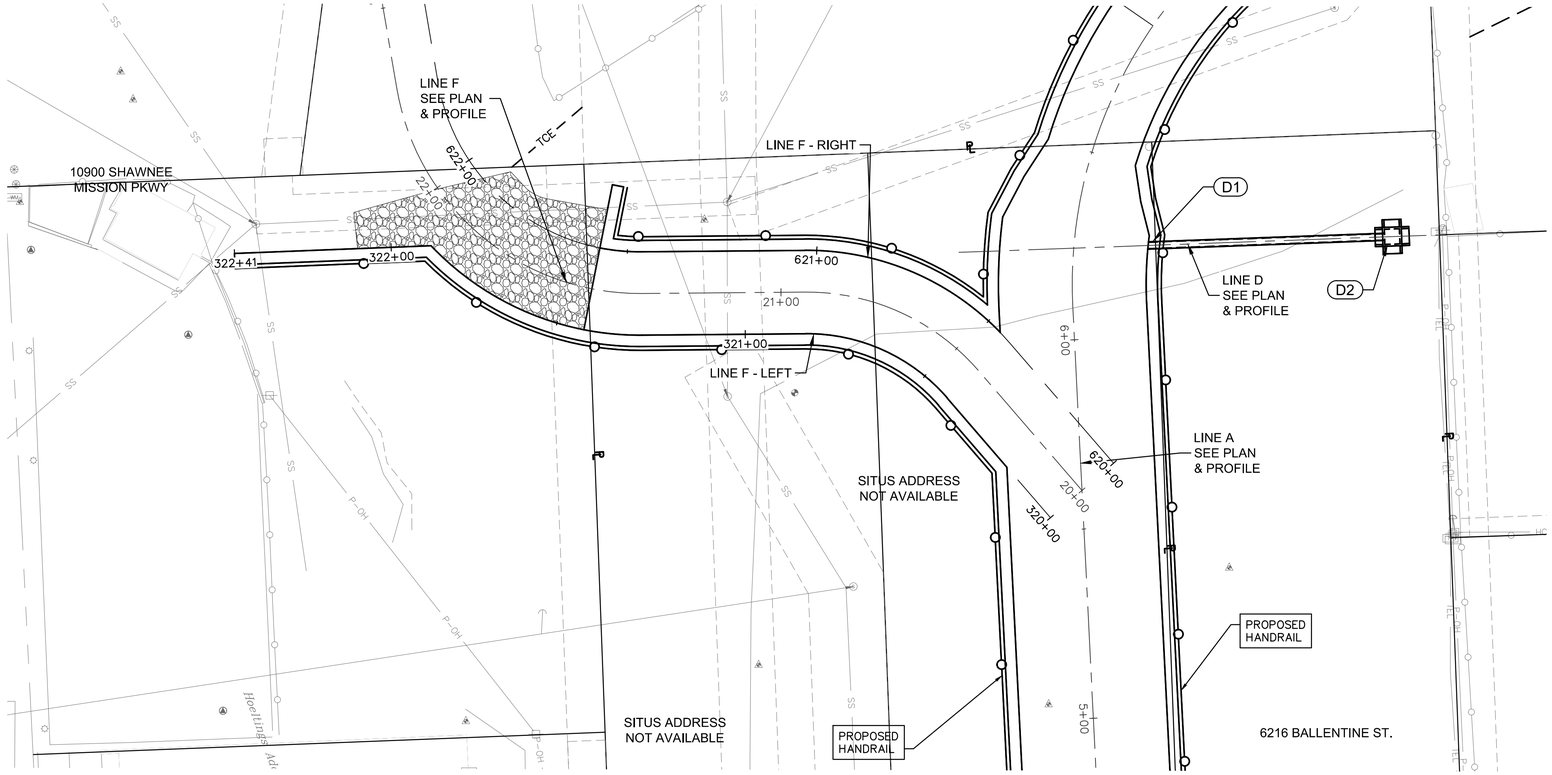

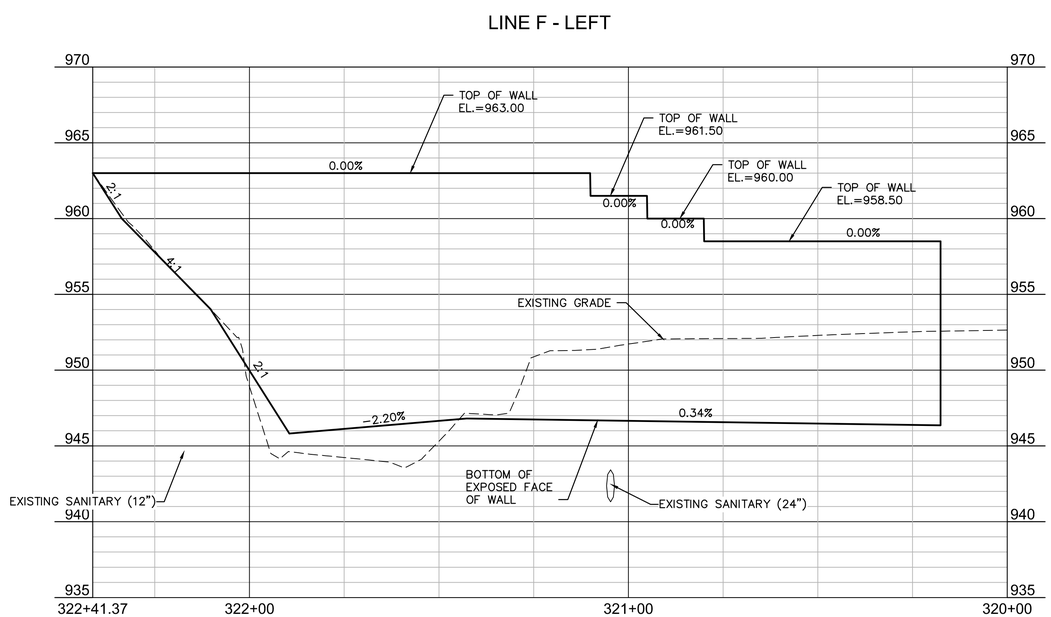

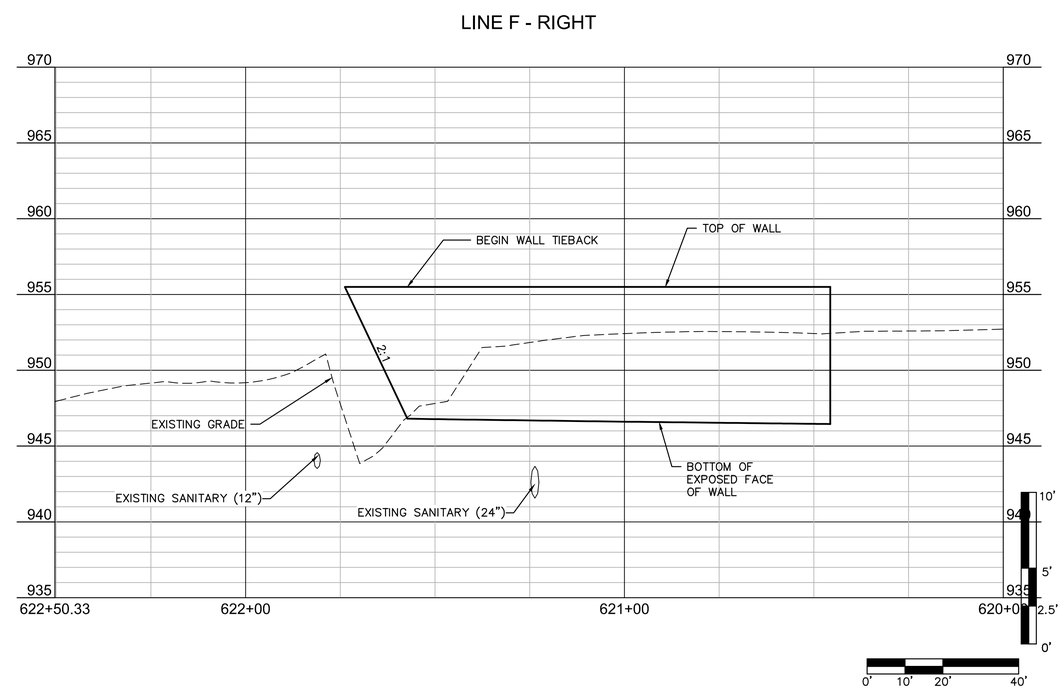

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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LINE F - LEFT & RIGHT WALL PLAN AND PROFILE

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_FWALL_PP01_53269.dwg
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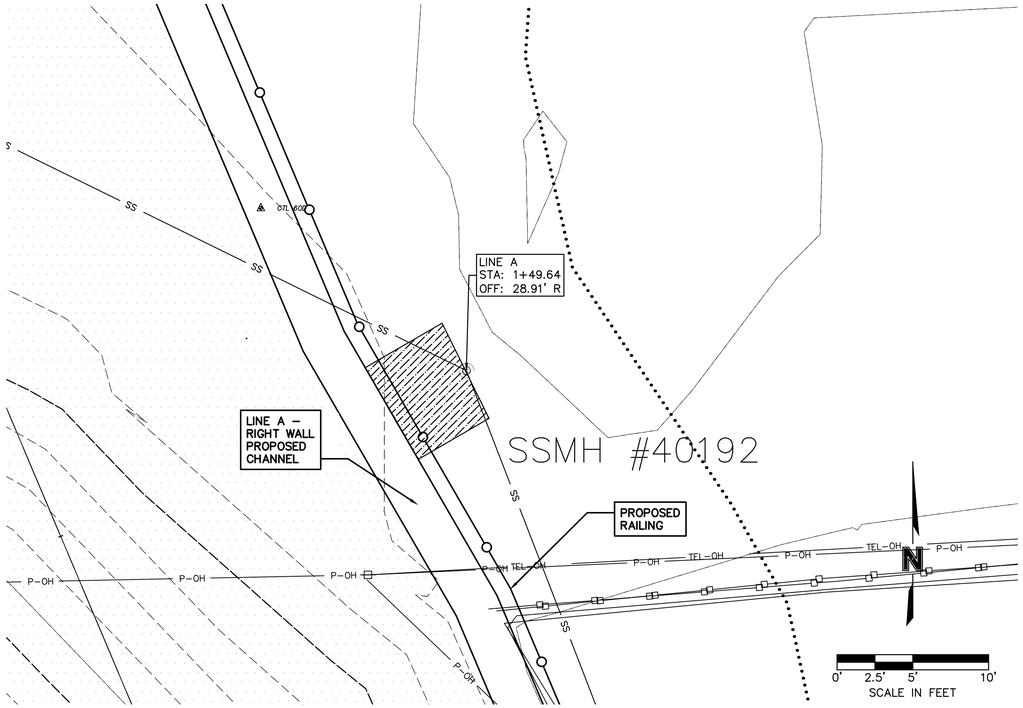

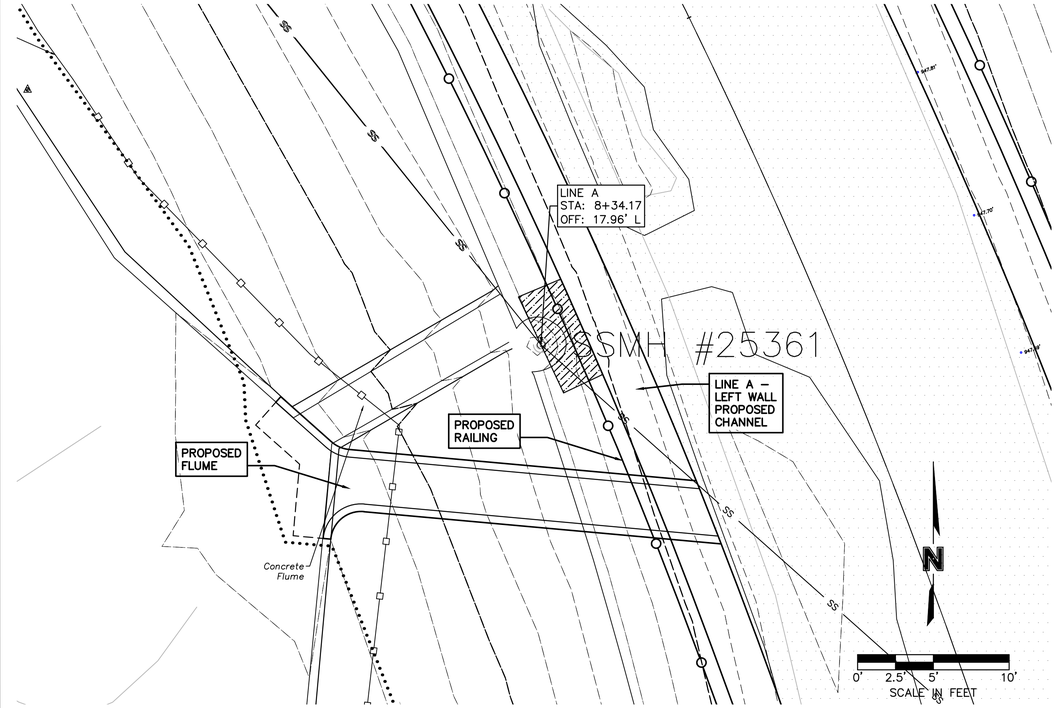

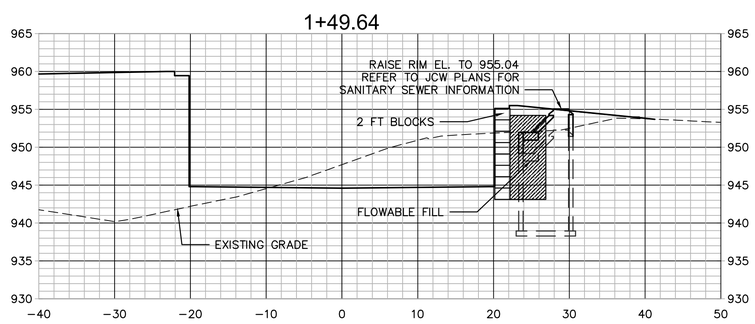

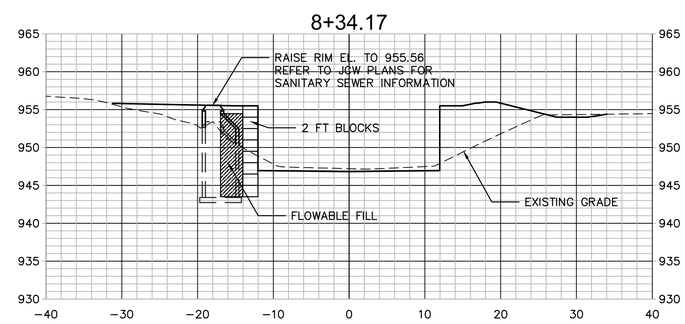

20' 10' 5' 0'

0' 5' 10' 20'
SCALE IN FEET

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WALL CONSTRUCTION NEAR EXISTING MANHOLES

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

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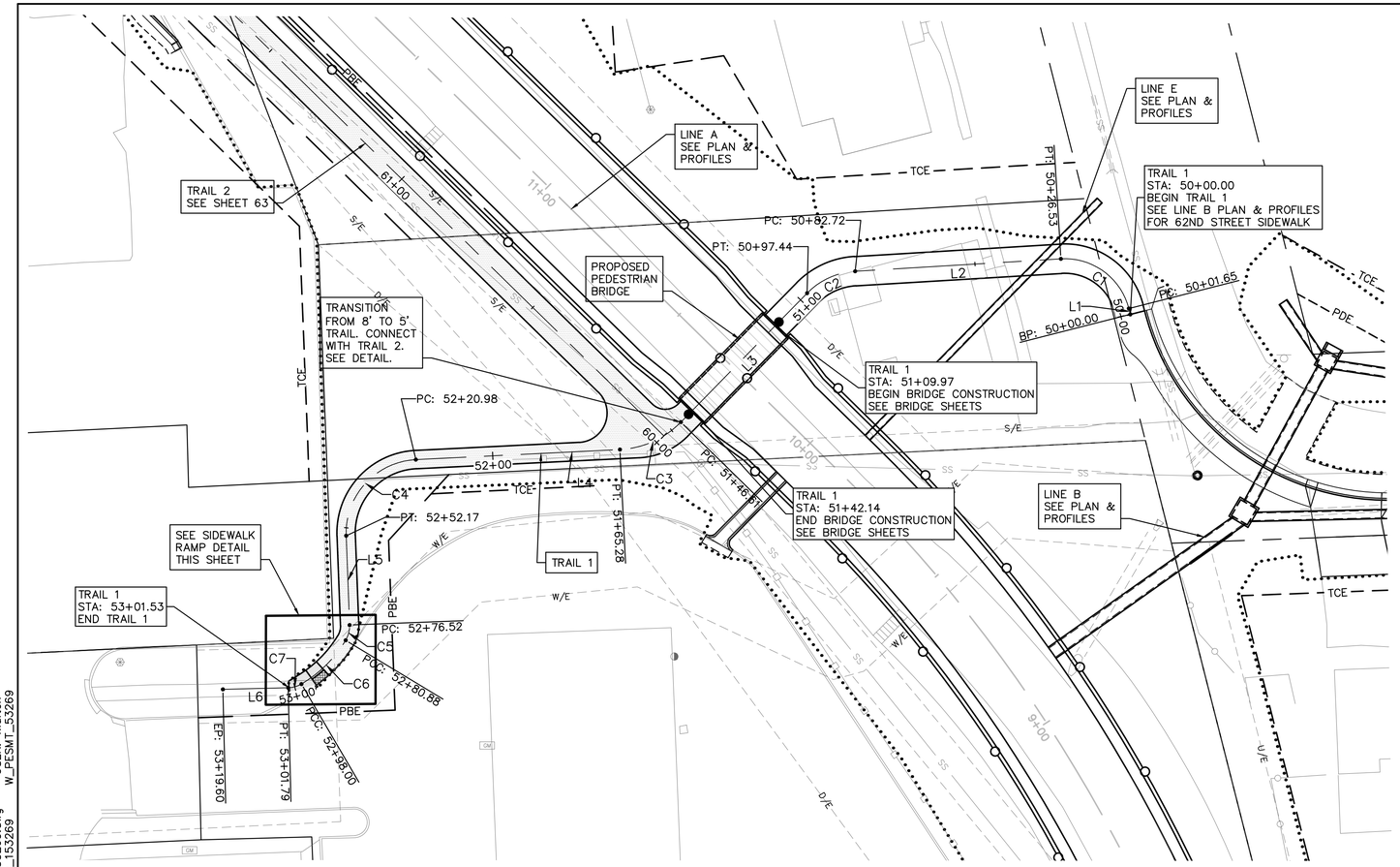
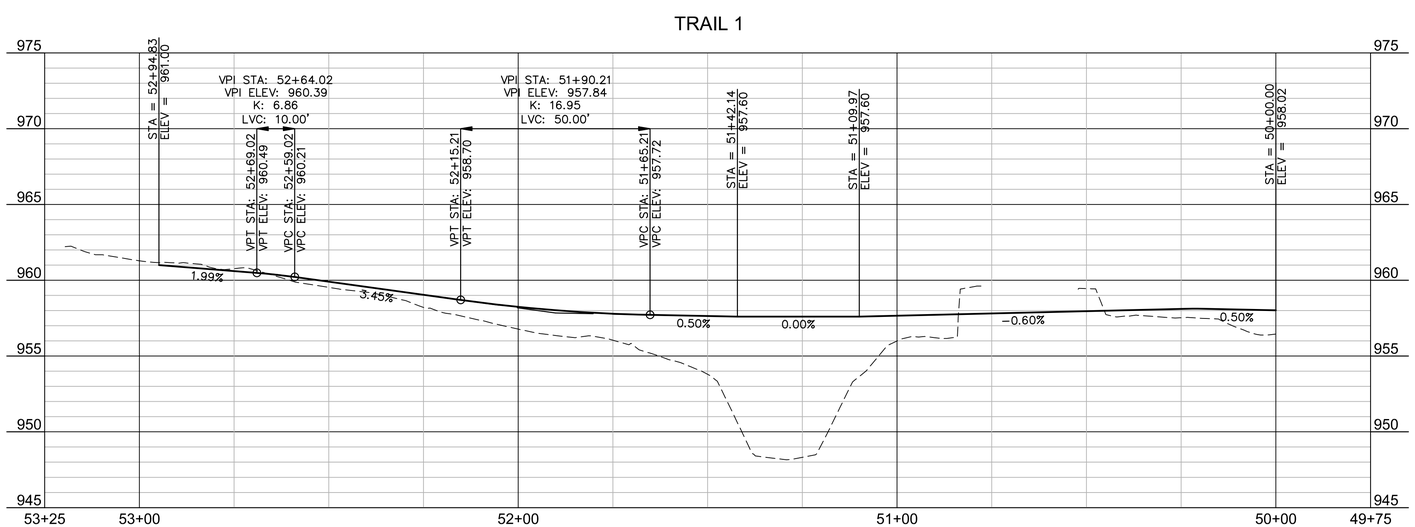
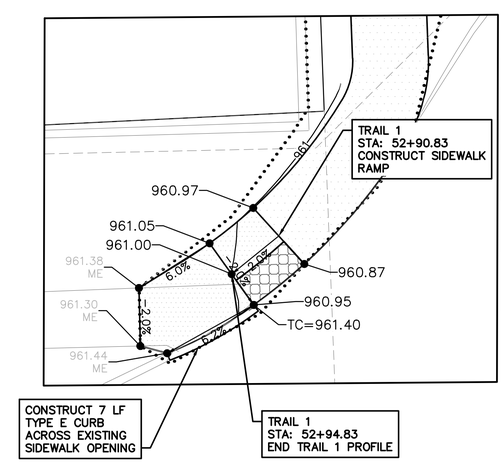


