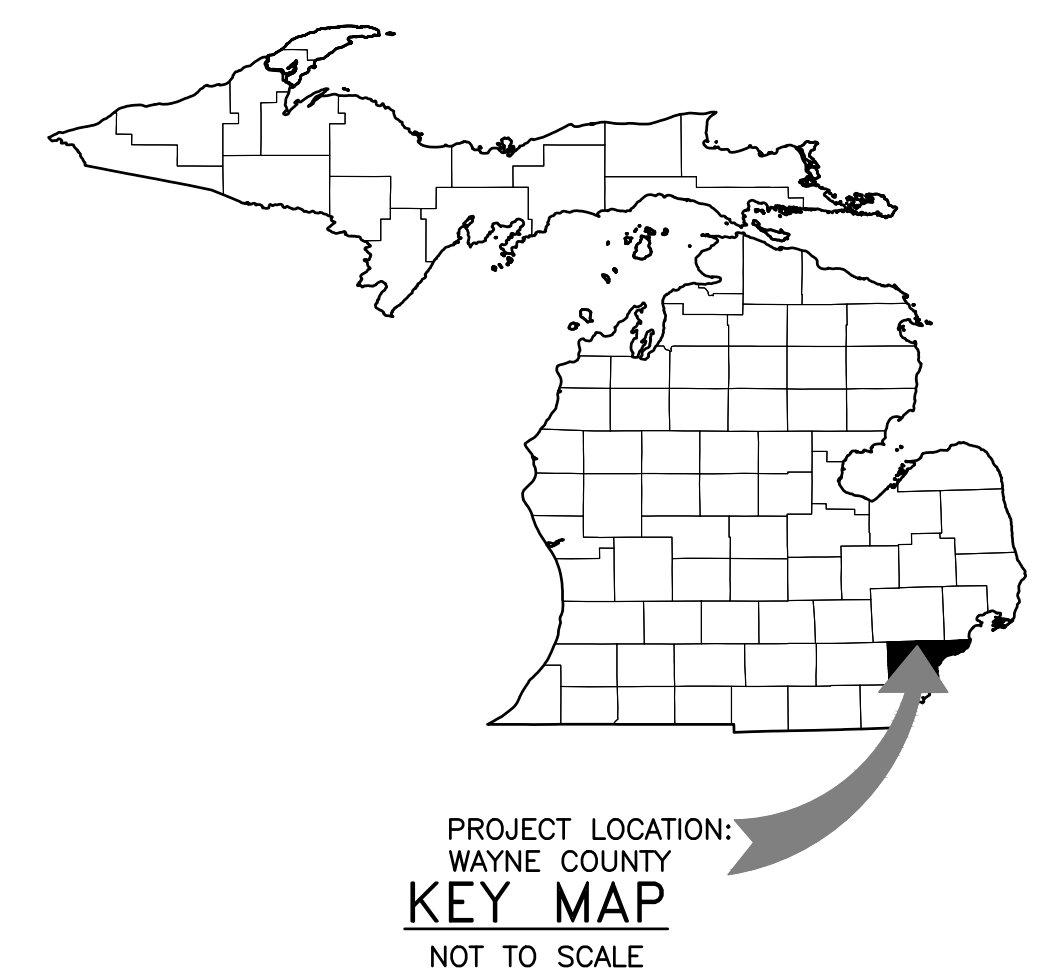
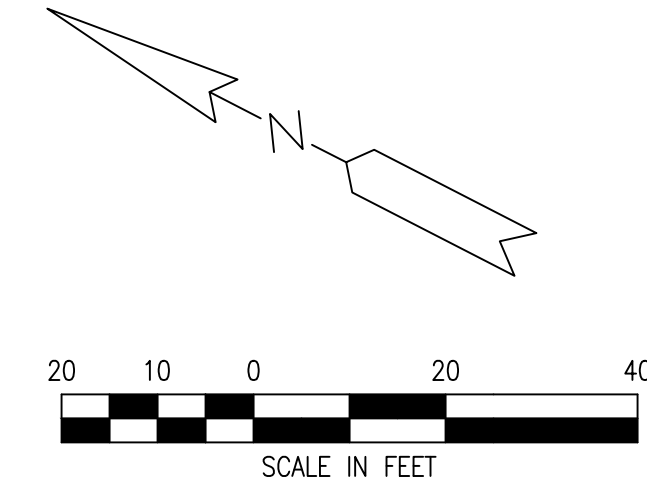


PUD SITE PLANS FOR GROSSE POINTE PUD CITY CENTER APARTMENTS

582-606 ST CLAIR AVE, GROSSE POINTE PARK
GROSSE POINTE, MI 48230



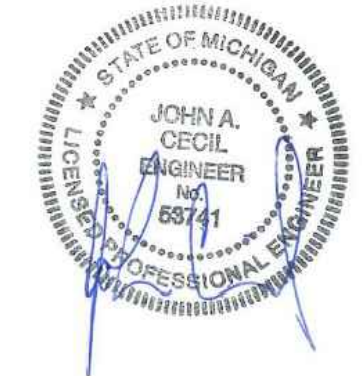
CONTACTS	
OWNER	GROSSE POINTE CITY CENTER PARTNERS CIVIC CENTER EQUITIES, LLC 30100 TELEGRAPH ROAD BIRMINGHAM FARMS, MI 48025
APPLICANT/AGENT	MTB PARTNERS LLC 255 E. BROWN ST. #105 BIRMINGHAM, MI 48009 (248) 770-9106
ARCHITECT/LA	INTEGRATED ARCHITECTURE ARCHITECT - ZADA HARRIS (616) 574 0220 LANDSCAPE ARCH. - (616) 574 0220 840 OTTAWA AVENUE NW GRAND RAPIDS, MI 49503
ENGINEER	WADE TRIM P.E. - JOHN CECIL (313) 379-6825 500 GRISWOLD ST. STE 2500 DETROIT, MI 48226
GAS	DTE ENERGY SEMI_GASDESIGN@DTEENERGY.COM
TELEPHONE	A T & T 734-996-5336 LIT7891@ATT.COM
CABLE	COMCAST CABLE/FIBER OPTICS 419-874-9283 CCCUTILITYREQUESTS@TEAMSIGNA.COM
WATER, SANITARY, STORM SERVICE	CITY OF GROSSE POINTE WATER SERVICE CENTER 22025 MACK PLAZA DRIVE GROSSE POINTE WOODS, MI 48236 (313) 343-2430
SOIL EROSION	WAYNE COUNTY LAND RESOURCE MANAGEMENT DIVISION DIRECTOR 3600 COMMERCE COURT, BLDG E WAYNE, MI 48184 (734) 326-3936
PLANNING & ZONING	CITY OF GROSSE POINTE PLANNING & ZONING 17147 MAUMEE AVENUE GROSSE POINTE, MI 48230 (313) 885-5800



VICINITY MAP
SCALE: NTS

SHEET INDEX	
GENERAL SHEETS	SHEET NO.
COVER SHEET	C0.0
EXISTING CONDITIONS PLAN	C1.0
DEMOLITION PLAN	C1.1
SITE PLAN	C3.0
SITE PLAN DETAILS	C3.1
EXISTING DRAINAGE PLAN	C4.0
PROPOSED DRAINAGE PLAN	C4.1
GRADING PLAN	C5.0

CITY CENTER APARTMENTS
840 Ottawa Avenue NW
Grand Rapids, MI 49503



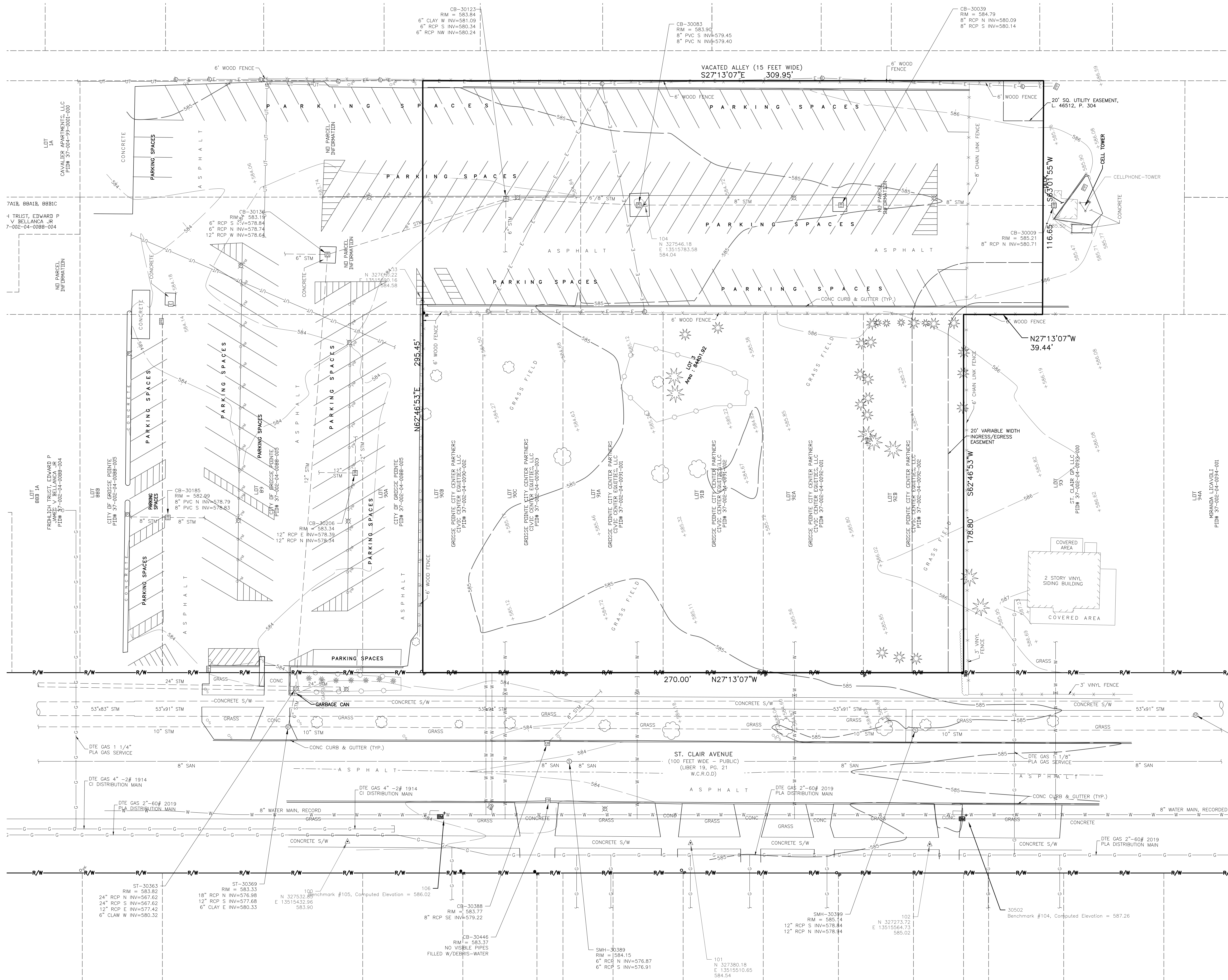
**NOT TO BE USED
FOR CONSTRUCTION
DRAWINGS**

WADE TRIM JOB NO.
IAR200601F



REVISIONS PER CITY	DATE
OWNER REVIEW	16 DECEMBER 2022
PUD REVIEW	15 DECEMBER 2022
Design	05 DECEMBER 2022
PMPA	RAC/JC
Drawn	KPR
IA Project Number	RAC/JC
	20210711





EXISTING LEGEND

- BENCHMARK
- CATCH BASIN SQUARE
- CONIFEROUS BUSH
- LARGE CONIFEROUS TREE
- MEDIUM CONIFEROUS TREE
- SMALL CONIFEROUS TREE
- LARGE DECIDUOUS TREE
- MEDIUM DECIDUOUS TREE
- SMALL DECIDUOUS TREE
- ELECTRIC RISER
- ELECTRICAL TRANS. BOX
- IRON PIPE
- IRON ROD
- POWER AND LIGHT POLE
- PK NAIL
- PARKING METER
- POWER POLE
- SIGN POST
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- WATER VALVE
- WATER SHUT OFF
- BUILDING
- EDGE OF BRUSH
- GUARD RAIL
- OVERHEAD UTILITIES OTHER
- UNDERGROUND UTILITIES
- DOMESTIC WATER MAIN
- CENTERLINE OF PAVEMENT
- TREE ROW
- CONTOUR MAJOR
- CONTOUR MINOR
- FENCE
- RIGHT OF WAY LINE
- PROPERTY/LOT LINE
- PROPERTY EASEMENT LINE

HORIZONTAL DATUM:
NORTH AMERICAN DATUM OF 1983 (NAD83), MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE - 2113, INTERNATIONAL FEET, GPS DERIVED.

