

R PARK PHASE II  
ROELAND PARK, KANSAS  
PARK IMPROVEMENTS  
CONSTRUCTION DOCUMENTS



ALL UTILITIES ARE SHOWN BASED ON THE INFORMATION AVAILABLE TO THE ENGINEER. THERE IS NO GUARANTEE ALL FACILITIES ARE SHOWN OR THAT THE LOCATION, DEPTH, AND SIZE OF EACH FACILITY IS CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES AND SERVICE LINES PRIOR TO CONSTRUCTION. COORDINATE NECESSARY RELOCATIONS WITH UTILITY COMPANIES.

INDEX OF SHEETS

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UTILITY CONTACTS

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(913) 643-1961  
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RON.FRANK@CHARTER.COM

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(913) 599-8964  
ATTN.: HECTOR DUARTE  
HECTOR.DUARTE@ONEGAS.COM

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LENEXA, KANSAS 66219-9624  
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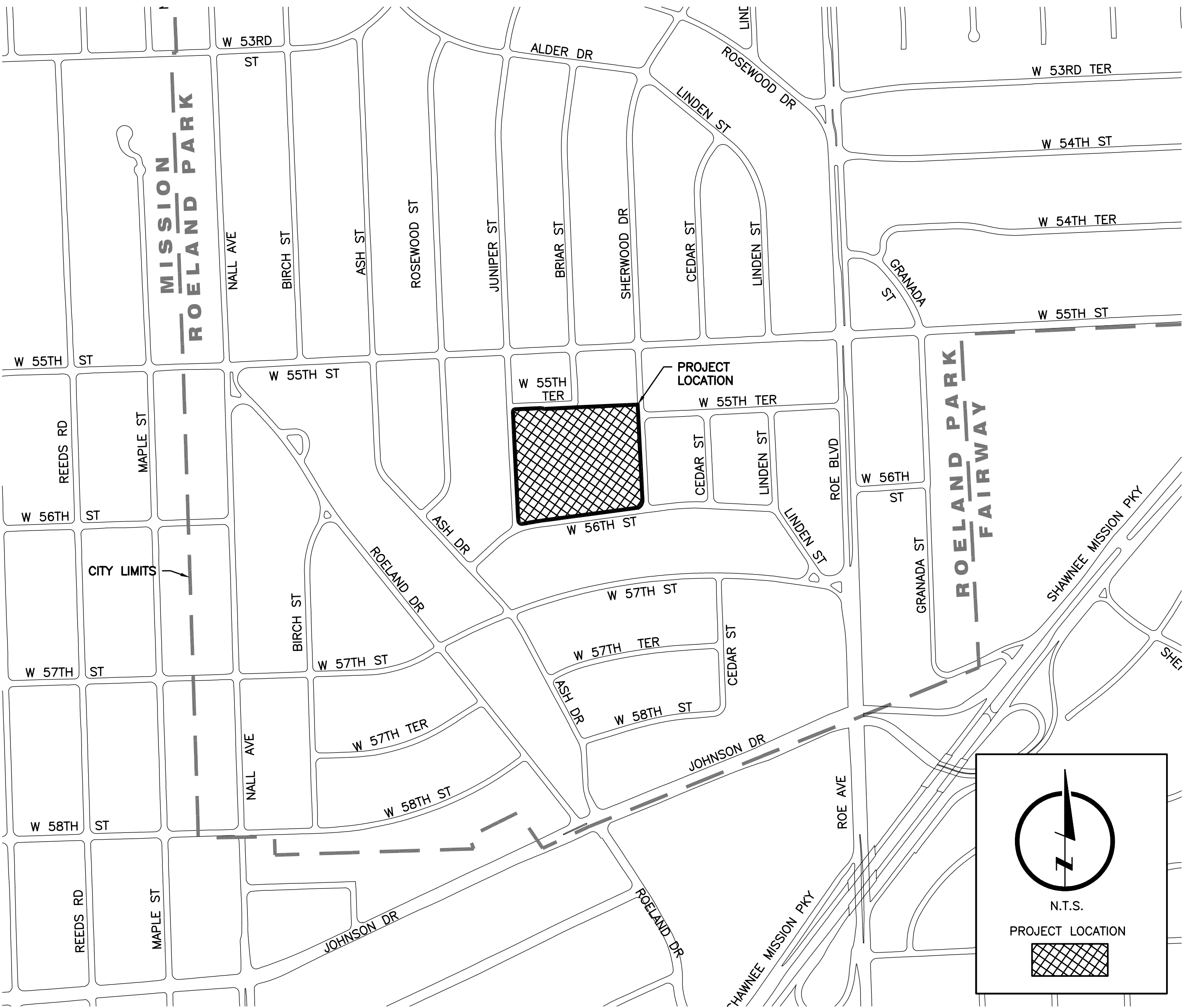
JOHNSON COUNTY UNIFIED  
WASTEWATER DISTRICT  
7311 W. 130TH SUITE 100  
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(913) 207-5234  
(913) 715-8537  
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MIKE.PILLER@JCW.ORG

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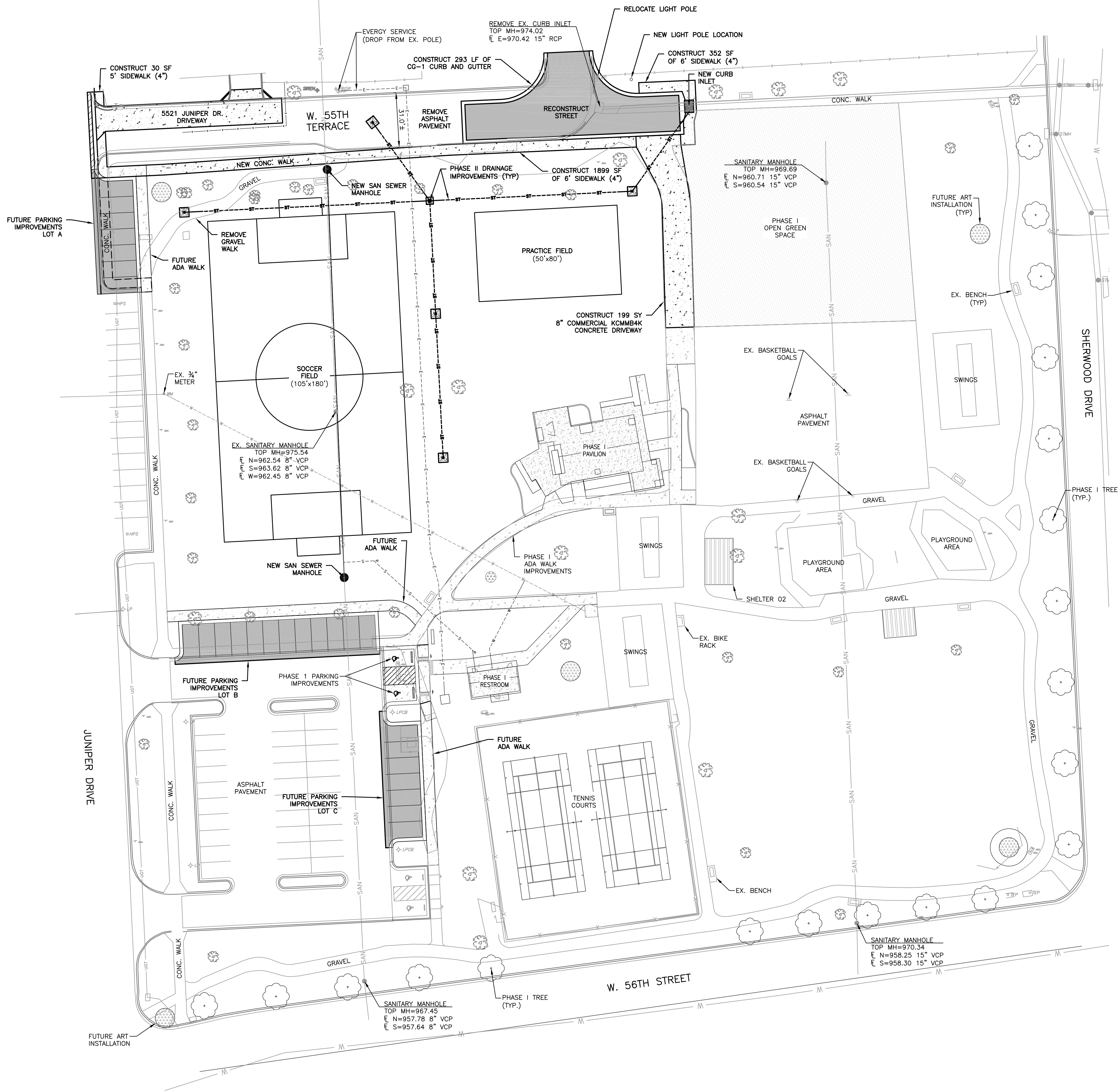
LOCATION MAP

APPROVED: \_\_\_\_\_ DATE: 01-28-2020  
MARK DANIEL MCGHEE JR.

APPROVED: \_\_\_\_\_ DATE: 1-28-2020  
DONNIE SCHARFF, DIRECTOR OF PUBLIC WORKS  
ROELAND PARK, KANSAS

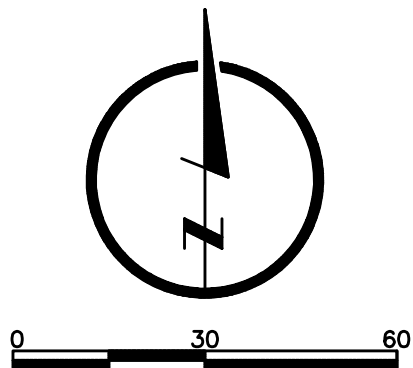


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## CONSTRUCTION DOCUMENTS

### SITE PLAN

#### R PARK - PHASE II ROELAND PARK, KANSAS

#### REVISIONS

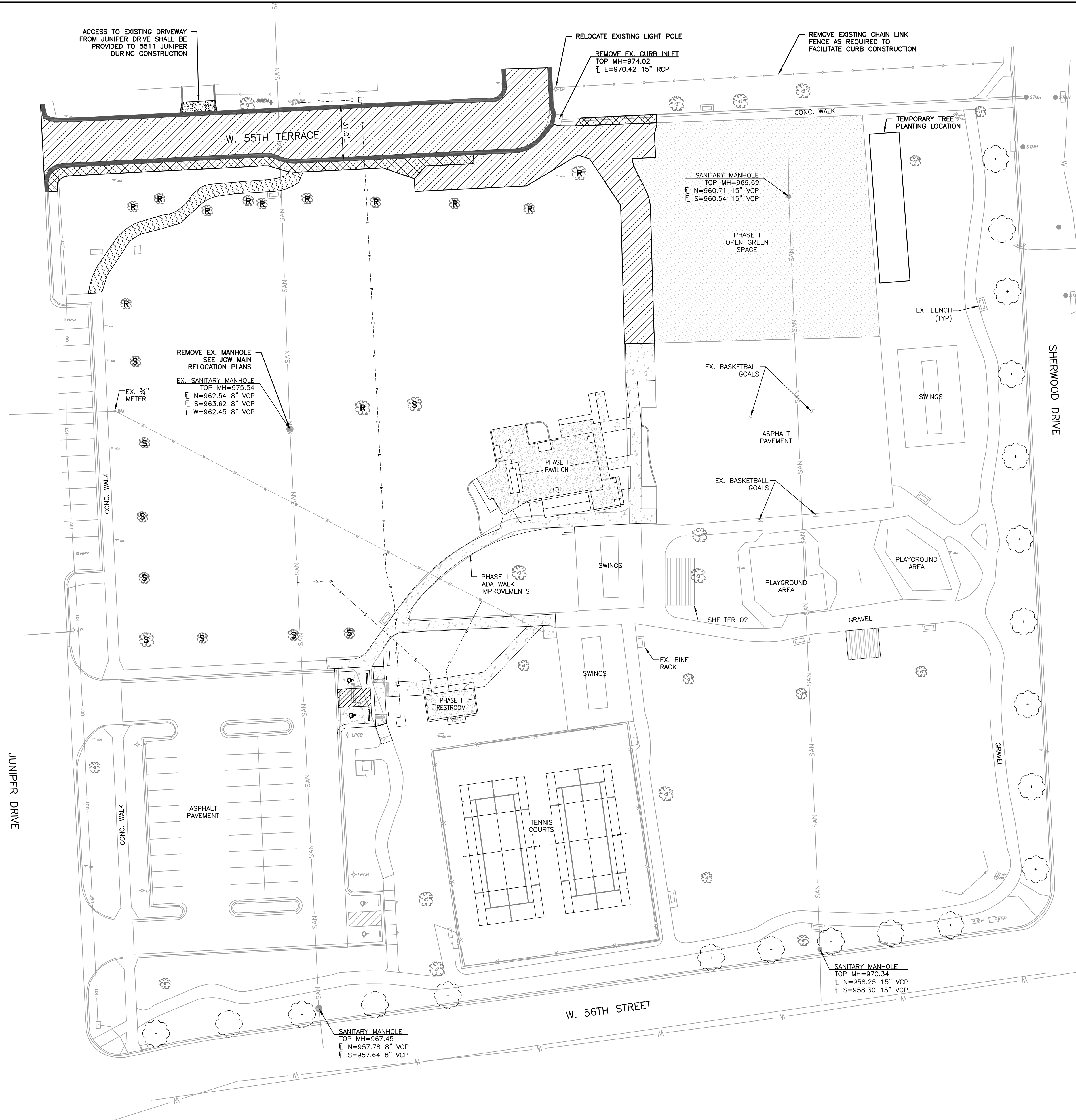
#### DESIGNER / DRAFTER

JDM/AJM  
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01-28-2020  
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#### SHEET



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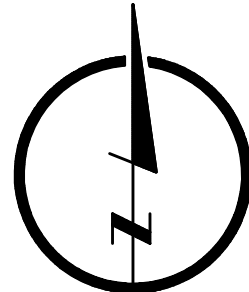


- LEGEND**
- REMOVE EXISTING ASPHALT PAVEMENT
  - REMOVE EXISTING CURB AND GUTTER
  - REMOVE EXISTING CONCRETE SIDEWALK
  - REMOVE EXISTING GRAVEL WALK
  - REMOVE EXISTING DRIVEWAY
  - SPADE TREE AND PLANT IN TEMPORARY LOCATION
  - PROTECT EXISTING TREE

- NOTES:**
- CONTRACTOR SHALL SPADE EXISTING TREES AND PLANT AT TEMPORARY LOCATION AS DESIGNATED ON PLAN. CITY WILL WATER TRANSPLANTED TREES DURING CONSTRUCTION. CONTRACTOR SHALL THEN SPADE AND TRANSPLANT TREES TO LOCATIONS AS DESIGNATED BY ENGINEER DURING FINAL RESTORATION.
  - REMOVE TREE PLACECARDS FOR TREES TO BE RELOCATED AND PROVIDE PLACECARDS TO CITY.