TRAIL 1

NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L1		50+00.00 50+01.65	265823.9971 265825.5967	2246184.8275 2246184.4207	1.65'	N14°16'00"W			
C1	PC= PI= PT=	50+01.65 50+16.54 50+26.53	265825.5967 265840.0237 265839.1283	2246184.4207 2246180.7523 2246165.8932	24.88'	N53°51'27"W	79°10'54"	14.89'	18.00'
L2		50+26.53 50+82.72	265839.1283 265835.7482	2246165.8932 2246109.7969	56.20'	S86°33'06"W			
C2	PC= PI= PT=	50+82.72 50+90.43 50+97.44	265835.7482 265835.2846 265829.7780	2246109.7969 2246102.1034 2246096.7107	14.71'	S65°28'36"W	42°09'01"	7.71'	20.00'
L3		50+97.44 51+46.61	265829.7780 265794.6441	2246096.7107 2246062.3034	49.18'	S44°24'05"W			
C3	PC= PI= PT=	51+46.61 51+56.40 51+65.28	265794.6441 265787.6490 265787.1664	2246062.3034 2246055.4529 2246045.6740	18.66'	S65°47'18"W	42°46'26"	9.79'	25.00'
L4		51+65.28 52+20.98	265787.1664 265784.4214	2246045.6740 2245990.0419	55.70'	S87°10'31"W			
C4	PC= PI= PT=	52+20.98 52+40.76 52+52.17	265784.4214 265783.4465 265763.6778	2245990.0419 2245970.2827 2245971.0423	31.20'	S42°29'15"W	89°22'32"	19.78'	20.00'
L5		52+52.17 52+76.52	265763.6778 265739.3509	2245971.0423 2245971.9770	24.34'	S2°12'01"E			
C5	PC= PI= PT=	52+76.52 52+78.76 52+80.88	265739.3509 265737.1110 265735.1912	2245971.9770 2245972.0631 2245970.9059	4.36'	S14°26'23"W	33°16'49"	2.24'	7.50'
C6	PC= PI= PT=	52+80.88 52+89.62 52+98.00	265735.1912 265727.7043 265723.2852	2245970.9059 2245966.3931 2245958.8504	17.12'	S45°21'27"W	28°33'19"	8.74'	34.35'
C7	PC= PI= PT=	52+98.00 52+99.93 53+01.79	265723.2852 265722.3058 265722.2586	2245958.8504 2245957.1787 2245955.2417	3.79'	S74°07'11"W	28°58'09"	1.94'	7.50'
L6		53+01.79 53+19.60	265722.2586 265721.8247	2245955.2417 2245937.4319	17.82'	S88°36'16"W			





SIDEWALK RAMP DETAIL

N

0' 10' 20' 40'
SCALE IN FEET

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAIL 1 PLAN & PROFILE

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_TRAIL_PP01_53269.dwg
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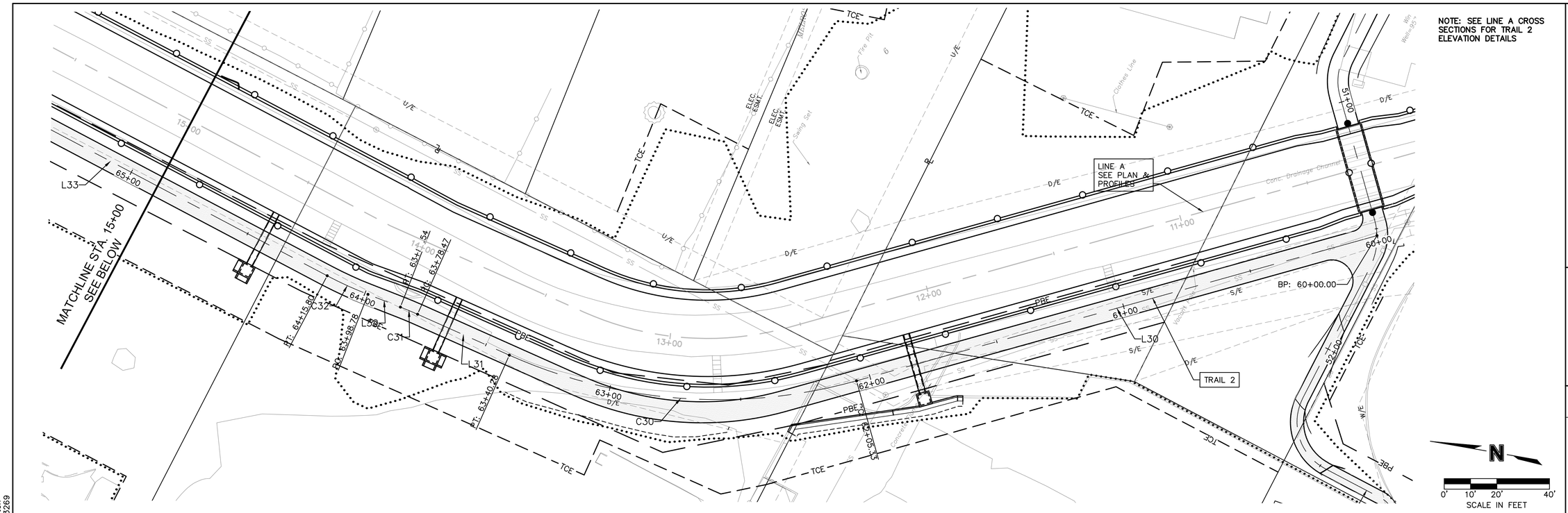

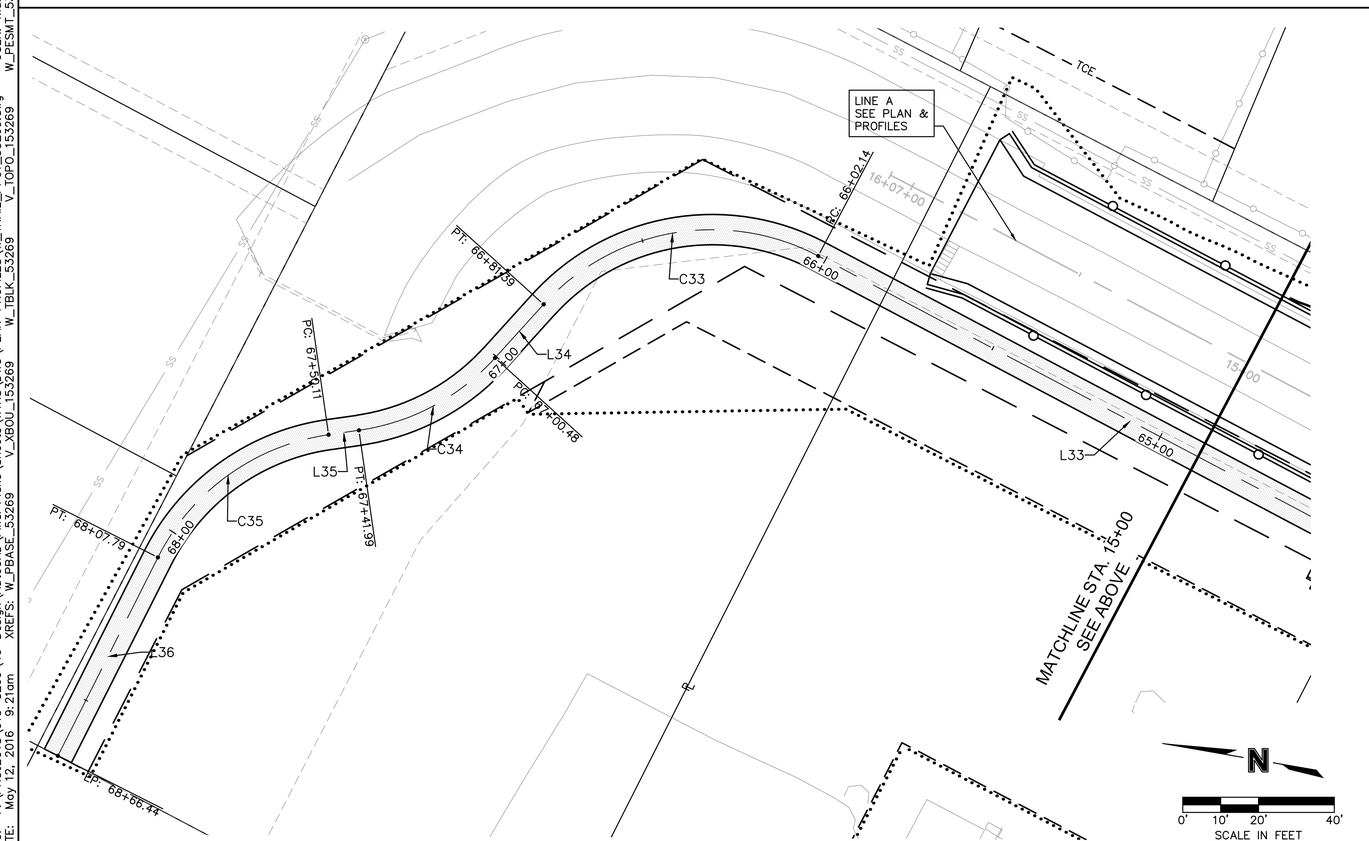

TRAIL 2									
NO.		STATION	NORTHING	EASTING	LENGTH	LINE/CHORD BEARING	DELTA	TANGENT	RADIUS
L30		60+00.00 62+05.33	265790.8973 265934.5617	2246057.6418 2245910.9435	205.33'	N45°35'55"W			
C30	PC= PI= PT=	62+05.33 62+75.63 63+40.28	265934.5617 265983.7513 266053.6759	2245910.9435 2245860.7151 2245853.4307	134.95'	N25°46'23"W	39°39'05"	70.30'	195.00'
L31		63+40.28 63+78.47	266053.6759 266091.6614	2245853.4307 2245849.4736	38.19'	N5°56'50"W			
C31	PC= PI= PT=	63+78.47 63+82.00 63+85.54	266091.6614 266095.1770 266098.6715	2245849.4736 2245849.1074 2245848.5759	7.07'	N7°17'50"W	2°41'59"	3.53'	150.00'
L32		63+85.54 63+98.78	266098.6715 266111.7608	2245848.5759 2245846.5854	13.24'	N8°38'50"W			
C32	PC= PI= PT=	63+98.78 64+07.30 64+15.80	266111.7608 266120.1847 266128.6995	2245846.5854 2245845.3043 2245844.9854	17.02'	N5°23'45"W	6°30'09"	8.52'	150.00'
L33		64+15.80 66+02.14	266128.6995 266314.9134	2245844.9854 2245838.0119	186.34'	N2°08'41"W			
C33	PC= PI= PT=	66+02.14 66+48.75 66+81.39	266314.9134 266361.4828 266371.3169	2245838.0119 2245836.2679 2245790.7154	79.24'	N39°58'52"W	75°40'23"	46.60'	60.00'
L34		66+81.39 67+00.48	266371.3169 266375.3459	2245790.7154 2245772.0527	19.09'	N77°49'03"W			
C34	PC= PI= PT=	67+00.48 67+22.11 67+41.99	266375.3459 266379.9091 266396.9068	2245772.0527 2245750.9160 2245737.5497	41.51'	N57°59'55"W	39°38'16"	21.62'	60.00'
L35		67+41.99 67+50.11	266396.9068 266403.2902	2245737.5497 2245732.5301	8.12'	N38°10'48"W			
C35	PC= PI= PT=	67+50.11 67+81.39 68+07.79	266403.2902 266427.8818 266426.1055	2245732.5301 2245713.1924 2245681.9588	57.67'	N65°43'03"W	55°04'31"	31.28'	60.00'
L36		68+07.79 68+66.44	266426.1055 266422.7751	2245681.9588 2245623.4006	58.65'	S86°44'42"W			

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAIL 2 PLAN

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\PLAN-PROFILES\W_TRAIL_PP01_53269.dwg USER: ktulton
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

EROSION CONTROL PLAN - NORTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

SHEET
64 of 84

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_ERO_53269.dwg USER: kfulton
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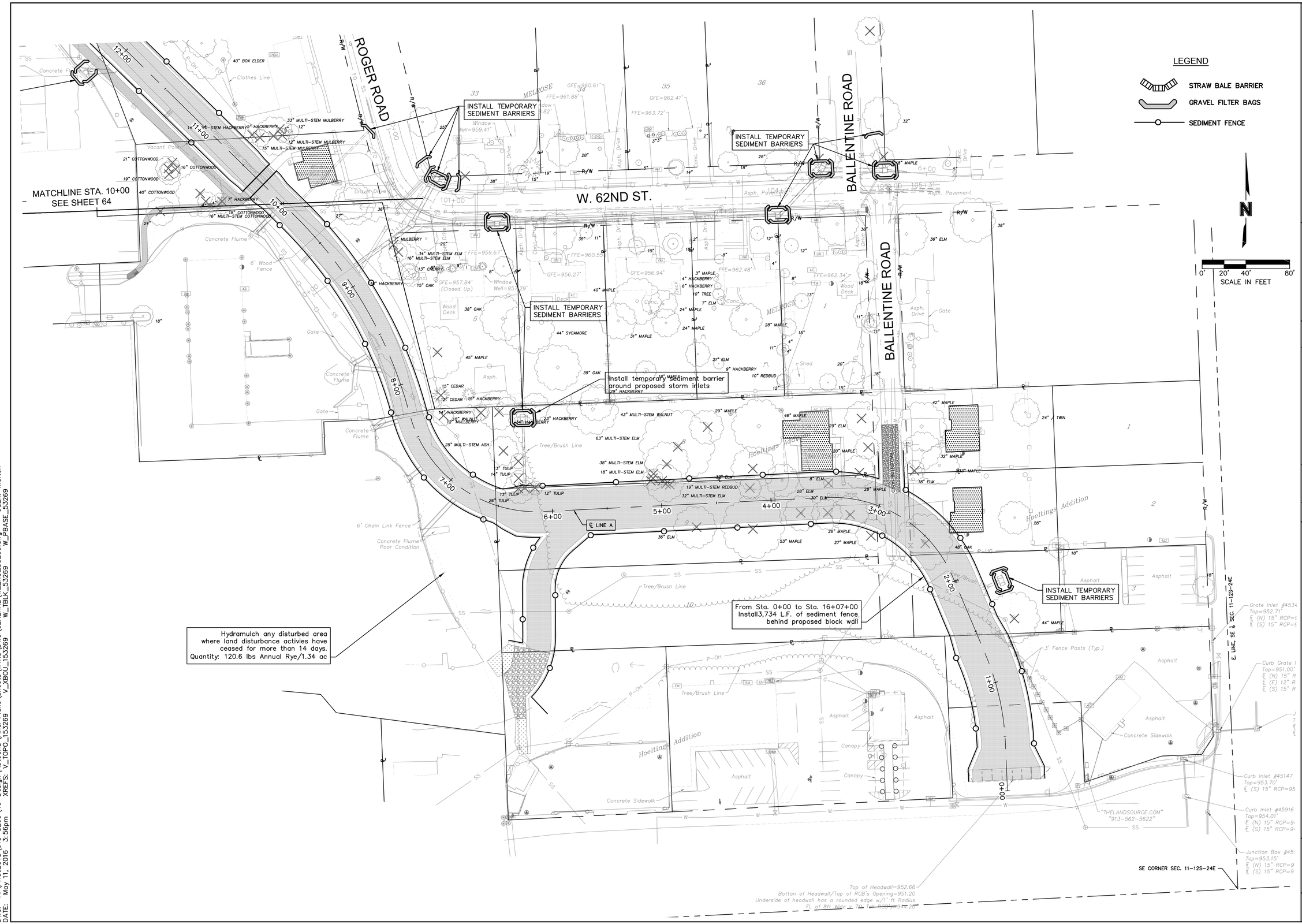

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

EROSION CONTROL PLAN - SOUTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	05/12/16

SHEET
65 of 84

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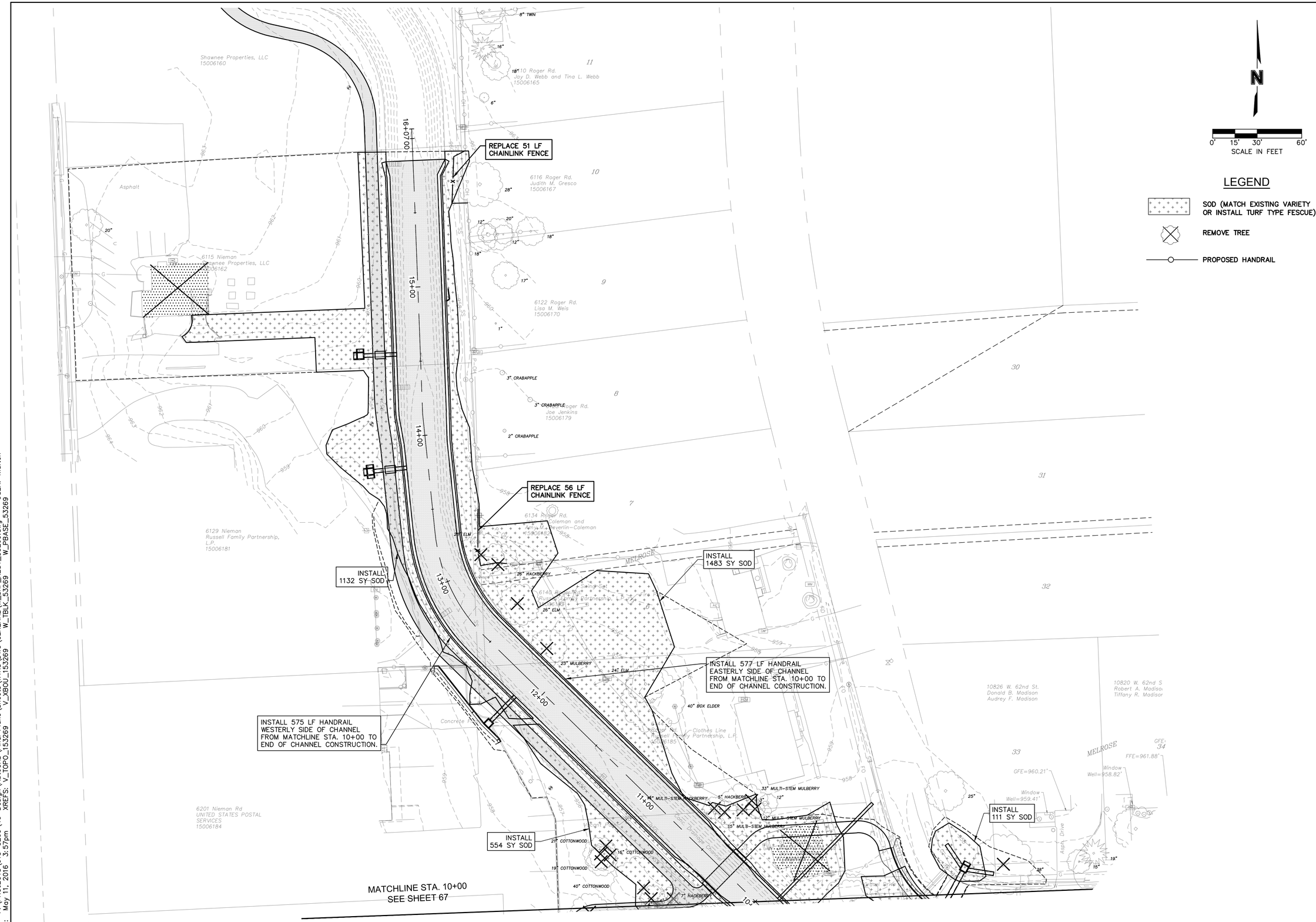

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

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SURFACE RESTORATION PLAN - NORTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_SRF_REST_53269.dwg USER: kfulton
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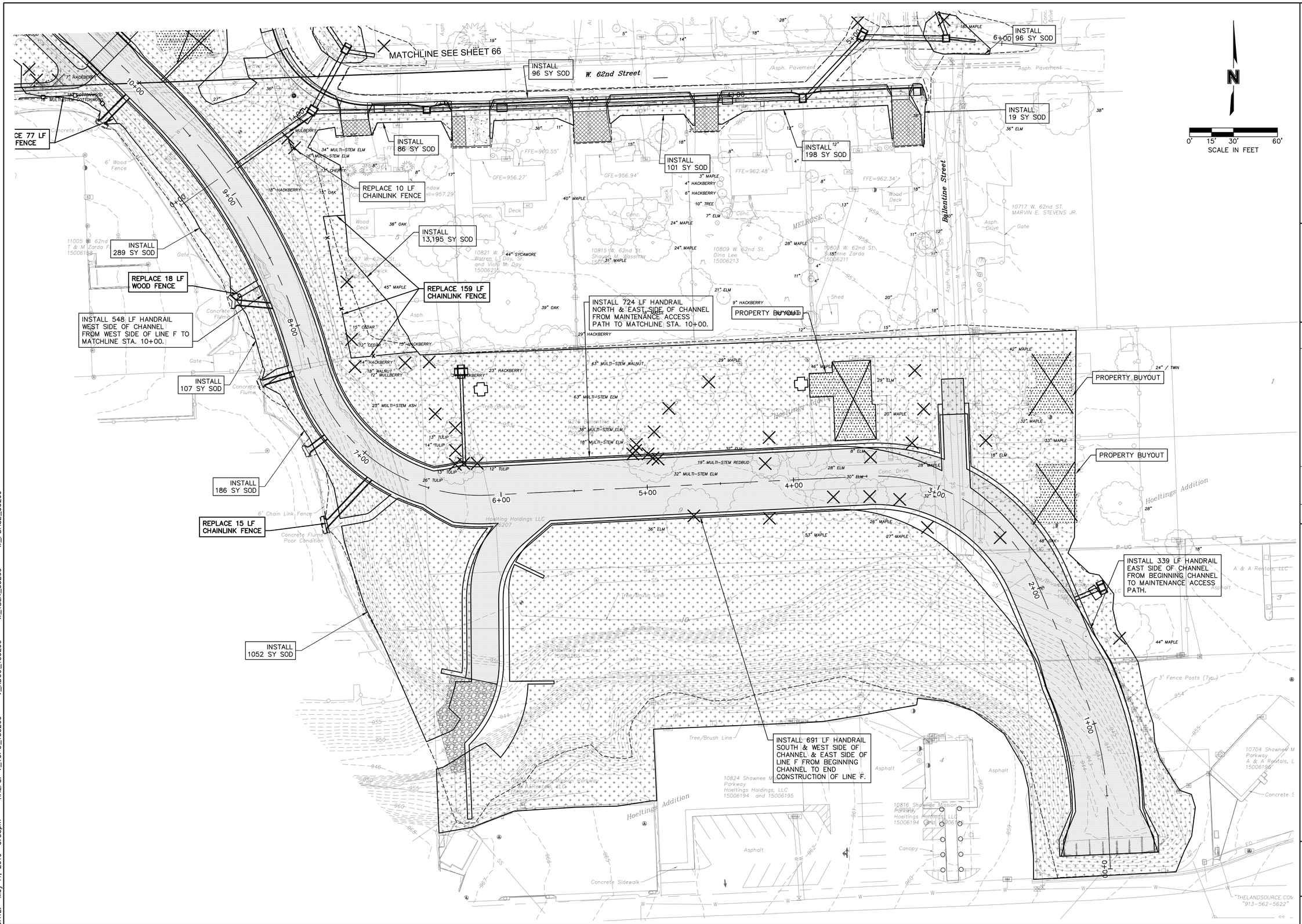

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

SURFACE RESTORATION PLAN - SOUTH

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

SHEET
67 of 84

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\GENERAL\W_SRF_REST_53269.dwg USER: kfulton
DATE: May 11, 2016 3:58pm XREFS: V_TOPO_153269 V_XBOU_153269 W_TBLK_53269 W_PBASE_53269

SUMMARY OF QUANTITIES			
Item / Location	Concrete (KCMMB 4K) Cu. Yds.	Reinforcing Steel (Grade 60) Lbs.	Prefabricated Bridge (Steel) Each
Abutment No. 1	21.6	2,190	--
Abutment No. 2	21.6	2,190	--
Substr. Total	43.2	4,380	--
Superstr. Total	--	--	1
Total	43.2	4,380	1

GENERAL NOTES

BACKFILL COMPACTION: Compact backfill at the abutments.