VERTICAL DATUM:
NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

BENCHMARK INFORMATION:
BENCHMARK 104
ELEVATION = 587.26
TOP OF ARROW ON FIRE HYDRANT AT HOUSE #577.
BENCHMARK 105
ELEVATION = 586.02
TOP OF ARROW ON FIRE HYDRANT AT HOUSE #603.

CONTROL POINT INFORMATION:
CONTROL POINT # 100
NORTHING: 327,532.845
EASTING: 13,515,432.96
ELEVATION = 583.90
DESCRIPTION: SET PK NAIL IN CENTERLINE OF SIDEWALK ON THE WEST SIDE OF ST. CLAIR AVENUE, 20' +/- NORTH OF THE SOUTHWEST CORNER OF PARKING GARAGE, 300' +/- SOUTH OF THE INTERSECTION OF ST. CLAIR AVENUE AND KERCHEVAL AVENUE.
CONTROL POINT # 101
NORTHING: 327,380.18
EASTING: 13,515,010.65
ELEVATION = 584.54
DESCRIPTION: SET PK NAIL IN THE CENTERLINE OF SIDEWALK ON THE WEST SIDE OF ST. CLAIR AVENUE, OPPOSITE OF THE MIDDLE OF SITE, 5' +/- SOUTH OF THE NORTH DRIVEWAY LINE TO HOUSE #593.
CONTROL POINT # 102
NORTHING: 327,623.22
EASTING: 13,515,690.16
ELEVATION = 584.58
DESCRIPTION: SET PK NAIL IN ASPHALT PARKING LOT, 4' +/- EAST OF FENCE POST FOR THE NORTHEAST CORNER OF SITE/ANGLER FIELD, 175' +/- SOUTH OF SOUTH BUILDING LINE #17120, 200' +/- EAST OF THE EAST SIDEWALK ON ST. CLAIR AVENUE.

LEGAL DESCRIPTION:

(PER FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT No. NCS-1058698-D072, DATED FEBRUARY 5, 2021 AS SHOWN ON ALTA/NSPS LAND TITLE SURVEY BY PEA GROUP, JOB No. 205-072, DATED APRIL 22, 2021)

PARCEL 1
PART OF LOT 1, PLAT OF THE FRONT AND REAR CONFESSION OF P.C., 239 AS RECORDED IN LIBER 64, PAGE 8 OF DEEDS, WAYNE COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS: PART OF PRIVATE CLAIM 239 BETWEEN JEFFERSON AND MACK AVENUES, CITY OF GROSSE POINTS, WAYNE COUNTY, MICHIGAN, BEGINNING AT THE SOUTHWEST CORNER OF LOT 92 OF AMENDED PLAT OF ST. CLAIR PARK SUBDIVISION, AS RECORDED IN LIBER 19, PAGE 21 OF PLATS, WAYNE COUNTY RECORDS; THENCE N 29°00'00" E, 116.68 FEET; THENCE S 24°58'00" E, 309.96 FEET; THENCE S 65°19'23" W, 116.51 FEET; THENCE N 25°00'00" W, 38.81 FEET TO THE POINT OF BEGINNING. [PARKING LOT AREA]

PARCEL 2
THE SOUTHERLY 30 FEET (RECORDED 30.32 FEET MEASURED) OF THE NORTHERLY 60 FEET OF LOT 90, AMENDED PLAT OF ST. CLAIR SUBDIVISION, AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS. [606 ST. CLAIR]

PARCEL 3
THE SOUTHERLY 40 FEET OF LOT 90, AMENDED PLAT OF ST. CLAIR SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS. [604 ST. CLAIR]

PARCEL 4
THE NORTH 50 FEET OF LOT 91, AMENDED PLAT OF ST. CLAIR SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS. [598 ST. CLAIR]

PARCEL 5
THE SOUTHERLY 50 FEET OF LOT 91, AMENDED PLAT OF ST. CLAIR SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS. [592 ST. CLAIR]

PARCEL 6
THE NORTH 50 FEET OF LOT 92, AMENDED PLAT OF ST. CLAIR SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS. [586-588 ST. CLAIR]

PARCEL 7
THE SOUTHERLY 50 FEET OF LOT 92, AMENDED PLAT OF ST. CLAIR SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS. [582 ST. CLAIR]

SAID LEGAL DESCRIPTION IS ALSO DESCRIBED AS PER SURVEY PREPARED BY PROFESSIONAL ENGINEERING ASSOCIATES DATED FEBRUARY 22, 2007, REVISED AUGUST 7, 2007, BEING JOB No. 2005-072:

LOTS 91, 92 AND PART OF LOT 90 OF "AMENDED PLAT OF ST. CLAIR SUBDIVISION" AS RECORDED IN LIBER 19, PAGE 21, WAYNE COUNTY RECORDS, TOGETHER WITH PART OF "PARCEL 4A" AS RECORDED IN LIBER 1985 ON PAGE 448 WAYNE COUNTY RECORDS, TOGETHER WITH PART OF "PARCEL 11" AS RECORDED IN LIBER 12679 ON PAGE 178 WAYNE COUNTY RECORDS, TOGETHER WITH PART OF A PARCEL OF LAND DESCRIBED IN LIBER 11881 ON PAGE 299 WAYNE COUNTY RECORDS, AND BEING MORE PARTICULARLY DESCRIBED AS: BEGINNING AT THE SOUTHWEST CORNER OF THE AFORESAID LOT 92, SAID POINT BEING N 25°00'00" W, 209.60 FEET ALONG THE EASTERN LINE OF ST. CLAIR (100' WIDE) FROM THE INTERSECTION OF THE NORTHERLY LINE OF ST. PAUL (60' WIDE) AS OPENED; THENCE ALONG SAID EASTERN LINE N 25°00'00" W, 270.25 FEET TO THE SOUTHERLY LINE OF THE NORTHERLY 30 FEET OF THE AFORESAID LOT 90; THENCE ALONG SAID SOUTHERLY LINE AND THE EXTENSION THEREOF N 62°08'21" E, 295.60 FEET TO A POINT ON THE WESTERN LINE OF "C. NEFF ESTATE SUBDIVISION" AS RECORDED IN LIBER 15 ON PAGE 23 WAYNE COUNTY RECORDS; THENCE ALONG SAID WESTERN LINE S 24°58'00" E, 309.95 FEET; THENCE PARALLEL TO THE NORTHERLY LINE OF ST. PAUL AS OPENED S 65°19'23" W, 116.43 FEET TO THE EASTERN LINE OF THE AFORESAID AMENDED PLAT; THENCE ALONG SAID EASTERN LINE N 25°00'00" W, 39.44 FEET TO THE SOUTHWEST CORNER OF LOT 92; THENCE ALONG SAID SOUTHERLY LINE OF SAID LOT 92 S 65°08'21" W, 179.00 FEET (PLATTED AS 178.80 FEET) TO THE POINT OF BEGINNING.

BASIS OF BEARINGS:
AS-SURVEYED BEARINGS SHOWN HEREON ARE BASED ON NAD83, MICHIGAN STATE PLANE COORDINATES, SOUTH ZONE, 2113; SURVEY MAP IS ROTATED 021°17'17" FROM BEARINGS SHOWN ON REFERENCE ALTA/NSPS SURVEY COMPLETED BY PEA GROUP, JOB No. 205-072, DATED: APRIL 22, 2021.

UTILITY NOTE:
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

CONTRACTOR ALERT STATEMENT

THIS PROJECT HAS BEEN DESIGNED IMPLEMENTING THE LATEST CITY OF FLINT DESIGN SPECIFICATIONS. CAREFULLY REVIEW THE NOTES, DETAILS, AND DESIGN PRIOR TO SUBMITTING A BID. FULL COMPLIANCE WITH THE NEW STANDARDS WILL BE REQUIRED.