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CONSTRUCTION DOCUMENTS

EXISTING CONDITIONS AND DEMOLITION PLAN SHEET

R PARK – PHASE II

ROELAND PARK, KANSAS

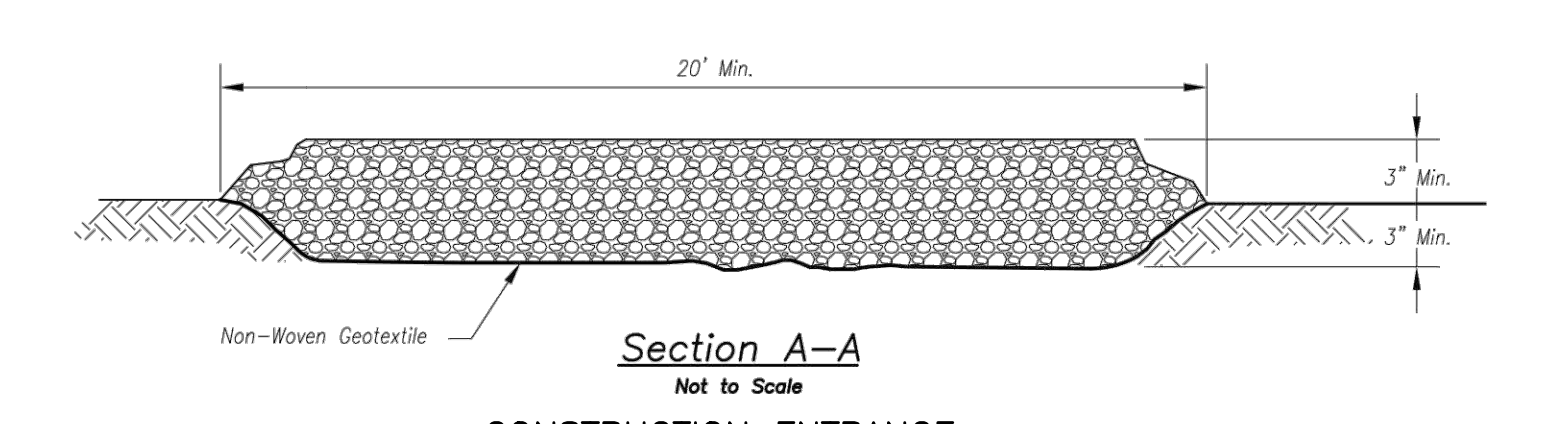
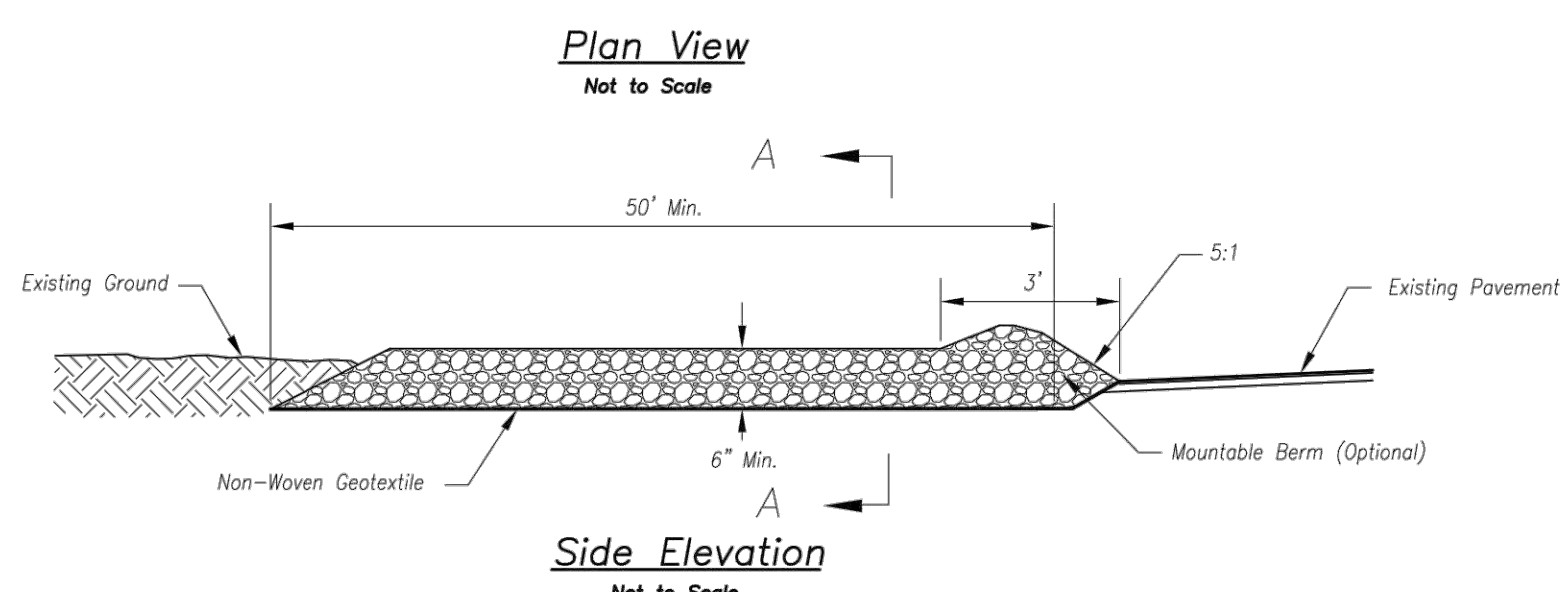
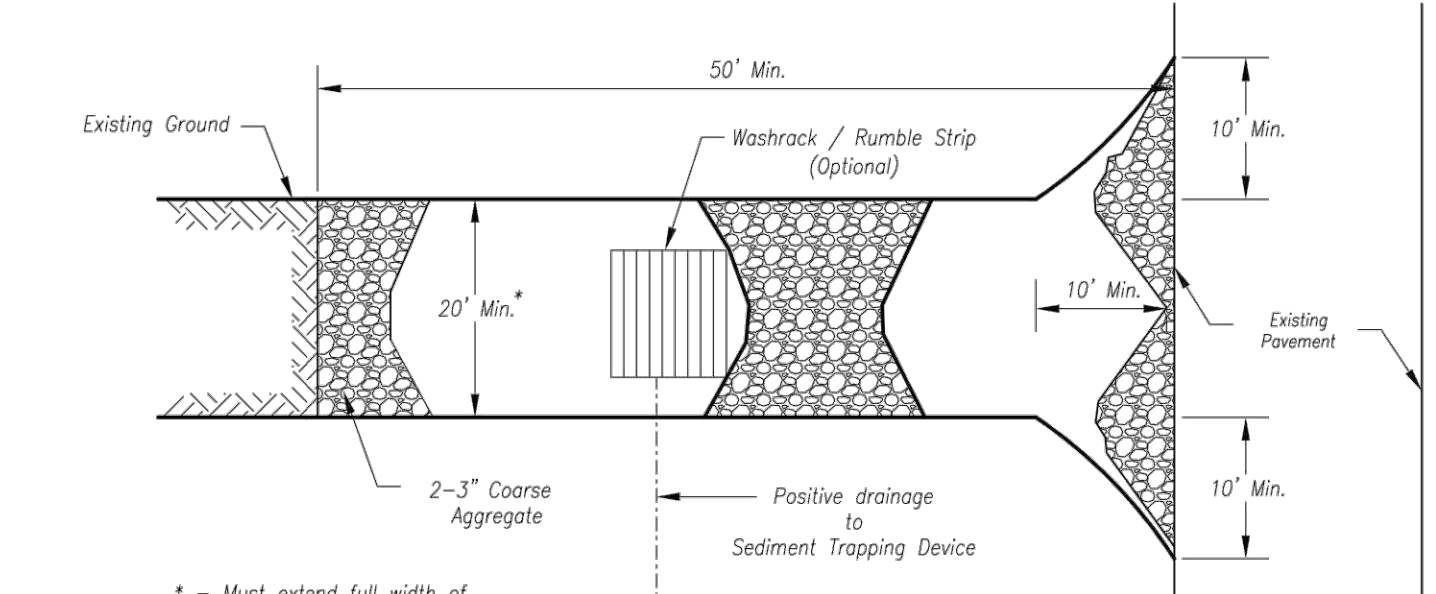
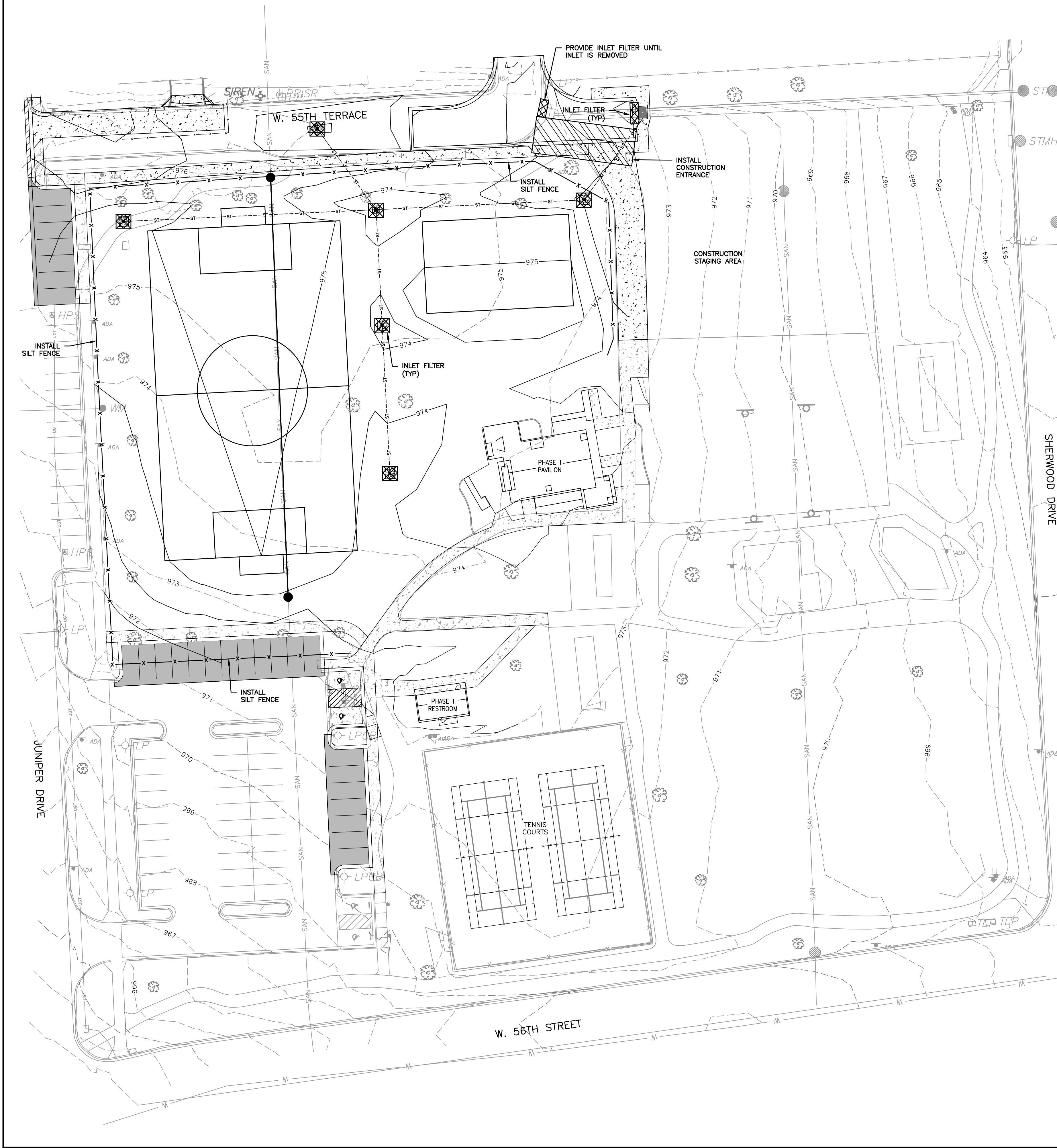
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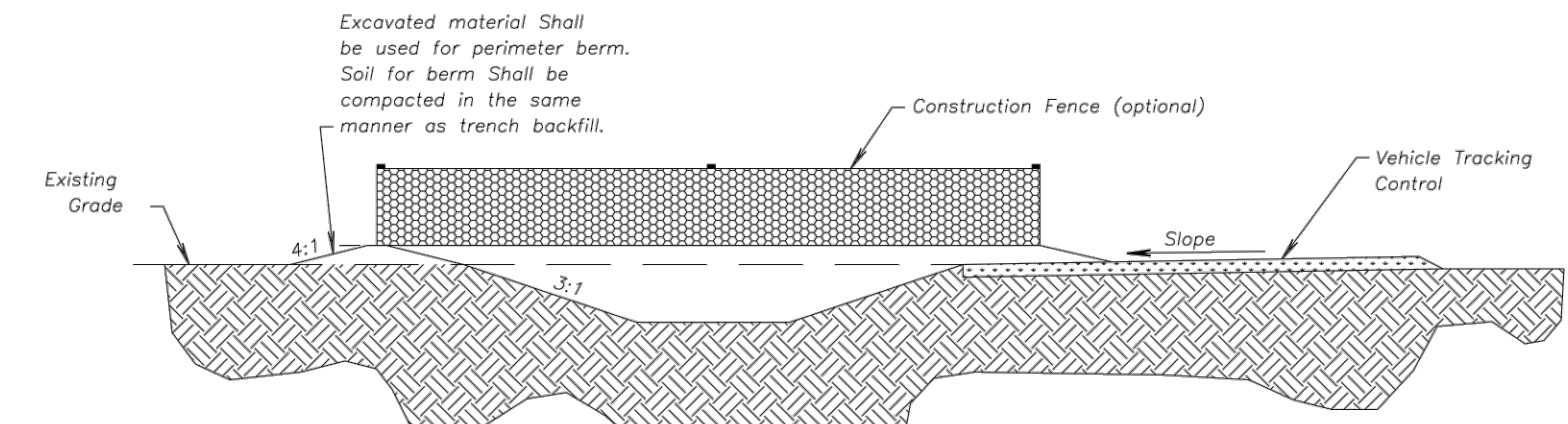
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- Notes for Construction Entrance:**
1. Avoid locating on steep slopes, at curves on public roads, or downhill of disturbed area.
  2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
  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 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 sloped for drainage.
  6. Divert all surface runoff and drainage from the entrance to a sediment control device.
  7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.
- Maintenance for Construction Entrance:**
1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.
- Notes for Concrete Washout:**
1. Concrete washout areas shall be installed prior to any concrete placement on site.
  2. Concrete washout area shall include a flat subsurface pit sized relative to the amount of concrete to be placed on site. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
  3. Vehicle tracking control is required at the access point to all concrete washout areas.
  4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and pump rigs.
  5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.



- Maintenance for Concrete Washout:**
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
  2. Concrete washout areas shall be enlarged as necessary to maintain capacity for wasted concrete.
  3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight container and disposed of properly.
  4. Concrete washout areas shall remain in place until all concrete for the project is placed.
  5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.

**AMERICAN PUBLIC WORKS ASSOCIATION**  
Kansas City Metro Chapter  
**APWA**  
AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY  
METRO CHAPTER

CONSTRUCTION ENTRANCE  
AND CONCRETE WASHOUT

STANDARD DRAWING  
NUMBER ESC-01  
ADOPTED:  
10/24/2016

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CONSTRUCTION DOCUMENTS  
EROSION CONTROL PLAN SHEET

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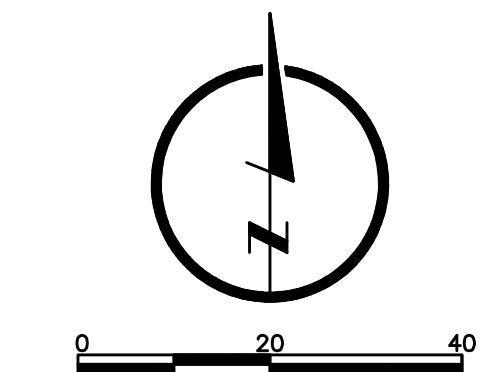
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## CONSTRUCTION DOCUMENTS

**GRADING PLAN SHEET**

R PARK - PHASE II  
ROELAND PARK, KANSAS

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DATE

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PROJECT NUMBER

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05

NOTES:

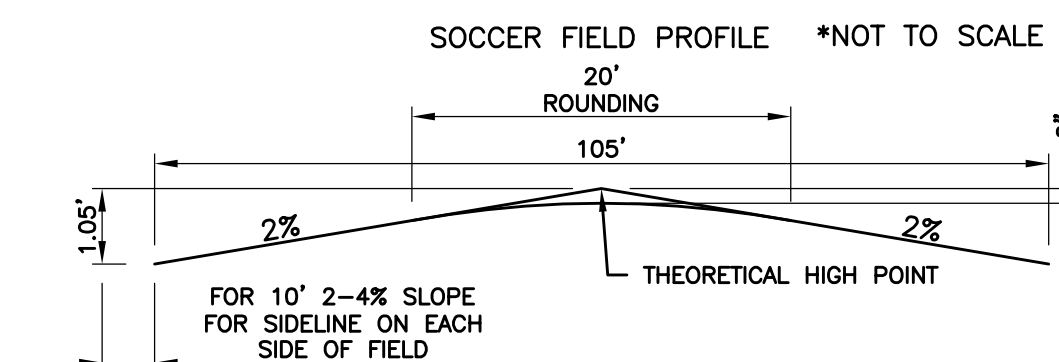
1. EXISTING AND PROPOSED CONTOURS ARE SHOWN AT 0.5-FT INTERVALS.

