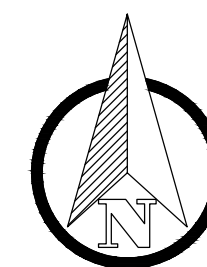
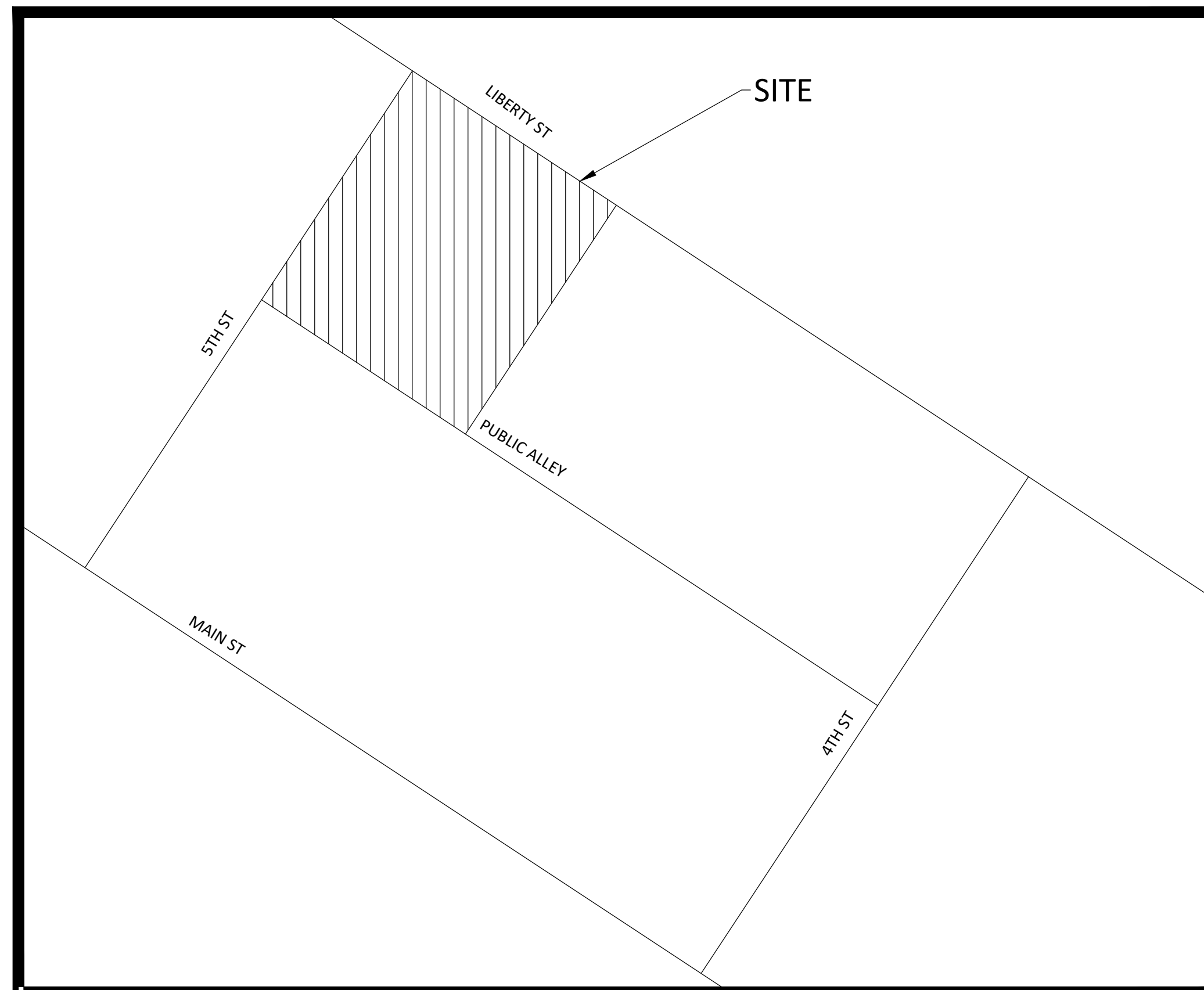


# 5TH & LIBERTY PARKING EXPANSION

## CONSTRUCTION PLANS



LOCATION MAP  
NO SCALE

**HENNESSEY ENGINEERS NOTES:**

HENNESSEY ENGINEERS, INC., SHALL NOT BE RESPONSIBLE FOR MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION, NOR FOR SAFETY ON THE JOB SITE, NOR SHALL HENNESSEY ENGINEERS, INC., BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL IDENTIFY AND SAVE HARMLESS THE OWNER AND ENGINEER FROM ALL LIABILITIES FOR INJURY TO PERSON, OR DAMAGE TO OR LOSS OF PROPERTY, OR ANY OTHER LOSS, COST OF EXPENSE, AS A RESULT OF THE ACTIONS OF THE CONTRACTOR, HIS EMPLOYEES, AGENTS, OR SUBCONTRACTORS.

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF THE EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE APPARENT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLAN.

ALL FILL IN EXCESS OF TWO FEET (2') SHALL BE ENGINEERED FILL AND SHALL BE COMPACTED TO 95% MAXIMUM DENSITY UNLESS OTHERWISE DIRECTED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DENSITY TESTING.

UTILITY INFORMATION, AS SHOWN, INDICATES APPROXIMATE LOCATIONS AND TYPES OF FACILITIES ONLY, AS DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANY'S RECORDS. NO GUARANTEE IS GIVEN OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING OVERHEAD AND UNDERGROUND UTILITIES (IN CONFLICT WITH THE CONSTRUCTION OF PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD.

DURING CONSTRUCTION, CONTRACTOR SHALL USE EXTREME CAUTION WHEN OPERATING NEAR OVERHEAD AND/OR BURIED UTILITIES. CALL MISS DIG.

**811**  
BEFORE YOU DIG  
CALL MISS DIG  
1-800-482-7171  
OR  
811  
(TOLL FREE) FOR THE  
LOCATION OF UNDER  
GROUND FACILITIES.

KNOW WHAT'S BELOW

### LOCATION

SOUTHEAST CORNER  
5TH & LIBERTY STREETS

### CITY OF BELLEVILLE

MAYOR  
Ken Voigt

CITY COUNCIL  
Kelly Bates, Mayor Pro Tem  
Jeremiah Beebe  
Julie Kissel  
Randy Priest

CITY MANAGER  
Jason Smith

ASSISTANT CITY MANAGER  
Steve Jones

DPS Director  
Anthony Bollini

### DESIGN ENGINEER

Hennessey Engineers  
13500 Reeck Road  
Southgate, Michigan 48195  
(734) 759-1600  
Alan J. Cruz, PE  
ajcruz@hengineers.com

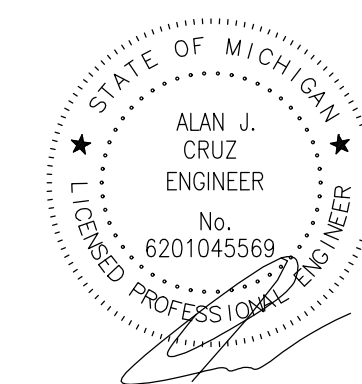
### SHEET INDEX

- C-1 COVER SHEET
- C-2 OVERALL SITE PLAN
- C-3 SITE PLAN
- C-4 GRADING PLAN
- C-5 TOPOGRAPHIC SURVEY
- C-6 REMOVAL & SOIL EROSION PLAN

### ORIGINAL PLANS FOR REFERENCE ONLY

- D7 Site Lighting Plan
- D8 Electrical Wiring Plan
- D9 Electrical Detail Sheet 1
- D10 Electrical Detail Sheet 2

PREPARED UNDER THE SUPERVISION OF:  
ALAN J. CRUZ, PE  
REGISTERED PROFESSIONAL ENGINEER  
MICHIGAN REGISTRATION NO. 6201045569



SEAL

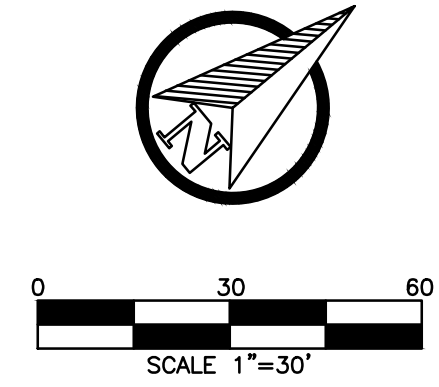
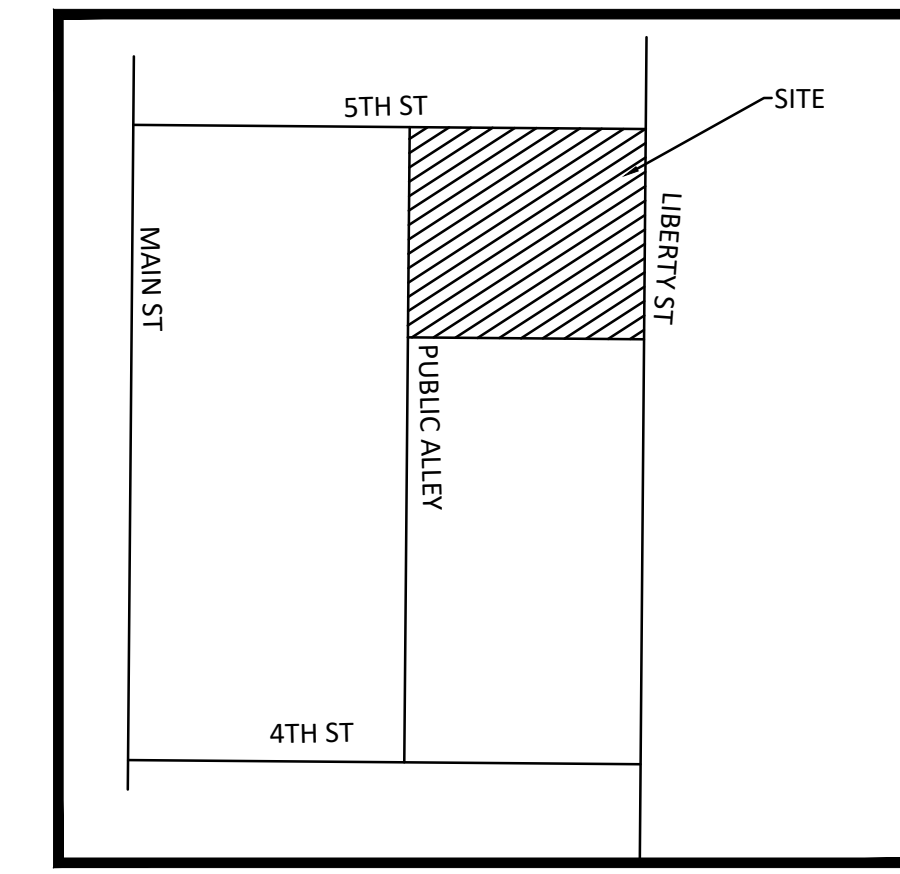
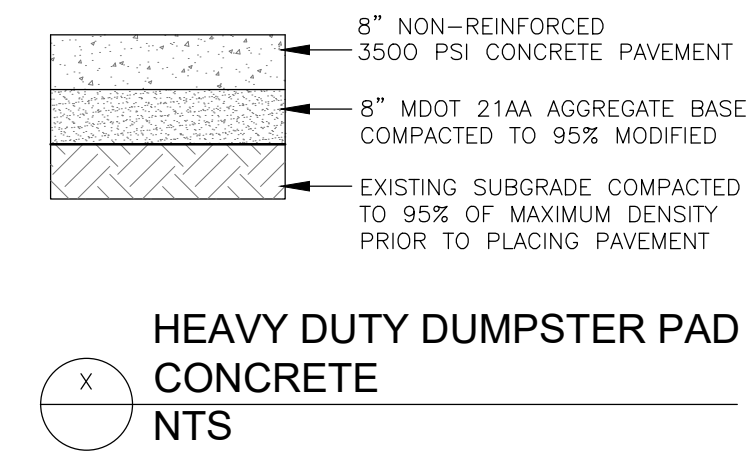
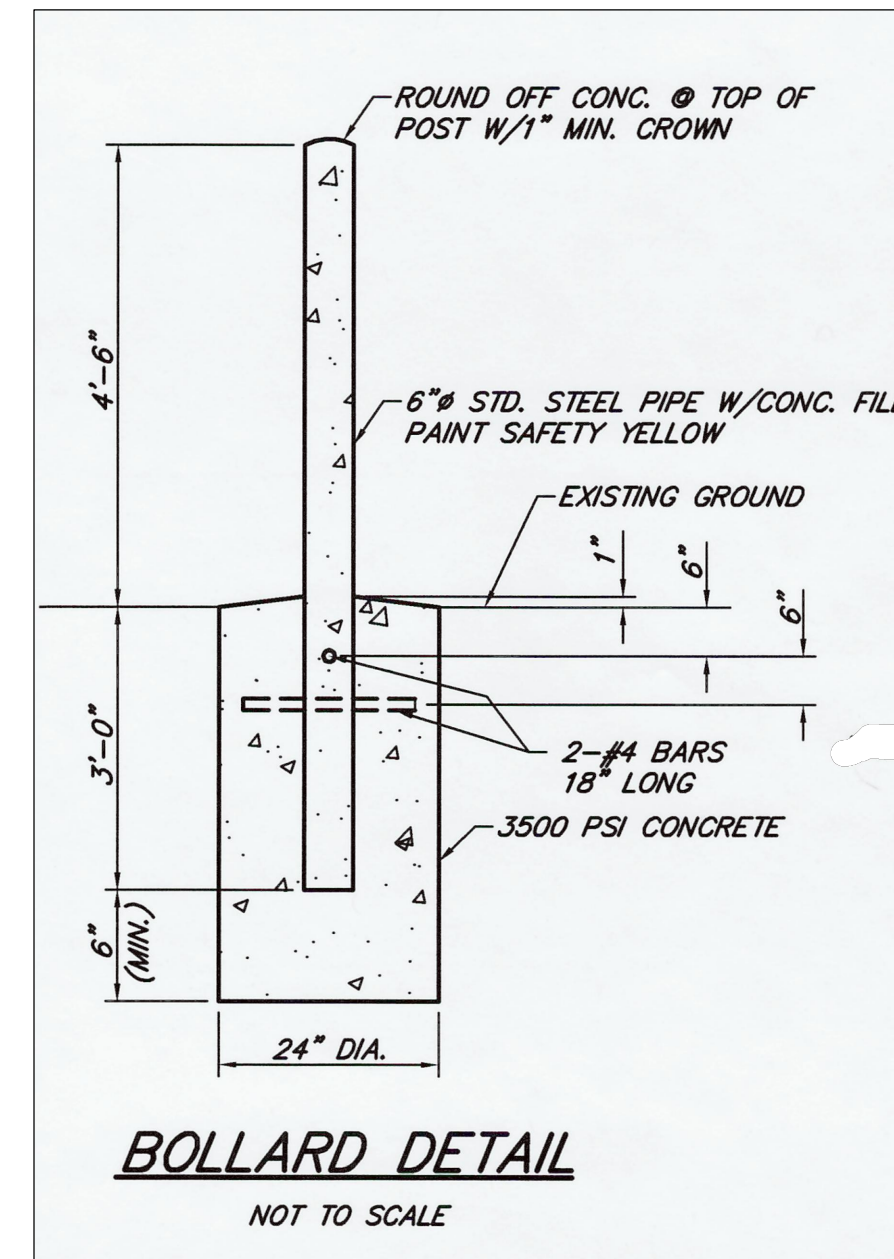
PROJECT NUMBER: 85320
DATE: 06-21-24
SCALE:
DESIGNED BY: AJC
DRAWN BY: -
CHECKED BY: -
APPROVED BY: -
REVISIONS

**HENNESSEY ENGINEERS**  
13500 REECK RD  
SOUTHGATE, MI 48195  
MICHIGAN 48195  
(734) 759-1600  
H E N G I N E E R S . C O M

TITLE  
COVER SHEET

5TH & LIBERTY PARKING EXPANSION  
CITY OF BELLEVILLE  
WAYNE COUNTY, MICHIGAN

SHEET  
C-1



PROJECT NUMBER:  
**85320**

DATE:  
**06-21-24**

SCALE:

DESIGNED BY:  
**AJC**

DRAWN BY:

CHECKED BY:

APPROVED BY:

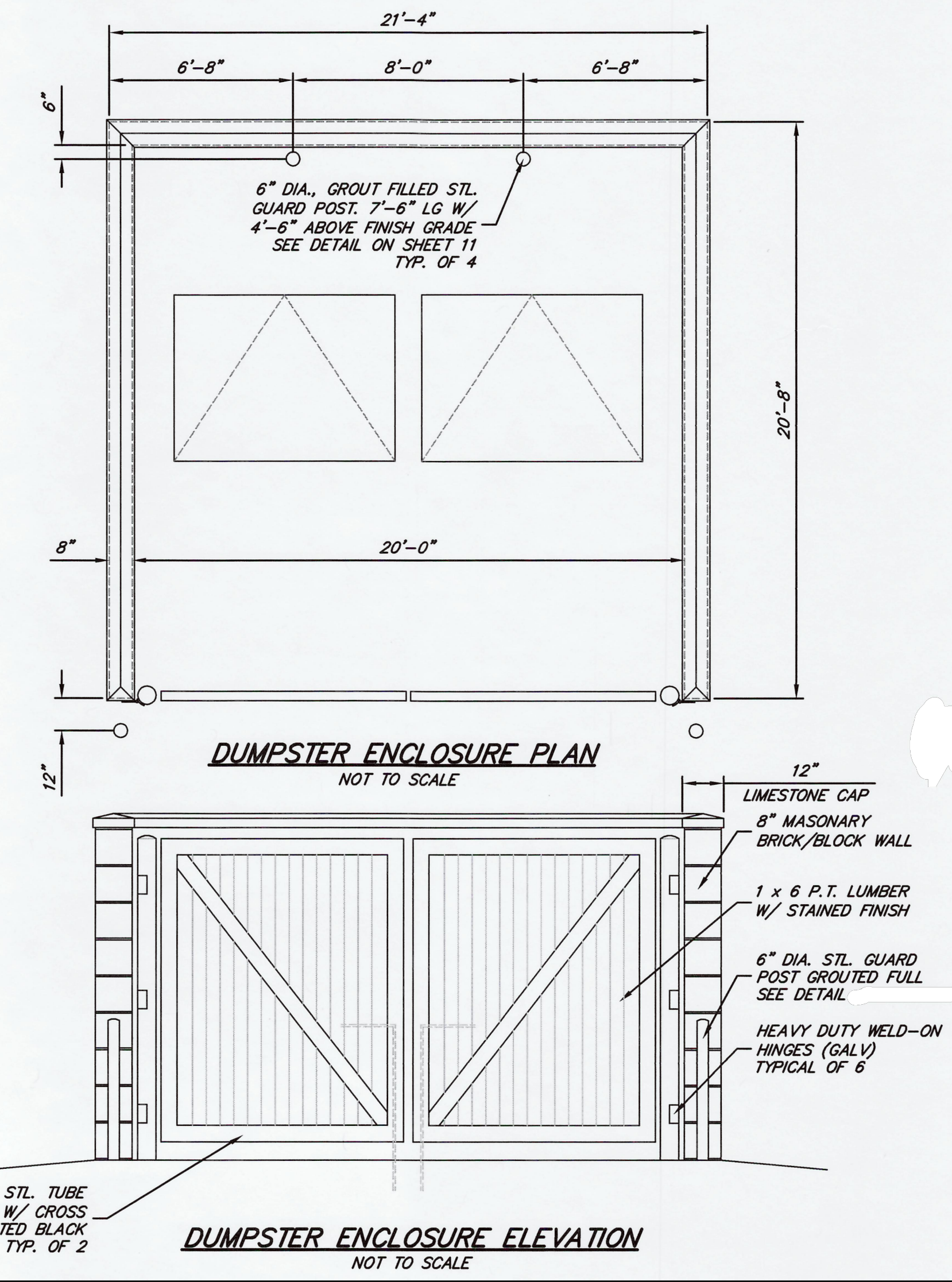
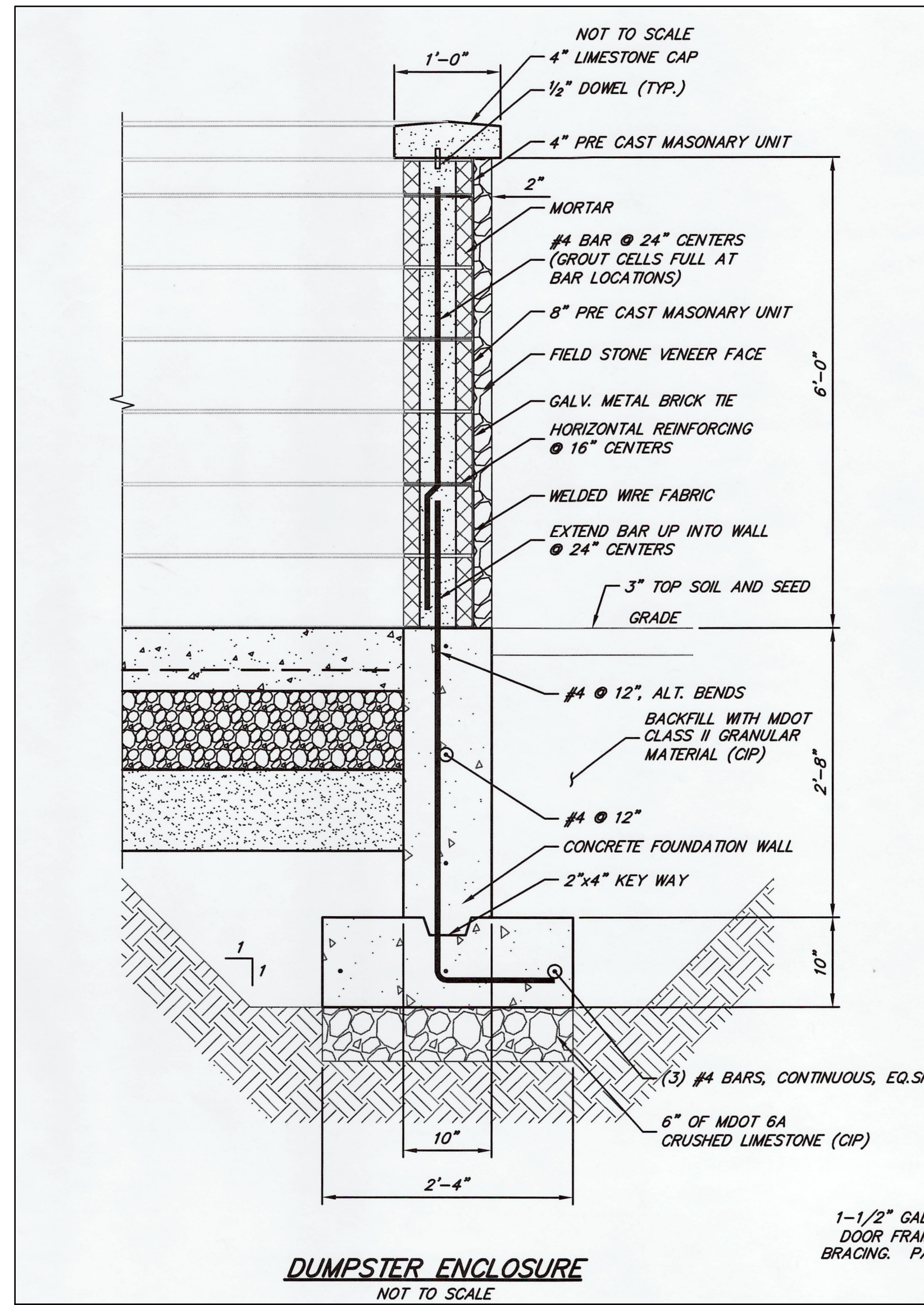
**REVISIONS**

**HENNESSEY ENGINEERS**

23500 BECK RD  
ANN ARBOR MI 48106  
313.688.1306

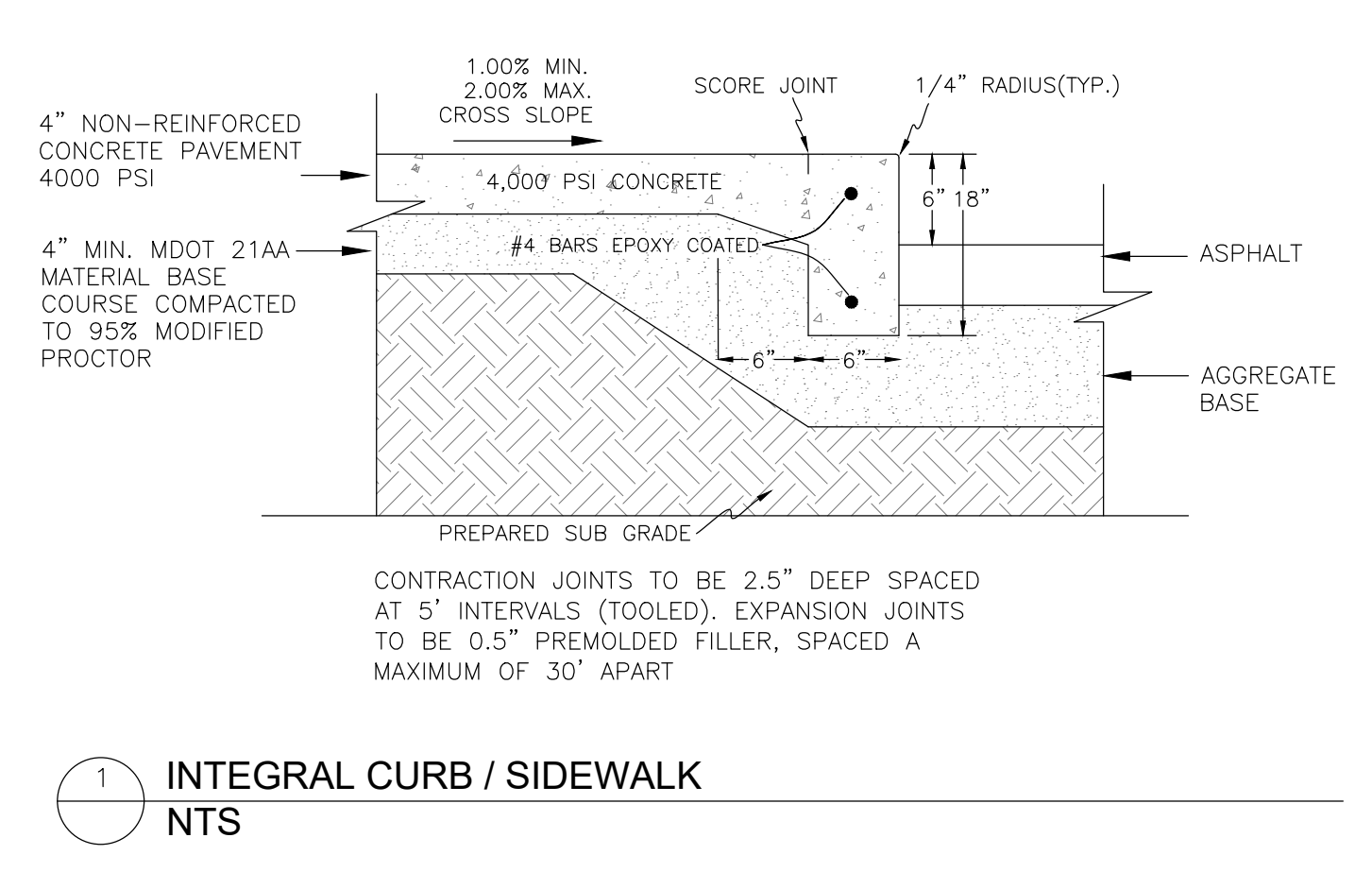
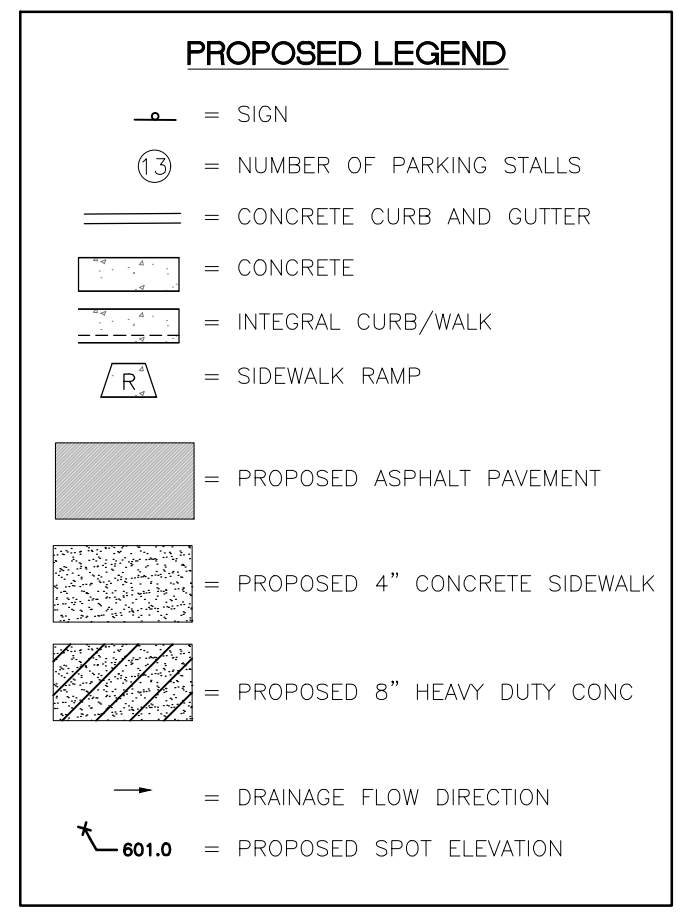
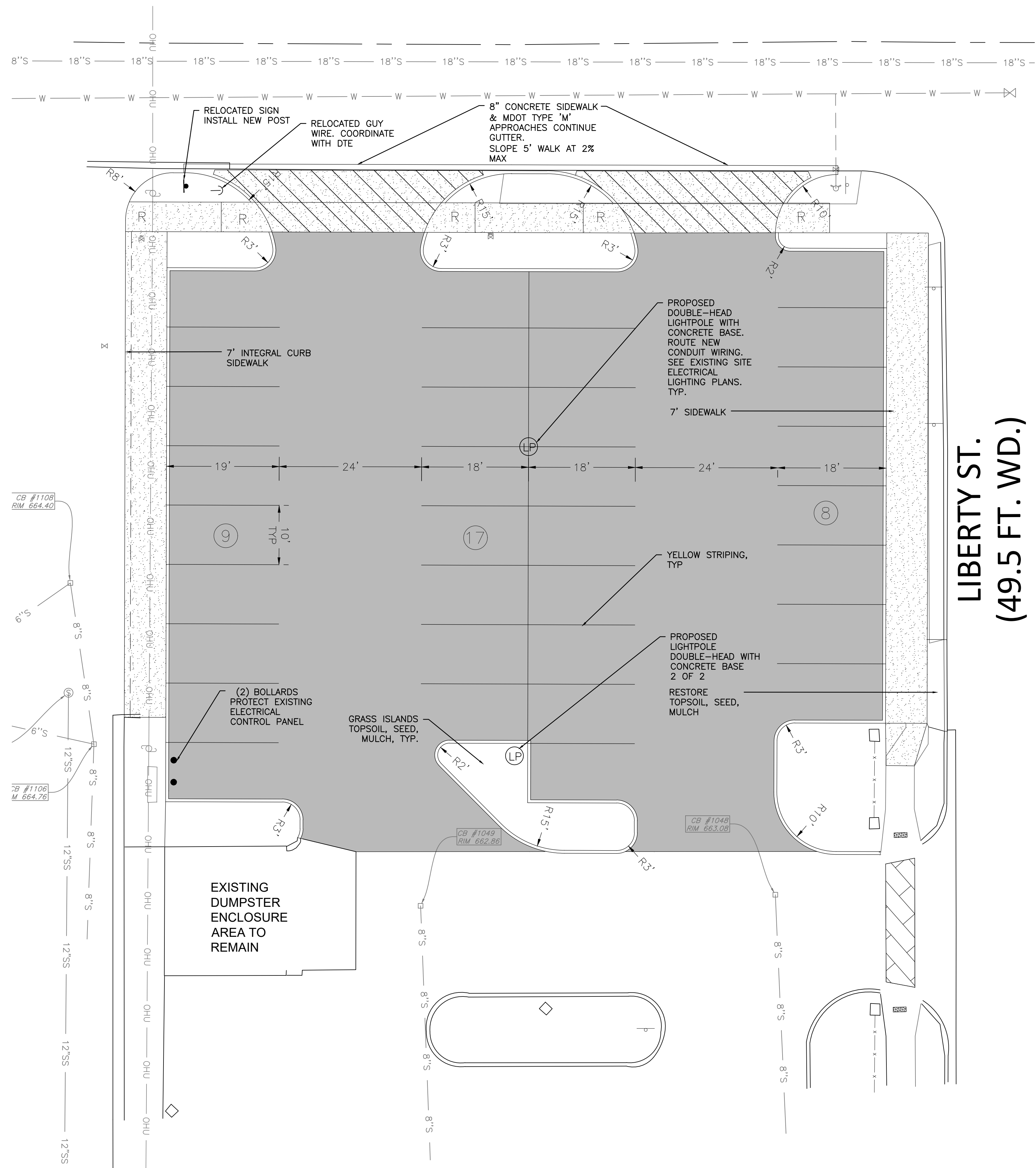
385 E JEFFERSON AVE  
ANN ARBOR MI 48107  
313.688.1306

H E N G I N E E R S . C O M



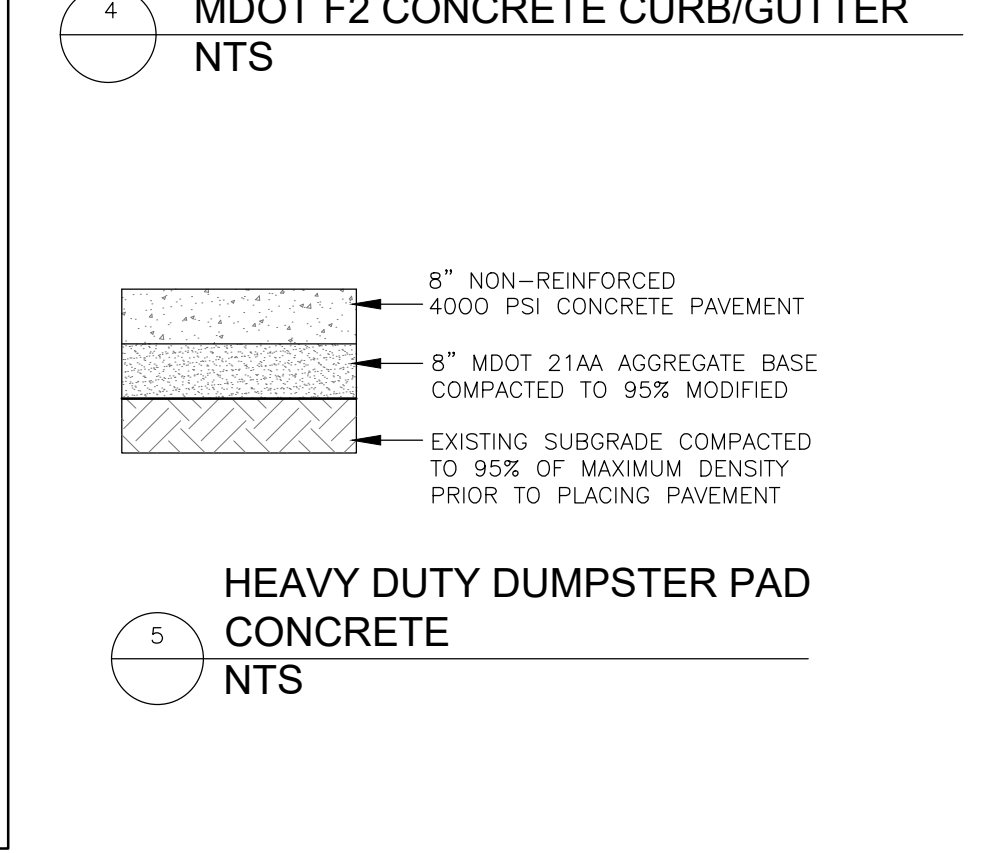
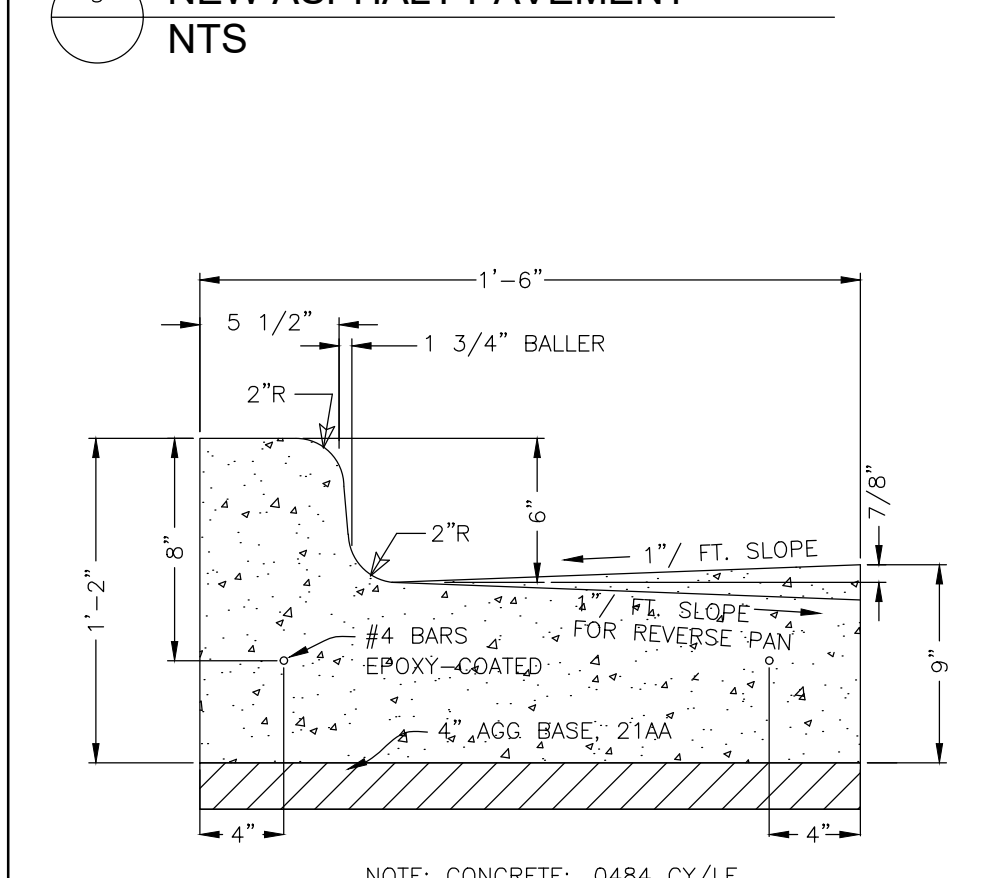
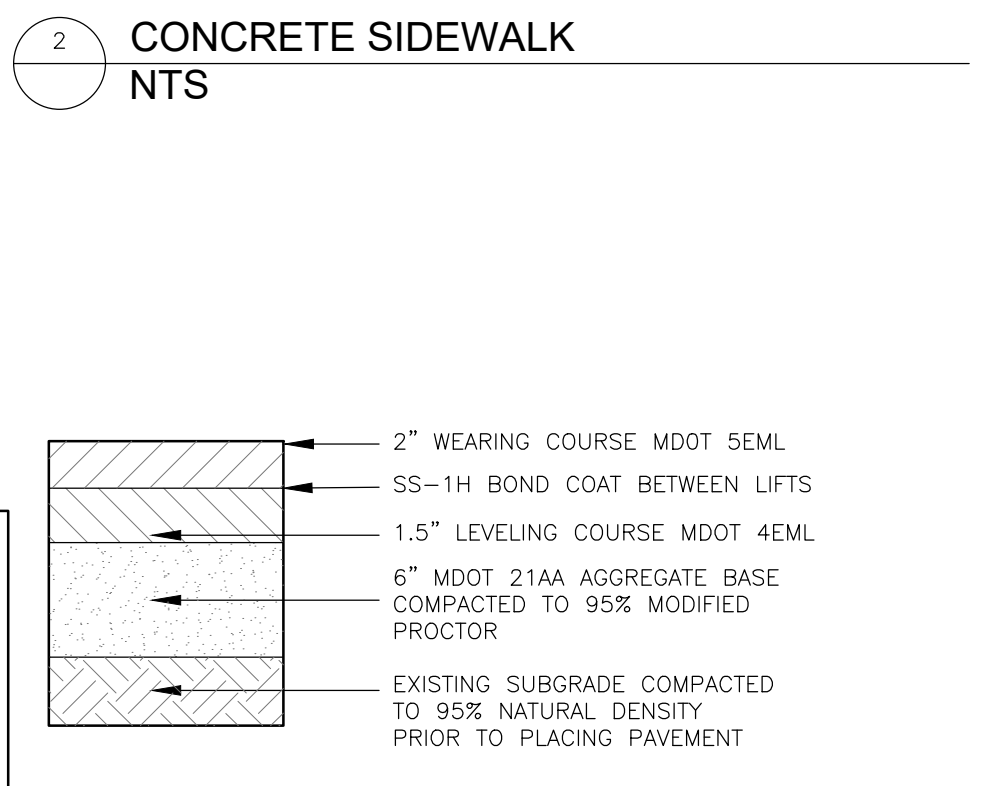
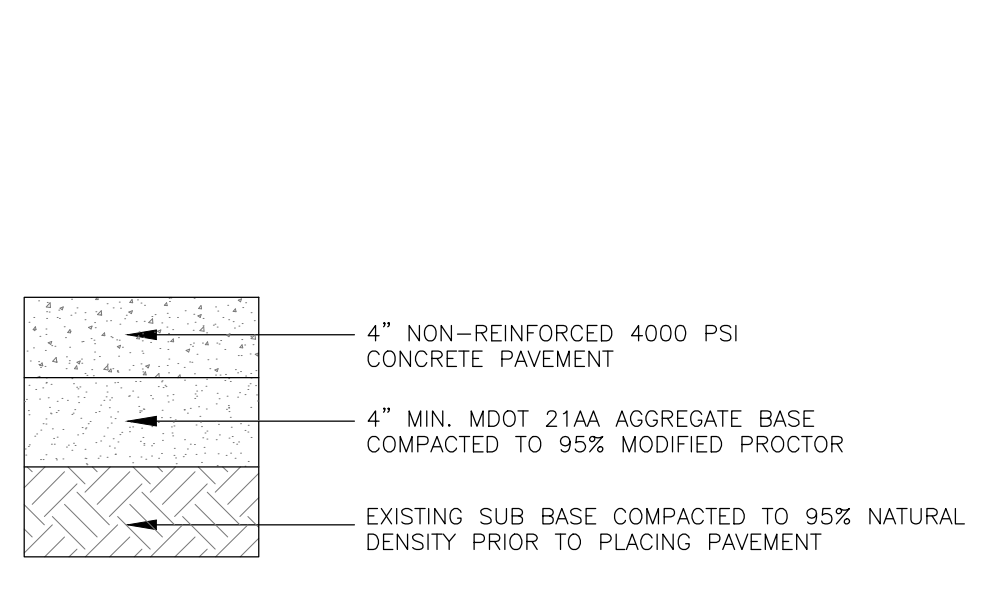
TITLE  
**OVERALL SITE PLAN**  
**5TH & LIBERTY PARKING EXPANSION**  
**CITY OF BELLEVILLE**  
**WAYNE COUNTY, MICHIGAN**