NOT TO BE USED FOR CONSTRUCTION DRAWINGS

WADE TRIM JOB NO. IAR200601F

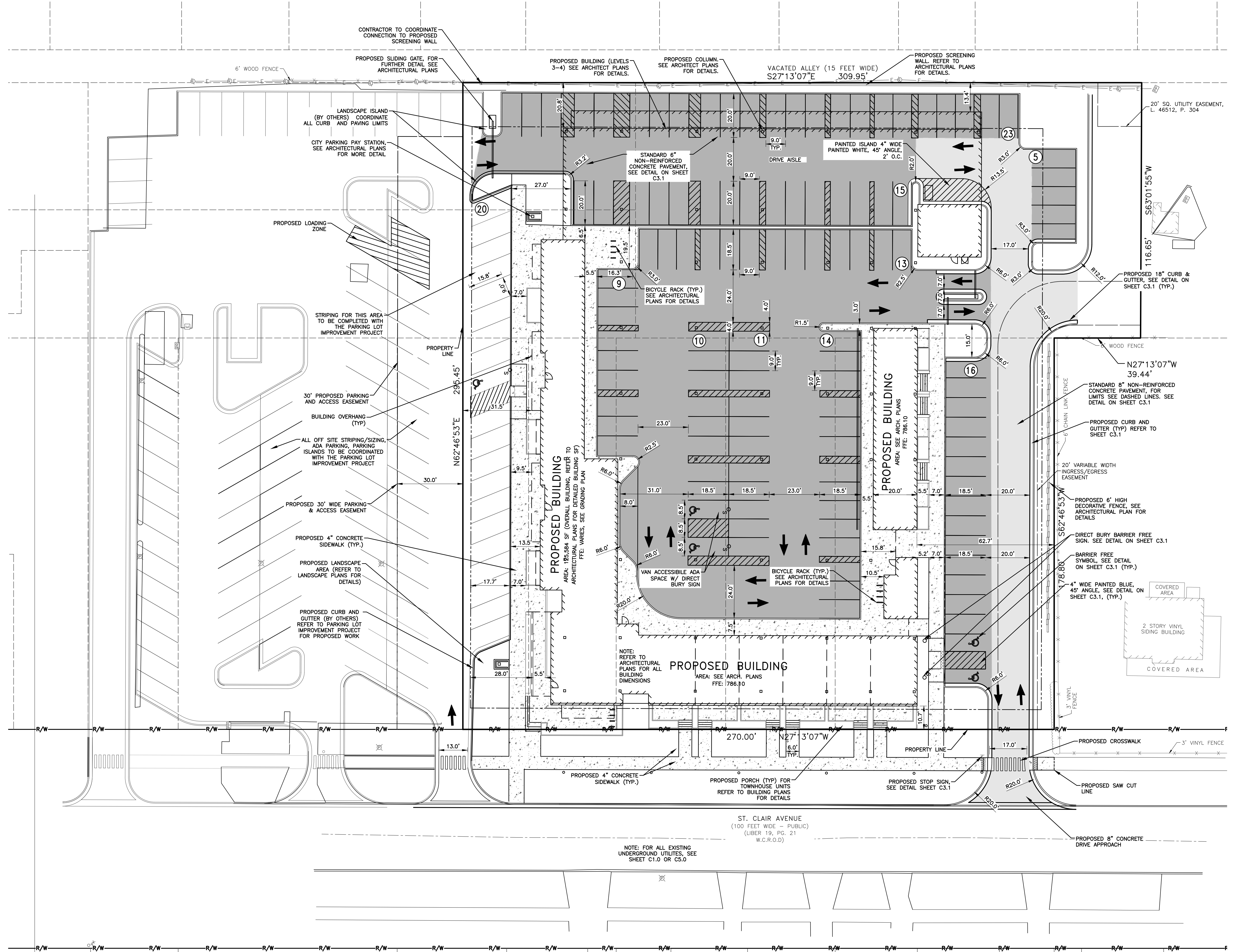
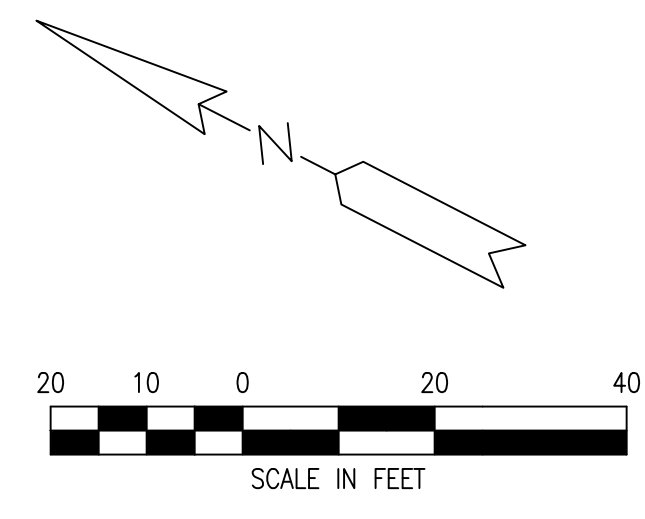


REVISIONS PER CITY	16 DECEMBER 2022
OWNER REVIEW	15 DECEMBER 2022
PUD REVIEW	05 DECEMBER 2022

Design	RAC/JC
PMP/PA	KPR
Drawn	RAC/JC
IA Project Number	20210711

EXISTING CONDITIONS PLAN





PROPOSED LEGEND

- PROPERTY LINE
- EASEMENT LINE
- CANOPY LIMITS
- BUILDING LINE
- CURB AND GUTTER
- BUILDING WALL SCIENCE
- PARKING LOT LIGHT POLE
- SIGN AND SIGN POST
- BOLLARD
- PARKING COUNT
- ACCESSIBLE SYMBOL
- 4" CONCRETE (SIDEWALKS)
- 6" CONCRETE
- 8" CONCRETE
- PAINTED ISLAND

SITE PLAN NOTES

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL AGENCIES HAVE JURISDICTIONAL AUTHORITY'S REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB OR FACE OF THICKENED EDGE SIDEWALK UNLESS OTHERWISE NOTED ON THE PLANS.
3. PROVIDE ISOLATION JOINTS WHERE CONCRETE ABUTS EXISTING CONCRETE.
4. ALL PARKING LOT STRIPING SHALL BE IN ACCORDANCE WITH THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES". ALL STRIPING SHALL BE WATERBORNE PER MDT SPECIFICATIONS AND ALL STRIPING SHALL BE 4" TRAFFIC YELLOW UNLESS OTHERWISE NOTED. ALL DIAGONAL STRIPING SHALL BE WHITE OR BLUE AT 2 FT ON CENTER, ON A 45° ANGLE UNLESS OTHERWISE NOTED. CONTRACTOR SHALL APPLY 2 COATS OF PAVEMENT MARKINGS, 1 MONTH APART.
5. ALL BARRIER FREE PARKING, SIGNAGE & STRIPING SHALL BE IN ACCORDANCE WITH MICHIGAN BARRIER FREE STANDARDS. DETECTABLE WARNING SURFACE SHALL BE INSTALLED AS REQUIRED BY MICHIGAN BARRIER FREE STANDARDS AT ALL RAMP AND OTHER LOCATIONS AS PROVIDED IN MICHIGAN BARRIER FREE STANDARDS. STRIPING SHALL BE WATERBORNE PAVEMENT MARKING PER MDT SPECIFICATIONS, COLOR BLUE UNLESS OTHERWISE SPECIFIED.
6. PLACEMENT OF SLEEVES FOR ANY ELECTRIC SYSTEM SHALL BE COORDINATED WITH OWNER/ARCHITECT PRIOR TO BEGINNING CONSTRUCTION.
7. CONTRACTOR IS RESPONSIBLE FOR PROPER TRAFFIC CONTROL DURING CONSTRUCTION IN ACCORDANCE WITH THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
8. SITE CONTRACTOR SHALL REFER TO LIGHTING PLANS FOR LIGHTING LOCATIONS AND FOUNDATIONS. SITE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL SITE LIGHTING AND CIRCUITRY PRIOR TO PLACING UTILITIES AND INSTALLING PAVEMENTS.
9. THERE WILL BE NO HAZARDOUS CHEMICALS BROUGHT ON OR STORED ON-SITE.
10. THERE WILL BE NO SMOKING ON THE PROPERTY AT ANYTIME.
11. THE SITE WILL HAVE A TRASH COMPACTOR. ALL TRASH SHALL BE WHEELED OUT TO THE STRIPED AREA FOR PICKUP ON TRASH DAYS.
12. LANDSCAPING, MECHANICAL AND PHOTOMETRIC PLANS SHALL BE SUBMITTED AT A LATER DATE.

SITE DATA:

City Center Apartments

Site Data

Existing Zoning: T-Transition
P-Parking
Proposed Use: Mixed Use/Residential and Retail

Max Lot Coverage (%): N/A
Area per Dwelling Unit (Sft):
Width (Ft):
Max Building Height: Required 3', Proposed 4'
Stories: 42', 59'
Setbacks: Min. 15'**, Max. 20', Provided 10.70'
Side Yard: 5', 31.50', 94.2'
Street: 20', NA
Rear Yard: 25'***, 13.40', 20.80'
Min. Floor Area per dwelling unit (sft): 500, 600, 700, 900, NA
Proposed (sft): NA, 705-720, 860-1,020, 1,325-1,500, 1,200-1,280

NOTES:

** PER SUBSECTION F(5), THE SETBACK FROM ST. CLAIR SHALL BE NO MORE THAN 10'-0" AND NO MORE THAN 20'-0" FOR PERMITTED RESIDENTIAL USES.

*** PER SUBSECTION D, THE DISTANCE BETWEEN BUILDINGS OR BETWEEN ANY BUILDING AND THE NEAREST LOT LINE SHALL NOT BE LESS THAN THE HEIGHT OF THE BUILDING NOR LESS THAN 30 FEET, WHICHEVER IS GREATER, NO MORE THAN TEN PERCENT OF THE REQUIRED DISTANCE SHALL BE USED FOR OFF-STREET PARKING.

PARKING REQUIREMENT CALCS:

Parking Calculations

Type- Residential Terrace Dwelling Required	Proposed Units	Required Spaces
1-Bedroom	1.5 spaces per unit	33
2-Bedroom	1.5 spaces per unit	34
3-Bedroom	2.0 spaces per unit	5
Townhouse	1.5 spaces per unit	9
Total Required Spaces		142
Total Provided Spaces		136

Type- Retail Store	Required	Provided
Retail/Restaurant	1 space per 150 sf of usable floor space	2825
Total Required Spaces		19
Total Provided Spaces		136

Accessible Parking Spaces Required	Required	Provided
Accessible Parking Spaces Provided	1 space for 2,000-5,000 usable floor space	1 space (12x15')
		5 3 Accessible +2 Van

NOT TO BE USED FOR CONSTRUCTION DRAWINGS

WADE TRIM JOB NO. IAR200601F



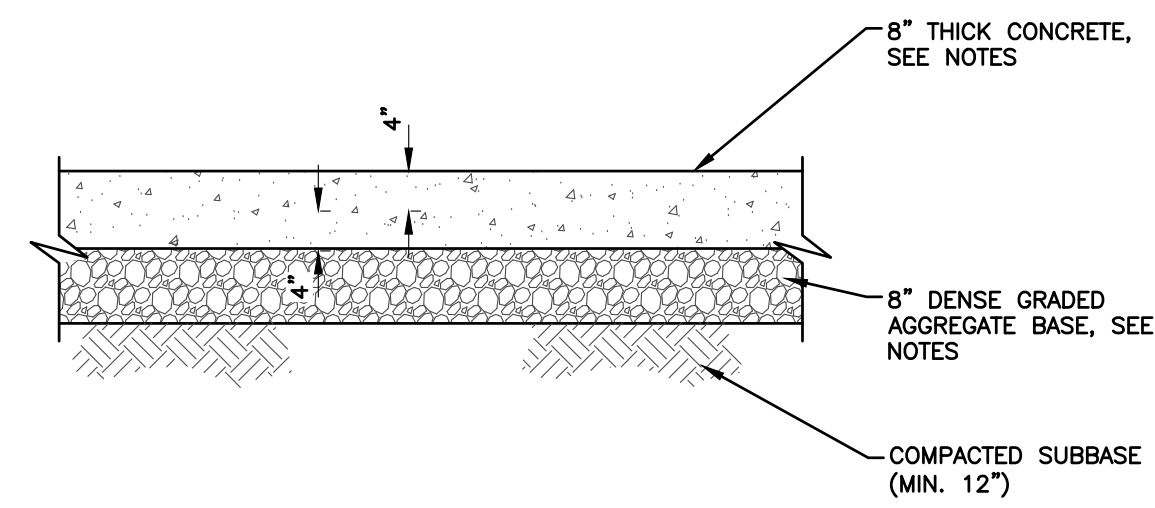
CITY CENTER APARTMENTS
552-608 St. Clair Ave
Grand Rapids, MI 49503

REVISIONS PER CITY

OWNER REVIEW	16 DECEMBER 2022
PUD REVIEW	15 DECEMBER 2022
Design	RAC/JC
PMPA	KPR
Drawn	RAC/JC
IA Project Number	20210711

