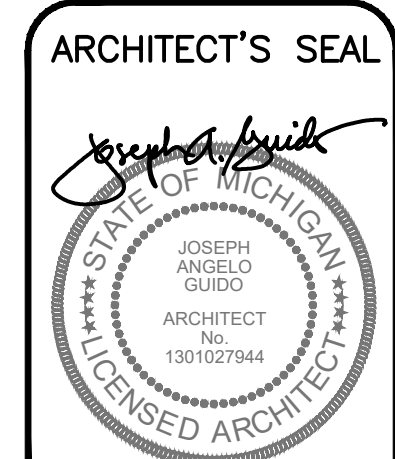




STORMWATER DETENTION CALCULATIONS

BACKGROUND INFORMATION
Developed Area Tributary to Pond #1
Runoff Coefficient
Time of Concentration

A= 3.074 Acres (Includes Pond)
C= 0.95 Industrial
Tc= 25 Minutes

Allowable Outflow:
Variable Release Rate:
Q_{max} = 1.1055 x 0.206 x L(N/A)
Q_{max} = 0.87 CFS/AC.
Allowable Outflow = Q_{max} x A = **2.67 CFS**

100-Year Storm Inflow:
Q_{100-year} = 100-year storm inflow use Rational Method: Q=CIA
C = 0.95
I = 275
Tc=25
A = 3.074 Acres
Q_{100-year} = CIA = **16.06 CFS**

WATER QUALITY CONTROL (WQC)
V_{det} = 3,630 x 1.0 x C x A
V_{det} = **10,601 Cu. Ft.**

Channel Protection Volume Control (CPVC)
V_{det} = 3,630 x 1.2 x C x A
V_{det} = **12,721 Cu. Ft.**

Channel Protection Rate Control - EXTENDED DETENTION (CPRC)
V_{det} = 3,630 x 1.9 x C x A
V_{det} = **20,141 Cu. Ft.**

DETENTION & FLOOD CONTROL (DFC)
Primary Design: The greater of Macomb County Method or 2" over tributary area

I. New Macomb County Method Detention Volume Requirements
V_{det} = (V_{det} x R) - V_{det} x C
V_{det} = 3,630 x 5.2 x C x A = 55,124 Cu. Ft.
V_{det} = Infiltration Volume, use conservative presumption = 0
R = 0.206 - 0.15 x LN(Q_{det}/Q_{det})
Q_{det} = Allowable Outflow = 2.67 CFS
Q_{det} = Peak 100-yr Inflow = 16.06 CFS
R = 0.206 - 0.15 x LN(Q_{det}/Q_{det}) = 0.475
V_{det} = (V_{det} x R) - V_{det} x C = **26,781 Cu. Ft.**

ii. 100-Year Detention per 0.2" Over Tributary Area Method:
V_{det} = A x 0.2 x 43,560 = **26,781 Cu. Ft.**
Use the Larger of the Two = **26,781 Cu. Ft.**

Detention Volume Provided (Pond #1)
V_{provided} = 1/3 x H x (A₁ + A₂ + V(A₁A₂))

Elevation	Area (S.F.)	H (Ft.)	Volume (Cu. Ft.)
734.00	14,826	4.00	35,312
730.00	3,978		

V_{provided} = **35,312 Cu. Ft.** > 26,781 Cu. Ft. so okay!

STORMWATER DETENTION CALCULATIONS

BACKGROUND INFORMATION
Developed Area Tributary to Pond #2
Runoff Coefficient
Time of Concentration

A= 12.74 Acres (Includes Pond)
C= 0.55 Gravel
Tc= 25 Minutes

Allowable Outflow:
Variable Release Rate:
Q_{max} = 1.1055 x 0.206 x L(N/A)
Q_{max} = 0.58 CFS/AC.
Allowable Outflow = Q_{max} x A = **7.39 CFS**

100-Year Storm Inflow:
Q_{100-year} = 100-year storm inflow use Rational Method: Q=CIA
C = 0.55
I = 275
Tc=25
A = 12.74 Acres
Q_{100-year} = CIA = **38.55 CFS**

WATER QUALITY CONTROL (WQC)
V_{det} = 3,630 x 1.0 x C x A
V_{det} = **25,443 Cu. Ft.**

Channel Protection Volume Control (CPVC)
V_{det} = 3,630 x 1.2 x C x A
V_{det} = **30,532 Cu. Ft.**

Channel Protection Rate Control - EXTENDED DETENTION (CPRC)
V_{det} = 3,630 x 1.9 x C x A
V_{det} = **48,342 Cu. Ft.**

DETENTION & FLOOD CONTROL (DFC)
Primary Design: The greater of Macomb County Method or 0.2" over tributary area

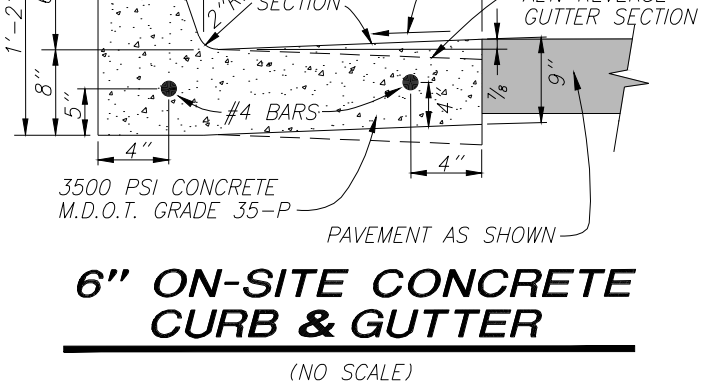
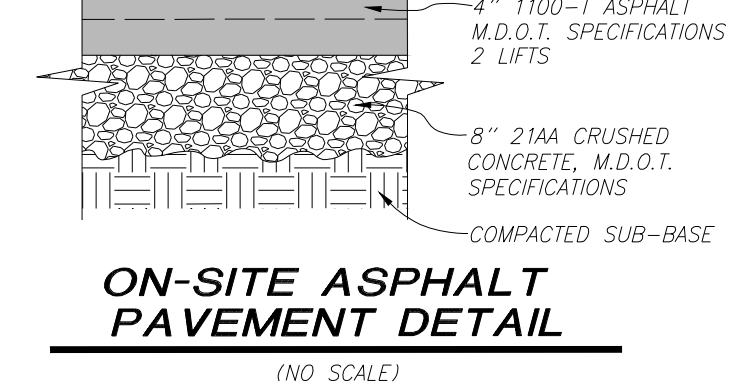
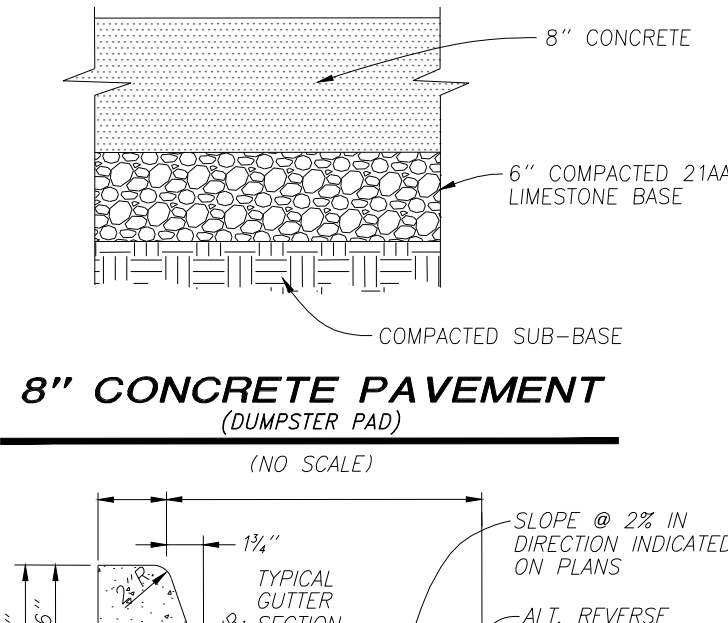
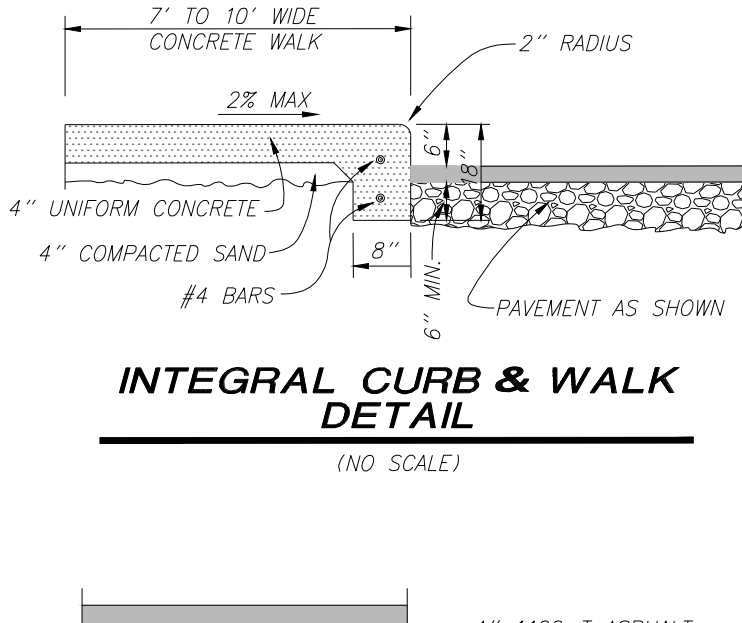
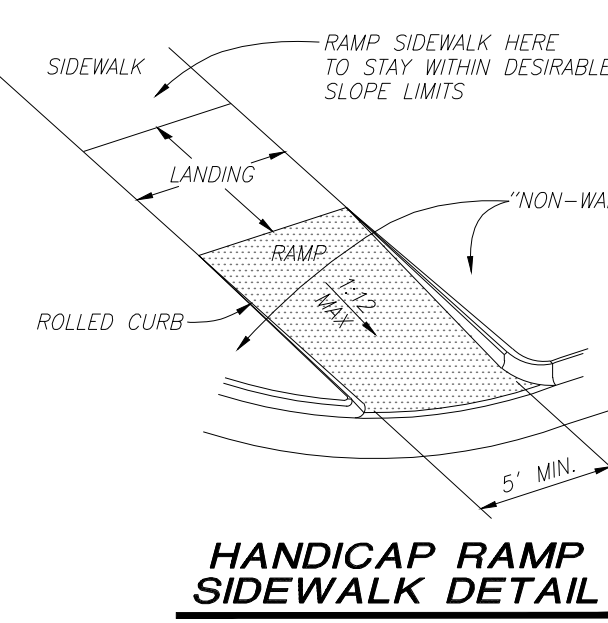
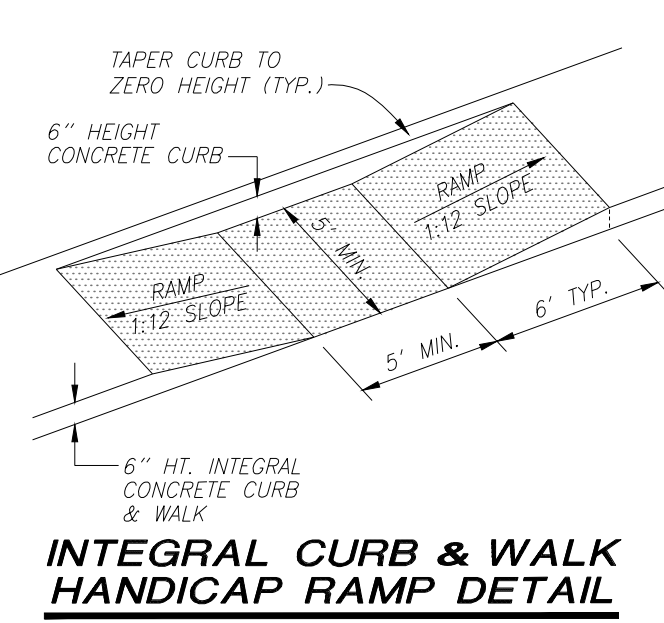
I. New Macomb County Method Detention Volume Requirements
V_{det} = (V_{det} x R) - V_{det} x C
V_{det} = 3,630 x 5.2 x C x A = 132,306 Cu. Ft.
V_{det} = Infiltration Volume, use conservative presumption = 0
R = 0.206 - 0.15 x LN(Q_{det}/Q_{det})
Q_{det} = Allowable Outflow = 7.39 CFS
Q_{det} = Peak 100-yr Inflow = 38.55 CFS
R = 0.206 - 0.15 x LN(Q_{det}/Q_{det}) = 0.454
V_{det} = (V_{det} x R) - V_{det} x C = **60,067 Cu. Ft.**

ii. 100-Year Detention per 0.2" Over Tributary Area Method:
V_{det} = A x 0.2 x 43,560 = **111,026 Cu. Ft.**
Use the Larger of the Two = **111,026 Cu. Ft.**

Detention Volume Provided (Pond #2)
V_{provided} = 1/3 x H x (A₁ + A₂ + V(A₁A₂))

Elevation	Area (S.F.)	H (Ft.)	Volume (Cu. Ft.)
728.00	32,328	5.00	113,013
723.00	14,117		

V_{provided} = **113,013 Cu. Ft.** > 111,026 Cu. Ft. so okay!



NOTES

- MACOMB COUNTY DEPARTMENT OF ROADS APPROVAL IS REQUIRED FOR ANY WORK PERFORMED WITHIN VAN DYKE ROAD RIGHT-OF-WAY.
- ALL UNPAVED/UNBUILT AREAS SHALL BE PROVIDED WITH SUFFICIENT GROUND COVER AS INDICATED ON THE PLAN.
- ROOF MOUNTED APPLIANCES & FIXTURES SHALL BE EFFECTIVELY SCREENED ON ALL SIDES BY ROOF LINE.
- ALL UTILITIES AND GRADING SHOWN ARE FOR PLANNING PURPOSES ONLY. EXACT UTILITY LOCATIONS AND GRADING TO BE DETERMINED DURING ENGINEERING.

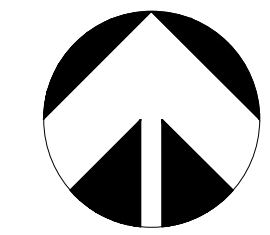
FIRE DEPARTMENT NOTES

- NO PARKING-FIRE LANE SIGNS SHALL BE INSTALLED AND MAINTAINED AS DESIGNATED BY THE FIRE MARSHAL.
- KNOX BOX SECURITY SYSTEM IS REQUIRED PER LOCAL ORDINANCE.
- BUILDINGS #1 & #2 SHALL HAVE AN AUTOMATIC FIRE SUPPRESSION SYSTEM INSTALLED.