CUT/FILL TABLE (BANK QUANTITIES)	
CUT	830 CY
FILL	469 CY

EARTHWORK SUMMARY DOES NOT INCLUDE 6" OF IMPORTED TOP SOIL FOR SOCCER FIELD.

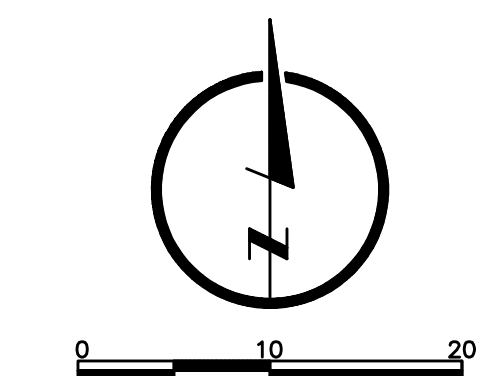
EARTHWORK CALCULATIONS ARE EXISTING SURFACE  
CONTOURS TO FINAL SURFACE CONTOURS. THE  
CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING  
ADJUSTMENTS TO ACCOUNT FOR PAVEMENT  
THICKNESS, BASE THICKNESS, SUBGRADE  
THICKNESS, TOPSOIL, REMOVALS, ETC.

ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED. NO DIRECT PAYMENT WILL BE MADE FOR ROCK OR RUBBLE EXCAVATION.



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## CONSTRUCTION DOCUMENTS

**GRADING PLAN SHEET**

R PARK - PHASE II  
ROELAND PARK, KANSAS

## REVISIONS

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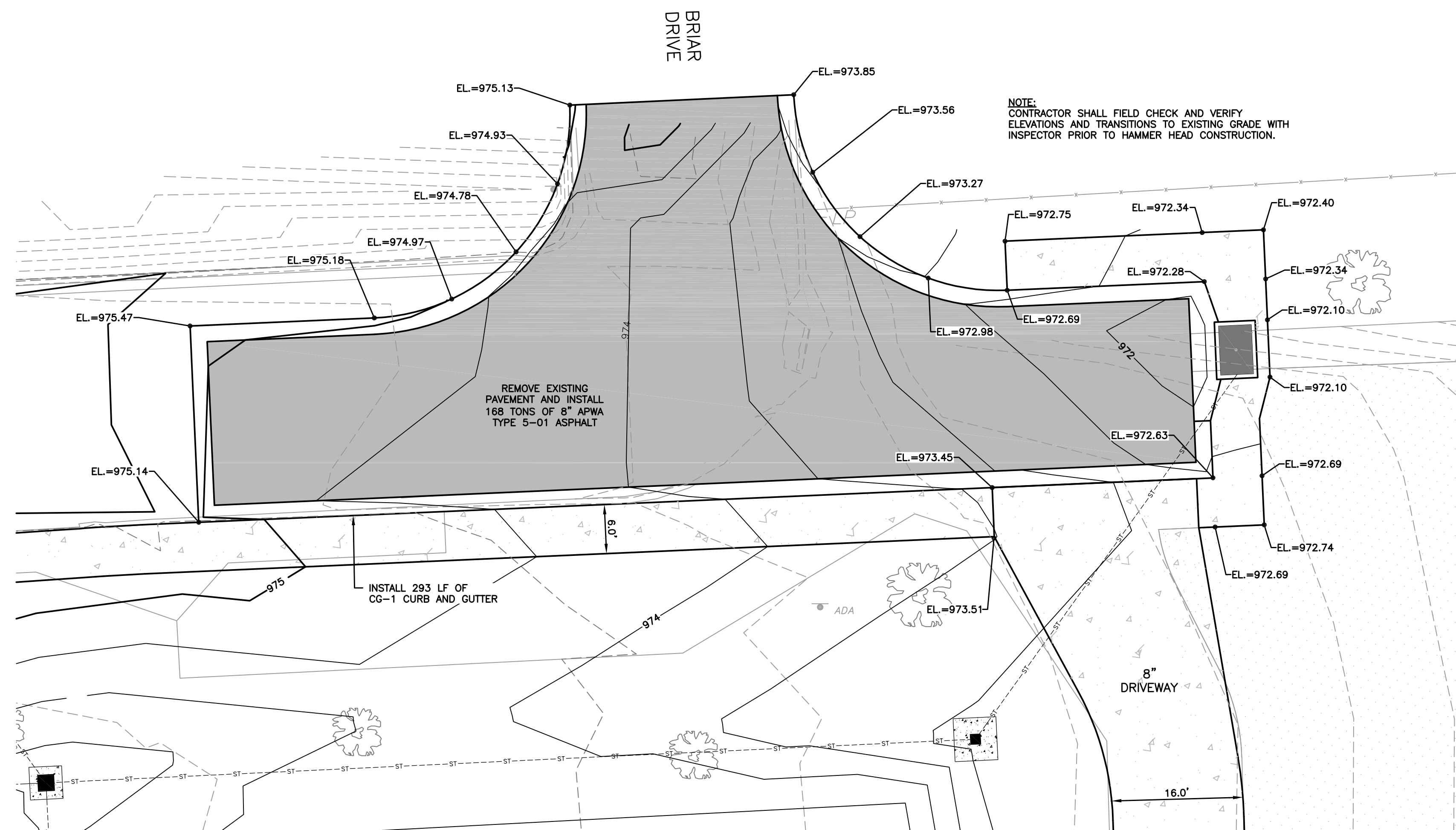
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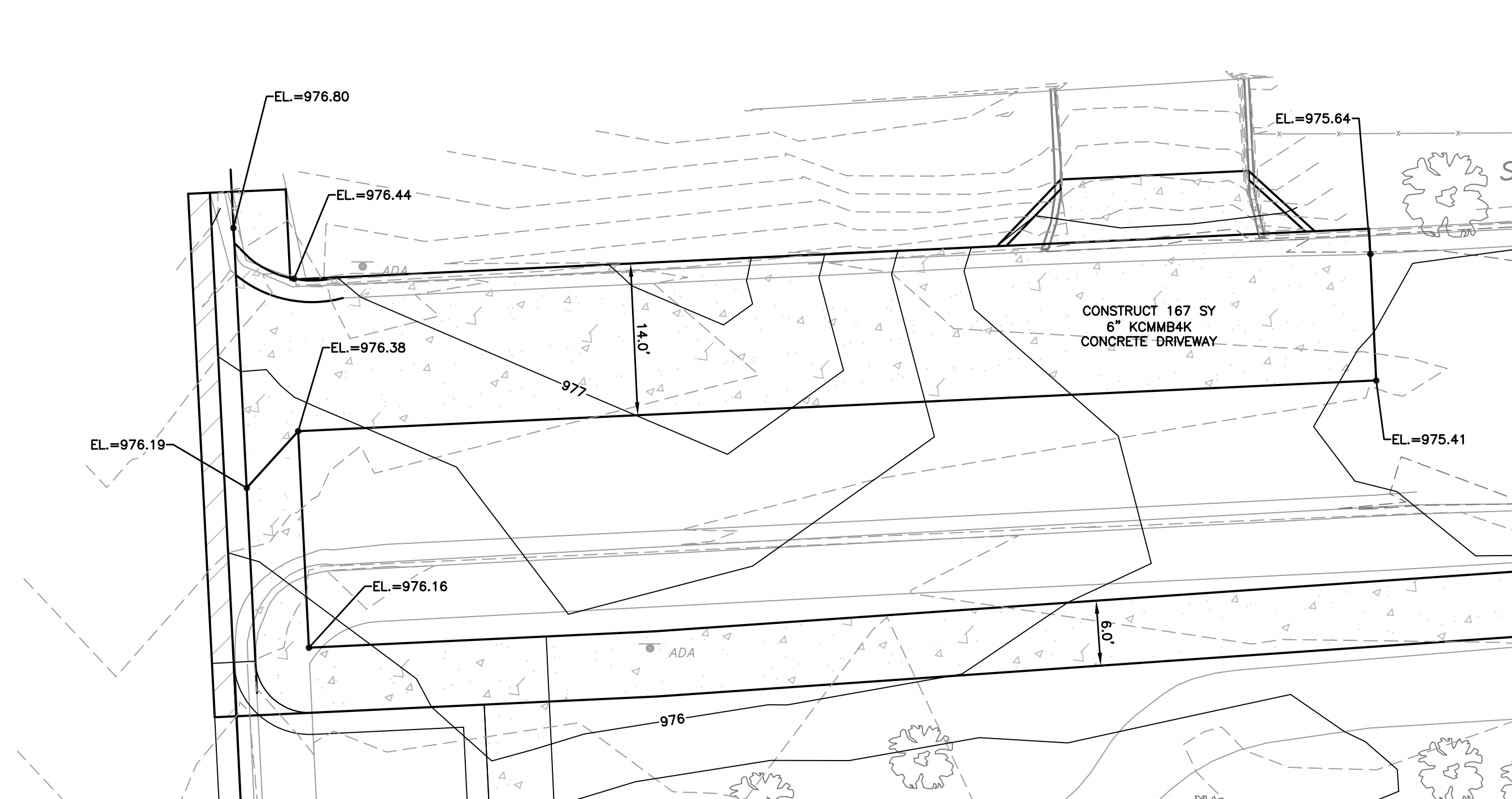
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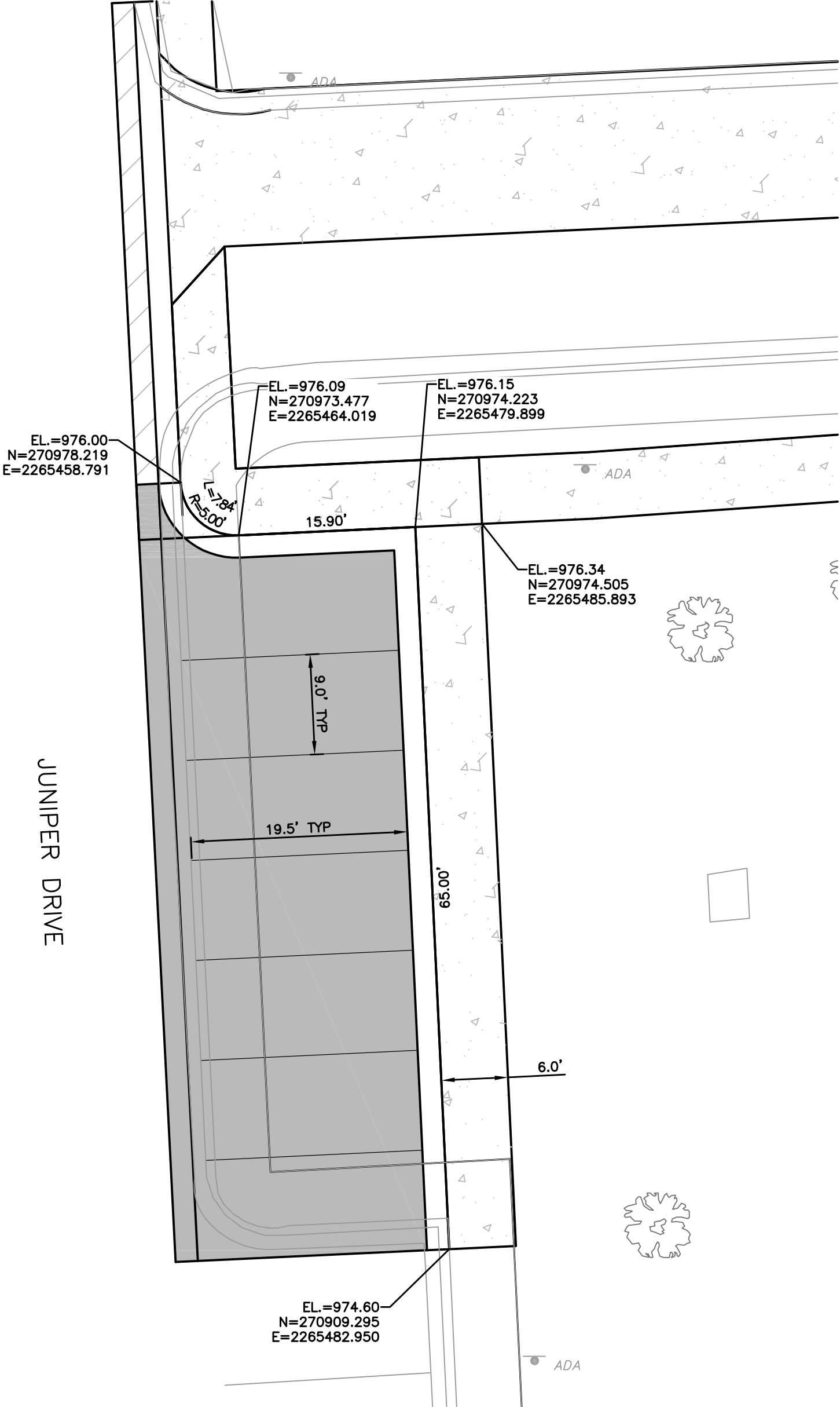
BRIAR STREET HAMMERHEAD LAYOUT PLAN