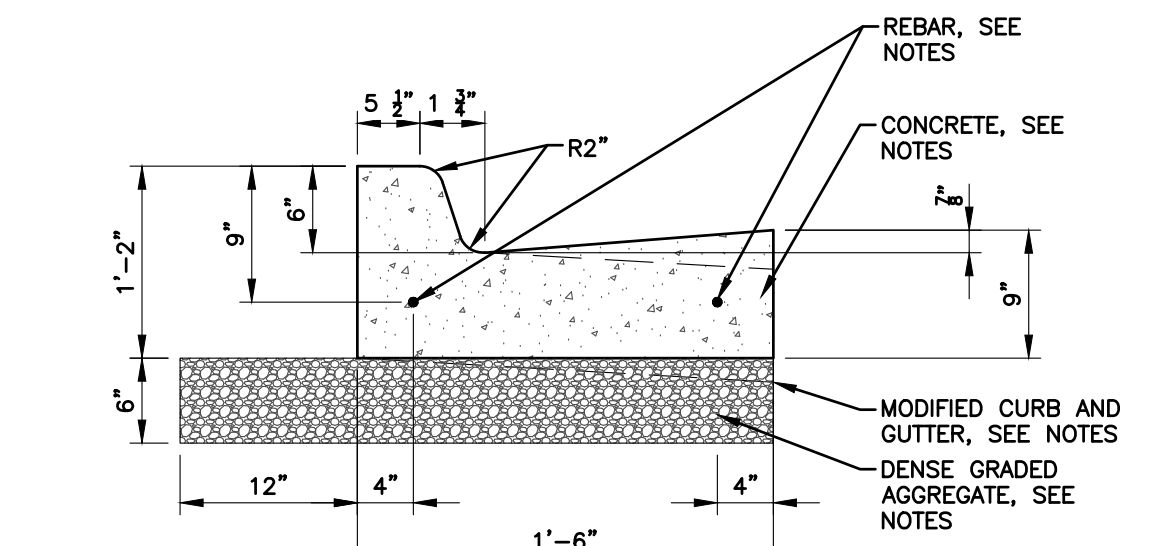
SITE PLAN



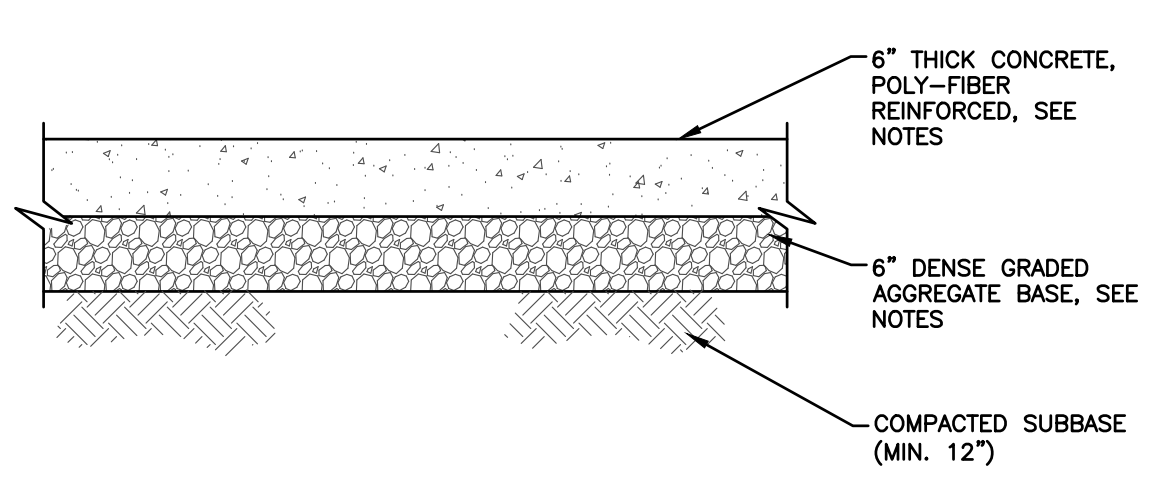


- REINFORCEMENT**
1. REINFORCEMENT SHALL NOT BE PLACED CLOSER THAN 9" FROM THE EDGE OF PAVEMENT OR THE EDGE OF A FINAL POUR.
 2. REINFORCEMENT FABRIC SHALL CONFORM TO ASTM A 185.
 3. WIRE FABRIC REINFORCEMENT SHALL LAY FLAT WHEN DELIVERED TO THE WORK AREA. THE USE OF SPACER BARS WILL BE REQUIRED FOR LIFTING BUNDLES OF REINFORCEMENT.
 4. THE ENDS OF THE WIRE FABRIC REINFORCEMENT SHEETS SHALL BE FASTENED IN AT LEAST TWO PLACES ON EACH END.
 5. THE WIRE FABRIC SHALL BE SUPPORTED BY 4" CHAIRS AT 2.0' O.C.

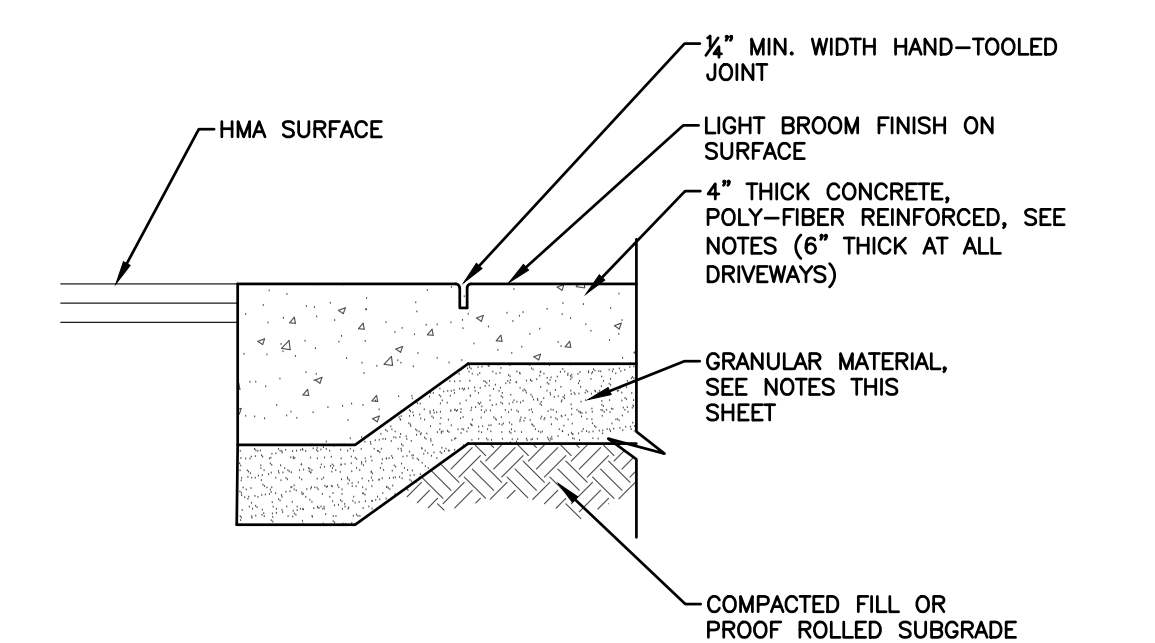
8" CONCRETE SURFACE DETAIL
NOT TO SCALE



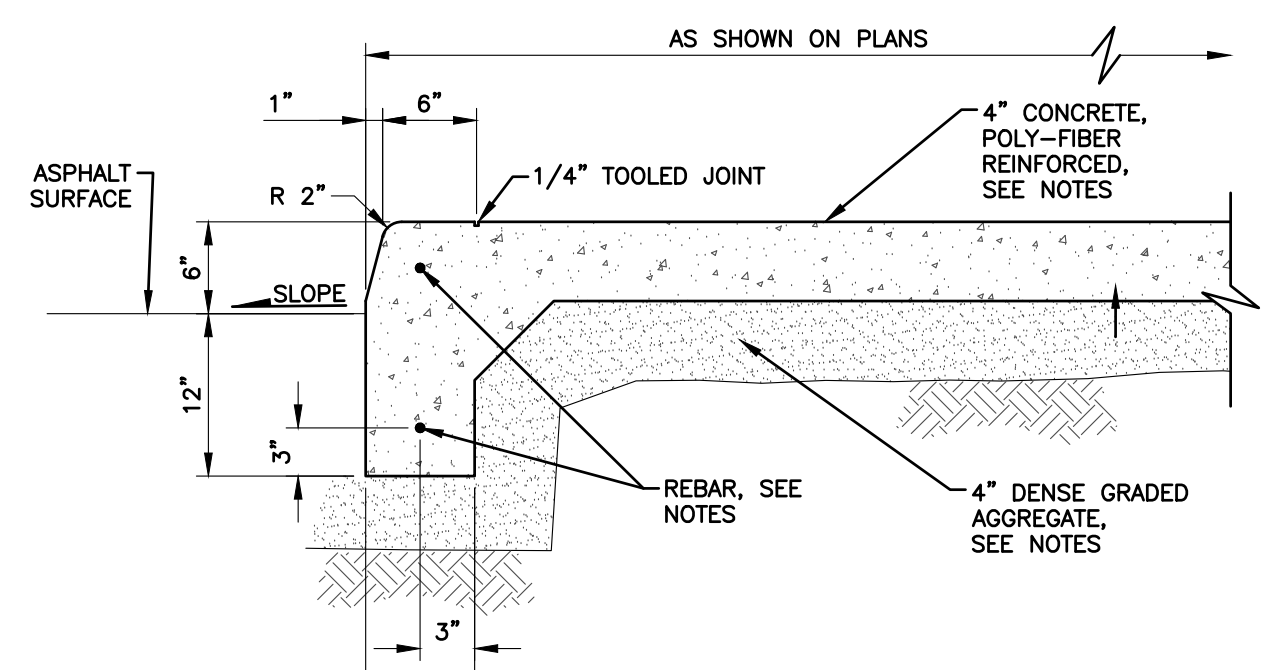
18" STANDARD CURB & GUTTER DETAIL
NOT TO SCALE



6" CONCRETE SURFACE DETAIL
NOT TO SCALE



FLUSH THICKENED EDGE SIDEWALK DETAIL
NOT TO SCALE



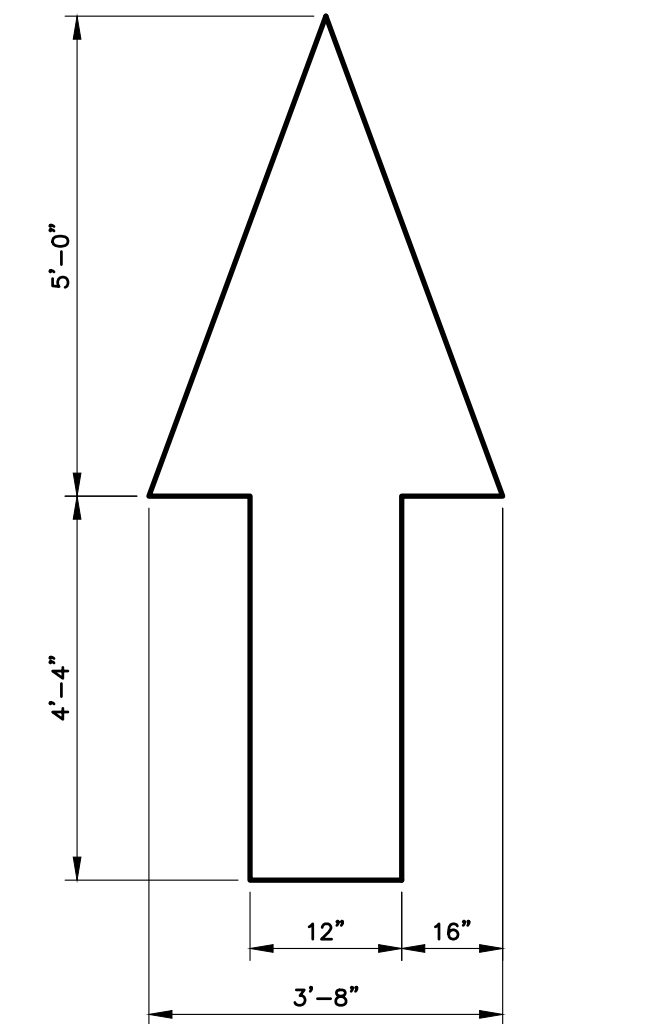
CONCRETE WALK WITH THICKENED EDGE
NOT TO SCALE