# 5TH ST. (66 FT. WD.)



- ### GENERAL NOTES
- RESTORE ALL DISTURBED LAWN AREAS WITH 3" TOPSOIL, THM SEED MIX AND MULCH. SLOPES STEEPER THAN 1 ON 3 SHALL BE RESTORED BY PLACING SOD ON 2" TOPSOIL.
  - CONTACT MISS DIG AT 811 TO IDENTIFY AND FLAG/MARK THE LOCATIONS OF ALL UNDERGROUND UTILITIES AT THE PROPOSED CONSTRUCTION AREAS PRIOR TO START OF CONSTRUCTION, AND SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES, AND RESOLVE ANY CONFLICT BETWEEN THE PROPOSED WORK AND THE EXISTING UNDERGROUND OR ABOVEGROUND UTILITIES.
  - ALL SURVEY MONUMENTS/CORNERS AND BENCH MARKS LOCATED WITHIN THE CONSTRUCTION AREA MUST BE PRESERVED IN ACCORDANCE WITH PUBLIC ACT 74 AS AMENDED (INCLUDING ACE 14, P.A. 2000) AND AS PER WAYNE COUNTY PERMIT RULE 1.5. THE PERMIT HOLDER AND CONTRACTOR SHALL COORDINATE THE WORK WITH A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF MICHIGAN DURING CONSTRUCTION ACTIVITIES FOR THE PURPOSE OF WITNESSING, PRESERVING OR REPLACING SURVEY MONUMENTS AND MONUMENT BOXES.
  - CONTRACTOR IS RESPONSIBLE FOR RESTORING OR REPLACING ALL DISTURBED LANDSCAPE AREAS, SPRINKLER SYSTEMS, FENCES, SIGNS, MAIL BOXES, ETC.
  - MAINTAIN A SAFE AND ADEQUATE TRAVEL ROUTE FOR PEDESTRIANS AT ALL TIMES THROUGHOUT THE PROJECT DURATION.
  - OVERNIGHT VEHICLE PARKING AND STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENTS ARE NOT PERMITTED UNLESS APPROVED BY THE OWNER.
  - ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY WITH THE CURRENT ORDINANCES, COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND STATE OF MICHIGAN "SOIL EROSION AND SEDIMENTATION CONTROL ACT" (ACT #347)
  - ONLY UPON STABILIZATION OF ALL DISTURBED AREAS MAY THE TEMPORARY FILTERS BE REMOVED. ALL STORM SEWERS MUST BE CLEANED OF ALL SEDIMENT.

- ### PAVING NOTES
- ALL DIMENSIONS ARE TO BACK OF CURB, EXCEPT FOR PARKING LOT STRIPING, OR UNLESS OTHERWISE NOTED.
  - SAWCUT MINIMUM 2" BUTT JOINT WHERE ALL NEW PAVEMENT MEETS EXISTING PAVEMENT.
  - ALL PROPOSED SPOTS ARE TOP OF PAVEMENT. FOR CURBED AREAS, ADD 6 INCHES FOR TOP OF CURB ELEVATIONS, ADD 600 TO ALL PROPOSED SPOTS. ALL SPOT ELEVATIONS ARE ON THE NAVD 88 DATUM.
  - EARTHWORK AND PAVEMENT WORK SHALL BE IN ACCORDANCE WITH MDOT 2020 STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
  - REMOVE ANY EXISTING TOPSOIL, VEGETATION, TREES, AND OTHER DELETERIOUS MATERIALS DOWN TO SUBGRADE SOIL. TREES ROOTS SHALL BE COMPLETELY REMOVED.
  - EXCAVATE TO DEPTH OF FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE PROPOSED PAVEMENT AND BASE SECTION.
  - COMPACT TOP 12" OF EXPOSED SUBGRADE TO 95% MAX DENSITY AS DETERMINED BY THE MICHIGAN MODIFIED T-180 TEST DEFINED IN THE MDOT DENSITY TESTING AND INSPECTION MANUAL.
  - PROOF-ROLL FINAL SUBGRADE UNDER THE OBSERVATION OF THE TOWNSHIP ENGINEER/INSPECTOR. LOOSE OR YIELDING AREAS WHICH CANNOT BE MECHANICALLY STABILIZED SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL AS DIRECTED BY THE TOWNSHIP ENGINEER/INSPECTOR.
  - COMPACT THE AGGREGATE BASE TO 95% MAX DENSITY AS DETERMINED BY THE MICHIGAN MODIFIED T-180 TEST DEFINED IN THE MDOT DENSITY TESTING AND INSPECTION MANUAL. BASE TO EXTEND 1' PAST THE PAVED EDGE.
  - COMPACT BITUMINOUS MATERIAL TO 97% MAX DENSITY MARSHALL METHOD.
  - APPLY SS-1H BOND COAT EMULSION BETWEEN LEVELING AND WEARING COURSE IN A UNIFORM MANNER AT 0.1 GALLONS/SQUARE YARD.
  - PERFORMANCE GRADE PG64-22 ASPHALT BINDER SHALL BE USED IN THE PRODUCTION OF BITUMINOUS MIXTURES. ALTERNATE BINDERS MIXED WITH RAP SHALL NOT BE USED TO MEET PG64-22 PERFORMANCE REQUIREMENTS.
  - ALL CONCRETE WORK & MATERIALS SHALL CONFORM TO DIVISION 6 OF THE CURRENT MDOT STANDARD SPECIFICATIONS.
  - MINIMIZE CONSTRUCTION TRAFFIC ON THE NEW PAVEMENT. DELAY FINAL LIFT UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGED SECTION RESULTING FROM CONSTRUCTION ACTIVITY.
  - ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH CURRENT MDOT AND MUTCD STANDARD SPECIFICATIONS. PARKING SPACE STRIPING SHALL BE 4" BLUE FOR BARRIER-FREE AND 4" YELLOW FOR STANDARD SPACES.
  - PLACE EXPANSION JOINT SEALANT WHERE NEW CONCRETE PAVEMENT ABUT WALLS, CURB, OR EXISTING CONCRETE PAVEMENT PER 2020 MDOT SEC 602 PRIOR TO NEW STRIPING.
  - CLEAN, PREP, JOINT SEAL CRACKS ON ALL EXISTING SURFACES & REMOVE ALL STRIPING PRIOR TO SEALCOATING. ALLOW ADEQUATE CURING PERIOD PRIOR TO NEW STRIPING.
  - NOTIFY ENGINEER OF ANY POTENTIAL GRADING ISSUES THAT MAY CREATE PONDING. PONDING AREAS SHALL BE CORRECTED AT NO ADDITIONAL COST TO THE OWNER. CORRECTION METHODS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.
  - ALL SUBGRADE PROOF-ROLLING, BASE MATERIAL AND PAVEMENT QA/QC TESTING MUST BE CONDUCTED AND APPROVED BY THE OWNER'S 3RD PARTY TESTING COMPANY. ALL PAVING CONDUCTED WITHOUT THE TESTING COMPANY'S APPROVAL SHALL BE REMOVED AND REPLACED WITH NO COST TO THE OWNER.
  - ADJUST ALL STRUCTURE RIMS TO FINISH GRADE.
  - ANY SAWCUT GAPS BETWEEN EXISTING AND NEW PAVEMENT SHALL BE BACKFILLED WITH 21AA AGGREGATE AND PAVED WITH MDOT 36A ASPHALT.
  - REFER TO LATEST M.D.O.T. R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS.



### TOPOGRAPHIC LEGEND

- ADA RAMP
- ⊙ LIGHT POLE
- ⊙ POWER POLE
- ⊙ GUY WIRE
- ⊙ SIGN
- ⊙ TRANSFORMER
- ⊙ ELECTRIC PEDESTAL
- ⊙ CABLE PEDESTAL
- ⊙ PHONE PEDESTAL
- ⊙ ELECTRIC MANHOLE
- ⊙ SOIL BORING
- ⊙ SANITARY MANHOLE
- ⊙ CATCH BASIN
- ⊙ YARD CATCH BASIN
- ⊙ STORM MANHOLE
- ⊙ HYDRANT
- ⊙ GATE VALVE & WELL
- ⊙ VALVE
- ⊙ WATER SHUT OFF VALVE
- 000.00 EXISTING ELEVATION
- F.G. FINISHED GRADE
- F.F. FINISHED FLOOR
- T/C TOP CURB
- G GUTTER
- TREE
- ⊙ PINE, SPRUCE
- ⊙ BUSH, SHRUB
- ⊙ FOUND IRON ROD
- ⊙ FOUND IRON PIPE
- ⊙ FOUND CONCRETE MONUMENT
- ⊙ GAS PIPELINE MARKER
- ⊙ GAS TEST SITE
- ⊙ GAS VALVE
- T/P TOP OF PIPE
- CO CLEAN OUT
- 500 — CONTOUR
- X X FENCE
- CENTERLINE
- RIGHT-OF-WAY
- W W WATER MAIN
- S S STORM SEWER
- SS SS SANITARY SEWER
- G G GAS
- O H U OVERHEAD UTILITY
- UG-E UNDERGRND ELECTRIC
- UG-FO UNDERGRND FIBER OPTIC
- UG-CB UNDERGRND CABLE
- TREE/BRUSH LINE
- CONCRETE
- ASPHALT
- BRICK
- BUILDING

- ### BENCHMARKS
- BM # 1  
TOP BOLT ON WATER HYDRANT LOCATED AT THE SOUTH EAST CORNER OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET. ELEVATION: 667.41 (NAVD88 DATUM)
- BM # 2  
MAG ON NORTH FACING POWER POLE LOCATED ON THE EAST SIDE OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET. ELEVATION: 666.05 (NAVD88 DATUM)

PROJECT NUMBER:  
**85320**

DATE:  
**06-21-24**

SCALE:  
—

DESIGNED BY:  
**AJC**

DRAWN BY:  
—

CHECKED BY:  
—

APPROVED BY:  
—

### REVISIONS

NO.	DESCRIPTION

**HENNESSEY ENGINEERS**

23500 BECK RD  
BELLVILLE, MICHIGAN 48105  
385 E JEFFERSON AVE  
MICHIGAN 48207  
(313) 688-1306  
H E N N E S S E Y E N G I N E E R S . C O M

TITLE  
**SITE PLAN**

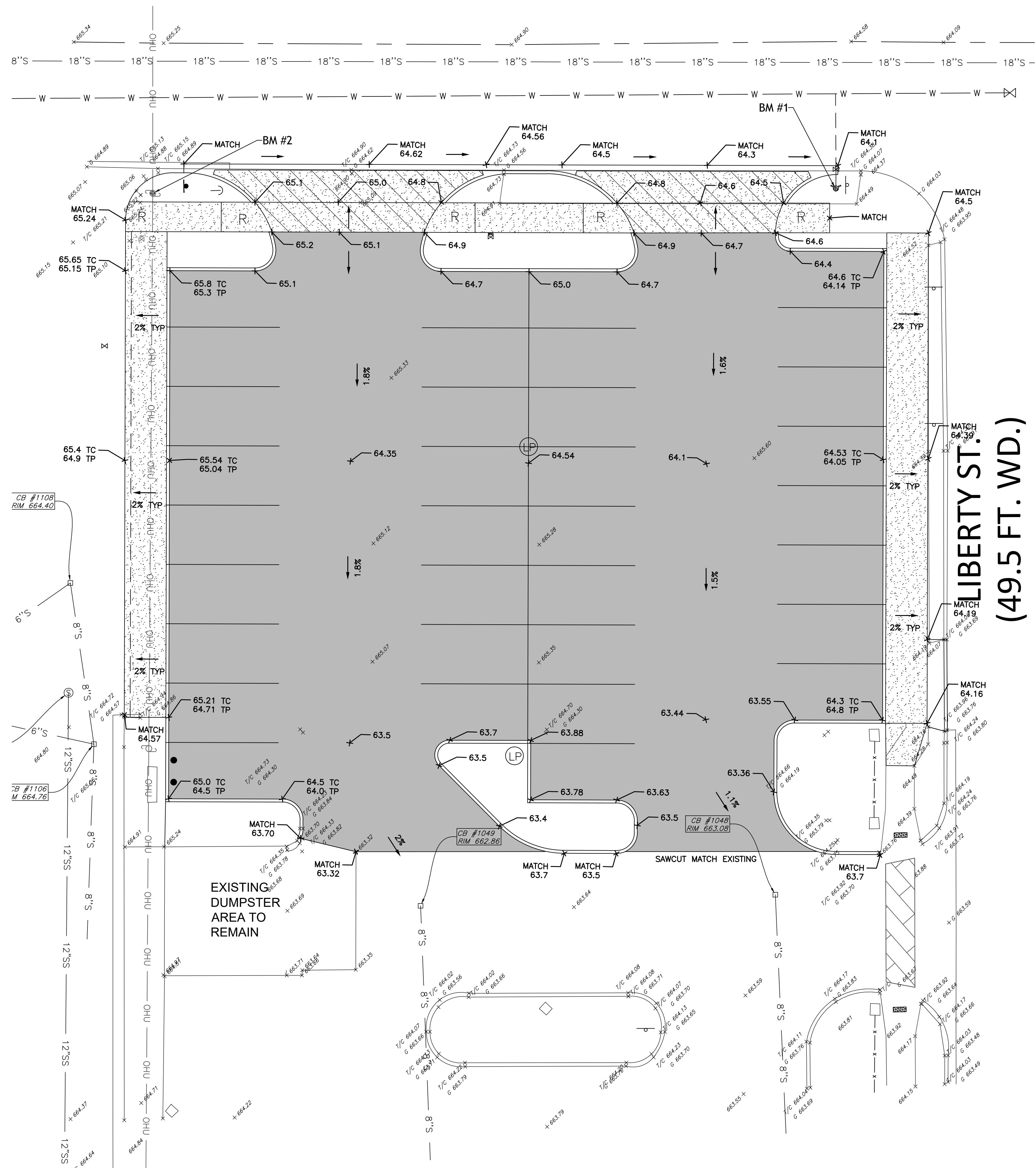
**5TH & LIBERTY PARKING EXPANSION**

**CITY OF BELLEVILLE**

**WAYNE COUNTY, MICHIGAN**

SHEET  
**C-3**

# 5TH ST. (66 FT. WD.)



### PROPOSED LEGEND

- = SIGN
- = NUMBER OF PARKING STALLS
- = CONCRETE CURB AND GUTTER
- = CONCRETE
- = INTEGRAL CURB/WALK
- = SIDEWALK RAMP
- = PROPOSED ASPHALT PAVEMENT
- = PROPOSED 4" CONCRETE SIDEWALK
- = PROPOSED 8" HEAVY DUTY CONCRETE
- = DRAINAGE FLOW DIRECTION
- = PROPOSED SPOT ELEVATION

### GRADING AND EARTHWORK NOTES

- ADD 600 TO ALL PROPOSED SPOT ELEVATIONS.
- CONTRACTOR TO FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
- ALL GRADES ARE TO TOP OF PAVEMENT. ADD 6 INCHES FOR TOP OF CURB GRADES UNLESS OTHERWISE NOTED.
- THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF WASHTENAW COUNTY. AN EROSION CONTROL PERMIT MUST BE SECURED PRIOR TO CONSTRUCTION.
- ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDIED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES WITHIN AND ADJACENT TO THE SITE. BACKFILL FOR EXISTING UTILITY TRENCHES SHALL BE EXAMINED CRITICALLY. ANY TRENCHES FOUND TO HAVE SOFT, UNSTABLE OR UNSUITABLE BACKFILL MATERIAL, IN THE OPINION OF THE GEOTECHNICAL ENGINEER, THAT ARE TO BE WITHIN THE ZONE OF INFLUENCE OF PROPOSED BUILDINGS OR PAVEMENT SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL.

