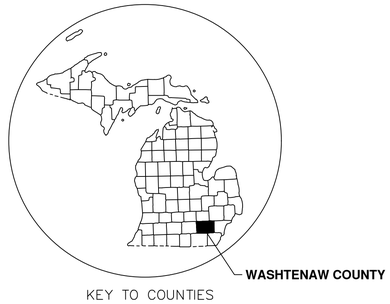
CITY OF ANN ARBOR

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

ITB No. 4618

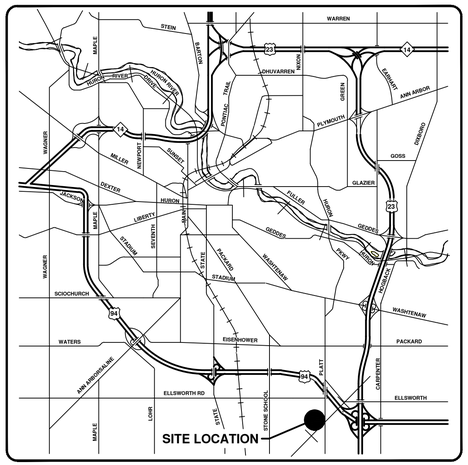
W.R. WHEELER SERVICE CENTER
CITY OF ANN ARBOR, MICHIGAN



KEY TO COUNTIES

DRAWINGS LEGEND

- EXISTING ASPHALT PAVEMENT
- EXISTING CONCRETE PAVEMENT
- EXISTING OVERHEAD ELECTRIC
- EXISTING FENCE
- EXISTING GUARD RAIL
- EXISTING GRAVEL
- EXISTING SWALE-CENTERLINE
- EXISTING ROAD-CENTERLINE
- EXISTING BRUSH LINE
- EXISTING CONTOUR-MAJOR
- EXISTING CONTOUR-MINOR
- EXISTING SLURRY WALL
- EXISTING CONCRETE DRIVEWAY REMOVAL
- EXISTING DITCH
- PROPOSED DITCH
- PROPOSED ROAD - CENTERLINE
- PROPOSED CONTOUR -MAJOR
- PROPOSED CONTOUR - MINOR
- PROPOSED PROPERTY LINE
- PROPOSED CONCRETE ROAD
- PROPOSED SILT FENCE
- BENCH MARK
- SOIL BORING
- EXISTING ROCK
- CONTROL POINT
- EXISTING CATCH BASIN
- EXISTING PINE TREE
- EXISTING TREE
- EXISTING, STUMP



VICINITY MAP

AREA MAP

SITE INFORMATION

THE PROJECT IS AT THE SITE OF THE CITY OF ANN ARBOR W.R. WHEELER CENTER. AT THIS SITE, THE CITY OPERATES THREE SOLID WASTE FACILITIES INCLUDING THE MATERIAL RECOVERY FACILITY (MRF), TRANSFER STATION AND COMPOST CENTER. MOST SOLID WASTE TRAFFIC ENTERS THROUGH THE PLATT ROAD ENTRANCE, AND MUST PROCEED TO THE MRF, WHERE ONE EXISTING SCALE CONSTRUCTED IN 1995 WEIGHS EACH TRUCK. TRUCKS THEN PROCEED TO THE APPROPRIATE FACILITY FOR DISPOSAL OF THE WASTE AND RETURN TO THE SCALE TO WEIGH OUT. THE OVERALL LAYOUT OF THE W.R. WHEELER CENTER IS LOCATED IN SHEET C-2. THE SCALE IS ALSO USED FOR OTHER CITY SERVICES INCLUDING WEIGHING FLEET TRUCKS FOR SALT USE AND OTHER MATERIALS. THE SITE OPERATIONS, INCLUDING EXISTING SCALE OPERATIONS, MUST CONTINUE UNINTERRUPTED DURING CONSTRUCTION. AS SHOWN ON SHEET C-2, THE CITY'S W.R. WHEELER CENTER IS PARTIALLY LOCATED WITHIN THE CITY LIMITS AND PARTIALLY WITHIN PITTSFIELD TOWNSHIP.

SOIL INFORMATION

AT THE TEST BORING LOCATIONS, IN GENERAL, SUBSURFACE SOILS CONSIST OF TOP SOIL OR PAVEMENT UNDERLAIN BY CLAYEY SAND/SANDY CLAY SOILS TO A DEPTH RANGING FROM 10 TO 13 FEET. THESE SOILS ARE THEN UNDERLAIN BY WASTE MATERIALS. REFER TO THE PROJECT SPECIFICATIONS FOR TEST BORING LOGS .

PROJECT DESCRIPTION

IN GENERAL, PROJECT INCLUDES PROVIDING ALL LABOR AND MATERIALS AND ALL OTHER TASKS REQUIRED FOR THE INSTALLATION OF TWO SCALES AND ASSOCIATED COMMUNICATION SYSTEMS, RAMPS, PAVEMENT, AND OTHER WORK ITEMS AS SHOWN ON THE PLANS. THE SCOPE OF WORK ALSO INCLUDES DEMOLITION OF THE EXISTING SCALE AT THE MATERIAL RECOVERY FACILITY, DISPOSAL OF DEMOLITION MATERIALS AND SITE RESTORATION AS SHOWN ON THE PLANS.

GENERAL INFORMATION

OWNER:	CITY OF ANN ARBOR 301 E. HURON STREET ANN ARBOR, MICHIGAN, 48107
PROJECT LOCATION:	W.R. WHEELER CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MICHIGAN, 48108
ENGINEER:	THE MANNIK & SMITH GROUP, INC. 2365 HAGGERTY ROAD S. CANTON, MICHIGAN, 48188

SHEET INDEX

CIVIL SHEETS

ELECTRICAL SHEETS

Know what's below. Call before you dig. 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	REVISED PLANS	03/03/2020	TJS	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

TITLE SHEET

SCALE PLAN: NTS

DRAWING No. ANNA0035-01

SHEET No. C-01

BRAEBURN CIRCLE

L-12-15-250-005
CITY OF ANN ARBOR
CITY LANDFILL

E ELLSWORTH RD

ELLSWORTH RD ENTRANCE

L-12-15-250-009
CITY OF ANN ARBOR
100 N. FIFTY AVE.
ANN ARBOR, MI, 48104

STONE SCHOOL RD

L-12-15-250-010
CITY OF ANN ARBOR
100 N FIFTY AVE.
ANN ARBOR, MI, 48104

FIBER CONNECTION
POINT OPTIC

ACCESS ROAD

SEDIMENTATION
AND FIRST
FLUSH BASIN

PUBLIC WORKS & FLEET

L-12-15-250-005
CITY OF ANN ARBOR
CITY LANDFILL

MATERIAL RECOVERY
FACILITY (M.R.F.)

EXISTING SCALE

L-12-15-250-005
CITY OF ANN ARBOR
CITY LANDFILL

TRANSFER
STATION

SED
BASIN

EXISTING
DETENTION
BASIN

SWIFT RUN DRAIN

FLOOD PLAIN LIMITS

FLOOD WAY LIMITS

L-12-15-250-005
CITY OF ANN ARBOR
CITY LANDFILL

OVERHEAD TRANSMISSION LINES

COMPOST
CENTER

DROP OFF
STATION

DOG PARK

L-12-15-250-005
CITY OF ANN ARBOR
CITY LANDFILL

DOG PARK
PARKING

PLATT RD

PLATT RD ENTRANCE

LANDFILL
(CLOSED)

PROJECT AREA

DRIVEWAY

SLURRY WALL

L-12-15-250-005
CITY OF ANN ARBOR LIMIT

HIGH VOLTAGE OVERHEAD TRANSMISSION LINES

L-12-15-195-011
WINTERMEYER TRACY &
WILSON VALERIE
4240 PLATT RD
ANN ARBOR, MI 48108

L-12-15-195-004
DOMINGUEZ-GARDUNO SANTIAGO
4284 PLATT RD
ANN ARBOR, MI, 48108

L-12-15-195-006
JONES HERBERT M
4310 PLATT RD
ANN ARBOR, MI, 48104

L-12-15-195-008
HARDIN JOHN & GENEVA
517 HISCOCK ST
ANN ARBOR, MI, 48103

L-12-15-195-007
MICHAEL KARAS
4326 PLATT RD
ANN ARBOR, MI, 48108

L-12-15-195-009
SPENCER WILLIE
4370 PLATT RD
ANN ARBOR, MI, 48104

PLATT RD

N

Know what's **below.**
Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

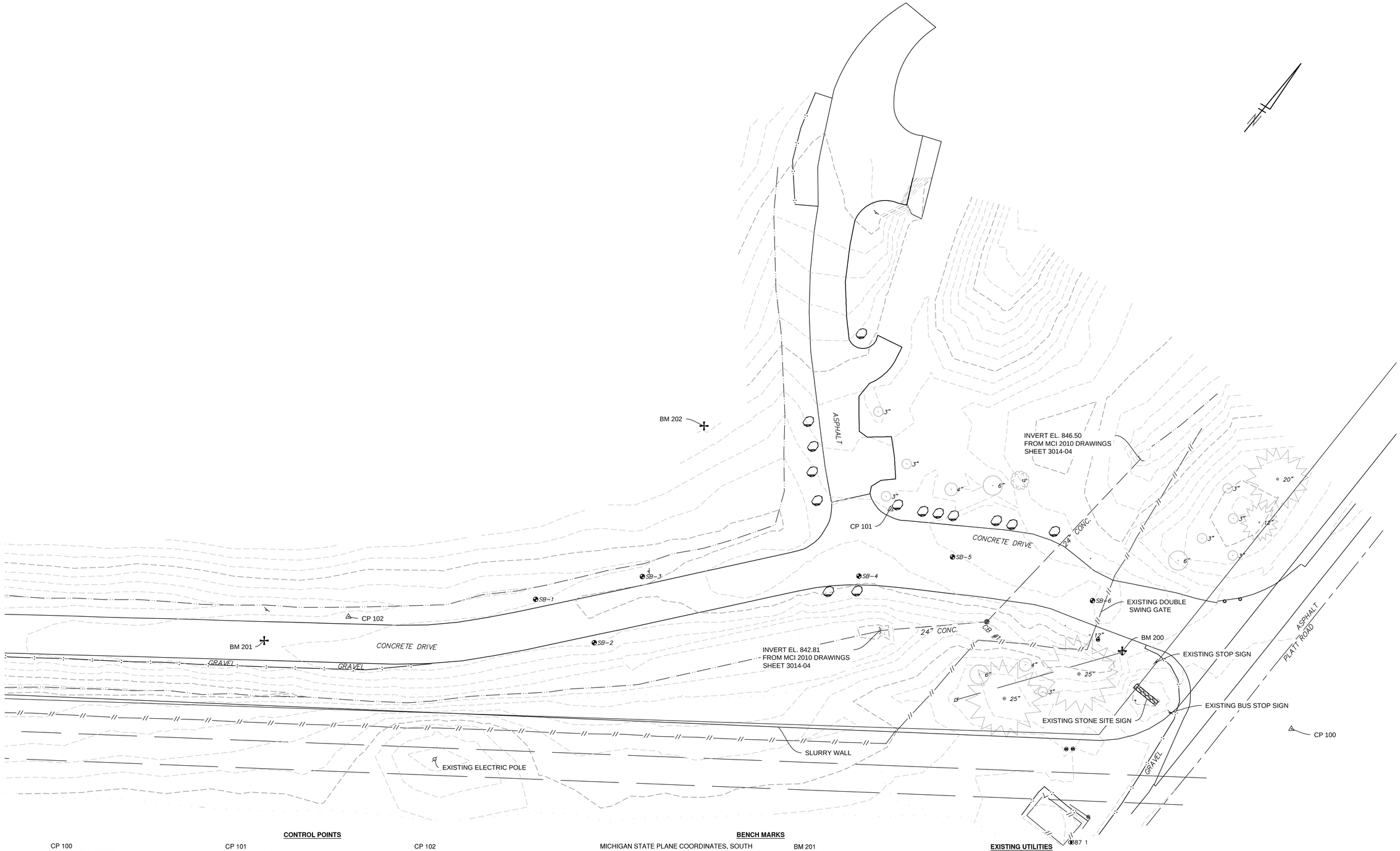
OVERALL SITE PLAN

SCALE PLAN: 1" = 200'

DRAWING No. ANNA0035-02

SHEET No. C-02

W:\Projects\Projects A-E\ANNA0035\CAD\BASE\Preliminary Site Plan\ANNA0035_QSH_OVERALL SITE PLAN SHEET.dwg Dwg Created: 23-Jan-19 — _o2 standard color.stb — Plot Date: 3-Apr-19



CONTROL POINTS

CP 100
SET CAPPED REBAR
NORTHING = 265369.26
EASTING = 13304030.92
WITNESSES:
- WEST 20.15 FEET TO ASPHALT EDGE OF PLATT ROAD.
- SOUTH 29.60 FEET TO POWER POLE.
- NORTHEASTERLY 64.30 FEET TO METAL GATE POST.
- EAST 2.00 FEET TO WESTERLY EDGE OF ASPHALT PATH.

CP 101
SET CAPPED REBAR
NORTHING = 265313.82
EASTING = 13303743.10
WITNESSES:
- SOUTH 4.50 FEET TO EDGE OF CONCRETE DRIVEWAY.
- NORTHEASTERLY 40.85 FEET TO THE CENTER OF A 4 INCH TREE.
- NORTHWESTERLY 9.62 FEET TO THE CENTER OF A 3 INCH TREE.
- NORTHWESTERLY 31.70 FEET TO THE CENTER OF A 3 INCH TREE.

CP 102
SET CAPPED REBAR
NORTHING = 265039.08
EASTING = 13303519.39
WITNESSES:
- SOUTHEAST 4.50 FEET TO THE NORTHWESTERLY EDGE OF CONCRETE DRIVEWAY.
- SOUTHWESTERLY 53.20 FEET TO A SIGN POST.

BENCH MARKS

MICHIGAN STATE PLANE COORDINATES, SOUTH ZONE, INTERNATIONAL FEET, CITY OF ANN ARBOR DATUM. ELEVATIONS WERE DETERMINED FROM CITY OF ANN ARBOR BENCHMARK #1026.

BM 200
ELEVATION = 853.06
FOUND SPIKE IN NORTH FACE OF POWER POLE, 10 FEET SOUTH OF SOUTH EDGE OF ENTRANCE DRIVE TO WHEELER SERVICE CENTER AND 70 FEET WEST OF THE CENTERLINE OF PLATT ROAD.

BM 201
ELEVATION = 848.94
SET MAG NAIL NEAR CENTERLINE OF DRIVEWAY 700 FEET WEST OF THE CENTERLINE OF PLATT ROAD.

BM 202
ELEVATION = 857.09
SET CHISELED 'X' ON TOP OF CAP FOR VENT PIPE, 100 FEET NORTH OF THE CENTERLINE OF DRIVEWAY AND 300 FEET WEST OF THE CENTERLINE OF PLATT ROAD.

EXISTING UTILITIES

CATCH BASIN #1 (CB #1)
PRECAST WALLS
RIM = 847.98
24" RCP S.W
INVERT ELEV. = 843.08'
24" RCP N
INVERT ELEV. = 843.18'
5 FOOT SUMP

811 Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

EXISTING CONDITIONS PLAN

SCALE PLAN: 1" = 30'

DRAWING No. ANNA0035-03

SHEET No. C-03

W:\Projects\Projects A-E\ANNA0035\CAD\BASE\Preliminary Site Plan\ANNA0035_BMET_EXISTING CONDITIONS SHEET.dwg Dwg Created: 5-Mar-19 — _a2 standard bw.stb — Plot Date: 3-Apr-19

IMPERVIOUS SURFACE
TO BE REMOVED

INVERT EL. 846.50
FROM MCI 2010 DRAWINGS
SHEET 3014-04

ASPHALT

3"

4"

6"

12"

20"

CONCRETE DRIVE

24" CONC.

EXISTING PAVEMENT
TO BE REMOVED

SB-1

SB-2

SB-3

SB-4

SB-5

SB-6

EXISTING ROCKS TO BE REMOVED

EXISTING STUMP
TO BE REMOVED

EXISTING DOUBLE SWING
GATE TO BE REMOVED

INVERT EL. 842.81
FROM MCI 2010 DRAWINGS
SHEET 3014-04

EXISTING FENCE TO BE
REMOVED

25"

EXISTING TREE
TO BE REMOVED

GRAVEL

SLURRY WALL

EXISTING STONE SITE SIGN

ASPHALT
PLATT ROAD

PROPERTY LINE

EXISTING STOP SIGN

CP 100

EXISTING BUS STOP SIGN

EXISTING ELECTRIC POLE

0587 1

811
Know what's **below.**
Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

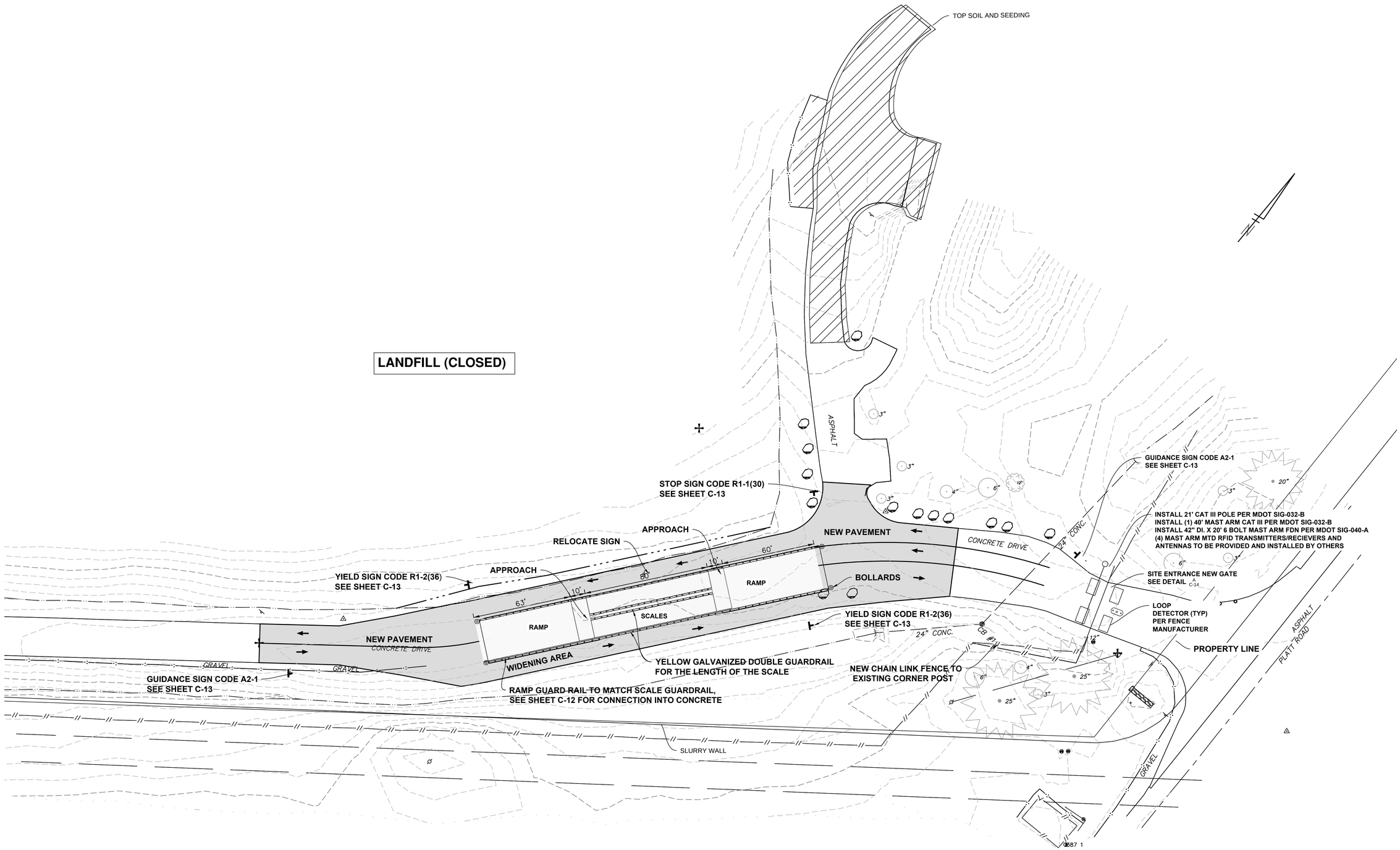
DEMOLITION PLAN

SCALE PLAN: 1" = 30'