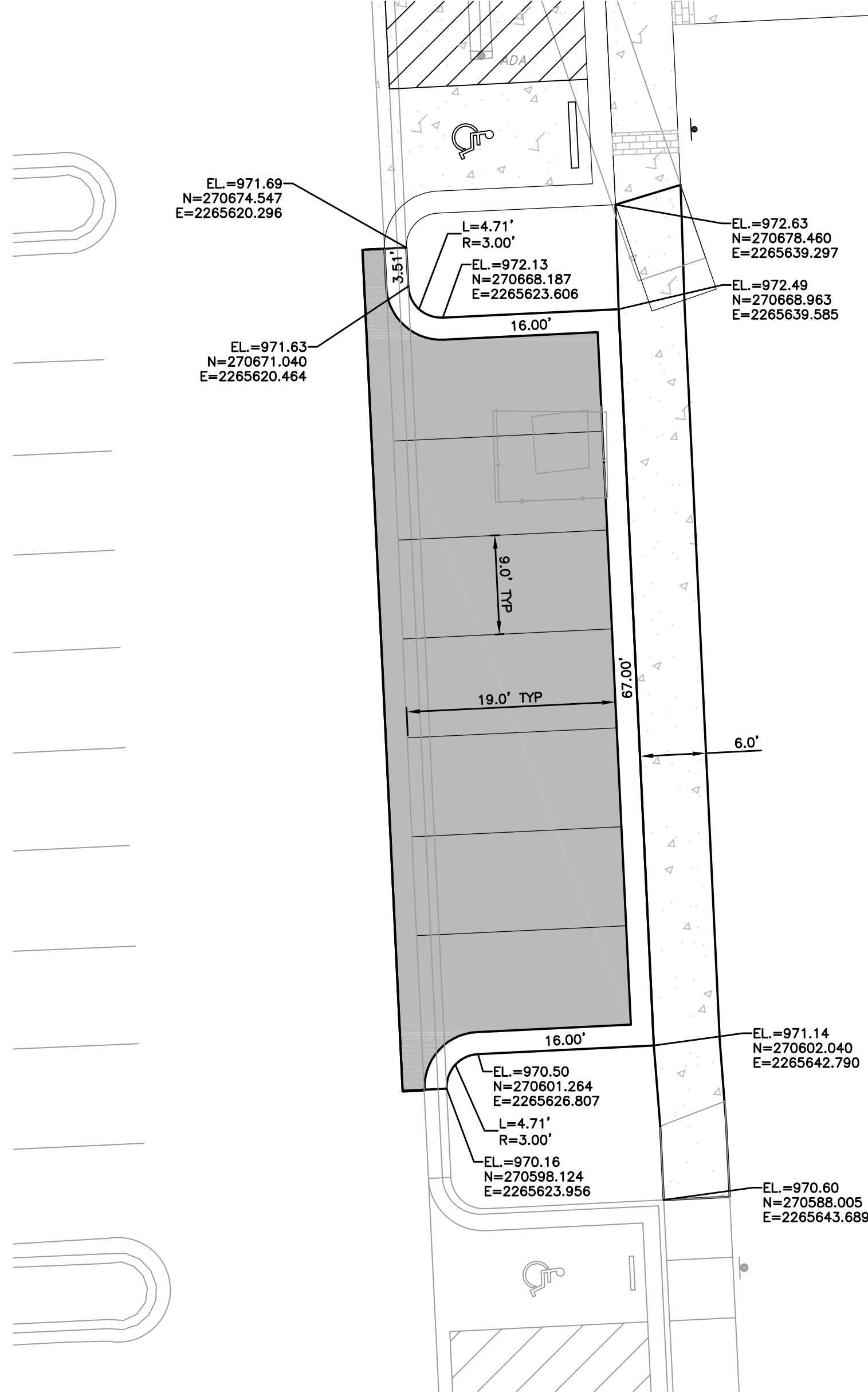
5511 JUNIPER DRIVE DRIVEWAY LAYOUT PLAN



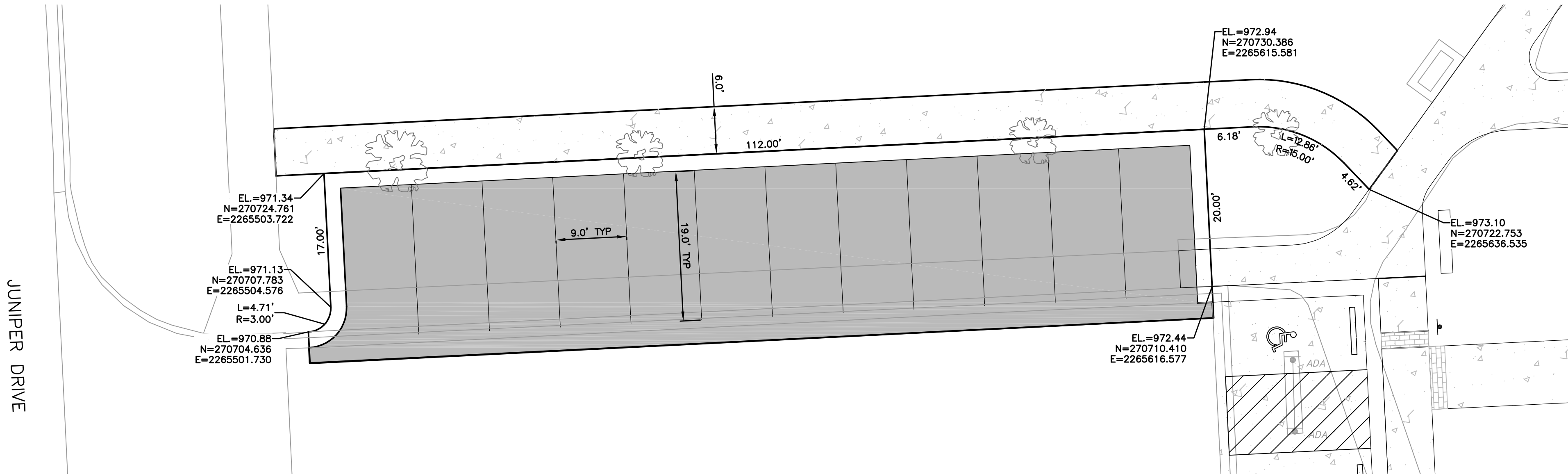
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FUTURE PARKING LOT A  
LAYOUT PLAN



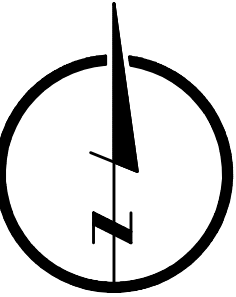
FUTURE PARKING LOT C  
LAYOUT PLAN



FUTURE PARKING LOT C  
LAYOUT PLAN

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CONSTRUCTION DOCUMENTS  
FUTURE PARKING LAYOUT PLAN SHEET

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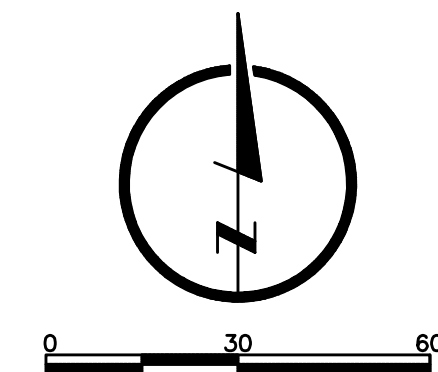
Rational Method																			
Time of Concentration Calculations "Tc"																			
Drainage Area Parameters			Inlet Time Ti				Inlet Time Ti (Beyond 100')							Travel Time Tt					Time of Concentration
Individual Drainage Area Name	Area (Acres) "A"	Runoff Coefficient "C" **	Length (ft.) "L"	Drop (ft.) "ΔH"	Slope "S"	Inlet Time (min.) $T_i=1.8(1.1-C)/L^{0.5}/S^{0.33}$	Length (ft.) "L"	Drop (ft.) ΔH	Slope "S"	Surface Type (Paved (P) or Unpaved (U))	Velocity (Paved Surface greater than 50%) $V=20.3282 \cdot S^{0.12}$	Velocity (unpaved Surface greater than 50%) $V=16.1345 \cdot S^{0.12}$	Shallow concentrated ed flow travel time $= L/3600 \cdot V$	Length (ft.) "L"	Drop (ft.) "ΔH"	Slope (ft./ft.) "S"	Velocity (ft/s) $V=AS^{0.67}$	Travel Time (min.) $T_t=L/(60 \cdot V)$	$T_c = T_i + T_t$ (min.)
A01	0.13	0.36	61.68	3.55	0.0576	5.84	0.00	0.00	0.00	U	0.00	0.00	0.00	137.77	1.00	0.0073	2.21	1.04	6.88
A05	0.26	0.51	100.00	2.46	0.0246	7.87	2.23	0.20	0.09	U	0.00	4.83	0.01	80.83	0.50	0.0062	1.99	0.68	8.55
A04	0.15	0.36	92.36	2.17	0.0235	9.63	0.00	0.00	0.00	U	0.00	0.00	0.00	63.38	0.40	0.0063	2.01	0.52	10.15
A06	0.59	0.51	100.00	1.50	0.0150	9.28	128.10	3.50	0.03	U	0.00	2.67	0.80	54.41	1.10	0.0202	4.39	0.21	10.28
A02	0.18	0.36	100.00	2.13	0.0213	10.35	3.25	0.20	0.06	U	0.00	4.00	0.01	113.66	0.80	0.0070	2.17	0.87	11.24
A03	0.11	0.36	100.00	2.30	0.0230	10.09	5.80	0.19	0.03	U	0.00	2.92	0.03	57.22	0.60	0.0105	2.83	0.34	10.46
A07	0.90	0.51	100.00	2.00	0.0200	8.43	387.85	6.00	0.02	U	0.00	2.01	3.22	225.00	11.30	0.0502	8.08	0.46	12.11

Rational Method															
Flow Calculations "Q"															
Individual Drainage Area Name	Area "A" x Runoff Coefficient "C" CA	Time of Concentration "Tc"	Design "Tc" 5 ≤ Tc ≤ 60 min.	Rainfall Intensity "I2" in in/hr 5 ≤ Tc ≤ 15 min. I2=119/(T c+17)	2-Year Flow Q2= CxI2xA	Rainfall Intensity "I5" in in/hr 5 ≤ Tc ≤ 15 min. I5=154/(T c+18.8)	5-Year Flow Q5= CxI5xA	Rainfall Intensity "I10" in in/hr 5 ≤ Tc ≤ 15 min. I10=175/( Tc+18.8)	10-Year Flow Q10= CxI10xA	Rainfall Intensity "I25" in in/hr 5 ≤ Tc ≤ 15 min. I25=203/( Tc+18.8)	25-Year Flow Q25= 1.1xCxI25 xA	Rainfall Intensity "I50" in in/hr 5 ≤ Tc ≤ 15 min. I50=233/( Tc+19.8)	50-Year Flow Q50= 1.2xCxI50 xA	Rainfall Intensity "I100" in in/hr Tc < 15 min. I100=256/( Tc+19.8)	100-Year Flow Q100= 1.25CxI100 A
A01	0.05	6.88	6.88	4.98	0.23	6.00	0.27	6.82	0.31	7.91	0.40	8.73	0.48	9.60	0.55
A05	0.13	8.55	8.55	4.66	0.62	5.63	0.75	6.40	0.86	7.42	1.09	8.22	1.32	9.03	1.51
A04	0.19	10.15	10.15	4.38	0.82	5.32	1.00	6.04	1.14	7.01	1.45	7.78	1.76	8.55	2.01
A06	0.30	10.28	10.28	4.36	1.31	5.29	1.59	6.02	1.80	6.98	2.30	7.74	2.79	8.51	3.19
A02	0.60	11.24	11.24	4.21	2.52	5.13	3.07	5.83	3.49	6.76	4.45	7.51	5.39	8.25	6.17
A03	0.64	11.58	11.58	4.16	2.66	5.07	3.24	5.76	3.68	6.68	4.69	7.43	5.69	8.16	6.51
A07	1.10	12.11	12.11	4.09	4.49	4.98	5.47	5.66	6.21	6.57	7.93	7.30	9.62	8.02	11.01

INDIVIDUAL DRAINAGE AREA	INLET NUMBER	RIM EL	INVERT EL	DOWNSTREAM PIPE	10 YEAR HGL	100 YR HGL
A01	STM-04	974.11	970.85	12" HDPE	971.08	971.16
A05	STM-06	972.9	971.1	12" HDPE	971.49	971.62
A04	STM-05	973.42	970.5	12" HDPE	970.95	971.1
A06	STM-07	973.8	971.2	12" HDPE	971.77	971.96
A02	STM-03	973.15	969.75	15" HDPE	970.25	970.5
A03	STM-02	972.9	968.85	15" HDPE	969.37	969.63
A07	STM-01	973.31	967.87	15" RCP	968.88	969.07

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CONSTRUCTION DOCUMENTS  
DRAINAGE AREA MAP AND CALCULATION SHEET  
R PARK – PHASE II  
ROELAND PARK, KANSAS

REVISIONS

DESIGNER / DRAFTER

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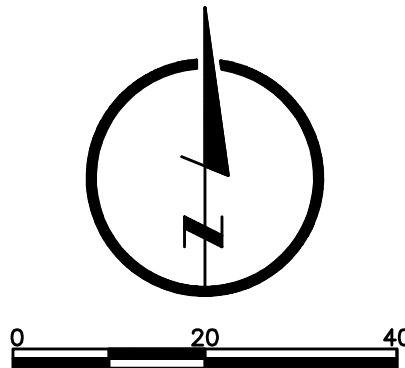
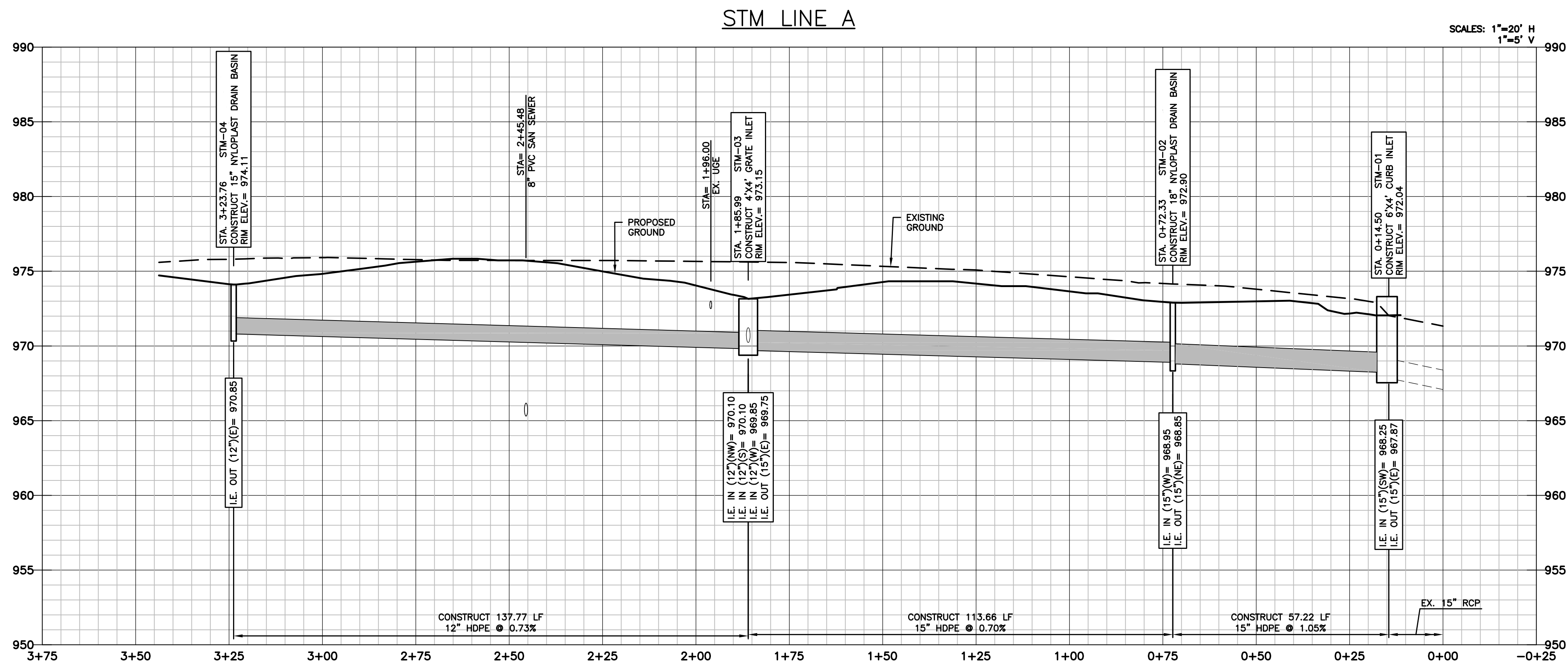
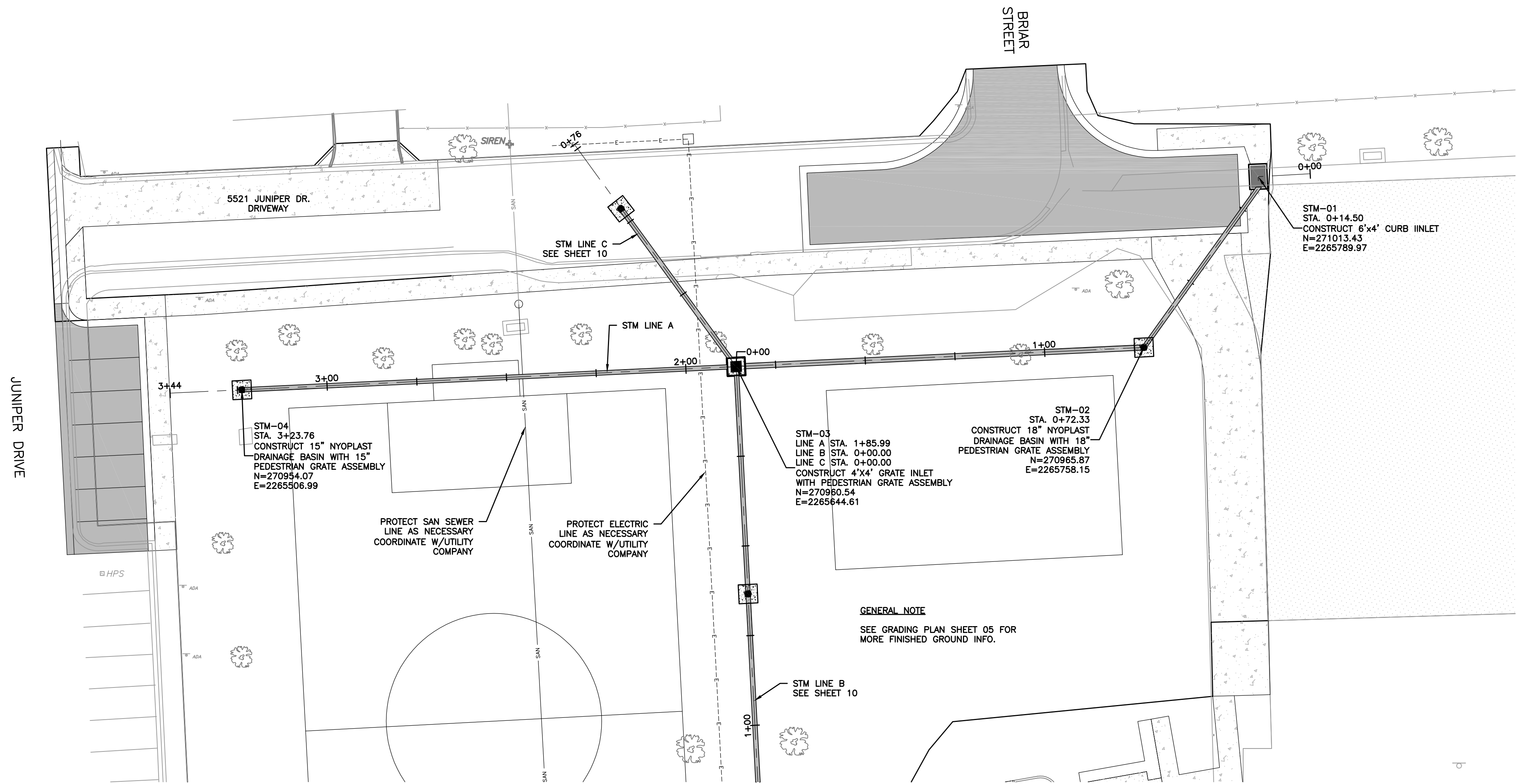
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01-28-2020