PHASING PLAN

- PHASE 1 INCLUDES THE 30' WIDE ENTRANCE DRIVEWAY CONNECTION TO VAN DYKE, THE OUTDOOR PARKING AREA WITH ITS ENCLOSING FENCE AND GATE, DETENTION POND A, AND THE TWO LARGE SURCHARGE BERMS IN THE BUILDING 1 AND BUILDING 2 FOOTPRINTS
- PHASE 2 INCLUDES BUILDING #1 WITH ITS ANCILLARY PARKING AREAS, THE TRASH ENCLOSURE, AND RE-WORKING THE EXISTING DETENTION POND TO NEW PROPOSED DETENTION POND B REQUIREMENTS
- PHASE 3 INCLUDES BUILDING #2 WITH ITS ANCILLARY PARKING AREAS

NORTH



SCALE: 1"=60'



BENCHMARKS

DATUM=NAVD83

- TOP BOLT ON W. LEC. DE. TOWER IN NW PART OF SITE. ELEVATION=727.52
- CB ON W. SIDE VAN DYKE @ DRIVE TO SITE. ELEVATION=734.77
- CB 65' S. OF N. PL 130' E. OF W. PL. ELEVATION=733.85
- TOP/WEEL 230' S. OF N. PL 190' E. OF W. PL. ELEVATION=737.17



22



LOCATION MAP

SCALE: 4" = 1 MILE

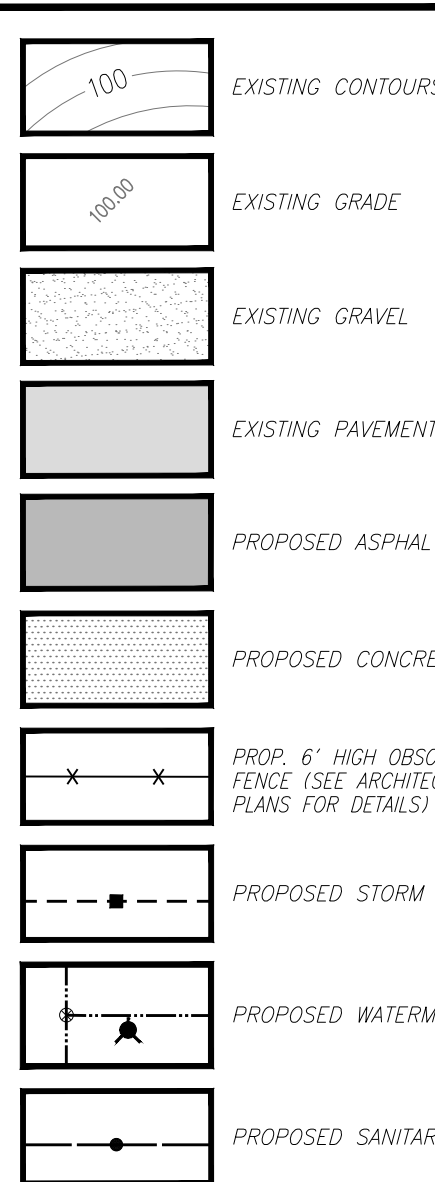
PROPERTY DESCRIPTION

Land in the Southeast 1/4 of Section 22, T.4N., R.12E., Washington Township, Macomb County, Michigan is described as: Commencing at the South 1/4 Corner of Section 22; thence N.01°46'08"E. as measured (N.02°24'17"E. record), 657.93 feet along the north-south 1/4 line of Section 22 to the Point of Beginning; thence continuing along said line N.01°46'08"E., 110.52 feet as measured (N.02°24'17"E., 122.00 feet record); thence N.32°31'30"E., 516.99 feet as measured (N.32°33'15"E., 564.25 feet record) along the southeasterly line of Van Dyke Avenue (66 feet wide); thence N.89°16'21"E., 995.65 feet as measured (N.89°16'12"E., 993.73 feet record); thence S.00°50'10"W. as measured (S.00°50'47"W. record), 606.20 feet; thence S.89°49'19"W., 1300.36 feet as measured (S.89°49'15"W. record) to the Point of Beginning and containing 16.20 acres.

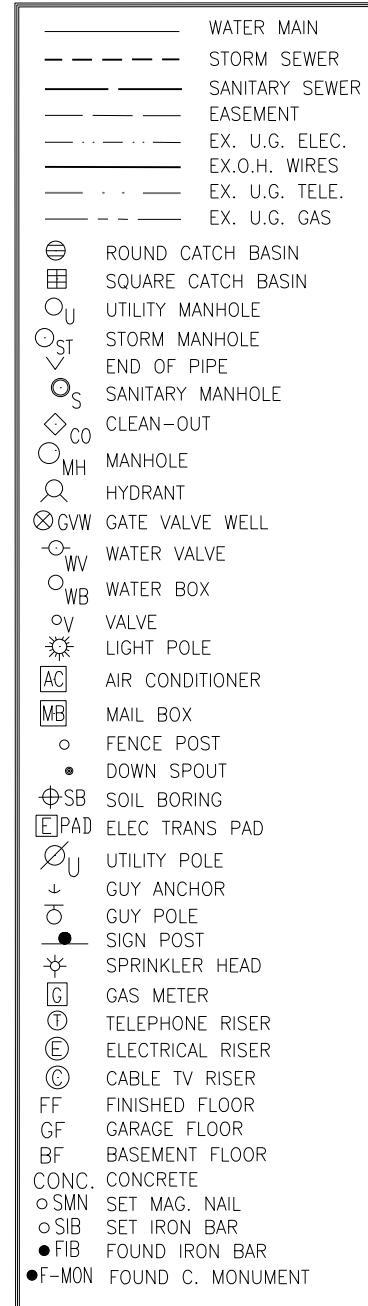
SITE CRITERIA

- PARCEL IDENTIFICATION # 04-22-400-008
- EXISTING ADDRESS: 61400 VAN DYKE AVENUE
- EXISTING ZONING: IND
- ADJACENT ZONINGS: IND, A1
- AREA OF SITE: 16.20 ACRES
- PROPOSED USE: MULTI-TENANT INDUSTRIAL BUILDINGS
- W/ 400 SPACES FOR OUTSIDE RV, BOAT, & TRAILER PARKING
- BUILDING AREA: 42,240 S.F. (2 x 21,120 S.F.)
- BUILDING SETBACKS:
 - FRONT = 110' FROM C
 - REAR = 50'
 - SIDE = 10' MIN., 40' TOTAL
 - PARKING = 80' FROM C
- PARKING SUMMARY (BUILDING 1):
 - SPACES REQUIRED: 1 SPACE PER 300 S.F. (OFFICE) = 4,320 / 300 = 14.4
 - 1 SPACE PER 500 S.F. (INDUSTRIAL) = 16,800 / 500 = 33.6
 - TOTAL REQUIRED SPACES = 48
 - SPACES PROVIDED: 50 SPACES (INCLUDES 2 HANDICAP SPACES)
- PARKING SUMMARY (BUILDING 2):
 - SPACES REQUIRED: 1 SPACE PER 300 S.F. (OFFICE) = 4,320 / 300 = 14.4
 - 1 SPACE PER 500 S.F. (INDUSTRIAL) = 16,800 / 500 = 33.6
 - TOTAL REQUIRED SPACES = 48
 - SPACES PROVIDED: 50 SPACES (INCLUDES 2 HANDICAP SPACES)
- UTILITY SUMMARY:
 - WATER MAIN: MUNICIPAL (TO BE BROUGHT TO SITE BY OTHERS)
 - SANITARY SEWER: MUNICIPAL (TO BE BROUGHT TO SITE BY OTHERS)
 - STORM SEWER: ENCLOSED PIPE WITH OUTLET TO ON-SITE DETENTION AND THEN ON-SITE DRAIN
 - SIGNAGE: LOCATION ONLY, NOT PART OF THIS SUBMITTAL

LEGEND



TOPOGRAPHY LEGEND



SHEET INDEX

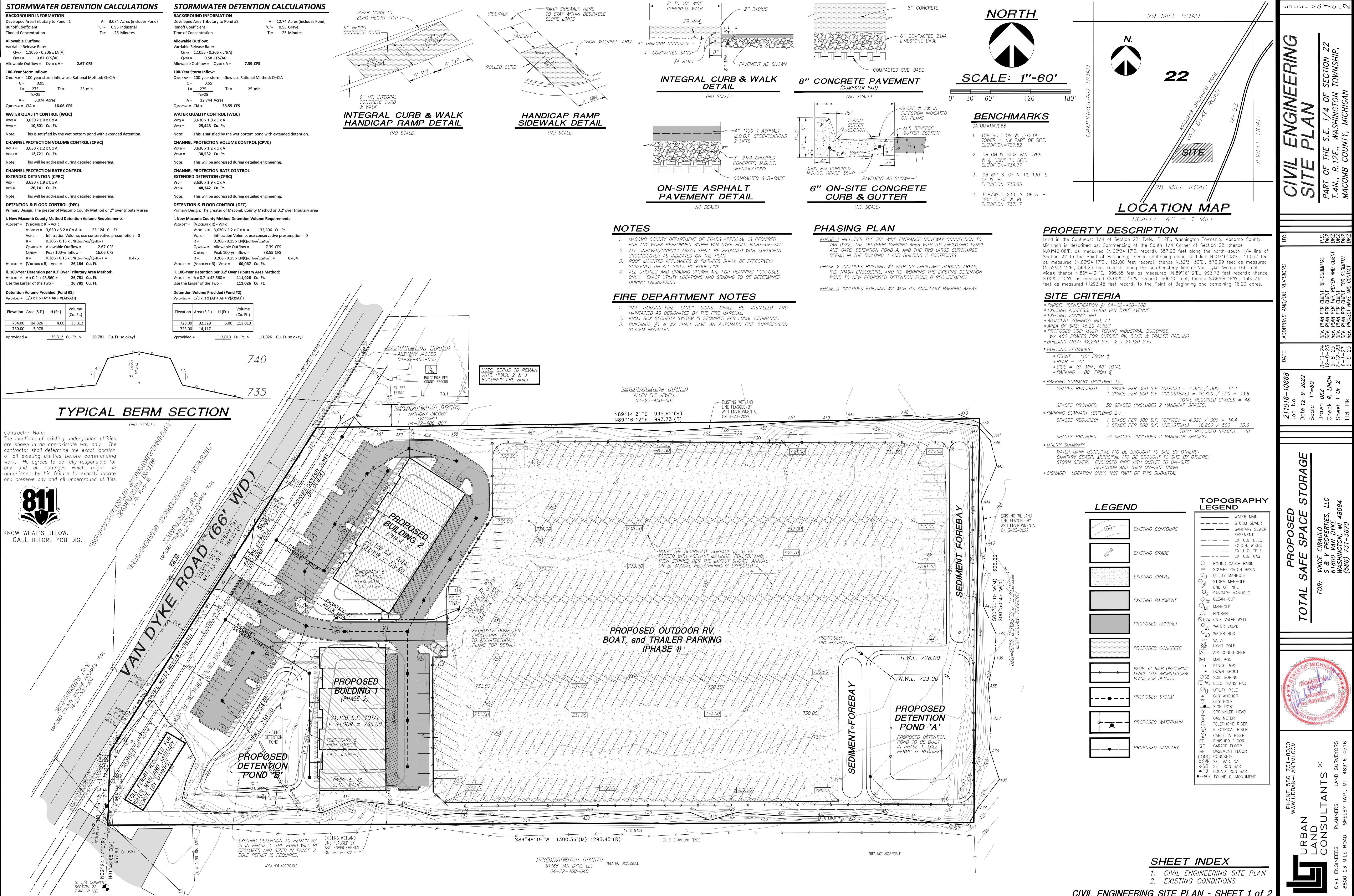
- CIVIL ENGINEERING SITE PLAN
- EXISTING CONDITIONS

CIVIL ENGINEERING SITE PLAN - SHEET 1 of 2

Contractor Note:
The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.



KNOW WHAT'S BELOW.
CALL BEFORE YOU DIG.



CIVIL ENGINEERING SITE PLAN

PART OF THE S.E. 1/4 OF SECTION 22 T.4N., R.12E., WASHINGTON TOWNSHIP, MACOMB COUNTY, MICHIGAN

BY: P.S. DZ
DZ
DZ
DZ

ADDITONS AND/OR REVISIONS

DATE 21/10/16-10/668

Job No. 21/10/16-10/668

Date 12-9-2022

Scale 1"=60'

Drawn DZ

Check R. LINDH

Sheet 1 of 2

Fid. Bk. 9-35-23

PROPOSED TOTAL SAFE SPACE STORAGE

FOR: VINCE CRAULO PROPERTIES, LLC
5800 VAN DYKE AVENUE
WASHINGTON, MI 48094
(586) 731-3670

URBAN LAND CONSULTANTS ©

PLANNERS LAND SURVEYORS
8800 23 MILE ROAD
SHELBY TWP., MI 48316-4516

STATE OF MICHIGAN
ROBERT W. ANDERSON
JANUARY 12, 2021
REGISTERED PROFESSIONAL ENGINEER
NO. 620102187

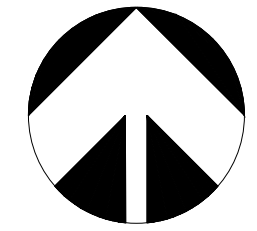
Contractor Note:
The locations of existing underground utilities are shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. He agrees to be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all underground utilities.



SOILS

- Gd** GILFORD SANDY LOAM
0"-10" VERY DARK GRAY SANDY LOAM, 10"-14" GRAY SANDY LOAM, 14"-30" GRAYISH BROWN GRAVELY SANDY LOAM, 30"-50" LIGHT GRAY GRAVELY SAND, MODERATELY RAPID TO RAPID PERMEABILITY, VERY SLOW OR PONDED RUNOFF, HIGH WATER TABLE.
- Lu** LUPTON MUCK (0 TO 2% SLOPES)
0"-8" VERY DARK BROWN MUCK, 32"-54" VERY DARK BROWN PEATY MUCK, 54"-60" DARK BROWN FIBROUS PEAT, VERY HIGH AVAILABLE MOISTURE CAPACITY, RUNOFF IS VERY SLOW, RAPID PERMEABILITY.
- Ta** TAWAS MUCK (0 TO 2% SLOPES)
0"-18" GRAY MUCK, 18"-60" GRAY SAND, RAPID PERMEABILITY IN ARTIFICIALLY DRAINED AREAS, WATER TABLE NEAR THE SURFACE IN UNDRAINED.

NORTH



SCALE: 1"=50'

0' 25' 50' 100' 150'

BENCHMARKS

- DATUM=NAVD88
1. TOP BOLT ON W. LEG DE TOWER IN NW PART OF SITE. ELEVATION=727.52
 2. CB ON W. SIDE VAN DYKE. ELEVATION=734.77
 3. CB 65' S. OF N. PL 130' E. OF W. PL. ELEVATION=733.85
 4. TOP WELL, 230' S. OF N. PL 190' E. OF W. PL. ELEVATION=737.17



22

LOCATION MAP

SCALE: 4" = 1 MILE

PROPERTY DESCRIPTION

Land in the Southeast 1/4 of Section 22, T.4N., R.12E., Washington Township, Macomb County, Michigan is described as: Commencing at the South 1/4 Corner of Section 22; thence N.01°46'08"E. as measured (N.02°24'17"E. record), 657.93 feet along the north-south 1/4 line of Section 22 to the Point of Beginning; thence continuing along said line N.01°46'08"E., 110.52 feet as measured (N.02°24'17"E., 122.00 feet record); thence N.32°31'30"E., 576.99 feet as measured (N.32°33'15"E., 564.25 feet record) along the southeasterly line of Van Dyke Avenue (66 feet wide); thence N.89°14'21"E., 995.65 feet as measured (N.89°16'12"E., 993.73 feet record); thence S.00°50'10"W. as measured (S.00°50'47"W. record), 606.20 feet; thence S.89°49'19"W., 1300.36 feet as measured (1293.45 feet record) to the Point of Beginning and containing 16.20 acres.