DRAWING No.
ANNA0035-04

SHEET No.
C-04

W:\Projects\Projects A-E\ANNA0035\CAD\BASE\Preliminary Site Plan\ANNA0035_BMET_EXISTING CONDITIONS SHEET.dwg Dwg Created: 5-Mar-19 — _a2 standard bw.stb — Plot Date: 3-Apr-19



LEGEND

NEW CONCRETE PAVEMENT

TOP SOIL AND SEEDING

IMPERVIOUS AREA	
PROPOSED ADDITIONAL	EXISTING REMOVED
8700 SF	22100 SF
NET RESULT = 13,400 SF DECREASE IN IMPERVIOUS AREA	

Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	REVISED PLANS	03/03/2020	TJS	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

PROPOSED SITE PLAN

SCALE PLAN: 1"= 30'

DRAWING No. ANNA0035-05

SHEET No. C-05

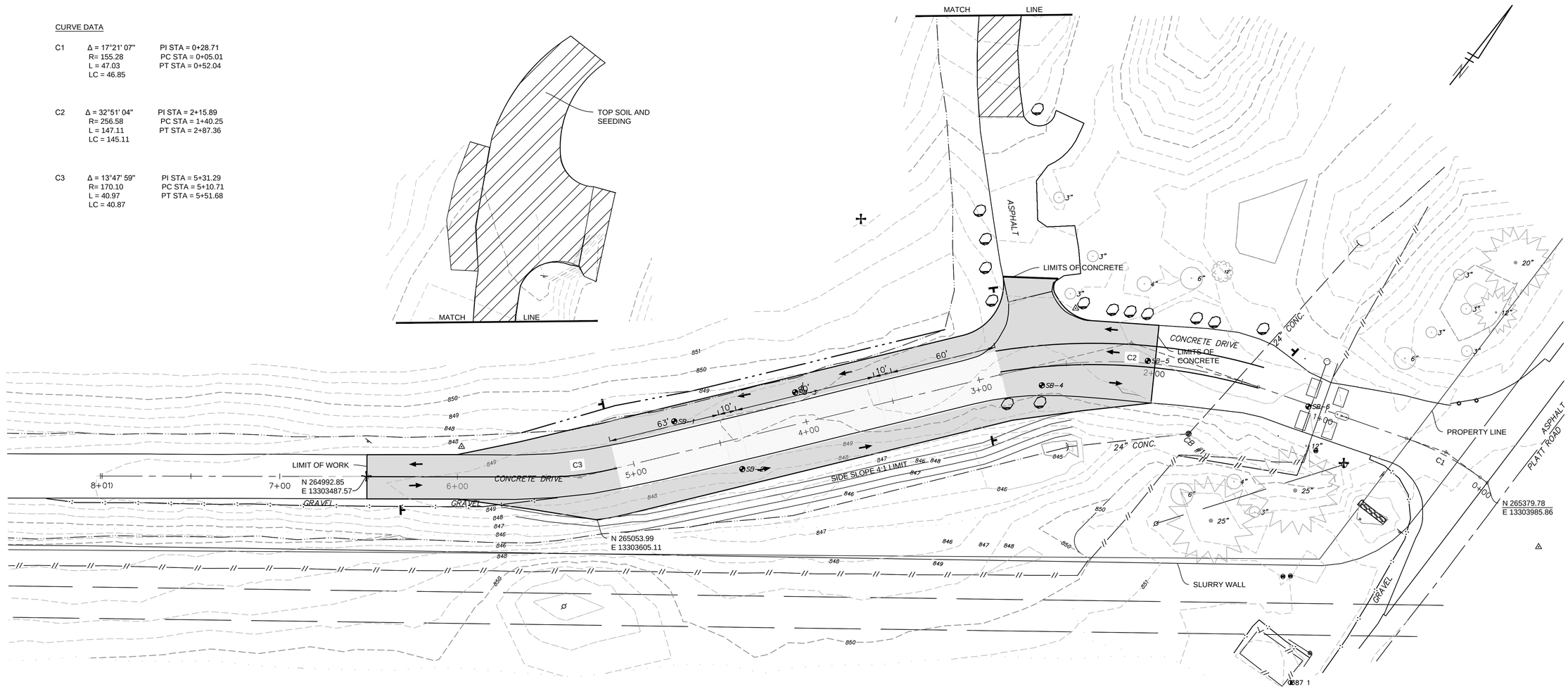
W:\Projects\Projects A-E\ANNA0035\CAD\BASE\Preliminary Site Plan\ANNA0035_QSH_PROPOSED SITE PLAN SHEET.dwg Dwg Created: 17-Feb-20 — _a2 standard bw.stb — Plot Date: 3-Mar-20

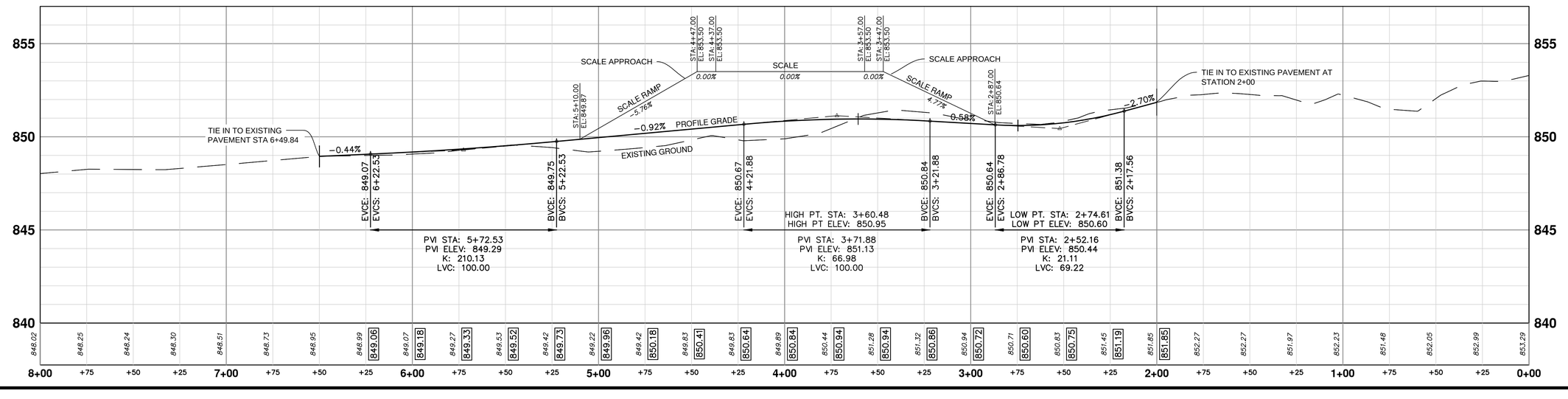
CURVE DATA

C1 Δ = 17°21' 07" PI STA = 0+28.71
R= 155.28 PC STA = 0+05.01
L = 47.03 PT STA = 0+52.04
LC = 46.85

C2 Δ = 32°51' 04" PI STA = 2+15.89
R= 256.58 PC STA = 1+40.25
L = 147.11 PT STA = 2+87.36
LC = 145.11

C3 Δ = 13°47' 59" PI STA = 5+31.29
R= 170.10 PC STA = 5+10.71
L = 40.97 PT STA = 5+51.68
LC = 40.87





811 Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6430
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

PLAN AND PROFILE

SCALE PLAN: 1" = 30' PROFILE: 1" = 10'

DRAWING No. ANNA0035-06

SHEET No. C-06

W:\Projects\Projects A-E\ANNA0035\CAD\BASE\Preliminary Site Plan\ANNA0035_QSH_DESIGN SHEET.dwg Dwg Created: 3-Apr-19 — _a2 standard bw.stb — Plot Date: 3-Apr-19

GENERAL

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE 734-794-6430. EXT. 42592

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CITY ORDINANCE CHAPTER 63, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS IF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS IF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRICTION SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR, WITHIN FOUR (4) HOURS OF BEING SO ORDERED.
6. FINAL RESTORATION OF ALL DISTURBED AREAS, INCLUDING SEED, FERTILIZER AND EROSION CONTROL MULCH BLANKET AND/OR SOD, SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO FINAL COMPLETION.
7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS
8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
9. PRIOR DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE IF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE GRANTED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION OF PROJECT WILL BE GRANTED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
11. THE CONTRACTOR SHALL NOT GRADE ONTO ADJACENT PROPERTIES SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.
13. THE CONTRACTOR SHALL TAKE MEASURES TO REDUCE AND CONTROL EMISSIONS AND NOISE FROM CONSTRUCTION EQUIPMENT AND VEHICLES USED ON-SITE AND DURING TRANSPORTING TO/FROM SITE.

SEQUENCE OF EROSION CONTROL MEASURES

1. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT O THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

1. INSTALL SILT FENCE, TREE PROTECTION FENCING, SAFETY/CONSTRUCTION FENCING, MUD MATS, CULVERT SEDIMENT TRAPS, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
2. REMOVE TREES MARKED FOR REMOVAL, REMOVE DOWNED TREES WITHIN WORK ZONES AND STAGING AREAS, CLEAR BRUSH WITHIN CLEARING LIMITS AND TRIM BRANCHES. TREE AND BRANCH TRIMMING SHALL BE APPROVED BY THE ENGINEER PRIOR TO BEGINNING WORK.
3. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE WITH SILT FENCE AS REQUIRED. ADDITIONAL MEASURES MAY BE REQUIRED TO MINIMIZE EROSION. STOCKPILE TOPSOIL IN AREAS APPROVED BY THE ENGINEER. CONTRACTOR SHALL SALVAGE AND RE-USE EXISTING TOPSOIL TO THE GREATEST EXTEND POSSIBLE.

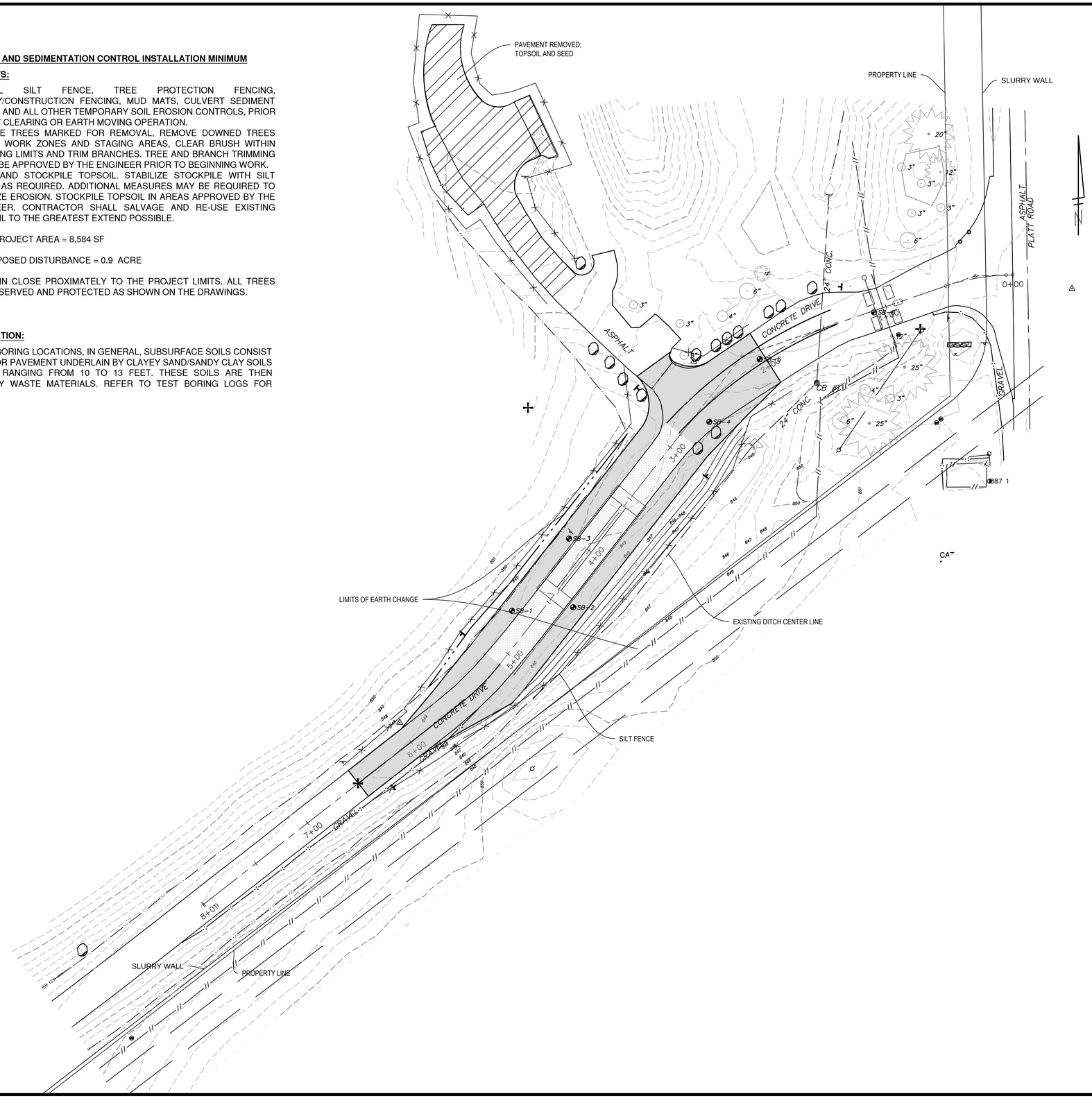
IMPERVIOUS PROJECT AREA = 8,584 SF

AREA OF PROPOSED DISTURBANCE = 0.9 ACRE

TREES EXIST IN CLOSE PROXIMATELY TO THE PROJECT LIMITS. ALL TREES SHALL BE PRESERVED AND PROTECTED AS SHOWN ON THE DRAWINGS.

SOIL INFORMATION:

AT THE TEST BORING LOCATIONS, IN GENERAL, SUBSURFACE SOILS CONSIST OF TOP SOIL OR PAVEMENT UNDERLAIN BY CLAYEY SAND/SANDY CLAY SOILS TO A DEPTH RANGING FROM 10 TO 13 FEET. THESE SOILS ARE THEN UNDERLAIN BY WASTE MATERIALS. REFER TO TEST BORING LOGS FOR DETAILS.



Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
(734) 794-6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

SOIL EROSION AND SEDIMENTATION CONTROL PLAN

SCALE PLAN: 1"= 40' PROFILE: 1" = x'

DRAWING No. ANNA0035-08

SHEET No. C-08

GENERAL STRUCTURAL NOTES

1. THE STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS AND THE STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
2. THE STRUCTURAL DRAWINGS FORM AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. COORDINATE THE STRUCTURAL DRAWINGS WITH THE REQUIREMENTS SHOWN IN THE OTHER COMPONENTS OF THE CONTRACT DOCUMENTS.
3. TYPICAL DETAILS AND OTHER SECTIONS/DETAILS APPLY TO CONDITIONS THAT ARE SIMILAR TO THE CONDITIONS DESCRIBED IN THE SECTIONS/DETAILS, EVEN IF THEY ARE NOT SPECIFICALLY REFERENCED ON THE PLANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS SEQUENCES AND PROCEDURES OF CONSTRUCTION.
5. CONSTRUCTION SHALL COMPLY FULLY WITH THE APPLICABLE PROVISIONS OF OSHA AND THE LOCAL GOVERNING CODES, CURRENT EDITION, AND ALL REQUIREMENTS SPECIFIED IN THE CODES SHALL BE ADHERED TO AS IF THEY WERE CALLED FOR OR SHOWN ON THE DRAWINGS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT REQUIREMENTS SET FORTH ON THE DRAWING MAY BE MODIFIED BECAUSE THEY ARE MORE STRINGENT THAN THE CODE REQUIREMENTS OR BECAUSE THEY ARE NOT SPECIFICALLY REQUIRED BY CODE.
6. GOVERNING BUILDING CODE - MICHIGAN (INTERNATIONAL) BUILDING CODE 2015. STANDARDS LISTED IN THE STRUCTURAL NOTE SECTIONS TO FOLLOW REFER TO THE VERSION AND EFFECTIVE DATE IDENTIFIED IN THE REFERENCED STANDARDS CHAPTER IN THE GOVERNING BUILDING CODE.
7. WORK CONSTRUCTED PER THESE DRAWINGS SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY RETAINED TO ENSURE COMPLIANCE WITH THE REQUIREMENTS SHOWN ON THE DRAWINGS. SPECIAL INSPECTIONS REQUIRED BY THE GOVERNING BUILDING CODE, LOCAL BUILDING DEPARTMENT AND THE CONTRACT DOCUMENTS SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR. PROJECT SITE VISITS BY THE STRUCTURAL ENGINEER DO NOT CONSTITUTE OR REPLACE INSPECTION.

SHOP DRAWINGS

1. SUBMIT SHOP DRAWINGS FOR REVIEW AS INDICATED IN MATERIAL SECTION OF GENERAL STRUCTURAL NOTES.
2. ALLOW IN THE SCHEDULE - DETAILING, FABRICATION AND ERECTION - A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF EACH SHOP DRAWING SUBMITTAL BY THE STRUCTURAL ENGINEER. SUBMIT SHOP DRAWINGS IN REASONABLE QUANTITIES AT REASONABLE INTERVALS. THE 10 WORKING DAYS STATED HEREIN, WILL BE IN ADDITION TO THE REVIEW TIME REQUIRED BY OTHER PROJECT TEAM MEMBERS. SUBMIT A SHOP DRAWING SUBMITTAL SCHEDULE PRIOR TO THE FIRST SUBMITTAL.
3. REVIEW OF SHOP DRAWINGS AND OTHER SUBMITTALS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO CHECK THE SHOP DRAWINGS PRIOR TO SUBMITTAL. ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS NOT CONFORMING TO THE CONSTRUCTION DOCUMENTS ARE THE RESPONSIBILITY OF THE SHOP DRAWING PREPARER.
4. SHOP DRAWINGS ARE AN AID FOR FIELD PLACEMENT AND ARE SUPERSEDED BY THE CONTRACT DOCUMENTS. CONTRACTOR SHALL ENSURE THAT CONSTRUCTION IS IN ACCORDANCE WITH THE LATEST CONTRACT DOCUMENTS. SHOP DRAWINGS REVIEW IS ONLY FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW OF THE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER DOES NOT GUARANTEE THAT THE SHOP DRAWINGS ARE CORRECT NOR INFER THAT THE SHOP DRAWINGS SUPERSEDE THE CONTRACT DOCUMENTS.
5. CONTRACTOR SHALL PROVIDE TWO HARD COPIES OF SHOP DRAWING SETS FOR REVIEW - ONE FOR RECORD AND ONE TO BE RETURNED WITH REVIEW COMMENTS. CONTRACTOR SHALL PROVIDE A SET OF APPROVED SHOP DRAWINGS BEARING THE REVIEW STAMP OF THE STRUCTURAL ENGINEER, TO THE LOCAL BUILDING DEPARTMENT AND TO THE PROJECT SITE.
6. NOTES ON SUBMITTED SHOP DRAWINGS FOR WORK "BY OTHERS" CANNOT BE RESPONSIBLY APPROVED BY STRUCTURAL ENGINEER. CONTRACTOR SHALL COORDINATE RESPONSIBILITY FOR MATERIALS, CONNECTIONS, ETC. PRIOR TO SHOP DRAWING SUBMITTAL TO THE STRUCTURAL ENGINEER.
7. CONTRACTOR SHALL VERIFY ALL RELEVANT DIMENSIONS AND ELEVATIONS FOR EQUIPMENT INSTALLATIONS AGAINST PURCHASED MANUFACTURER'S CERTIFIED EQUIPMENT DRAWINGS. CONTRACTOR SHALL COORDINATE DIMENSIONS THAT DEPEND UPON SPECIFIC EQUIPMENT, SUCH AS ELEVATOR OPENINGS, MECHANICAL EQUIPMENT SUPPORTS, ETC. PRIOR TO SUBMITTAL. SUCH DIMENSIONS SHALL BE PROVIDED ON THE SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER. CONTRACTOR'S FAILURE TO PROVIDE SUCH DIMENSIONS ON SUBMITTED SHOP DRAWINGS WILL RESULT IN SHOP DRAWING RETURN WITHOUT REVIEW.