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KS PE 20773

CONSTRUCTION DOCUMENTS  
STORM SEWER LINE A PLAN/PROFILE SHEET

R PARK - PHASE II  
ROELAND PARK, KANSAS

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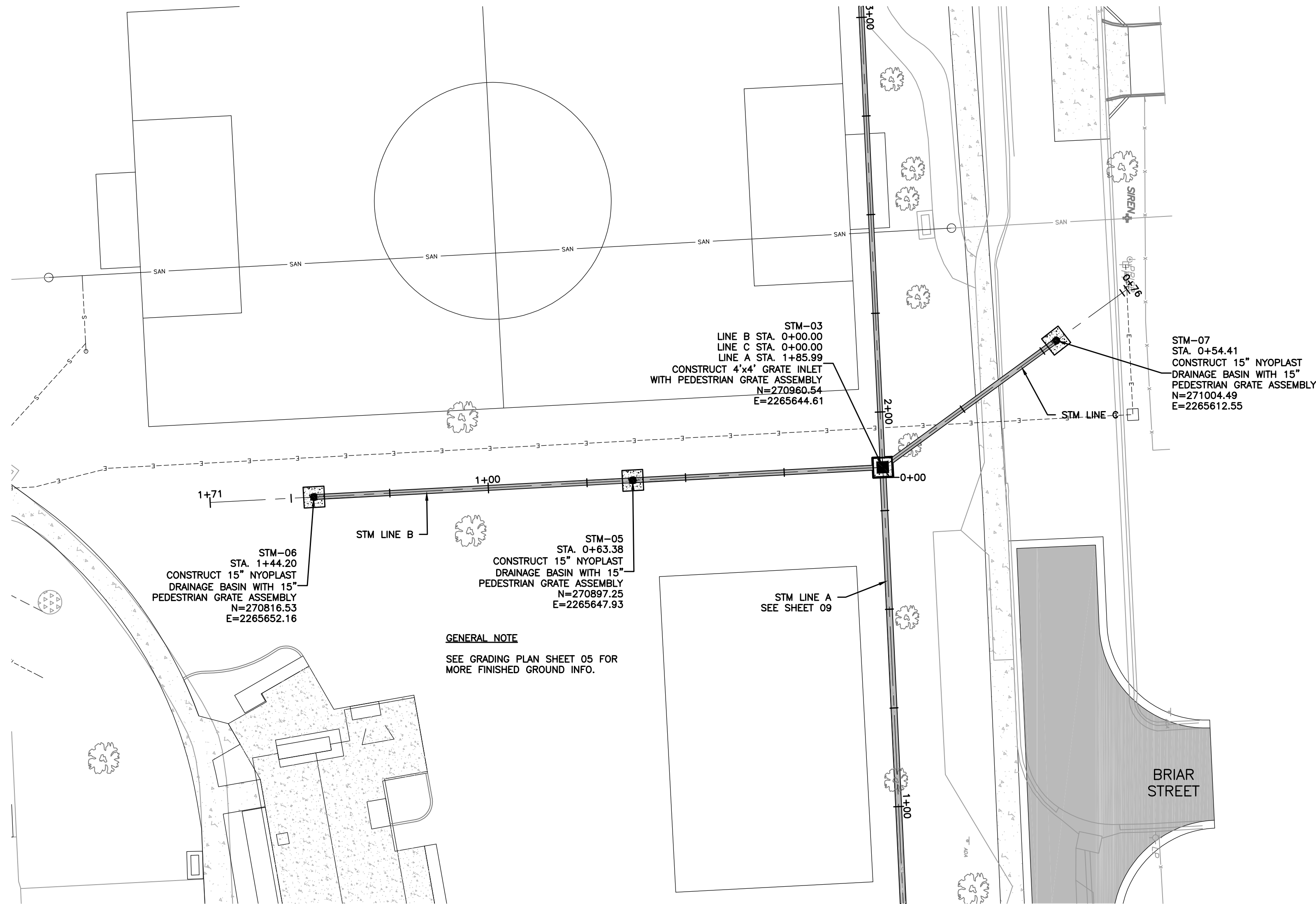
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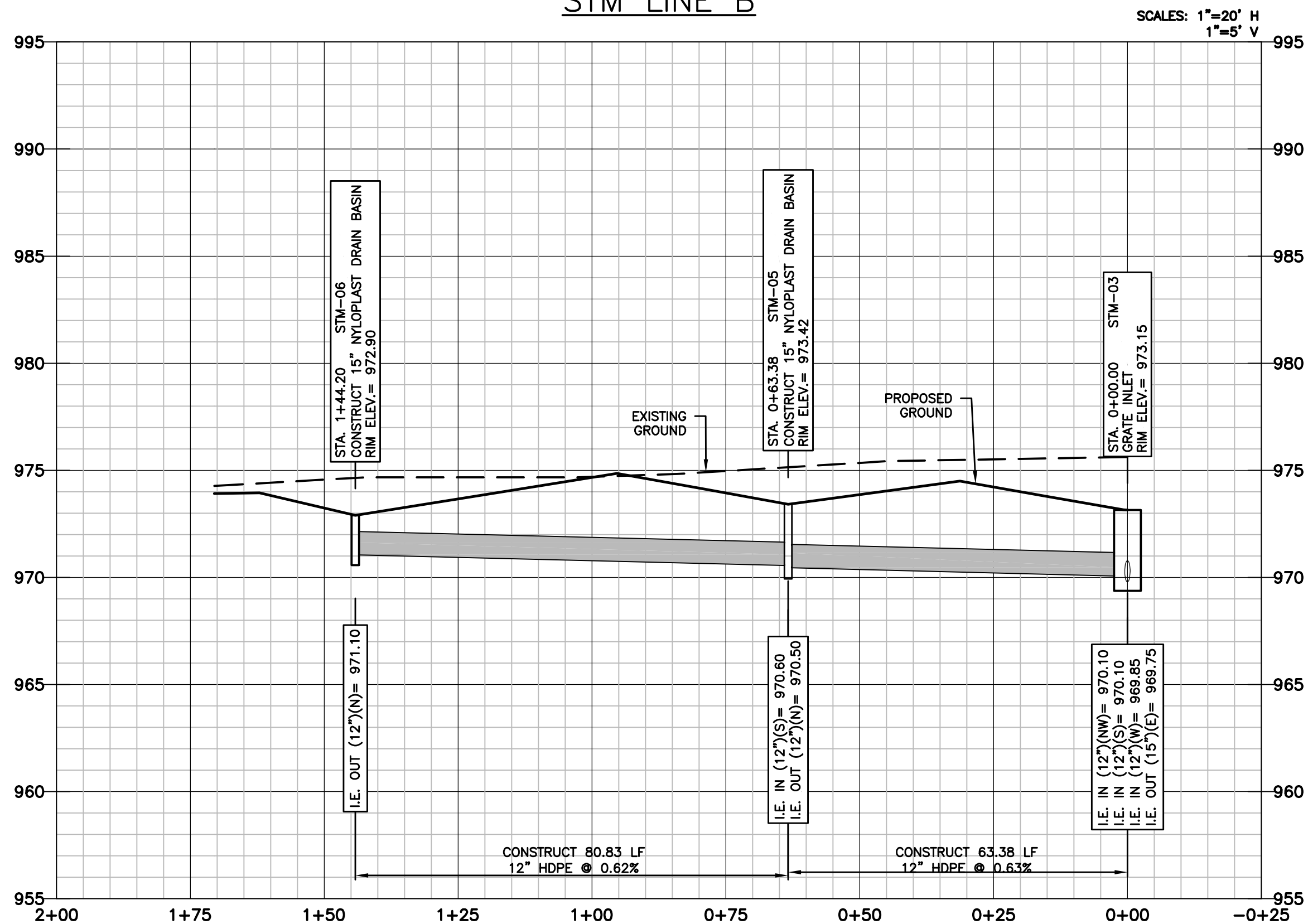


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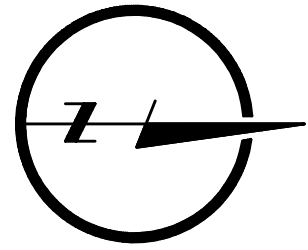
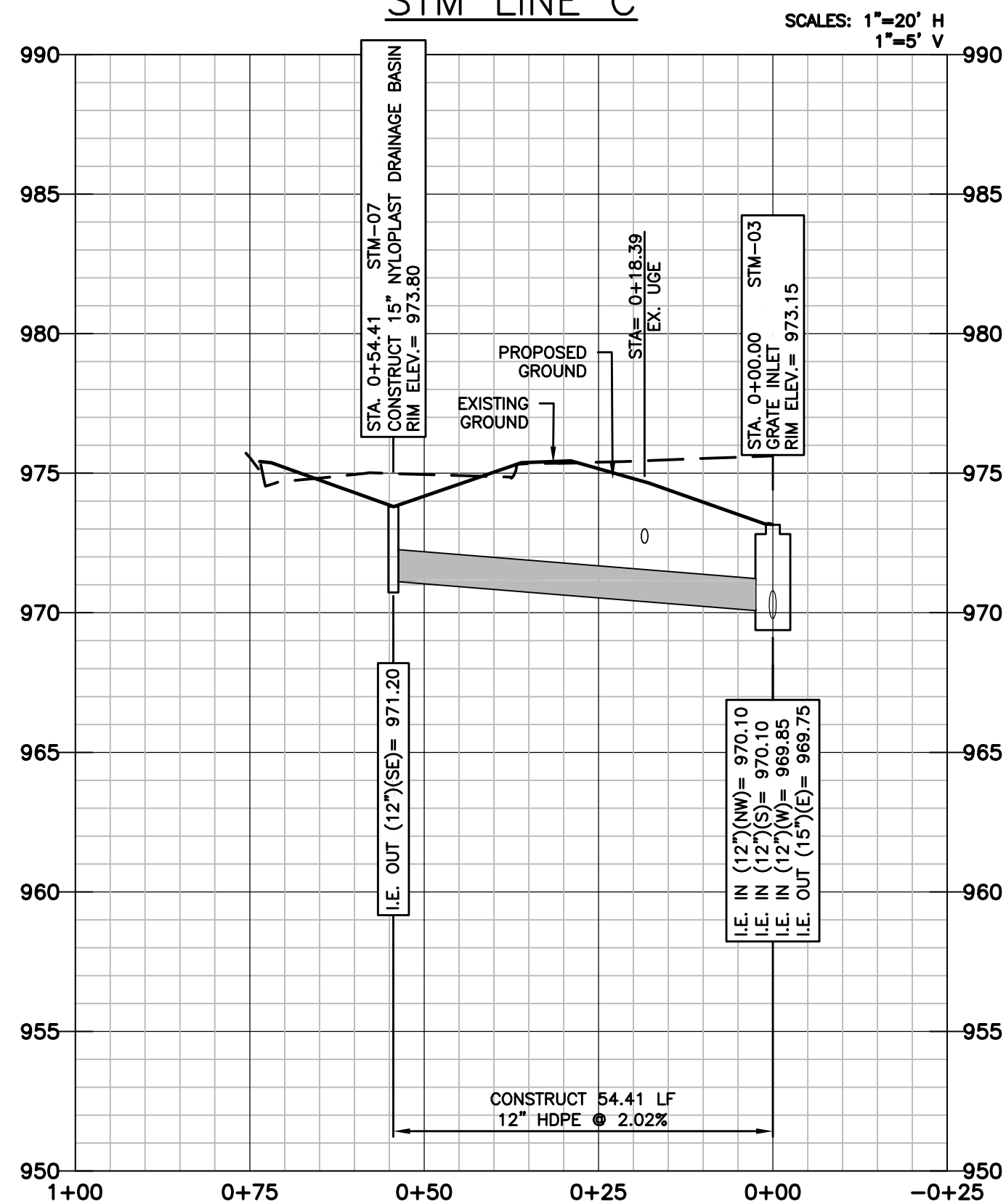


GENERAL NOTE  
SEE GRADING PLAN SHEET 05 FOR MORE FINISHED GROUND INFO.