SITE CRITERIA

- PARCEL IDENTIFICATION #: 04-22-400-008
- EXISTING ADDRESS: 61400 VAN DYKE AVENUE
- EXISTING ZONING: IND
- ADJACENT ZONINGS: IND, A1
- AREA OF SITE: 16.20 ACRES

LEGEND

- 100 EXISTING CONTOURS
- 10000 EXISTING GRADE
- EXISTING GRAVEL
- EXISTING PAVEMENT
- SOIL DISTRICT
- 25' NATURAL FEATURE SETBACK

TOPOGRAPHY LEGEND

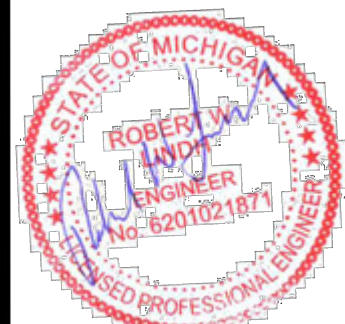
- WATER MAIN
- STORM SEWER
- SANITARY SEWER
- EASEMENT
- EX. U.G. ELEC.
- EX. U.G. WIRE
- EX. U.G. TELE.
- EX. U.G. GAS
- ROUND CATCH BASIN
- SQUARE CATCH BASIN
- UTILITY MANHOLE
- STORM MANHOLE
- END OF PIPE
- SANITARY MANHOLE
- CLEAN-OUT
- MANHOLE
- HYDRANT
- GATE VALVE WELL
- WATER VALVE
- WATER BOX
- VALVE
- LIGHT POLE
- AIR CONDITIONER
- MAIL BOX
- FENCE POST
- DOWN SPOUT
- SOIL BORING
- ELEC TRANS PAD
- UTILITY POLE
- GUY ANCHOR
- GUY POLE
- SIGN POST
- SPRINKLER HEAD
- GAS METER
- TELEPHONE RISER
- ELECTRICAL RISER
- CABLE TV RISER
- FINISHED FLOOR
- GARAGE FLOOR
- BASEMENT FLOOR
- CONC. CONCRETE
- SET MAG. NAIL
- SET IRON BAR
- FOUND IRON BAR
- FOUND C. MONUMENT

EXISTING CONDITIONS
PART OF THE S.E. 1/4 OF SECTION 22
T.4N., R.12E., WASHINGTON TOWNSHIP,
MACOMB COUNTY, MICHIGAN

DATE
211016-10668
Job No.
4-26-2023
Scale
1"=60'
Drawn
DKZ
Check
R. LINDH
Sheet
2 OF 2
Fid. Bk.

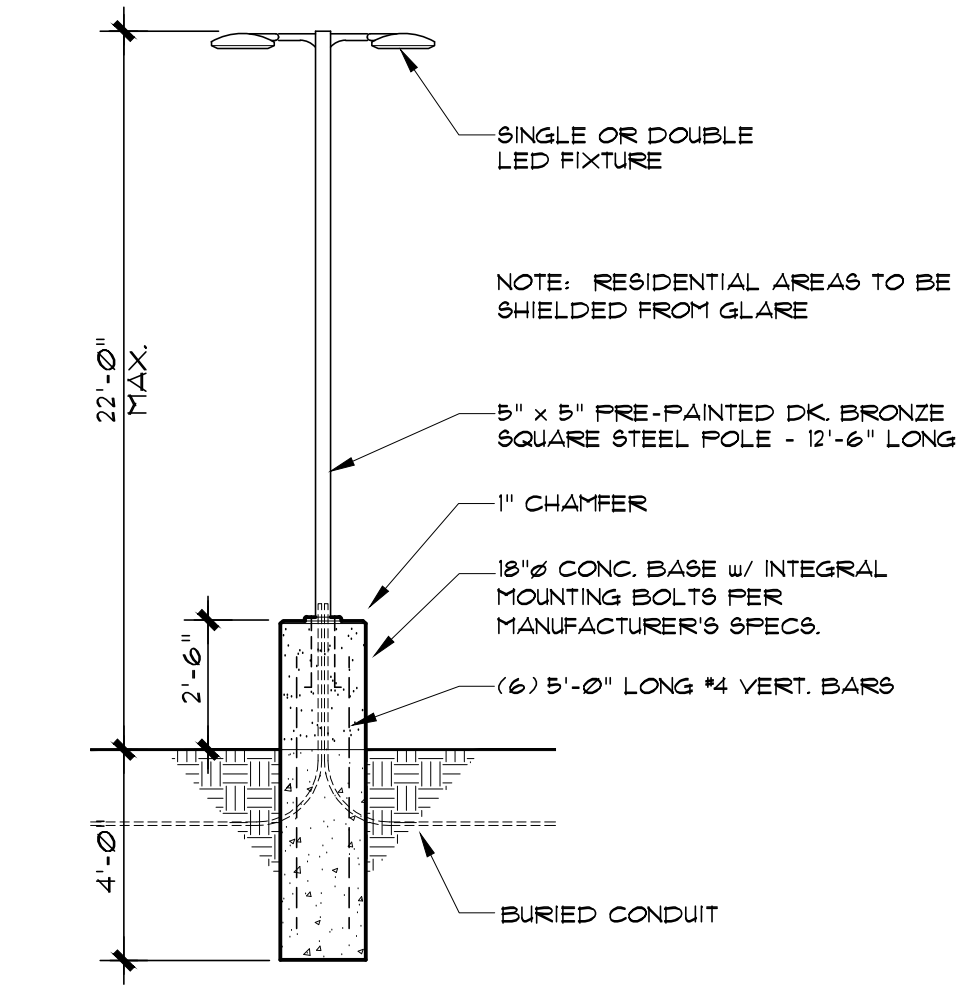
PROPOSED
TOTAL SAFE SPACE STORAGE

FOR:
VINCE CRAULO
PROPERTIES, LLC
51800 VAN DYKE
WASHINGTON, MI 48094
(586) 731-3670

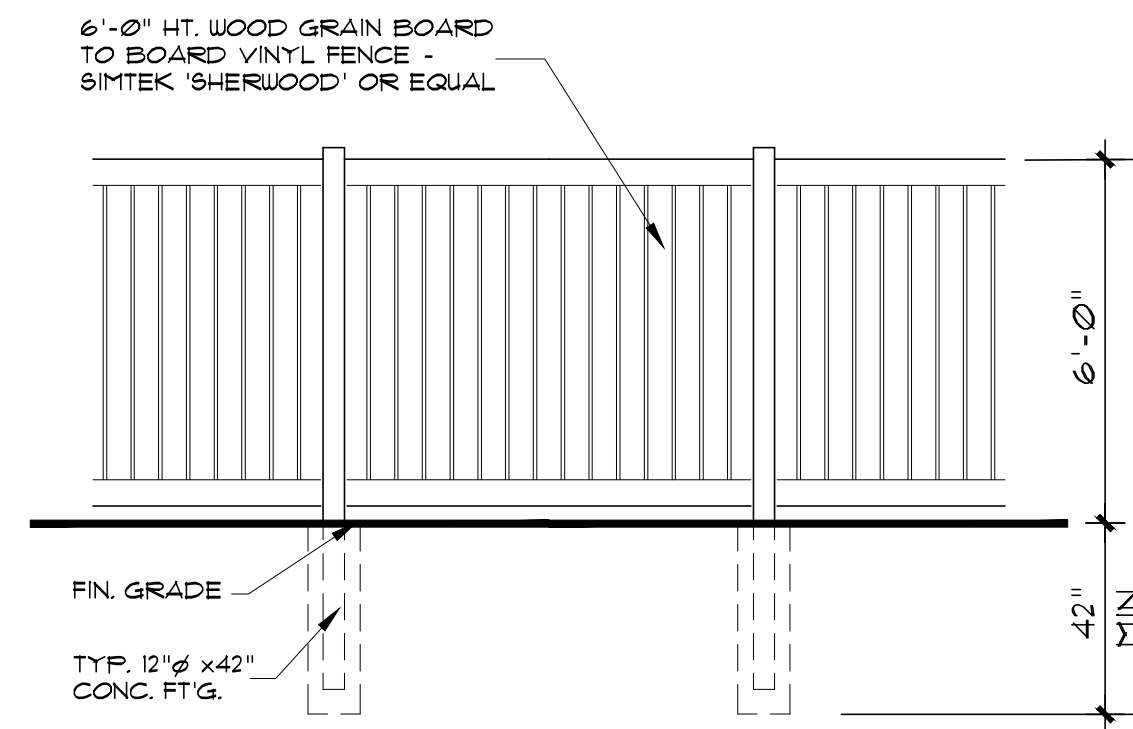


PHONE 586 731-8030
WWW.URBAN-LAND.COM
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LAND
CONSULTANTS
CIVIL ENGINEERS
PLANNERS
LAND SURVEYORS
8800 23 MILE ROAD
SHELBY TWP., MI 48316-4516

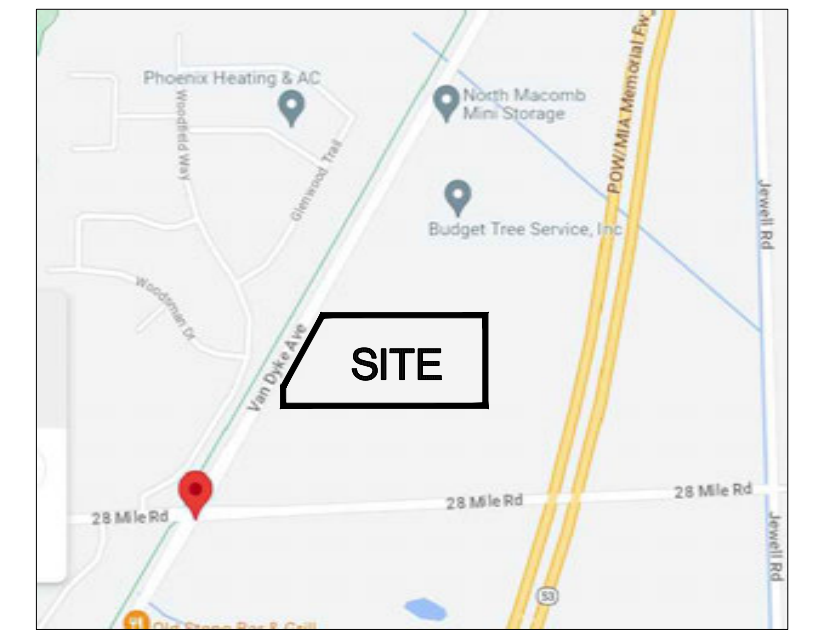
EXISTING CONDITIONS - SHEET 2 of 2



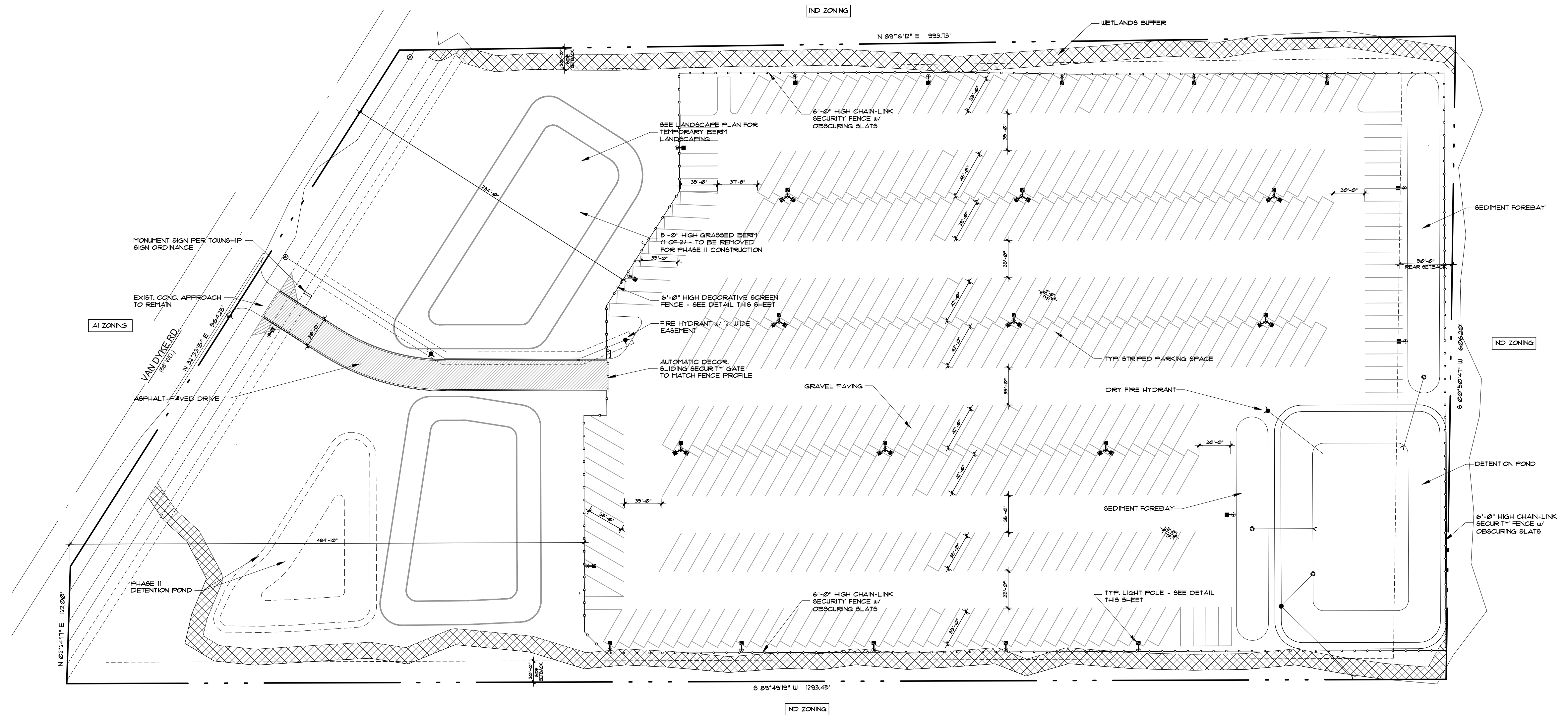
TYPICAL LIGHT STANDARD
NOT TO SCALE



SCREEN FENCE DETAIL
NOT TO SCALE



LOCATION MAP
NO SCALE



ARCHITECTURAL SITE PLAN - PHASE I
SCALE: 1" = 60'-0"

NOTE:
REFER TO URBAN LAND CONSULTANTS SHEET 1 OF 2
FOR ADDITIONAL SITE / UTILITY INFORMATION AND DETAILS.

PROPERTY DESCRIPTION:

Land in the Southeast 1/4 of Section 22, T4N, R12E, Washington Township, Macomb County, Michigan is described as: Commencing at the South 1/4 Corner of Section 22, thence N.01°46'58"E., as measured (N.022°41'17"E. record), 657.93 feet along the north-south 1/4 line of Section 22 to the Point of Beginning; thence continuing along said line N.01°46'58"E., 110.52 feet as measured (N.022°41'17"E. record), 122.00 feet; thence N.30°31'30"E., 576.99 feet as measured (N.32°33'15"E., 564.25 feet record) along the southeasterly line of Van Dyke Avenue (66 feet wide); thence N.89°14'21"E., 995.65 feet as measured (N.89°19'12"E., 993.73 feet record); thence S.02°50'10"W. as measured (S.00°50'47"W. record), 608.50 feet; thence S.89°49'19"W., 1300.38 feet as measured (1293.45 feet record) to the Point of Beginning and containing 15.30 acres.