VAN

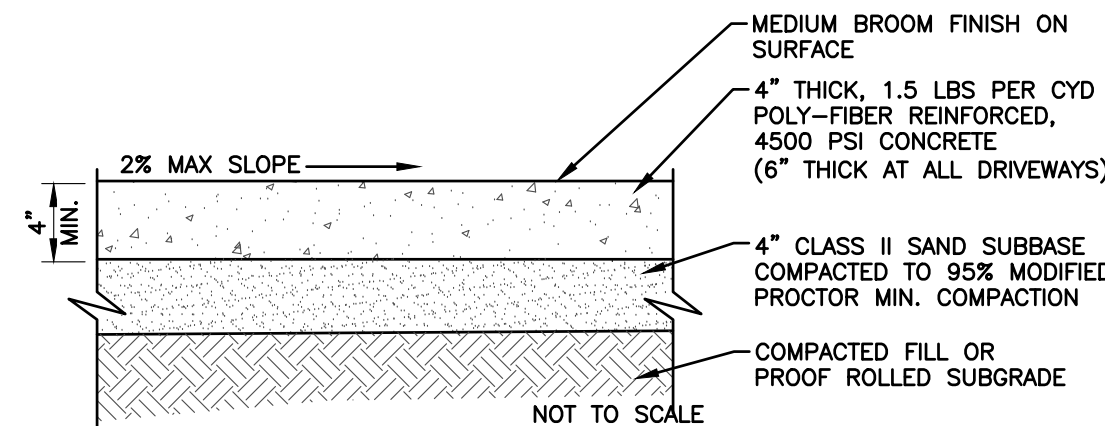
BARRIER FREE SYMBOL DETAIL

SYMBOL SHALL BE PAINTED BLUE AND TO THE CURRENT ADA DIMENSIONS FOR ACCESSIBLE PARKING STALLS



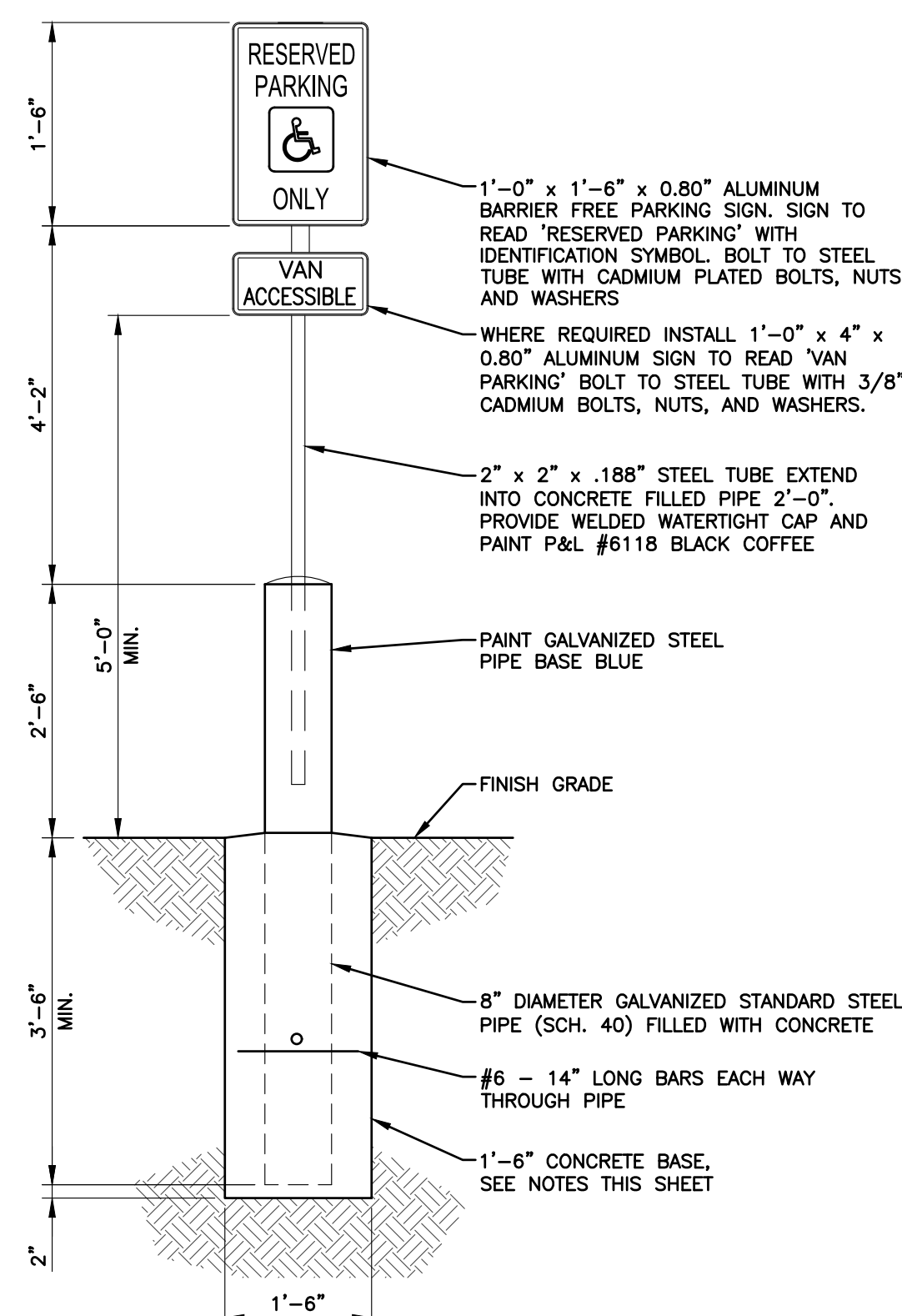
PAINTED ARROWS

NOTE: PAINT 2" BLACK OUTLINE AROUND ARROW AND LETTERS WHEN PLACED ON NATURAL COLOR CONCRETE



- NOTES:**
1. PROVIDE 1/4" INCH CONTROL JOINTS AT 4 FEET O.C. OR 12 FEET O.C. AND 1/2" INCH EXPANSION JOINTS AT 40 FEET O.C. FOR 4 FOOT WIDE SIDEWALKS, 50 FEET O.C. FOR 5 FOOT WIDE OR GREATER.
 2. WHEN SIDEWALK IS TO BE REMOVED AND/OR REPLACED WITH NEW SIDEWALK, IT IS TO BE SAW CUT AND REMOVED TO THE NEAREST EXPANSION JOINT.
 3. INSTALL 6" CONCRETE AT ALL PROPOSED ACCESSIBLE RAMPS.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

BARRIER FREE SIGN DETAIL
NOT TO SCALE

NOTES

CONCRETE NOTES

1. ALL CONCRETE SHALL BE 4500 PSI CONCRETE MIX UNLESS OTHERWISE NOTED.
2. ALL POLY FIBER REINFORCED CONCRETE SHALL HAVE A MIX RATIO OF 1.5 LBS OF POLY FIBER PER 1.0 CYD OF CONCRETE.

CONCRETE JOINTS

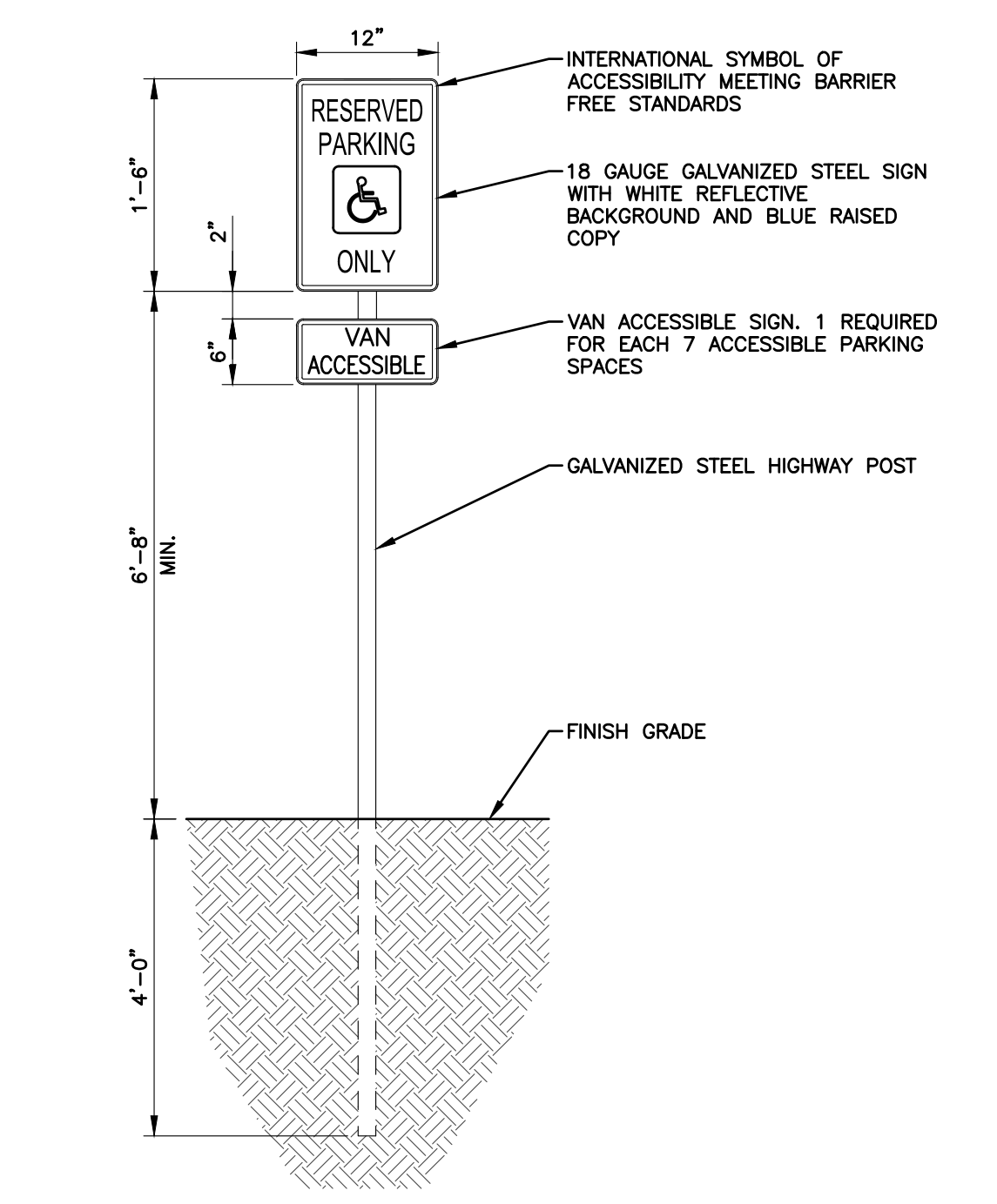
1. THE CONTRACTOR MUST PREPARE A JOINTING PLAN AND SUBMIT TO ENGINEER AS A SHOP DRAWING FOR APPROVAL PRIOR TO PLACEMENT OF CONCRETE.
2. BEGIN SAW CUTS AFTER THE CONCRETE HAS HARDENED ENOUGH TO PERMIT SAWING WITH OUT RAVELING OR MOVING AGGREGATES.
3. IF CRACKS DEVELOP AHEAD OF A SAW, STOP SAWING THAT JOINT. LATER USE CRACK SAWS TO FORM JOINT SEALANT RESERVOIRS ALONG THE CRACK LINE.
4. JOINT SPACING:
 - A. MAXIMUM SLAB SIZE = 2 X SLAB THICKNESS (INCHES TO FEET), I.E.: 2 X 6 INCHES = 12 FEET - 15 FEET IS ABSOLUTE MAX.
 - B. RECOMMENDED MAXIMUM JOINT SPACING (SMALLER IS BETTER)
 - A. 4" SLAB: 6 FEET
 - B. 6" SLAB: 10 FEET
 - C. 8" SLAB: 14 FEET
 - D. 9" SLAB: 15 FEET
5. SAWCUT JOINTS SHALL BE CONTINUOUS ACROSS THE SLAB AND SHALL MATCH LOCATION OF JOINTS ON ABUTTING CONCRETE SLABS.
6. CONTRACTOR SHALL PROVIDE ISOLATION/EXPANSION JOINTS BETWEEN SLABS OR AT STRUCTURES.
7. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION JOINTS AT EDGE OF FOURS OR FORM LINES.
8. THE CONTRACTOR SHALL PROVIDE CONTRACTION JOINTS (SAW CUTS OR TOOLED) EQUALLY SPACED AS IDENTIFIED IN NOTE 4 THIS SHEET.