EXISTING CONDITIONS

1. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS.
2. CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND ELEVATION OF EXISTING UTILITIES, SEWERS, DRAINS, ETC. IN CONSTRUCTION AREAS BEFORE PROCEEDING WITH THE WORK. ALL DISCREPANCIES SHALL BE DOCUMENTED AND REPORTED TO THE CIVIL/STRUCTURAL ENGINEER AND OWNER'S REPRESENTATIVE FOR RESOLUTION.
3. SHOULD UNCHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONTRACTOR SHALL CONSULT THE CIVIL/STRUCTURAL ENGINEER AND OWNER'S REPRESENTATIVE FOR RESOLUTION.
4. CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION OF EXISTING UTILITIES AND/OR EQUIPMENT DURING EXECUTION OF WORK, SATISFYING THE OWNER'S REQUIREMENTS.
5. CONTRACTOR SHALL COORDINATE WORK WITH THE OWNER'S PERSONNEL TO AVOID ANY INTERFERENCE IN THEIR OPERATIONS.
6. REFER TO SHORING AND BRACING NOTES FOR ADDITIONAL REQUIREMENTS.

SHORING AND BRACING

1. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING OF EXISTING CONSTRUCTION, NEW CONSTRUCTION AND UNDERGROUND UTILITIES AS FOLLOWS:
   A. WHERE SHOWN OR NOTED ON THE DRAWINGS.
   B. WHERE EXISTING CONSTRUCTION IS TO BE ALTERED OR DISTURBED UNTIL PERMANENT SUPPORT IS IN PLACE.
   C. WHERE EXISTING CONSTRUCTION IS NOT UNDERGOING ALTERATION AND IS TO REMAIN UNDISTURBED BUT IS DISTURBED AS A RESULT OF THE WORK OF THIS CONTRACT.
   D. AS REQUIRED FOR SAFE ERECTION, INSTALLATION OF NEW CONSTRUCTION, EQUIPMENT, ETC.
   E. WHEN NEEDED FOR CONTRACTOR'S "MEANS AND METHODS" OF CONSTRUCTION, AND OTHER SAFETY RELATED ISSUES.
2. SHORING AND BRACING SHOWN ON THE DRAWINGS IS CONCEPTUAL. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS, SHORING AND BRACING CALCULATIONS, METHODS OF INSTALLATION, TRANSFER OF LOADS THROUGH TO FINAL LOAD SUPPORT, AND WORK SEQUENCE PHASING WITH NEW CONSTRUCTION.
3. SHORING AND BRACING SHALL BE PERFORMED BY A CONTRACTOR WITH MINIMUM 5 YEARS DEMONSTRATED EXPERIENCE IN SIMILAR SIZE AND SCOPE OF SHORING AND BRACING PROJECTS.
4. CONTRACTOR SHALL SUBMIT DRAWINGS AND CALCULATIONS SEALED AND SIGNED BY THE CONTRACTOR'S PROFESSIONAL ENGINEER SHOWING COMPLETE DESIGN INCLUDING TEMPORARY CONDITIONS, FINAL CONDITIONS AND SEQUENCE OF WORK.
5. DURING THE SHORING AND BRACING OPERATIONS, CONTRACTOR SHALL:
   a. KEEP THE EXISTING AND NEW CONSTRUCTION IN A SAFE CONDITION.
   b. MONITOR EXISTING AND NEW CONSTRUCTION TO DETECT ANY SIGNS OF DISTRESS OR DEFORMATION.
   c. TAKE IMMEDIATE STEPS TO PREVENT DISTRESS, DEFORMATION OR DAMAGE.
6. CONTRACTOR SHALL CONTINUOUSLY MONITOR THE SHORING AND BRACING SYSTEMS. CONTRACTOR SHALL REVIEW AND ASCERTAIN THAT ALL FIELD CONNECTIONS ARE COMPLETED ACCORDING TO THE CONTRACTOR'S DESIGN AND ISSUE APPROVAL FOR INSPECTION OF THE WORK BY THE TESTING AGENCY.
7. AFTER COMPLETION OF SHORING AND BRACING AND COMPLETION OF WORK REQUIRING SHORING AND BRACING, CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE EXISTING AND NEW CONSTRUCTION, WITHOUT ANY COST TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER AND ARCHITECT/STRUCTURAL ENGINEER.

FOOTINGS AND FOUNDATIONS

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS, INCLUDING UNDERGROUND UTILITIES AND FIELD MEASUREMENTS AT JOB SITE AND REPORT ANY DISCREPANCIES TO OWNER'S REPRESENTATIVE.
2. PROVIDE NECESSARY SHEETING, SHORING, BRACING, ETC. AS REQUIRED DURING EXCAVATIONS TO PROTECT SIDES OF EXCAVATIONS.
3. COMPLY FULLY WITH REQUIREMENTS OF OSHA AND OTHER REGULATORY AGENCIES FOR SAFETY PROVISIONS.
4. BOTTOM OF FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 2000 PSF.
5. SIDES OF FOUNDATIONS SHALL BE FORMED UNLESS CONDITIONS PERMIT EARTH FORMING. FOUNDATIONS POURED AGAINST THE EARTH REQUIRED THE FOLLOWING PRECAUTIONS: SLOPE SIDES OF EXCAVATIONS AS APPROVED BY GEOTECHNICAL ENGINEER AND CLEAN UP SLOUGHING BEFORE AND DURING CONCRETE PLACEMENT.
6. WHERE FOOTING STEPS ARE NECESSARY, THEY SHALL BE NO STEEPER THAN ONE VERTICAL TO TWO HORIZONTAL UNLESS OTHERWISE NOTED.
7. NO FOOTINGS OR SLABS SHALL BE PLACED ON OR AGAINST SUB-GRADE CONTAINING FREE WATER, FROST OR ICE. SHOULD WATER OR FROST, HOWEVER SLIGHT, ENTER A FOOTING EXCAVATION AFTER SUB-GRADE APPROVAL, THE SUB-GRADE SHALL BE RE_INSPECTED BY THE GEOTECHNICAL ENGINEER/TESTING LABORATORY AFTER REMOVAL OF WATER OR FROST.
8. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUB-GRADE BEFORE AND AFTER PLACING OF CONCRETE UNTIL THE FULL BUILDING ENCLOSURE IS COMPLETED AND HEATED.
9. EXCAVATED MATERIAL SHALL BE LEGALLY DISPOSED OFF THE OWNER'S PROPERTY OR STORED AT THE SITE OR USED FOR BACKFILLING OPERATIONS AS REQUIRED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AND PROJECT SPECIFICATION REQUIREMENTS.
10. CONTRACTOR SHALL FURNISH ALL REQUIRED DE-WATERING EQUIPMENT TO MAINTAIN A DRY EXCAVATION UNTIL BACKFILL IS COMPLETE.
11. WHERE NEW FOOTINGS ARE ADJACENT OR ABUT EXISTING FOUNDATIONS, CAREFULLY HAND EXCAVATE AND DETERMINE BOTTOM OF EXISTING FOUNDATION. IF DIFFERENT THAN ANTICIPATED, ADJUST NEW FOUNDATIONS TO MATCH EXISTING. IN NO CASE SHALL THE NEW FOOTING BE LOWER THAN THE EXISTING WITHOUT PROTECTION AGAINST UNDERMINING SUCH AS UNDERPINNING OR SHORING.
12. FOUNDATION BEARING SOILS SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER. THE TESTING SHALL INCLUDE, BUT NOT BE LIMITED TO, IDENTIFICATION OF SOILS AT AND BELOW THE FOUNDATION BEARING LEVEL, AND THE ALLOWABLE BEARING CAPACITY OF THESE SOILS.
13. A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT SHALL INSPECT THE CONDITION AND ASSURE THE ADEQUACY OF ALL SUBGRADES, FILLS, BACKFILLS BEFORE PLACEMENT OF FOUNDATIONS, FOOTINGS, SLABS AND WALLS. HE SHALL SUBMIT REPORTS TO THE ARCHITECT/STRUCTURAL ENGINEER DESCRIBING HIS INVESTIGATIONS, INCLUDING ANY NON-CONFORMING WORK.
14. THE DESIGN OF FOUNDATIONS, RETAINING WALLS, AND REIFORCED PAVING IS BASED ON THE CRITERIA ESTABLISHED IN THE GEOTECHNICAL REPORT. CONSIDERATIONS RELATED TO GROUND WATER CONDITIONS AND CONTROL, DRAINAGE, SITE PREPARATIONS, EARTHWORK OPERATIONS AND WORK ADJACENT TO THE EXISTING SITE. THE EQUIREMENTS AND RECOMMENDATIONS CONTAINED IN THE REPORT ARE PART OF CONTRACT REQUIREMENTS.

BACKFILLING

1. WHERE BACKFILL IS TO BE PLACED ON BOTH SIDES OF FOUNDATION WALLS, PROVIDE A BALANCED BACKFILL AGAINST FOUNDATION WALLS TO ELIMINATE LATERAL LOAD EFFECTS, OR PROVIDE NECESSARY TEMPORARY LATERAL SUPPORT TO THE TOP OF THE WALL UNTIL PERMANENT SUPPORT IS INSTALLED.
2. BACKFILL MATERIAL SHALL CONSIST OF CLEAN, WELL GRADE GRANULAR SOILS, FREE OF ORGANIC MATERIAL, SILT AND CLAY.
3. BACKFILL MATERIAL SHALL BE COMPACTED TO 98% OF MAXIMUM STANDARD PROCTOR DRY DENSITY, AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM D698), IN LIFTS NOT EXCEEDING 8 INCHES.

CAST-IN-PLACE CONCRETE

1. CONCRETE STRUCTURAL FRAMING HAS BEEN DESIGNED BY THE ULTIMATE STRENGTH METHOD PER ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
2. CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE OF BUILDINGS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" EXCEPT AS MODIFIED BY STRUCTURAL REQUIREMENTS NOTED ON THE DRAWINGS.
3. ALL CONCRETE WORK SHALL CONFORM TO ACI 201.2 R, "GUIDE TO DURABLE CONCRETE".
4. FOR ALL CONCRETE FOUNDATION WALLS AND CONCRETE FOOTINGS EXPOSED TO AND IN CONTACT WITH EARTH, CEMENT SHALL CONFORM TO ASTM C150 "SPECIFICATION FOR PORTLAND CEMENT" TYPE V.
5. FOR CONCRETE NOT OTHERWISE NOTED, CEMENT SHALL CONFORM TO ASTM C150 "SPECIFICATION FOR PORTLAND CEMENT" TYPE I OR III.
6. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C33 "SPECIFICATION FOR CONCRETE AGGREGATES", AND ASTM C330 "SPECIFICATION FOR LIGHT WEIGHT AGGREGATES FOR STRUCTURAL CONCRETE".
7. REINFORCING SHALL CONFORM TO ASTM A-615 GRADE 60, UNLESS NOTED OTHERWISE.
8. ALL REINFORCING SHALL BE EXPOXY COATED. EPOXY COATED REINFORCING BARS SHALL CONFORM TO ASTM 775.
9. REINFORCEMENT SHALL BE FABRICATED AND ERECTED ACCORDING TO THE ACI STANDARDS: "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI 315 AND "MANUAL OF ENGINEERING AND PLACING DRAWINGS FOR REINFORCED CONCRETE STRUCTURES", ACI 315R.
10. WELDED WIRE FABRIC SHALL BE FURNISHED IN FLAT SHEETS (ROLLS NOT PERMITTED) AND SHALL CONFORM TO ASTM A-185 AND HAVE A MINIMUM SIDE AND END LAP OF 8 INCHES.
11. WELDING OF REINFORCING STEEL IS PROHIBITED UNLESS SPECIFICALLY DETAILED. WELDING WHERE DETAILED SHALL CONFORM TO AWS D1.4 SPECIFICATION.
12. A COPY OF ACI SP-15 "FIELD REFERENCE MANUAL"; ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE", WITH SELECTED ACI AND ASTM REFERENCES SHALL BE KEPT IN THE CONTRACTOR'S FIELD OFFICE.
13. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH AS FOLLOWS:

FOOTINGS AND FOUNDATION WALLS:	4500 PSI
RETAINING WALLS:	4500 PSI
OTHER CONCRETE:	4000 PSI

14. A MAXIMUM WATER CEMENT RATIO OF 0.45 SHALL BE USED FOR ALL CONCRETE EXPOSED TO AND IN CONTACT WITH EARTH, UNLESS NOTED OTHERWISE.
15. EXTERIOR CONCRETE, AND INTERIOR CONCRETE SUBJECTED TO FREEZE/THAW CYCLES, SALT, ETC., INCLUDING WALLS, SHALL BE AIR-ENTRAINED 6% +/- 1%.
16. CONCRETE SHALL BE NORMAL WEIGHT, UNLESS INDICATED OTHERWISE. LIGHT WEIGHT CONCRETE, WHEN USED FOR SUPPORTED SLABS SHALL BE SAND LIGHT-WEIGHT WITH A CONCRETE UNIT WEIGHT NOT EXCEEDING 115 POUNDS PER CUBIC FOOT (PCF).
17. CONTRACTOR SHALL SUBMIT THE CONCRETE MIX DESIGN(S) FOR REVIEW BY THE STRUCTURAL ENGINEER. PRO PORTION MIX DESIGNS AND PROVIDE PROOF OF MIX DESIGN STRENGTH AS DEFINED IN ACI 301. THE SUBMITTAL SHALL INCLUDE CEMENT TYPE AND SOURCE, CEMENT CUBE STRENGTH, AGGREGATE GRADATIONS, WATER TESTS, ADMIXTURE CATALOG INFORMATION AND CYLINDER STRENGTH TEST RESULTS FROM 30 TESTS, ON SPECIMENS WITH IDENTICAL MIX DESIGN, FOR EACH CONCRETE MIX, OR OTHER PROOF OF STRENGTH PER ACI 301.
18. THE APPROVED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING AGENCY FOR FULL COMPLIANCE. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S RESPONSIBILITY.
19. USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
20. SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN BY THE TESTING AGENCY IN ACCORDANCE WITH PROJECT SPECIFICATION REQUIREMENTS OR ACI 301.
21. CONTRACTOR SHALL PREPARE AND SUBMIT REINFORCEMENT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. THE SHOP DRAWINGS SHALL CLEARLY SHOW REINFORCEMENT LENGTHS AND BENDS, LOCATIONS OF BARS, METHODS OF SUPPORT, DETAILS OF PLACEMENT AND PLACEMENT COORDINATION WITH FORMWORK, EMBEDMENTS, CONCRETE VIBRATION AND CONSTRUCTION JOINTS. THE DRAWINGS SHALL ALSO INDICATE OPENINGS, SLEEVES, CURBS AND CONCRETE DIMENSIONS IN ACCORDANCE WITH ACI 315. PROVIDE, AT MINIMUM WALL, COLUMN AND BEAM ELEVATIONS; WALL, COLUMN AND BEAM SECTIONS, MATERIAL SCHEDULES, BAR LAP SCHEDULES AND LOCATIONS.
22. CONTRACTOR SHALL TIE REINFORCING STEEL SECURELY IN PLACE PRIOR TO PLACING CONCRETE AND PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE P OSITION OF REINFORCING WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. INSER TING DOWELS INTO WET CONCRETE IS NOT PERMITTED.
23. CONTRACTOR SHALL PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE; SPLICE ONLY AS SHOWN OR APPROVED; STAGGER SPLICES WHERE POSSIBLE; USE SPLICE LENGTHS AS NOTED. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES, UNLESS NOTED OTHERWISE.
24. HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS WITH THE MINIMUM LAP PER ACI 318 UNLESS DETAILED OR NOTED OTHERWISE. CORNER BARS SHALL BE PROVIDED AT CHANGES IN WALL DIRECTION (HOWEVER SMALL) AND SHALL BE OF THE SAME SIZE AND SPACING AS THE HORIZONTAL STEEL. EACH CORNER BAR LEG TO PROVIDE LAP SPLICE PER ACI 318 UNLESS DETAILED OR NOTED OTHERWISE. E XTEND HORIZONTAL WALL REINFORCING THROUGH PIERS.
25. HOOKED BARS SHALL BE STANDARD 90 DEGREE HOOKS PER ACI UNLESS NOTED OTHERWISE ON THE DRAWINGS.
26. MINIMUM LAP SPLICE SHALL BE CLASS B PER ACI 318. LOCATION OF LAP SPLICES SHALL BE AS INDICATED ON CONSTRUCTION DOCUMENTS AND/OR AS SHOWN ON THE APPROVED REINFORCING STEEL SHOP DRAWINGS.
27. APPROVED REBAR COUPLERS MAY BE USED TO AID PLACEMENT OF DOWELS THROUGH FORMS. MECHANICAL SPLICES SHALL DEVELOP 125% OF THE TENSILE STRENGTH OF THE REBAR.
28. REINFORCING STEEL SHALL NOT BE CUT, BENT OR STRAIGHTENED IN THE FIELD UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR AS INDICATED ON THE DRAWINGS.
29. REINFORCING STEEL SHALL BE PLACED WITH THE FOLLOWING CONCRETE COVER UNLESS NOTED OTHERWISE:
    1. CONCRETE CAST AGAINST EARTH (NOT FORMED): 3"
    2. FORMED CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
    3. IN ALL CASES, CLEARANCE BETWEEN BARS SHALL NOT BE LESS THAN THE BAR DIAMETER OR ¼"+ MAXIMUM NOMINAL SIZE OF COARSE AGGREGATES WHICHEVER IS GREATER.
30. TIE EMBEDS SECURELY IN PLACE PRIOR TO PLACING CONCRETE.
31. DO NOT PLACE PIPES OR DUCTS EXCEEDING ONE QUARTER THE SLAB OR WALL THICKNESS WITHIN THE SLAB OR WALL UNLESS SPECIALLY SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. PIPES OR DUCT SHALL BE LOCATED WITHIN MIDDLE THIRD OF SLAB OR WALL THICKNESS.
32. INSTALL INSERTS AND ANCHORS IN CONCRETE FOR SUSPENDING MECHANICAL, ELECTRICAL AND ARCHITECTURAL ITEMS. IF ADDITIONAL FASTENERS ARE NEEDED IN CONVENTIONALLY REINFORCED CONCRETE, USE DRILLED-IN TYPE ANCHORS LOCATED TO AVOID CONFLICT WITH REINFORCEMENT.
33. ANCHOR RODS AND STEEL EMBEDS (FURNISHED BY STRUCTURAL STEEL CONTRACTOR) SHALL BE SET BY TEMPLATE TO WITHIN A 1/8" TOLERANCE IN ANY DIRECTION WITH MINIMUM EMBEDMENT AND EXACT PROJECTION INDICATED ON THE DRAWINGS, PRIOR TO PLACING CONCRETE.
34. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
35. DOWELS INTO FOUNDATION SHALL MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT AT ALL COLUMNS, PIERS AND WALLS, UNLESS OTHERWISE NOTED.
36. PROVIDE TWO #5 BARS (ONE EACH FACE) AROUND UNFRAMED OPENINGS IN SLABS AND WALLS. PLACE BARS PARALLEL TO SIDES OF OPENINGS AND EXTEND THEM 24 INCHES BEYOND CORNERS, UNLESS OTHERWISE NOTED.
37. LOCATE SLEEVES, OPENINGS, EMBEDS, ETC. AS INDICATED ON THE DRAWINGS. THE CONCRETE CONTRACTOR SHALL CHECK WITH OTHER TRADES TO MAKE SURE THE SLEEVES, OPENINGS AND EMBEDS THAT ARE TO BE PROVIDED AND SET BY THEM ARE IN PLACE PRIOR TO PLACING OF CONCRETE IN THE AREA INVOLVED.
38. CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES NOT SHOWN ON THE DRAWINGS, THROUGH ANY STRUCTURAL MEMBER.
39. CONTRACTOR SHALL REVIEW CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR BASES, OPENINGS, SLEEVES, ANCHORS, INSERTS, CONDUITS, RECESSES AND OTHER DEVICES IN CONCRETE WORK BEFORE PLACING CONCRETE.
40. HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. THE LOCATION OF VERTICAL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. CONSTRUCTION JOINTS SHALL BE THOROUGHLY MECHANICALLY ROUGHENED, CLEANED AND BONDING AGENT APPLIED BEFORE PLACEMENT OF ADJOINING CONCRETE.
41. FOR CONTROL JOINTS IN SLABS AND WALLS, SPACE JOINTS AT MAXIMUM 15 FEET ON CENTER UNLESS OTHERWISE NOTED ON THE DRAWINGS.REFER TO MDOT DETAILS.
42. CONSTRUCTION JOINTS SHALL BE FURNISHED WITH A FULL LENGTH KEYWAY CENTERED ON MEMBERS. WHERE THE SIZE OF KEY IS NOT SHOWN ON THE DRAWINGS, THE KEY SHALL BE 25% OF THE CROSS SECTION DIMENSION OF THE MEMBER AND MINIMUM 1-1/2 INCHES INTO THE FIRST POUR OF CONCRETE.
43. PROVIDE WATERSTOPS IN CONSTRUCTION JOINTS IN CAST-IN-PLACE CONCRETE ELEMENTS THAT HAVE ONE SIDE EXPOSED TO THE WEATHER OR SOIL AND THE OTHER SIDE OCCURRING ADJACENT TO ENCLOSED SPACE. REFER TO DRAWINGS AND SPECIFICATIONS FOR OTHER WATERPROOFING AND DAMP PROOFING DETAILS.
44. PROVIDE 3/4" X 3/4" CHAMFER STRIP AT ALL EXPOSED CORNERS OF CONCRETE MEMBERS, UNLESS NOTED OTHERWISE.
45. PROVIDE DOVETAIL SLOTS IN CONCRETE MEMBERS WHERE MASONRY ABUTS AND WHERE REQUIRED FOR VENEER ATTACHMENT.
46. THE CONCRETE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POUR SEQUENCES AND CONSTRUCTION PROCEDURES FOR ALL CONCRETE WORK TO ACCOUNT FOR TEMPERATURE DIFFERENTIALS AND SHRINKAGE OCCURRING DURING THE CONSTRUCTION PHASE UNTIL THE BUILDING IS PERMANENTLY IN A MECHANICALLY CONTROLLED ENVIRONMENT.
47. COORDINATE VAPOR RETARDER REQUIREMENTS WITH FLOOR FINISH REQUIREMENTS.
48. PROVIDE POCKETS OR RECESSES IN CONCRETE WORK FOR STEEL COLUMNS AND BEAMS AS REQUIRED AND/OR AS CALLED FOR IN THE SPECIFICATIONS EVEN IF NOT SHOWN ON THE DRAWINGS. PROVIDE CONCRETE FILL AFTER STEEL ERECTION.
49. CONCRETE SHALL BE PLACED TO THE CONSTANT TOP OF SLAB ELEVATIONS, WHILE MAINTAINING THE MINIMUM CONCRETE THICKNESS NOTED ON THE DRAWINGS.
50. THE USE OF CHLORIDES SUCH AS DEICING SALTS IS PROHIBITED FOR MELTING ICE PRIOR TO PLACEMENT OF CONCRETE.
51. CURING OF CONCRETE SURFACES SHALL CONFORM TO ACI 308.1 "STANDARD SPECIFICATION FOR CONCRETE CURING" AND ACI 308R "GUIDE TO CURING CONCRETE".
52. JOINTS BETWEEN THE STRUCTURAL MEMBERS SHALL BE PROPERLY PREPARED AND FILLED WITH JOINT SEALANT UNLESS NOTED OTHERWISE. ALL JOINT EDGES, INCLUDING TOP AND BOTTOM SURFACES AND VERTICAL AND HORIZONTAL SURFACES SHALL BE FORMED OR TOOLED AS REQUIRED. JOINT SEALANT SHALL BE APPLIED ONLY TO THE TOP, VERTICAL, AND HORIZONTAL SURFACES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
53. JOINTS TO BE PREPARED AND FILLED WITH JOINT SEALANT SHALL INCLUDE, BUT ARE NOT LIMITED TO, CONSTRUCTION JOINTS, CONTROL JOINTS, ISOLATION JOINTS, AND ALL INTERFACE JOINTS BETWEEN SIMILAR AND DISSIMILAR MEMBERS. SPECIFIC LOCATIONS MAY BE INDICATED ON THE DRAWINGS, OR MAY BE REQUIRED BY APPROVED SHOP DRAWINGS, OR MAY OCCUR DUE TO THE CONSTRUCTION SEQUENCE SELECTED BY THE CONTRACTOR.
54. PRIOR TO PLACING CONCRETE ADJACENT TO EXISTING CONCRETE, THOROUGHLY CLEAN, DE-GREASE AND MECHANICALLY ROUGHEN EXISTING CONCRETE SURFACES. APPLY EPOXY BONDING AGENT PRIOR TO PLACING FRESH CONCRETE. BONDING AGENT SHALL BE "SIKA ARMATEC 110 EPOCHEM BY SIKA CORPORATION, OR APPROVED EQUAL. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS FOR SURFACE PREPARATION, MIXING AND APPLICATION. FOR NEW CONCRETE WALLS AND FOOTINGS PLACED ADJACENT TO EXISTING, DRILL AND EPOXY #4 DOWELS X 2'-0" LONG (EQUALLY SPACED BETWEEN NEW AND EXISTING) INTO EXISTING CONCRETE SPACED AT 2'-0" O.C. VERTICALLY AND/OR HORIZONTALLY, TYPICAL UNLESS OTHERWISE NOTED.
55. PROVIDE MINIMUM 2" DEEP SAW CUT IN CONCRETE ELEMENTS BEING REMOVED. BREAK REMAINDER ALONG NEAT LINES. PROVIDE AN EPOXY BONDING AGENT ON THE ROUGHENED AND CLEANED SURFACE WHERE NEW CONCRETE IS BEING PLACED ADJACENT TO EXISTING CONSTRUCTION.
56. NON-SHRINK GROUT SHALL CONFORM TO ASTM C1107. GROUT SHALL BE PREMIXED, NON-SHRINK NON-CATALYZED NATURAL AGGREGATE GROUT WITH A MINIMUM SEVEN-DAY COMPRESSIVE STRENGTH OF 7,000 PSI PLASTIC, 6,000 PSI FLOWABLE, AND 5,000 PSI FLUID CONSISTENCY.
57. REINFORCING STEEL, ANCHOR RODS AND EMBED PLACEMENT SHALL BE INSPECTED, PRIOR TO PLACEMENT OF CONCRETE, IN ACCORDANCE WITH ACI-318 AND CODE REQUIRED SPECIAL INSPECTION BY QUALIFIED INSPECTOR PRIOR. THESE INSPECTIONS ARE NOT INCLUDED IN THE BASIC SERVICES OF THE STRUCTURAL ENGINEER OF RECORD.