Dimensions are to rough framing unless noted otherwise.
DO NOT SCALE DRAWING. Use figure dimensions only.
NOTICE: This drawing is an instrument of service and is the intellectual property of Guido Architects Inc. The information herein is for the use of the client only. No other use without written consent of Guido Architects Inc. All rights reserved.

date
revision

drawn
3/1/24
SIN E-3A

check
JAG

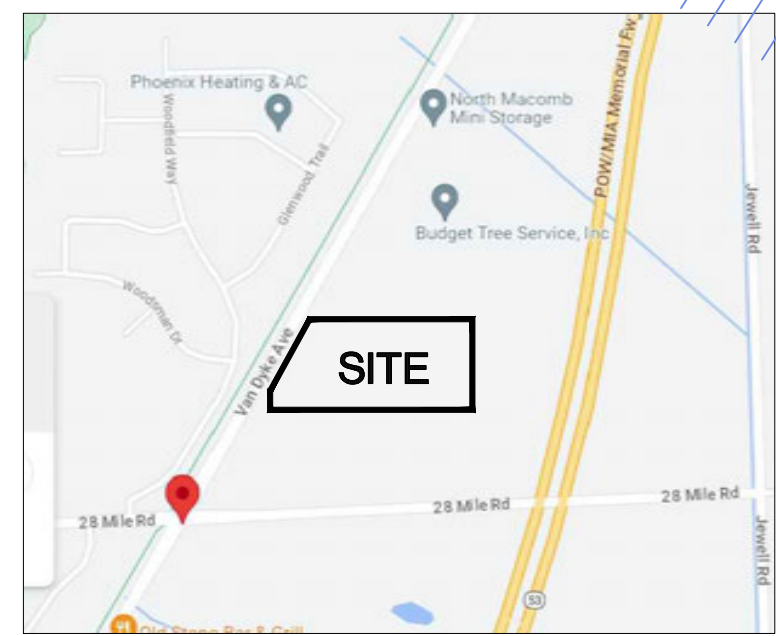
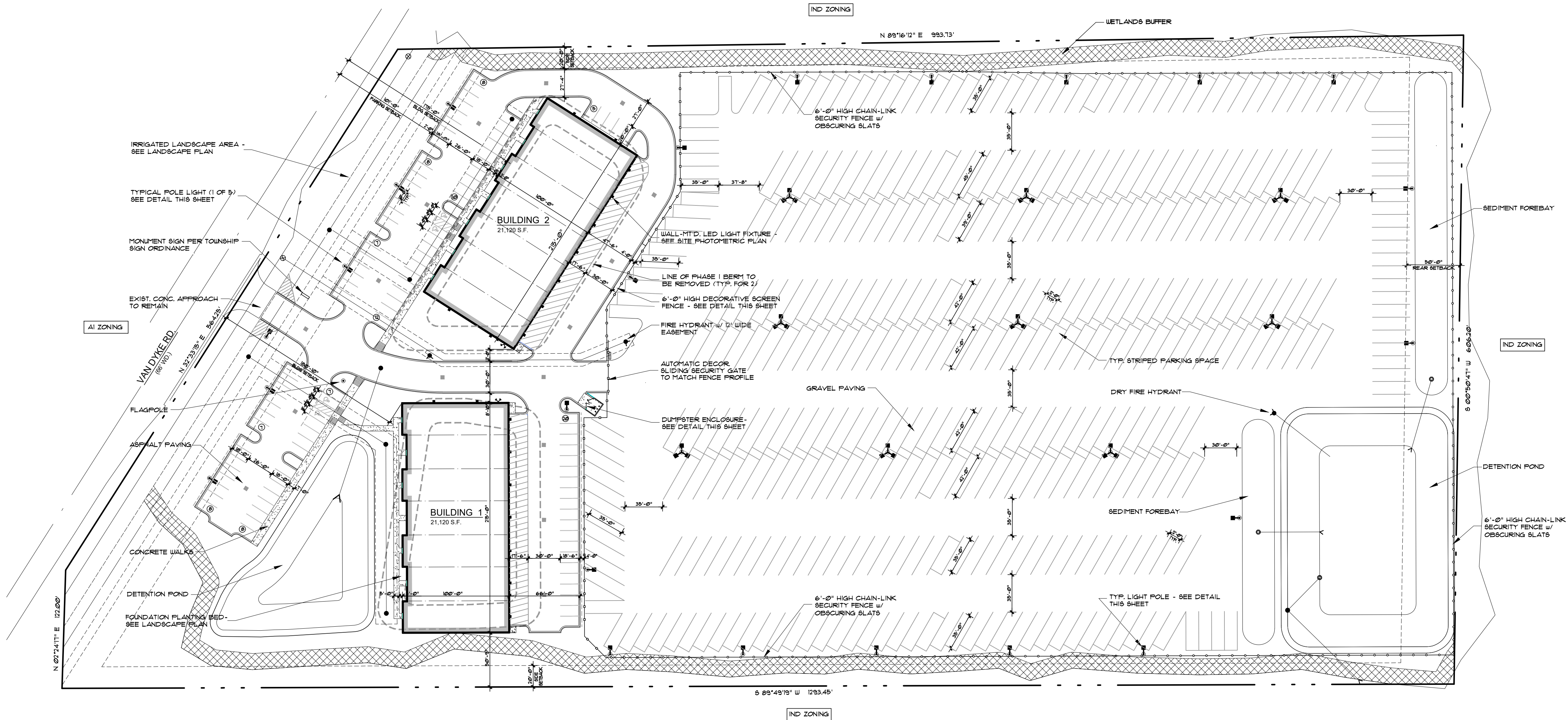
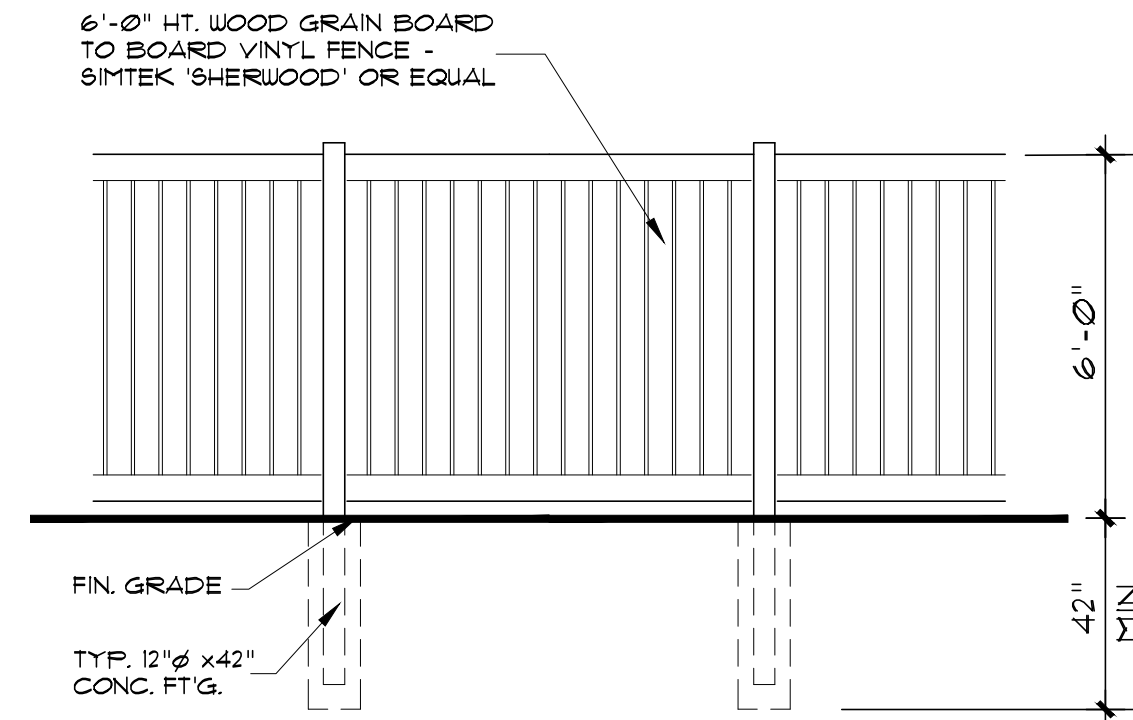
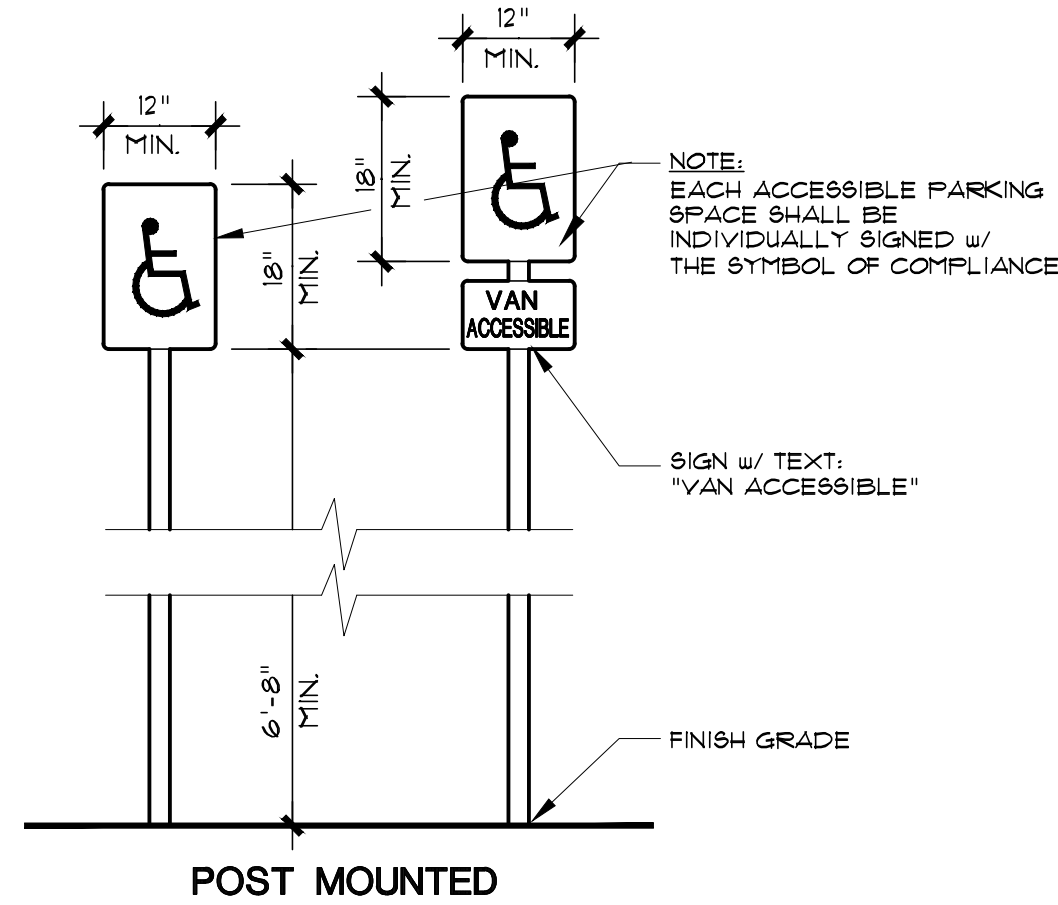
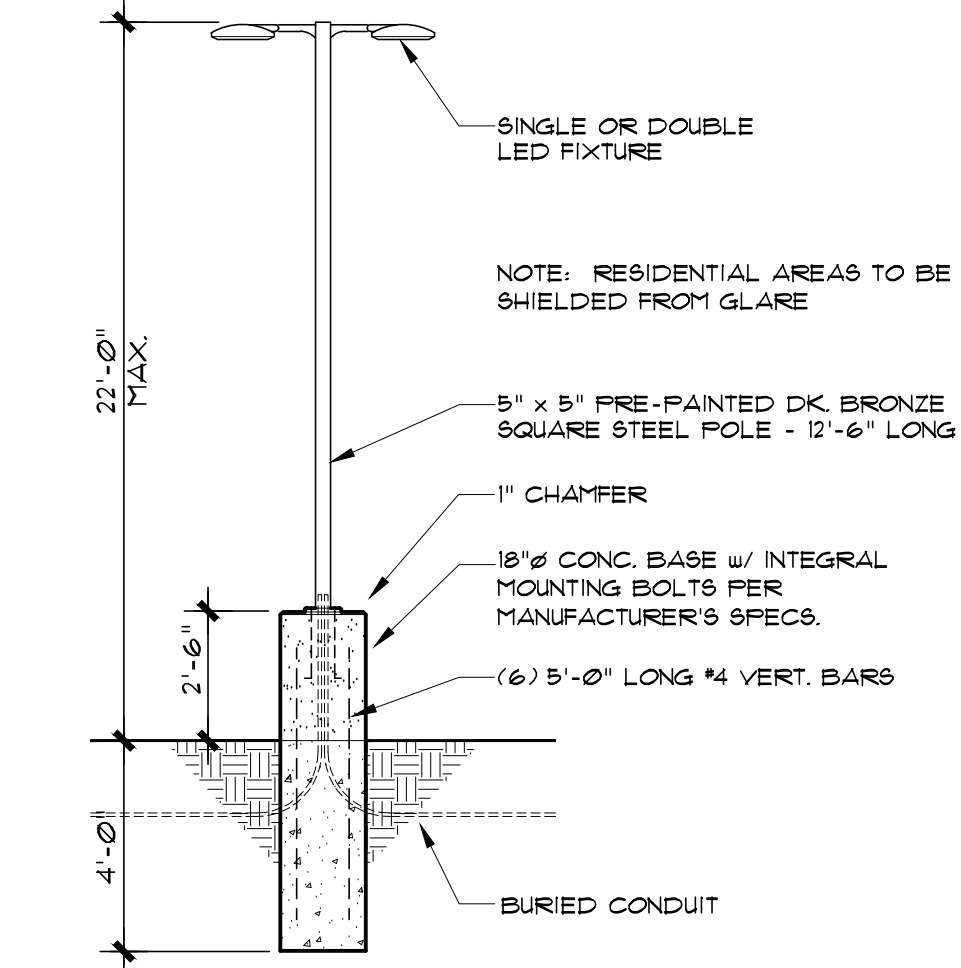


Guido Architects Inc.
Architects / Planners
23419 Ford Road Dearborn, MI 48128
(313) 274-7800 Fax (313) 274-7808
Email: jguido@guidoarchitects.com

PROJECT NAME
TOTAL SAFE SPACE STORAGE
WASHINGTON TWP, MICHIGAN
61400 VAN DYKE RD.
SHEET NAME
ARCHITECTURAL SITE PLAN - PHASE I

2212

SP-1



Dimensions are to rough framing unless noted otherwise.
DO NOT SCALE DRAWING. Use figure dimensions only.

10/10/2010

ISSUED	DATE
SPA	1/8/24
SPA RE-SUB.	3/11/24

JAG

100

Guido Architects Inc.
Architects / Planners
23419 Ford Road Dearborn, MI 48128
(313) 274-7800 Fax (313) 274-7808
Email: lguido@guidoarchitects.com

Project Name: **TOTAL SAFE SPACE STORAGE**
61400 VAN DYKE RD. WASHINGTON TWP., MICHIGAN

ARCHITECTURAL SITE PLAN - PHASE II

2212
job no.