STM LINE B



STM LINE C



0 20 40



01-28-2020

MARK DANIEL MCHIEE, JR.  
KS PE 20773

CONSTRUCTION DOCUMENTS  
STORM SEWER LINE B PLAN/PROFILE SHEET  
R PARK - PHASE II  
ROELAND PARK, KANSAS

REVISIONS

DESIGNER / DRAFTER

MDM/AJM

DATE

01-28-2020

PROJECT NUMBER

0319001.06

BOOK AND PAGE

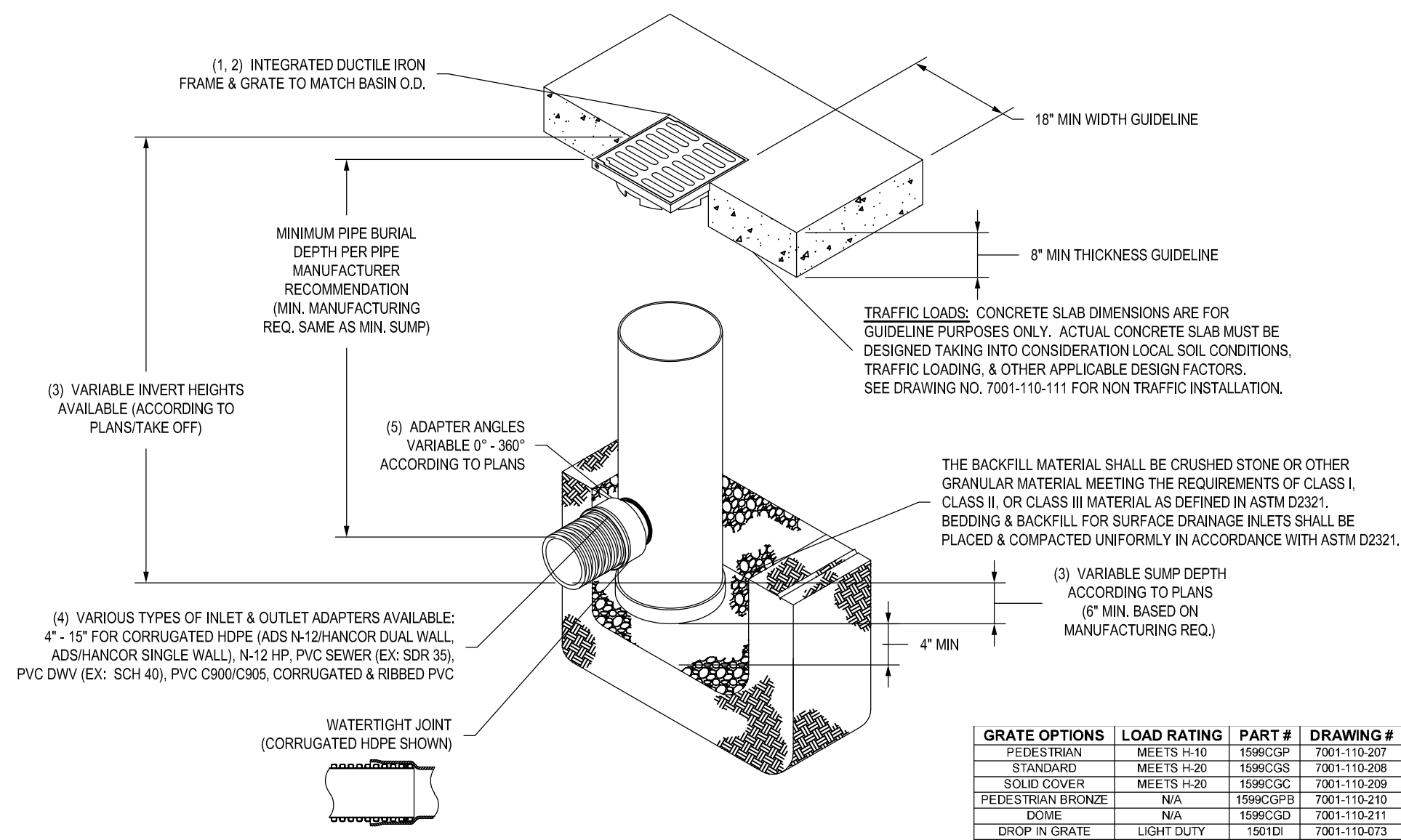
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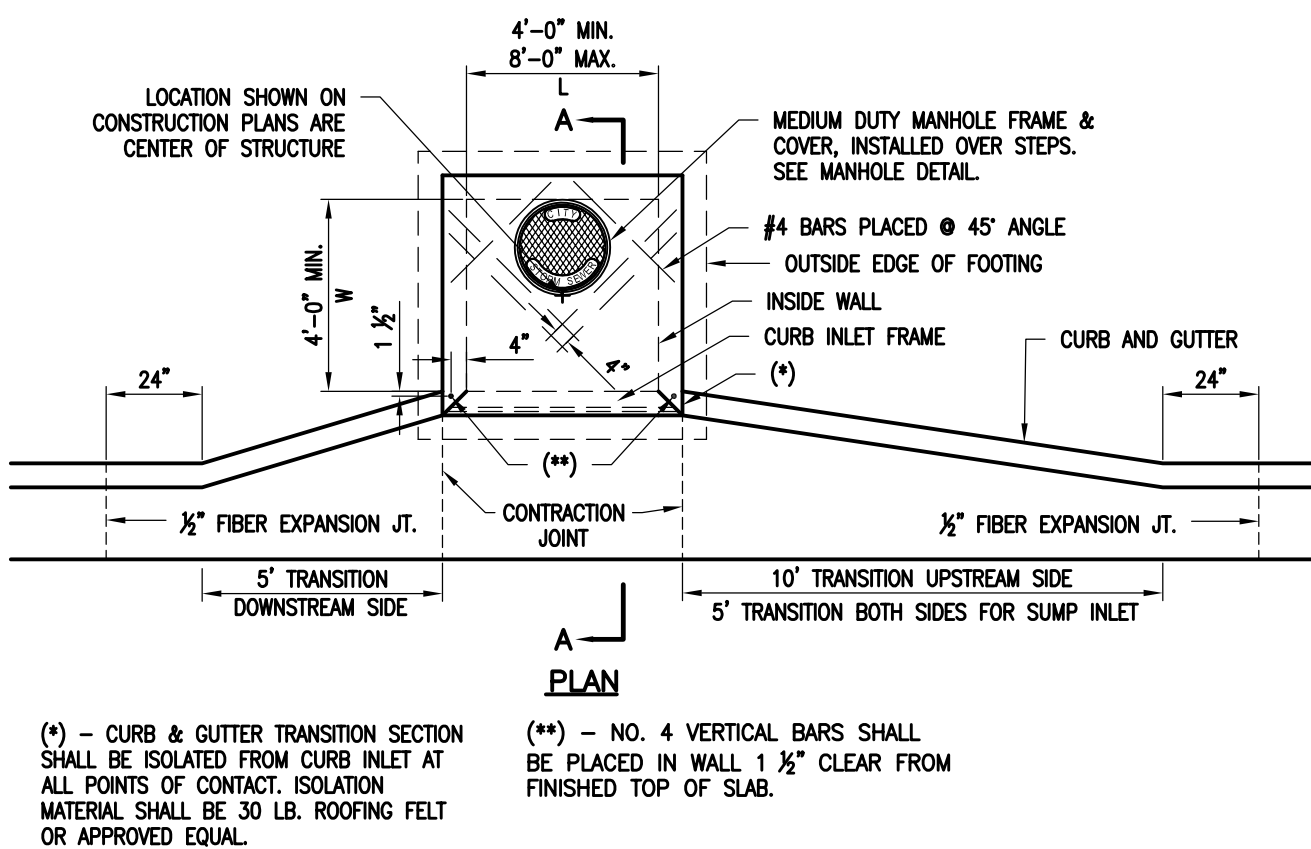




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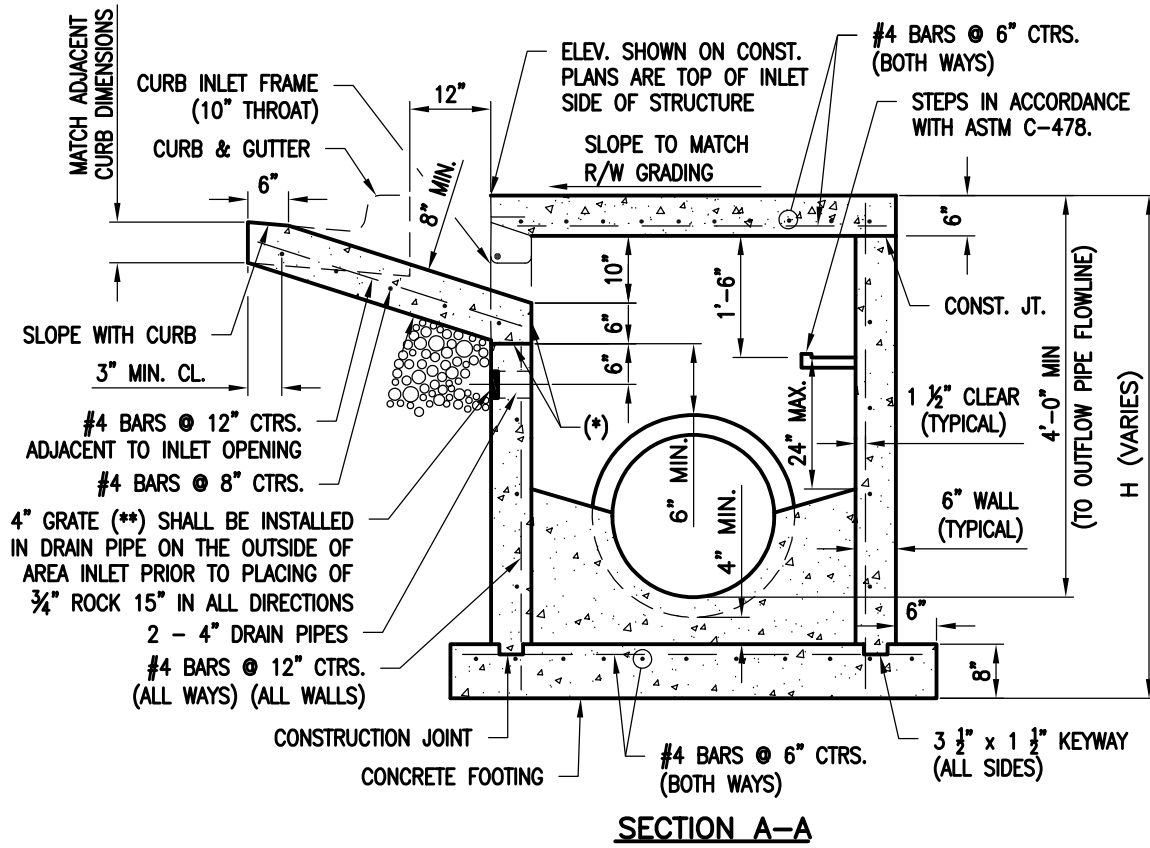


15" NYOPLAST DRAINAGE BASIN



(\*) - CURB & GUTTER TRANSITION SECTION SHALL BE ISOLATED FROM CURB INLET AT ALL POINTS OF CONTACT. ISOLATION MATERIAL SHALL BE 30 LB. ROOFING FELT OR APPROVED EQUAL.

(\*\*) - NO. 4 VERTICAL BARS SHALL BE PLACED IN WALL 1 1/2" CLEAR FROM FINISHED TOP OF SLAB.



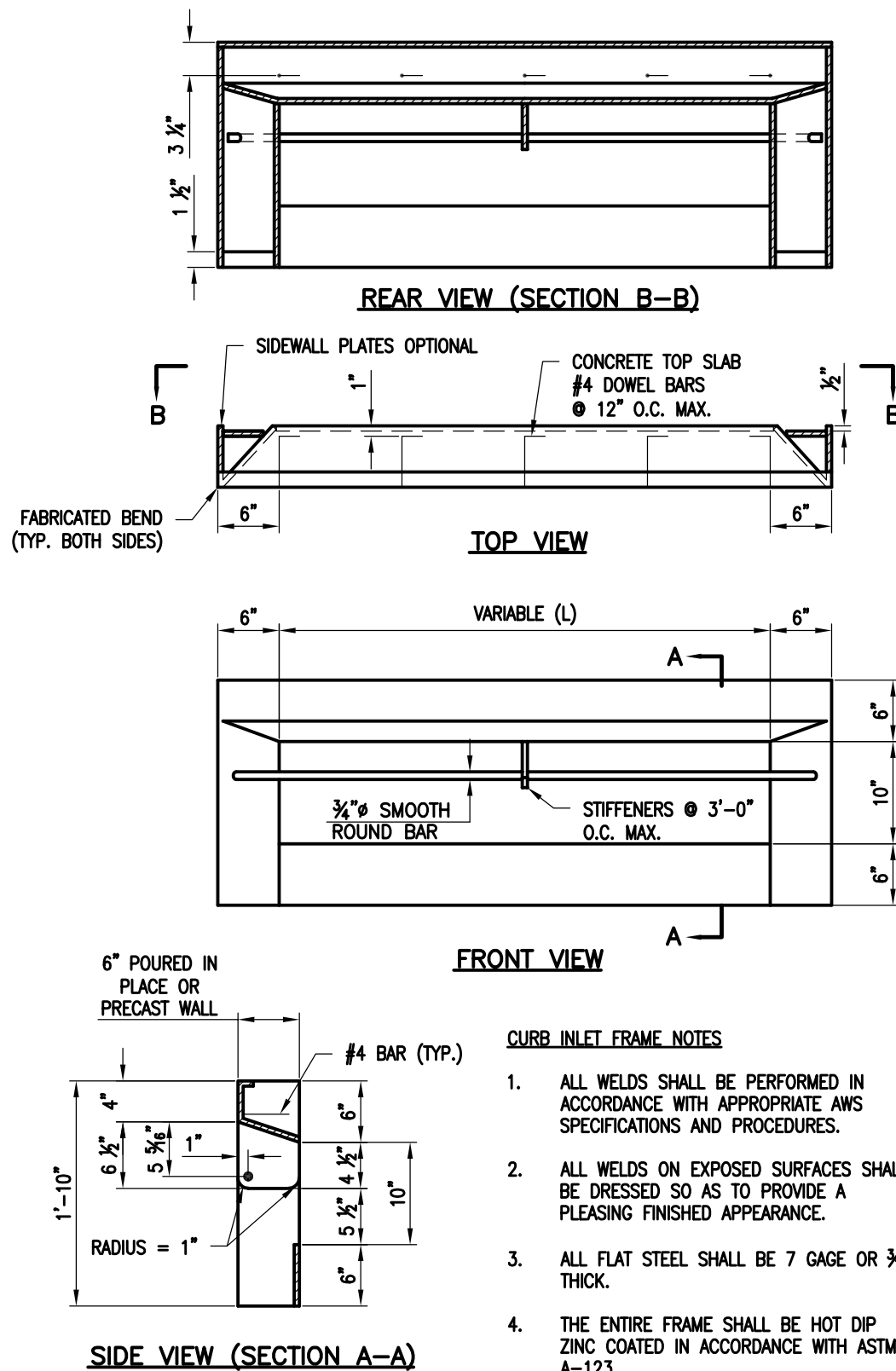
(\*) - CURB & GUTTER TRANSITION SECTION SHALL BE ISOLATED FROM CURB INLET AT ALL POINTS OF CONTACT. ISOLATION MATERIAL SHALL BE 30 LB. ROOFING FELT OR APPROVED EQUAL.

(\*\*) - THE MATERIAL OF THE GRATE SHALL MATCH THE MATERIAL OF THE PIPE AND SHALL BE AS FOLLOWS:

A) PVC: PIPE - 4" SCHEDULE 40 PVC MEETING ASTM D-1785" GRATE - 4" PVC SHAP- IN DRAIN - MEETS ASTM D-2065, WITH STAINLESS STEEL (TYPE 304) COVER, MOUNTED WITH TWO 18-8 STAINLESS STEEL SCREWS; MAXIMUM OPENING SIZE 1/4".

B) HDPE: PIPE - 4"HDPE MEETING AASHTO M252, TYPE S; GRATE - 4"HDPE - MEETS ASTM D-3350 MAXIMUM OPENING SIZE 1/4".

CURB INLET  
(10" THROAT)

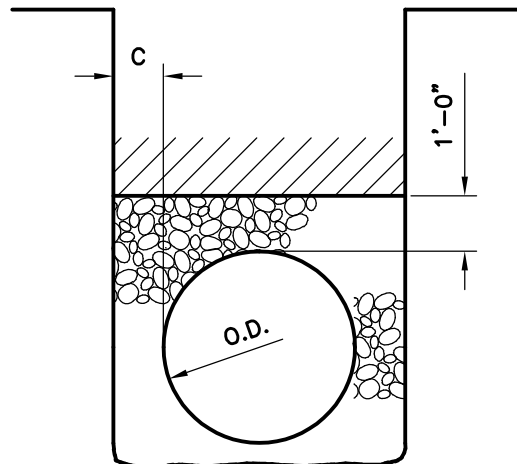


CURB INLET FRAME  
(10" THROAT)

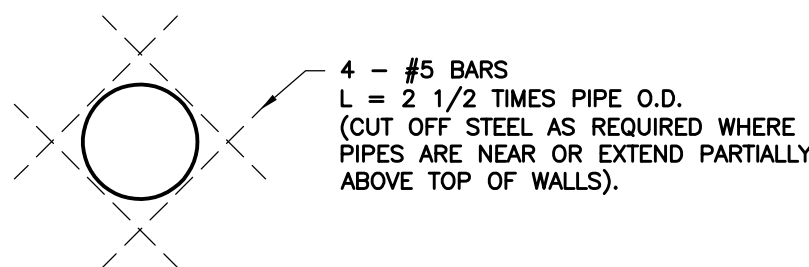
CURB INLET FRAME NOTES

- ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
- ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
- ALL FLAT STEEL SHALL BE 7 GAGE OR 3/8" THICK.
- THE ENTIRE FRAME SHALL BE HOT DIP ZINC COATED IN ACCORDANCE WITH ASTM A-123.