811
Know what's below. Call before you dig.

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

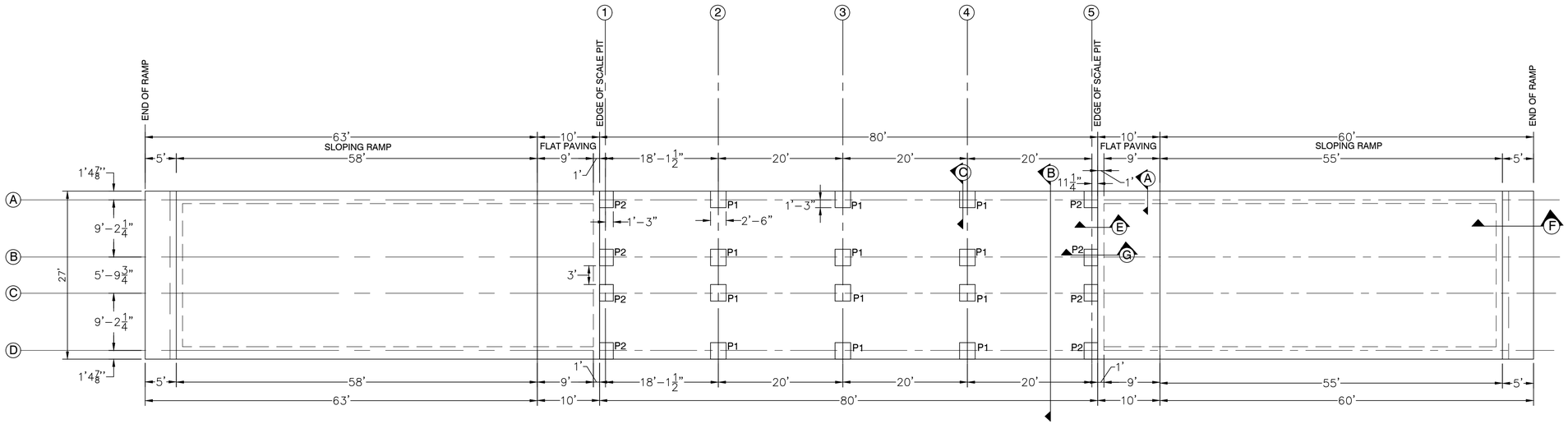
CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING
LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

SCALE FOUNDATION NOTES

SCALE: NTS

DRAWING No. ANNA0035-09

SHEET No. C-09



SCALE FOUNDATION PLAN

NOTE: SEE SHEET C-06 FOR FINISH GRADE ELEVATION

Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	REVISED PLANS	03/03/2020	TJS	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

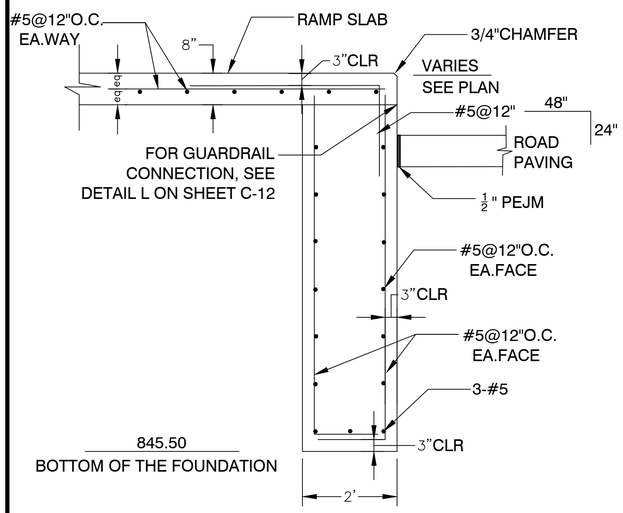
LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

SCALE FOUNDATION PLAN

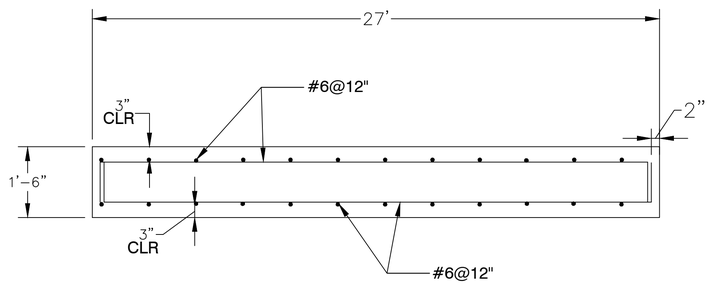
SCALE PLAN: 1" = 10'

DRAWING No. ANNA0035-10

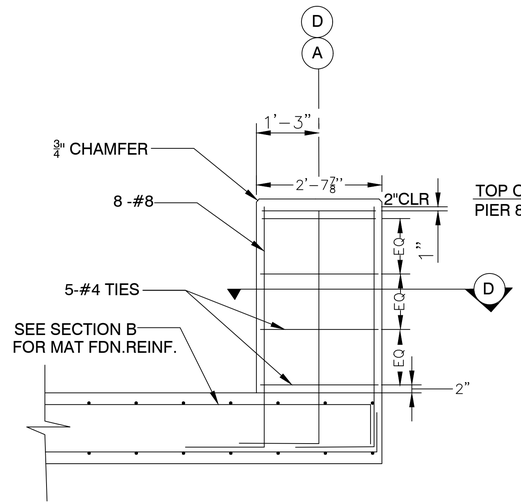
SHEET No. C-10



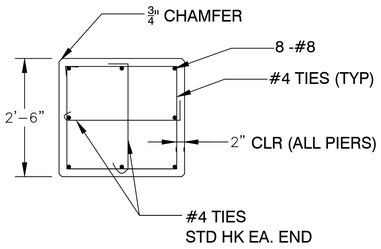
A RAMP SIDE FOUNDATION SECTION



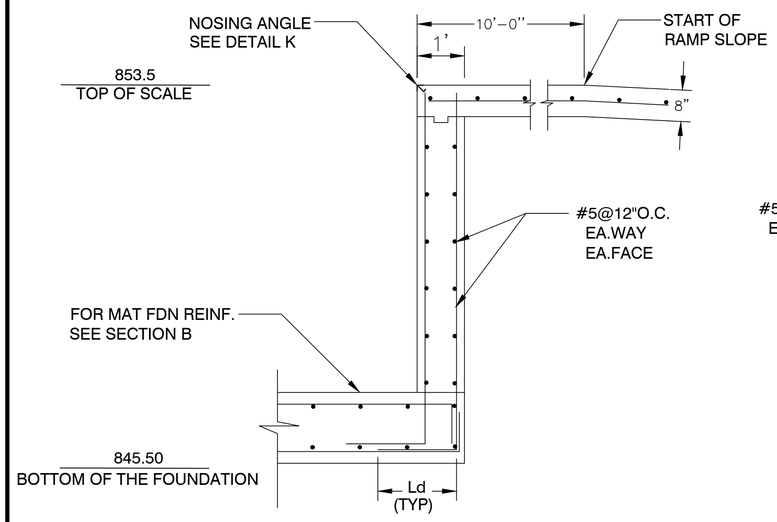
B MAT FOUNDATION SECTION



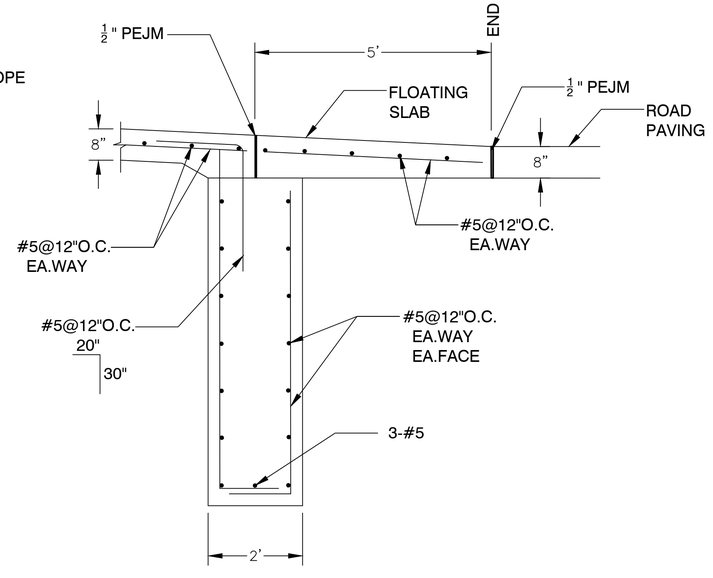
C PIER P1 DETAIL



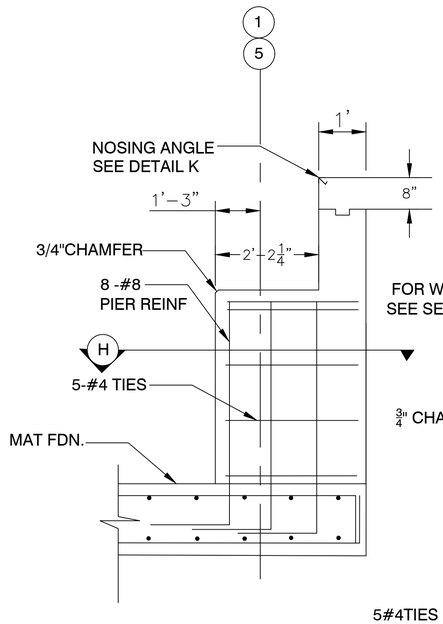
D PIER P1 SECTION



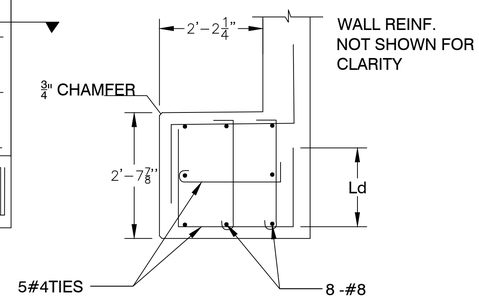
E TOP OF RAMP FOUNDATION SECTION



F END OF RAMP FOUNDATION SECTION



G PIER P2 DETAIL



H PIER P2 SECTION

811 Know what's below. Call before you dig.

NO.	DESCRIPTION	DATE	DRAWN	CHECKED
04	REVISED PLANS	03/03/2020	TJS	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW
REV.		DATE	DRAWN	CHECKED

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

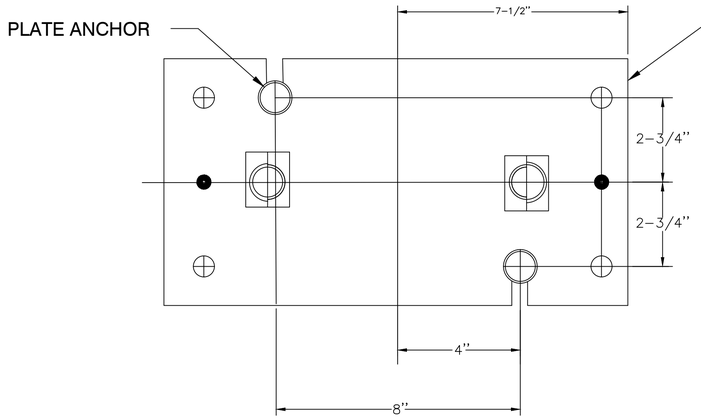
LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

SCALE FOUNDATION DETAILS

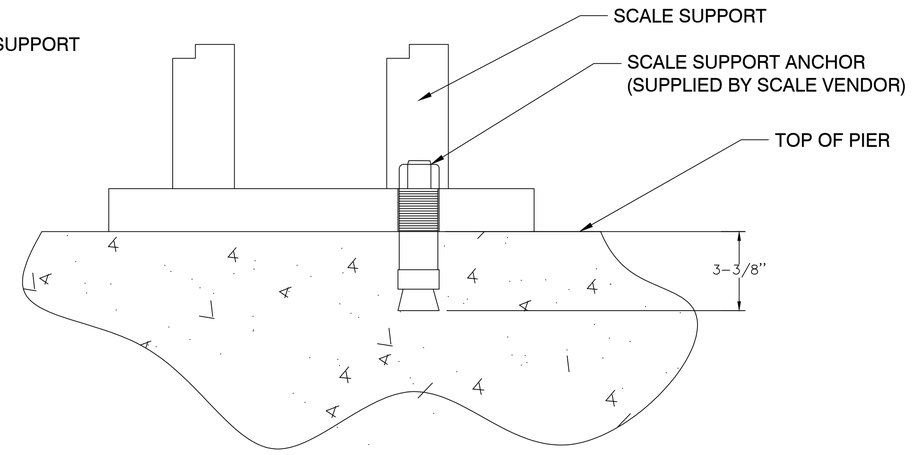
SCALE: NTS

DRAWING No.: ANNA 0035-11

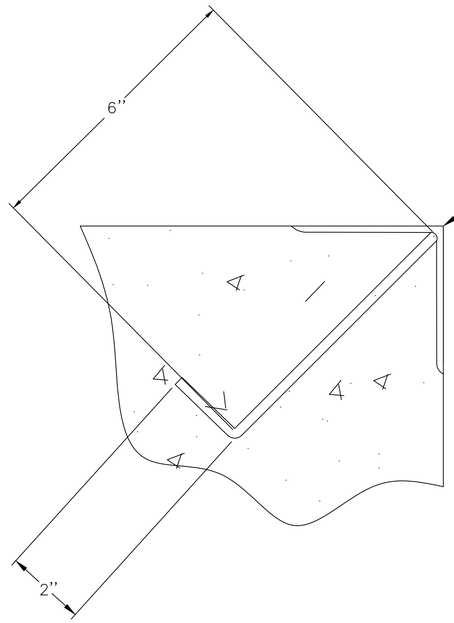
SHEET No.: C-11



I SCALE PLATE PLAN

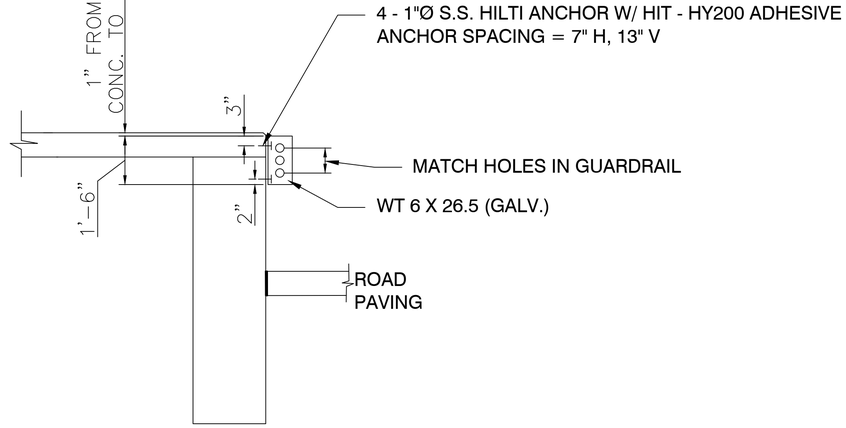


J SCALE PLATE SECTION



3×3×1/4×12'-0"
ANCHOR F.B. 2"× 1/4 " WELDED
TO ANGLE @18" C.C.
NOTE:
ANCHOR BARS MAY BE SUBSTITUTED BY
"NELSON" TYPE C-4 ANCHOR STUDS,
Ø1/2× 6" LONG , OR APPROVED EQUIV.