SP-1a

ARCHITECTURAL SITE PLAN - PHASE II

NOTE:
REFER TO URBAN LAND CONSULTANTS SHEET 1 OF 2
FOR ADDITIONAL SITE / UTILITY INFORMATION AND DETAILS.

PROPERTY DESCRIPTION:

Land in the Southeast 1/4 of Section 22, T.4N., R.12E., Washington Township, Macomb County, Michigan is described as: Commencing at the South 1/4 Corner of Section 22; thence N.01°46'08"E. as measured (N.022°24'17"E. record), 65.93 feet along the north-south 1/4 line of Section 22 to the Point of Beginning; thence continuing along said line N.01°46'08"E., 110.52 feet as measured (N.022°24'17"E., 122.00 feet record; thence N.32°31'30"E., 576.99 feet as measured (N.32°33'15"E., 564.25 feet record) along the southeasterly line of Tam Dakwah Township; thence S.05°05'10"W. (N.021°27'15"E., 95.65 feet record) as measured (N.89°16'12"E., 99.73 feet record); thence S.05°05'10"W. as measured (S.05°05'47"W. record), 606.20 feet; thence S.89°49'15"W., 1300.36 feet as measured (1293.45 feet record) to the Point of Beginning and containing 16.20 acres.

Total Safe Space Storage

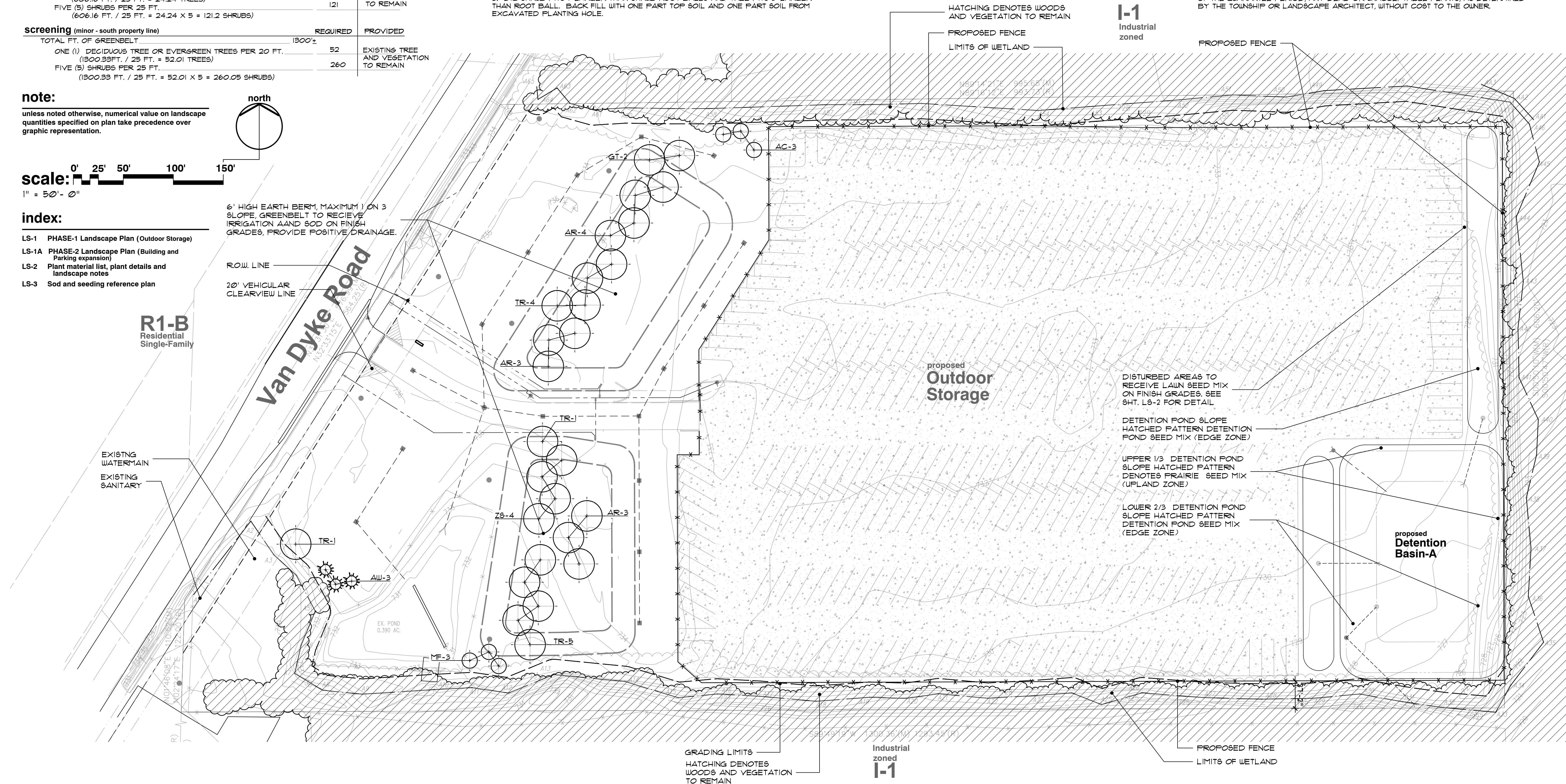
Washington Township, Michigan

general landscape no

frontage (Van Dyke)		REQUIRED	PROVIDED
TOTAL FT. OF ROAD FRONTAGE		640±	
ONE (1) DECIDUOUS TREE PER 40 FT. (640 FT. / 40 FT. = 16-TREES)		16	16+
screening (minor - north property line)			
TOTAL FT. OF GREENBELT		996±	
ONE (1) DECIDUOUS TREE OR EVERGREEN TREES PER 20 FT. (996.66 FT. / 25 FT. = 39.8 TREES)		40	EXISTING TREE AND VEGETATION TO REMAIN
FIVE (5) SHRUBS PER 25 FT. (996.66 FT. / 25 FT. = 39.82 X 5 = 199.132 SHRUBS)		199	
screening (minor - east property line)			
TOTAL FT. OF GREENBELT		606±	
ONE (1) DECIDUOUS TREE OR EVERGREEN TREES PER 20 FT. (606.16 FT. / 25 FT. = 24.24 TREES)		24	EXISTING TREE AND VEGETATION TO REMAIN
FIVE (5) SHRUBS PER 25 FT. (606.16 FT. / 25 FT. = 24.24 X 5 = 121.2 SHRUBS)		121	
screening (minor - south property line)			
TOTAL FT. OF GREENBELT		1300±	
ONE (1) DECIDUOUS TREE OR EVERGREEN TREES PER 20 FT. (1300.33FT. / 25 FT. = 52.01 TREES)		52	EXISTING TREE AND VEGETATION TO REMAIN
FIVE (5) SHRUBS PER 25 FT. (1300.33 FT. / 25 FT. = 52.01 X 5 = 260.05 SHRUBS)		260	

scale: 0' 25' 50' 100' 150'
1" = 50' - Ø"

LS-1	PHASE-1 Landscape Plan (Outdoor Storage)
LS-1A	PHASE-2 Landscape Plan (Building and Parking expansion)
LS-2	Plant material list, plant details and landscape notes
LS-3	Sod and seeding reference plan



1. LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK, CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
2. PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES, GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING 919 813-8200-482-1111, ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOE CONDITIONS TO OWNER PRIOR TO COMMENCING
3. NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN-DISCREPANCY WITH LANDSCAPE ARCHITECT.
4. ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE IF NECESSARY
5. ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY WASHINGTON TOWNSHIP AND LANDSCAPE ARCHITECT
6. ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND WRAPPED AS DETAIL SHOWN ON PLAN.
7. PLANT BEDS TO BE DRESSED WITH MIN. 4" OF FINELY DOUBLE SHREDDED HARDBARK MULCH.
8. DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANTING HOLE.

9. NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS.
10. REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 4" THICK BARK MULCH FOR SHRUBS AND 4" THICK BARK MULCH FOR PERENNIALS.
11. PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
12. PROVIDE FEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE.
13. ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
14. PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, DRIVE AND PARKING STALLS:
 - a. SHADE TREES _____ 5 FT.
 - b. ORNAMENTAL AND EVERGREEN TREES (CRAB, PINE, SPRUCE, ETC.) _____ 10 FT.
 - c. SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY _____ 2 FT.
15. NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.

16. ALL LAWN AREAS AND LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH A AUTOMATIC UNDERGROUND SYSTEMS. IRRIGATION SYSTEM TO HAVE SEPARATE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL. MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED.
17. UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECEIVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTURER'S SPECIFICATION.
18. ALL NEW PARKING ISLANDS AND LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16" 18" DEPTH. BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING SOILS. ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
19. WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
20. ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATE DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
21. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE CITY OR THE AGRICULTURAL AREA CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.

LS-1 of 4

Total Safe Space Storage

Washington Township, Michigan

scale: 0' 25' 50'

frontage (Van Dyke)		REQUIRED	PROVIDED
TOTAL FT. OF ROAD FRONTAGE			
ONE (1) DECIDUOUS TREE PER 40 FT.	640±	16	16
(640 FT. / 40 FT. = 16-TREES)			
screening (minor - north property line)			
TOTAL FT. OF GREENBELT		996±	
ONE (1) DECIDUOUS TREE OR EVERGREEN TREES PER 20 FT.		40	EXISTING TREE AND VEGETATION TO REMAIN
(996.66 FT. / 25 FT. = 39.8 TREES)			
FIVE (5) SHRUBS PER 25 FT.		199	
(996.66 FT. / 25 FT. = 39.82 X 5 = 199.132 SHRUBS)			
screening (minor - east property line)			
TOTAL FT. OF GREENBELT		606±	
ONE (1) DECIDUOUS TREE OR EVERGREEN TREES PER 20 FT.		24	EXISTING TREE AND VEGETATION TO REMAIN
(606.16 FT. / 25 FT. = 24.24 TREES)			
FIVE (5) SHRUBS PER 25 FT.		121	
(606.16 FT. / 25 FT. = 24.24 X 5 = 121.2 SHRUBS)			
screening (minor - south property line)			
TOTAL FT. OF GREENBELT		1300±	
ONE (1) DECIDUOUS TREE OR EVERGREEN TREES PER 20 FT.		52	EXISTING TREE AND VEGETATION TO REMAIN
(1300.33 FT. / 25 FT. = 52.01 TREES)			
FIVE (5) SHRUBS PER 25 FT.		260	
(1300.33 FT. / 25 FT. = 52.01 X 5 = 260.05 SHRUBS)			
parking			
TOTAL NO. OF PARKING SPACES PROVIDED		100	
ONE (1) DECIDUOUS TREE PER 5-SPACES		20	20
(100 SPACES / 5 SPACES = 20 TREES)			
foundation			
TOTAL LNFT. OF BUILDING PERIMETER		1,308'	
LNFT. OF BUILDING-1	654'		
LNFT. OF BUILDING-2	654'		
TOTAL LNFT. OF BUILDING FOUNDATION		988.5'	
(1,308.FT. X 75% = 981 FT.)			
ONE (1) SMALL DECIDUOUS TREE PER 20 FT.		49	23 + (A)
(981 FT. / 20 PER TREE = 49.05 TREES)			
(A) FOUNDATION PLANTING SUBSTITUTION * 6-SHRUBS FOR 1-ORNAMENTAL TREE. TOTAL OF 154-SHRUBS / 6 = 26-S-TREES			

unless noted otherwise, numerical value on landscape quantities specified on plan take precedence over graphic representation.

SHRUBS TO BE ALLOWED
TO 'KNIT' TOGETHER AS A
HEDGE. MAINTAIN HIGH AT
48"

R1-B
Residential
Single-Family

EXISTING
WATERMAIN

EXISTING
SANITARY

general landscape notes:

9. NATURAL COLOR, FINELY SHREDDED HARDWOOD BARK MULCH REQUIRED FOR ALL PLANTINGS.
10. REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES AND 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 4" THICK BARK MULCH FOR SHRUBS AND 4" THICK BARK MULCH FOR PERENNIALS.
11. PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
12. PROVIDE FEAT SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE.
13. ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
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 - a). SHADY TREES _____ 5 FT.
 - b). ORNAMENTAL AND EVERGREEN TREES (CRAB, PINE, SPRUCE, ETC.) _____ 10 FT.
 - c). SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY _____ 2 FT.
15. NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.

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17. UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RELIEVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTURER'S SPECIFICATION.
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20. ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATES DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
21. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.

— PROPOSED FENCE

I-1
Industrial
zoned

PROPOSED FENCE

proposed Outdoor Storage

DISTURBED AREAS TO
RECEIVE LAWN SEED MIX
ON FINISH GRADES. SEE
SHT. LS-2 FOR DETAIL

DETENTION POND SLOPE
HATCHED PATTERN DETENTION
POND SEED MIX (EDGE ZONE)

UPPER 1/3 DETENTION POND
SLOPE HATCHED PATTERN
DENOTES PRAIRIE SEED MIX
(UPLAND ZONE)

LOWER 2/3 DETENTION POND
SLOPE HATCHED PATTERN
DETENTION POND SEED MIX
(EDGE ZONE)

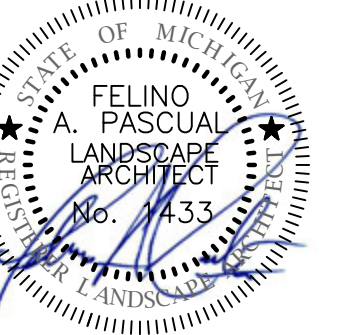
proposed
**Detention
Basin-A**

UPPER 1/3 DETENTION POND
SLOPE HATCHED PATTERN
DENOTES PRAIRIE SEED MIX
(UPLAND ZONE)

GRADING LIMITS _____
HATCHING DENOTES
WOODS AND VEGETATION
TO REMAIN

Industrial
zoned
I-1

— PROPOSED FENCE
— LIMITS OF WETLAND



Subject:

Project location:

et title:

no. / issue / revision date:

own by:

P

Checked by:

5/2024

Price:

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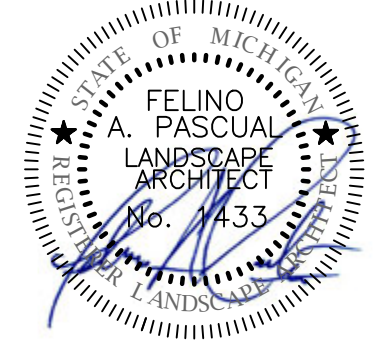
o Not scale drawings. Use figured dimensions only

 **3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171**
For free location of public utility lines

location and elevations of existing underground utilities as shown on this drawing are only approximate. no guarantee is either expressed or implied as to the completeness of accuracy. contractor will be exclusively responsible for determining the exact location and elevation prior to the start of construction.

et no:

seal:



client:

S & V PROPERTIES,
LLC
61800 Van Dyke
Washington, Michigan
48094

project:

TOTAL SAFE
SPACE
STORAGE

project location:

Washington
Township, Michigan
Van Dyke Road

sheet title:

PLANTING DETAILS
AND LANDSCAPE
NOTES

job no. / issue / revision date:

LS23.69.07 SPA 7-10-2023
LS24.08.01 SPA 1-9-2024
LS24.08.03 SPA 3-7-2024

drawn by:

NP

checked by:

FP

date:

1/5/2024

notice:

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project no:

LS24.008.01

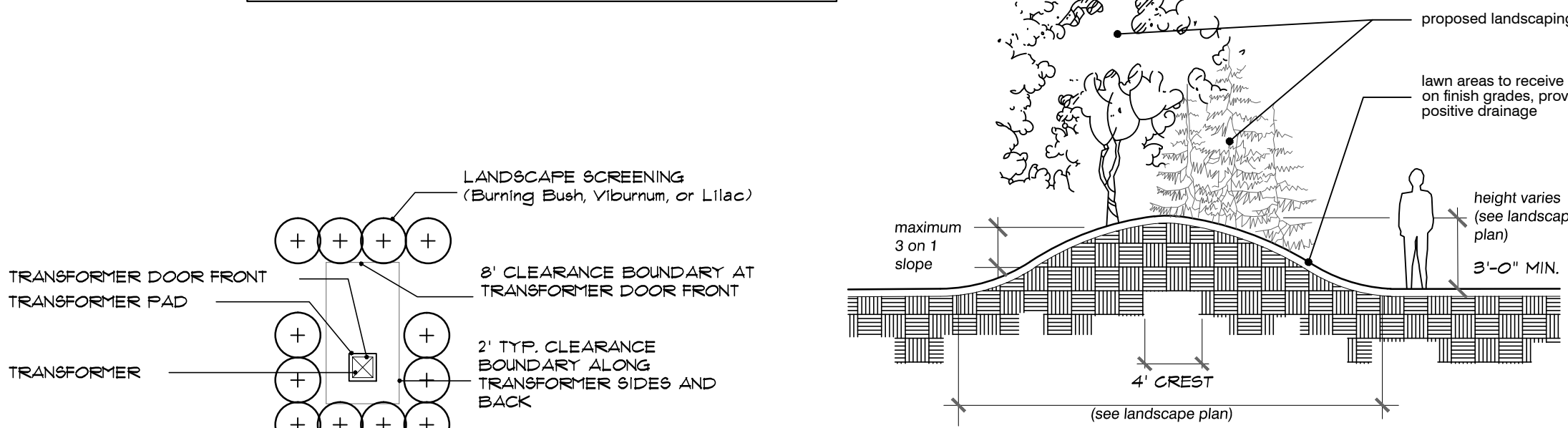
sheet no:

LS-2 of 4

plant material list

key	quant. LS-1	quant. LS-1A	botanical name	common name	size	comments
LARGE AND SMALL DECIDUOUS TREES						
AR	10 (R)	3	ACER R. FRANKSRED'	RED SUNSET RED MAPLE	3" BB	
TR	11 (R)	-	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	3" BB	
GT	2 (R)	4	GLEDITSIA TRI. INERMIS 'SKYCOLE'	SKYLINE LOCUST	3" BB	
ZS	4 (R)	-	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	3" BB	
LARGE AND SMALL EVERGREENS						
MF	3	3	MALUS FLORIBUNDA	JAPANESE FLOWERING CRABAPPLE	2" BB	
MS	-	6	MALUS SNOWDRIFT	SNOWDRIFT CRABAPPLE	2" BB	
MR	-	4	MALUS 'RED BARRON'	REDBARRON CRABAPPLE	2" BB	
AC	3	4	AMECHANCIER CANADENSIS	AUTUMN BRILLIANCE SERVICEBERRY	8' BB	MULTI-STEM
DECIDUOUS AND EVERGREEN SHRUBS						
AW	3	-	ABIES CONCOLOR	CONCOLOR WHITE FIR	8' BB	
BW	-	11	BUXBUS M. 'WINTER GEM'	WINTER GEM BOXWOOD	18" HIGH CONT.	24" O.C. SPACING
BM	-	30	BUXBUS M. 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	30" HIGH CONT.	36" O.C. SPACING
JT	-	36	JUNIFERUS S. 'TAMARISAFOLIA'	TAMIS JUNIPER	30" SPREAD CONT.	42" O.C. SPACING
DECIDUOUS AND EVERGREEN TREES						
VD	-	9	VIBURNUM DENTATUM	ARROW WOOD VIBURNUM	3" B.B.	60" O.C. SPACING
HA	-	6	HYDRANGEA ANNABELLE	ANNABELLE HYDRANGEA	30" CONT.	42" O.C. SPACING
LV	-	38	LIGUSTRUM X. VICARYI	GOLDEN VICARY PRIVET	30" HIGH CONT.	48" O.C. SPACING
LL	-	41	LIGUSTRUM X. LODENSE	LODENSE PRIVET	30" HIGH CONT.	48" O.C. SPACING
9K	-	20	SYRINGA F. MISS KIM	MISS KIM LILAC	30" HIGH CONT.	48" O.C. SPACING
SG	-	39	SPIRAEA J. 'GOLD MOUND'	GOLD MOUND SPIREA	30" HIGH CONT.	48" O.C. SPACING
FO	-	4	PHYSCARPUS OPULIFOLIUS 'BEWARD'	SUMMER WINE NINEBARK	30" HIGH CONT.	48" O.C. SPACING
GRASSES						
CKF	-	4	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	95 CONT.	36" O.C. SPACING
MSG	-	1	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT JAPANESE SILVER GRASS	95 CONT.	

(R) DENOTES TREES TO BE RELOCATED / TRANSPLANTED INTO PHASE-2 AND PHASE-3 LANDSCAPE AREAS

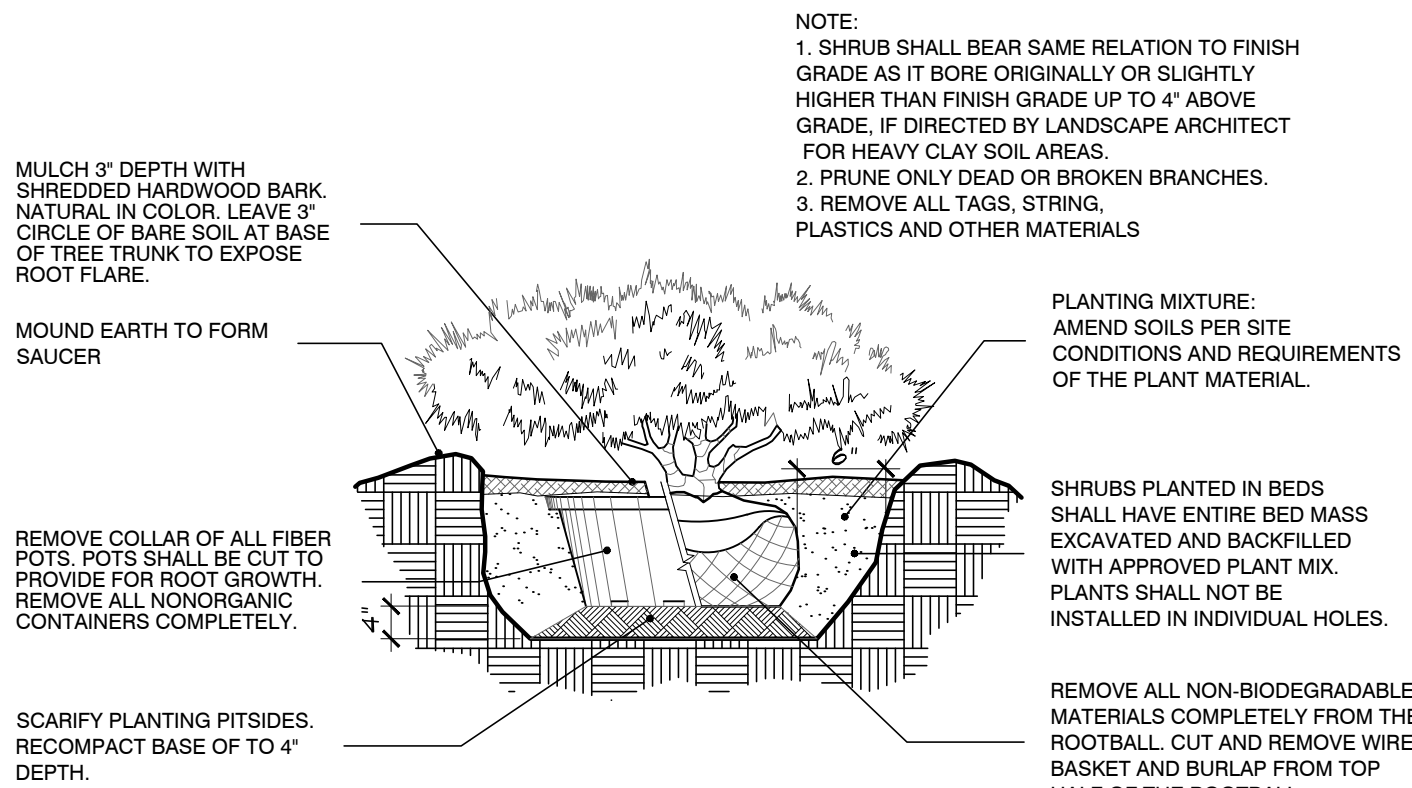


transformer pad planting detail

SCALE 1"=10'-0"

A MINIMUM OF 2' SEPARATION BETWEEN TRANSFORMER AND FULL GROWN SHRUBS AND TREES. GROUND COVERS ALLOWED UP TO TRANSFORMER PAD IF MAINTAINED BELOW 4" FULL GROWTH. IF TRANSFORMER FACES TOWARDS THE HOUSE, THEN THE SAME CONDITIONS EXIST. NO FULL GROWTH IN FRONT OF THE TRANSFORMER FOR AT LEAST A MINIMUM OF 8'. THERE ARE NO WAIVERS GRANTED TO THE ABOVE CONDITION. DETAIL PER THE DETROIT EDISON COMPANY-SERVICE PLANNING DEPARTMENT (9-11-98)

SEE ENGINEERING PLANS FOR PROPOSED LOCATIONS, TOTAL NUMBER OF TRANSFORMERS AND FINAL LOCATION PER DETROIT EDISON REQUIREMENTS.

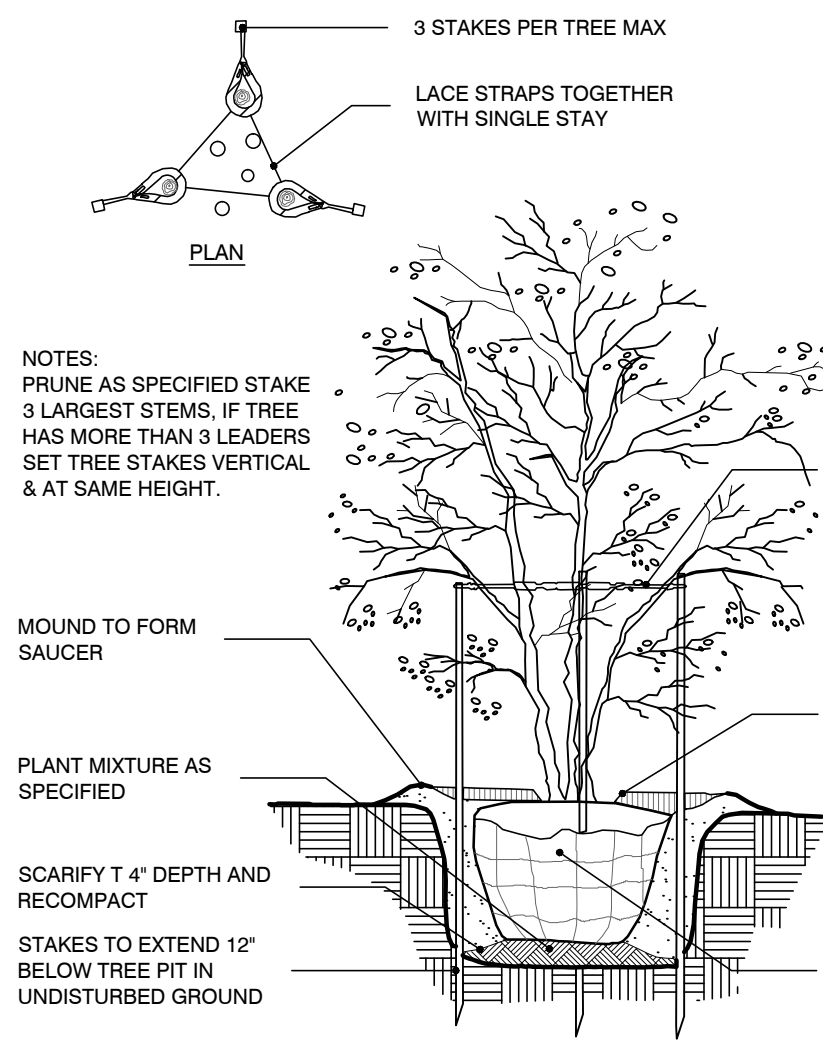


shrub planting detail

no scale

berm planting detail

no scale



multi-stem tree planting detail

no scale

planting landscape notes:

GENERAL NOTES:

- 1) PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE WASHINGTON TOWNSHIP AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.
- 2) PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS, REPLACE FALLING MATERIAL WITHIN 1 YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD.
- 3) PLANT MATERIALS TO BE OF PREMIUM QUALITY, NO 1 GRADE NORTHERN NURSERY GROWN IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.
- 4) MULCH IS TO BE NATURAL COLORED, FINELY SHREDDED HARDWOOD BARK, OF 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE 1/3" PULLED AWAY FROM TRUNK, 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
- 5) CALL MISS DIG AT 1-800-482-7171 PRIOR TO ANY CONSTRUCTION.

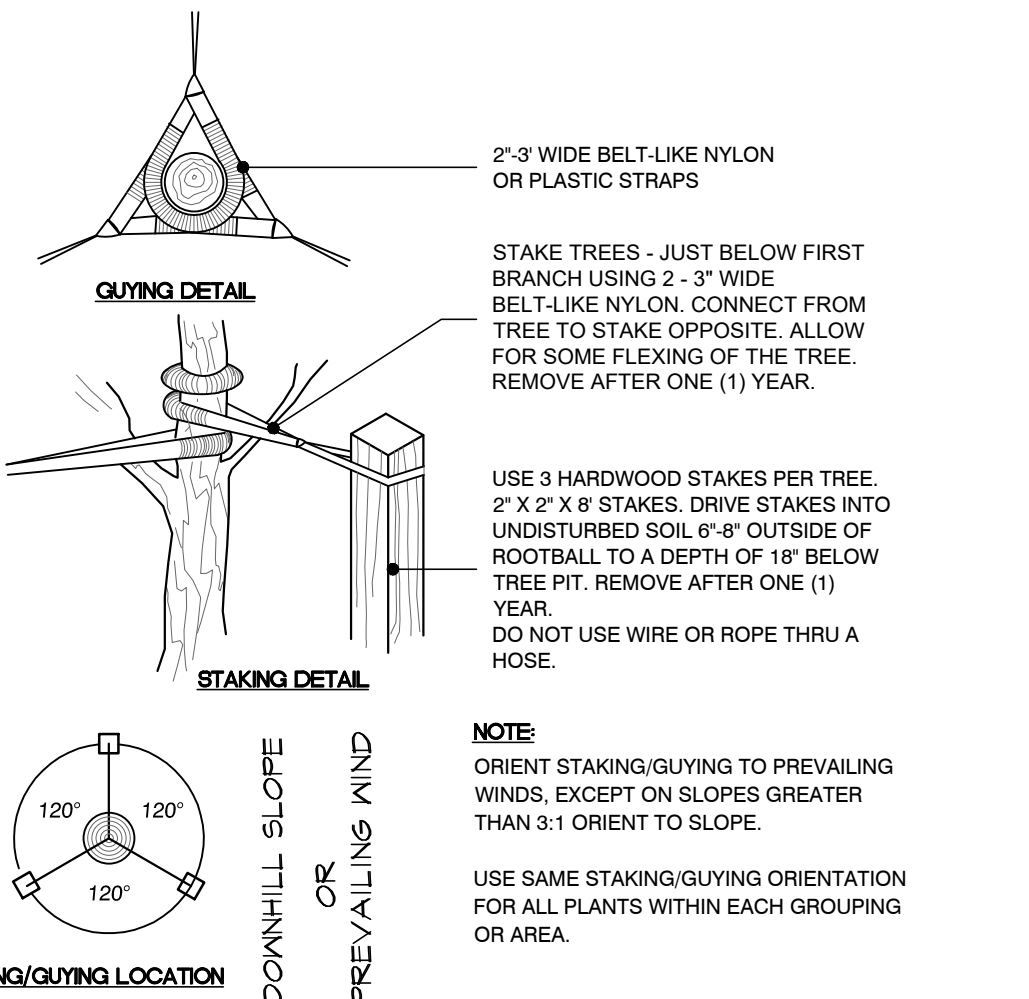
DECIDUOUS & EVERGREEN TREE:

- 1) TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
- 2) DO NOT PRUNE TERMINAL LEADER, PRUNE ONLY DEAD OR BROKEN BRANCHES.
- 3) REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.
- 4) REMOVE TREE STAKES, GUY WIRES AND TREE WRAP AFTER ONE WINTER SEASON.