BRIDGE EXCAVATION: No classification or special payment will be made for excavation at the Abutments. Excavation to be considered subsidiary to other items.

CONCRETE: Substructure concrete is bid as Concrete (KCMMB 4K). Concrete shall be air entrained. Bevel all exposed edges of all concrete with a ¾" triangular molding, except as otherwise noted on the plans. Construction joints are optional with the Contractor, but if used, place only at locations shown, or at locations approved by the Engineer.

REINFORCING STEEL: All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel, except the spiral bars, shall conform to the requirements of ASTM A615, Grade 60.

SPREAD FOOTING EXCAVATION: No classification or special payment will be made for excavation at the abutments.

QUANTITIES: Items not listed separately in the Summary of Quantities are subsidiary to other items in the proposal.

TEMPERATURE: The design temperature for all dimensions is 60°F.

DIMENSIONS: All dimensions shown on the plans are horizontal unless otherwise noted.

BEARINGS: No classification or special payment will be made for the bearings, bearing plates, anchor bolts, nuts, washers, or labor necessary to install these materials. These items shall be considered subsidiary to "Prefabricated Bridge (Steel)".

SUBMITTAL REQUIREMENTS

1. Submit to the City 1 copy of each mill test report for each heat number to be used before the layout, and use such steel in the fabrication of the structure.

2. Submit a fabricator's guarantee that the attached certified mill test reports pertain to all heat numbers used in the structure, and all material complies with the conract documents. Include the following in the guarantee:

   a. Fabricator's name
   b. City project number
   c. Fabricator's purchase order number
   d. List heat numbers
   e. Size and shape of pieces
   f. Number of pieces to be used for each size of each heat
   g. Steel manufacturer's name and the ASTM or AASHTO designation for the steel that is required in the contract documents.

   The guarantee must include the notarized signature of an official of the company who authorized to legally bind the statement on the company's behalf.

PRELIMINARY SHOP DRAWING REQUIREMENTS

1. Submit to the engineer in writing of the firm (name and location) that will fabricate the structure for approval. Use a fabricator that is certified by the American Institute of Steel Construction for the category "Simple 07-PSO233 Sheet 2 of 2 Steel Bridges" as set forth in the AISC certification program and at least 5 years experience fabricating this type of structure. Quality control shall be in accordance with procedures outlined for AISC certification. Approved suppliers are:

   Contech Bridge Solutions, Inc
   8301 State Highway 29 North
   Alexandria, MN 56308
   1-800-328-2047

   Big R Bridge
   19060 WCR 66
   P.O. Box 1290
   Greeley, CO 80631
   1-800-234-0735

   Steadfast Bridge Co.
   119 40th Street N.E.
   Fort Payne, AL 35967
   1-800-749-7515

2. The engineer will consider an "equivalent" of the suppliers specified. Provide the engineer with a complete description, literature, test reports, etc. on the proposed "equivalent". The burden of proof regarding the "equivalent" is upon the contractor.

   Submit structural design calculations for the bridge. All calculations shall be signed and sealed by a professional engineer licensed in the State of Kansas. Include all design information necessary to determine the structural adequacy of the bridge. Include the following information at a minimum:

   a. All applicable calculations according to AASHTO LRFD Specifications for Highway Bridges (Latest edition with interim specifications).
   b. Bolted splice connections, as applicable.
   c. Truss deflection checks.
   d. Bearing plate and anchor designs.
   e. Weldment requirements as per ANSI/AWS D1.1
   f. Tubular members and connections shall adhere to the latest AISC HSSC Manual.
   g. Loading, width, span, rail height and camber will be in accordance with the contract documents.
   h. Lateral truss stability must be documented.
   i. Anchor bolt and bearing plate design with placement details.
   j. Deck material type, size and fasteners.

3. Submit shop drawings that satisfy the City's requirements sealed by a professional engineer licensed in the State of Kansas. Include with the shop drawings the fabricators written detailed instruction for handling, proper lifting, splicing (if required) and installing the bridge structure. Provide the fabricators written inspection and maintenance procedures.

DESIGN DATA

DESIGN SPECIFICATIONS:
AASHTO Specifications, 2013 Edition and latest Interim Specifications. Load and Resistance Factor Design.

DESIGN LOADING:
H-10
90 psf Pedestrian Load
Equestrian Loading
Unit Weight of Soil = 120 lb/ft^3
Equivalent Fluid Pressure = 45 lb/ft^3

ASSUMED REACTIONS:
Dead Load (Truss & Deck): 10.7k
Wind: +/- 0.6k Upward, 5.4k Horiz.
Wind Uplift: -2.4k (WW), -0.8k (LW)
Thermal: 1.6k (Longitudinal)

UNIT STRESSES:

Concrete (KCMMB 4K)	f'c =	4,000 psi
Reinforcing Steel (Grade 60)	fy =	60 ksi

LRFD DESIGN SPREAD FOOTING PRESSURES:

Design Loading (ksf)	Strength 1	Service 1	Phi
Abutment 1 & 2	3.74	2.72	0.45

INDEX TO BRIDGE DRAWINGS	
Sheet No.	Drawing
xx	General Notes and Quantities
xx	Construction Layout
xx	Boring Logs
xx	Abutment Details
xx	Prefabricated Bridge Details
xx	Bill of Reinforcing Steel and Bending Diagram

PREFABRICATED BRIDGE NOTES

1. Design is in accordance with the Manual of Steel Construction following Load & Resistance Factor Design (LRFD) as adopted by the American Institute of Steel Construction (AISC), latest edition.

2. Bridge members are fabricated from high strength, low alloy, enhanced atmospheric corrosion resistant ASTM A847 cold-formed welded square and rectangular tubing, and ASTM A588, ASTM A606, or ASTM A242 plate and structural shapes (fy=50,000 psi).

3. Bridge decking shall consist of Ipe wood. Minimum plank width shall be 6". Thickness designed by the truss manufacturer according to the design criteria provided. Ends of wooden planks shall be sealed with an approved wax end sealant to prevent checking. An asphalt joist tape shall be used on all horizontal weathering steel surfaces to protect the Ipe planks. The type and size of ASTM A305 or ASTM A316 stainless steel fasteners shall be provided according to the supplier's recommendations. Deck fasteners shall be pre-drilled and countersunk to provide a level surface.

4. The gas metal arc welding process or flux cored arc welding process will be used. All welding shall be done in accordance with AWS D1.1.

5. All top and bottom chord shop splices to be complete penetration type welds.

6. Unless otherwise noted, welded connections shall be fillet welds (or have the effective throat of a fillet weld) of a size equal to the thickness of the lightest gage member in the connection. Welds shall be applied as follows:

   A. Both ends of verticals, diagonals, brace diagonals and floor beams shall be welded all around.
   B. Brace diagonals will be welded all around.
   C. Miscellaneous non-structural members will be stitch welded to their supporting members.

7. Bridge design shall be based on combinations of the following loads which will produce maximum critical member stresses.
   A. 90 psf uniform live loading on the full deck area or one 20,000 pound vehicle load. The vehicle load shall be distributed as a four-wheel vehicle with 80% of the load on the rear wheels. The wheel track width of the vehicle shall be 6'-0" and the wheel base shall be 14'-0". The vehicle shall be positioned so as to produce the maximum stress in each member, including decking. In addition to designing the deck for the pedestrian and vehicular load, it shall be evaluated for a patch load of 1.00 kips over a square area of 4.0 inches on a side.
   B. 35 psf wind load on the full height of the bridge, as if enclosed.
   C. 20 psf upward force applied at the windward quarter point of the transverse bridge width (AASHTO 3.15.3).

8. Cleaning: All exposed surfaces of steel shall be cleaned in accordance with Steel Structures Painting Council Surfaces Preparation Specifications No. 7 Brush-off Blast Cleaning. SSPC-SP7-latest edition.

9. Verification: Contractor to verify anchor bolt spacing, deck thickness, bearing seat width, and backwall height shown matches geometric requirements necessary to accommodate installation of the prefabricated bridge. If there exist discrepancies, the Contractor shall notify the Engineer a minimum of (2) weeks prior to construction.

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7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PEDESTRIAN BRIDGE
GENERAL NOTES AND QUANTITIES

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

2016

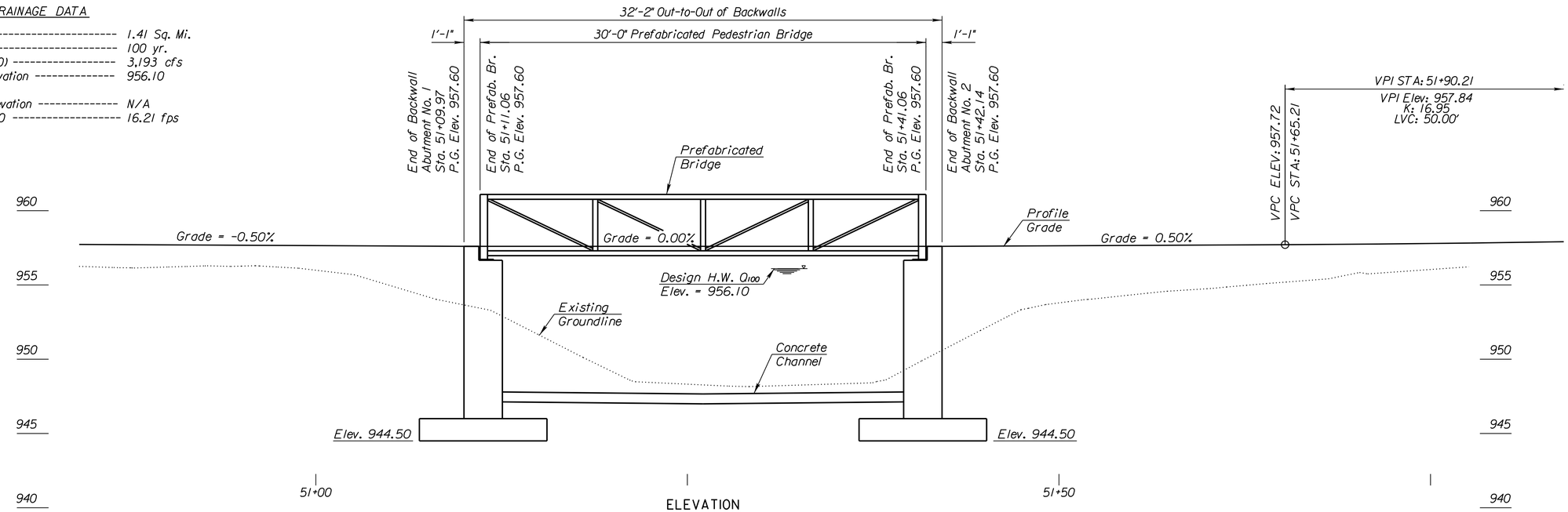
SHAWNEE, KS

drawn by:	GCL
checked by:	BEF
approved by:	BMJ
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	04/29/16

SHEET
xx of xx

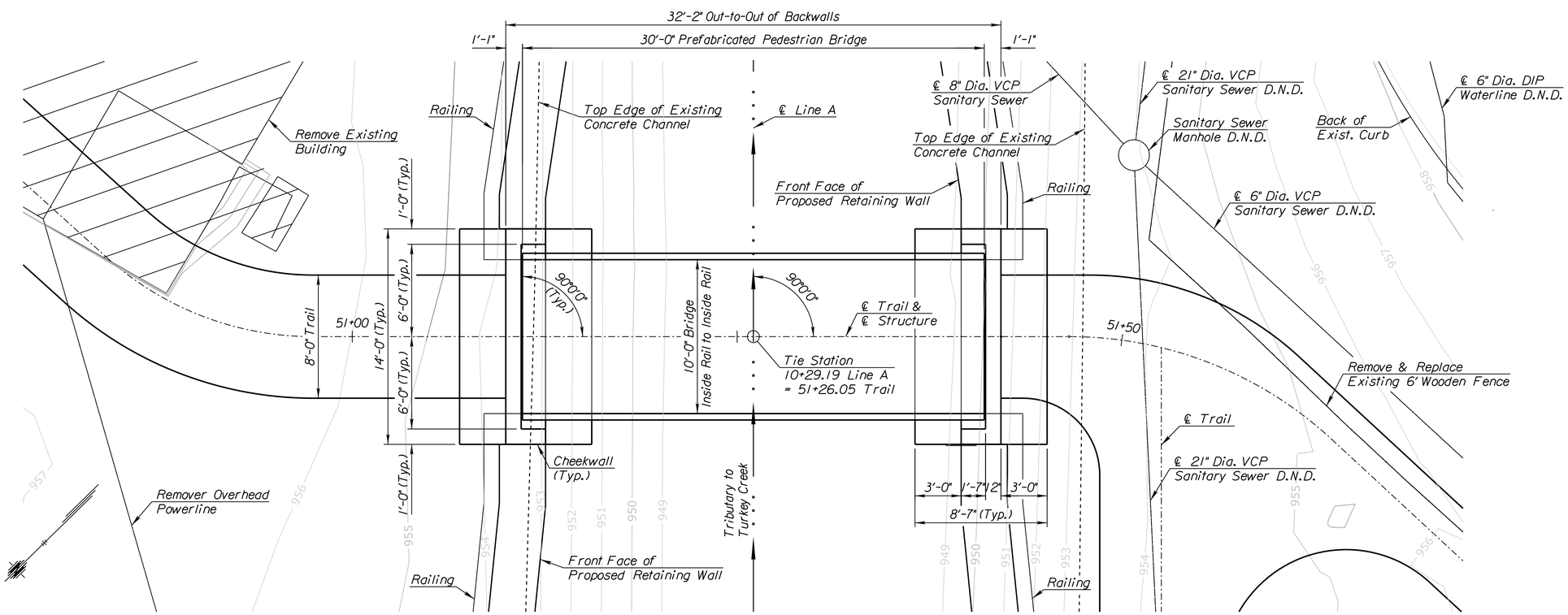
DRAINAGE DATA

Drainage Area	1.41 Sq. Mi.
Design Frequency	100 yr.
Design Discharge (Q100)	3,193 cfs
Design High Water Elevation	956.10
Ordinary Highwater Elevation	N/A
Average Velocity at Q100	16.21 fps



ELEVATION

30' Prefabricated Steel Truss
Spread Footing Deep Wall Abutments
10'-0" Trail



PLAN

See Trail Plans for alignment and profile data.
D.N.C. denotes do not disturb

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PEDESTRIAN BRIDGE CONSTRUCTION LAYOUT

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by:	GCL
checked by:	BEF
approved by:	BMJ
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	04/29/16

SHEET
xx of xx

BOREHOLE REPORT NO. B-3A

Sheet 1 of 1

OLSSON ASSOCIATES

PROJECT NAME: Nieman Corridor South Stormwater Improvements	CLIENT: City of Shawnee KS
PROJECT NUMBER: 015-3269	LOCATION: Shawnee, Kansas

Shelby Tube

Elevation 956.78

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
	ROOT ZONE (1.0')		0.0								
	FAT CLAY (1.5')										
	Brown with dark brown, with silt, trace gravel										
	Brown with grayish brown and dark brown, with silt (3.0')		2.5								
	Dark brown with grayish brown, with silt			U 1			PP= 2.5	25.5	96.4		
	(6.0')		5.0								
	Brown with grayish brown and yellowish brown, silty (8.0')										
	Grayish brown with yellowish brown, with gravel		7.5	U 2				26.1			
	WEATHERED LIMESTONE (9.8')		10.0								
	Wet, grayish brown with yellowish brown, silty, with clay seams (9.9'–10.3')										
	Grayish brown (10.4')										
	LIMESTONE										
	Gray										

REFUSAL AT 10.4 FEET

WATER LEVEL OBSERVATIONS	
WD	10.0 ft
IAD	9.2 ft after 0 Hrs
AD	Not Encountered

OLSSON ASSOCIATES
1802 E. 123RD STREET
OLATHE, KS 66061

STARTED: 12/21/15	FINISHED: 12/21/15
DRILL CO.: RC DRILLING	DRILL RIG: MOBILE B-53
DRILLER: ZACH	LOGGED BY: LUKE/GABE
METHOD: CONTINUOUS FLIGHT AUGER	

BORING B-3A

BOREHOLE REPORT NO. B-4

Sheet 1 of 1

OLSSON ASSOCIATES

PROJECT NAME: Nieman Corridor South Stormwater Improvements	CLIENT: City of Shawnee KS
PROJECT NUMBER: 015-3269	LOCATION: Shawnee, Kansas

Shelby Tube

Elevation 956.27

ELEVATION (ft)	MATERIAL DESCRIPTION	GRAPHIC LOG	DEPTH (ft)	SAMPLE TYPE NUMBER	CLASSIFICATION (USCS)	BLOWS/6" N-VALUE	UNC. STR. (tsf)	MOISTURE (%)	DRY DENSITY (pcf)	LL/PI (%)	ADDITIONAL DATA/ REMARKS
	ROOT ZONE (1.0')		0.0								
	FILL			U 1			PP= 4.5	21.3	103.4		
	Clay, silt, and limestone gravel (2.1')										
	Weathered limestone gravel and clay (2.6')		2.5								
	FAT CLAY (3.0')										
	Brown with grayish brown, trace silt										
	Brown to grayish brown with yellowish brown, trace silt			U 2			2.2	24.1	102.2		
			5.0								
			7.5								
	(8.5')										
	Moist, brown with yellowish brown and gray, silty			U 3			PP= 1.75	27.3	98.5		
			10.0								
	(12.1')										
	WEATHERED LIMESTONE		12.5								
	Grayish brown with yellowish brown, silty, shaley (13.4')										
	Grayish brown (13.7')										
	Gray (13.8')										

REFUSAL AT 13.8 FEET

WATER LEVEL OBSERVATIONS	
WD	10.0 ft
IAD	9.6 ft after 0 Hrs
AD	Not Encountered

OLSSON ASSOCIATES
1802 E. 123RD STREET
OLATHE, KS 66061

STARTED: 12/21/15	FINISHED: 12/21/15
DRILL CO.: RC DRILLING	DRILL RIG: MOBILE B-53
DRILLER: ZACH	LOGGED BY: LUKE/GABE
METHOD: CONTINUOUS FLIGHT AUGER	

BORING B-4

For location of Borings B-3A and B-4, see Geotechnical Report.

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PEDESTRIAN BRIDGE
BORING LOGS

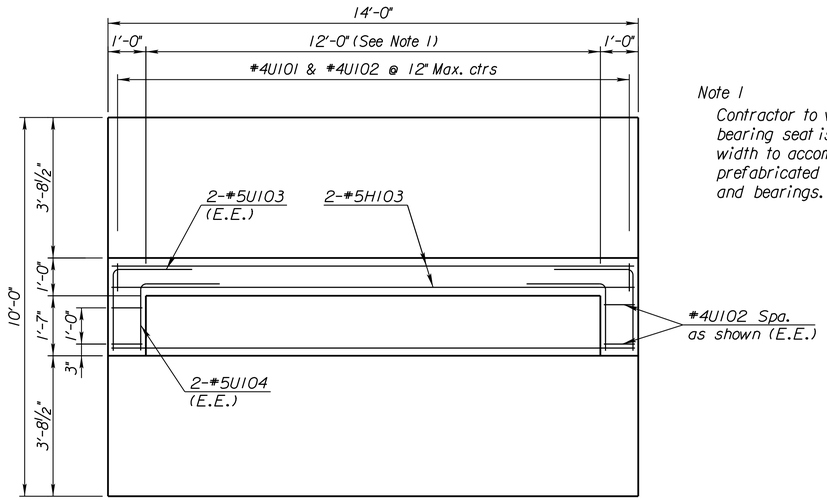
NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

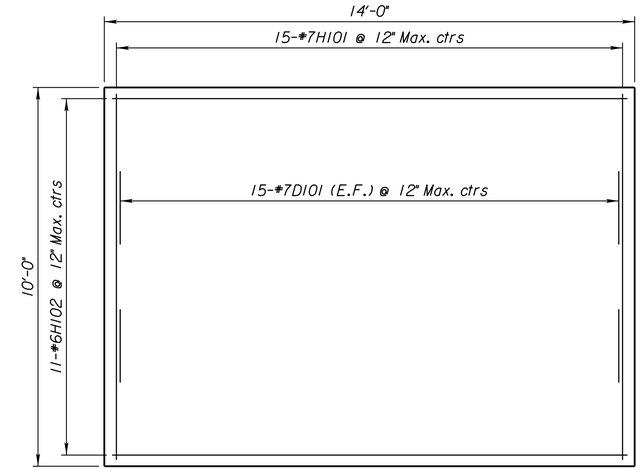
drawn by:	GCL
checked by:	BEF
approved by:	BMJ
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	04/29/16

SHEET
xx of xx

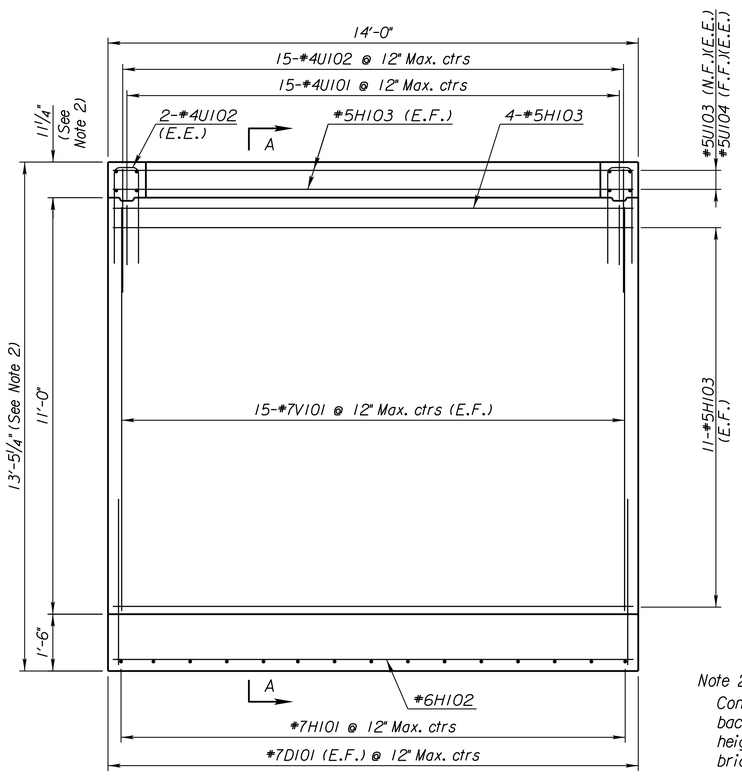


PLAN SHOWING BACKWALL

Note 1
Contractor to verify bearing seat is sufficient width to accommodate prefabricated bridge and bearings.