K NOSING ANGLE DETAIL



L GUARDRAIL CONNECTION
NOTE: GUARDRAIL TO
MATCH SCALE RAIL.

811 Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
04	REVISED PLANS	03/03/2020	TJS	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

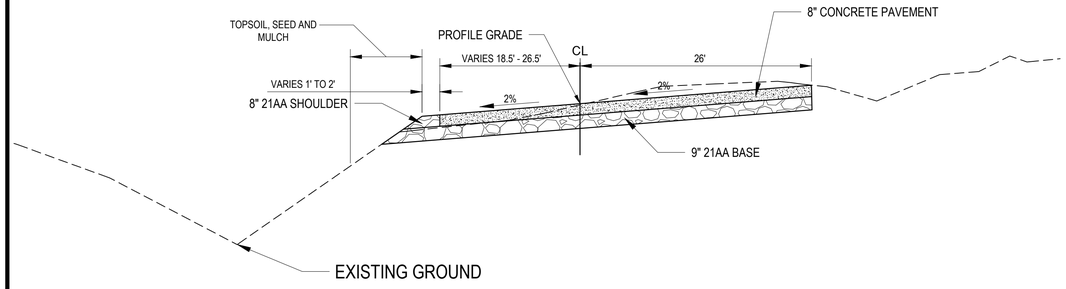
LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

SCALE FOUNDATIONS DETAILS

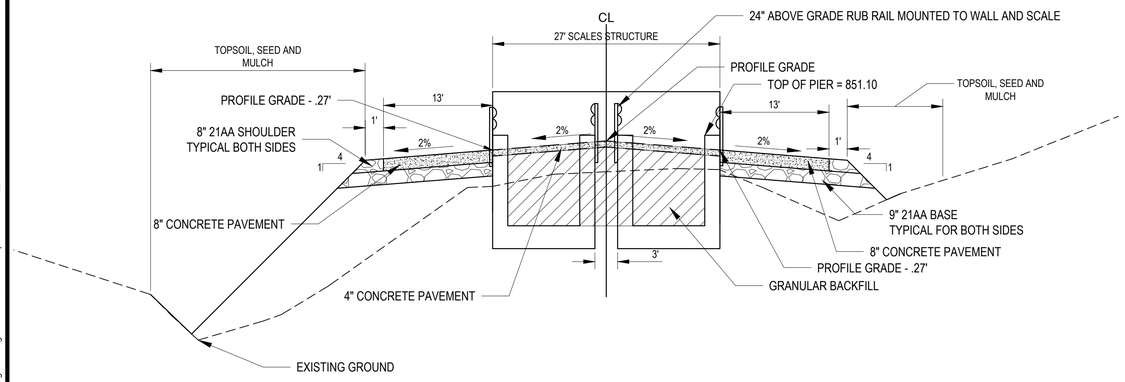
SCALE: NTS

DRAWING No. ANNA 0035-12

SHEET No. C-12



TYPICAL CROSS SECTION THREE LANE SECTION FROM STATION 2+00.00 TO 2+87.00



TYPICAL CROSS SECTION SCALE AREA FROM STATION 2+87.00 TO 5+10.00

NOTE: TOPSOIL,SEED AND MULCH LIMITS EXTEND 2 FEET BEYOND TOUCH DOWN POINT ON TYPICAL CROSS SECTION

SIGN CODE A2-1

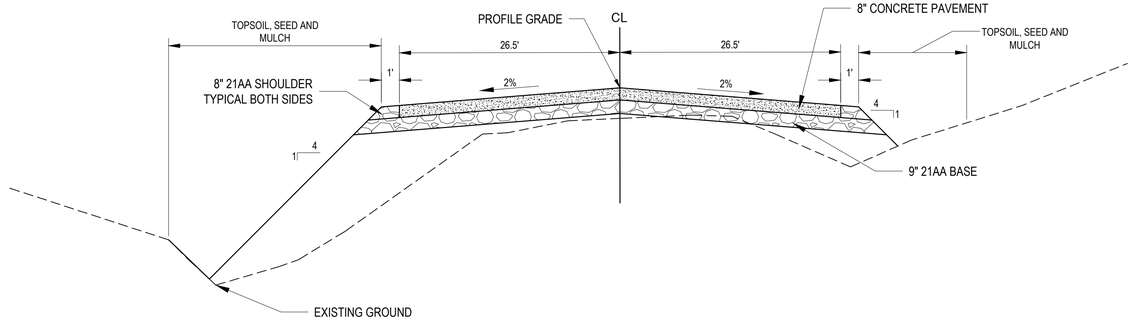
SIGN CODE R1-1 (30)

SIGN CODE R1-2 (36)

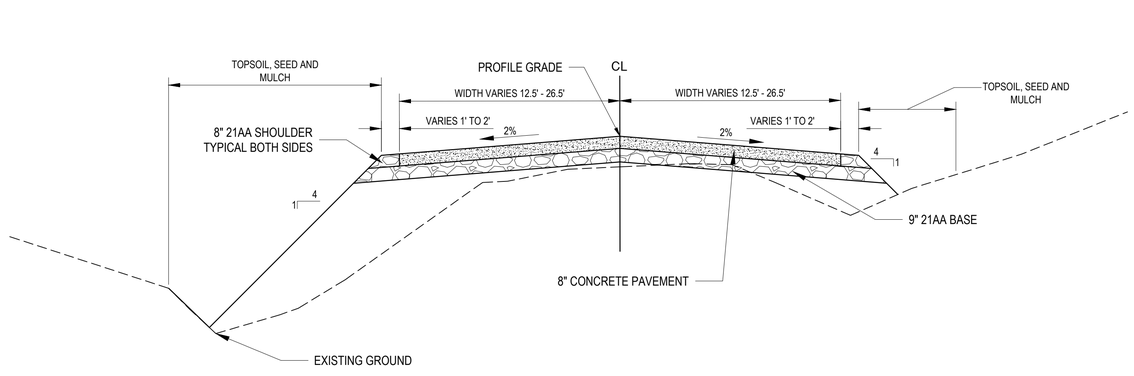
FABRICATE SIGNS ACCORDING TO MDOT STANDARDS

TRAFFIC SIGNS DETAILS

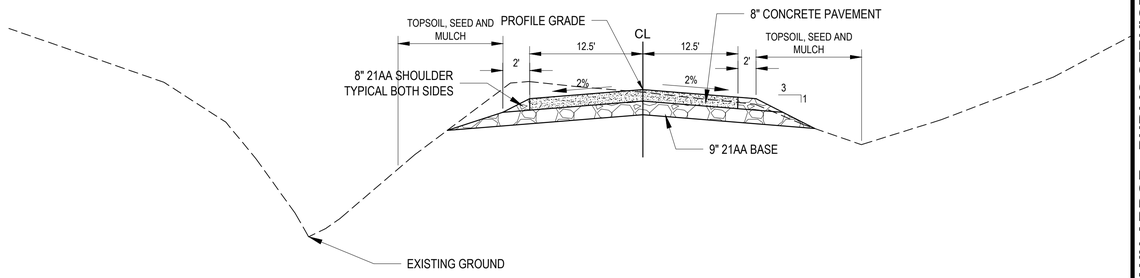
FOLLOW MDOT STANDARD SIGN INSTALLATIONS (SIGN-100-G)



TYPICAL CROSS SECTION WIDENING AREA FROM STATION 5+10.00 TO 5+25.00



TYPICAL CROSS SECTION WIDENING AREA FROM STATION 5+25.00 TO 6+00.00



TYPICAL CROSS SECTION TWO LANE SECTION FROM 6+00.00 TO 6+49.84 OR END OF WORK

Know what's **below.** **Call before you dig.** 811

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
03	ISSUE FOR BID	04/03/2019	TJS	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

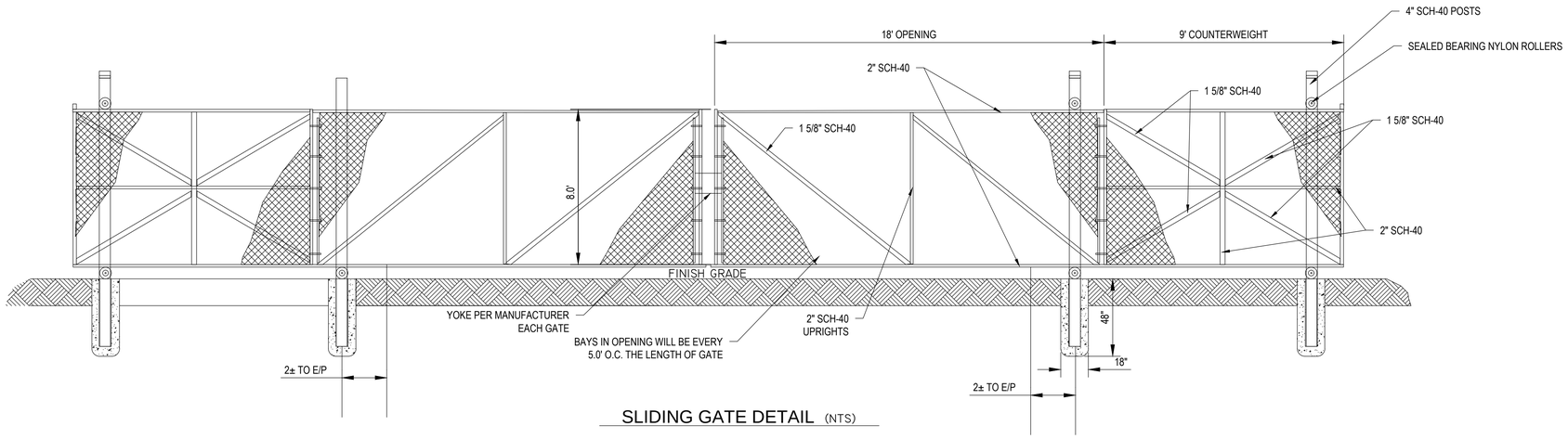
LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

ROADWAY TYPICAL SECTIONS AND DETAILS

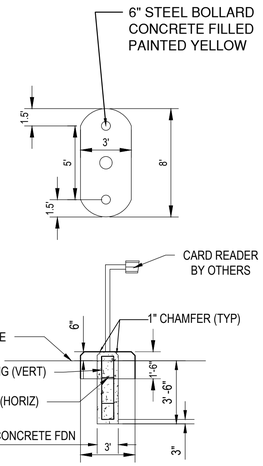
SCALE PLAN: 1" = 100' PROFILE: 1" = x'

DRAWING No. ANNA0035-13

SHEET No. C-13



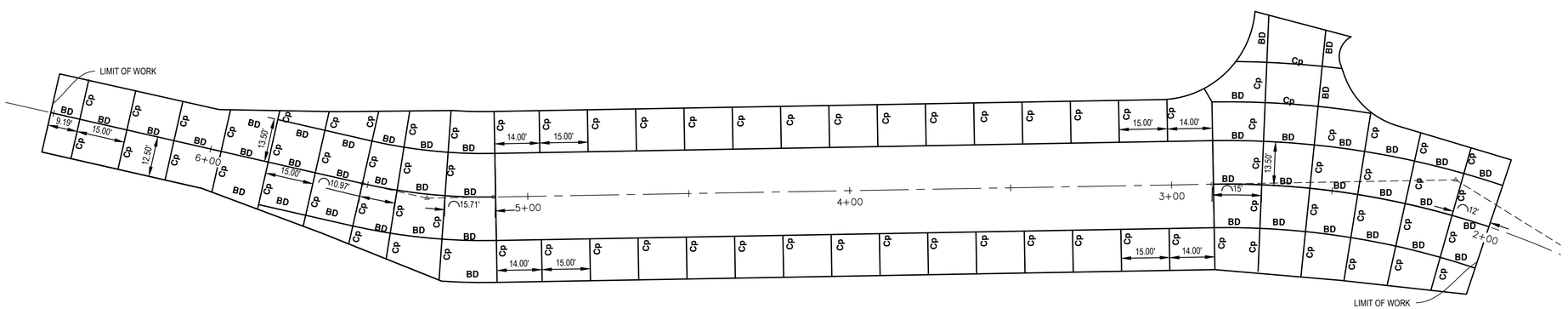
SLIDING GATE DETAIL (NTS)



CARD READER DETAIL

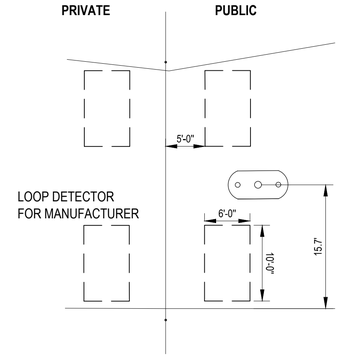
NTS

MAIN GATE DETAIL



CONCRETE PAVEMENT JOINTS LAYOUT

SCALE: 1"=20'



ENTRANCE DETAIL

SCALE: 1"=10'

A
C-14

JOINT DETAILS

1. BD: OPTIONAL B OR D JOINT.
2. Cp: TRANSVERSE CONTRACTION JOINT WITH LOAD TRANSFER DEVICE.
3. B: LONGITUDINAL BULKHEAD JOINT.
4. D: LONGITUDINAL LANE JOINT.
5. REFER TO MDOT R-39-K AND R-41-H FOR DETAILS.

Know what's **below.** **Call before you dig.**

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
01	PRELIMINARY SITE PLANS OWNER REVIEW	12/07/2018	QSH	TEW
02	CITY PLANNING REVIEW	01/10/2019	QSH	TEW
03	ISSUE FOR BID	04/03/2019	TJS	TEW

CITY OF ANN ARBOR
PUBLIC SERVICES
301 E. HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734.794.6410
www.a2gov.org

CITY OF ANN ARBOR - PUBLIC SERVICES - ENGINEERING

LANDFILL SCALE AND ENTRANCE IMPROVEMENTS

GENERAL DETAILS

SCALE PLAN: ########## PROFILE: 1" = x'

DRAWING No. ANNA0035-14

SHEET No. C-14

ELECTRICAL SPECIFICATION (AS APPLICABLE)

GENERAL
ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF N.E.C., LOCAL AND STATE CODES, ORDINANCES AND REGULATIONS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT. (OSHA).

WORK INCLUDED
THE CONTRACTOR SHALL PROVIDE ALL ITEMS, ARTICLES, MATERIALS, OPERATIONS, OR METHODS MENTIONED, LISTED OR SCHEDULED ON THE DRAWINGS AND IN THESE SPECIFICATIONS, INCLUDING ALL LABOR, MATERIALS, EQUIPMENT, AND ALL INCIDENTALS NECESSARY REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS.

THE INSTALLATION SHALL BE MADE SO THAT ALL COMPONENT PARTS FUNCTION TOGETHER AS A WORKABLE SYSTEM. IT SHALL BE COMPLETE WITH ALL ACCESSORIES NECESSARY FOR PROPER OPERATION. WHEN THE INSTALLATION IS COMPLETE, ALL EQUIPMENT SHALL BE OPERATIVE AND IN PROPER ADJUSTMENT. ALL WORK SHALL BE EXECUTED IN CONFORMITY WITH THE BEST PRACTICE SO AS TO CONTRIBUTE TO EFFICIENCY OF OPERATION, MINIMUM MAINTENANCE, ACCESSIBILITY AND SIGHTLINESS.

TO ACCOMPLISH THESE RESULTS, THE CONTRACTOR SHALL CONSULT THE ARCHITECTS AND ENGINEERS' PLANS COVERING THE VARIOUS OTHER TRADES, THE FIELD LAYOUTS OF THE CONTRACTORS FOR THESE TRADES AND THEIR SHOP DRAWINGS. HE SHALL COORDINATE HIS WORK ACCORDINGLY.

LOCAL CONDITIONS
THE CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH CONDITIONS WHICH WILL AFFECT THE WORK HE IS TO PERFORM. THE SUBMISSION OF A PROPOSAL BY THIS CONTRACTOR SHALL BE CONCLUSIVE EVIDENCE THAT THIS CONTRACTOR HAS VISITED THE SITE AND HAS GIVEN PROPER CONSIDERATION AND EVALUATION OF THESE CONDITIONS IN THE PREPARATION OF HIS PROPOSAL. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON HIS BEHALF FOR EXTRA EXPENSE INCURRED DUE TO FAILURE OR NEGLECT ON HIS PART TO MAKE THIS VISIT AND EXAMINATION.

WHERE ACTIVE SEWERS, GAS, ELECTRIC, OR OTHER SERVICES ARE ENCOUNTERED DURING THE PERFORMANCE OF THIS CONTRACT, THE CONTRACTOR SHALL PROTECT, BRACE AND SUPPORT THEM AS REQUIRED. DO NOT PREVENT, INTERRUPT OR DISTURB OPERATION OF EXISTING SERVICES THAT ARE TO REMAIN. RELOCATE EXISTING SERVICES IF REQUIRED. DRAWINGS SHOW APPROXIMATE LOCATIONS OF EXISTING SERVICES.

PERMITS AND INSPECTIONS
THE CONTRACTOR SHALL TAKE OUT ALL PERMITS AND ARRANGE FOR ALL NECESSARY INSPECTIONS AND SHALL PAY ALL FEES AND EXPENSES IN CONNECTION THEREWITH AS A PART OF HIS WORK UNDER THEIR CONTRACT.

UPON COMPLETION OF THE WORK, THEY SHALL FURNISH TO THE OWNER ALL CERTIFICATES OF INSPECTION AND APPROVAL WHICH ARE CUSTOMARY FOR THE CLASSES OF WORK INVOLVED.

RULES, CODES AND STANDARDS
ALL WORK SHALL BE PERFORMED OR INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND CODES OF LOCAL, STATE AND FEDERAL GOVERNMENTS, OR OTHER AUTHORITIES HAVING LAWFUL JURISDICTION, AND EACH CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR SUCH COMPLIANCE.

ALL ELECTRICAL WORK AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ISSUE OF THE NATIONAL ELECTRICAL CODE, NFPA, ADA AND SHALL BEAR THE LABEL OF LISTING WITH THE UNDERWRITERS' LABORATORIES.

SHOP DRAWINGS
COMPLETE SHOP DRAWINGS FOR ALL ELECTRICAL MANUFACTURED ITEMS SHALL BE SUBMITTED TO THE ARCHITECTS AND ENGINEERS FOR APPROVAL BEFORE FABRICATION OF THE ITEMS. DRAWINGS SHALL INDICATE NAME OF PROJECT AND NAME OF CONTRACTOR.

THE CONTRACTOR SHALL THOROUGHLY CHECK ALL SHOP DRAWINGS AS REGARDS TO MEASUREMENTS, SIZES OF EQUIPMENT, MATERIALS AND DETAILS TO SATISFY HIMSELF THAT THEY CONFORM TO THE INTENT OF ENGINEER'S DRAWINGS AND SPECIFICATIONS. DRAWINGS FOUND TO BE INACCURATE OR OTHERWISE IN ERROR ARE TO BE RETURNED TO THE SUBCONTRACTORS FOR CORRECTION BEFORE SUBMITTING SAME TO THE ENGINEERS.