- 1) SHRUB SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
- 2) DO NOT PRUNE TERMINAL LEADER, PRUNE ONLY DEAD OR BROKEN BRANCHES.
- 3) REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY AND COULD CAUSE GIRDLING.

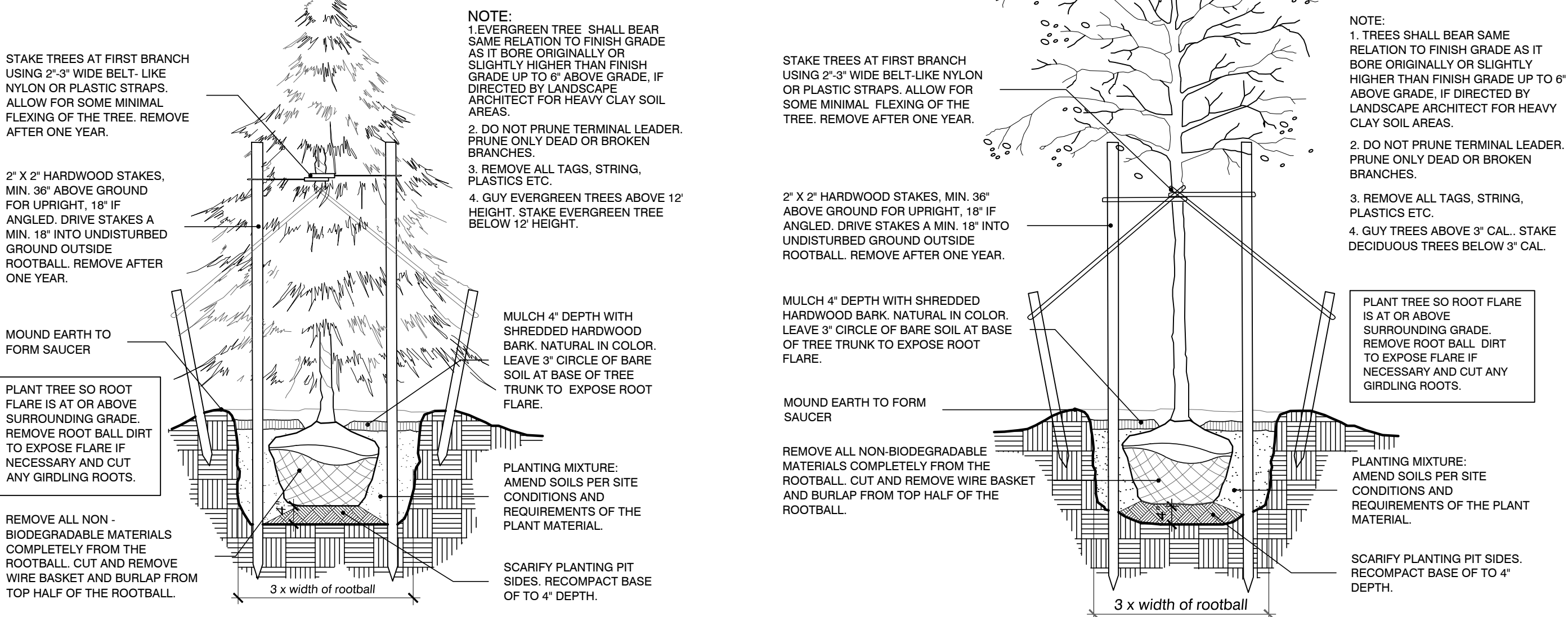
TREE PROTECTION:

- 1) EITHER PLASTIC OR WOOD ORANGE SNOW FENCING SHALL BE INSTALLED AT OR BEYOND THE DRIPLINE, UNLESS MORE SUBSTANTIAL FENCING IS REQUIRED.
- 2) STAKES SHALL BE METAL "T" POLES SPACED NO FURTHER THAN 5' ON CENTER.
- 3) FENCING SHALL NOT BE INSTALLED CLOSER TO THE TREE THAN THE DRIPLINE OF THOSE TREES TO BE SAVED. SPECIAL CIRCUMSTANCES SHALL BE REVIEWED BY THE CITY.
- 4) FENCING SHALL BE ERECTED PRIOR TO CONSTRUCTION, THE CITY SHALL BE NOTIFIED ONCE THE FENCING IS INSTALLED FOR INSPECTION.
- 5) UNDER NO CIRCUMSTANCES SHALL THE PROTECTIVE FENCING BE REMOVED WITHOUT PROPER APPROVAL FROM THE CITY.



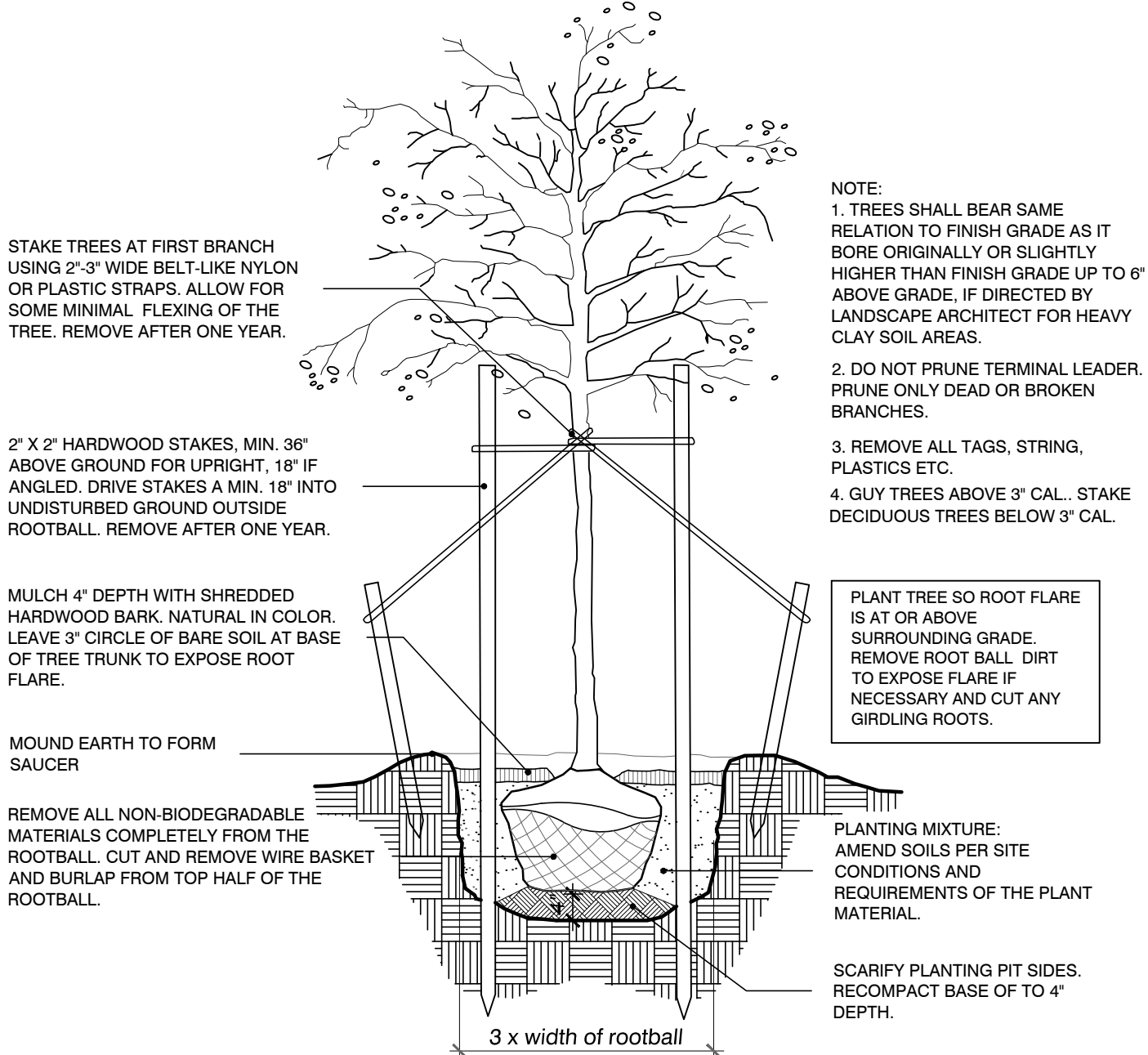
tree staking detail

no scale



evergreen planting detail

no scale



tree planting detail

no scale

seal:



client:

**S & V PROPERTIES,
LLC**
61800 Van Dyke
Washington, Michigan
48094

project:

TOTAL SAFE SPACE STORAGE

project location:

Washington
Township, Michigan
Van Dyke Road

sheet title:

SOD, IRRIGATION AND SEEDING REFERENCE PLAN

job no. / issue / revision date:

LS23.69.07 SPA 7-10-2023
LS24.08.01 SPA 1-9-2024
LS24.08.03 SPA 3-7-2024

drawn by:

NP

checked by:

FP

date:

1/5/2024

notice:

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Do Not scale drawings. Use figured dimensions only



The location and elevations of existing underground utilities as shown on this drawing are only approximate. No guarantee is either expressed or implied as to the completeness of accuracy. Contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction.

project no:

LS24.008.01

sheet no:

LS-3 of 4

economy prairie seed mix

THIS PRAIRIE SEED MIX OFFERS AN ECONOMICAL WAY TO ESTABLISH A PRAIRIE. IN ADDITION TO NATIVE PRAIRIE GRASSES, FLOWERING SPECIES PROVIDE COLOR THROUGHOUT THE GROWING SEASON AND FOOD SOURCES FOR BIRDS AND BUTTERFLIES. ADDING SEED OR PLANT PLUGS AT A LATER DATE IS A WONDERFUL WAY TO INCREASE A PRAIRIE'S RICHNESS AND DIVERSITY. THIS SEED MIX INCLUDES AT LEAST 6 OF 7 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 10 OF 13 NATIVE FORB SPECIES. APPLY AT 40.95 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
ANDROPOGON GERARDII	BIG BLUESTEM	12.00
BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA	16.00
CAREX SPP.	PRAIRIE SEDGE SPECIES	3.00
ELYMUS CANADENSIS	CANADA WILD RYE	24.00
PANICUM VIRGATUM	SWITCH GRASS	2.50
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	32.00
SORGHASTRUM NUTANS	INDIAN GRASS	12.00
TOTAL		101.50

TEMPORARY COVER		
AVENA SATIVA	COMMON OAT 512.00	
TOTAL		512.00

FORBS		
ASCLEPIAS SYRIACA	COMMON MILKWEED	1.00
ASCLEPIAS TUBEROSA	BUTTERFLY WEED	1.00
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	10.00
COREOPSIS LANCEOLATA	SAND COREOPSIS	6.00
ECHINACEA PURPUREA	BROAD-LEAVED PURPLE CONEFLOWER	8.00
HELIOPSIS HELIANTHOIDES	FALSE SUNFLOWER	0.25
MONARDA FISTULOSA	WILD BERGAMOT	0.50
PENSTEMON DIGITALIS	FOXGLOVE BEARD TONGUE	1.00
RATIBIDA PINNATA	YELLOW CONEFLOWER	4.00
RUDBECKIA HIRTA	BLACK-EYED SUSAN	8.00
SOLIDAGO SPECIOSA	SHOWY GOLDENROD	0.50
SYMPHYOTRICHUM LAEVE	SMOOTH BLUE ASTER	1.00
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
TOTAL		41.75

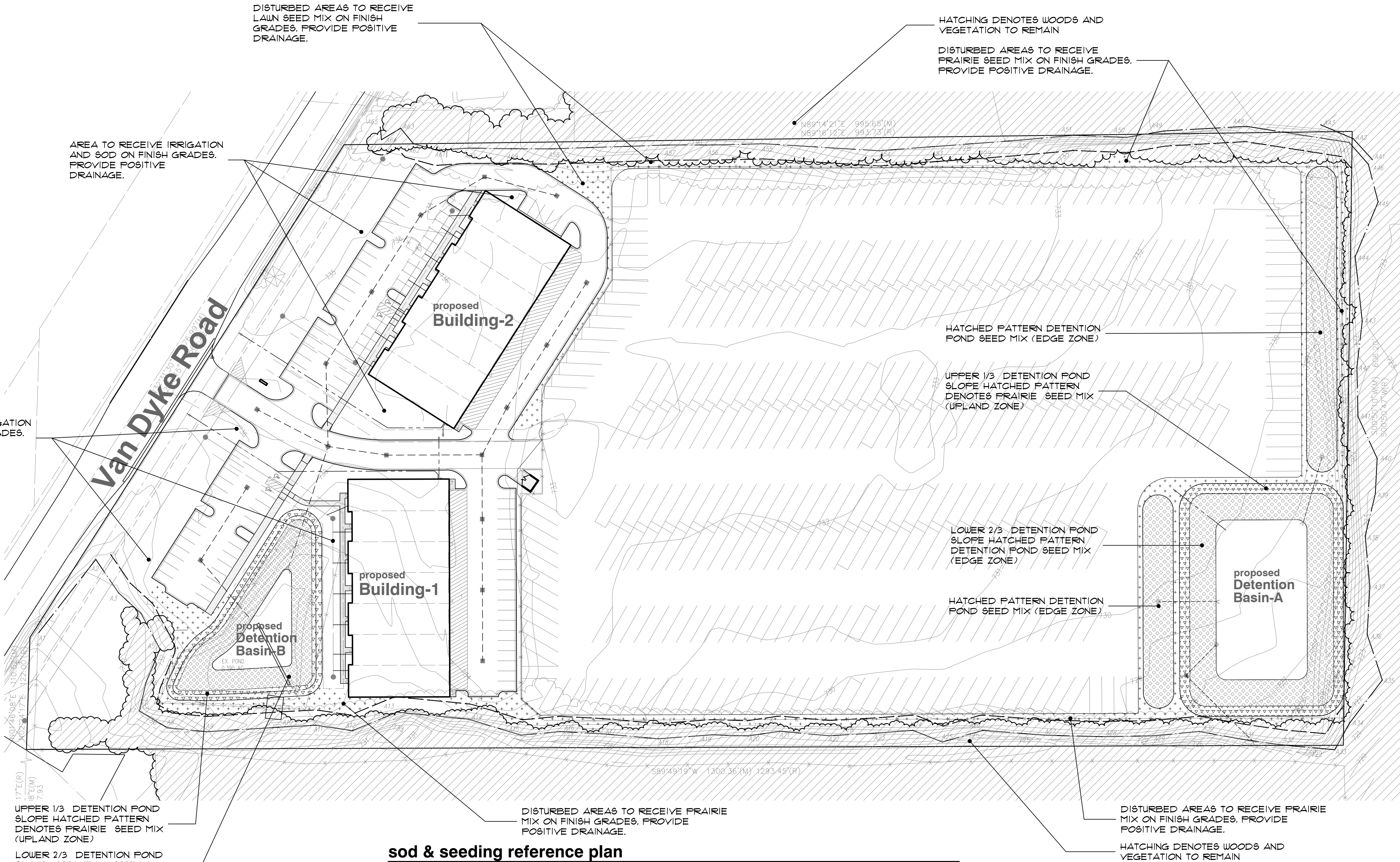
detention basin seed mix

A WETLAND SEED MIX FOR SATURATED SOILS IN A DETENTION POND OR FOR SEEDING A SATURATED BASIN. THIS MIX WILL TOLERATE HIGHLY FLUCTUATING WATER LEVELS AND POOR WATER QUALITY ASSOCIATED WITH URBAN STORMWATER WETLANDS AND PONDS. FOR DETENTION BASINS THAT EXPERIENCE LONG, DRY PERIODS, USE THE ECONOMY PRAIRIE SEED MIX IN THE UPPER THIRD TO HALF OF THE BASIN AREA IN COMBINATION WITH THIS MIX. THIS SEED MIX INCLUDES AT LEAST 10 OF 12 NATIVE PERMANENT GRASS AND SEDGE SPECIES AND 13 OF 17 NATIVE FORB SPECIES. APPLY AT 36.22 PLS POUNDS PER ACRE.