EARTHWORK BALANCING NOTE:  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

SCALE: 1"=10'

### TOPOGRAPHIC LEGEND

	ADA RAMP
	LIGHT POLE
	POWER POLE
	GUY WIRE
	SIGN
	TRANSFORMER
	ELECTRIC PEDESTAL
	CABLE PEDESTAL
	PHONE PEDESTAL
	ELECTRIC MANHOLE
	SOIL BORING
	SANITARY MANHOLE
	CATCH BASIN
	YARD CATCH BASIN
	STORM MANHOLE
	HYDRANT
	GATE VALVE & WELL
	VALVE
	WATER SHUT OFF VALVE
	EXISTING ELEVATION
	FINISHED GRADE
	FINISHED FLOOR
	TOP CURB
	GUTTER
	TREE
	PINE, SPRUCE
	BUSH, SHRUB
	FOUND IRON ROD
	FOUND IRON PIPE
	FOUND CONCRETE MONUMENT
	GAS PIPELINE MARKER
	GAS TEST SITE
	GAS VALVE
	TOP OF PIPE
	CLEAN OUT

	500' CONTOUR
	FENCE
	CENTERLINE
	RIGHT-OF-WAY
	WATER MAIN
	STORM SEWER
	SANITARY SEWER
	GAS
	OVERHEAD UTILITY
	UNDERGRND ELECTRIC
	UNDERGRND FIBER OPTIC
	UNDERGRND CABLE
	TREE/BRUSH LINE
	CONCRETE
	ASPHALT
	BRICK
	BUILDING

### BENCHMARKS

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TOP BOLT ON WATER HYDRANT LOCATED AT THE SOUTH EAST CORNER OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET.  
ELEVATION: 667.41 (NAVD88 DATUM)

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ELEVATION: 666.05 (NAVD88 DATUM)

PROJECT NUMBER:  
**85320**

DATE:  
**06-21-24**

SCALE:  
-

DESIGNED BY:  
**AJC**

DRAWN BY:  
-

CHECKED BY:  
-

APPROVED BY:  
-

### REVISIONS

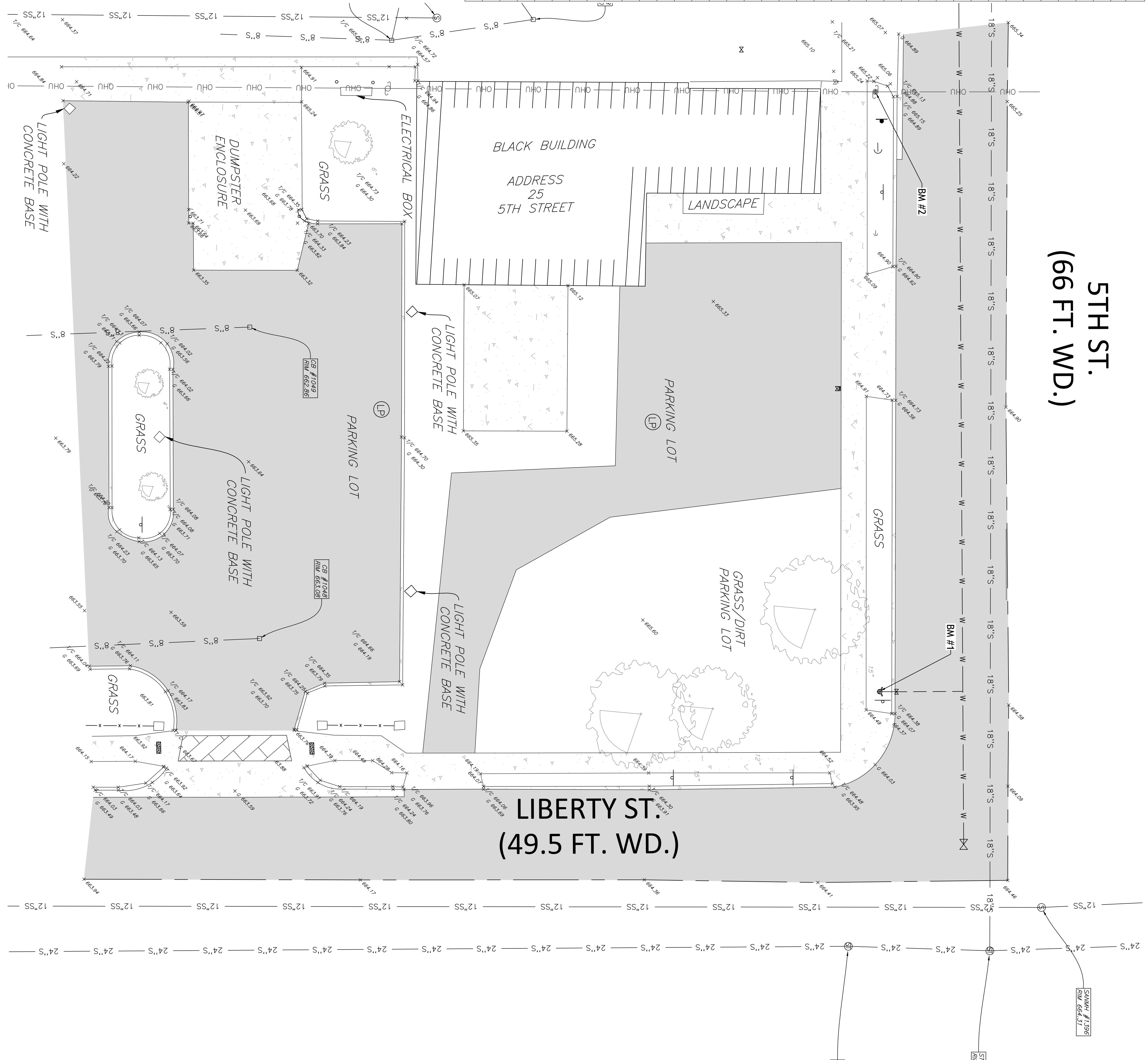
NO.	DESCRIPTION

**HENNESSEY ENGINEERS**  
385 E. JEFFERSON AVE  
ANN ARBOR, MI 48106  
MICHIGAN REG. # 0000000000  
(734) 759-1600  
H E N G I N E E R S . C O M

TITLE  
**GRADING PLAN**  
**5TH & LIBERTY PARKING EXPANSION**  
**CITY OF BELLEVILLE**  
**WAYNE COUNTY, MICHIGAN**

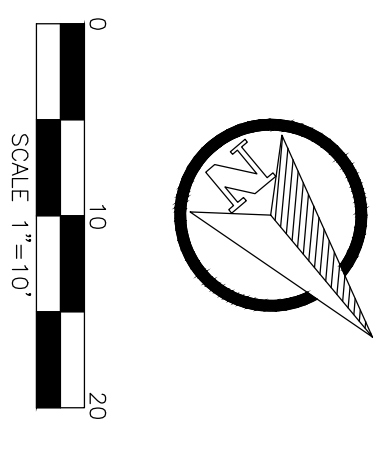
SHEET  
**C-4**

INVERT ELEVATION CHART							
STRUCTURE ID	DESCRIPTION	SIZE (IN)	DIRECTION	DEPTH (FT)	RIM	INVERT (FT)	NOTES
1006	CB	8	E	3.3	664.40	661.10	TO 1006
1007	SANWH	6	SE	3.35	664.40	661.05	TO CO
1007	SANWH	10	E	9	664.92	655.40	TO CO
1008	CB	8	W	3.55	664.76	661.21	TO 1008
		8	E	4.05	664.76	660.71	
		6	SW	3.55	664.76	661.21	TO CO
1009	CB	8	E	3.6	662.86	659.26	
1008	CB	8	E	3.9	663.08	659.18	
1111	SANWH	12	N	9.7	663.54	653.84	
		12	N	9.7	663.54	653.84	
		12	W	9.7	663.54	653.84	
		12	W	9.7	663.54	653.84	
1112	CB	6	E	8.8	663.54	654.74	
		6	W	2.9	663.07	660.17	
		12	E	3.45	663.07	659.62	
1110	CB	12	E	2.9	662.56	659.66	
1109	CB	8	N	2.65	662.19	659.54	
1304	SANWH	18	N	6.1	663.04	656.94	TO 1302
		12	E	4.3	663.04	658.74	
		12	W	5.2	663.04	657.84	
1305	GW	7/8"	N	5.2	665.91	660.71	TYP
			5	5.2	665.91	660.71	TYP
1306	SANWH	12	E	11.3	664.31	653.01	TO 1307
		18	5	11.7	664.31	652.61	
		-	N	11	664.31	653.31	
1302	SMWH	24	E	9.7	664.20	654.50	BOTTOM
		24	W	9.7	664.20	654.50	TO 1301
		18	5	7.1	664.20	657.10	TO 1304
1301	SMWH	24	E	9.7	664.21	654.51	
		24	W	9.7	664.21	654.51	TO 1303
1303	SMWH	24	5	8.8	663.47	654.67	TYP
		18	E	9	663.47	654.47	
		12	5	10.4	663.04	652.64	
1307	SANWH	6	N	8.6	663.04	654.44	
		12	W	10.1	663.04	652.94	
		12	E	10.3	663.04	652.74	



**5TH ST.**  
**(66 FT. WD.)**

**LIBERTY ST.**  
**(49.5 FT. WD.)**



**TOPOGRAPHIC LEGEND**

- ▲ ADA RAMP
- ☆ LIGHT POLE
- ⊙ POWER POLE
- ⊖ GUY WIRE
- ⊖ SIGN
- ⊖ TRANSFORMER
- ⊖ ELECTRIC PEDestal
- ⊖ CABLE PEDestal
- ⊖ PHONE PEDestal
- ⊖ ELECTRIC MANHOLE
- ⊖ SOIL BORING
- ⊖ SANITARY MANHOLE
- ⊖ CATCH BASIN
- ⊖ YARD CATCH BASIN
- ⊖ STORM MANHOLE
- ⊖ HYGDRANT
- ⊖ GATE VALVE & WELL
- ⊖ VALVE
- ⊖ WATER SHUT OFF VALVE
- ⊖ EXISTING ELEVATION
- ⊖ FINISHED GRADE
- ⊖ FINISHED FLOOR
- ⊖ TOP CURB
- ⊖ GUTTER
- ⊖ TREE
- ⊖ PINE SPRUCE
- ⊖ BUSH, SHRUB
- ⊖ FOUND IRON ROD
- ⊖ FOUND IRON PIPE
- ⊖ FOUND CONCRETE MONUMENT
- ⊖ GAS PIPELINE MARKER
- ⊖ GAS TEST SITE
- ⊖ GAS VALVE
- ⊖ TYP OF PIPE
- ⊖ CLEAN OUT
- ⊖ 500' CONTOUR
- ⊖ FENCE
- ⊖ CENTERLINE
- ⊖ RIGHT-OF-WAY
- ⊖ WATER MAIN
- ⊖ STORM SEWER
- ⊖ SANITARY SEWER
- ⊖ GAS
- ⊖ OVERHEAD UTILITY
- ⊖ UNDERGROUND ELECTRIC
- ⊖ UNDERGROUND FIBER OPTIC
- ⊖ UNDERGROUND CABLE
- ⊖ TREE/BRUSH LINE
- ⊖ CONCRETE
- ⊖ ASPHALT
- ⊖ BRICK
- ⊖ BUILDING

**BENCHMARKS**

BM #1: TOP BOLT ON WATER HYDRANT LOCATED AT THE SOUTH EAST CORNER OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET. ELEVATION: 667.41 (NAD83 DATUM)

BM #2: NORTH FRONG POWER POLE LOCATED AT THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET. ELEVATION: 666.05 (NAD83 DATUM)

PROJECT NUMBER:  
**85320**

DATE:  
**06-21-24**

SCALE:  
**1"=10'**

DESIGNED BY:  
**AJC**

DRAWN BY:  
**-**

CHECKED BY:  
**-**

APPROVED BY:  
**-**

REVISIONS

**HENNESSEY ENGINEERS**

385 E JEFFERSON AVE SUITE 200 DETROIT MICHIGAN 48207 (313) 638-1306

13500 REECK RD SOUTHWINGATE MICHIGAN 48195 (734) 759-1600

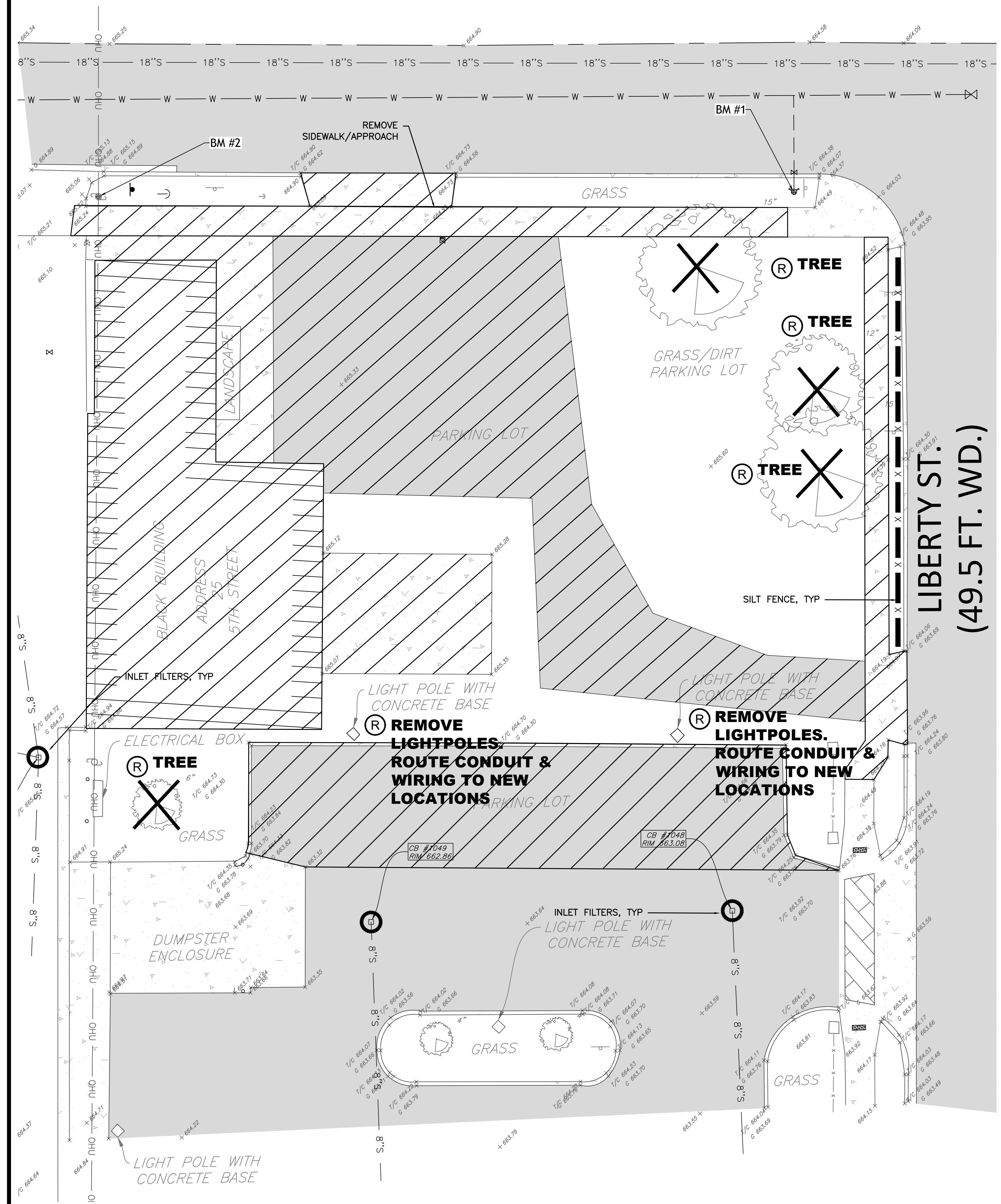
HENGINEERS.COM

TITLE  
**TOPOGRAPHIC SURVEY**

SHEET  
**C-5**

**5TH & LIBERTY PARKING EXPANSION**  
**CITY OF BELLEVILLE**  
**WAYNE COUNTY, MICHIGAN**

# 5TH ST. (66 FT. WD.)



## SOIL EROSION LEGEND

- SILT FENCE
- REMOVE PAVEMENT/BUILDINGS
- REMOVE TREES/VEGETATION/ROOTS/STRIP TOPSOIL
- STONE TRACKING PAD WITH GEOTEXTILE LINER (SEE DETAIL)
- CATCH BASIN INLET FILTER (SEE DETAIL)
- REMOVE & DISPOSE OFF-SITE UNLESS OTHERWISE NOTED

## MAINTENANCE REQUIREMENTS

- All temporary filters should be adjusted as to location per actual field conditions. The removal of trapped sediment and the cleanout or replacement of clogged stone may be necessary after each storm event during the project.
- Only upon stabilization of all disturbed areas may the temporary filters be removed. Also, all storm sewers must be cleaned at all sediment.

### NOTES:

1. WRITTEN PERMISSION SHALL BE SECURED TO CONSTRUCT DRIVE ON PRIVATE PROPERTY.

2. TEMPORARY CULVERT SHALL BE REMOVED AND THE RIGHT-OF-WAY RESTORED TO ITS ORIGINAL CONDITION UPON PROJECT COMPLETION OR TO PLACE THE PERMANENT APPROACH WITHIN THE SAME AREA.

**GENERAL:**

1. STONE SIZE SHOULD BE 2" RECLAIMED OR RECYCLED OF AN EQUIVALENT DIAMETER MAY ALSO BE USED.

2. WHERE ACCESS TO THE CONSTRUCTION SITE IS LIMITED IN LENGTH (SUCH AS IN URBAN AREAS), ONLY STREET SWEEPING MUST BE NEEDED TO KEEP SOIL THAT IS TRACKED ONTO PRIMARY ROADS FROM REACHING COUNTY SEWER SYSTEMS AND FACILITIES.

**CONSTRUCTION CONSIDERATIONS:**

1. SAW-CUT FULL DEPTH THE EXIST. CONCRETE CURB & PREPARE THE EDGE OF PAVEMENT.

2. REMOVE AND DISPOSE OF UNWANTED TREES, OTHER VEGETATION, OR FOREIGN OBJECTS AND DEBRIS FROM THE AREA.

3. APPLY THE STONE IN LAYERS AND COMPACT IT TO ITS RES OF THE UNIT WEIGHT OF THE MATERIALS OR AS DIRECTED BY THE COUNTY FIELD ENGINEER.