MATERIALS

1. GRANULAR MATERIAL - MDOT CLASS II SAND
2. OPEN GRADED AGGREGATE - MDOT 6A OR AASHTO #57
3. DENSE GRADED AGGREGATE - MDOT 21AA CRUSHED LIMESTONE
4. CONTRACTOR CAN USE EXISTING CRUSHED SITE CONCRETE/ASPHALT AS AGGREGATE BASE MATERIAL. CONTRACTOR SHALL INCREASE BASE THICKNESS BY 25%.

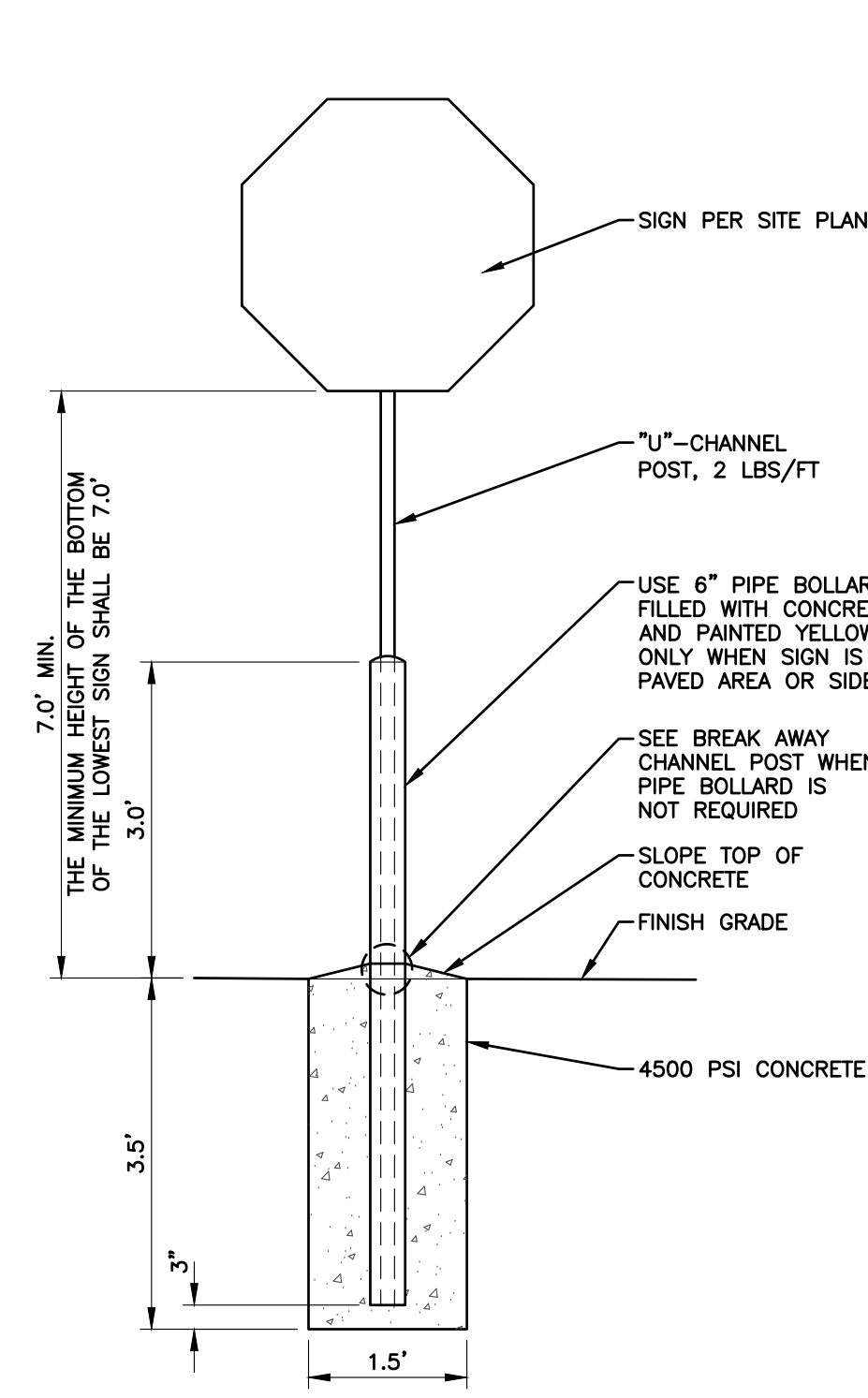
PAVEMENT CONSTRUCTION NOTES

1. EARTHWORK AND PAVEMENT CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH THE 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. EARTHWORK AND PAVEMENT CONSTRUCTION IS RECOMMENDED DURING THE SUMMER MONTHS OF JUNE THROUGH SEPTEMBER. SUMMER CONDITIONS ARE PREFERRED TO REDUCE THE POTENTIAL FOR DISTURBANCE OF THE SUBGRADE SOILS DUE TO RELATIVELY COLD TEMPERATURES AND PRECIPITATION.
3. REMOVE ANY EXISTING TOPSOIL, EXISTING UNSUITABLE FILL, ORGANIC SOILS, AND OTHER UNDESIRABLE MATERIALS TO EXPOSE A SUITABLE SUBGRADE. TREE ROOTS MUST BE REMOVED.
4. EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
5. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE AS WELL AS INDIVIDUAL ENGINEERED FILL LAYERS SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DRY DENSITY. MANIPULATE THE MOISTURE CONTENT TO WITHIN (PLUS OR MINUS) 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE.
6. THE FINAL SUBGRADE SHALL BE THOROUGHLY PROOFROLLED USING A LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. REMOVE AND REPLACE LOOSE OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS AND RECOMMENDED BY A GEOTECHNICAL/PAVEMENT ENGINEER.
7. THE SAND SUBBASE AND AB SHALL BE COMPACTED TO ACHIEVE A MINIMUM OF 95 PERCENT OF THE MAXIMUM MODIFIED PROCTOR DRY DENSITY. THE BASE AND SUBGRADE COMPACTION MUST EXTEND A MINIMUM OF 12 INCHES BEHIND THE PAVED EDGE OR BACK OF NEW CONCRETE CURB. BACKFILL BEHIND UNSUPPORTED CONCRETE CURBS AND GUTTERS TO PROVIDE LATERAL RESISTANCE.
8. ALL BITUMINOUS MATERIAL SHALL BE COMPACTED TO A DENSITY OF 94 TO 97 PERCENT OF THE THEORETICAL MAXIMUM DENSITY AS DETERMINED BY THE RICE METHOD.
9. A BOND COAT OF SS-1H EMULSION IS REQUIRED BETWEEN THE LEVELING COURSE AND THE WEARING COURSE. THE BOND COAT MUST BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.1 GALLONS/S.Y.
10. PERFORMANCE GRADE PG58-28 ASPHALT CEMENT SHALL BE USED IN THE PRODUCTION OF ALL BITUMINOUS MIXTURES. THE AMOUNT OF RAP MUST BE LIMITED TO 30 PERCENT FOR LEVELING COURSE LAYERS. RAP MUST BE LIMITED TO 15 PERCENT IN THE WEARING COURSE.
11. FINAL PAVEMENT ELEVATIONS SHALL BE SO DESIGNED TO PROVIDE POSITIVE SURFACE DRAINAGE. A MINIMUM SURFACE SLOPE OF 1.5 PERCENT IS RECOMMENDED. PER THE 2015 MDC, IMPERVIOUS SURFACES WITHIN 10 FEET OF BUILDING FOUNDATIONS SHALL BE SLOPED A MINIMUM OF 2 PERCENT AWAY FROM THE BUILDING.
12. INSTALL INTERCEPTOR DRAINS ALONG THE PERIMETER OF PAVED AREAS WHERE RUNOFF FROM HIGHER GROUND WOULD FLOW TOWARDS THE PAVEMENT. FINGER DRAINS MUST BE INSTALLED AT CATCH BASINS AND GUTTER INLETS.
13. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL RECOMMENDATIONS AND REQUIREMENTS.



ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES' LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

DIRECT BURY BARRIER FREE SIGN DETAIL
NOT TO SCALE



SITE SIGN BASE DETAIL
NOT TO SCALE

NOT TO BE USED FOR CONSTRUCTION DRAWINGS

WADE TRIM JOB NO. IAR200601F



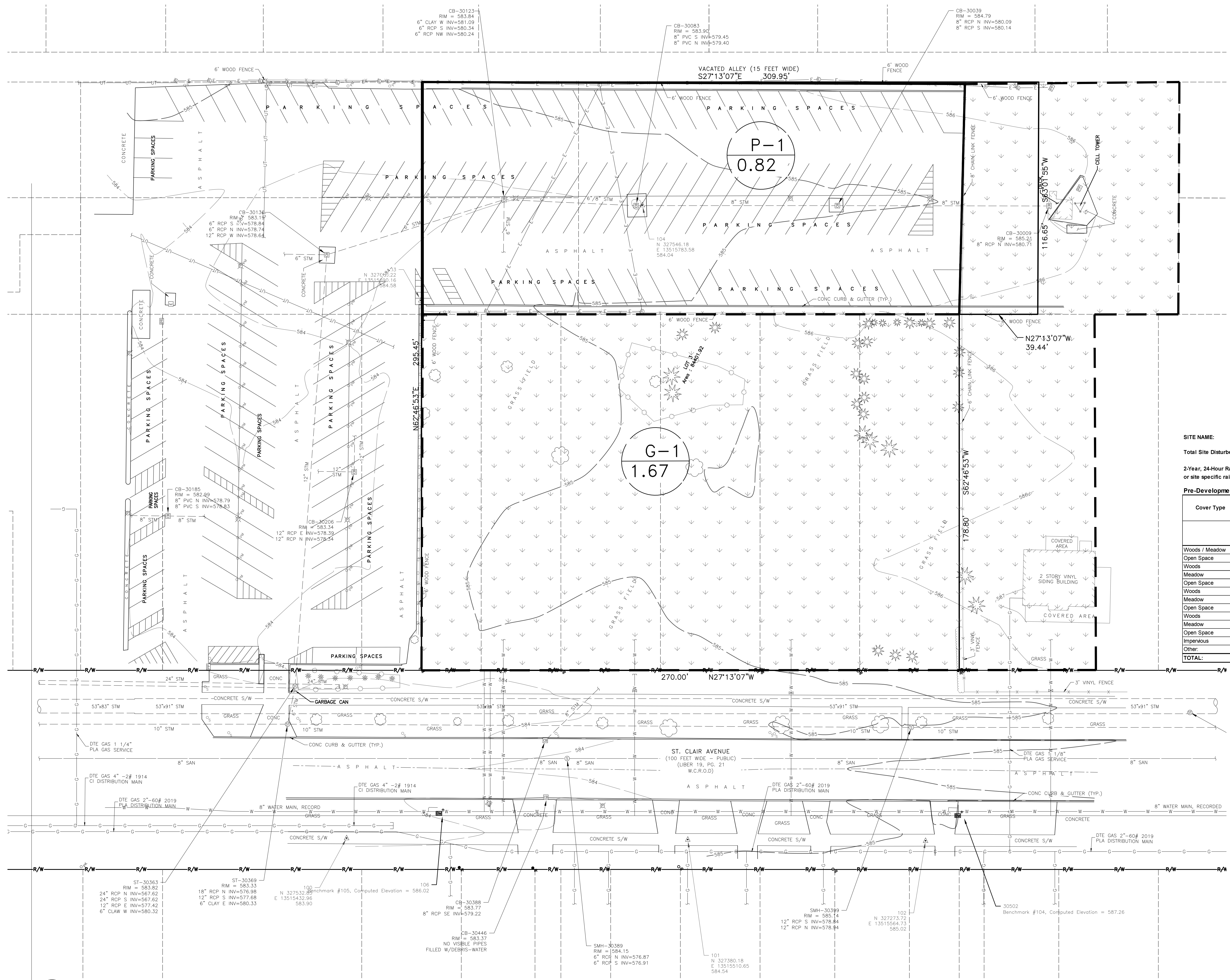
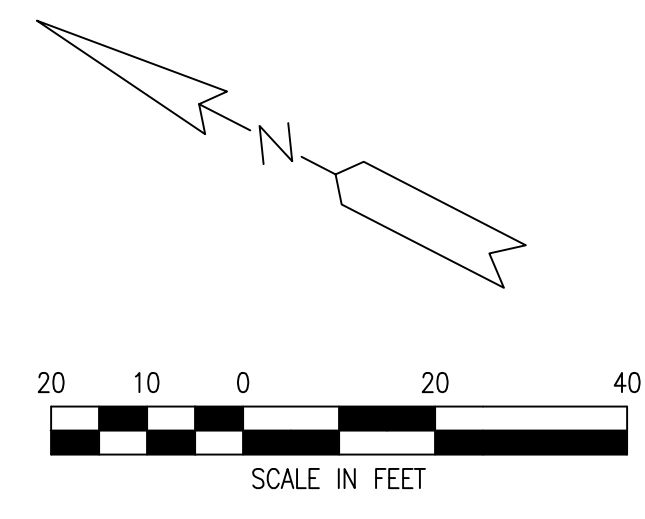
Integrated Architecture
840 Ottawa Avenue NW
Grand Rapids, MI 49503
616.574.0220 P
www.intarch.com

CITY CENTER APARTMENTS
592-608 St. Clair Ave
Grand Rapids, MI 49503

REVISIONS PER CITY	16 DECEMBER 2022
OWNER REVIEW	15 DECEMBER 2022
PUD REVIEW	05 DECEMBER 2022
Design	RAC/JC
PMP/PA	KPR
Drawn	RAC/JC
IA Project Number	20210711

SITE PLAN DETAILS





NOTE: EXISTING DRAINAGE CALCULATIONS ACCOUNT FOR CURRENT EXISTING CONDITIONS. NOT TRANSITIONAL CONDITIONS IN THE SURVEY.

EXISTING LEGEND

- DRAINAGE AREA BOUNDARY
- P-1
0.045 DRAINAGE AREA IN ACRES
- G-1
0.045 DRAINAGE AREA IN ACRES
- GRASS AREA

EXISTING DRAINAGE TABLE

SURFACE	AREA (AC)
PERVIOUS (GRASS)	0.092
IMPERVIOUS (PAVEMENT)	2.541
TOTAL	2.633

Calculations for Stormwater Runoff Volume Control

SITE NAME: City Center Apartments
 Total Site Disturbed Area: 2.1 acres
 2-Year, 24-Hour Rainfall: 2.28 in (See Rainfall Tab for regional rainfall value or site specific rainfall event may be substituted with DNRE approval)

Pre-Development Conditions

Cover Type	Soil Type	Area (sf)	Area (ac)	CN (from TR-55)	S	Q Runoff ¹ (in)	Runoff Volume ² (ft ³)
Woods / Meadow	A	0	0	30	23.3	0.27677817	0
Open Space	A	0	0	39	15.6	0.0510248	0
Woods	B	70567.2	1.62	55	8.2	0.04416834	259.7363428
Meadow	B	0	0	59	7.2	0.0818199	0
Open Space	B	0	0	61	6.4	0.13057686	0
Woods	C	0	0	70	4.3	0.34585824	0
Meadow	C	0	0	71	4.1	0.37675147	0
Open Space	C	0	0	74	3.5	0.47826175	0
Woods	D	0	0	77	3.0	0.5945079	0
Meadow	D	0	0	78	2.8	0.636804	0
Open Space	D	0	0	80	2.5	0.72713615	0
Impervious	N/A	35719.2	0.82	98	0.20	2.03228931	6049.31236
Other:		0	0			NA	NA
TOTAL:	N/A	106286.4	2.4	N/A	N/A	NA	6,309

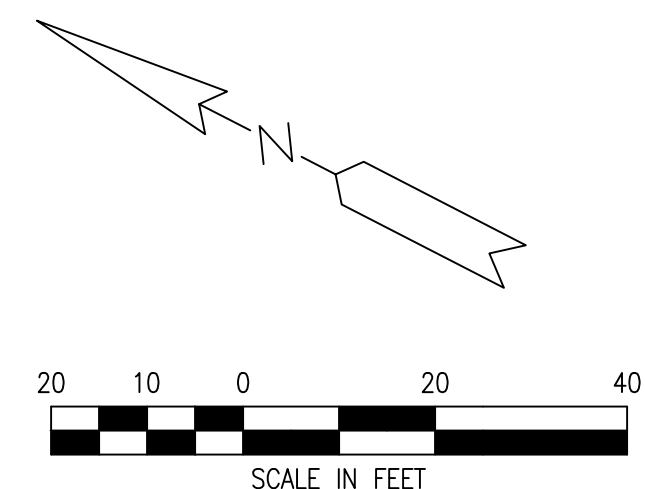
NOT TO BE USED FOR CONSTRUCTION DRAWINGS

WADE TRIM JOB NO. IAR200601F

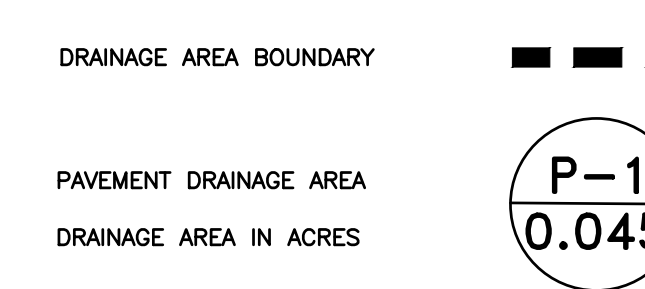
REVISIONS PER CITY	16 DECEMBER 2022
OWNER REVIEW	15 DECEMBER 2022
PUD REVIEW	05 DECEMBER 2022
Design	RAC/JC
P/MPA	KPR
Drawn	RAC/JC
IA Project Number	20210711