DRAWINGS NOT APPROVED MUST BE CORRECTED AND RETURNED FOR FINAL APPROVAL. NO SHOP DRAWINGS SHALL BE USED ON THE WORK UNLESS APPROVED BY THE ENGINEERS. ELECTRONIC COPIES OF ALL DRAWINGS SUBMITTED MUST BE IN PDF FORMAT. THE CONTRACTOR SHALL FURNISH TO THE FIELD, PRINTS OF CHECKED AND APPROVED SHOP DRAWINGS AS REQUIRED BY THE CONSTRUCTION OPERATIONS. COST FOR DUPLICATION OF MARKED DRAWING SETS SHALL BE BORNE BY THE CONTRACTOR.

AFTER SHOP DRAWINGS HAVE BEEN SUBMITTED TO THE ENGINEER AND RETURNED TO THE CONTRACTOR APPROVED, THE CONTRACTOR WILL NOT BE ALLOWED TO RESUBMIT SHOP DRAWINGS OF ANOTHER MANUFACTURER FOR THIS SAME ITEM WITHOUT THE ENGINEER'S CONSENT.

SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
- ELECTRICAL PANELBOARD
- SAFETY SWITCHES
- PVC COATED CONDUIT
- HANDHOLE
- RGS CONDUIT
- CABINETS
- CONTROL STATION DEVICES
- LIGHTING FIXTURES AND LIGHTING POLE
- LIGHTING CONTROLS

EXTRA WORK
FOR ANY EXTRA ELECTRICAL WORK WHICH MAY BE PROPOSED, THIS CONTRACTOR SHALL FURNISH TO THE CONSTRUCTION MANAGER AN ITEMIZED BREAKDOWN OF THE ESTIMATED COST OF THE MATERIALS AND LABOR REQUIRED TO COMPLETE THIS WORK. THE CONTRACTOR SHALL PROCEED ONLY AFTER RECEIVING A WRITTEN ORDER FROM THE CONSTRUCTION MANAGER ESTABLISHING THE AGREED PRICE AND DESCRIBING THE WORK TO BE DONE.

COORDINATE ALL WORK WITH THAT OF OTHER TRADES. PERFORM WORK IN A PHASED MANNER AS REQUIRED TO ACCOMMODATE THE PROJECT CONSTRUCTION SCHEDULE. COORDINATE ALL WORK AND THE SEQUENCE OF INSTALLATION WITH THE CONSTRUCTION MANAGER.

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR ATTEMPT TO CONNECT NEW ELECTRICAL DEVICES, CIRCUITS, WIRING, EQUIPMENT, ETC. TO EXISTING ENERGIZED POWER DISTRIBUTION EQUIPMENT, PANELBOARDS, ETC. MAKE ARRANGEMENTS WITH THE CONSTRUCTION MANAGER FOR A POWER SHUTDOWN(S) AS REQUIRED.

DEMOLITION
DISCONNECT, REMOVE, OR RELOCATE PRESENT EQUIPMENT, OUTLETS, FIXTURES, DEVICES, ETC., AS INDICATED ON PLAN, HEREIN SPECIFIED, OR AS OTHERWISE REQUIRED TO CONFORM TO THE ELECTRICAL, MECHANICAL OR ARCHITECTURAL REVISIONS.

REMOVED MATERIALS, EXCEPT AS OTHERWISE INDICATED, SHALL NOT BE REUSED. THIS CONTRACTOR SHALL REMOVE SAME FROM THE PREMISES EXCEPT ITEMS AS MAY BE DESIGNATED AS SALVAGEABLE BY THE OWNERS REPRESENTATIVE AND THESE ITEMS SHALL BE DELIVERED TO THE OWNER FOR THEIR DISPOSITION. DELIVERY SHALL INCLUDE PLACING THE ITEMS AT ANY LOCATION WITHIN THE BUILDING AS SO DIRECTED BY THE OWNER.

CUTTING AND PATCHING
NO CUTTING OR BURNING OF HOLES THROUGH BEAMS OR OTHER STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE SPECIFIC PERMISSION OF THE ARCHITECT.

ALL OPENINGS IN WALLS, CEILINGS, OR FLOORS MADE BY THE CONTRACTOR SHALL BE NEATLY PATCHED BY THE SAME AFTER OTHER WORK IS DONE.

ALL MEASUREMENTS NECESSARY FOR THE PROPER INSTALLATION OF MATERIALS OR APPARATUS SHALL BE TAKEN IN THE FIELD. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE CORRECT FIT OF WORK INSTALLED.

TESTS AND ADJUSTMENTS
ALL ELECTRICAL CIRCUITS SHALL BE TESTED AS SOON AS CONDUCTORS ARE INSTALLED, AND FINAL TESTS SHALL BE MADE IN PRESENCE OF THE OWNER'S REPRESENTATIVE, WHEN ALL WORK IS COMPLETE, IF REQUIRED, IF CIRCUITS ARE NOT PROPERLY CONTROLLED AND INSULATED, MAKE NECESSARY CHANGES AND REPAIRS.

"AS-BUILT" DRAWINGS
AT COMPLETION, THE CONTRACTOR SHALL FURNISH TO THE OWNER ONE (1) COMPLETE SET OF REPRODUCIBLE PRINTS, NEATLY MARKED AND DIMENSIONED WHERE REQUIRED TO SHOW ALL VARIATIONS BETWEEN ACTUAL CONSTRUCTION AS BUILT AND WORK AS INDICATED ON THE PRINTED DRAWINGS, INCLUDING ALL CHANGES IN LOCATIONS, SIZES, ETC, MARKINGS SHALL BE IN RED FOR ADDITIONS AND GREEN FOR DELETIONS. THESE REPRODUCIBLE VELLUM PRINTS SHALL BE NEW SETS PURCHASED FROM THE ARCHITECT, EACH SHEET CERTIFIED AS BUILT BY THE CONTRACTOR, AND TURNED OVER TO THE OWNER IN GOOD CONDITION.

GUARANTEE AND WARRANTY
CONTRACTOR SHALL GUARANTEE ALL WORK INSTALLED BY HIM OR HIS SUBCONTRACTORS TO BE FREE FROM DEFECT IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE WORK, UNLESS A LONGER PERIOD IS STIPULATED UNDER SPECIFIC HEADINGS, AND HE SHALL REPAIR OR REPLACE AT NO ADDITIONAL COST TO THE OWNER, ANY MATERIAL OR EQUIPMENT DEVELOPING DEFECTS AND SHALL ALSO MAKE GOOD ANY DAMAGE CAUSED BY SUCH DEFECTS OR THE CORRECTION OF DEFECTS.

REPAIRS OR REPLACEMENTS SHALL BEAR ADDITIONAL TWELVE (12) MONTHS GUARANTEE, AS ORIGINALLY CALLED FOR, DATED FROM THE FINAL ACCEPTANCE OF THE REPAIR OR REPLACEMENT. THIS REQUIREMENT SHALL BE BINDING EVEN THOUGH IT WILL EXCEED PRODUCT GUARANTEES NORMALLY FURNISHED BY SOME MANUFACTURERS.

NOTE THAT GUARANTEE SHALL RUN FROM DATE OF FINAL ACCEPTANCE OF THE WORK, NOT FROM DATE OF INSTALLATION OF A DEVICE OR PIECE OF EQUIPMENT.

PAINTING
PAINT ALL IRON WORK AND OTHER MISCELLANEOUS IRON TWO COATS OF AN APPROVED SILICONE ALKYD ENAMEL PAINT. COLOR OF PAINT SHALL BE SELECTED SUCH THAT IT BLEND WITH SURROUNDINGS.

ALL EXPOSED CONDUIT INSTALLED IN ROOMS OTHER THAN MECHANICAL OR BOILER ROOMS SHALL BE PAINTED BY THE CONTRACTOR, COLOR TO BLEND IN WITH EXISTING COLOR SCHEME.

LABELING
PROVIDE ENGRAVED THREE LAYER LAMINATED PLASTIC NAME PLATES TO IDENTIFY ALL ELECTRICAL EQUIPMENT INSTALLED UNDER THIS CONTRACT OR AS NOTED.

EQUIPMENT TO RECEIVE NAME PLATE SHALL INCLUDE, BUT NOT BE LIMITED TO: PANELBOARDS, SAFETY SWITCHES, BUS PLUGS, CONTROL PANELS, STARTERS.

NAME PLATES SHALL INCLUDE THE FOLLOWING INFORMATION - EQUIPMENT IDENTIFICATION, CIRCUIT NUMBER, CIRCUIT ORIGINATION OR LOAD SERVED (AS APPROPRIATE).

NAME PLATES SHALL BE SECURED TO PANELBOARDS, SAFETY SWITCHES, ENCLOSED CIRCUIT BREAKERS, IN CONSPICUOUS LOCATION, PARALLEL TO EQUIPMENT LINES USING SCREWS, RIVETS, OR PERMANENT ADHESIVE. NAME PLATES ON BUS PLUGS OR BUS TAP BOXES SHALL BE LOCATED ON BOTTOM OF PLUG OR BOX TO BE FED FROM FINISH FLOOR.

ALL SWITCHES AND RECEPTACLES SHALL BE IDENTIFIED AS TO CIRCUIT NUMBER AND PANELBOARD FED FROM USING PERMANENT MARKER ON INSIDE FACE OF DEVICE COVER PLATE.

ALL JUNCTION AND PULL BOXES LOCATED ABOVE SUSPENDED CEILINGS SHALL BE MARKED ON THE OUTSIDE OF COVER TO IDENTIFY THE PANEL FED FROM AND THE CIRCUIT NUMBER USING PERMANENT MARKER.

ALL BOXES LOCATED IN EXPOSED CEILING AREAS SHALL BE MARKED ON THE INSIDE OF COVERS TO IDENTIFY THE PANEL FED FROM AND CIRCUIT NUMBER USING PERMANENT MARKER.

CONDUITS AND FITTINGS
CONDUIT IN MASONRY PARTITIONS, EXPOSED IN MECHANICAL AREAS, OUTSIDE OF MECHANICAL AREAS WITHIN 48" OF FLOOR AND CONDUIT LARGER THAN 2" SHALL BE HOT-DIP GALVANIZED, RIGID HEAVY WALL TYPE, UNLESS OTHERWISE NOTED.

CONDUIT 2" AND SMALLER WHICH IS CONCEALED IN DRYWALL PARTITIONS, ABOVE ACCESSIBLE CEILINGS AND WHERE EXPOSED ABOVE 48" AFF, SHALL BE ELECTRICAL METALLIC TUBING.

CONDUITS INSTALLED UNDERGROUND AND/OR EXPOSED TO THE WEATHER SHALL BE PVC COATED RIGID GALVANIZED STEEL TYPE WITH TOUCH UP COATING APPLIED ON THREADS UPON INSTALLATION. CONDUIT FITTINGS AT THESE LOCATIONS SHALL BE NONFERROUS CAST TYPE EQUIPPED WITH GASKETED COVERS.

CONDUIT SHALL BE DELIVERED TO THE SITE IN STANDARD 10 FOOT LENGTHS, EACH LENGTH BEARING THE UL LABEL. HOT-DIP GALVANIZED CONDUIT SHALL BE SO LABELED.

MINIMUM SIZE OF CONDUIT SHALL BE 3/4", UNLESS OTHERWISE NOTED.

ALL CONDUIT SHALL BE SECURELY FASTENED IN PLACE WITH APPROVED CLAMPS AND CAREFULLY REAMED BEFORE INSTALLING.

CONDUITS SHALL NOT BE INSTALLED WITHIN 3" OF HOT WATER OR STEAM LINES.

CONDUITS IN MECHANICAL EQUIPMENT SPACES AND UNFINISHED AREAS MAY BE RUN EXPOSED. ALL OTHER CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED. EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL, OR AT RIGHT ANGLES TO ADJACENT BUILDING LINES AND SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING EIGHT FEET.

GROUPS OF CONDUITS, WHERE SUSPENDED, SHALL BE SUPPORTED ON TRAPEZE TYPE HANGERS, USING 3/8" ROD AND CHANNEL IRON OR UNISTRUT. INDIVIDUAL CONDUITS NOT SUPPORTED ON PIPE STRAPS SHALL BE PROVIDED WITH CONDUIT CLAMPS OR STIRRUP HANGERS SUSPENDED ON RODS. PERFORATED IRON STRAPS OR SOFT IRON WIRE FOR PIPE SUPPORTS SHALL NOT BE USED.

NO BEAMS OR OTHER STRUCTURAL MEMBERS SHALL BE DRILLED, BURNED, OR CUT WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

CONNECTORS AND COUPLINGS FOR ELECTRICAL METALLIC TUBING SHALL BE OF THE SET-SCREW TYPE AS MANUFACTURED BY T & B, MIDWEST, OR ELECTRIC TUBE PRODUCTS CO.

ALL CONDUITS CALLED OUT TO BE STUBBED OFF, SHALL HAVE PROPER BUSHINGS, FINISH, ETC. SO THAT NO ROUGH EDGES ARE LEFT AT END OF CONDUITS. ALL WIRING SHALL BE ENCLOSED IN A METAL RACEWAY, UNLESS OTHERWISE NOTED. ALL EMPTY CONDUITS SHALL HAVE A NYLON "FISH TAPE" LEFT IN THEM.

ALL WALL AND FLOOR PENETRATIONS SHALL BE FIRE RATED TO MAINTAIN RATING OF SURFACE PENETRATED, OR 1 HOUR RATING MINIMUM. SEALING SHALL BE WITH 3M #CP25 FIRE PUTTY OR EQUAL BY NELSON.

OUTLET BOXES
ALL FLUSH MOUNTED OUTLET BOXES SHALL BE STANDARD GALVANIZED STEEL TYPE NOT LESS THAN 1-1/2" DEEP, OF TYPE AND SIZE TO ACCOMMODATE DEVICES SPECIFIED WITH PROPER SPACE FOR WIRE AND SUPPORTS. BOXES SHALL BE EQUIPPED WITH PLASTER RINGS OR COVERS AS REQUIRED.

ALL OUTLET BOXES, PULL BOXES AND JUNCTION BOXES SHALL BE RIGIDLY SECURED IN PLACE IN AN APPROVED METHOD. NO OUTLETS SHALL BE PLACED BEHIND MECHANICAL PIPES OR HEATING EQUIPMENT OR ENCLOSURES. CHECK DRAWINGS OF OTHER TRADES FOR DOOR SWINGS AND SIZES AND LOCATIONS OF EQUIPMENT AND CABINETS.

CONDUCTORS OF FIRE ALARM AND FIRE PROTECTION CIRCUITS SHALL NOT BE INSTALLED IN THE SAME CONDUIT WITH CIRCUITS OF OTHER SYSTEMS. NO OUTLET BOX FOR ONE CONDUIT SYSTEM SHALL BE USED AS A JUNCTION BOX FOR ANY OTHER SYSTEM.

INSTALLATION OF CABLES
BEFORE CONDUCTORS ARE INSTALLED IN CONDUIT RUNS, THE CONDUITS SHALL BE SWABBED OR THE EQUIVALENT TO ENSURE THEIR DRYNESS AND FREEDOM FROM FOREIGN MATTER DETRIMENTAL TO THE CONDUCTOR INSULATION. ALL WIRING SHALL BE INSTALLED BEFORE FINISHES ARE APPLIED TO WALL AND CEILING SURFACES.

WIRE AND CABLES
ALL WIRE AND CABLE SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE CURRENT EDITION OF THE NEC AND SHALL MEET ALL ASTM SPECIFICATIONS. WIRE AND CABLE SHALL BE NEW; SHALL HAVE SIZE, GRADE OF INSULATION, VOLTAGE AND MANUFACTURER'S NAME PERMANENTLY MARKED ON OUTER COVERING AT REGULAR INTERVALS; SHALL BE DELIVERED IN COMPLETE COILS OR REELS WITH IDENTIFYING SIZE AND INSULATION TAGS.

WIRE AND CABLE SHALL BE SUITABLY PROTECTED FROM WEATHER AND DAMAGE DURING STORAGE AND HANDLING AND SHALL BE IN FIRST-CLASS CONDITION WHEN INSTALLED.

ALL CONDUCTORS SHALL BE STRANDED, SOFT-DRAWN COPPER UNLESS OTHERWISE NOTED.

ALL WIRING SHALL BE THHN, THWN, XHHW OR TYPE THW UNLESS A HIGHER TEMPERATURE WIRE IS REQUIRED TO FEED LIGHTING FIXTURES, HIGH TEMPERATURE CUTOUTS, ETC.

CONDUIT SIZES SHALL BE BASED ON THW CONDUCTORS.

WIRE AND CABLE SHALL BE AS MANUFACTURED BY SOUTHWIRE, GENERAL CABLE, OKONITE OR ANACONDA.

MINIMUM SIZE WIRE SHALL BE #12 AWG UNLESS OTHERWISE NOTED.

PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT.

GROUNDING
ALL CABINETS, CONDUIT SYSTEMS, PANELBOARDS, ETC., SHALL BE THOROUGHLY GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. PROVIDE A SEPARATE GROUND WIRE IN EACH RACEWAY.

WIRING DEVICES
GENERAL PURPOSE WIRING DEVICES: COMPLY WITH NEMA WD1.

RECEPTACLES: UL 498, HEAVY-DUTY GRADE EXCEPT AS INDICATED OTHERWISE.

GROUND-FAULT CIRCUIT INTERRUPTER RECEPTACLES: UL 943, FEED-THROUGH TYPE, WITH INTEGRAL NEMA 5-20R DUPLEX RECEPTACLE, FOR INSTALLATION IN A 2 3/4 INCH DEEP OUTLET BOX WITHOUT AN ADAPTER.

DEVICE BODIES SHALL BE WHITE FOR GENERAL USE DEVICES, ORANGE FOR ISOLATED GROUND RECEPTACLES, AND BROWN IN MECHANICAL SPACES, UNLESS OTHERWISE NOTED.

ACCEPTABLE MANUFACTURERS OF GENERAL PURPOSE WIRING DEVICES ARE AS FOLLOWS:

ARROW-HART
BRYANT
HUBBELL
PASS & SEYMOUR
LEVITON

INSTALL DEVICES AND ASSEMBLIES PLUMB AND SECURE. MOUNT DEVICES FLUSH, WITH LONG DIMENSION VERTICAL, AND GROUNDING TERMINAL OF RECEPTACLES ON BOTTOM. GROUP ADJACENT SWITCHES USING MULTIGANG WALL OUTLET BOXES. DO NOT USE GANGABLE TYPE BOXES.

PROTECT DEVICES AND ASSEMBLIES DURING PAINTING. INSTALL WALL PLATES WHEN PAINTING IS COMPLETE.

LIGHTING
LIGHTING FIXTURES ARE TO BE PROVIDED AS SPECIFIED IN THE LIGHTING FIXTURE SCHEDULE ON THESE DOCUMENTS. FIXTURES SUBMITTALS ARE TO BE APPROVED BY THE ENGINEER PRIOR TO THE PURCHASE OF SAID DEVICES. ANY COSTS INCURRED IN THE ORDERING OF FIXTURES PRIOR TO ENGINEER'S AUTHORIZATION ARE THE RESPONSIBILITY OF THE CONTRACTOR.

FIXTURES ARE TO BE SUPPORTED INDEPENDENT OF THE CEILING SYSTEM.

TIME SWITCHES ARE TO BE ELECTRONIC, WITH INTERNAL RELAY CAPABLE OF SWITCHING CIRCUIT LOADS, TIMING ELEMENT TO BE SELECTABLE FROM 5 MINUTES TO 1 HOUR, IN NO MORE THAN 20 MINUTE INTERVALS.

ALL PARTS AND DEVICES NECESSARY FOR THE INSTALLATION AND OPERATION OF THE SPECIFIED LIGHTING FIXTURES AND CONTROL SYSTEMS ARE TO BE PROVIDED BY THE CONTRACTOR AS A COMPLETE SYSTEM, IN FULL WORKING ORDER. ANY LAMPS NOT OPERATIONAL MUST BE REPLACED PRIOR TO FINAL BUY-OFF.