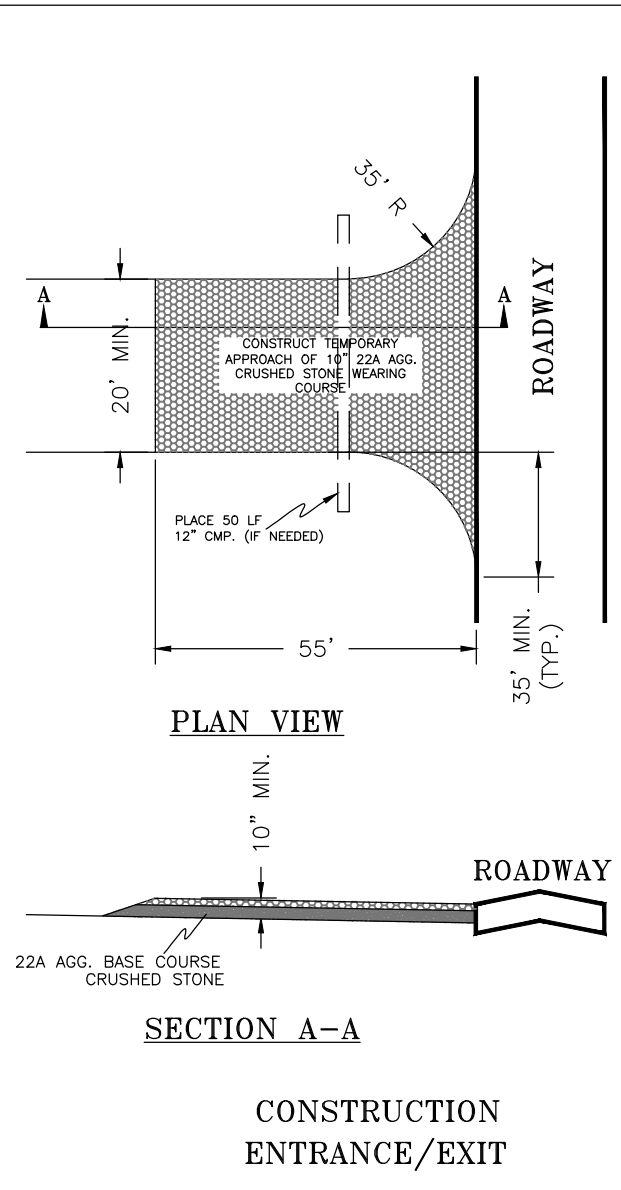
4. PLACE AGG. WEARING COURSE (BT) AND COMPACT IT TO ITS RES OF THE UNIT WEIGHT OF THE MATERIALS OR AS DIRECTED BY THE COUNTY FIELD ENGINEER.

**ATTEN CONSTRUCTION:**

IF MUD AND SOIL ATTACHED TO TRUCK TIRES DOES NOT FALL OFF ONTO THE GRAVEL OR BITUMINOUS, THAN TRUCK TIRES SHOULD BE WASHED ON AN AREA STABILIZED WITH CRUSHED STONE. WASH RACKS MAY BE USED.

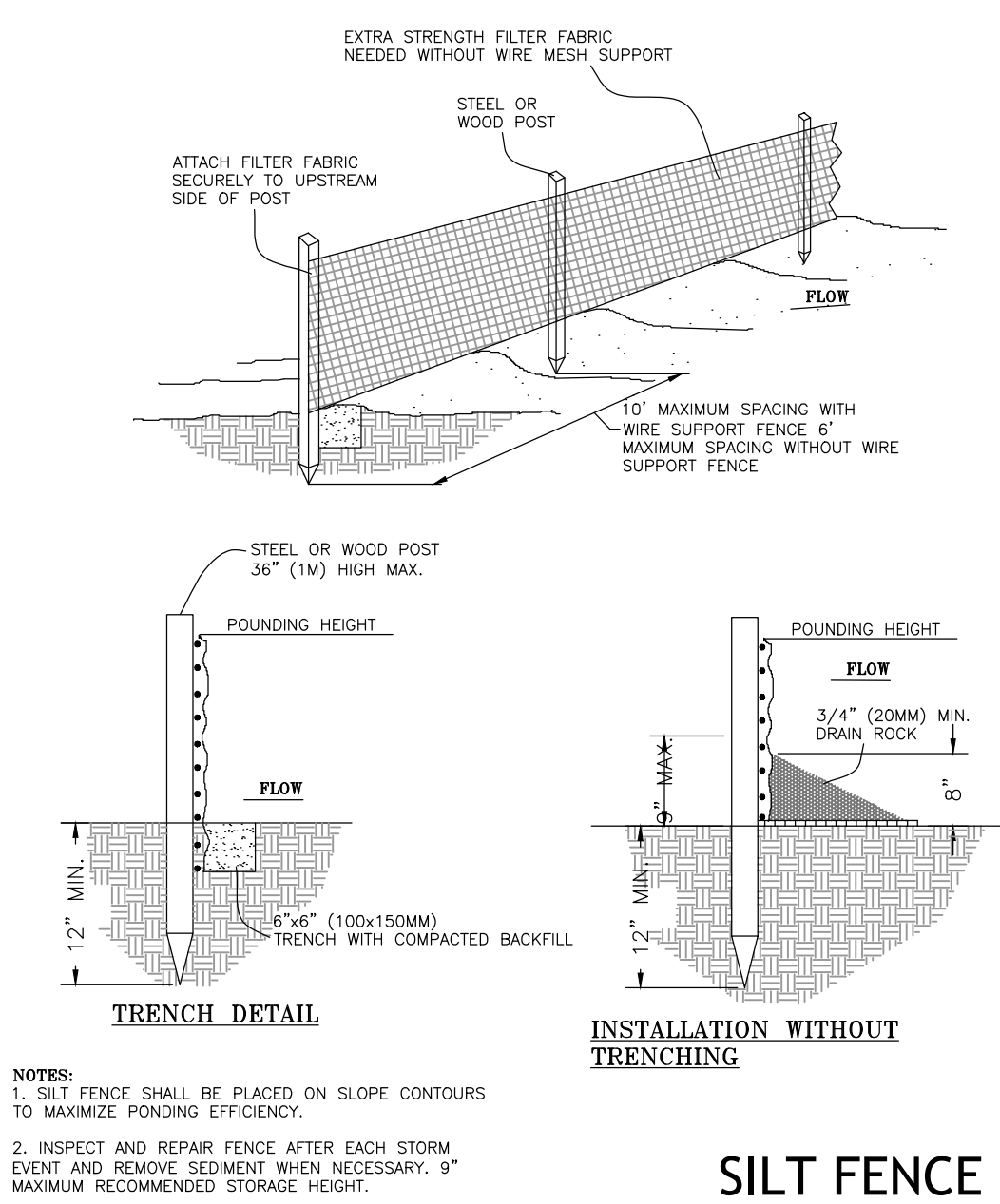
**MAINTENANCE:**

PROPER MAINTENANCE MAY INCLUDE ADDITIONAL LAYERS OF STONE OR BITUMINOUS WHEN THE ORIGINAL LAYERS BECOMES COVERED WITH MUD OR BECOMES COMPLETELY OR PARTIALLY DEGRADED DUE TO MOVEMENT OF HEAVY TRUCKS AND VEHICLES. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR DEBRIS AND ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY SWEEPING EFFECTIVELY.



## TEMPORARY CRUSHED STONE ACCESS DRIVE DETAIL

N.T.S.



## NOTES:

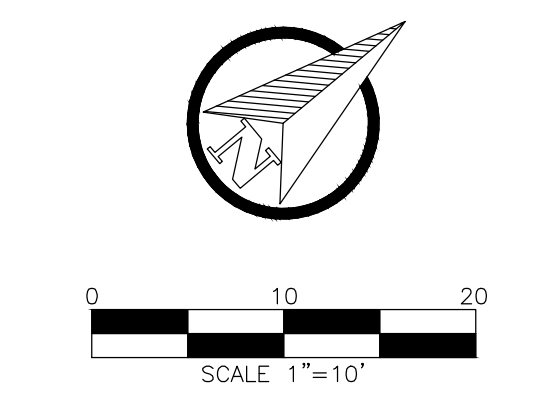
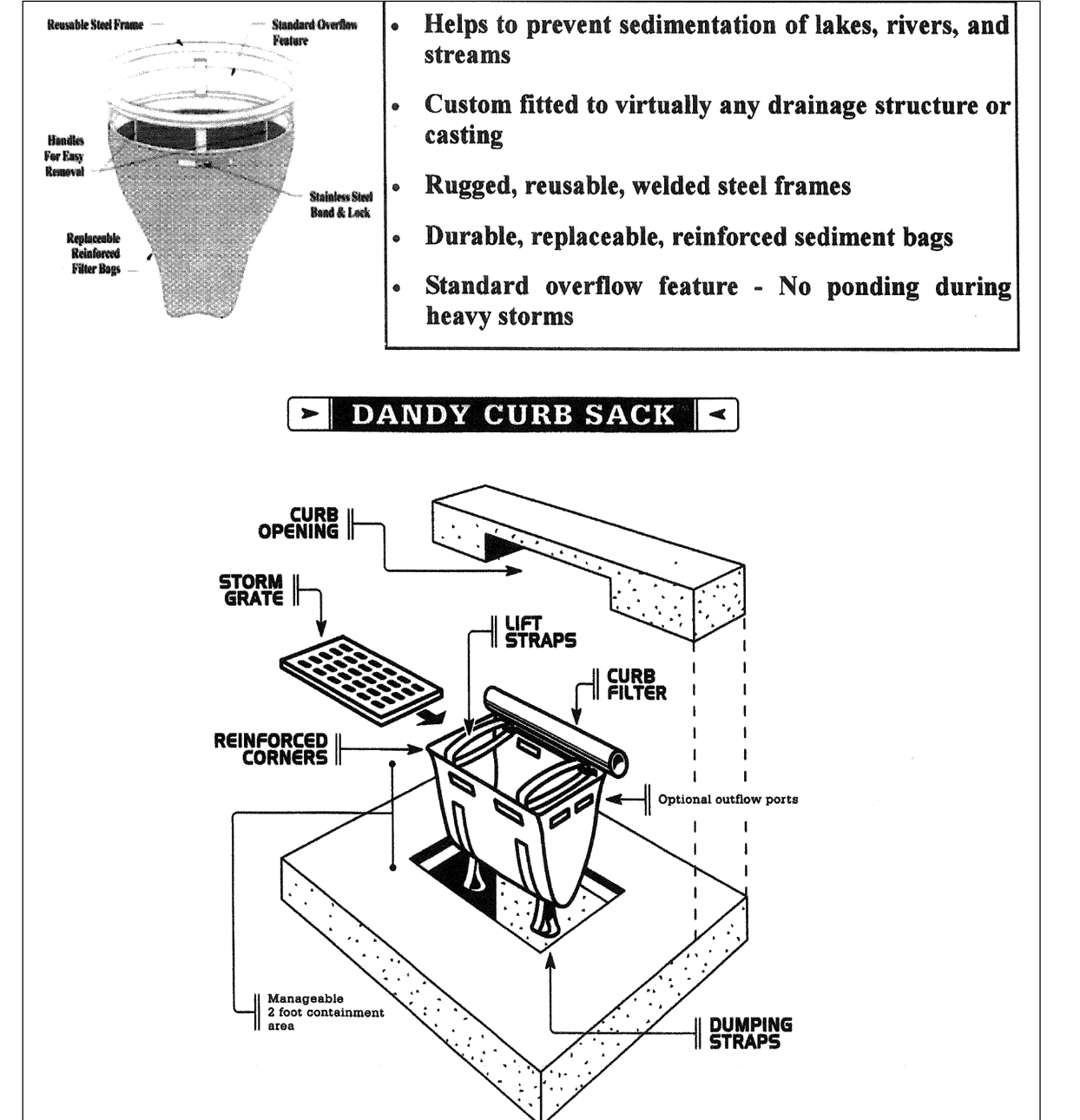
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

## STREET CLEANING SCHEDULE

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
SCRAPE STREETS		X		X		X	
SWEEP STREETS		X	X	X	X	X	

## SOIL EROSION PLAN NOTES

- CONTRACTOR IS TO OBTAIN SOIL EROSION PERMIT FROM THE CITY OF BELLEVILLE FOR PROPOSED GRADING ON THE SITE.
- ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY WITH THE CURRENT ORDINANCES, COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND STATE OF MICHIGAN "SOIL EROSION AND SEDIMENTATION CONTROL ACT" (ACT #347).
- FILTER FABRIC MUST BE USED IN LIEU OF BURLAP WHENEVER BURLAP IS DESIGNATED IN THE DETAILS.
- PRIOR TO COMMENCING EARTH-MOVING OPERATIONS, THE GRADING TRACTOR SHALL INSTALL THE MUD TRACKING MAT AND TEMPORARY FILTER(S) SHOWN ON THE PLANS.
- ANY LAWN AREA WHICH WILL HAVE A SLOPE STEEPER THAN 6 ON 1 (6 FT. MEASURED HORIZONTALLY AND 1 FT. MEASURED VERTICALLY) SHALL BE SODDED AND PEGGED OR SEEDED AND MULCHED USING A SOIL EROSION CONTROL FABRIC OR BLANKET. HYDROSEEDING MAY BE IN LIEU OF SEED AND MULCH OR SOD WHERE SLOPES ARE FLATTER THAN 6 ON 1.
- THE ACTUAL LOCATION OF THE MUD TRACKING MATS AND THE FILTERS MAY BE ADJUSTED BY THE CONTRACTOR TO MATCH CONTRACTOR'S OPERATIONS AND FIELD CONDITIONS BUT ONLY IF APPROVED BY THE ENGINEER.
- ALL DISTURBED AREAS, EVEN WHERE FUTURE PAVEMENT AND BUILDINGS ARE PROPOSED, ARE TO BE REVEGETATED, PER COUNTY STANDARDS FOR TEMPORARY SEEDING.
- RESTORE THE AREA WITHIN THE RIGHT-OF-WAY WITH 3" TOP SOIL AND SOD OR AS DIRECTED BY THE ENGINEER.
- ALL UNSUITABLE FILL SHALL BE REMOVED FROM THE SITE.



## TOPOGRAPHIC LEGEND

- ADA RAMP
- LIGHT POLE
- POWER POLE
- GUY WIRE
- SIGN
- TRANSFORMER
- ELECTRIC PEDESTAL
- CABLE PEDESTAL
- PHONE PEDESTAL
- ELECTRIC MANHOLE
- SOIL BORING
- SANITARY MANHOLE
- CATCH BASIN
- YARD CATCH BASIN
- STORM MANHOLE
- HYDRANT
- GATE VALVE & WELL
- VALVE
- WATER SHUT OFF VALVE
- EXISTING ELEVATION
- F.G. FINISHED GRADE
- F.F. FINISHED FLOOR
- T/C TOP CURB
- GUTTER
- TREE
- PINE, SPRUCE
- BUSH, SHRUB
- FOUND IRON ROD
- FOUND IRON PIPE
- FOUND CONCRETE MONUMENT
- GAS PIPELINE MARKER
- GAS TEST SITE
- GAS VALVE
- T/P TOP OF PIPE
- CO CLEAN OUT
- 500 CONTOUR
- X FENCE
- CENTERLINE
- RIGHT-OF-WAY
- W WATER MAIN
- S STORM SEWER
- SS SANITARY SEWER
- G GAS
- OHU OVERHEAD UTILITY
- UG-E UNDERGRND ELECTRIC
- UG-FD UNDERGRND FIBER OPTIC
- UG-CB UNDERGRND CABLE
- TREE/BRUSH LINE
- CONCRETE
- ASPHALT
- BRICK
- BUILDING

## BENCHMARKS

- BM # 1  
TOP BOLT ON WATER HYDRANT LOCATED AT THE SOUTH EAST CORNER OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET. ELEVATION: 667.41 (NAVD88 DATUM)
- BM # 2  
MAG ON NORTH FACING POWER POLE LOCATED ON THE EAST SIDE OF THE INTERSECTION OF 5TH STREET AND NORTH LIBERTY STREET. ELEVATION: 666.05 (NAVD88 DATUM)

PROJECT NUMBER:  
**85320**

DATE:  
**06-21-24**

SCALE:  
-

DESIGNED BY:  
**AJC**

DRAWN BY:  
-

CHECKED BY:  
-

APPROVED BY:  
-

## REVISIONS

NO.	DESCRIPTION

**HENNESSEY ENGINEERS**

13500 REEF RD  
MICHIGAN 48315  
385 E HENNESSY AVE  
MICHIGAN 48307  
(734) 759-1600  
(313) 688-1306  
H E N N E S S E Y . C O M

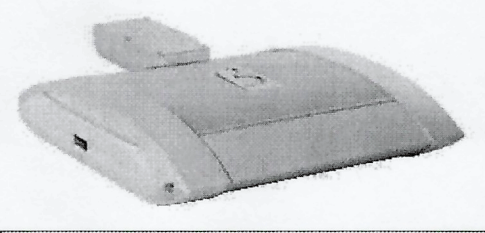
TITLE  
**REMOVAL & SOIL EROSION CONTROL PLAN**

**5TH & LIBERTY PARKING EXPANSION**

CITY OF BELLEVILLE  
WAYNE COUNTY, MICHIGAN

SHEET  
**C-6**

**BLD-ARE-T3-DA The Edge™ LED Area Light — Type III** Rev. Date: 02/29/08  
Beta Catalog Number: BLD-ARE-T3-DA-LED-B



**LED Performance Generation B Specs**

Light Bar Catalog Description	Initial Delivered Lumens - Type III Optic	System Watts 120-277V	System Watts 277-480V	Dim. -A- (in)
1	1,700	1,650	28	30
2	3,400	3,200	55	59
3	5,100	4,800	79	84
4	6,800	6,400	104	109
5	8,500	8,000	128	133
6	10,200	9,600	153	156
7	11,900	11,200	183	194
8	13,600	12,800	207	218
9	15,300	14,400	232	242
10	17,000	16,000	257	266
11	18,700	17,600	287	297
12	20,400	19,200	306	313

**Product Housing Family:** BLD ARE T3-DA  
**Indicator Optics:** DA  
**Mounting:** M017, M034, M051, M068, M085, M102, M119, M136, M153, M170, M187, M204

**Field-Installed Accessories:** Bird Spikes (KA-BRDSFK)

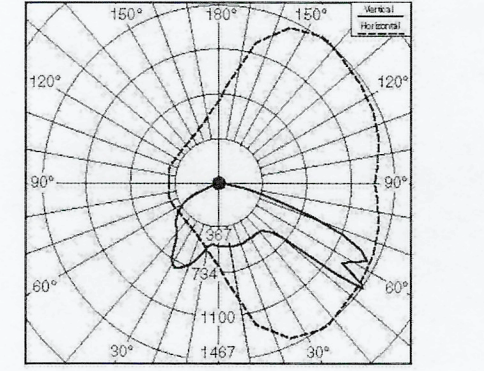
**General Description:** Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

**Electrical:** Modular design accommodates varied lighting output from high brightness, white, 6000K, minimum 75 CRI, long life LED sources 120-277V 50/60 Hz. Class 1 LED drivers are standard. 24V-480V 50/60 Hz driver is optional. LED drivers have power factor >0.95 and THD <20% of full load. Integral weather-tight electrical box with terminal strip for easy power hook-up.

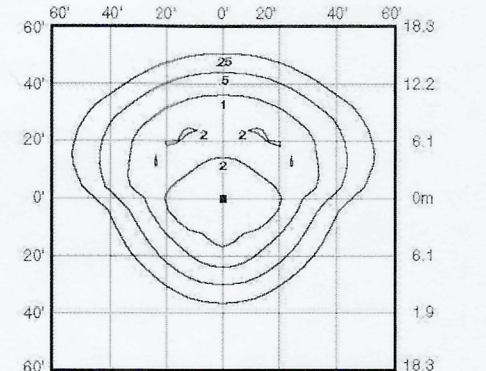
**Patents:** Pending

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com

**BLD-ARE-T3-DA The Edge™ LED Area Light — Type III** Rev. Date: 02/29/08  
Output gains using Generation B LEDs can be achieved by multiplying footcandle levels by 1.1.