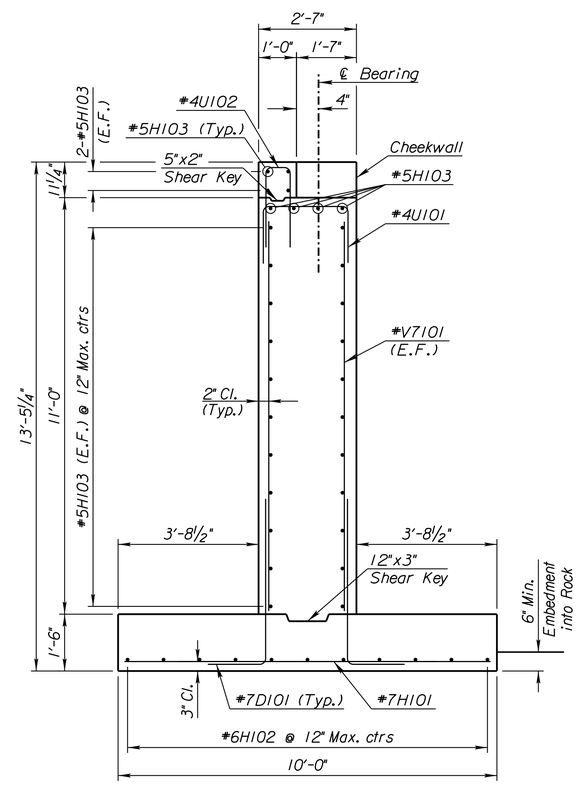


FOOTING PLAN

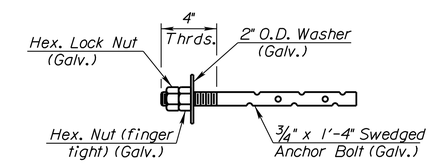


ELEVATION

Note 2
Contractor to ensure backwall height matches height of prefabricated bridge, timber deck and bearings.



SECTION A-A



ANCHOR BOLT DETAIL
(4 Required per Abutment)

E.E. denotes each end
E.F. denotes each face
N.F. denotes near face
F.F. denotes far face

Notes
Reinforcing shown for Abutment No. 1, Abutment No. 2 similar.
For placement of anchor bolts, see "Prefabricated Bridge Details".

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

PEDESTRIAN BRIDGE
ABUTMENT DETAILS

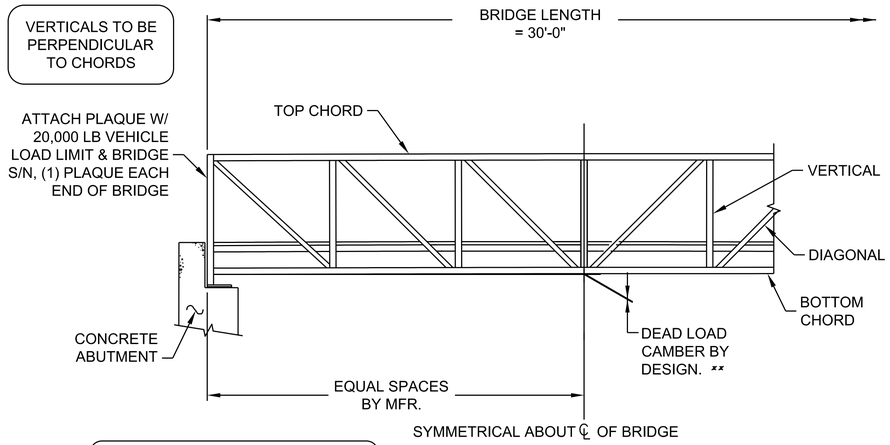
NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

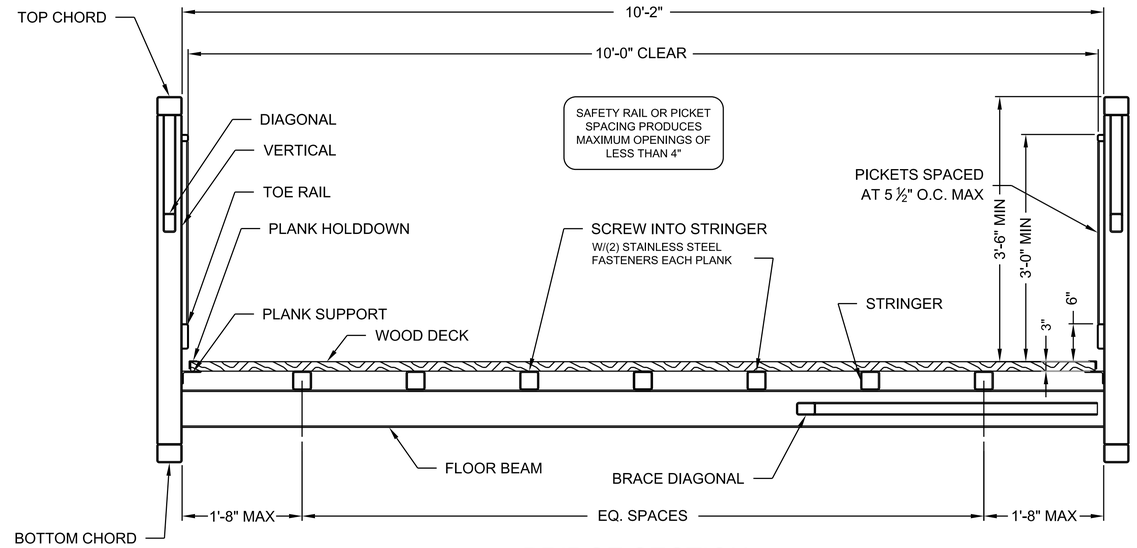
2016

drawn by: GCL
checked by: BEF
approved by: BMJ
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 04/29/16

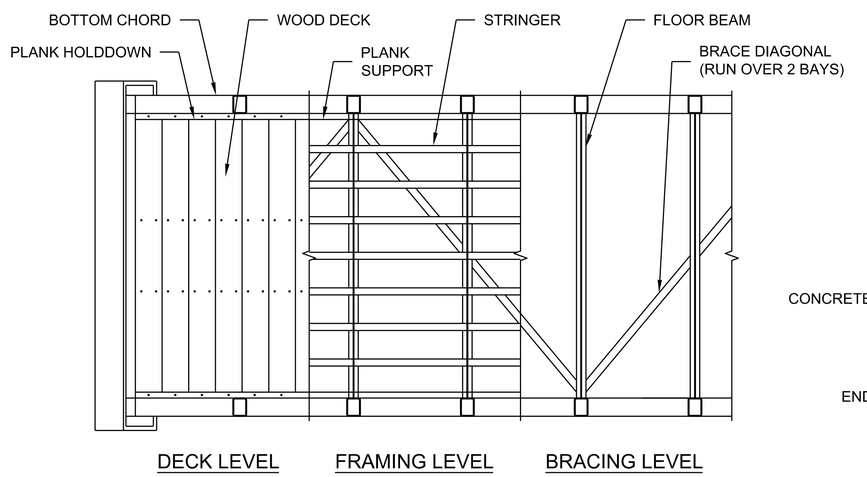
SHEET
xx of xx



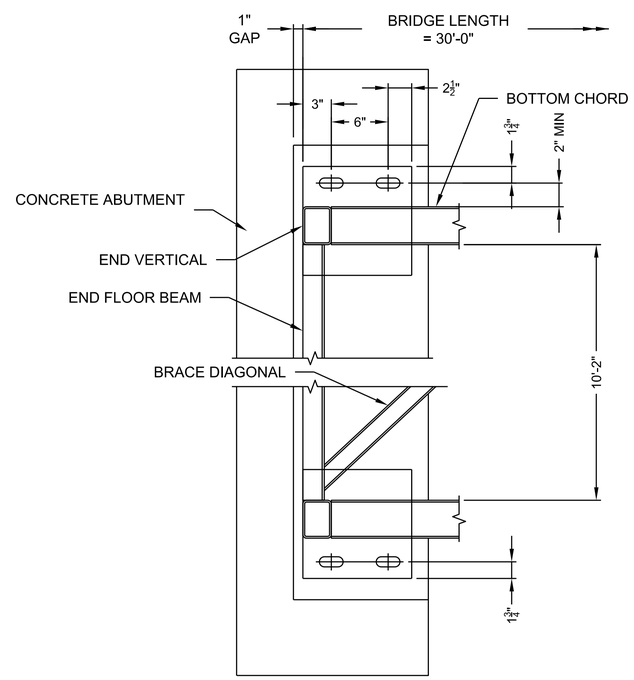
BRIDGE ELEVATION



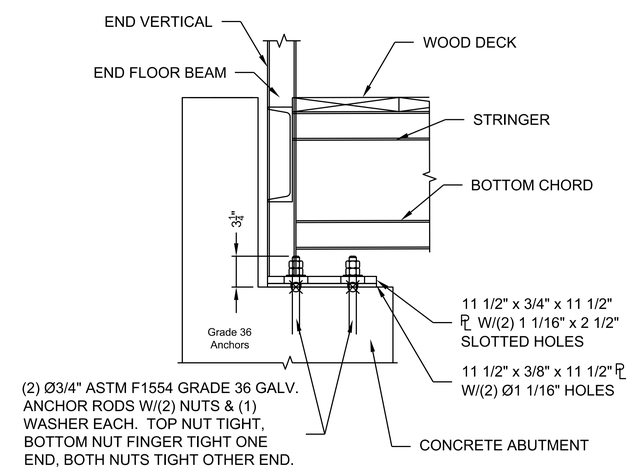
BRIDGE SECTION



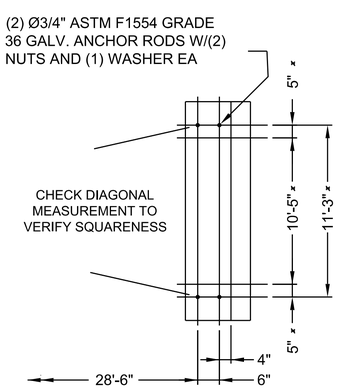
BRIDGE PLAN



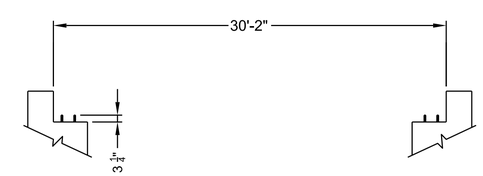
BEARING ASSEMBLY - PLAN



BEARING ASSEMBLY - ELEVATION



PLAN



ANCHOR BOLT ELEVATION

NOTES

For Prefabricated Bridge Notes, see "General Notes & Quantities" sheet.

* *Contractor to verify anchor bolt spacing shown matches spacing requirements shown and conforms to dimensions necessary to accommodate the prefabricated bridge.*

** *Manufacturer to provide approximately a 4" final camber at midspan. Curvature shall be uniform across length of bridge.*

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PEDESTRIAN BRIDGE
PREFABRICATED BRIDGE DETAILS

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

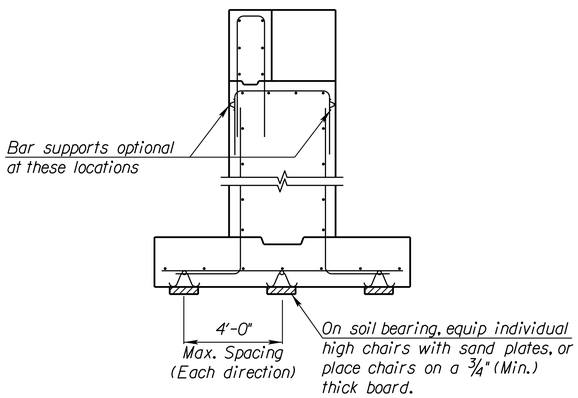
2016

drawn by:	GCL
checked by:	BEF
approved by:	BMJ
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	04/29/16

SHEET
xx of xx

		BILL OF REINFORCING STEEL Grade 60							
		Straight Bars				Bent Bars			
		Mark	Size	Number	Length	Mark	Size	Number	Length
Substructure	Abutment No. 1	H101	#7	15	9'-8"	D101	#7	30	6'-7"
		V101	#7	30	10'-8"				
						U103	#5	4	4'-3"
		H102	#6	11	13'-8"	U104	#5	4	3'-7"
		H103	#5	30	13'-8"	U101	#4	15	6'-9"
						U102	#4	19	6'-2"
	Abutment No. 2	H201	#7	15	9'-8"	D201	#7	30	6'-7"
		V201	#7	30	10'-8"				
						U203	#5	4	4'-3"
		H202	#6	11	13'-8"	U204	#5	4	3'-7"
		H203	#5	30	13'-8"	U201	#4	15	6'-9"
						U202	#4	19	6'-2"

⊗ See Bending Diagram



BAR SUPPORTS

Reference is made to the latest edition of the CRSI "Manual of Standard Practice" for recommended industry practices concerning reinforcing steel.

Use only the following types of bar supports:

1) Wire Bar Supports: Non-epoxy: Class 1, 2, or 3 Protection
2) Plastic Bar Supports
3) Supplementary bars

Do not weld reinforcing steel to bar supports or to other reinforcing steel.

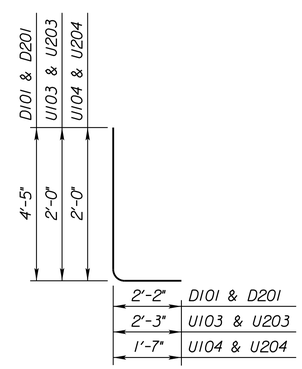
Tie bars at all intersections around the perimeter of each mat and at not less than 2'-0" centers or at every intersection, whichever is greater.

Use proper height supports to maintain the distance between the reinforcing and the formed surface.

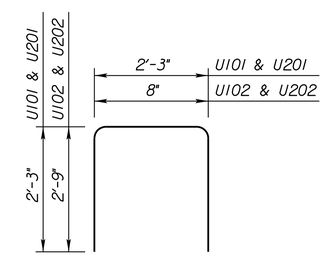
Spacings shown are maximums. Use sufficient supports, as determined by the Engineer, to retain the reinforcing steel in position.

Construct any platforms, required for the support of workers and/or equipment during concrete placement, directly on the forms and not on the reinforcing steel.

Designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer.



D101, U103, U104
& D201, U203, U204



U101, U102
& U201, U202

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PEDESTRIAN BRIDGE
BILL OF REINFORCING STEEL AND BENDING DIAGRAM

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: GCL
checked by: BEF
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QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 04/29/16

SHEET
xx of xx

LEGEND

- CHANNELIZER
- SIGN, SINGLE POST
- PHASE 1 WORK ZONE
- TYPE III BARRICADE
- FLAGGER

N

0' 20' 40' 80'
SCALE IN FEET

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TRAFFIC CONTROL - PHASE 1

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

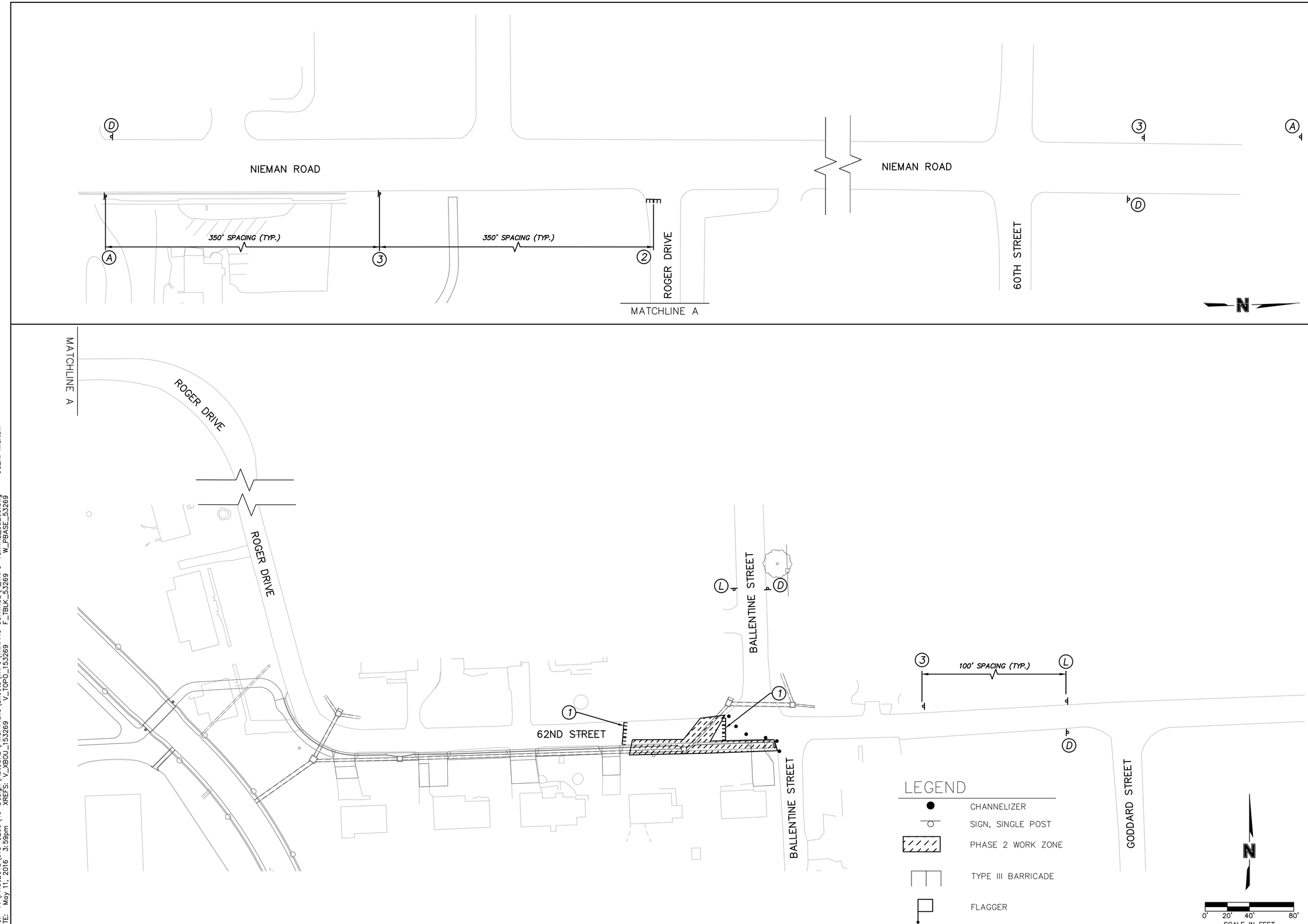
SHAWNEE, KS

2016

drawn by: JRC
checked by: JSS
approved by: JSS
QA/QC by: THF
project no.: 015-3269
drawing no.:
date: 04/28/16

SHEET
74 83

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\TRFC\TRAFFIC CONTROL\F_TRFC-TCNTRL_53269.dwg USER: kfulton
DATE: May 11, 2016 3:59pm XREFS: V_XBOU_153269 V_TOPO_153269 F_TBLK_53269 W_PBASE_53269



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FAX 913.381.1174

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL - PHASE 2

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: JRC
checked by: JSS
approved by: JSS
QA/QC by: THF
project no.: 015-3269
drawing no.:
date: 04/28/16