PANELBOARDS
PANELBOARDS SHALL CONFORM TO THE LATEST NEMA, UL AND NEC STANDARDS AND THE FOLLOWING RATINGS AND DATA.

SHALL BE COMMERCIAL GRADE, DEAD FRONT TYPE WITH FLUSH OR SURFACE MOUNTED GALVANIZED STEEL CABINET, PRIME COATED, WITH AN INTERNAL ASSEMBLY OF CIRCUIT BREAKERS. TRIMS SHALL HAVE HINGED AND LOCKED DOORS WITH GLASS OR HEAVY PLASTIC COVERED CIRCUIT DIRECTORIES TO ALSO INDICATE VOLTAGE, PHASE, AND CAPACITY AS INDICATED ON DRAWING. ALL LOCKS SHALL BE KEYED ALIKE. BOXES SHALL BE GALVANIZED, AND FRONT ASSEMBLY SHALL BE PAINTED WITH A PRIME AND FINISH COAT OF MANUFACTURER'S STANDARD FINISH. PANELS SHALL HAVE MAIN LUGS OR MAIN CIRCUIT BREAKER AS INDICATED ON DRAWINGS.

CIRCUIT BREAKERS SHALL BE MOLDED PLASTIC CASE TYPE, AC RATED, BOLT ON, QUICK-MAKE, QUICK-BREAK, WITH TRIP FREE COMMON OPERATING HANDLE, POSITION INDICATION, AND COMMON TRIP FOR 2 AND 3 POLE CIRCUIT BREAKERS FROM THERMAL-MAGNETIC TRIP DEVICE. TRIP RATINGS AND NUMBER OF POLES SHALL BE AS INDICATED ON THE DRAWINGS AND MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 SYMMETRICAL AMPERES AT 120/240 VOLTS, AND 18,000 SYMMETRICAL AMPERES AT 277/480 VOLTS. (ONE-LINE DIAGRAM OR PANEL SCHEDULE MAY REFLECT HIGHER INT. CAPACITY)

PANELBOARDS SHALL BE UL LISTED. MAIN BUS BARS SHALL BE COPPER EXTEND THE FULL HEIGHT OF THE ENCLOSURE BEING PROVIDED REGARDLESS OF BRANCH CIRCUIT POSITIONS BEING CALLED FOR ON THE SCHEDULES.

PANELBOARD DIRECTORIES SHALL DESIGNATE THE LIGHTING FIXTURES, ETC. CONTROLLED BY EACH BRANCH CIRCUIT IN THE PANEL. THE REQUIRED INFORMATION SHALL BE NEATLY TYPEWRITTEN ON DIRECTORIES IN EACH PANEL CIRCUIT.

ACCEPTABLE MANUFACTURERS OF PANELBOARDS INCLUDE SQUARE D, SIEMENS - I.T.E., EATON CUTLER-HAMMER, AND GENERAL ELECTRIC.

SYMBOL LIST

SYMBOL	DESCRIPTION
	SITE LIGHTING POLE AND LUMINAIRE
	POLE MOUNTED CAMERA
S	SINGLE POLE SWITCH
S_T	MANUAL MOTOR STARTER WITH THERMAL PROTECTION
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	COMBINATION MAGNETIC STARTER / DISCONNECT SWITCH (FUSED)
	CONTROL PANEL
	LIGHTING / RECEPTACLE / EQUIPMENT PANEL
	DISCONNECT SWITCH, FUSED
	JUNCTION BOX
T	TRANSFORMER
	DATA OUTLET
	TELEPHONE / DATA OUTLET
	TELEPHONE OUTLET
	SINGLE RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET - (48" A.F.F. OR AS DIRECTED)
	DOUBLE DUPLEX RECEPTACLE WITH 2-GANG COVER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
E	EXISTING EQUIPMENT / DEVICE
GFI	GROUND FAULT INTERRUPTER
R	RELOCATED EQUIPMENT / DEVICE
WP	WEATHERPROOF
NL	NIGHT LIGHT
U.G.	UNDERGROUND
———	EXISTING TO REMAIN
⟋⟋⟋⟋	EXISTING TO BE REMOVED
———	NEW
— — —	UNDERGROUND INSTALLATION

ELECTRICAL SHEET INDEX

OVERVIEW OF ELECTRICAL SCOPE

THIS OVERVIEW OF SCOPE IS INCLUDED TO GIVE THE CONTRACTOR A GENERAL OVERVIEW OF THE PROJECT REQUIREMENTS. THE OVERVIEW IS NOT ALL INCLUSIVE AND IS NOT INTENDED TO, AND SHOULD NOT BE USED TO, ESTABLISH CONTRACT LIMITS OR PRICING INCLUSIONS. THE CONTRACT DOCUMENTS SHALL BE USED TO ESTABLISH CONSTRUCTION CONTRACT SCOPE.

THIS OVERVIEW OF SCOPE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

ELECTRICAL:
PROVIDE FOLLOWING:
1. ELECTRICAL SERVICE CONDUCTORS FROM UTILITY POLE TO SERVICE DISCONNECT.
2. PAY FOR UTILITY COMPANY PERMIT. INCLUDE MEETINGS WITH UTILITY COMPANY IN YOUR BID.
3. ELECTRICAL PANELBOARD AND SERVICE DISCONNECT.
4. CONTROL CABINETS.
5. COMMUNICATION AND ELECTRICAL HANDHOLES.
6. CONCRETE FOUNDATIONS. CONCRETE BOLLARD.
7. GROUND LOOP. GROUND RODS. GROUND BUS (WITHIN CONTROL CABINET).
8. INSTALL EQUIPMENT PROVIDED BY CITY OF ANN ARBOR.
9. EXCAVATE AND RUN CONDUITS. RETURN GROUND TO ORIGINAL CONDITION.
10. DUCTBANK SYSTEM AT "SWIFT DRAIN".
11. RACEWAY SYSTEM WITH PULL WIRE (FIBER OPTIC CABLES BY OTHERS, COORDINATE)
12. BRANCH CIRCUIT CONDUIT AND WIRE.
13. LIGHTING POLE WITH CONCRETE BASE.
14. INSTALL OWNER PROVIDED CAMERA ON LIGHTING POLE.
15. PROVIDE (SUN RESISTANT) LAMICORD NAMEPLATE, INCLUDE EQUIPMENT NAME, AND FEEDER SOURCE.
16. PROVIDE DETAILED, DIMENSIONED, LEGIBLE AS-BUILT DRAWINGS, INCLUDING UNDERGROUND WORK.

PROJECT REQUIREMENTS

PROVIDE ALL NECESSARY PERMITS. ALL WORK SHALL BE INSTALLED TO COMPLY WITH THE OWNER'S STANDARDS, STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING CODES AND THEIR RELATED REFERENCES.

2017 NATIONAL ELECTRICAL CODE AS AMENDED BY THE MICHIGAN CONSTRUCTION CODE PART 8, ELECTRICAL CODE RULES.
NFPA 101 LIFE SAFETY CODE 2012 (AS REFERENCED)
2015 MICHIGAN ENERGY CODE
2015 INTERNATIONAL FIRE CODE (AS REFERENCED)
2015 MICHIGAN BUILDING CODE
2015 MICHIGAN MECHANICAL CODE
2015 MICHIGAN PLUMBING CODE
2015 INTERNATIONAL FUEL GAS CODE
2013 NFPA 110 AND NFPA 111

MANUFACTURER AND MODEL NUMBER LISTED REPRESENTS THE BASIS OF DESIGN FOR THIS PROJECT. THE ELECTRICAL CONTRACTOR SHALL BEAR ALL ADDITIONAL COST ASSOCIATED WITH USING EQUIPMENT BY OTHER APPROVED MANUFACTURERS INCLUDING ADDITIONAL COSTS BY OTHER TRADES.

ALL EQUIPMENT INSTALLED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE FIELD OR PROJECT CONDITIONS DO NOT ALLOW ALL MANUFACTURER'S RECOMMENDATIONS TO BE MET, THE INSTALLING CONTRACTOR SHALL SUBMIT IN WRITING TO THE ENGINEER THE PROPOSED DEVIATION, IN A SKETCH FORM, ACCOMPANIED BY THE MANUFACTURER'S CONCURRENCE.

DiClemente Siegel Design Inc.
Engineering and Architecture

28105 Greenfield Rd Southfield, MI 48076-3046
248.569.1430 Fax: 248.569.0096
Email: mkg@dsdonline.com
www.dsdonline.com

CITY OF ANN ARBOR
ANN ARBOR LANDFILL
TRUCK SCALE
ANN ARBOR, MICHIGAN

ELECTRICAL GENERAL INFORMATION

ISSUED FOR	DATE
CLIENT REVIEW	03-25-19
BIDS	04-03-19

DESIGNER:	SMD
DRAWN:	DSS / TCJ
PM / PIC:	JSR / SM
CHECKED:	.
ACADFILE:	18-1305.00-E-001
PROJECT No.	18-1305.00

E-001

SHEET NOTES:

1. EXACT CONDUIT ROUTING SHALL BE REVIEWED BY CITY OF ANN ARBOR PRIOR TO INSTALLATION.
2. ALL NETWORK HARDWARE SHALL BE PROVIDED BY CITY OF ANN ARBOR I.T. DEPARTMENT.

NEW WORK KEYED NOTES:
(APPLICABLE THIS SHEET ONLY)

1. CONNECT CONDUIT TO EXISTING COMMUNICATION CABINET WITH THREADED FITTING AND WEATHER RESISTANT GASKET.
2. EXCAVATE AND ROUTE CONDUIT MINIMUM OF 24" BELOW GRADE. RETURN GROUND TO ORIGINAL CONDITION.
3. PROVIDE COMMUNICATION HANDHOLE, REFER TO DETAIL SHEET E-004.
4. ROUTE DUCTBANK ABOVE "SWIFT RUN DRAIN" APPROXIMATELY 200' LONG. REFER TO DETAIL SHEET E-004.
5. 1"-3" SCHEDULE 80 PVC CONDUIT WITH PULL WIRE. FIBER OPTIC CABLE WILL BE INSTALLED AND TERMINATED UNDER SEPARATE CONTRACT, ELECTRICAL CONTRACTOR TO COORDINATE.

UNDERGROUND CONCRETE ENCASED DUCTBANK LEGEND:

○ = INDICATES NEW EMPTY CONDUIT WITH PULL WIRE

● = INDICATES NEW CABLE IN NEW CONDUIT

N

ELECTRICAL SITE PLAN

SCALE: 1" = 200'-0"

0 100 200 400 800

811 3 FULL WORKING DAYS BEFORE YOU DIG CALL

Know what's below
Call before you dig
MISS DIG System, Inc.
1-800-482-7171 (TOLL FREE) www.missdig.net

NOTE:
UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL M-I-S-S-D-I-G

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT, ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE SURVEYOR OR ENGINEER FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USERS SOLE RISK AND WITHOUT LIABILITY OF LEGAL EXPOSURE TO THE SURVEYOR OR ENGINEER.

DiClemente Siegel Design Inc.
Engineering and Architecture

28105 Greenfield Rd Southfield, MI 48076-3046
248.569.1430 Fax: 248.569.0096
Email: mkg@dsdonline.com
www.dsdonline.com

CITY OF ANN ARBOR
ANN ARBOR LANDFILL TRUCK SCALE
ANN ARBOR, MICHIGAN

ELECTRICAL SITE PLAN

ISSUED FOR	DATE
CLIENT REVIEW	03-25-19
BIDS	04-03-19

DESIGNER:	SMD
DRAWN:	DSS / TCJ
PM / PIC:	JSR / SM
CHECKED:	.
ACADFILE:	18-1305.00-E-002
PROJECT No.	18-1305.00

E-002

DESCRIPTION OF OPERATIONS

ALL INSTALLED SYSTEMS / EQUIPMENT TO BE COMPATIBLE WITH AND TO INTERFACE WITH CITY OF ANN ARBOR MARF FACILITY IT SYSTEMS AS OUTLINED BELOW:

EXTERIOR GATE OPERATOR

BUSINESS HOURS - OPEN (HOURS TO BE DETERMINED BY CITY OF ANN ARBOR)

AFTER HOURS - ACCESS LIMJITED TO CITY OF ANN ARBOR VEHICLES VIA ACCESS AT ENTRANCE KIOSK (KEYPAD, CARD READER, ETC..)

SCALE - INBOUND

CITY VEHICLE - RFID READER TO COMMUNICATE WEIGHT / MATERIAL OF INCOMING VEHICLE

VENDOR VEHICLE - RFID READER AT SCALE TO COMMUNICATE WEIGHT / MATERIAL OF INCOMNG VEHICLE

RESIDENTIAL CUSTOMERS - INPUT RESIDENT INFORMATION (LICENS NUKBER, PHOTO, ETC..) AT SCALE MOUNTED KIOSK TO LOG IN TO THE SITE. SCALE TO COMMUNICATE WEIGHT / MATERIAL OF INCOMING VEHICLE.

SCALE - OUTBOUND

CITY VEHICLE - RFID READER TO COMMUNICATE WEIGHT/ MATERIAL OF OUTGOING VEHICLE FOR TRACKING INVENTORY OF MATERIALS .

VNDOR VEHICLE - - RFID READER AT SCALE TO COMMUNICATE WEIGHT / MATERIAL OF OUTGOING VEHICLE FOR TRACKING OF MATERIAL INVENTORY AND CREATION OF INVOICE TO VENDOR

RESIDENTIAL CUSTOMERS - INPUT RESIDENT INFORMATION (LICENS NUKBER, PHOTO, ETC..) AT SCALE MOUNTED KIOSK TO LOG OUT OF THE SITE. SCALE TO COMMUNICATE WEIGHT / MATERIAL OF OUTGOING VEHICLE FOR CREATION OF INVOICE TO RESIDENT.

CAMERAS / SITE LIGHTING

CAMERAS TO OPERATE 24 HOURS/7 DAYS AND/OR CONTROLLED FROM CITY OF ANN ARBOR MARF FACILITY AT THE SITE.

LIGHTING TO BE CONTROLLED BY PHOTOCELL DURING BUSINESS HOURS AND CONTROLLED BY MOTION DETECTORS DURING NON-BUSINESS HOURS.

THE FOLLOWING ITEMS ARE TO BE PURCHASED BY:

THE CONTRACTOR FROM PARADIGMSOFTWARE LLC.

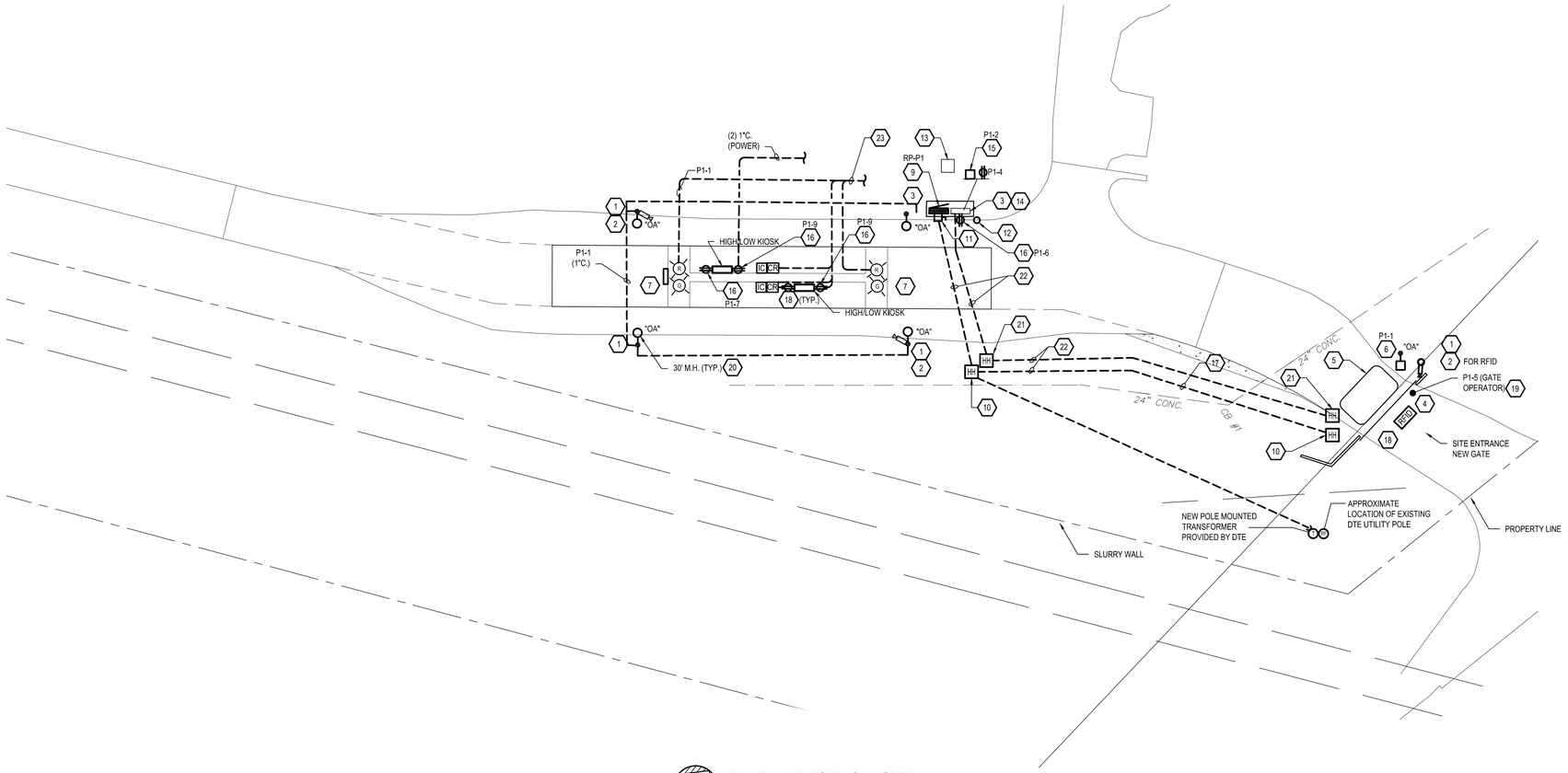
CONTACT INFORMATION
CHERYL R. JOHNSON
BUSINESS DEVELOPMENT SPECIALIST
OFFICE 410-329-1300 OPTION 3
CELL 443-834-5731

BILL OF MATERIALS

QTY	UM	ITEM/DESCRIPTION
2	LN	WeighStation Program License
1	EA	CompuWeigh License
1	FF	Insufficient Funds/Split Payments Module
1	FF	Alerts/ Rules Module
1	FF	Software Discount
1	FF	MSMQ Module (1-5 lanes)
2	LN	Unattended Module- (Includes RF and Lights Module)
2	LN	Scale Monitoring Module
2	LN	Video/Picture Module
2	LN	Driver's License Scanning Module - (Customer wants to scan the address and store with the t transaction. Customer does not want the Driver's License number stored.)
4	EA	Kiosk Enclosure (w/heater, fan, exhaust & thermostat)
4	EA	LCD Display - (Color 1550 NIT Direct Sun Readable)
4	EA	Kiosk Thermal Receipt Printer
2	EA	RF Junction Box
2	EA	4-port Extended Temperature Serial Server (Perle)
2	EA	Case Kiosk Thermal Receipt Paper (8 Rolls)
2	EA	RF Reader - (In and outbound scale for Commercial customers)
250	EA	RF Window Sticker (eGo Plus)
1	EA	Intercom Master (IP) - (Includes Master Station, Sub-Station Adapter and Transformer)
4	EA	Intercom Remote Horn/Station (IP) - (Includes Horn and Push Button)
2	EA	Barcode Scanner (in enclosure to be attached to unattended enclosure) - (To read Driver's License)
4	EA	ISS Dome Camera - (P327 LVE DN Dome, IK10 Out VF 3.5-10 MM Built-In IR 5MP@30FPS W/WDR - customer must provide POE switch)
5	DAYS	On-Site Install/Training - (during normal PSLLC business hours (8 hours) (2 Installation Specialists)
40	HOURS	Remote Install/Training -Implementation - (during normal PSLLC

NOTES:
1. ELECTRICAL CONTRACT RESPONSIBLE FOR ALL WIRING, ELECTRICAL, TRENCHING, CONDUIT, BOLLARDS AND MOUNTING UNLESS OTHERWISE NOTED. PSLLC WILL CONFIGURE THE HARDWARE TO WORK WITH THE SOFTWARE.
2. CITY OF ANN ARBOR TO PROVIDE WRITTEN BUSINESS SPECIFICATIONS REGARDING PROCESSING OF THE RESIDENTIAL TRANSACTIONS.