FLEXIBLE PIPE BEDDING



PIPE EMBEDMENT DETAILS



ADD'NL. REINF. AT NEW CONC. STRUCTURE

PIPE CONNECTION TO CONCRETE STRUCTURE  
(NO DIRECT PAYMENT)

CURB INLET NOTES

GENERAL

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES
- 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 ENGINEER.
- PRE-CAST SHOP DRAWINGS ARE TO BE SUBMITTED AND APPROVED BY THE ENGINEER IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
- 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.
- ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
- 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"H") AND ("W"x"H") LESS THAN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.

CONCRETE

- CONCRETE USED IN THIS WORK SHALL BE KOMMB4K, AS APPROVED BY THE LOCAL JURISDICTION.
- INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
- BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.

REINFORCING STEEL

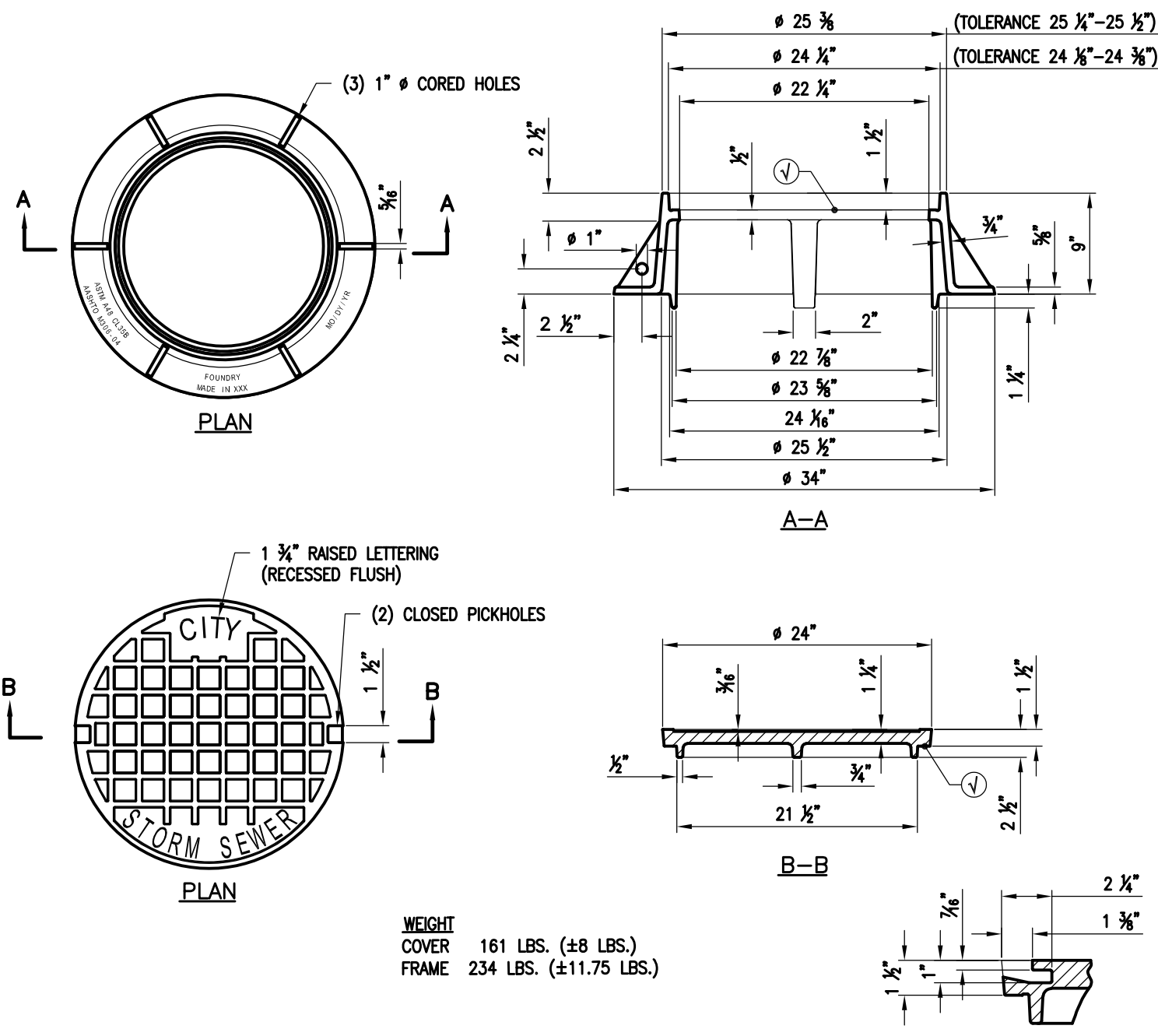
- REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615M, AND SHALL BE BENT COLD.
- ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/- 1/8" SHALL BE PERMITTED.
- ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
- ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
- 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

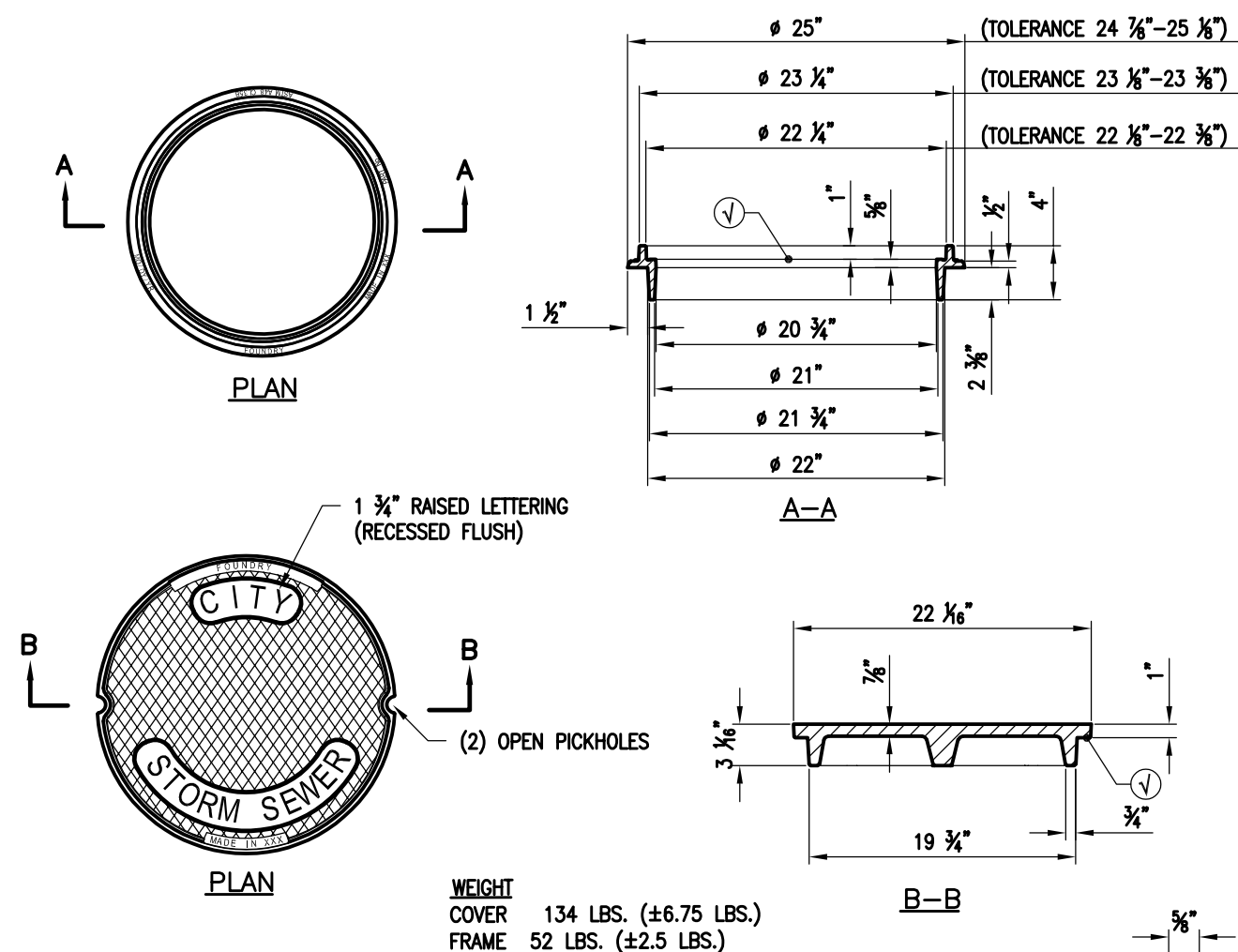
- THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND.
- ALL CURB INLET TOPS ARE TO BE CONSTRUCTED AFTER FINAL CURB STRING LINE HAS BEEN APPROVED BY THE ENGINEER AND PRIOR TO CURB CONSTRUCTION, OR AS DIRECTED BY THE ENGINEER.
- PIPE CONNECTIONS TO PRE-CAST STRUCTURES SHALL HAVE A MINIMUM OF 6" OF CONCRETE AROUND THE ENTIRE PIPE WITHIN 2' OF THE STRUCTURE.
- TAMPED BACKFILL SHALL BE USED AROUND STRUCTURES, EXCEPT UNDER PAVED AREAS. TAMPED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO STANDARD, METHOD T-99. REMOVABLE FLOWABLE FILL IS REQUIRED UNDER ANY PORTION OF PAVED RIGHT OF WAY, INCLUDING THE AREA WITHIN EXISTING OR FUTURE PUBLIC STREET PAVEMENT AND UNDER EXISTING OR FUTURE CURB AND GUTTER, MEDIAN, ASPHALT PATH, CONCRETE SIDEWALK.

NOTES:

- A & C = ABSOLUTE MIN. CLEARANCE FROM PIPE WALL TO ANY PROJECTION OF TRENCH BOTTOM OR WALL.  
A = (EARTH EXCAVATION) 2", CLASS B.  
A = (ROCK EXCAVATION) 6", CLASS B.  
C = 8" MINIMUM
- W = TRENCH WITH AT A LEVEL 6" ABOVE TOP OF PIPE.  
W = MINIMUM OF 16" PLUS (O.D., O.S. OR S).  
W = MAXIMUM OF 24" PLUS (O.D., O.S. OR S).
- WHERE SCREEDING SHOWN, FORM BED WITH SREED CUT TO EXACT SHAPE OF PIPE BOTTOM.
- GRANULAR FILL SEE SPECIFICATIONS
- BACKFILL TO TOP OF PIPE SEE SPECIFICATIONS
- ALL BEDDING CLASS B.
- SEE SPECIFICATIONS FOR TRENCH BOTTOM STABILIZATION, IF REQUIRED.
- SEE ROADWAY TRENCH DETAILS IF IN ROADWAY.



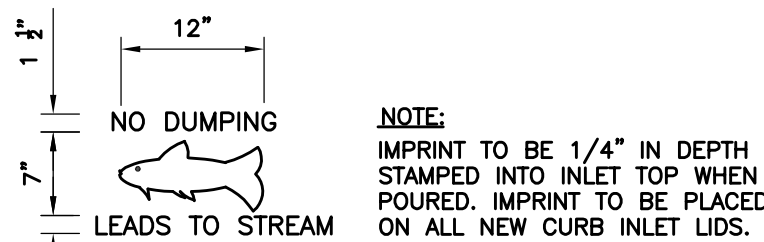
HEAVY DUTY FRAME AND COVER  
SEE APPROVED MATERIALS LIST  
FOR PRE-APPROVED FRAMES AND COVERS



MEDIUM DUTY FRAME AND COVER  
SEE APPROVED MATERIALS LIST  
FOR PRE-APPROVED FRAMES AND COVERS

MANHOLE CASTING NOTES:

- CASTING SHALL COMPLY WITH ASTM A-48 AND AASHTO M306-04.
- AS-CAST DIMENSIONS MAY VARY ± 1/16 INCH PER FOOT.
- EACH CASTING SHALL BE MARKED ① IN ACCORDANCE WITH AASHTO M 306-04, SEC.8.
- RAISED SURFACES SHALL BE CAST AS NON-SKID FINISH.
- THE SURFACES LABELED ON THESE DETAILS AS SHALL BE MACHINED.
- FOR PRIVATE SYSTEMS OMIT LETTERING.
- PAIN IS OPTIONAL UNLESS SPECIFIED.
- YEAR AND/OR DATE SHOULD BE DATE OF MANUFACTURE.



ENVIRONMENTAL STAMP

LAMP RYNEARSON

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KANSAS CITY, MO 64114  
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LampRynearson.com



01-28-2020

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CONSTRUCTION DOCUMENTS

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ROELAND PARK, KANSAS

REVISIONS

DESIGNER / DRAFTER

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REFER TO PHASE 1 PLANS FOR NOTES ON THE FOLLOWING ITEMS:

DEMOLITION, CLEARING AND GRUBBING, UTILITY LINE ADJUSTMENTS, EXCAVATION, BACKFILL, AND SITE GRADING, TRENCHING, BACKFILLING, AND COMPACTION, EROSION CONTROL, CONCRETE, CONCRETE SIDEWALK RAMPS, CONCRETE CURB AND GUTTER, DRIVEWAYS, STORM SEWER PIPE, DRAINAGE STRUCTURES, SODDING, CONCRETE FORMWORK, CONCRETE REINFORCEMENT, AND CONCRETE.

ASPHALTIC CONCRETE PAVING

1. ALL WORK OF PRODUCING AND PLACING ASPHALTIC CONCRETE SURFACE AND BASE FOR STREET OR PARKING PAVEMENT SHALL CONFORM TO SECTIONS 2204 AND 2205 OF THE APWA STANDARD SPECIFICATIONS.

ASPHALTIC CONCRETE PAVEMENT

2. ASPHALTIC CONCRETE MIXES SHALL BE IN CONFORMANCE SECTION 2205.3 OF THE 2017 APWA STANDARD SPECIFICATIONS AS MODIFIED HEREIN. BASE COURSE AND SURFACE COURSE SHALL BE TYPE 5-01 EXCEPT AS NOTED BELOW. PERFORMANCE GRADED ASPHALT BINDER GRADE PG 64-22 SHALL BE USED IN ALL MIXES.
3. THE CONTRACTOR MAY USE FRACTIONATED RECLAIMED ASPHALT PAVEMENT (FRAP) AS AN AGGREGATE SOURCE. FRAP IS DEFINED AS HAVING TWO OR MORE STOCKPILES, WHERE RECLAIMED ASPHALT PAVEMENT (RAP) IS PROCESSED INTO COARSE AND FINE FRACTIONS. THE FINE FRAP STOCKPILE WILL CONTAIN ONLY MATERIAL PASSING THE 1/4 INCH SCREEN. THE COARSE FRAP STOCKPILE WILL CONTAIN MILLED MATERIAL RETAINED ON THE 1/4 INCH SCREEN AND PASSING THE 3/4 INCH SCREEN. THE MAXIMUM COMBINED FRAP IS 30% OF THE TOTAL MIX BY WEIGHT. FRAP MAY BE COMPRISED OF COARSE OR FINE FRAP OR A COMBINATION THEREOF. UTILIZE A SEPARATE COLD FEED BIN FOR EACH STOCKPILE OF FRAP USED. DO NOT BLEND COARSE AND FINE FRAP EITHER IN THE STOCKPILE OR IN A COLD FEED BIN. ADD FRAP TO THE MIX THROUGH THE RAP COLLAR. RECYCLED ASPHALT SHINGLES (RAS) ARE NOT ALLOWED.
4. ANTI-STRIPPING AGENT - ALL BITUMINOUS MIXTURES SHALL CONTAIN AN ANTI-STRIPPING AGENT. AD-HERE<sup>®</sup> LOF 65-00 LS AS -MANUFACTURED BY ARR-MAZ PRODUCTS, L.P. SHALL BE ADDED TO THE ASPHALT CEMENT AT THE RATE OF 0.75% BY WEIGHT OF THE TOTAL ADDED ASPHALT CEMENT. OTHER ASPHALT ANTI-STRIPPING ADDITIVES AND THEIR APPLICATION RATE MAY BE USED WHEN PROVEN EQUAL AFTER TESTING AS SPECIFIED IN PARAGRAPH "RESISTANCE OF COMPACTED BITUMINOUS MIXTURE TO MOISTURE INDUCED DAMAGE" AND APPROVED BY THE ENGINEER. COPIES OF THE BILL OF LADING SHALL BE SUBMITTED TO THE ENGINEER.
5. RESISTANCE OF COMPACTED BITUMINOUS MIXTURE TO MOISTURE INDUCED DAMAGE - THE INDEX OF RETAINED STRENGTH MUST BE GREATER THAN 80 PERCENT AS DETERMINED BY AASHTO T 283-03 (USING A 4-INCH NOMINAL SIZE MOLD). SPECIMENS SHALL BE CONDITIONED BY FREEZING AND THAWING. WHEN THE INDEX OF RETAINED STRENGTH IS LESS THAN 80 THE AMOUNT OF ANTI-STRIP MAY HAVE TO BE ADJUSTED. NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR FOR ADDITION OF ANTI-STRIPPING AGENT REQUIRED. THE MIX SHALL CONTAIN THE ANTI-STRIPPING AGENT SPECIFIED IN PARAGRAPH "ANTI-STRIPPING AGENT" AND TESTED BY AASHTO T 283.
6. METHOD OF DETERMINING THE RETAINED STRENGTH OF PLANT-PRODUCED MIXTURES. SAMPLE THE PLANT PRODUCED MIXTURE AT THE PLANT SITE IN ACCORDANCE WITH ASTM D 979 OR BEHIND THE PAVER USING THE PROCEDURE SPECIFIED HEREIN. TRANSPORT THE MIXTURE TO THE LABORATORY AND DETERMINE THE THEORETICAL SPECIFIC GRAVITY AS SPECIFIED IN PARAGRAPH "ASPHALTIC CONCRETE MIX DESIGN METHOD". PREPARE THE SPECIMENS FOR THE AASHTO T 283 TEST USING THE SAME FOUR-HOUR CURED MATERIAL AND COMPACT TO 7 0.5 PERCENT AIR VOIDS. ALLOW THE SAMPLES TO COOL AND CURE OVERNIGHT AT ROOM TEMPERATURE AND PROCEED WITH TESTING BY DETERMINING THE THICKNESS AND BULK SPECIFIC GRAVITY, THEN SEPARATING THE SPECIMENS INTO SUBSETS AND PRECONDITIONING AS SPECIFIED HEREIN. THEN PROCEED WITH THE TESTING AS SPECIFIED IN AASHTO T 283.