SHEET
75 83

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\TRFC\TRAFFIC CONTROL\F_TRFC-TCNTRL_53269.dwg USER: kfulton
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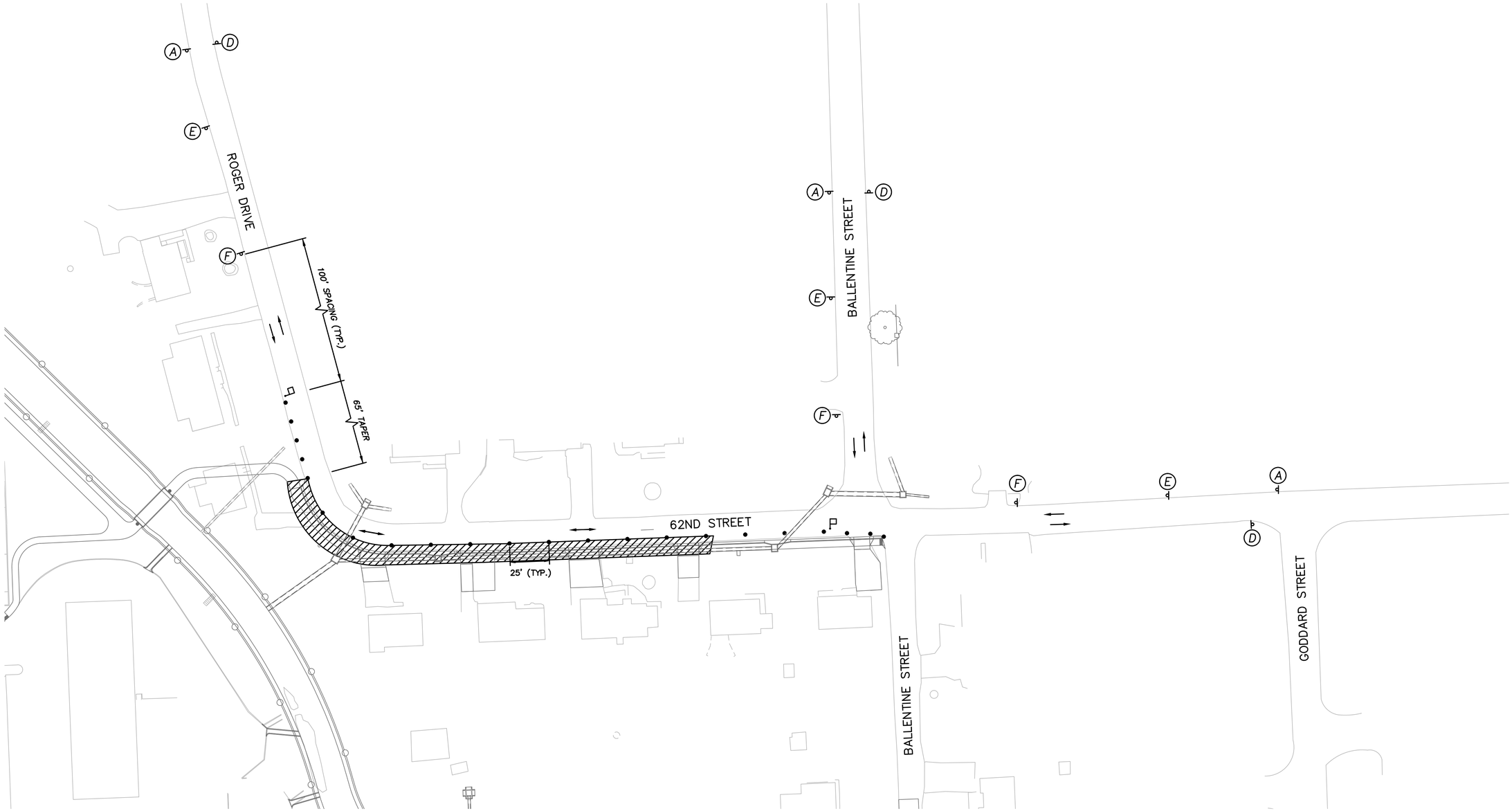

LEGEND

- CHANNELIZER
- SIGN, SINGLE POST
- PHASE 3 WORK ZONE
- TYPE III BARRICADE
- FLAGGER

N

0' 20' 40' 80'
SCALE IN FEET

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TRAFFIC CONTROL - PHASE 3

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: JRC
checked by: JSS
approved by: JSS
QA/QC by: THF
project no.: 015-3269
drawing no.:
date: 04/28/16

SHEET
76 83

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\TRFC\TRAFFIC CONTROL\F_TRFC-TCNTRL_53269.dwg USER: kfulton
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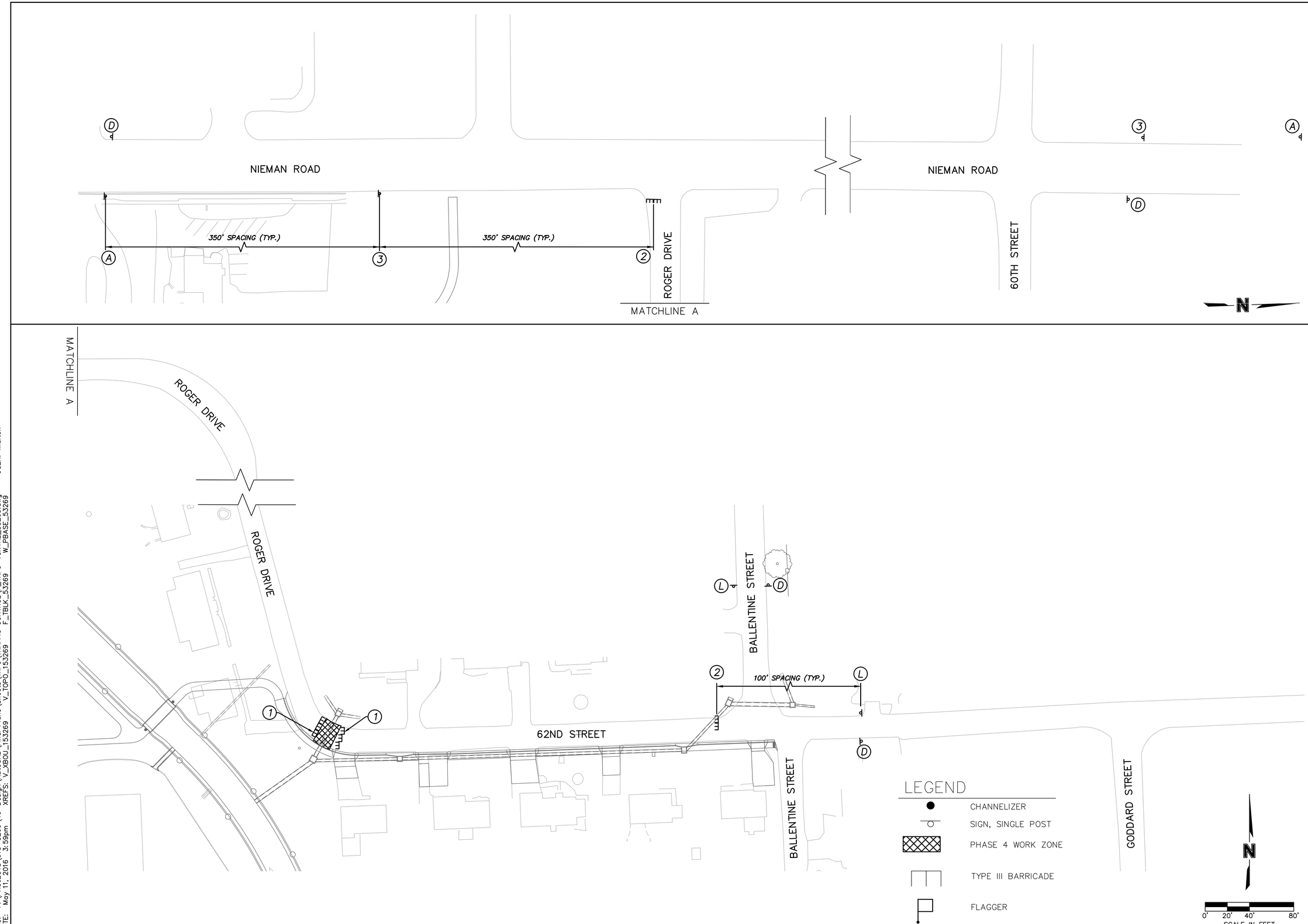

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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL - PHASE 4

NIEMAN CORRIDOR SOUTH
STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by: JRC
checked by: JSS
approved by: JSS
QA/QC by: THF
project no.: 015-3269
drawing no.:
date: 04/28/16

SHEET
77 83

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\TRFC\TRAFFIC CONTROL\F_TRFC-TCNTRL_53269.dwg USER: kfulton
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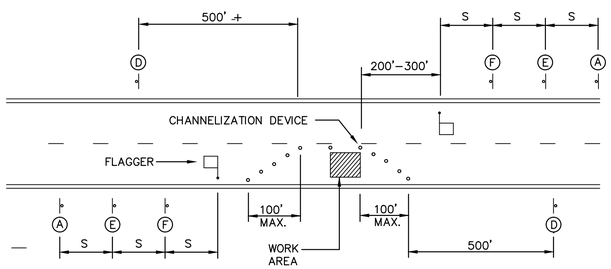
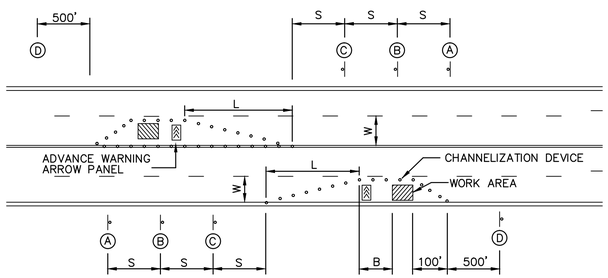
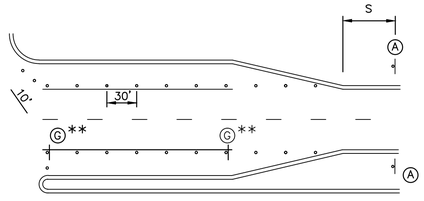


DETAIL 1: TYPICAL CLOSURE – TWO–LANE STREET

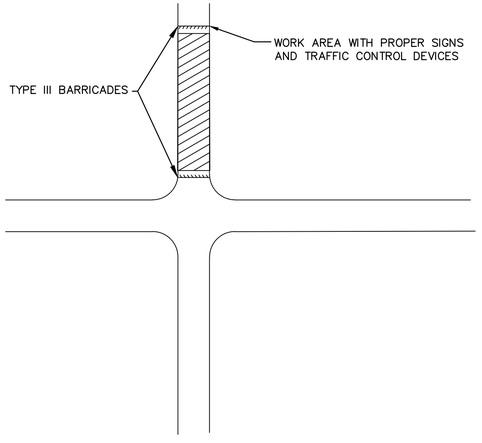


DETAIL 2: TYPICAL LANE CLOSURE – FOUR–LANE STREET



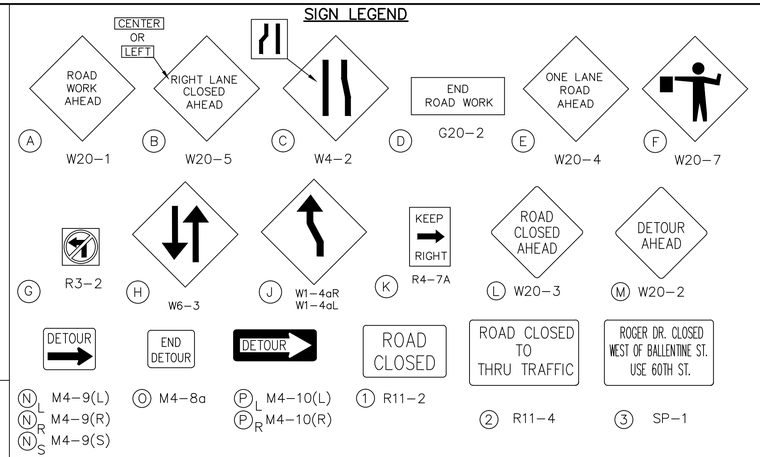
** USE ONLY AS APPROVED BY CITY TRAFFIC ENGINEER

DETAIL 3: TYPICAL RIGHT–TURN LANE AND LEFT–TURN LANE CLOSURES

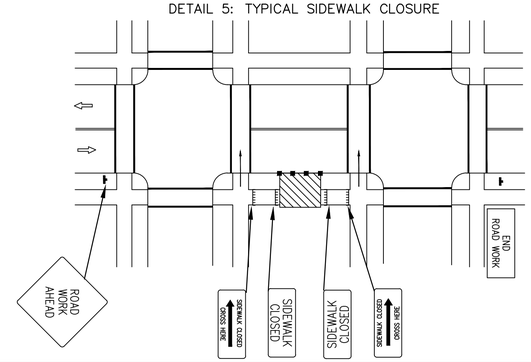


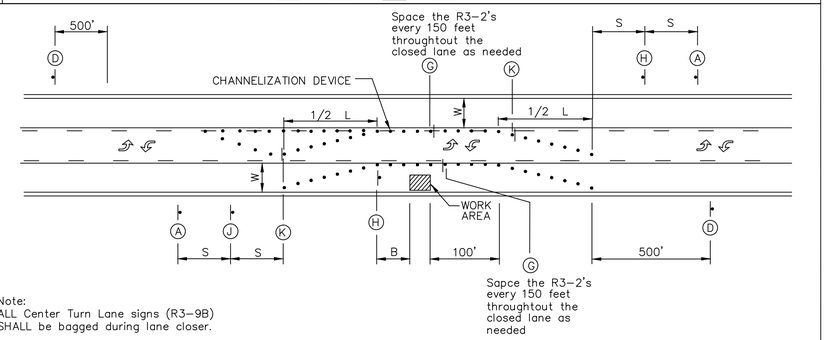
DETAIL 4: TYPICAL SIDE ROAD SIGNING FOR ROAD CLOSURE

SIGN LEGEND



DETAIL 5: TYPICAL SIDEWALK CLOSURE





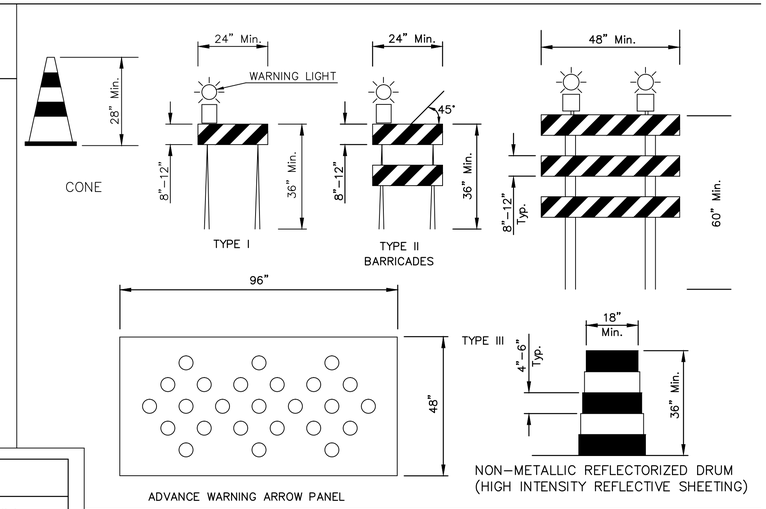
CENTER LANE ONLY
R3–9B

Note:
ALL Center Turn Lane signs (R3–9B) SHALL be bagged during lane closer.

DETAIL 6: TYPICAL LANE CLOSURE – THREE–LANE STREET

GENERAL NOTES:

1. All signs, barricades, drums, markings and other traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (MUTCD), most current edition.
2. All traffic control devices shall be standard in size, shape, color and message, in good condition, and reflectorized. All signs, and barricades in place at night shall be reflectorized with high intensity sheeting. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
3. Warning lights shall be used on all channelization devices and warning signs in place at night except drums that are fully reflectorized with high intensity reflective sheeting. Type A Low Intensity Flashing Warning lights shall be mounted on warning signs as well as barricades where used singley. Type C Steady–Burn lights shall be mounted on barricades where used in series to delineate the edge of the travel way.
4. Advance Warning Arrow Panels shall be used for all lane closures on multi–lane streets but should not be used in lieu of proper traffic control signs, barricades and channelization devices.
5. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic or where construction activities impose a restriction on traffic, as directed by the Engineer in charge of construction. Where flaggers are used, advance signing shall be erected as shown above or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to charactor, training, attire and behavior.
6. Channelization devices used in the street shall be either drums, cones or Trimline channelizers.
7. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
8. The Contractor shall place as many barricades as needed to effectively shield pedestrians and traffic from exposed objects, excavations and construction activities. Orange mesh pedestrian fence shall be installed around all excavations left open during non–construction times or as directed by the Engineer in charge of construction.
9. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
10. Construction materials shall be kept off of sidewalks, consolidated in one location within City Right–Of–Way, and removed daily unless otherwise approved by the Engineer in charge of construction.
11. Dirt, mud and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict traffic in any way between the hours of 7:00 a.m. and 8:30 a.m. or 4:30 p.m. and 6:00 p.m.
13. The Contractor shall be responsible for maintaining all traffic control devices on an around–the–clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
14. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of motorist, pedestrians, and workers at all times. Any additional quantities of traffic control devices necessary to complete the contract or as ordered by the Engineer shall be considered subsidiary to the contract lump sum bid price.
15. Construction vehicles parked along streets and construction signs shall not restrict sight distance for vehicles exiting at streets or any drives.
16. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the Engineer or representitive, the City/Controlling Jurisdiction may take one or more of the following actions:
    - A) Employ another agency to correct deficiencies in signing or warning devices and deduct the cost from the contractor's pay estimate.
    - B) Suspend all pay Estimates until deficiencies are corrected.
    - C) Stop the work until deficiencies are corrected.
    - C) Place the contractor in default.
17. The Contractor Shall keep roadway closures due to construction activities to a minimum.



Guidelines for length of longitudinal buffer space (B)	
Speed* (mph)	Length (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	300

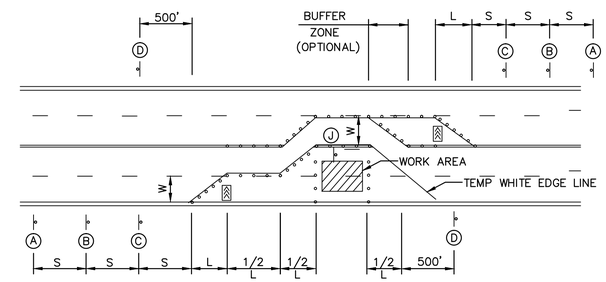
*Posted speed

SIGN SPACING(S)	
Speed Limit M.P.H.	Spacing (Feet)
≤ 30	100
35 – 45	350
55	500

MAXIMUM CHANNELIZATION SPACING IN FEET *		
Speed Limit M.P.H.	Along Taper	After Taper
20	20	40
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90
50	50	100
55	55	100

* The maximum distance in feet between devices in a taper should not exceed 1.0 times the speed limit in MPH.

TAPER DETAIL				
Speed Limit M.P.H.	Minimum Taper Length (L) Lane Width (W) 10	11	12	Minimum Number of Channelizing Devices for Taper
20	70	75	80	5
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13
50	500	550	600	13
55	550	605	660	13



DETAIL 7: TYPICAL LANE CLOSURE – FOUR–LANE STREET

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Overland Park, KS 66213-4750
TEL 913.381.1170
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

TRAFFIC CONTROL - DETAIL

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: JRC
checked by: JSS
approved by: JSS
QA/QC by: THF
project no.: 015–3269
drawing no.:
date: 04/28/16

SHEET 78 83

DWG: F:\PROJECTS\015–3269\40–Design\AutoCAD\Final Plans\Sheets\TRFC\TRAFFIC CONTROL\F_TRFC–TCNTRL_53269.dwg USER: kfulton
DATE: May 11, 2016 3:59pm XREFS: V_XBOU_153269 V_TOPO_153269 F_TBLK_53269 W_PBASE_53269

SEDIMENTATION FENCE NOTES:

A. INSTALLATION:

1. THE HEIGHT OF SEDIMENT FENCE SHALL BE A MINIMUM OF 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 36 INCHES ABOVE THE GROUND SURFACE.
2. THE FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE UNAVOIDABLE, THE FILTER FABRIC SHALL BE SECURELY SPLICED TOGETHER ONLY AT SUPPORT POSTS, WITH A MAXIMUM 6-INCH OVERLAP.
3. DIG A TRENCH AT LEAST 6 INCHES DEEP AND 24 INCHES WIDE ALONG THE FENCE ALIGNMENT.
4. DRIVE POSTS AT LEAST 12 INCHES AND NO MORE THAN 18 INCHES INTO THE GROUND ON THE DOWNSLOPE SIDE OF THE TRENCH. SPACE POSTS A MAXIMUM OF 10 FEET APART.
5. EXTRA-STRENGTH SEDIMENT FENCE FABRIC SHALL BE USED. POSTS FOR THIS TYPE OF FABRIC SHALL BE PLACED A MAXIMUM OF 10' APART. THE SEDIMENT FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING A MINIMUM OF ONE INCH LONG, HEAVY-DUTY WIRE STAPLES OR TIE-WIRES, AND 24 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. PLACE THE BOTTOM 2 FEET OF FABRIC IN THE MINIMUM-OF-6-INCH DEEP TRENCH, LAPPING TOWARD THE UPSLOPE SIDE. BACKFILL WITH COMPACTED EARTH OR WASHED STONE TO A HEIGHT OF 6" ABOVE GROUND LEVEL.
7. IF A SEDIMENT FENCE IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, IT MUST BE OF SUFFICIENT LENGTH TO ELIMINATE ENDFLOW, AND THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE, PLACED ON A CONTOUR, WITH THE ENDS ORIENTED UPSLOPE. EXTRA-STRENGTH SEDIMENT FABRIC SHALL BE USED WITH A MAXIMUM 3-FOOT SPACING OF POSTS.
8. TO REDUCE MAINTENANCE, EXCAVATE A SHALLOW SEDIMENT STORAGE AREA IN THE UPSLOPE SIDE OF THE FENCE. PROVIDE GOOD ACCESS IN AREAS OF HEAVY SEDIMENTATION FOR CLEAN OUT AND MAINTENANCE.
9. SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

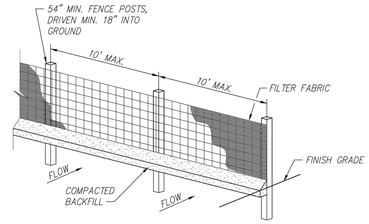
B. CONSTRUCTION SPECIFICATIONS:

1. DETERMINE THE EXACT LOCATION OF UNDERGROUND UTILITIES, BEFORE FENCE INSTALLATION SO UTILITIES ARE NOT DISTURBED.
2. GRADE ALIGNMENT OF FENCE AS NEEDED TO PROVIDE A BROAD, NEARLY LEVEL AREA UPSTREAM OF FENCE TO ALLOW SEDIMENT COLLECTION AREA.