LANDFILL (CLOSED)



N

PARTIAL ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0"

0 30 60 120 240

NEW WORK KEYED NOTES:
(APPLICABLE THIS SHEET ONLY)

1. POLE-MOUNTED LED LUMINAIRE, REFER TO SHEETS E-004 FOR LIGHTING FIXTURE SCHEDULE AND MOUNTING DETAIL ON SHEET E-005.
2. 4-WAY CAMERA PROVIDED BY CITY, INSTALLED ON LIGHTING POLE AND AIMED BY ELECTRICAL CONTRACTOR, MOUNT AT 18'-0" AFF. REFER TO TYPICAL MOUNTING DETAIL ON SHEET E-005.
3. 4'W x 6'H x 18"D COMMUNICATION CABINET, FULLY HINGED, NEMA 4 BY HOFFMAN OR EQUIVALENT. FOR SCALE, CAMERA, AND GATE CONTROL, REFER TO MOUNTING DETAIL ON SHEET E-005.
4. RFID PROVIDED BY CITY AT OUTSIDE GATE, CONTRACTOR SHALL INSTALL GATE, GATE CONTROLLER, AND MOUNT FOR THE RFID READER. THE REMAINDER OF WORK WILL BE HANDLED BY CITY OF ANN ARBOR.
5. PROVIDE LOOP SENSOR TIED TO GATE CONTROLLER ON THE OUTBOUND SIDE.
6. GATE CONTROLLER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
7. RED AND GREEN LIGHTS AND WEIGHT INDICATOR AT BOTH ENDS OF SCALE TO INDICATE TO STOP OR PROCEED. SHALL BE EAGLE TRAFFIC CONTROL SYSTEMS SG POLYCARBONATE VEHICLE SIGNAL HOUSINGS IN YELLOW, PELCO ALUMINUM SLIP FITTER ASSEMBLIES, WITH DIALIGHT XL15 8" LED LIGHTS, OR EQUIVALENT.
8. INTERCOM/CARD READER SYSTEM PROVIDED BY CITY AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO MOUNTING DETAIL ON SHEET E-005.
9. ELECTRICAL PANELBOARD, REFER TO MOUNTING DETAIL, SCHEDULE AND ONE-LINE DIAGRAM ON SHEET E-005.
10. ELECTRICAL HAND-HOLE, REFER TO MOUNTING DETAIL ON SHEET E-004.
11. SERVICE DISCONNECT, REFER TO ONE-LINE DIAGRAM ON SHEET E-005.
12. BOLLARD, REFER TO DETAIL ON SHEET E-4 FOR REQUIREMENTS.
13. PROVIDE GROUND LOOP/GROUND RODS. REFER TO DETAIL ON SHEET E-005.
14. PROVIDE 2'L X 1/4"W COPPER BUS AND INSTALL INSIDE CABINET OFFSET FROM CABINET AND ROUTE GROUND WIRE PER DETAIL ON SHEET E-005.
15. PROVIDE STRIP HEATER ON BOTH SIDES OF CABINET (INTERIOR).
16. WEATHER-PROOF, GFI RECEPTACLE OUTLET, MOUNT ON CABINET EXTERIOR WITH HEAVY DUTY IN-USE COVER PLATE.
17. 2 #8 + 1 #8 GRD TO LIGHTING POLE AND 2 #8 + 1 #8 GRD TO GATE OPERATOR.
18. ALL ACCESS CONTROL EQUIPMENT PROVIDED BY CITY OF ANN ARBOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
19. GATE SHALL BE LIFT MASTER ELITE SERIES, INSTALLED BY ELECTRICAL CONTRACTOR.
20. 30' MOUNTING HEIGHT TOTAL WITH 27'-6" POLE AND 2'-6" CONCRETE BASE.
21. COMMUNICATION HANDHOLD, REFER TO MOUNTING DETAIL ON SHEET E-004.
22. (2) 2"C. FOR COMMUNICATION CABLES, (RFID, ETC.) AND (1) 2"C. FOR POWER AND (1) 2"C. SPARE.
23. (5) 1"C. FOR COMMUNICATION AND (1) 1"C. SPARE. COORDINATE ACTUAL QUANTITIES WITH SCALE AND KIOSK SUPPLIERS. QUANTITIES ARE ASSUMED FOR BIDDING PURPOSES. ROUTE CONDUITS TO COMMUNICATION CABINET.

811 3 FULL WORKING DAYS BEFORE YOU DIG CALL
Know what's below
Call before you dig
MISS DIG System, Inc.
1-800-482-7171 www.missdig.net
(TOLL FREE)

NOTE:
UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL M-I-S-S-D-I-G

ANY INFORMATION OR DATA ON THIS DRAWING IS NOT INTENDED TO BE SUITABLE FOR REUSE BY ANY PERSON, FIRM OR CORPORATION OR ANY OTHERS ON EXTENSIONS OF THIS PROJECT OR FOR ANY USE ON ANY OTHER PROJECT, ANY REUSE WITHOUT WRITTEN VERIFICATION AND ADAPTATION BY THE SURVEYOR OR ENGINEER FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT THE USERS SOLE RISK AND WITHOUT LIABILITY OF LEGAL EXPOSURE TO THE SURVEYOR OR ENGINEER.

DiClemente Siegel Design Inc.
Engineering and Architecture

28105 Greenfield Rd Southfield, MI 48076-3046
248.569.1430 Fax: 248.569.0096
Email: mkt@dsdonline.com
www.dsdonline.com

CITY OF ANN ARBOR
ANN ARBOR LANDFILL
TRUCK SCALE
ANN ARBOR, MICHIGAN

PARTIAL ELECTRICAL SITE PLAN

ISSUED FOR	DATE
CLIENT REVIEW	03-25-19
BIDS	04-03-19
REVISED PLANS	03-03-2020

DESIGNER:	SMD
DRAWN:	DSS / TCJ
PM / PIC:	JSR / SM
CHECKED:	.
ACADFILE:	18-1305.00-E-003
PROJECT No.	18-1305.00

E-003

LIGHTING FIXTURE SCHEDULE

[LIGHTING FIXTURE TYPES]

TYPE	DESCRIPTION	MOUNTING	WATTS
OA	LED POLE MOUNTED SINGLE LUMINAIRE, TYPE IV DISTRIBUTION, 3000K COLOR TEMPERATURE, MVOLT DARK BRONZE, BI-LEVEL MOTION/AMBIENT SENSOR, 23, 844 LUMENS, 80 LEDS, 700MA DRIVER CURRENT. LITHONIA CATALOG NO. DSX2-LED-P2-30K-T4M-MVOLT-PIRH-RPA	POLE	185

120/240VOLT–1PHASE–3WIRE+GRND PANELBOARD SCHEDULE

PANELBOARD DESIGNATION RP-P1 LOCATION NEAR GATE

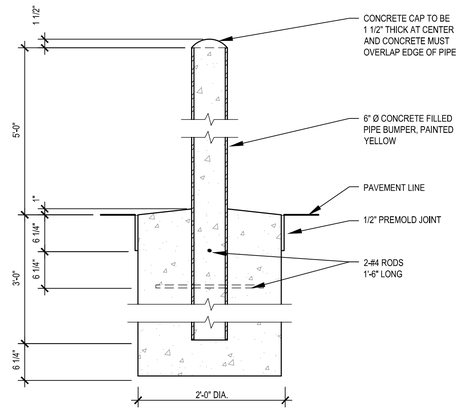
125 AMP BUS 100 M.C.B. ___ M.L.O. MOUNTING: FLUSH ___ SURFACE X

SPECIAL REQUIREMENTS 22 KAIC

CKT NO.	VA	LOAD TYPE	A B C	LOAD TYPE	VA	CKT No.
1	925	SITE LIGHTING		STRIP HEATER	200	2
3	600	SCALE		RECEPT. (CABINET)	200	4
5	1200	GATE OPERATOR		RECEPT. (CABINET)	200	6
7	400	KIOSK		SPARE	.	8
9	400	KIOSK		SPARE	.	10
11	.	SPARE		SPARE	.	12
13	.	SPARE		SPARE	.	14
15	.	SPARE		SPARE	.	16
17	.	SPARE		SPARE	.	18
19	.	SPACE		SPACE	.	20
21	.	SPACE		SPACE	.	22
23	.	SPACE		SPACE	.	24
25	.	SPACE		SPACE	.	26
27	.	SPACE		SPACE	.	28
29	.	SPACE		SPACE	.	30

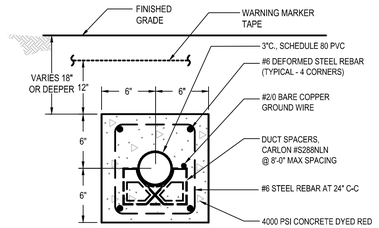
LIGHTING	925 VA	AT	125 %	=	1156 VA		
RECEPTACLE	400 VA	AT	100 %	=	400 VA	(FIRST 10,000 VA AT 100%)	
RECEPTACLE	-. VA	AT	50 %	=	-. VA		
MISC.	2800 VA	AT	80 %	=	2240 VA		
TOTAL	4125 VA	TOTAL DEMAND		=	3796 VA	/ 240 V	= 15.8 A

1. ALL CIRCUIT BREAKERS ARE 20A-1P UNLESS NOTED OTHERWISE.
2. BALANCE ALL ELECTRICAL LEADS WITH I/O%.



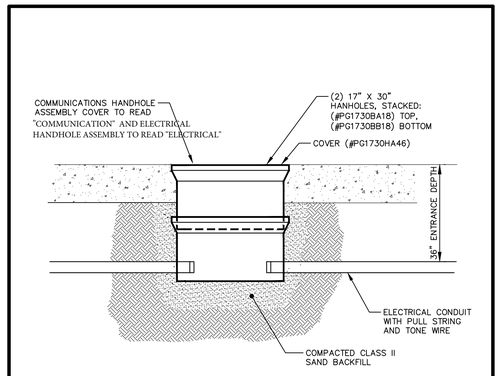
BUMPER POST DETAIL

NOT TO SCALE



UNDERGROUND DUCT SECTION (OVER THE "SWIFT RUN DRAIN")

NOT TO SCALE



INSTALLATION NOTE:
THE CONDUIT SHALL BE LOWERED TO A MINIMUM ENTRANCE DEPTH OF 36" BELOW TOP OF THE HANDLE OVER A DISTANCE OF 10 FT. ON EACH SIDE OF THE HANDHOLE ASSEMBLY

HANDHOLE ASSEMBLY

CITY OF ANN ARBOR
PUBLIC SERVICE
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV. NO.	DATE	DRAWN BY	CHECKED BY

COMMUNICATIONS HANDHOLE ASSEMBLY

DR. DPF	CH. HP	DRAWING NO.
SCALE N.T.S.	DATE 11/17/99	64

DiClemente Siegel Design Inc.
Engineering and Architecture

28105 Greenfield Rd Southfield, MI 48076-3046
248.569.1430 Fax: 248.569.0096
Email: mktg@dsdonline.com
www.dsdonline.com

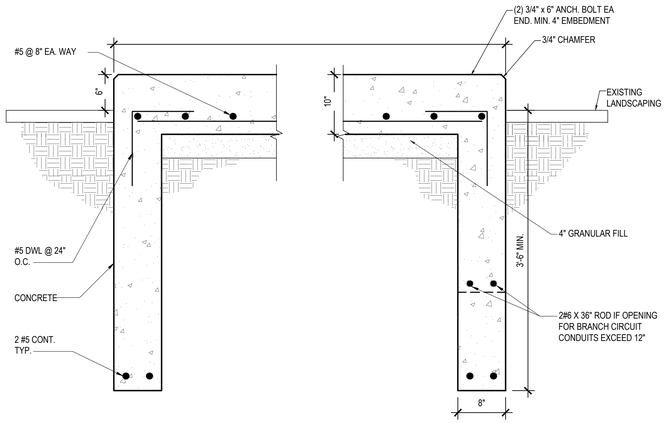
CITY OF ANN ARBOR
ANN ARBOR LANDFILL
TRUCK SCALE
ANN ARBOR, MICHIGAN

ELECTRICAL DETAILS AND SCHEDULES

ISSUED FOR	DATE
CLIENT REVIEW	03-25-19
BIDS	04-03-19
REVISED PLANS	03-03-2020

DESIGNER:	SMD
DRAWN:	DSS / TCJ
PM / PIC:	JSR / SM
CHECKED:	.
ACADFILE:	18-1305.00-E-004
PROJECT No.	18-1305.00

E-004

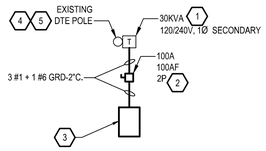


ELECTRICAL EQUIPMENT PAD DETAIL

NOT TO SCALE

NOTES:

1. PROVIDE 1/4" PER FOOT MAXIMUM SLOPE.
2. DIMENSION VARIES, COORDINATE WITH FINAL EQUIPMENT SHOP DRAWING.

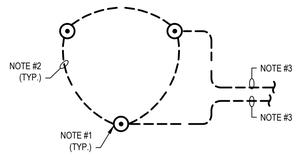


ELECTRICAL ONE-LINE DIAGRAM

NOT TO SCALE

KEY NOTES:
(APPLICABLE THIS SHEET ONLY)

1. DTE POLE MOUNTED TRANSFORMER, PROVIDED AND INSTALLED BY DTE.
2. SAFETY SWITCH, SERVICE DISCONNECT RATED BY SQUARE D OR CUTLER HAMMER. PROVIDE BUSSMAN RK5 FUSES.
3. ELECTRICAL PANELBOARD, COMMERCIAL GRADE, COPPER BUS, 22KAIC NEMA 3R, REFER TO SPECIFICATION AND PANEL SCHEDULE FOR ADDITIONAL REQUIREMENTS.
4. PROVIDE INCOMING CABLE PROTECTION ON POLE (I.E. RGS CONDUIT) PER DTE STANDARDS, APPROXIMATELY 10'-0" AFG.
5. MEET WITH DTE FOR NEW ELECTRICAL SERVICE AND INCLUDE IN YOUR BIDS FOR ALL MEETINGS WITH DTE.

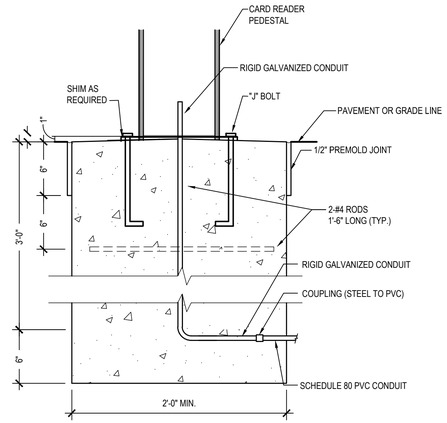


GROUND LOOP DETAIL

NOT TO SCALE

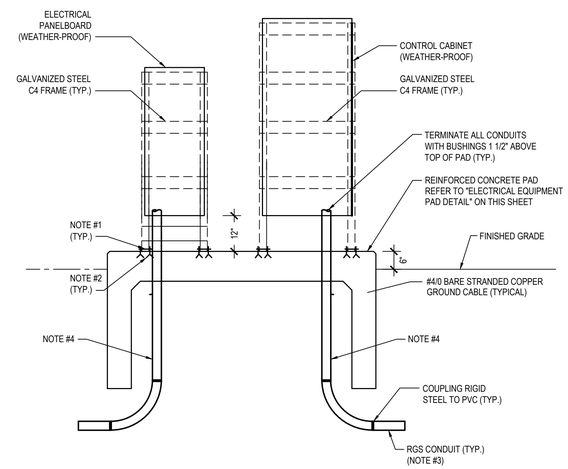
NOTES:

1. GROUND ROD TO BE ¾" DIA. x 10' LONG COPPERWELD WITH TOP 12" BELOW GRADE.
2. GROUND LOOP TO BE #1/0 BARE STRANDED COPPER GROUND WIRE. CADWELD ALL CONNECTIONS.
3. ROUTE TO ELECTRICAL PANELBOARD GROUND TERMINAL AND TO COMMUTATION CABINET GROUND BUS



CARD READER PEDESTAL DETAIL

NOT TO SCALE

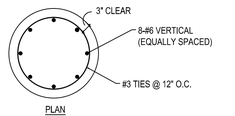


ELECTRICAL PANELBOARD AND CONTROL CABINET DETAIL

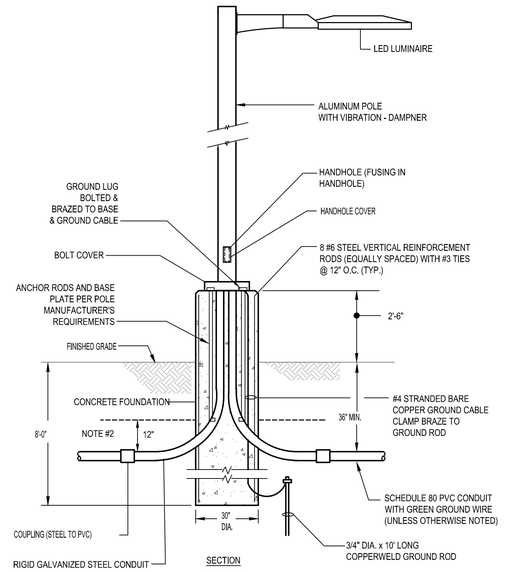
NOT TO SCALE

NOTES:

1. 5/8"X8"X8" GALVANIZED STEEL BASE PLATE.
2. 5/8" DIAMETER GALVANIZED EXPANSION ANCHOR TYPICAL FOR TWO AT EACH BASE PLATE.
3. SCHEDULE80 PVC CONDUIT 48" BELOW FINISHED GRADE (WITH MARKER TAPE 12" BELOW FINISHED GRADE)
4. PROVIDE MULTIPLE CONDUITS AS REQUIRED.



PLAN



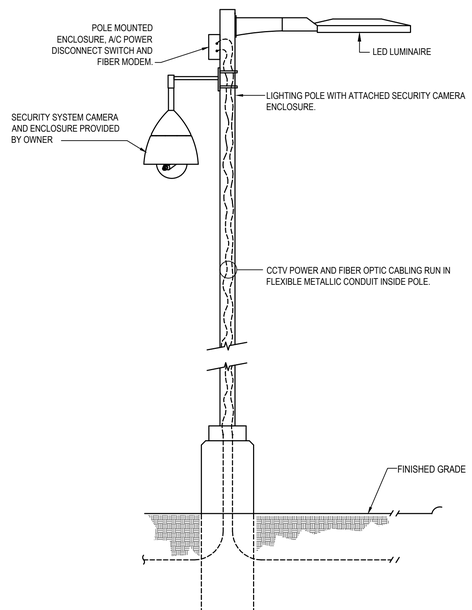
SECTION

LIGHTING FIXTURE DETAIL TYPE "OA"

NOT TO SCALE

NOTES:

1. COMPACTION REQUIREMENTS TO BE @ 95% MINIMUM FOR THE MUW (MAXIMUM UNIT WEIGHT) OF THE MATERIAL.
2. PROVIDE PLASTIC TAPE TRACE 12" ABOVE CONDUIT (RED TAPE WITH BLACK LETTERS) "CAUTION- ELECTRIC BURIED".
3. ALL POLES TO BE MOUNTED 4'-0" FROM THE CURB.



TYPICAL SECURITY CAMERA MOUNTING DETAIL

NOT TO SCALE

DiClemente Siegel Design Inc.
Engineering and Architecture

28105 Greenfield Rd Southfield, MI 48076-3046
248.569.1430 Fax: 248.569.0096
Email: mktg@dsdonline.com
www.dsdonline.com

CITY OF ANN ARBOR
ANN ARBOR LANDFILL TRUCK SCALE
ANN ARBOR, MICHIGAN

ELECTRICAL DETAILS

ISSUED FOR	DATE
CLIENT REVIEW	03-25-19
BIDS	04-03-19

DESIGNER:	TJM / SMD
DRAWN:	TJM
PM / PIC:	JSR
CHECKED:	.
ACADFILE:	18-1305.00-E-005
PROJECT No.	**18-1305.00**

E-005