**Independent Testing Laboratories certified test Report No. ITL 59234.**  
Candelpower distribution curve of 2 light bar luminaire with 2863 initial delivered lumens.



**Isocandela plot of 6 light bar Type III LED luminaire at 20° A.F.G. Initial delivered lumens at 8589. Initial FC at grade.**

Isocandela plots shown are initial at grade.

**LED Area Light EPA Calculations**

Fixed Arm Mount	LIGHT BARS											
	2	3	4	5	6	7	8	9	10	11	12	
1 fixture	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.65	0.69	
2 fixtures (180°)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.21	1.29	1.38	
2 fixtures (90°)	0.87	0.92	0.96	1.00	1.01	1.08	1.12	n/a	n/a	n/a	n/a	
3 fixtures (90°)	1.47	1.51	1.55	1.60	1.64	1.68	1.72	n/a	n/a	n/a	n/a	
4 fixtures (90°)	1.75	1.83	1.91	2.00	2.08	2.16	2.24	n/a	n/a	n/a	n/a	

**Product Housing Family:** BLD ARE T3-DA  
**Indicator Optics:** DA  
**Mounting:** M017, M034, M051, M068, M085, M102, M119, M136, M153, M170, M187, M204

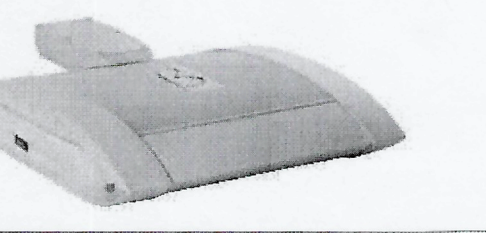
**General Description:** Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

**Electrical:** Modular design accommodates varied lighting output from high brightness, white, 6000K, minimum 75 CRI, long life LED sources 120-277V 50/60 Hz. Class 1 LED drivers are standard. 24V-480V 50/60 Hz driver is optional. LED drivers have power factor >0.95 and THD <20% of full load. Integral weather-tight electrical box with terminal strip for easy power hook-up.

**Patents:** Pending

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com

**BLD-ARE-T5-DA The Edge™ LED Area Light — Type V** Rev. Date: 02/29/08  
Beta Catalog Number: BLD-ARE-T5-DA-LED-B



**LED Performance Generation B Specs**

Light Bar Catalog Description	Initial Delivered Lumens - Type V Optic	System Watts 120-277V	System Watts 277-480V	Dim. -A- (in)
1	1,700	1,700	28	30
2	3,400	3,400	55	59
3	5,100	5,100	79	84
4	6,800	6,800	104	109
5	8,500	8,500	128	133
6	10,200	10,200	153	156
7	11,900	11,900	183	194
8	13,600	13,600	207	218
9	15,300	15,300	232	242
10	17,000	17,000	257	266
11	18,700	18,700	287	297
12	20,400	20,400	306	313

**Product Housing Family:** BLD ARE T5-DA  
**Indicator Optics:** DA  
**Mounting:** M017, M034, M051, M068, M085, M102, M119, M136, M153, M170, M187, M204

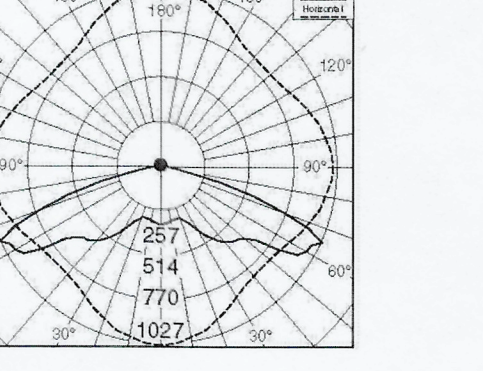
**General Description:** Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

**Electrical:** Modular design accommodates varied lighting output from high brightness, white, 6000K, minimum 75 CRI, long life LED sources 120-277V 50/60 Hz. Class 1 LED drivers are standard. 24V-480V 50/60 Hz driver is optional. LED drivers have power factor >0.95 and THD <20% of full load. Integral weather-tight electrical box with terminal strip for easy power hook-up.

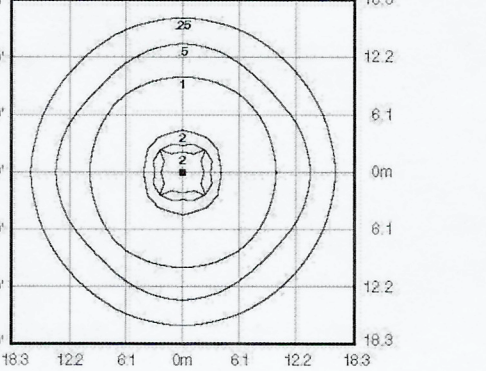
**Patents:** Pending

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com

**BLD-ARE-T5-DA The Edge™ LED Area Light — Type V** Rev. Date: 02/29/08  
Output gains using Generation B LEDs can be achieved by multiplying footcandle levels by 1.06.



**Independent Testing Laboratories certified test Report No. ITL 59237.**  
Candelpower distribution curve of 2 light bar luminaire with 9414 initial delivered lumens.



**Isocandela plot of 6 light bar Type V LED luminaire at 20° A.F.G. Initial delivered lumens at 9414. Initial FC at grade.**

Isocandela plots shown are initial at grade.

**LED Area Light EPA Calculations**

Fixed Arm Mount	LIGHT BARS											
	2	3	4	5	6	7	8	9	10	11	12	
1 fixture	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.65	0.69	
2 fixtures (180°)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.21	1.29	1.38	
2 fixtures (90°)	0.87	0.92	0.96	1.00	1.01	1.08	1.12	n/a	n/a	n/a	n/a	
3 fixtures (90°)	1.47	1.51	1.55	1.60	1.64	1.68	1.72	n/a	n/a	n/a	n/a	
4 fixtures (90°)	1.75	1.83	1.91	2.00	2.08	2.16	2.24	n/a	n/a	n/a	n/a	

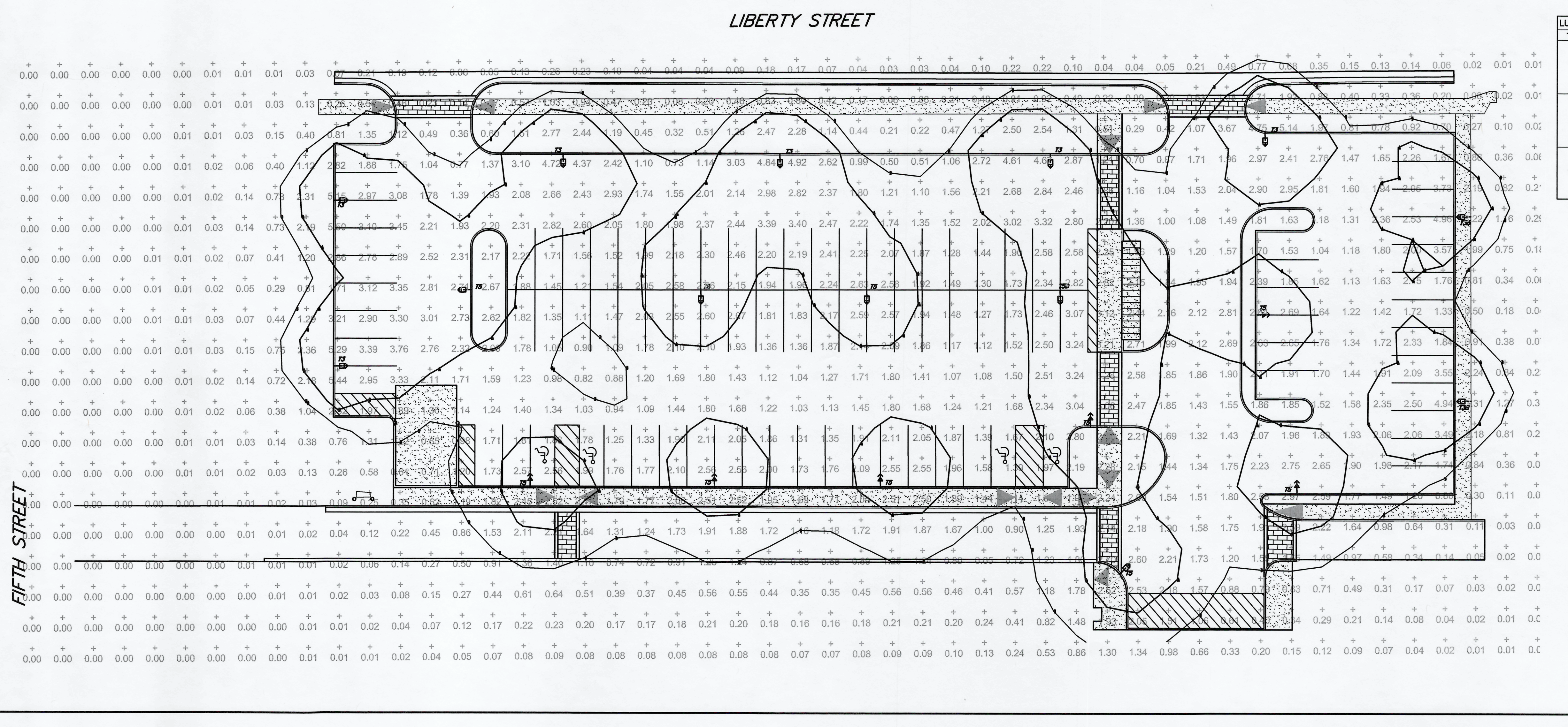
**Product Housing Family:** BLD ARE T5-DA  
**Indicator Optics:** DA  
**Mounting:** M017, M034, M051, M068, M085, M102, M119, M136, M153, M170, M187, M204

**General Description:** Slim, low profile design minimizes wind load requirements. Fixture sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high performance aluminum heatinks. Convex, interlocking mounting method. Mounting housing is rugged die cast aluminum and mounts to 3" - 6" square or round pole. Fixture is secured by two (2) 5/16-18 UNC bolts spaced on 2" centers. Includes leaf/debris guard. Five year limited warranty on fixture.

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**Patents:** Pending

Beta LED • 1200 92nd Street • Sturtevant, WI 53177 • 800-236-6800 • www.BetaLED.com



**LUMINAIRE SCHEDULE**

TYP.	SYMBOL	DESCRIPTION	LAMP	LUMENS	MOUNTING/BALLAST	LLF	QTY
T3	☐	BETA LIGHTING, T3 (1) BLD-ARE-T3-DA-068-LED-B-UL-BZ SSP18-4.01-11-K813-DM10-BC-WPR2GF1	(1)	6400	20'	0.95	6
T5	☐	BETA LIGHTING, T5 (1) BLD-ARE-T5-DA-068-LED-B-UL-BZ SSP18-4.01-11-K813-DM10-BC-WPR2GF1	(1)	6800	20'	0.95	11
T3B	☐	BETA LIGHTING, T3B (1) BLD-ARE-3B-DA-068-LED-B-UL-BZ SSP18-4.01-11-K813-DM10-BC-WPR2GF1	(1)	6400	20' W/ BACK LIGHT SHIELD	0.95	2

**REVISIONS**

BY	MARK	REVISIONS	DATE
		REVISED PER SHOP DRAWINGS	03/16/09

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

**BELLEVILLE DDA**  
WAYNE COUNTY, MICHIGAN

**SITE LIGHTING PLAN**  
PARKING LOT  
IMPROVEMENTS

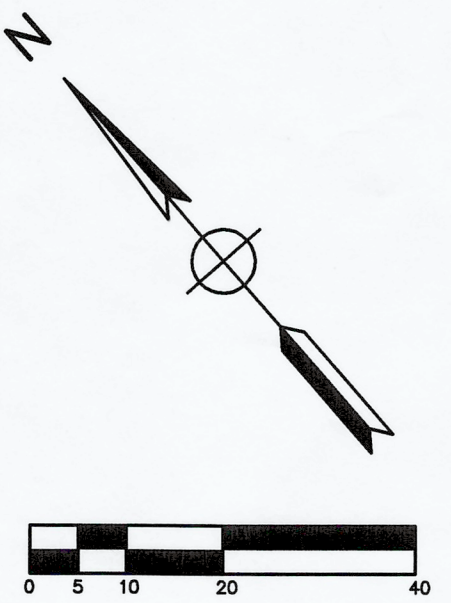
**OFFICE LOCATIONS**  
SAGINAW, MI  
ST. JOHNS, MI  
CARO, MI  
DETROIT, MI  
TEMPE, AZ

**Spicer group**

SAGINAW OFFICE  
230 S. Washington Ave.  
Saginaw, MI 48607  
Tel. 989-754-4717  
Fax. 989-754-4440  
www.SpicerGroup.com

DE. BY: BAL CH. BY: DSV PROJECT NO. 115462.08  
DR. BY: CAR APP. BY: RBH

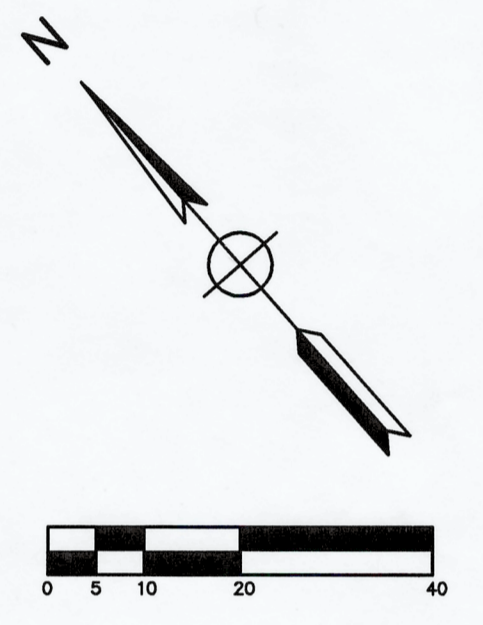
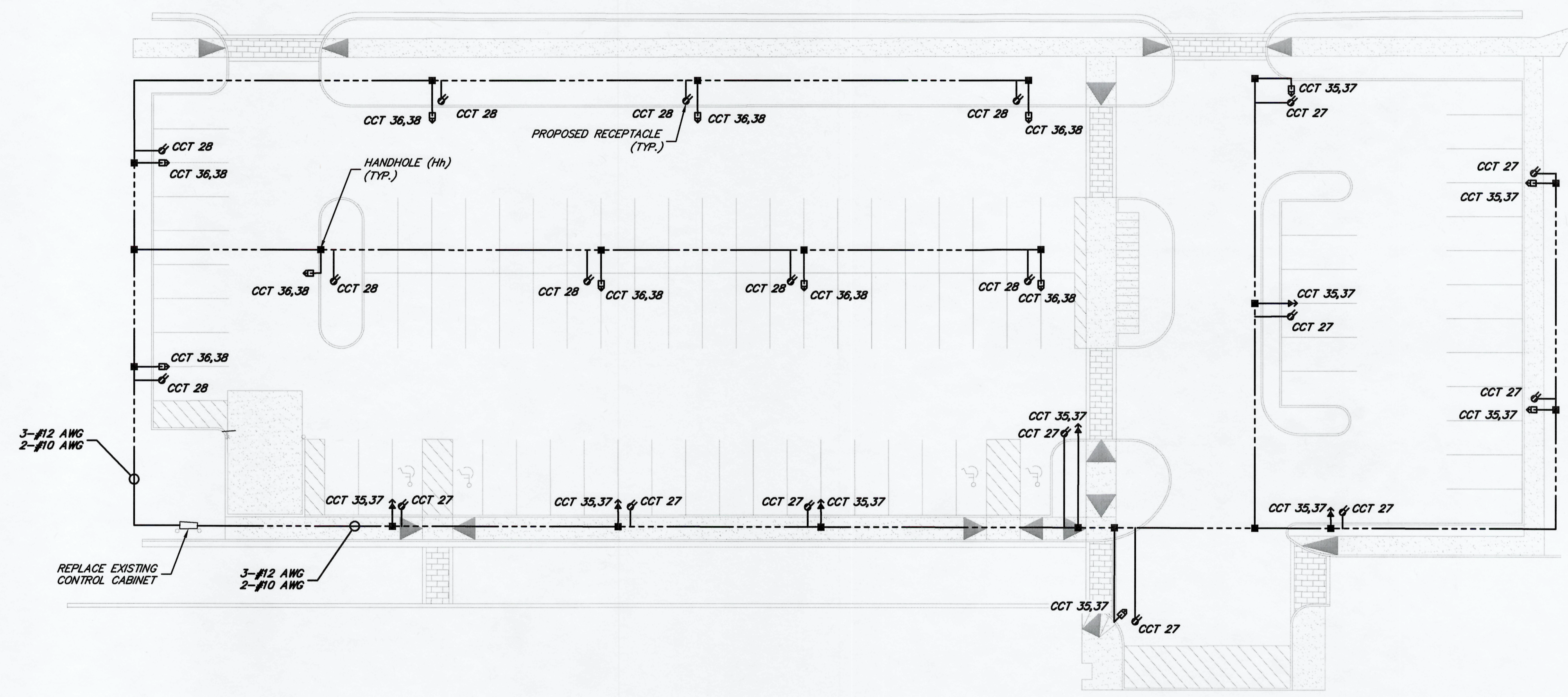
STDS. SHEET 7 OF 14 D  
DATE FEBRUARY, 2009 FILE NO. D-4632-7 7  
SCALE 1" = 20'



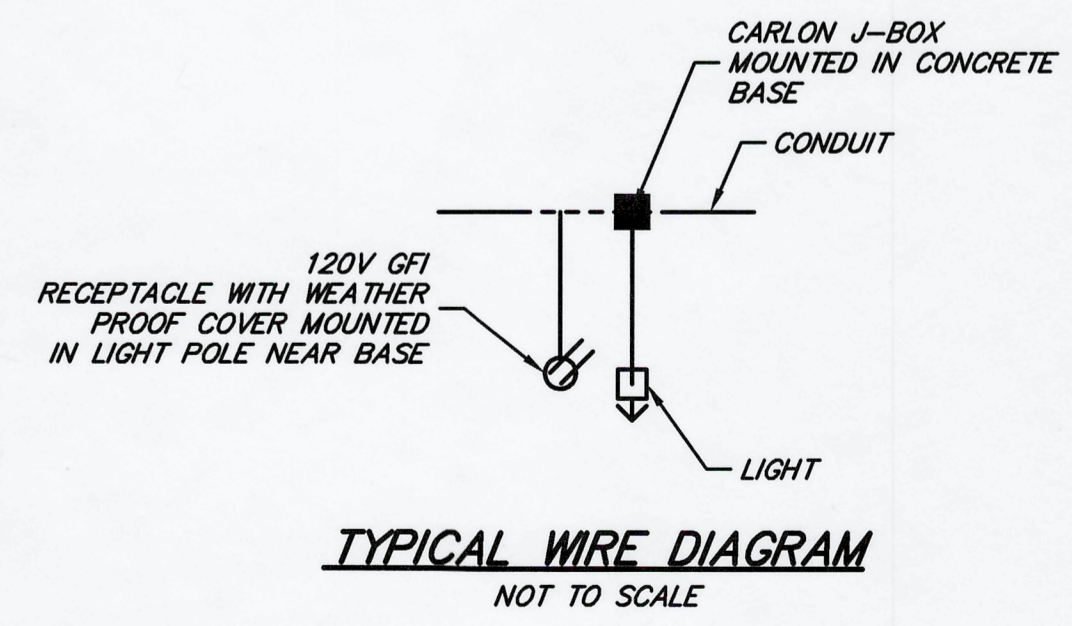
PLOTTING SCALE: RET. F.B. P.C. ACAD FILE:

FIFTH STREET

LIBERTY STREET



**NOTES**  
 CONDUIT ROUTES ARE NOT SHOWN FOR CONSTRUCTION.  
 CONTRACTOR TO ROUTE AS REQUIRED PER NEC 2005.

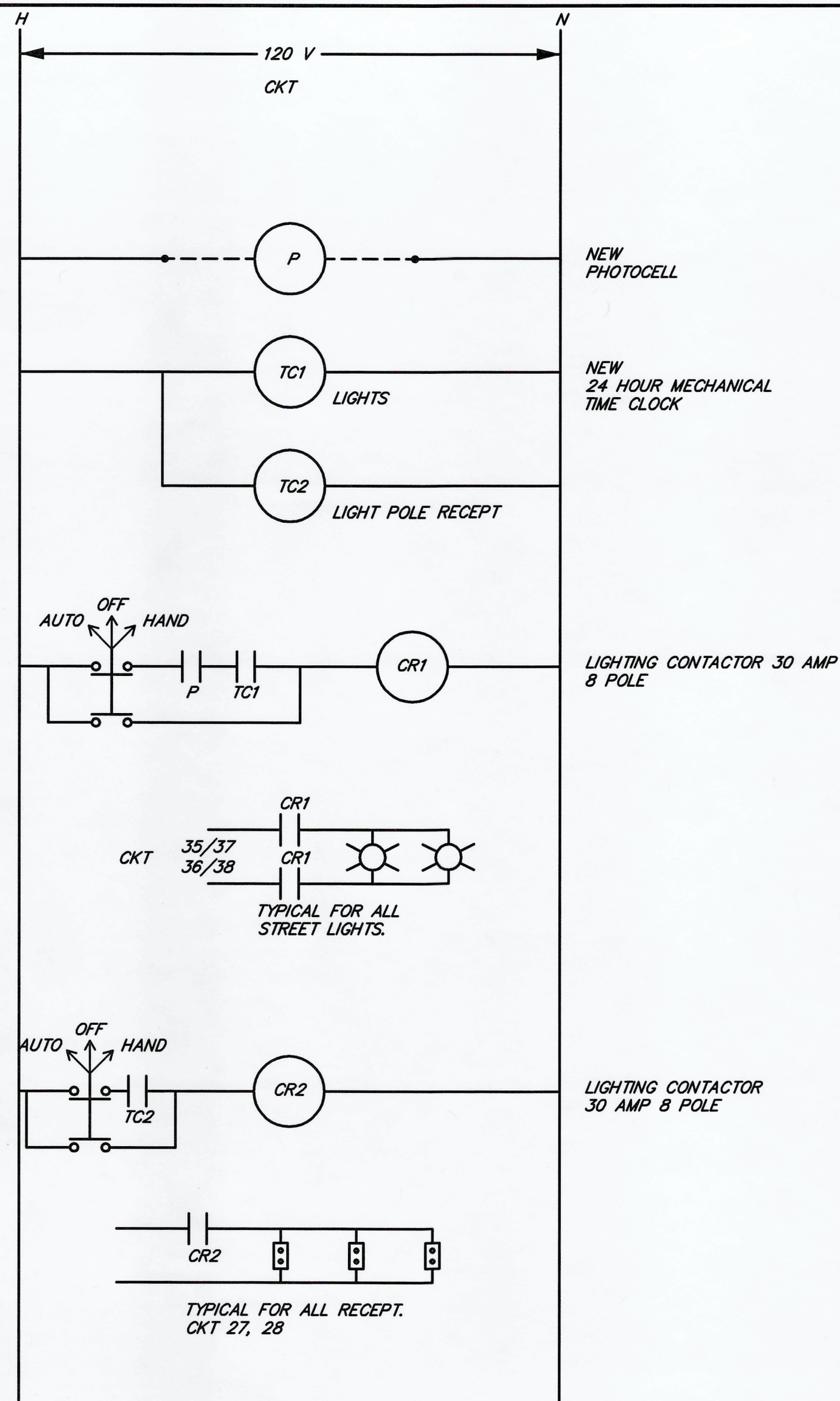


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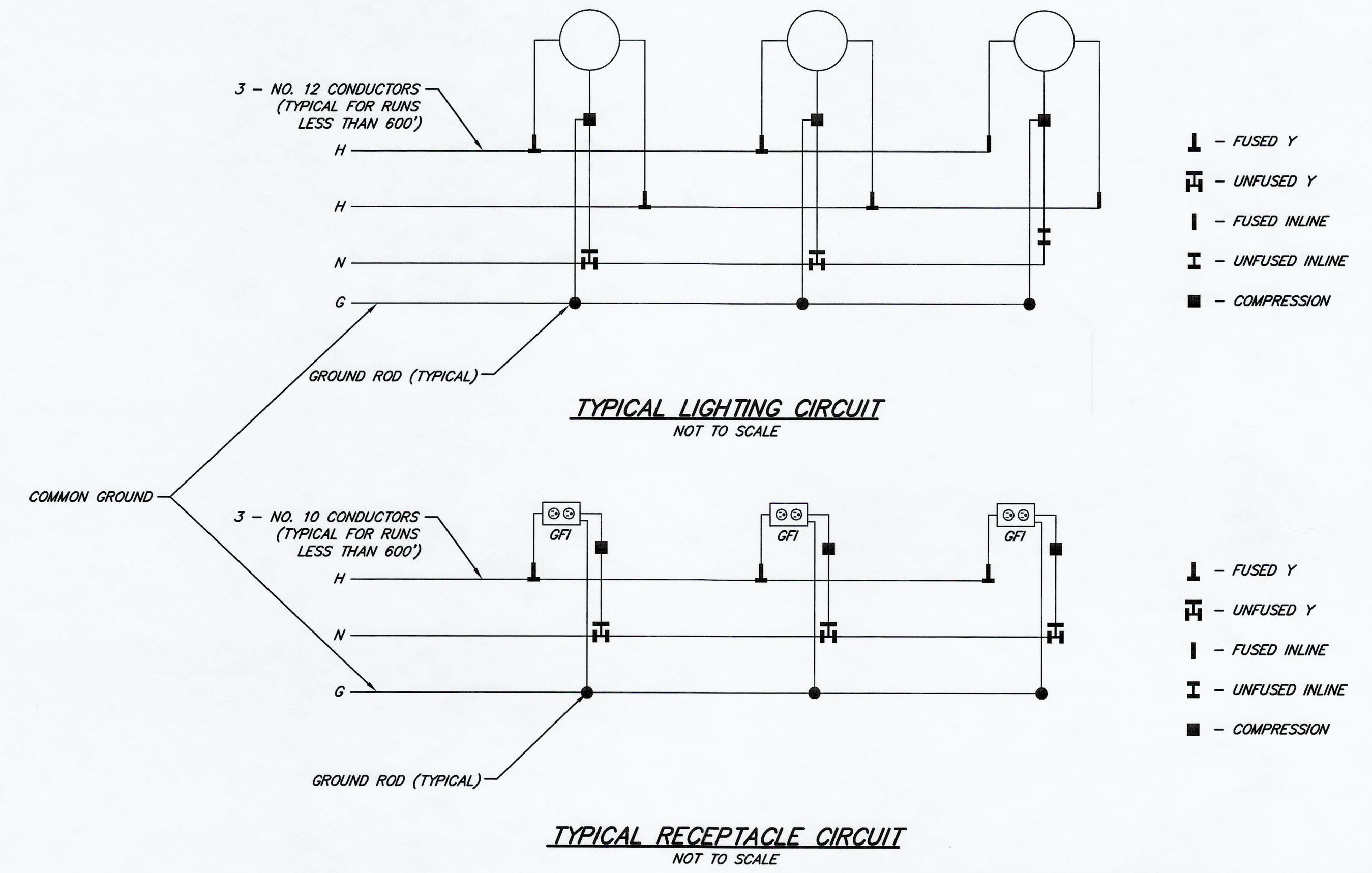
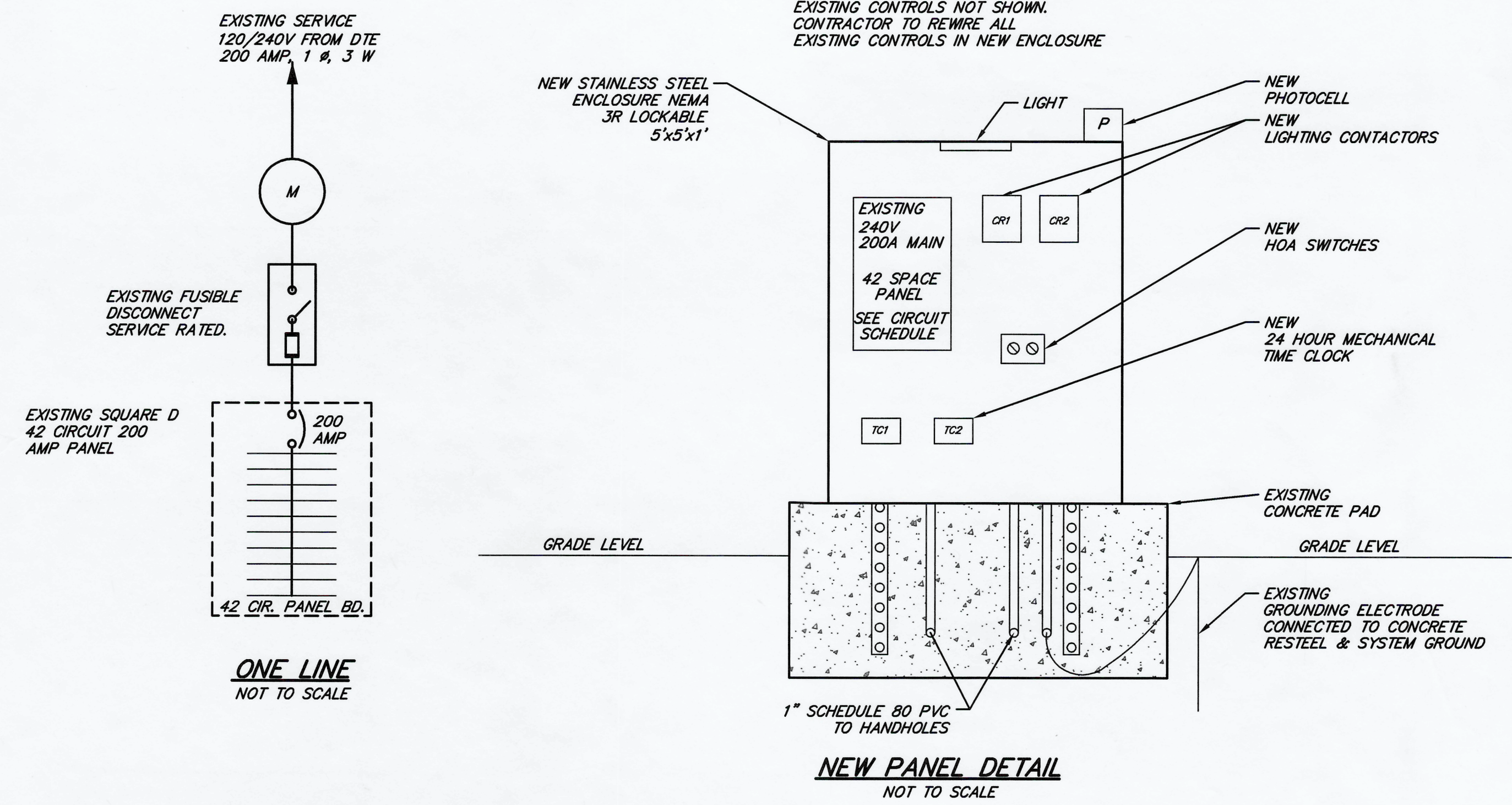
WJB	REVISED PER SHOP DRAWINGS	03/16/09
BY	MARK	REVISIONS DATE
<small>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</small>		
<b>BELLEVILLE DDA</b> WAYNE COUNTY, MICHIGAN		
<b>ELECTRIC WIRING PLAN</b> <b>PARKING LOT</b> <b>IMPROVEMENTS</b>		
<small>OFFICE LOCATIONS</small> SAGINAW, MI ST. JOHNS, MI CARO, MI DETROIT, MI TEMPE, AZ		<small>SAGINAW OFFICE</small> 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com
DE. BY: BAL DR. BY: CAR	CH. BY: DSV APP. BY: RBH	PROJECT NO. <b>115462.08</b>
STDS. DATE: FEBRUARY, 2009 SCALE: 1" = 20'	SHEET <b>8</b> OF <b>14</b> FILE NO. <b>D-4632-8</b>	<b>D</b> <b>8</b>

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**WIRING DIAGRAM FOR NEW LIGHTING CONTROLS**  
NOT TO SCALE

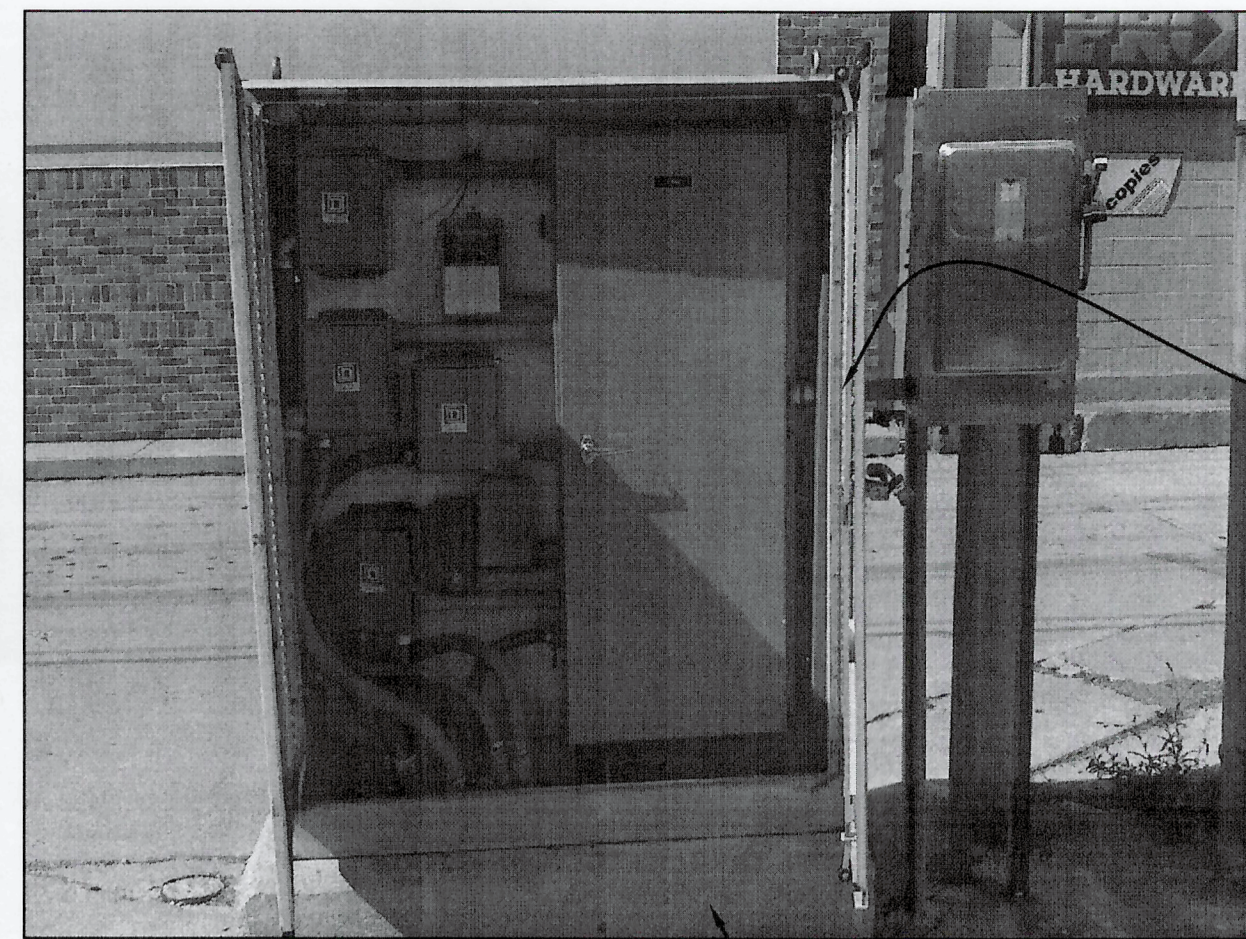


PANEL BOARD SCHEDULE		PANEL: EXISTING LIGHTING PANEL LOCATION: BELLEVILLE DDA PARKING LOT/ALLEY VOLTAGE: 120/240V, 200A AMP MAIN BREAKER, 1 PHASE							
LOAD DESCRIPTION	LOAD W	BREAKER	CCT NO.	200A	BREAKER	LOAD W	LOAD DESCRIPTION		
LUMINAIRES - EVEN 36 THRU 62	1050	20			20	1050	LUMINAIRES ODD 35 THRU 61 & 51 A		
	1050	20	1		20	1050			
	675	20			20	675			
LUMINAIRES - EVEN 64 THRU 80	675	20	3		4	675	LUMINAIRES ODD 69 THRU 79		
OUTLETS POLE 36, 40, 44, 48, 52, 60	1080	20	5		6	1260	OUTLETS POLE 35, 39, 43, 47, 51, 55, 59		
OUTLETS POLE 38, 42, 46, 50, 54, 68, 62	1260	20	7		8	1260	OUTLETS POLE 37, 41, 45, 49, 53, 57, 61		
OUTLETS POLE 64, 68, 72, 76, 80 (B2)	1080	20	9		10	900	OUTLETS POLE 63, 67, 71, 75, 79		
OUTLETS POLE 66, 70, 74, 78, (B1, B3)	1080	20	11		12	720	OUTLETS POLE 65, 69, 73, 77		
TREE OUTLET 1, 2, 3	540	20	13		14	360	TREE OUTLET 14, 15		
TREE OUTLET 11, 12, 13	540	20	15		16	360	TREE OUTLET 16, 17		
TREE OUTLET 4, 5	360	20	17		18	540	TREE OUTLET 24, 25, 26		
TREE OUTLET 6, 7	360	20	19		20	360	TREE OUTLET 36, 37		
TREE OUTLET 8, 9	360	20	21		22	540	TREE OUTLET 33, 34, 35		
TREE OUTLET 10, 18	360	20	23		24	360	TREE OUTLET 31, 32		
TREE OUTLET 19, 20, 21, 22, 23	900	20	25		26	720	TREE OUTLET 29, 30, 27, 28		
NEW SOUTH LIGHT POLE RECEPTACLES	1620	20	27		28	1800	NEW NORTH LIGHT POLE RECEPTACLES		
TIMER-T/CONTACTORS T1, T2	370	20	29		30	20	ASTRO CLOCK / CONTACTOR - L		
TIMER-P/CONTACTOR P	185	20	31		32	20	TOWN CLOCK @ 4TH ST. MALL		
SPARE		20	33		34	0	SPARE		
NEW SOUTH PARKING LOT LIGHTING	520	20	35		36	20	NEW NORTH PARKING LOT LIGHTING		
	520	20	37		38	20			
<b>TOTALS</b>	<b>14585</b>			<b>13448</b>	<b>14703</b>		<b>13566</b>		

CONNECTED LOAD 28151 WATTS  
 CONNECTED LOAD VA PER PHASE 56.03 61.26  
 (PHASE / 240 = )  
 TOTAL PANEL CONNECTED LOAD x 1.25% 146.62 AMPS