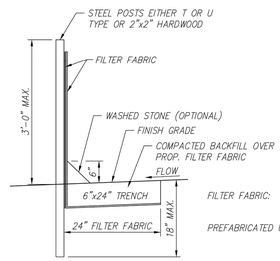
C. INSPECTION AND MAINTENANCE:

1. INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY.
2. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.
3. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. AVOID DAMAGING OR UNDERMINING THE FENCE DURING CLEANOUT. SEDIMENT ACCUMULATION SHOULD NOT EXCEED 1/2 THE HEIGHT OF THE FENCE.
4. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY AND COMPLETELY STABILIZED.

SEDIMENT FENCE



ELEVATION



FILTER FABRIC: FILTER X MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

CROSS SECTION

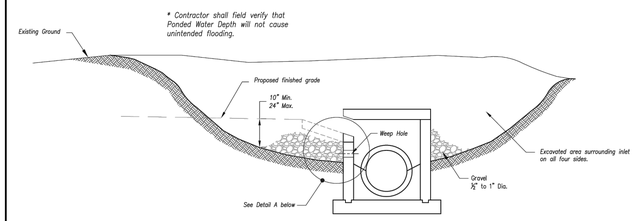
Date	Revision	By	App
1-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MFG	PJL
6-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MFG	PJL

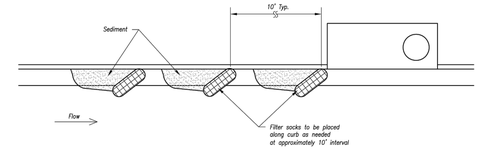
SEDIMENT FENCE

DEVELOPMENT SERVICES

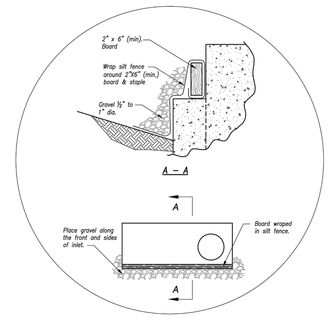
SHAWNEE KANSAS

DATE:	06-27-2007	3105-2
DRAWN BY:	MFG	
CHECKED BY:	PJL	SHEET 1 OF 1





On Grade Curb Inlet Protection



Detail A

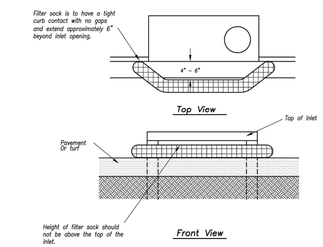
CONDITION A
Open Box and Prior to Pouring Curb and Inlet Throat
(2015 Edition)

Notes:

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2" X 6" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Condition A).
3. When inlet is completed and curb poured, filter socks or approved equal should be used (Condition B). Straw wattles are not approved for curb inlet use.
4. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
Repair or replace as necessary to maintain function and integrity of installation.



Sump Inlet Sediment Filter

CONDITION B
After Pouring Curb and Inlet Throat
(2015 Edition)

TEMPORARY SEDIMENT BARRIER
CURB INLET

TEMPORARY CONSTRUCTION ENTRANCE PAD NOTES:

A. INSTALLATION:

1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. IF SLOPE TOWARDS THE PUBLIC ROAD EXCEEDS 2%, CONSTRUCT A 6-TO 8-INCH HIGH RIDGE WITH 3H:1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.
4. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS.
5. PLACE STONE TO DIMENSIONS AND GRADE AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
6. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE.
7. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.

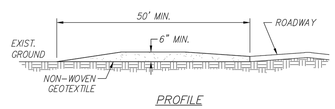
B. TROUBLESHOOTING:

1. CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:
   A. INADEQUATE RUNOFF CONTROL TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROAD – INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES.
   B. SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL – INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC.
   C. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC – EXTEND PAD BEYOND THE MINIMUM 50-FOOT LENGTH AS NECESSARY.

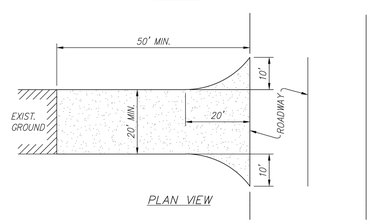
C. INSPECTION AND MAINTENANCE:

1. INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER 1/2-INCH OR GREATER STORM EVENTS.
2. RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN 2-AND 3-INCH STONE AS NEEDED.
4. IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.
5. REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED.
6. PERIODIC INSPECTION AS NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE



PROFILE



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE – USE 3" STONE, OR RECLAIMED OR RECYCLED EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. NON-WOVEN GEOTEXTILE – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

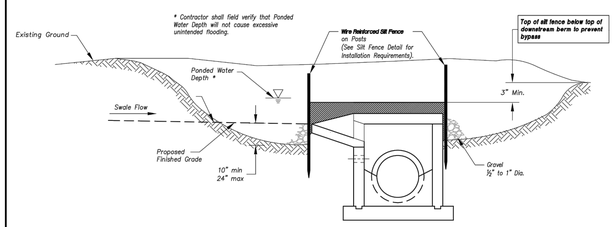
Date	Revision	By	App
1-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MFG	PJL
6-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MFG	PJL

STABILIZED CONSTRUCTION ENTRANCE

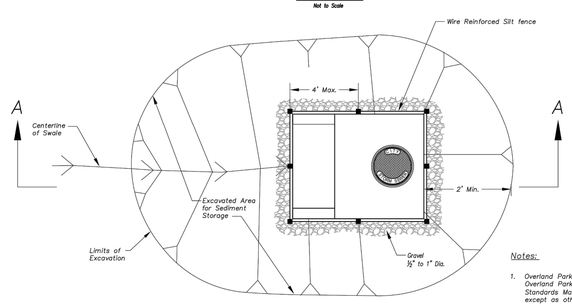
DEVELOPMENT SERVICES

SHAWNEE KANSAS

DATE:	06-27-2007	3110-1
DRAWN BY:	MFG	
CHECKED BY:	PJL	SHEET 1 OF 1

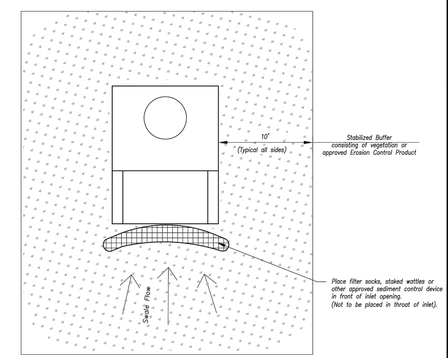


Section A–A
Not to Scale

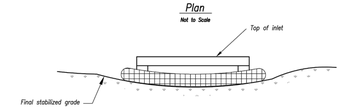


Plan
Not to Scale

CONDITION A
(All open boxes and inlets not at final grade)
(2015 Edition)



Plan
Not to Scale



Front View

Notes:

1. Overland Park Municipal Code (OPMC) and Overland Park Design and Construction Standards Manual (OPDCSM) are incorporated, except as otherwise noted.
2. Condition A Sediment Barrier to be installed immediately after inlet or junction box is constructed.
3. Wire reinforced silt fence shall remain in place until excavated area is removed and Condition B is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
4. Wire reinforced silt fence may be substituted by silt fence wrapped around wood frame.

CONDITION B
(Area inlets at final grade and existing inlets)
(2015 Edition)

Maintenance:

Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
Repair or replace as necessary to maintain function and integrity of installation.

TEMPORARY SEDIMENT BARRIER
AREA INLET & JUNCTION BOX

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olssonassociates.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET (EROSION CONTROL)

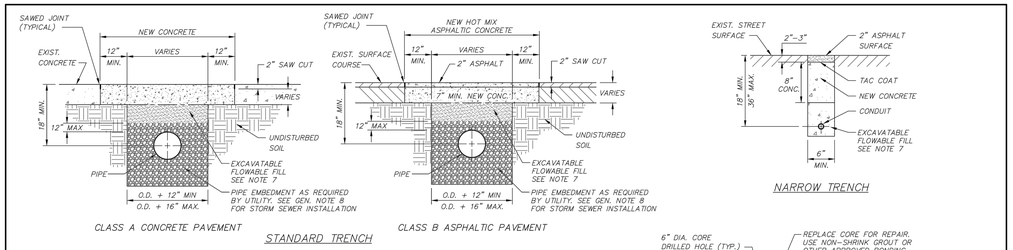
NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

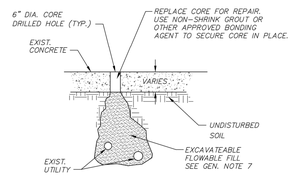
drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DETAILS\W_DTL_ERO_53269.dwg USER: kfulton
DATE: May 11, 2016 4:00pm XREFS: W_TBLK_53269



STANDARD TRENCH

NARROW TRENCH



UTILITY INVESTIGATION EXCAVATION REPAIR

GENERAL STREET REPAIR NOTES:

1. ANY PERSON WHO MAKES ANY EXCAVATION IN, ON, UNDER OR THROUGH ANY PUBLIC RIGHT-OF-WAY WITH OR WITHOUT A PERMIT IS OBLIGATED TO CLOSE SUCH EXCAVATION WITHIN FIFTEEN DAYS OF COMMENCEMENT THEREOF SO AS TO RESTORE THE SURFACE PERMANENTLY TO CONFORM TO THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL OF THE CITY OF SHAWNEE, AND TO REPAIR ANY SINKING OR DAMAGE TO THE SURFACE OR IMPROVEMENTS THEREON RESULTING FROM SUCH EXCAVATION WITHIN TWO YEARS THEREAFTER.
2. SHAWNEE DESIGN AND CONSTRUCTION MANUAL, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, AND SPECIAL PROVISIONS ARE INCORPORATED EXCEPT AS OTHERWISE NOTED.
3. ANY EXCAVATION LEFT OPEN OVERNIGHT ON ANY THOROUGHFARE OR COLLECTOR TYPE STREET SHALL BE SECURELY PLATED.
4. THE PAVEMENT REMOVED SHALL BE REPLACED WITH HIGH EARLY STRENGTH KCMMB4K MIX HAVING A MINIMUM COMPRESSIVE STRENGTH OF THREE THOUSAND POUNDS PER SQUARE INCH WITHIN 24 HOURS.
5. CONCRETE SHALL REACH A MINIMUM 3000 POUNDS PER SQUARE INCH PRIOR TO PLACING THE ASPHALTIC CONCRETE SURFACE. TO OPEN TO TRAFFIC CONTRACTOR MAY BE REQUIRED TO INSTALL STEEL PLATES AS REQUIRED BY CITY ENGINEER.
6. NARROW TRENCH TO BE USED ONLY WITH THE APPROVAL OF THE CITY ENGINEER.
7. FLOWABLE FILL SHALL MEET REQUIREMENTS AS SHOWN IN SECTION 4410 OF THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
8. FOR STORM SEWER INSTALLATION PIPE EMBEDMENT SHALL BE FILLED NO HIGHER THEN THE PIPE SPRINGLINE ELEVATION.

NOTES:

1. FOR USE IN AREAS WHERE REPAIRS ARE LESS THAN 1 S.F.
2. FOR REPAIR ARES GREATER THAN 1 S.F. OR NON-CORE DRILLED PAVEMENT CUT SEE STREET REPAIR DETAIL.
3. NON-SHRINK GROUT, HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 24 HOURS SHALL CONFORM TO ASTM C1107.
4. CONTACT THE CITY REPRESENTATIVE REGARDING APPROVED BONDING AGENT.

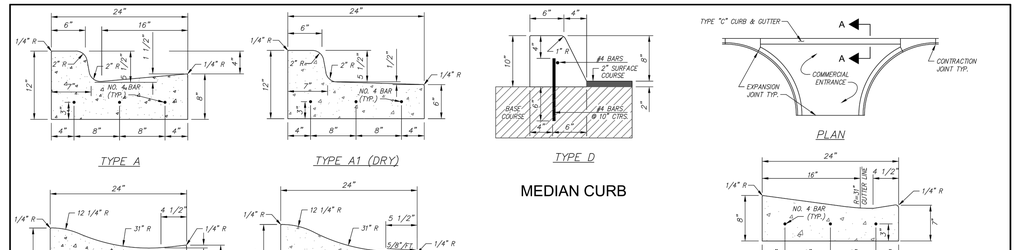
STREET REPAIR DETAILS

Date	Revision	By	Appr
3-1-16	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-07	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL

STREET REPAIR DETAILS

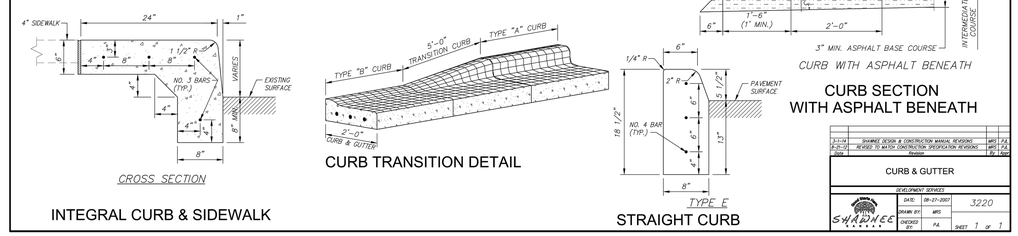
DEVELOPMENT SERVICES — SHAWNEE, KANSAS

DATE: 08-27-2007 | DRAWN BY: MRS | CHECKED BY: PJL | SHEET 1 OF 1 | 3202-2



NOTES:

1. 1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE PLACED AT POINTS OF CURVATURE, CURB RETURNS, CURB INLETS, AND AT 250' CENTERS. CONTRACTION JOINTS SHALL BE 2" DEEP AND PLACED AT 10' INTERVALS EQUALLY SPACED BETWEEN EXPANSION JOINTS.
2. ALL CONCRETE USED FOR A PUBLIC IMPROVEMENT SHALL COMPLY WITH THE STANDARDS AND SPECIFICATIONS OF THE KANSAS CITY METRO MATERIALS BOARD (KCMMB). THE CONTRACTOR SHALL PROVIDE TO THE CITY ENGINEER THE CONCRETE SUPPLIER AND THE MIX NUMBER (KCMMB4K).
3. ALL REINFORCING STEEL SHALL BE TIED AND SUPPORTED ON CHAIRS.
4. JOINTS SHALL BE TOOLED IF CURB IS HAND FORMED.

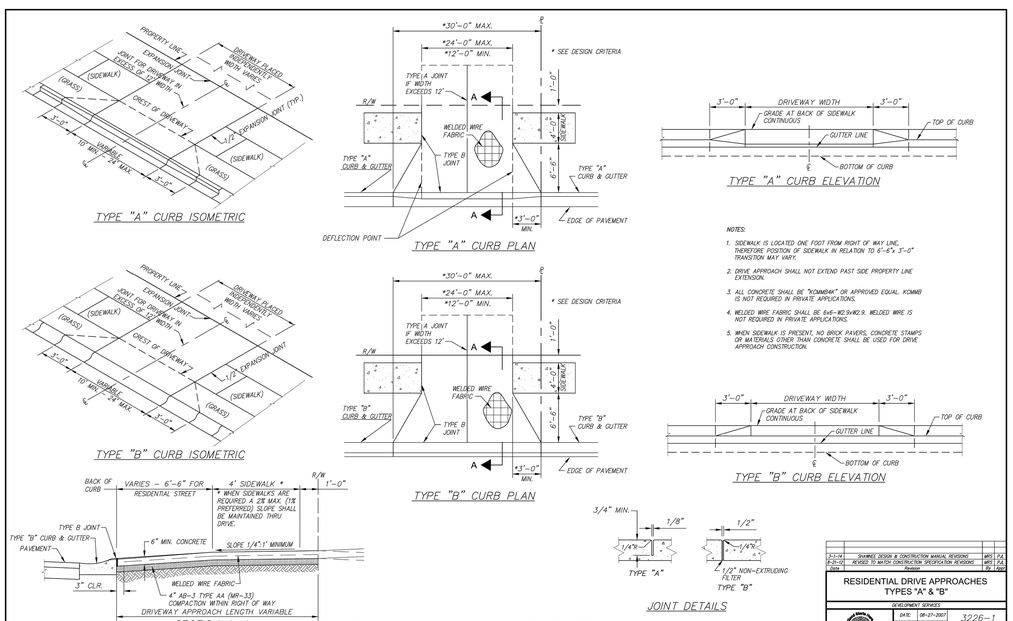


Date	Revision	By	Appr
3-1-16	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-07	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL

CURB & GUTTER

DEVELOPMENT SERVICES — SHAWNEE, KANSAS

DATE: 08-27-2007 | DRAWN BY: MRS | CHECKED BY: PJL | SHEET 1 OF 1 | 3220



NOTES:

1. SIDEWALK IS LOCATED ONE FOOT FROM RIGHT OF WAY LINE, THEREFORE POSITION OF SIDEWALK IN RELATION TO 6'-6"x 3'-0" TRANSITION MAY VARY.
2. DRIVE APPROACH SHALL NOT EXTEND PAST SIDE PROPERTY LINE EXTENSION.
3. ALL CONCRETE SHALL BE "KCMMB4K" OR APPROVED EQUAL. KCMMB IS NOT REQUIRED IN PRIVATE APPLICATIONS.
4. WELDED WIRE FABRIC SHALL BE 6x6–W2.9xW2.9. WELDED WIRE IS NOT REQUIRED IN PRIVATE APPLICATIONS.
5. WHEN SIDEWALK IS PRESENT, NO BRICK PAVERS, CONCRETE STAMPS OR MATERIALS OTHER THAN CONCRETE SHALL BE USED FOR DRIVE APPROACH CONSTRUCTION.

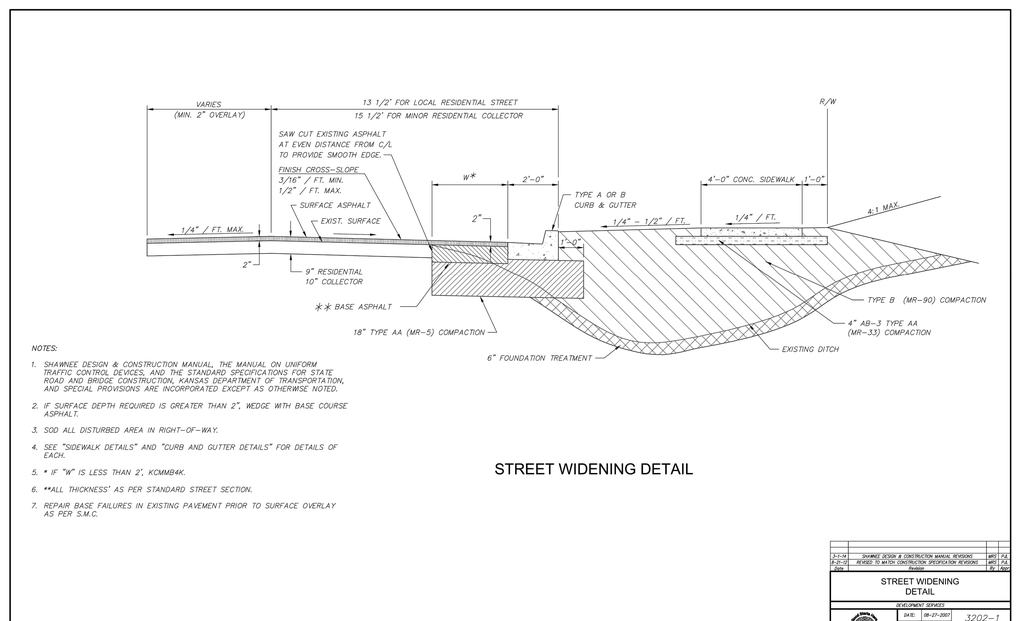
RESIDENTIAL DRIVE APPROACHES

Date	Revision	By	Appr
3-1-16	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-07	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL

RESIDENTIAL DRIVE APPROACHES TYPES "A" & "B"

DEVELOPMENT SERVICES — SHAWNEE, KANSAS

DATE: 08-27-2007 | DRAWN BY: MRS | CHECKED BY: PJL | SHEET 1 OF 1 | 3226-1



NOTES:

1. SHAWNEE DESIGN & CONSTRUCTION MANUAL, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, AND SPECIAL PROVISIONS ARE INCORPORATED EXCEPT AS OTHERWISE NOTED.
2. IF SURFACE DEPTH REQUIRED IS GREATER THAN 2", WEDGE WITH BASE COURSE ASPHALT.
3. SOD ALL DISTURBED AREA IN RIGHT-OF-WAY.
4. SEE "SIDEWALK DETAILS" AND "CURB AND GUTTER DETAILS" FOR DETAILS OF EACH.
5. * IF "W" IS LESS THAN 2', KCMMB4K.
6. **ALL THICKNESS" AS PER STANDARD STREET SECTION.
7. REPAIR BASE FAILURES IN EXISTING PAVEMENT PRIOR TO SURFACE OVERLAY AS PER S.M.C.

STREET WIDENING DETAIL

Date	Revision	By	Appr
3-1-16	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-07	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL

STREET WIDENING DETAIL

DEVELOPMENT SERVICES — SHAWNEE, KANSAS

DATE: 08-27-2007 | DRAWN BY: MRS | CHECKED BY: PJL | SHEET 1 OF 1 | 3202-1

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olssonassociates.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET (STREET)

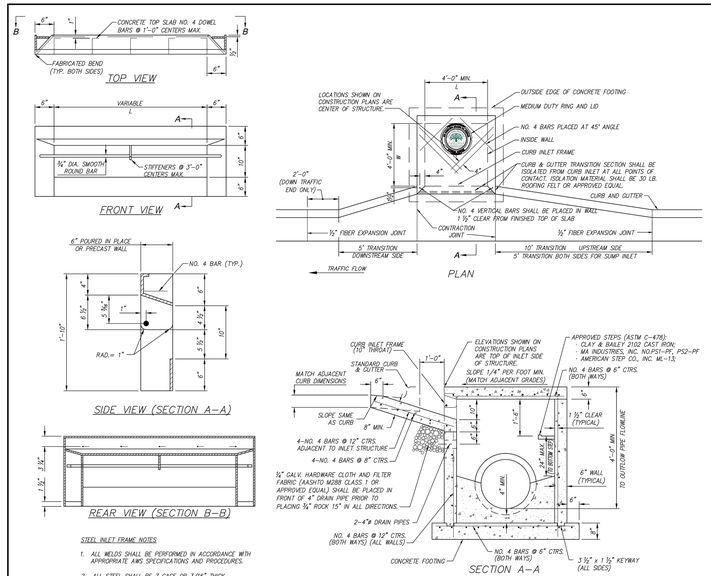
NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

SHAWNEE, KS

2016

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DETAILS\W_DTL_STR_53269.dwg USER: kfulton
DATE: May 11, 2016 4:00pm XREFS: W_TBLK_53269



STEEL INLET FRAME NOTES

1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
3. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
4. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A123.