EXISTING DRAINAGE PLAN



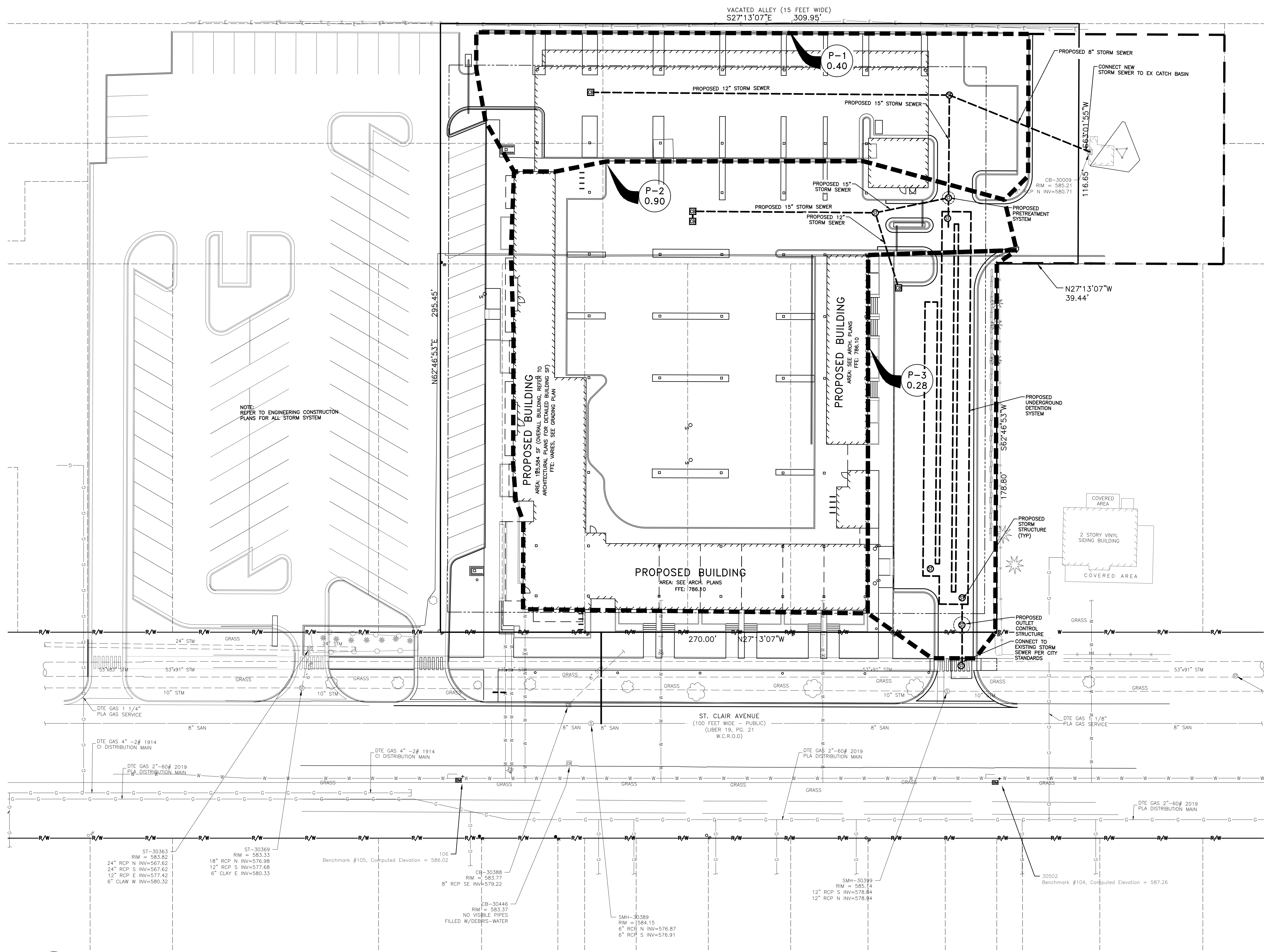


PROPOSED LEGEND



PRELIMINARY TEN YEAR DETENTION CALCULATIONS

Site Drainage Data			
Total Area (A):	91,500.00 sft 2.10 acres		
Grassed Area (Pervious):	0.30		
Building and Paved Area (Impervious):	1.80		
Weighted Coefficient of Runoff (C):	0.86		
Runoff Coefficients			
Roofs/Asphalt or concrete pavements	0.95		
Hydraulic Group B (4%-8% slopes)	0.30		
Flood Control Storage Volume			
10-year allowable outlet rate	0.32 cfs/acre		
$Q_o = 0.15cfs/ac \times A$			
Maximum allowable discharge			
$Q_o = Q_o \times (A \times C)$	0.17 cfs		
Storage Time			
$T_{10} = (-19.9) + (4530/Q_o)^{0.5}$	140.99 min		
Maximum Detention storage volume per AC/IMP.			
$V_{10} = [(9.108 \times T_{10}) / (T_{10} + 19.9)] - 40 \times Q_o \times T_{10}$	6.995 cfs/ac		
Maximum Storage Volume (required)			
$V_1 = V_{10} \times A \times C$	12,594 cft		
First Flush Volume (Pretreatment)			
$V_{FF} = 1815 \times A \times C$	93,294 cft		
Average Allowable First Flush outflow rate (24 hr)			
$Q_{out,FF} = V_{FF} / 86400$	1.08 cfs		
Orifice Channel Protection Rate control (V10) Orifice			
Average Discharge Rate (48 hour period)			
$Q_{ave} = V_1 / 172800$	0.07 cfs		
Average Head (10yr Storage)			
Top of 72" Storage Pipe	583 ft		
H_{10}	6		
$H_{ave} = H_{10} / 2$	3 ft		
Extended Detention Orifice Area			
$a = Q_{ave} / (0.62 \times \sqrt{2 \times g \times H_{ave}})$	0.0085 sft		
Extended Detention Orifice Diameter			
$d = 12 \times \sqrt{a \times (a/\pi)}$	1.25 in		
Standpipe Restriction Hole Diameter			
Standpipe Restriction Hole Area	0.00965 sft		
Number of Restriction Holes	1		
Total Restriction Hole Area	0.00965 sft		
Actual Discharge			
$Q = 0.62 \times a \times \sqrt{2 \times g \times H_{ave}}$	0.08 cfs		
Drain time			
$T = V_1 / Q$	42.08 hrs		
Provided Storage			
Pipe Size (Diameter)	Area (sft)	L (Ft)	Vol (Cft)
6" Diameter Storage	28.3	460	13018
Storage Provided		13,018 cft	
Storage Required		12,594 cft	



NOTE: REFER TO ENGINEERING CONSTRUCTION PLANS FOR ALL STORM SYSTEM

PROPOSED BUILDING
AREA: SEE ARCH. PLANS
FFE: 786.10

PROPOSED BUILDING
AREA: SEE ARCH. PLANS
FFE: 786.10

PROPOSED BUILDING
AREA: SEE ARCH. PLANS
FFE: 786.10

ST. CLAIR AVENUE
(100 FEET WIDE - PUBLIC)
(LIBER 19, PG. 21
W.C.R.O.D.)

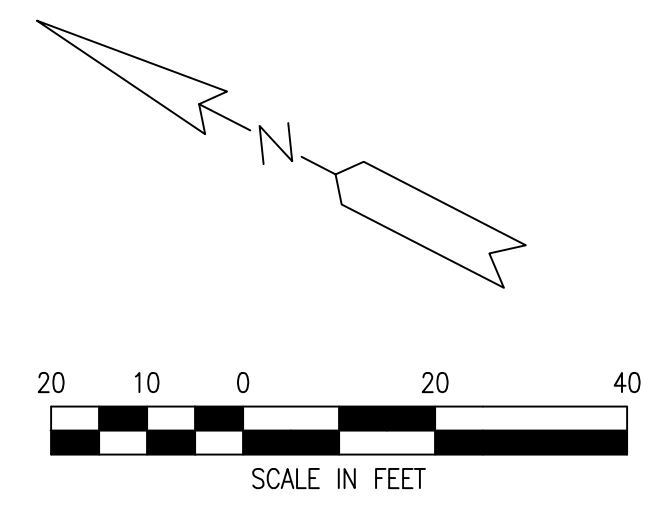
NOT TO BE USED FOR CONSTRUCTION DRAWINGS

WADE TRIM JOB NO. IAR200601F

REVISIONS PER CITY	16 DECEMBER 2022
OWNER REVIEW	15 DECEMBER 2022
PUD REVIEW	05 DECEMBER 2022
Design	RAC/JC
PMP/PA	KPR
Drawn	RAC/JC
IA Project Number	20210711

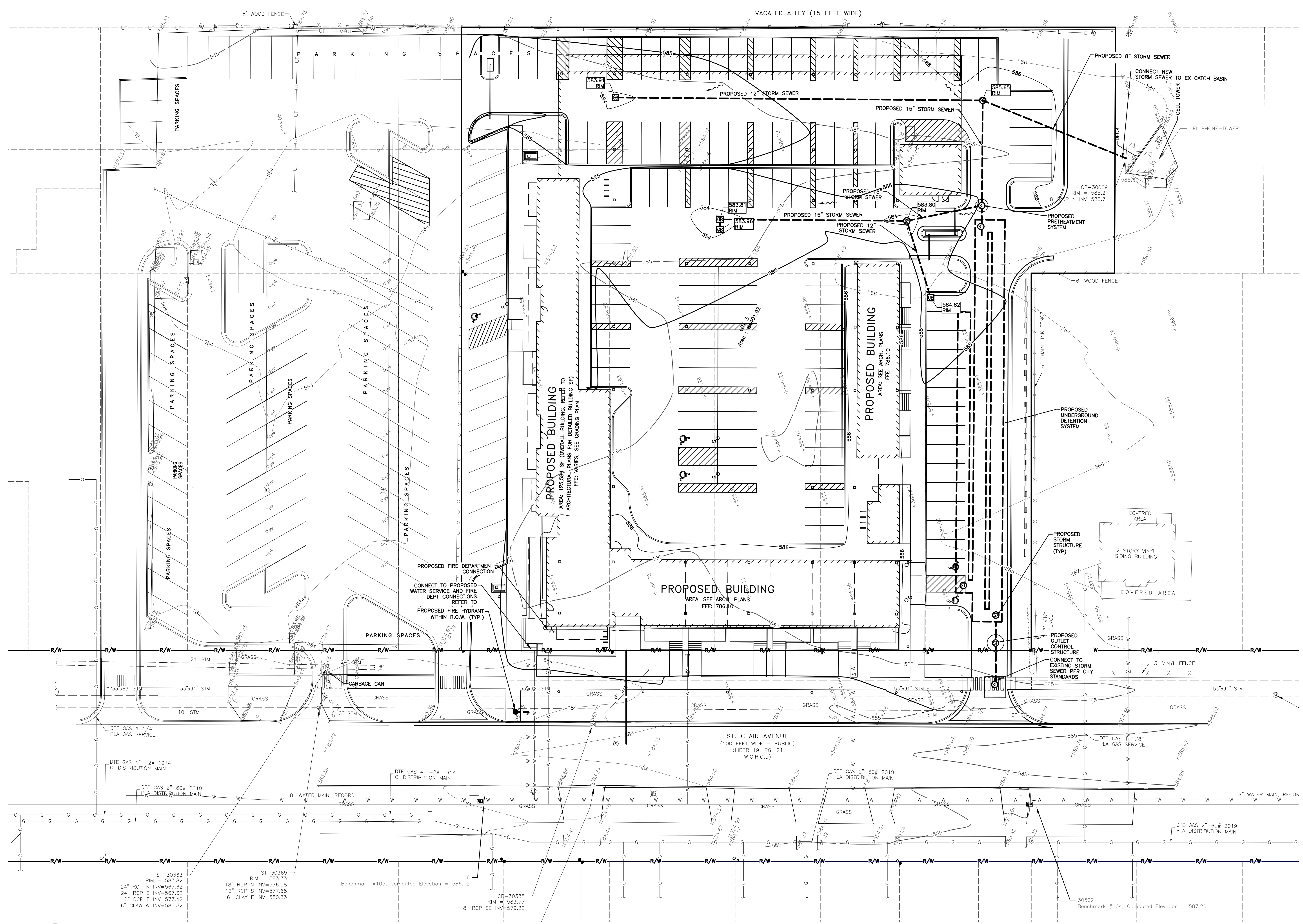
DRAINAGE PLAN





PROPOSED LEGEND

- CURB ELEVATION
WHERE: T = TOP OF CURB
C = CUTTER OR PAWT. 100.50 T
100.00 C
- THICKENED EDGE WALK ELEV.
WHERE: T = TOP OF WALK
P = PAVEMENT 100.50 T
100.00 P
- WALL ELEVATION
WHERE: TOW = TOP OF WALL
BOW = BOTTOM OF WALL 100.50 TOW
100.00 BOW
- SPOT ELEV. 100.00
100.50
- WHERE XXX IS ONE OF THE FOLLOWING:
TOP OF CONCRETE ELEV. TOC
RIM ELEV. RIM
MATCH EXISTING ELEV. MATCH
TOP OF PAVEMENT ELEV. T/P
TOP OF BANK ELEV. TOB
TOE OF SLOPE ELEV. TOE
FINISH FLOOR ELEV. FFE
- DRAINAGE SLOPE 1.0%
- MAJOR CONTOUR 100
- MINOR CONTOUR 101
- STORM CATCH BASIN ⊕
- STORM CURB INLET ⊕
- STORM SEWER LINE ---
- HIGH POINT H.P.
- DRAINAGE SWALE ---



ST-30363
RIM = 583.82
24" RCP N INV=567.62
24" RCP S INV=567.62
12" RCP E INV=577.42
6" CLAW W INV=580.32

ST-30369
RIM = 583.33
18" RCP N INV=576.98
12" RCP S INV=577.68
6" CLAY E INV=580.33

Benchmark #105, Computed Elevation = 586.02

CB-30358
RIM = 583.77
8" RCP SE INV=579.22

NOT TO BE USED FOR CONSTRUCTION DRAWINGS

WADE TRIM JOB NO. IAR200601F

REVISIONS PER CITY	16 DECEMBER 2022
OWNER REVIEW	15 DECEMBER 2022
PUD REVIEW	05 DECEMBER 2022
Design	RAC/JC
PMP/PA	KPR
Drawn	RAC/JC
IA Project Number	20210711

GRADING PLAN