WAB	REVISED PER SHOP DRAWINGS	03/16/09
BY	MARK	DATE
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CITY OF BELLEVILLE WAYNE COUNTY, MICHIGAN		
<b>ELECTRIC DETAIL SHEET</b>		
OFFICE LOCATIONS SAGINAW, MI ST. JOHNS, MI CARL, MI DETROIT, MI TEMPE, AZ	<b>Spicer Group</b>	SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel. 989-754-4717 Fax. 989-754-4440 www.SpicerGroup.com
DE. BY: BML DR. BY: BAB	CH. BY: BML APP. BY: WAZ	PROJECT NO. 115462.08
STDS.	SHEET 9 OF 14	D
DATE FEBRUARY, 2009 SCALE AS SHOWN	FILE NO. D-4632-9	9

PLOTTING SCALE: RET. F.B. PG. ACAD FILE:

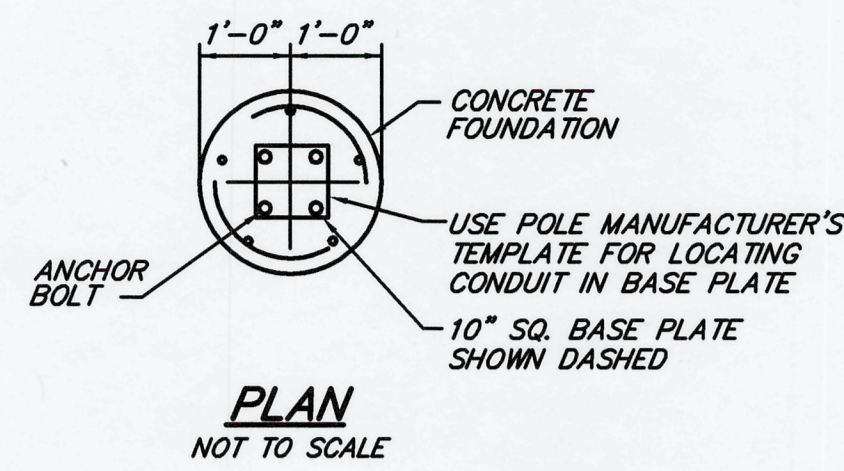


CONTRACTOR TO REMOVE EXISTING ENCLOSURE AND REPLACE WITH NEW NEMA 3R STAINLESS LOCKABLE STEEL ENCLOSURE 5'x5'1"

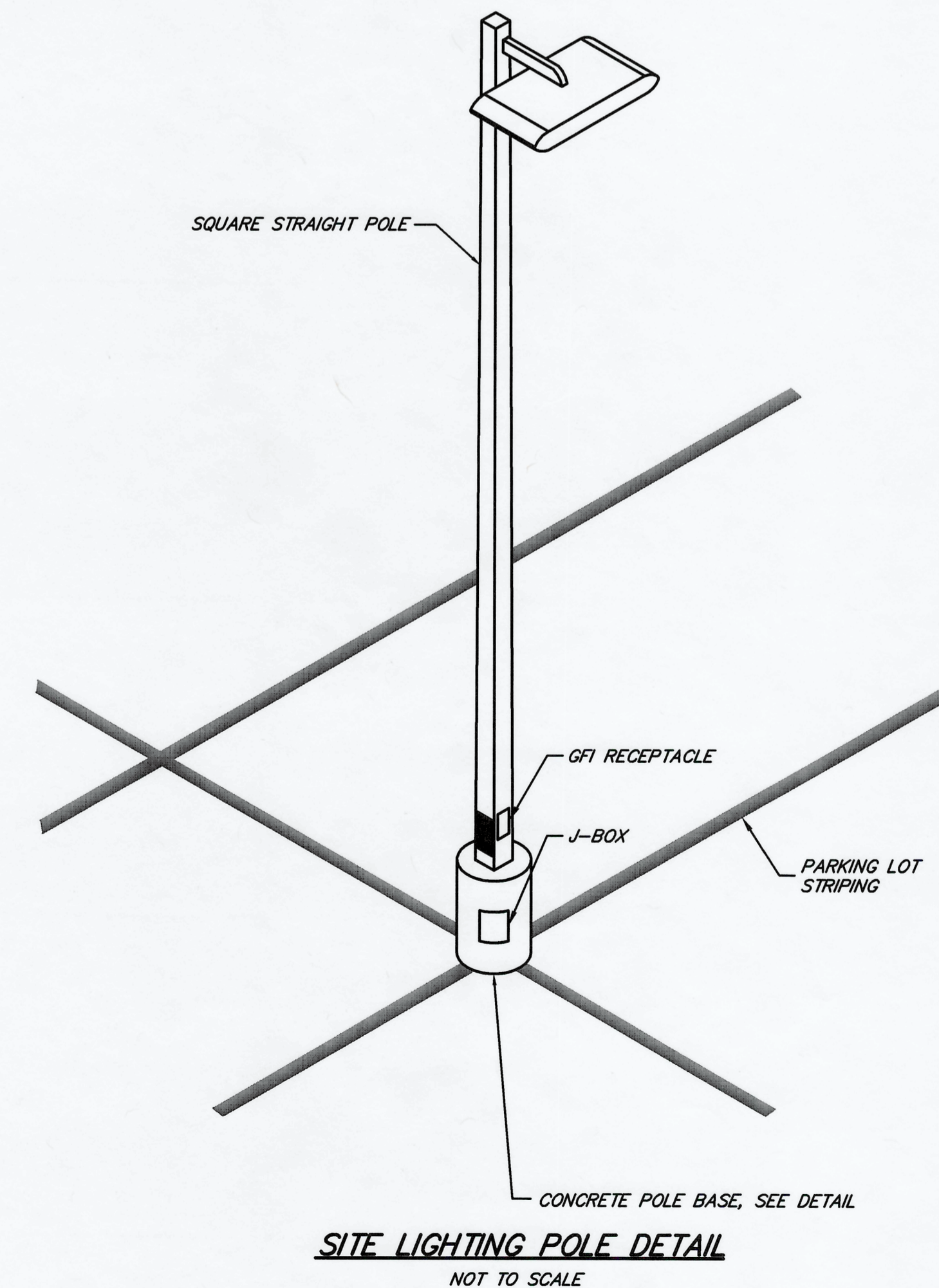
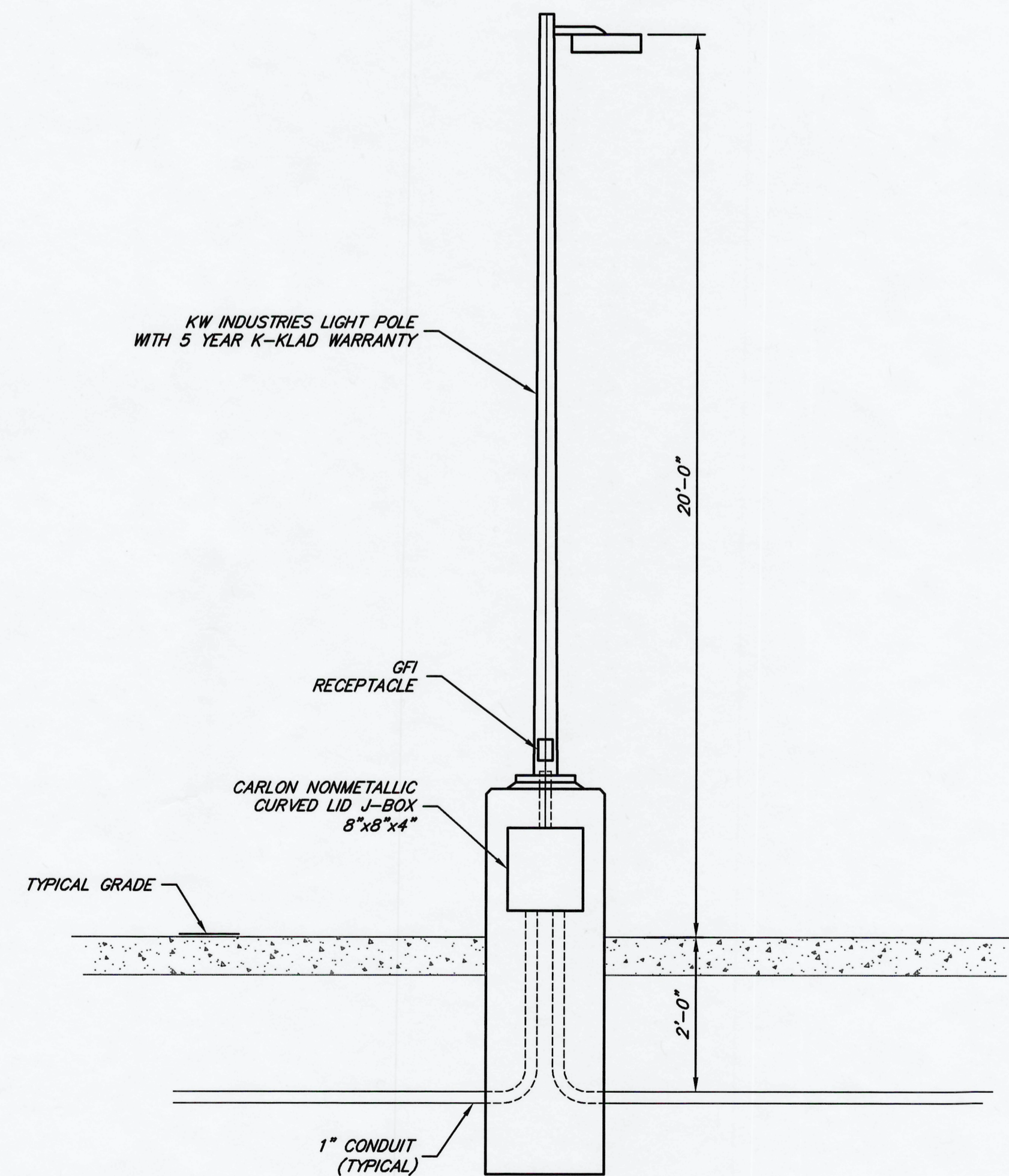
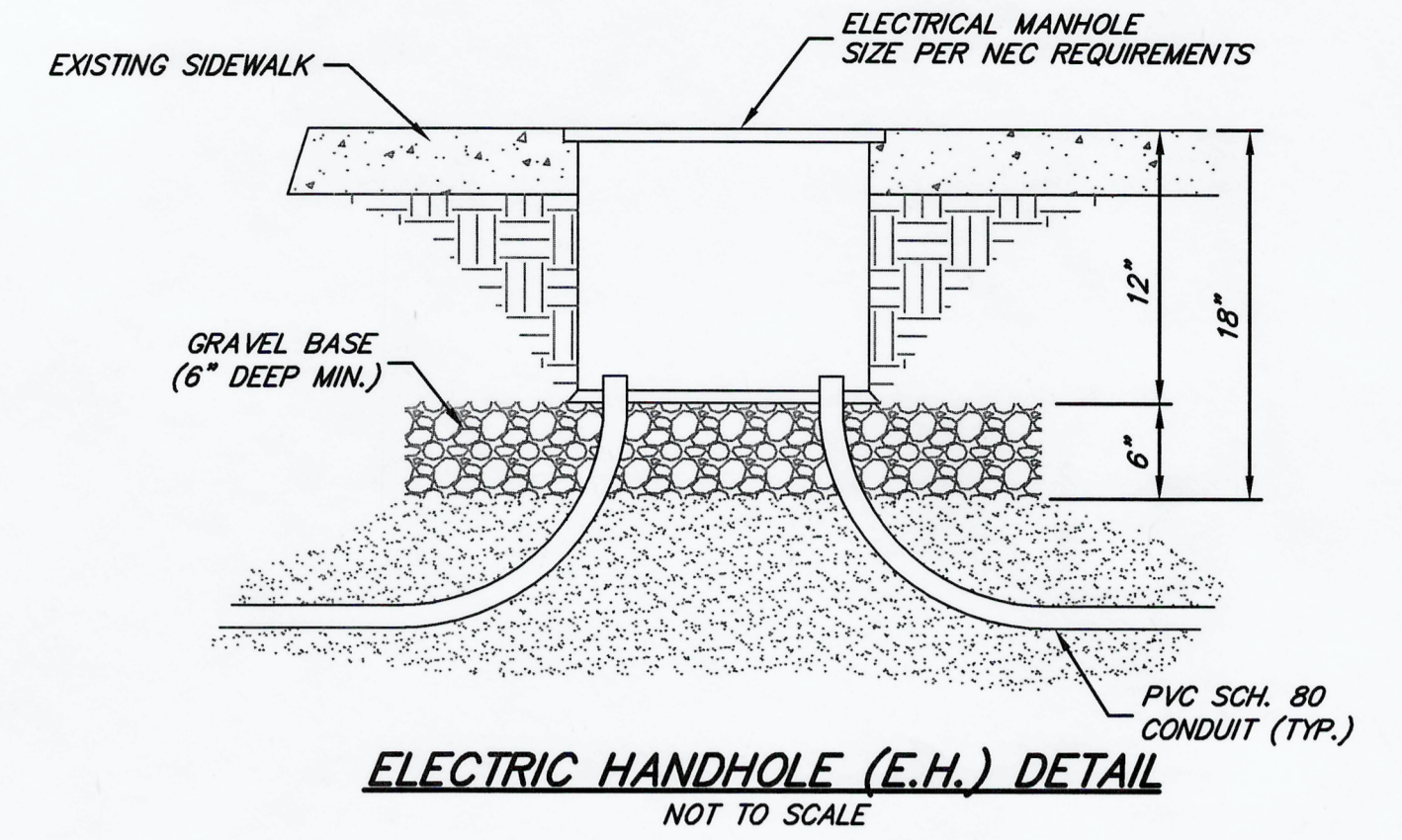
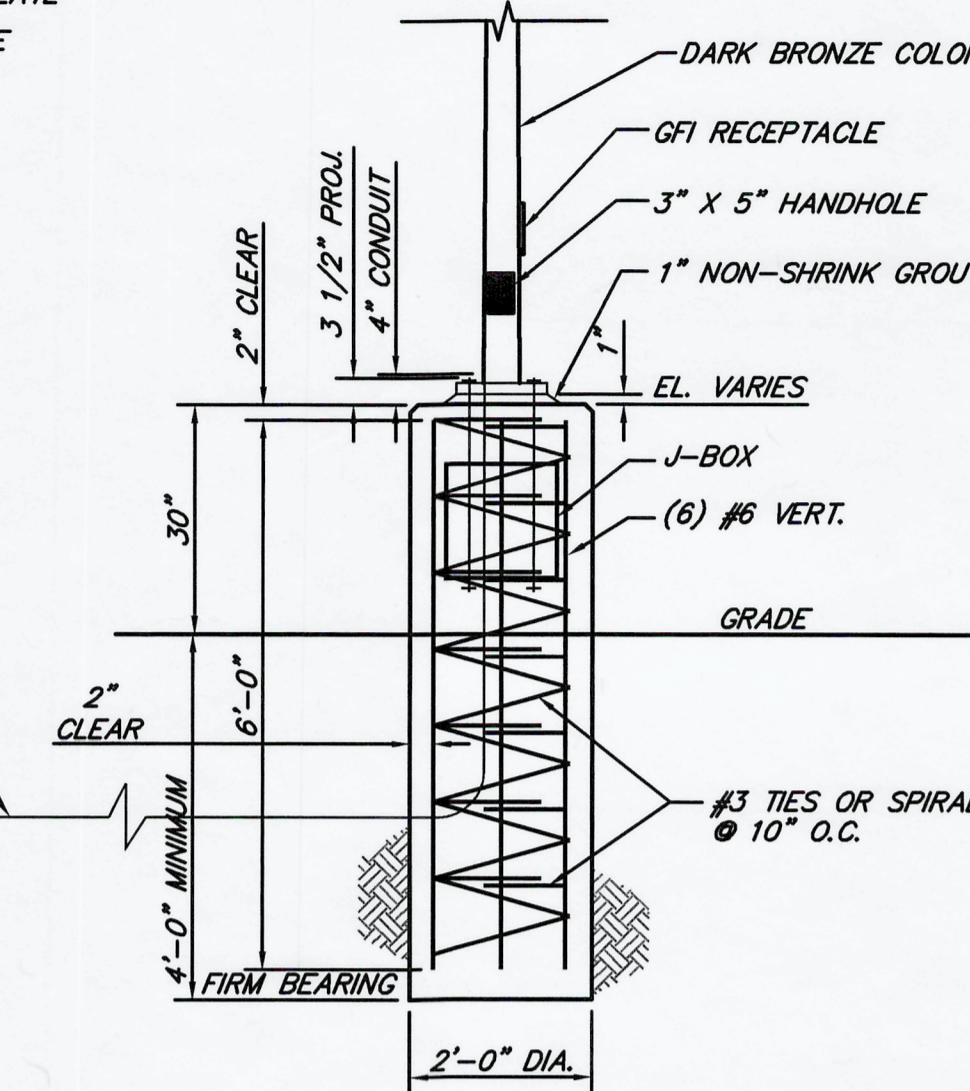
CONTRACTOR TO REWIRE ALL EXISTING CONTROLS IN NEW ENCLOSURE. ONLY LIBERTY PARKING LOT LIGHTING CONTROLS TO BE REMOVED AND REPLACED.

1' FOUNDATION WITH A 1" CHAMFER

**EX. ELECTRIC CONTROL PANEL-NORTH**  
NOT TO SCALE



1" RIGID CONDUIT SIZED PER N.E.C. NUMBER OF CONDUITS PER LOCATION TO BE DETERMINED BY LOCATION IN THE FIELD.



**GENERAL NOTES:**

- 1) INSTALL RED CAUTION TAPE 6" ABOVE ALL BURIED CABLE AND CONDUIT
- 2) ALL CONDUIT/CABLE TO BE 2'-0" BELOW GRADE (MINIMUM).
- 3) ALL POLES ARE TO HAVE CONDUITS STUBBED THROUGH POLE FOUNDATIONS PER THIS SKETCH VIEW AND POWER & LIGHTING PLAN.
- 4) ALL CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI, WITH AIR-ENTRAINING ADMIXTURE (5-7% AIR) AND A 4" SLUMP.
- 5) REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 WITH A MINIMUM YIELD STRENGTH, F<sub>y</sub> OF 60,000 PSI.
- 6) NON SHRINK GROUT SHALL BE PREMIXED WITH NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTOIZING AGENTS, MIN. COMPRESSIVE STRENGTH OF 7,000 PSI IN 28 DAYS.
- 7) ANCHOR BOLTS SHALL BE ASTM A307.
- 8) ALL POLE FOUNDATIONS ARE TO HAVE 10" COPPER GROUND RODS AS APPROVED BY LOCAL CODES.
- 9) SIDE SHIELDS REQUIRED ON LUMINAIRS ADJACENT TO BUILDING/PROPERTY LINES.
- 10) SITE LIGHTING CIRCUITS SHALL USE #12 AWG THIN TYPE WIRE. VOLTAGE TO BE 240.
- 11) LIGHT POLES SHALL BE LOCATED AS SHOWN 2' FROM CENTER OF FOUNDATION TO BACK OF CURB OR HARDSURFACING IN AREAS THAT PROPERTY IS AVAILABLE.

NO.	REVISIONS	DATE
1	REVISED PER SHOP DRAWINGS	03/16/09

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CITY OF BELLEVILLE  
WAYNE COUNTY, MICHIGAN

**ELECTRIC DETAIL SHEET**

OFFICE LOCATIONS  
SAGINAW, MI  
ST. JOHNS, MI  
CARO, MI  
DETROIT, MI  
TEMPE, AZ

**Spicer group**

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DE. BY: BML DR. BY: BJB	CH. BY: BML APP. BY: WAZ	PROJECT NO. 114594.07
STDS.	SHEET 10 OF 14	D
DATE: FEBRUARY, 2009 SCALE: AS SHOWN	FILE NO. D-4632-10	10