INLET GENERAL NOTES

GENERAL

1. ALL STORM SEWER STRUCTURES SHALL BE PRECAST OR POURED IN PLACE. TOPS SHALL BE POURED IN PLACE AND WALL STEEL SHALL BE LEFT EXPOSED TO A HEIGHT 2" BELOW THE FINISH TOP ELEVATION, OR AS DIRECTED BY THE CITY ENGINEER.
2. PRECAST SHOP DRAWINGS ARE TO BE APPROVED BY THE CITY ENGINEER (OR REPRESENTATIVE THEREOF) FOR PUBLICLY FINANCED OR ADMINISTERED PROJECTS. PRECAST SHOP DRAWINGS FOR PRIVATELY FINANCED PROJECTS ARE TO BE SUBMITTED TO THE ENGINEER.
3. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
4. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("L"x"W") AND ("W"x"H") LESS THEN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.
5. RING & COVER TO BE EAST JORDAN IRON WORKS #0015032, NEENAH #2016 OR APPROVED EQUAL.
6. INLET TOPS SHALL BE SLOPED WITH CURB PROFILE.

CONCRETE

7. CONCRETE USED IN THIS WORK SHALL BE KCMMBK FOR ALL PRECAST STRUCTURAL COMPONENTS, AND KCMMBSK FOR ALL POURED–IN–PLACE COMPONENTS AS APPROVED BY THE KANSAS CITY METROPOLITAN MATERIALS BOARD, AND SHALL MEET THE REQUIREMENTS OF THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
8. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
9. INLET FLOORS SHALL BE SHAPED WITH NON–REINFORCED KCMMBK CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
10. BEVEL ALL EXPOSED EDGES WITH ¾" TRIANGULAR MOLDING.

REINFORCING STEEL

11. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
12. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/– ⅛" SHALL BE PERMITTED.
13. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
14. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'–0" MAXIMUM SPACING.
15. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STOKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.

CONSTRUCTION

16. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.
17. PIPE CONNECTIONS TO PRE–CAST STRUCTURES SHALL HAVE A MINIMUM OF 6" OF CONCRETE AROUND THE ENTIRE PIPE WITHIN 2' OF THE STRUCTURE.
18. ALL STRUCTURES THAT ABUT SIDEWALK SHALL BE BACKFILLED WITH FLOWABLE FILL TO UNEXCAVATED GROUND. FLOWABLE FILL SHALL BE BROUGHT TO 12" BELOW FINISHED GRADE. REMAINING BACKFILL SHALL MEET THE STANDARD DETAILS FOR SIDEWALK CONSTRUCTION.
19. MATERIAL SELECTION AND COMPACTION REQUIREMENTS FOR BACKFILL AROUND STRUCTURES SHALL BE AS SPECIFIED IN THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
20. ALL TOPS SHALL BE POURED–IN–PLACE USING KCMMBSK.
21. ALL INVERTS & CONNECTIONS SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF STRUCTURE.

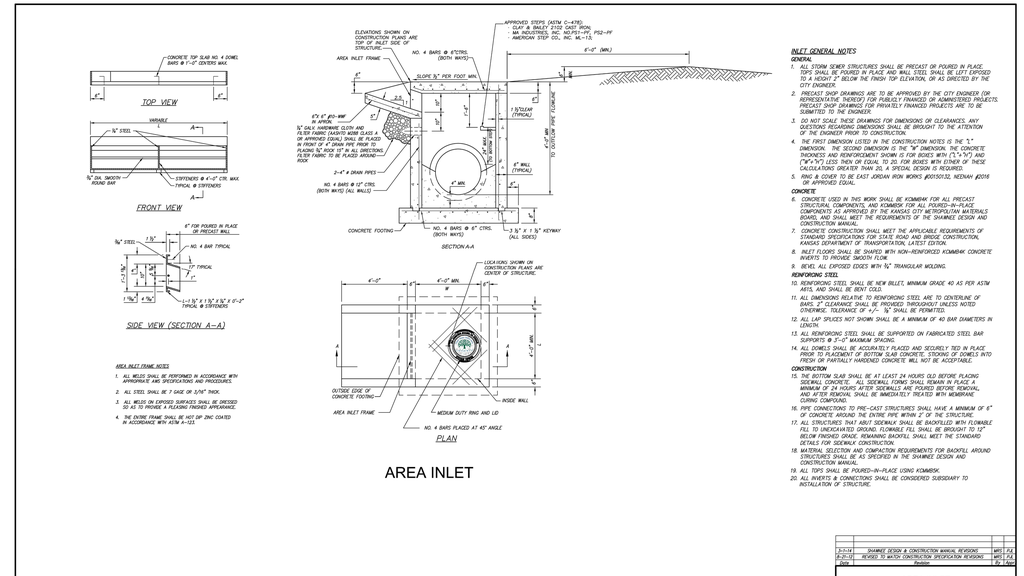
3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL
Date	Revision	By	Appr

SETBACK CURB INLET DETAIL

DEVELOPMENT SERVICES — SHAWNEE

DATE:	08-27-2007	3310–1
DRAWN BY:	MRS	
CHECKED BY:	PJL	SHEET 1 OF 1

SETBACK CURB INLET DETAIL



AREA INLET

INLET GENERAL NOTES

GENERAL

1. ALL STORM SEWER STRUCTURES SHALL BE PRECAST OR POURED IN PLACE. TOPS SHALL BE POURED IN PLACE AND WALL STEEL SHALL BE LEFT EXPOSED TO A HEIGHT 2" BELOW THE FINISH TOP ELEVATION, OR AS DIRECTED BY THE CITY ENGINEER.
2. PRECAST SHOP DRAWINGS ARE TO BE APPROVED BY THE CITY ENGINEER (OR REPRESENTATIVE THEREOF) FOR PUBLICLY FINANCED OR ADMINISTERED PROJECTS. PRECAST SHOP DRAWINGS FOR PRIVATELY FINANCED PROJECTS ARE TO BE SUBMITTED TO THE ENGINEER.
3. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
4. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("L"x"W") AND ("W"x"H") LESS THEN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.
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20. ALL INVERTS & CONNECTIONS SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF STRUCTURE.
21. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
22. ALL STEEL SHALL BE 7 GAGE OR 3/16" THICK.
23. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
24. THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A123.

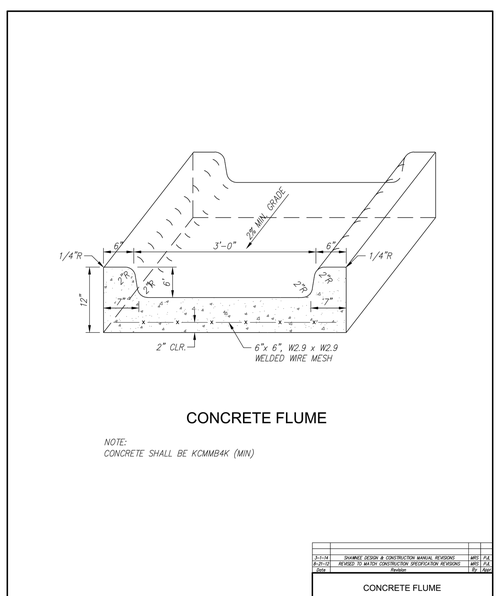
3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL
Date	Revision	By	Appr

AREA INLET

DEVELOPMENT SERVICES — SHAWNEE

DATE:	08-27-2007	3310–2
DRAWN BY:	MRS	
CHECKED BY:	PJL	SHEET 1 OF 1

AREA INLET



CONCRETE FLUME

NOTE:
CONCRETE SHALL BE KCMMB4K (MIN)

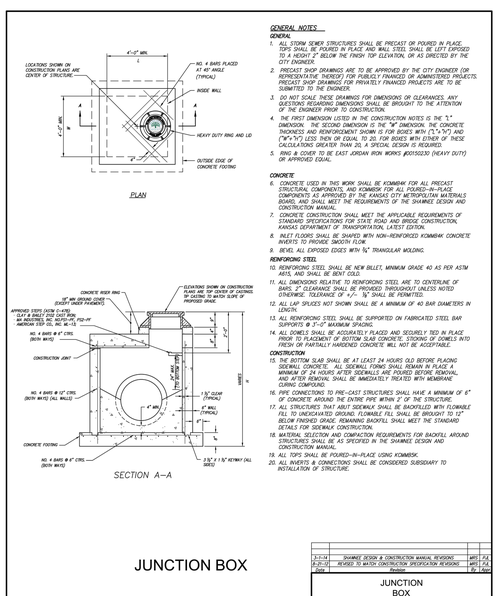
3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL
Date	Revision	By	Appr

CONCRETE FLUME

DEVELOPMENT SERVICES — SHAWNEE

DATE:	08-21-2007	3320–3
DRAWN BY:	MRS	
CHECKED BY:	PJL	SHEET 1 OF 1

CONCRETE FLUME



GENERAL NOTES

GENERAL

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2. PRECAST SHOP DRAWINGS ARE TO BE APPROVED BY THE CITY ENGINEER (OR REPRESENTATIVE THEREOF) FOR PUBLICLY FINANCED OR ADMINISTERED PROJECTS. PRECAST SHOP DRAWINGS FOR PRIVATELY FINANCED PROJECTS ARE TO BE SUBMITTED TO THE ENGINEER.
3. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
4. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("L"x"W") AND ("W"x"H") LESS THEN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.
5. RING & COVER TO BE EAST JORDAN IRON WORKS #0015032 (HEAVY DUTY) OR APPROVED EQUAL.

CONCRETE

6. CONCRETE USED IN THIS WORK SHALL BE KCMMBK FOR ALL PRECAST STRUCTURAL COMPONENTS, AND KCMMBSK FOR ALL POURED–IN–PLACE COMPONENTS AS APPROVED BY THE KANSAS CITY METROPOLITAN MATERIALS BOARD, AND SHALL MEET THE REQUIREMENTS OF THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
7. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, LATEST EDITION.
8. INLET FLOORS SHALL BE SHAPED WITH NON–REINFORCED KCMMBK CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
9. BEVEL ALL EXPOSED EDGES WITH ¾" TRIANGULAR MOLDING.

REINFORCING STEEL

10. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
11. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/– ⅛" SHALL BE PERMITTED.
12. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
13. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'–0" MAXIMUM SPACING.
14. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STOKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.

CONSTRUCTION

15. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.
16. PIPE CONNECTIONS TO PRE–CAST STRUCTURES SHALL HAVE A MINIMUM OF 6" OF CONCRETE AROUND THE ENTIRE PIPE WITHIN 2' OF THE STRUCTURE.
17. ALL STRUCTURES THAT ABUT SIDEWALK SHALL BE BACKFILLED WITH FLOWABLE FILL TO UNEXCAVATED GROUND. FLOWABLE FILL SHALL BE BROUGHT TO 12" BELOW FINISHED GRADE. REMAINING BACKFILL SHALL MEET THE STANDARD DETAILS FOR SIDEWALK CONSTRUCTION.
18. MATERIAL SELECTION AND COMPACTION REQUIREMENTS FOR BACKFILL AROUND STRUCTURES SHALL BE AS SPECIFIED IN THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL.
19. ALL TOPS SHALL BE POURED–IN–PLACE USING KCMMBSK.
20. ALL INVERTS & CONNECTIONS SHALL BE CONSIDERED SUBSIDIARY TO INSTALLATION OF STRUCTURE.

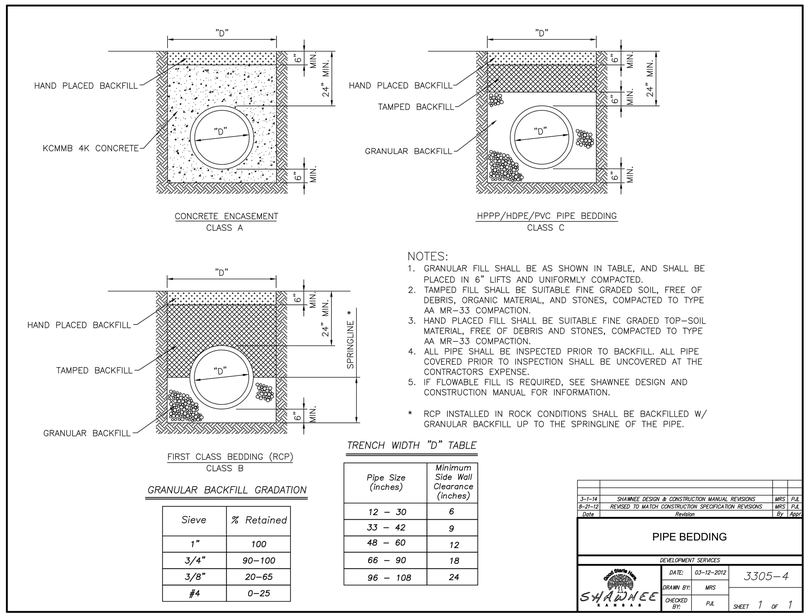
3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL
Date	Revision	By	Appr

JUNCTION BOX

DEVELOPMENT SERVICES — SHAWNEE

DATE:	08-27-2007	3310–4
DRAWN BY:	MRS	
CHECKED BY:	PJL	SHEET 1 OF 1

JUNCTION BOX



NOTES:

1. GRANULAR FILL SHALL BE AS SHOWN IN TABLE, AND SHALL BE PLACED IN 6" LIFTS AND UNIFORMLY COMPACTED.
2. TAMPED FILL SHALL BE SUITABLE FINE GRADED SOIL, FREE OF DEBRIS, ORGANIC MATERIAL, AND STONES, COMPACTED TO TYPE AA MR–33 COMPACTION.
3. HAND PLACED FILL SHALL BE SUITABLE FINE GRADED TOP–SOIL MATERIAL, FREE OF DEBRIS AND STONES, COMPACTED TO TYPE AA MR–33 COMPACTION.
4. ALL PIPE SHALL BE INSPECTED PRIOR TO BACKFILL. ALL PIPE COVERED PRIOR TO INSPECTION SHALL BE UNCOVERED AT THE CONTRACTORS EXPENSE.
5. IF FLOWABLE FILL IS REQUIRED, SEE SHAWNEE DESIGN AND CONSTRUCTION MANUAL FOR INFORMATION.

* RCP INSTALLED IN ROCK CONDITIONS SHALL BE BACKFILLED W/ GRANULAR BACKFILL UP TO THE SPRINGLINE OF THE PIPE.

GRANULAR BACKFILL GRADATION

Sieve	% Retained
1"	100
3/4"	90–100
3/8"	20–65
#4	0–25

TRENCH WIDTH "D" TABLE

Pipe Size (inches)	Minimum Side Wall Clearance (inches)
12 – 30	6
33 – 42	9
48 – 60	12
66 – 90	18
96 – 108	24

3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL
Date	Revision	By	Appr

PIPE BEDDING

DEVELOPMENT SERVICES — SHAWNEE

DATE:	03-12-2012	3305–4
DRAWN BY:	MRS	
CHECKED BY:	PJL	SHEET 1 OF 1

PIPE BEDDING

OLSSON ASSOCIATES®
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Overland Park, KS 66213-4750
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FAX 913.381.1174
www.olssonassociates.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET (STORM)

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

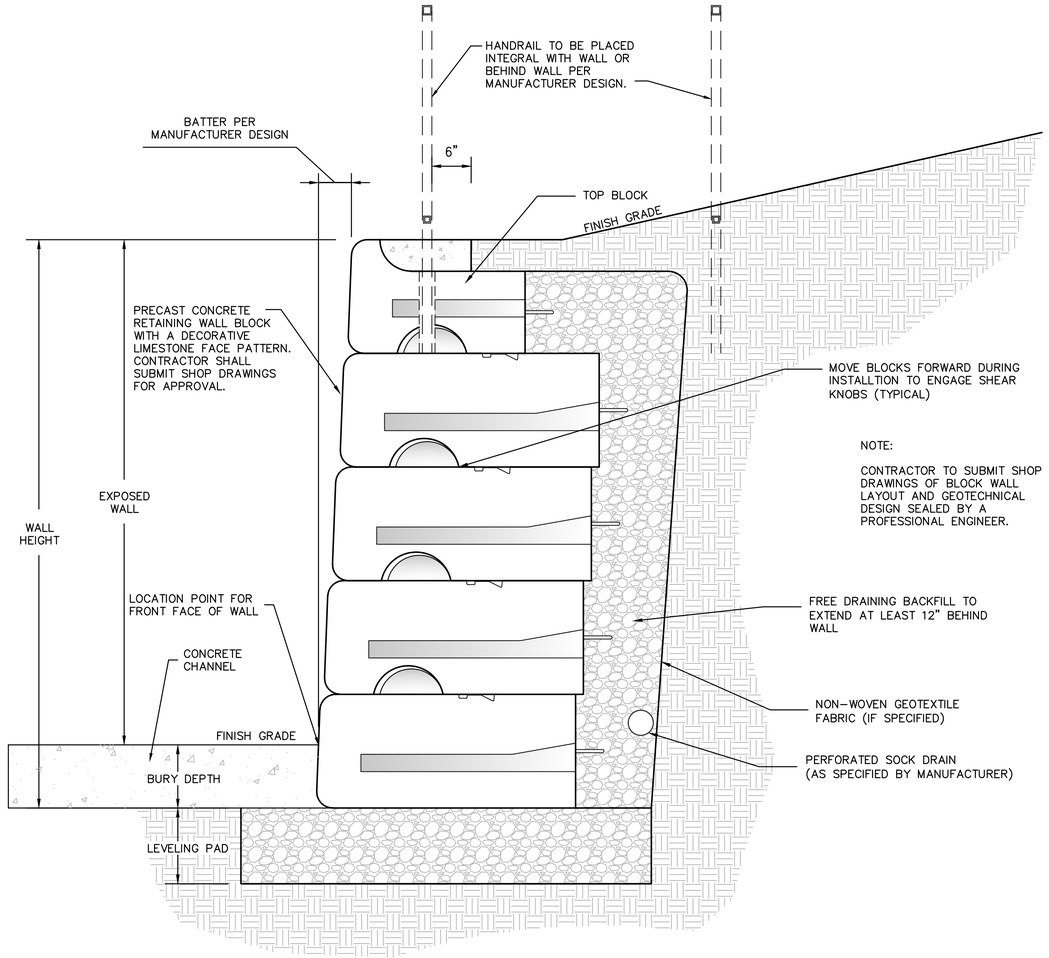
SHAWNEE, KS

2016

drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015–3269
drawing no.:	
date:	05/12/16

SHEET
81 of 84

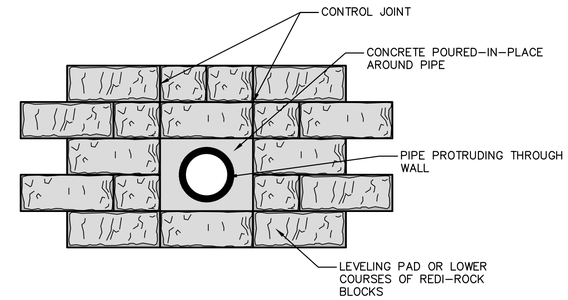
DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DETAILS\W_DTL_STM_53269.dwg USER: kfulton
DATE: May 11, 2016 4:01pm XREFS: W_TBLK_53269



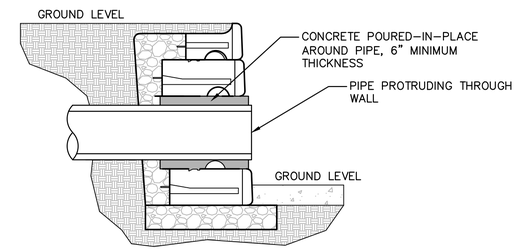
NOTE:

CONTRACTOR TO SUBMIT SHOP DRAWINGS OF BLOCK WALL LAYOUT AND GEOTECHNICAL DESIGN SEALED BY A PROFESSIONAL ENGINEER.