TACK COAT

7. TACK COAT (CSS-1H) SHALL BE IN ACCORDANCE WITH THE PLANS AND SECTION 2204 OF THE APWA STANDARD SPECIFICATIONS.
8. TACK COAT SHALL BE APPLIED BETWEEN EACH LAYER OF NEW ASPHALTIC CONCRETE, AS WELL AS THOSE SURFACES SPECIFIED IN THE PLANS, INCLUDING CURB FACES.
9. TACK COAT APPLICATION TEMPERATURE SHALL BE BETWEEN 150 AND 225 F
10. THE RATE OF APPLICATION SHALL BE 0.05 GAL/SY TO 0.12 GAL/SY OR AS OTHERWISE DIRECTED BY THE ENGINEER.

ASPHALTIC CONCRETE PLACEMENT

11. ASPHALT MIXING PLANTS SHALL CONFORM TO SECTION 2205.5 OF THE APWA STANDARD SPECIFICATIONS.
12. TRANSPORTATION OF THE ASPHALTIC CONCRETE MIX SHALL CONFORM TO SECTION 2205.6 OF THE APWA STANDARD SPECIFICATIONS.
13. ASPHALT PAVING EQUIPMENT SHALL CONFORM TO SECTION 2205.8 OF THE APWA STANDARD SPECIFICATIONS.
14. THE CONTRACTOR SHALL MAKE ANY ADJUSTMENTS NECESSARY TO ASSURE NEAT JOINTS WHERE MULTIPLE ASPHALT LAY DOWNS JOIN. THIS EFFORT MAY REQUIRE CUTTING PREVIOUS LAY DOWN PASSES EDGES TO PROVIDE A NEAT BUTT JOINT.
15. THE CONTRACTOR SHALL DELIVER TICKETS TO THE OWNER'S CONSTRUCTION REPRESENTATIVE AS EACH TRUCKLOAD IS DELIVERED TO THE JOB. THE DELIVERY TICKETS SHALL BE NUMBERED CONSECUTIVELY, STATE THE PROJECT NUMBER, ORIGIN OF THE LOAD, TIME LOADED, TEMPERATURE AND WEIGHT OF THE LOAD, TRUCK NUMBER, TYPE OF MIX AND APPROVED JOB MIX FORMULA REPORT NUMBER.

CONSTRUCTION REQUIREMENTS

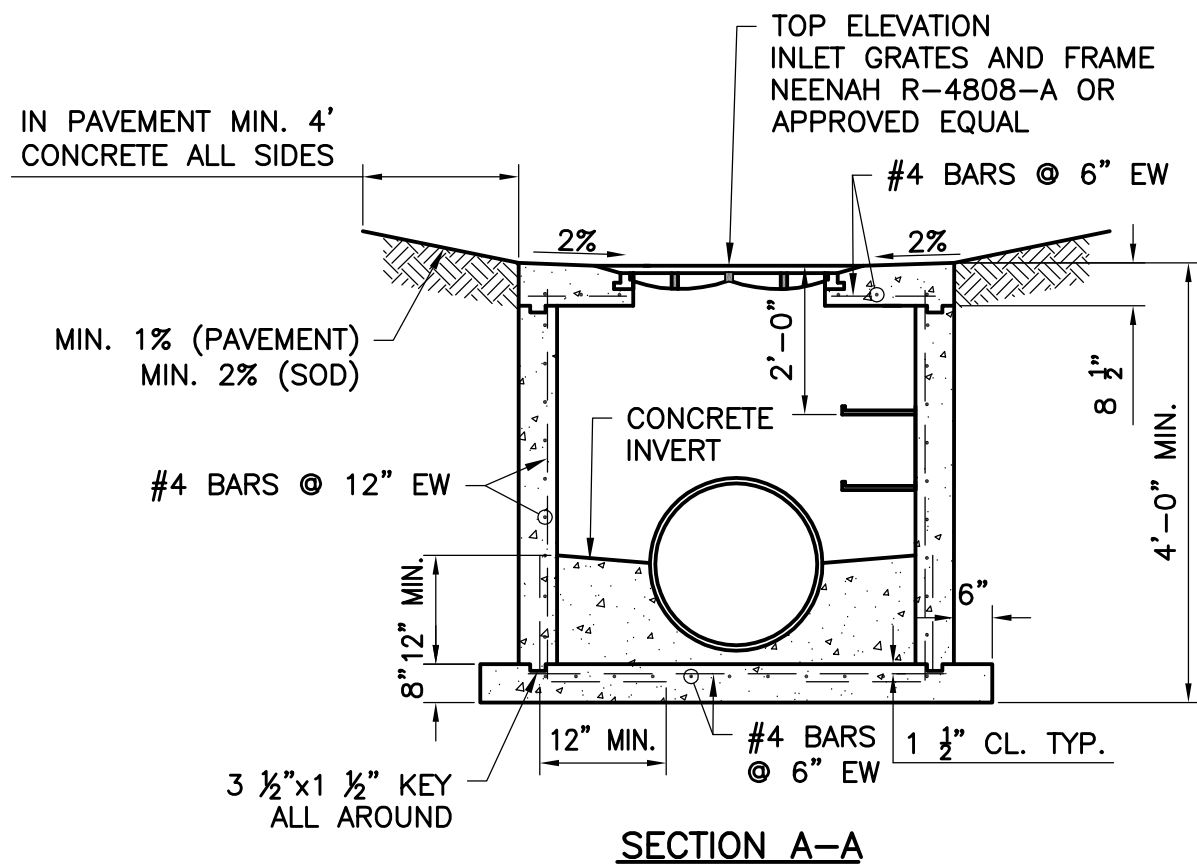
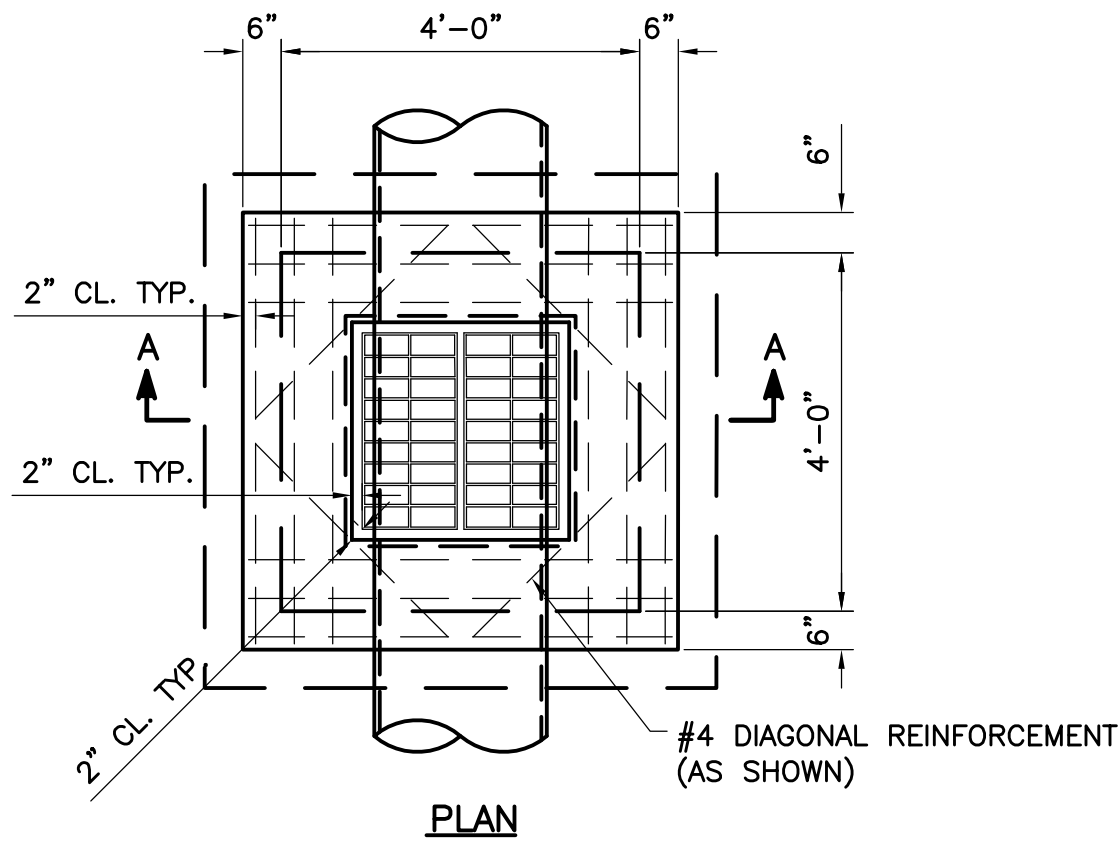
16. SECTION 2205.8 OF THE APWA STANDARD SPECIFICATIONS SHALL BE AMENDED TO REQUIRE THAT THE LIFT OF BASE COURSE IMMEDIATELY PRECEDING THE SURFACE COURSE BE LAID IN A CONTINUOUS OPERATION AND THAT THIS LIFT PROVIDE A FINISHED SURFACE THAT DEVIATES NO MORE THAN 3/8 INCH FROM THE GRADES SHOWN ON THE PLANS. SUCH DEVIATIONS WILL BE ALLOWED ONLY IF THEY ARE ROUGHLY COMPENSATING IN EXTENT AND DIRECTION.
17. WEATHER LIMITATIONS: WHEN THE MOISTURE OF THE AGGREGATE IN THE STOCKPILE OR FROM THE DRYER INTERFERES WITH THE QUALITY OF MIX PRODUCTION, OR WITH NORMAL PLAN OPERATIONS, THE MIXING AND PLACING OF HOT-MIX ASPHALT WILL NOT BE PERMITTED WITHOUT PERMISSION OF THE ENGINEER. NO MIXTURE SHALL BE PLACED ON WET OR FROZEN SURFACE.

HOT MIX ASPHALT PAVING SHALL NOT BE MIXED OR PLACED WHEN THE AMBIENT AIR OR BASE TEMPERATURE IS BELOW TEMPERATURES SHOWN IN THE FOLLOWING TABLE, OR WHEN THERE IS FROST IN THE SUBGRADE OR ANY OTHER TIME WITH WHEN WEATHER CONDITIONS RE UNSUITABLE FOR THE TYPE OF MATERIAL BEING PLACED WITHOUT EXPRESSED APPROVAL OF THE ENGINEER.

ASPHALT PLACEMENT TEMPERATURE LIMITATIONS			
PAVING COURSE	COMPACTED THICKNESS (INCHES)	AIR TEMPERATURE (DGREES F)	ROAD SURFACE TEMPERATURE (DEGREES F)
SURFACE	ALL	50	55
BASE	LESS THAN 3	40	45
BASE	3 OR MORE	30	35

SURFACE REQUIREMENTS (TOLERANCES)

18. FINISHED GRADE OF CENTERLINE OF STREET PAVEMENTS SHALL BE WITHIN THE TOLERANCE RANGE OF MINUS ZERO (0) TO PLUS ONE-HALF (1/2) INCH WITH RESPECT TO CONCRETE GUTTER LIP.
19. FINISHED GRADE OF ASPHALTIC CONCRETE SURFACE SHALL MATCH CONCRETE GUTTER LIP WITHIN THE TOLERANCES OF 1/4" TO 3/8" ABOVE GUTTER LIP.
20. TOTAL COMPACTED THICKNESS OF BASE AND ASPHALTIC CONCRETE SURFACE AT ANY POINT SHALL BE NOT LESS THAN THE THICKNESS SHOWN ON THE PLANS BY MORE THAN THREE-EIGHT (3/8) INCH AND THE AVERAGE OF POINTS CHECKED FOR TOTAL THICKNESS SHALL NOT BE LESS THAN SHOWN ON THE PLANS.
21. THICKNESS OF ASPHALTIC CONCRETE SURFACE SHALL BE WITHIN THE TOLERANCE RANGE OF MINUS ONE-QUARTER (1/4) INCH TO PLUS ONE-HALF (1/2) INCH WITH RESPECT TO THE THICKNESS SHOWN ON THE PLANS.
22. STRAIGHT-EDGE REQUIREMENTS: MAXIMUM VARIATION FROM A TEN (10) FOOT STRAIGHT-EDGE SHALL BE NOT MORE THAN 1/4 INCH, WITH THE PROVISION THAT ALLOWANCE SHALL BE MADE FOR SHORT VERTICAL CURVES IN THE APPLICATION OF THESE REQUIREMENTS.
23. IF THE ENGINEER FINDS THE PAVEMENT IS NOT IN THE TOLERANCES, HE WILL THEN MAKE A DETERMINATION IF THE PAVEMENT WILL BE ACCEPTED AND REMAIN IN PLACE. THE ENGINEER WILL DOCUMENT THE BASIS OF ACCEPTANCE WHICH MAY PROVIDE FOR AN APPROPRIATE ADJUSTMENT IN THE CONTRACT UNIT PRICE FOR THE ASPHALTIC CONCRETE ITEMS AS HE DEEMS NECESSARY, BASED ON HIS ENGINEERING JUDGEMENT.
24. IF THE ENGINEER FINDS THE WORK TO BE UNACCEPTABLE, THE ASPHALTIC CONCRETE SHALL BE REPLACED OR OTHERWISE CORRECTED BY AND AT THE EXPENSE OF THE CONTRACTOR.



GENERAL NOTES:

1. PRECAST SHOP DRAWINGS ARE TO BE APPROVED BY THE CITY ENGINEER FOR PUBLICLY FINANCED OR ADMINISTERED PROJECTS. PRECAST SHOP DRAWINGS FOR PRIVATELY FINANCED PROJECTS ARE TO BE SUBMITTED TO THE ENGINEER.
2. 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.
3. 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"+"H") AND ("W"+"H") LESS THEN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.
4. RING & COVER TO BE CLAY & BAILEY #2152, OR APPROVED EQUAL.
5. SEE SPECIFICATIONS FOR ALL MATERIAL AND TECHNICAL SPECIFICATIONS.
6. INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
7. BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.
8. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/- 1/8" SHALL BE PERMITTED.
9. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.