TYPICAL RETAINING WALL SECTION



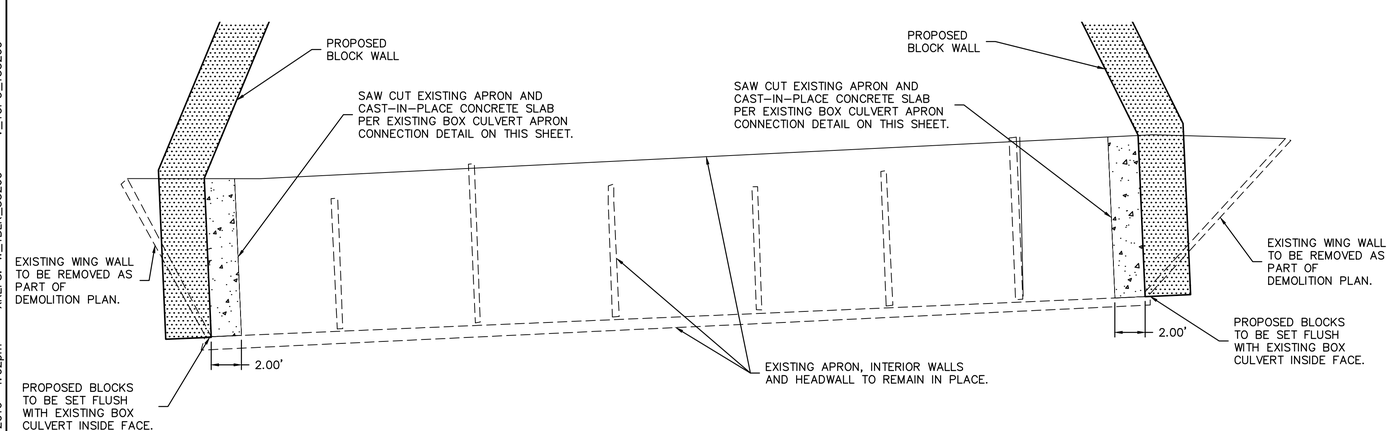
PROFILE VIEW



SECTION VIEW

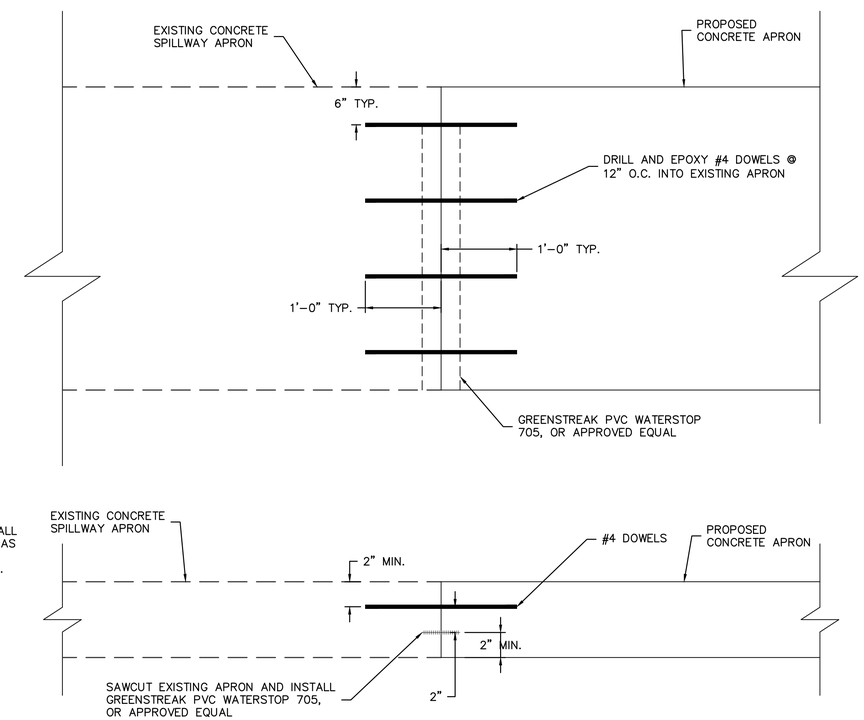
PIPE PENETRATION DETAIL

N.T.S.



EXISTING BOX CULVERT APRON CONNECTION PLAN VIEW

N.T.S.



EXISTING BOX CULVERT APRON CONNECTION DETAIL

N.T.S.

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Overland Park, KS 66213-4750
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FAX 913.381.1174
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET - WALLS

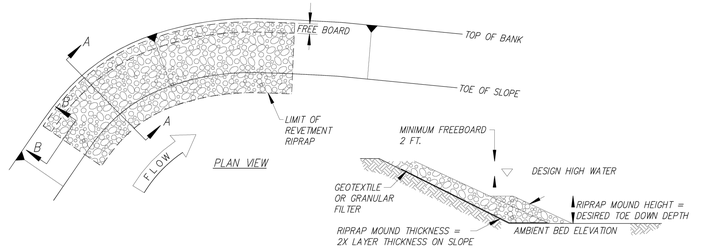
NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

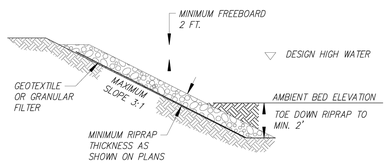
drawn by:	KTF
checked by:	JEL
approved by:	
QA/QC by:	CPJ
project no.:	015-3269
drawing no.:	
date:	05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DETAILS\W_DTL_WALL_53269.dwg USER: kfulton
DATE: May 11, 2016 4:02pm XREFS: W_TBLK_53269 V_TOPO_153269

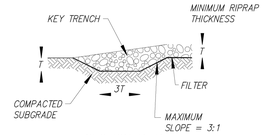


PLAN VIEW

SECTION A–A
(REVETMENT RIPRAP SHOWING MOUNDED TOE SLOPE TERMINATION)



SECTION A–A
(REVETMENT RIPRAP SHOWING TOE DOWN SLOPE TERMINATION)



SECTION B–B

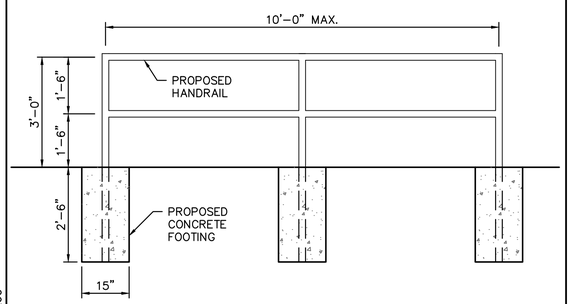
1-3-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS P.A.
8-21-13	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS P.A.
DATE	Revision	By Appr.

RIP-RAP

DEVELOPMENT SERVICES

SHAWNEE KANSAS

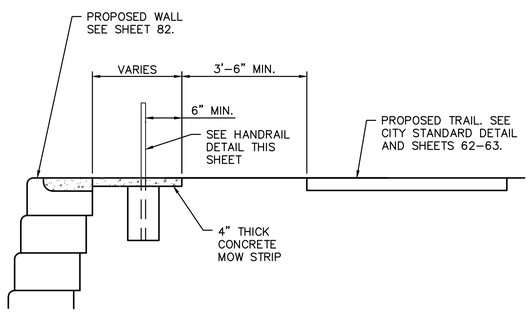
DATE:	08-27-2007	3311–2
DRAWN BY:	MRS	
CHECKED BY:	P.A.	SHEET 1 OF 1



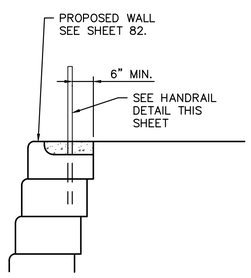
HANDRAIL DETAIL
NOT TO SCALE

HANDRAIL NOTES:

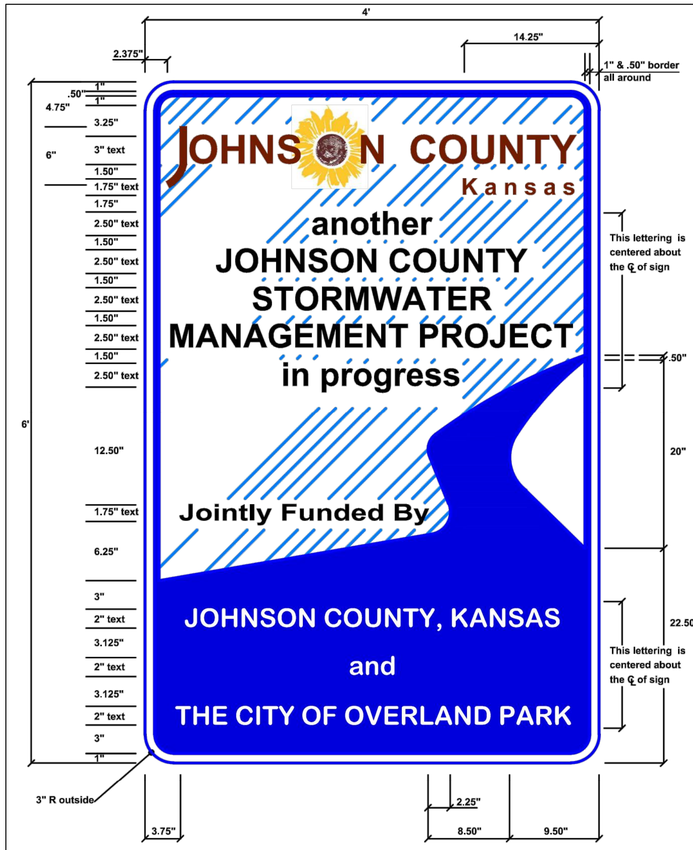
1. ALL RAILS AND POSTS SHALL BE SQUARE TUBING 2" NOMINAL PIPE AND SHALL BE GALVANIZED & PAINTED WITH 2 COATS OF "FOREST GREEN" PAINT. COLOR SHALL BE SUBMITTED TO CITY ENGINEER FOR APPROVAL PRIOR TO USE.
2. FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION.
3. ALL SHOP AND FIELD WELDING SHALL CONFORM TO AWS STRUCTURAL WELDING CODE STEEL, ANSI/AWS 01.1.
4. ALL WELDING SHALL BE DONE BY AWS CERTIFIED WELDERS HAVING CURRENT CERTIFICATION IN TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES.
5. THE HANDRAIL HEIGHT SHALL MEET ADA REQUIREMENTS.



HANDRAIL PLACEMENT DETAIL
(IF PLACED BEHIND WALL)
NOT TO SCALE



HANDRAIL PLACEMENT DETAIL
(IF PLACED INTEGRAL WITH WALL)
NOT TO SCALE



Johnson County Logo:
All Fonts: "Arial" (see sign for text height)
Logo colors as follows:
PMS 490C - Johns n County
Kansas
PMS 123C - Flower
PMS 490C - Middle of Flower

Lettering - Color / Font As Follows:
(see sign for text height)

Black Arial Bold:

another
JOHNSON COUNTY
STORMWATER
MANAGEMENT PROJECT
in progress

Jointly Funded By

White Arial Bold:

JOHNSON COUNTY, KANSAS
and
THE CITY OF OVERLAND PARK

PMS 286:

Border and water background
Simulated rain @ 45 degree angle

NOTES:

SIGN TO BE ERECTED PRIOR TO CONSTRUCTION ACTIVITY, MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND REMOVED UPON COMPLETION OF THE PROJECT.

LOCATION OF SIGN TO BE DETERMINED BY THE ENGINEER.

NAME OF THE COOPERATING CITY TO BE SUPPLIED BY THE ENGINEER.

IF METAL IS USED, THE SIGN SHALL BE .080 GA ALUMINUM, SHEETED WITH WHITE VINYL.

IF WOOD IS USED, THE SIGN SHALL BE 3/4" MDO, 1 SIDE PREPRIMED WITH FACE & EDGES PAINTED WHITE.

ALL SIGN HARDWARE AND INSTALLATION IS AS PER CITY STANDARD, KDOT STANDARD OR AS SHOWN ON THE PLANS.

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
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REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET (MISC.)

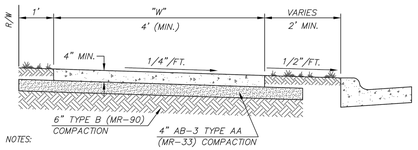
NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015–3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015–3269\40–Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DETAILS\W_DTL_MSC01_53269.dwg USER: kfulton
DATE: May 11, 2016 4:02pm XREFS: W_TBLK_53269



NOTES:

1. TOOLED JOINTS SHALL BE PLACED "W" CENTERS.
2. EXPANSION JOINTS SHALL BE PLACED AT 250' CENTERS AND WHERE WALK ABUTS EXISTING CONCRETE.
3. ALL CONCRETE SHALL BE KCMMB4K.
4. ALL SIDES OF EACH PANEL SHALL HAVE A 3" "PICTURE FRAME" EDGING, UNLESS OTHERWISE APPROVED OR NOTED ON THE PLANS.
5. WHEN UTILITY SERVICE BOXES, METER BOXES, ETC. WHICH MEASURE LESS THAN 1 FT. SQUARE MUST BE PLACED IN THE SIDEWALK, THE UTILITY SERVICE BOXES, ETC. SHALL BE NO CLOSER TO ANY EDGE OF THE SIDEWALK PANEL THAN 1 FT.
6. WHEN UTILITY BOXES, METER BOXES, ETC. GREATER THAN 1 FT. IN ANY DIMENSION MUST BE PLACED IN THE SIDEWALK, THEY SHALL BE PLACED IN THE CORNER OF THE SIDEWALK PANEL. IN ADDITION, FLOWABLE FILL SHALL BE USED AS BACKFILL FOR THESE STRUCTURES AND SHALL EXTEND TO UNEXCAVATED GROUND.
7. AN ISOLATION JOINT SHALL BE PLACED BETWEEN THE CONCRETE AND ANY UTILITY BOX, ETC. WHICH IS PLACED IN THE SIDEWALK.
8. NO SECTION OF SIDEWALK LESS THAN 12" IN ANY DIMENSION.
9. AB-3 MUST BE MOIST (MIN 5% MOISTURE) AND COMPACTED. CLEAN ROCK (¾") SHALL BE USED WHERE SIDEWALK IS PLACED LESS THAN 100' IN A CONTINUOUS LENGTH AND WHERE SIDEWALK IS PLACES AS PART OF A BUILDING PERMIT FOR A SINGLE FAMILY OR MULTI-FAMILY UNIT.
10. IT IS THE CONTRACTORS RESPONSIBILITY TO CONSTRUCT SIDEWALK PER ADA REQUIREMENTS.
11. REFER TO SECTION 4405 FOR CURING REQUIREMENTS.

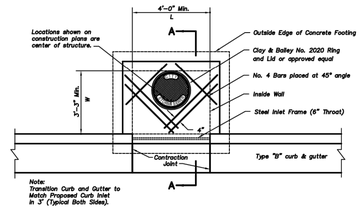
TYPICAL SIDEWALK

Date	Revision	By	Appr
3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL

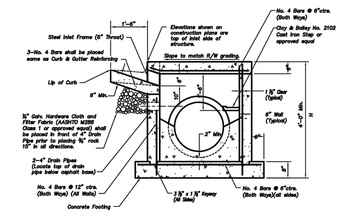
TYPICAL SIDEWALK

DEVELOPMENT SERVICES

DATE: 08-27-2007	3225-1	
DRAWN BY: MRS		
CHECKED BY: PJL	SHEET 1 OF 1	

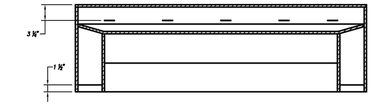


PLAN
Scale: ½"=1'-0"

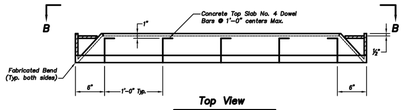


SECTION A–A
Scale: ¾"=1'-0"

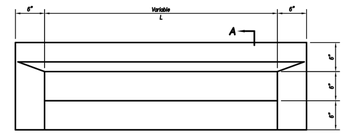
CURB INLET (6" THROAT)
(2009 Edition)



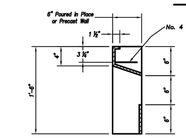
Rear View (Section B–B)
Not to Scale



Top View
Not to Scale



Front View
Not to Scale



Side View (Section A–A)
Not to Scale

CURB INLET FRAME (6" THROAT)
(2009 Edition)

Steel Inlet Frame Notes

1. All welds shall be performed in accordance with appropriate AWS Specifications and Procedures.
2. All flat steel shall be 7 Gage or 3/16" thick.
3. All welds on exposed surfaces shall be dressed so as to provide a pleasing finished appearance.
4. The entire frame shall be hot dip zinc coated in accordance with ASTM A-123.

Non-Setback Curb Inlet Notes

General

1. All storm sewer structures shall be pre-cast or poured in place. If pre-cast structures are used, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.
2. Pre-cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects. Pre-cast shop drawings for privately financed projects are to be submitted to the Engineering Services Division of the Planning and Development Services Department.
3. Do not scale these drawings for dimensions or clearances. Any questions regarding dimensions shall be brought to the attention of the City Engineer prior to construction.
4. On-grade inlets shall conform to the street grade and sump inlets shall be level.
5. The first dimension listed in the construction notes is the "L" dimension. The second dimension is the "W" dimension. The concrete thickness and reinforcement shown is for boxes with ("L"+"W") and ("W"+"W") less than or equal to 20. For boxes with either of these calculations greater than 20, a special design is required.

Concrete

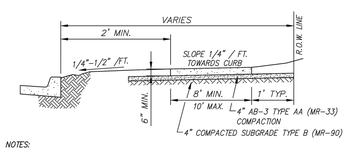
6. Concrete used in this work shall be KCMMB4K, as approved by the Kansas City Metropolitan Materials Board, and shall meet the requirements of the City of Shawnee's Technical Specifications and Design Criteria for Public Improvement Projects
7. Concrete construction shall meet the applicable requirements of Standard Specifications for State Road and Bridge Construction, Kansas Department of Transportation, latest edition, except as modified in the Overland Park Municipal Code.
8. Inlet floors shall be shaped with non-reinforced concrete inverts to provide smooth flow.
9. Bevel all exposed edges with ¾" triangular molding.

Reinforcing Steel

10. Reinforcing steel shall be new billet, minimum Grade 60 as per ASTM A615M, and shall be bent cold.
11. All dimensions relative to reinforcing steel are to centerline of bars. 2" clearance shall be provided throughout unless noted otherwise. Tolerance of +/- ½"shall be permitted.
12. All lap splices not shown shall be a minimum of 40 bar diameters in length.
13. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'-0" maximum spacing.
14. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.

Construction

15. The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.
16. All curb inlet tops are to be constructed after final curb string line has been approved by the Engineer and prior to curb construction, or as directed by the City Engineer.
17. Pipe connections to pre-cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.
18. Material selection and compaction requirements for backfill around structures shall be as specified in the Manual of Infrastructure Standards, as promulgated by the City Engineer.



NOTES:

1. JOINTS SHALL BE SAWED AT RIGHT ANGLES TO THE ALIGNMENT OF THE RECREATIONAL TRAIL AND TO THE DEPTHS INDICATED BELOW; NO TRANSVERSE TOOLED JOINTS ALLOWED.
2. THE RECREATIONAL TRAIL SHALL BE MARKED OFF INTO SQUARE STONES BY CONTRACTION JOINTS. CONTRACTION JOINTS SHALL BE ONE-EIGHTH (1/8) INCH WIDE BY ONE (1) INCH DEEP AND SHALL BE MADE WITH THE USE OF A CONCRETE SAW ONLY.
3. EXPANSION JOINTS SHALL BE FORMED BY A ONE-HALF (1/2) INCH THICK PREFORMED JOINT FILLER, EXTENDING THE FULL DEPTH OF THE SLAB, AND SECURED SO THAT THEY ARE NOT MOVED BY DEPOSITING AND COMPACTING THE CONCRETE AT THESE JOINTS. 3/4" JOINT FILLER WILL BE USED FOR 100' SPACING.
4. EXPANSION JOINTS SHALL BE PLACED WHERE THE TRAIL ABUTS OTHER STRUCTURES AND SHALL NOT BE SPACED MORE THAN 50 FEET APART ON STRAIGHT RUNS FOR HAND LAID TRAIL AND NOT MORE THAN 100 FEET APART ON STRAIGHT RUNS FOR MACHINE LAID TRAILS.
5. ALL CONCRETE SHALL BE "KCMMB4K".
9. AB-3 MUST BE MOIST (MIN 5% MOISTURE) AND COMPACTED. CLEAN ROCK (¾") SHALL BE USED WHERE SIDEWALK IS PLACED LESS THAN 100' IN A CONTINUOUS LENGTH AND WHERE SIDEWALK IS PLACES AS PART OF A BUILDING PERMIT FOR A SINGLE FAMILY OR MULTI-FAMILY UNIT.
10. REFER TO SECTION 4405 OF THE SHAWNEE DESIGN AND CONSTRUCTION MANUAL FOR CURING REQUIREMENTS.

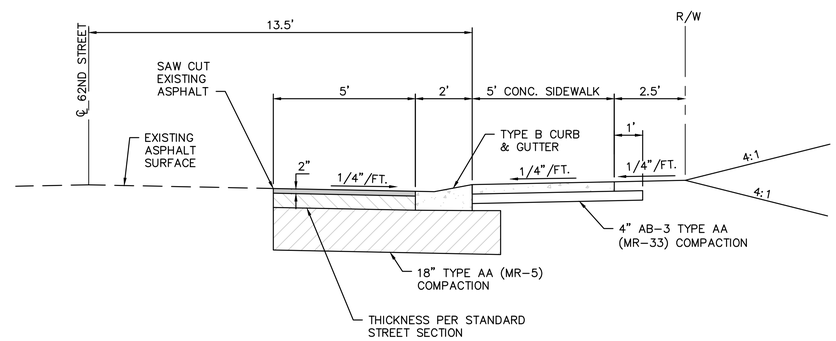
RECREATIONAL TRAIL

Date	Revision	By	Appr
3-1-14	SHAWNEE DESIGN & CONSTRUCTION MANUAL REVISIONS	MRS	PJL
8-21-12	REVISED TO MATCH CONSTRUCTION SPECIFICATION REVISIONS	MRS	PJL

RECREATIONAL TRAIL

DEVELOPMENT SERVICES

DATE: 08-27-2007	3230-1	
DRAWN BY: MRS		
CHECKED BY: PJL	SHEET 1 OF 1	



62ND STREET TYPICAL SECTION
NOT TO SCALE

NOTES:

1. SHAWNEE DESIGN & CONSTRUCTION MANUAL, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, AND SPECIAL PROVISIONS ARE INCORPORATED EXCEPT OTHERWISE NOTED.
2. SOD ALL DISTURBED AREA IN RIGHT-OF-WAY.
3. SEE "SIDEWALK DETAILS" AND "CURB AND GUTTER DETAILS" FOR DETAILS OF EACH.
4. REPAIR BASE FAILURES IN EXISTING PAVEMENT PRIOR TO SURFACE OVERLAY AS PER S.M.C.

OLSSON ASSOCIATES
7301 West 133rd Street, Suite 200
Overland Park, KS 66213-4750
TEL 913.381.1170
FAX 913.381.1174
www.olssonassociates.com

REV. NO.	DATE	REVISIONS DESCRIPTION	BY

REVISIONS

DETAIL SHEET (MISC.)

NIEMAN CORRIDOR SOUTH STORMWATER IMPROVEMENTS

2016

SHAWNEE, KS

drawn by: KTF
checked by: JEL
approved by:
QA/QC by: CPJ
project no.: 015-3269
drawing no.:
date: 05/12/16

DWG: F:\PROJECTS\015-3269\40-Design\AutoCAD\Final Plans\Sheets\WTRS\DWG\DETAILS\W_DTL_MSC02_53269.dwg USER: kfulton
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