BOTANICAL NAME	COMMON NAME	PLS OZ/ACRE
PERMANENT GRASSES/SEDGES		
BOLBOSCHOENUS FLUVIATILIS	RIVER BULRUSH	1.00
CAREX CRISTATELLA	CRESTED OVAL SEDGE	0.50
CAREX LURIDA	BOTTLEBRUSH SEDGE	3.00
CAREX VULPINOIDEA	BROWN FOX SEDGE	2.00
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	24.00
GLYCERIA STRIATA	FOWL MANNA GRASS	1.00
JUNCUS EFFUSUS	COMMON RUSH	1.00
LEERSIA ORYZOIDES	RICE CUT GRASS	1.00
PANICUM VIRGATUM	SWITCH GRASS	2.00
SCHOENOPLECTUS TABERNAEMONTANI	GREAT BULRUSH	3.00
SCIRPUS ATROVIRENS	DARK GREEN RUSH	2.00
SCIRPUS CYPERINUS	WOOL GRASS	1.00
TOTAL		41.50

TEMPORARY COVER		
AVENA SATIVA	COMMON OAT	512.00
TOTAL		512.00

FORBS		
ALISMA SUBCORDATUM	COMMON WATER PLANTAIN	2.50
ASCLEPIAS INCARNATA	SWAMP MILKWEED	2.00
BIDENS SPP. BIDENS	SPECIES	2.00
EUPATORIUM PERFORIATUM	COMMON BONESET	1.00
HELIENIUM AUTUMNALE	SNEEZEWEED	2.00
IRIS VIRGINICA V. SHREVEI	BLUE FLAG	4.00
LYCOPUS AMERICANUS	COMMON WATER HOREHOUND	0.50
MIMULUS RINGENS	MONKEY FLOWER	1.00
PENTHORUM SEDOIDES	DITCH STONECROP	0.50
PERSICARIA SPP.	PINKWEED SPECIES	2.00
RUDBECKIA SUBMENTOSA	SWEET BLACK-EYED SUSAN	1.00
RUDBECKIA TRILOBA	BROWN-EYED SUSAN	1.50
SAGITTARIA LATIFOLIA	COMMON ARROWHEAD	1.00
SENNA HEBECARPA	WILD SENNA	2.00
SYMPHYOTRICHUM LANCEOLATUM	PANICLED ASTER	0.50
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	0.50
THALICTRUM DASycARPUM	PURPLE MEADOW RUE	2.00
TOTAL		26.00



sod & seeding reference plan

SCALE: 1" = 60'-0"

hatch pattern key

	AREAS TO RECEIVE IRRIGATION AND SOD, MAINTAINED AND MOWED WEEKLY
	AREAS TO RECEIVE LAWN SEEDING
	AREAS TO RECEIVE PRAIRIE SEED MIX. (NO MOWED AREA)
	AREAS TO RECEIVE DETENTION POND SEED MIX

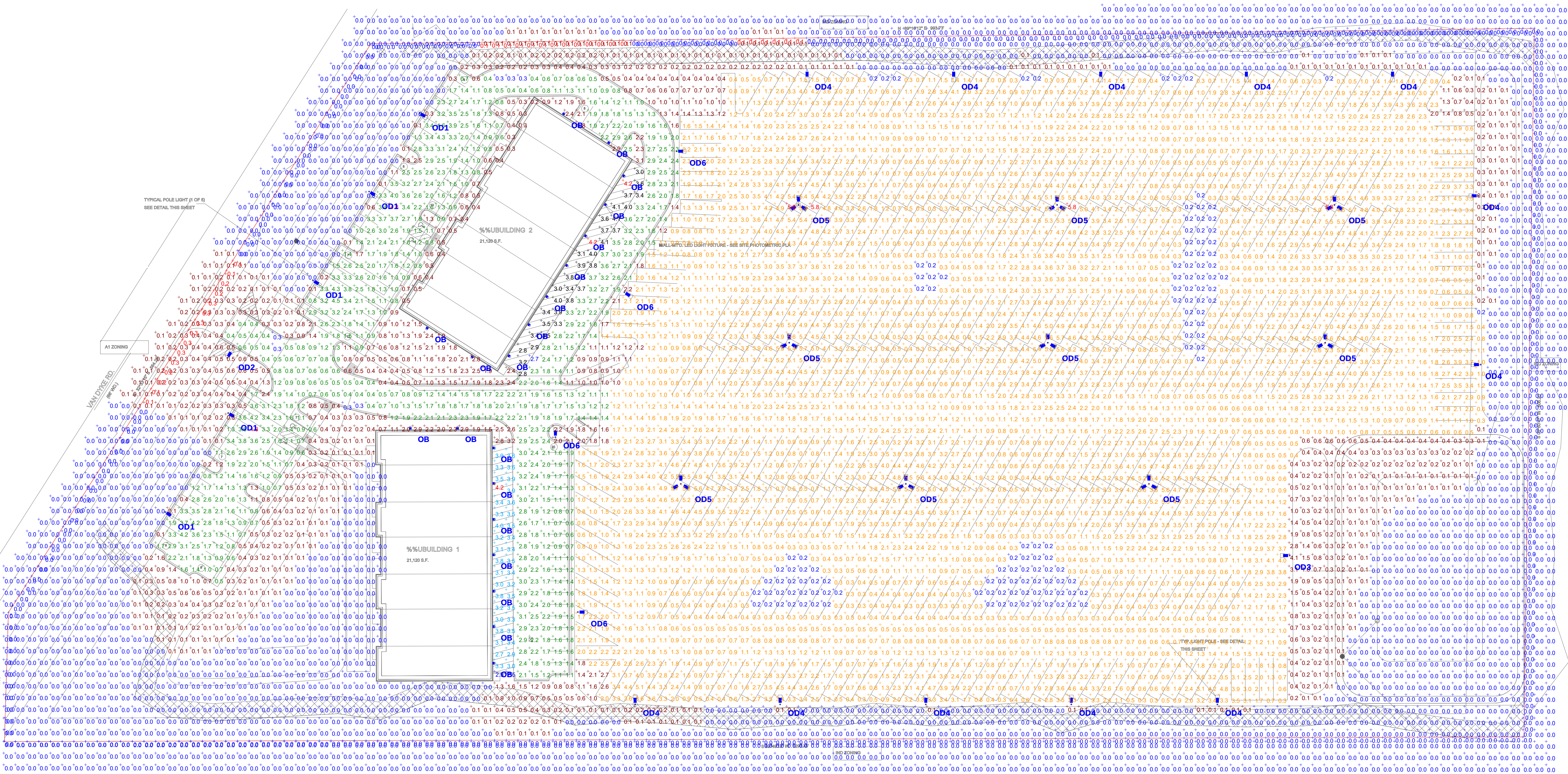
lawn area:

SOD LAWN AREAS SHALL BE KENTUCKY BLUE GRASS BLEND GRASS IN A SOD NURSERY ON LOAM SOIL. SOD TO BE INSTALLED ON MINIMUM 4" TOPSOIL. SEEDED LAWN AREAS SHALL CONSIST OF THE FOLLOWING TYPES AND PROPORTIONS:

5% PERENNIAL RYE GRASS
10% RED FESCUE
25% CHEWING FESCUE
60% KENTUCKY BLUE GRASS

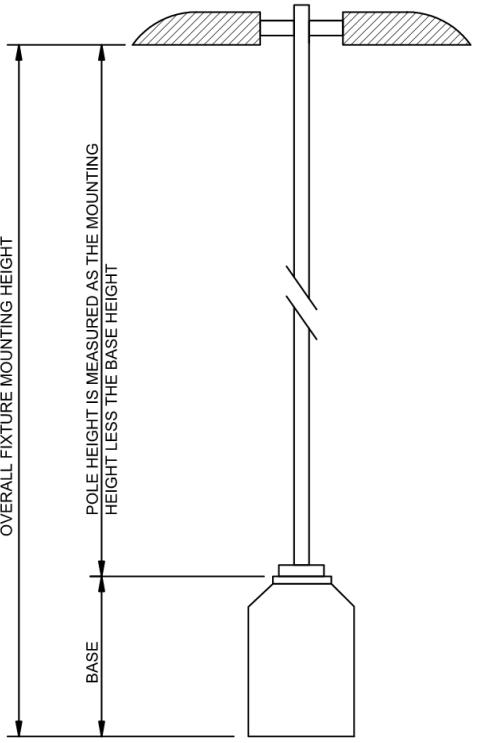
SEED MIX SHALL BE APPLIED AT A RATE OF 100 POUNDS PER ACRE AND WEED CONTENT SHALL NOT EXCEED 1%. SEED, PROVIDE A MINIMUM 4" TOP SOIL ON ALL SEEDED LAWN AREA

scale: 0' 15' 60' 120' 180'
1" = 60' - 0"



Schedule						
Symbol	Label	QTY	Manufacturer	Description	Lamp	Controls
	OB	20	Lithonia Lighting	WDGE2 LED WALLPACK 4000K	LED	14'-0"
	OD1	5	Lithonia Lighting	D-Series Size 0 Area Luminaire 4000K	LED	20'-0"
	OD2	1	Lithonia Lighting	D-Series Size 0 Area Luminaire 4000K	LED	20'-0"
	OD3	1	Lithonia Lighting	D-Series Size 0 Area Luminaire 4000K	LED	20'-0"
	OD4	12	Lithonia Lighting	D-Series Size 0 Area Luminaire 4000K	LED	20'-0"
	OD5	9	Lithonia Lighting	D-Series Size 0 Area Luminaire 4000K	LED	20'-0"
	OD6	4	Lithonia Lighting	D-Series Size 0 Area Luminaire 4000K	LED	20'-0"

Statistics							
Description	Symbol	Avg	Max	Min	Max / Min	Avg / Min	Avg / Max
BUILDING 1 - LOADING ZONE	+	3.4 fc	4.2 fc	2.5 fc	1.7:1	1.4:1	0.8:1
BUILDING 2 - LOADING ZONE	+	3.6 fc	4.2 fc	2.7 fc	1.6:1	1.3:1	0.9:1
PROPERTY LINE - NON STREET SIDE	+	0.0 fc	0.1 fc	0.0 fc	N/A	N/A	0.0:1
PROPERTY LINE - STREET SIDE	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A	0.3:1
SECURED STORAGE AND DRIVE AREA	+	1.9 fc	5.8 fc	0.2 fc	29.0:1	9.5:1	0.3:1
UNSECURED STORAGE AND DRIVE AREA	+	1.9 fc	4.8 fc	0.3 fc	16.0:1	6.3:1	0.4:1



Mounting Height Note
MOUNTING HEIGHT IS MEASURED FROM GRADE TO SKY SIDE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BAKE HEIGHT.

Alternates Note
ALTERNATE LIGHTING FIXTURES WILL NOT MEET CITY ORDINANCE COMPLIANCE DUE TO THE PRECISE OPTICAL AND OUTPUT PERFORMANCE SELECTED FOR THESE FIXTURES. ALTERNATE LIGHTING PROPOSALS MUST BE RECALCULATED AND RESUBMITTED TO THE CITY FOR APPROVAL. CONTACT LAYOUTS@GASSERBUSH.COM FOR ASSISTANCE WITH ALTERNATE OPTIONS IF NEEDED.

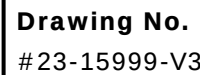
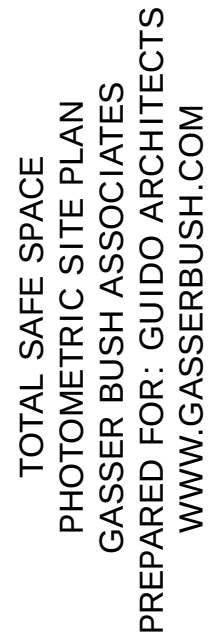
Ordering Note
FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-268-6705.

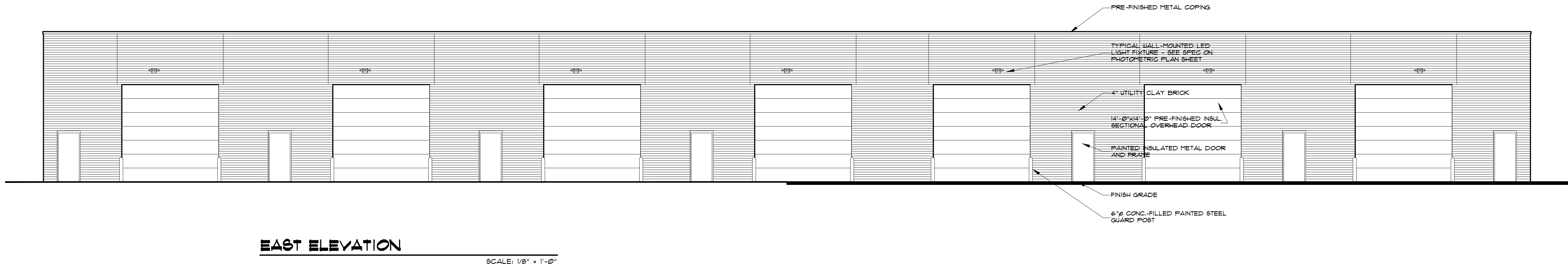
General Note
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0".

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

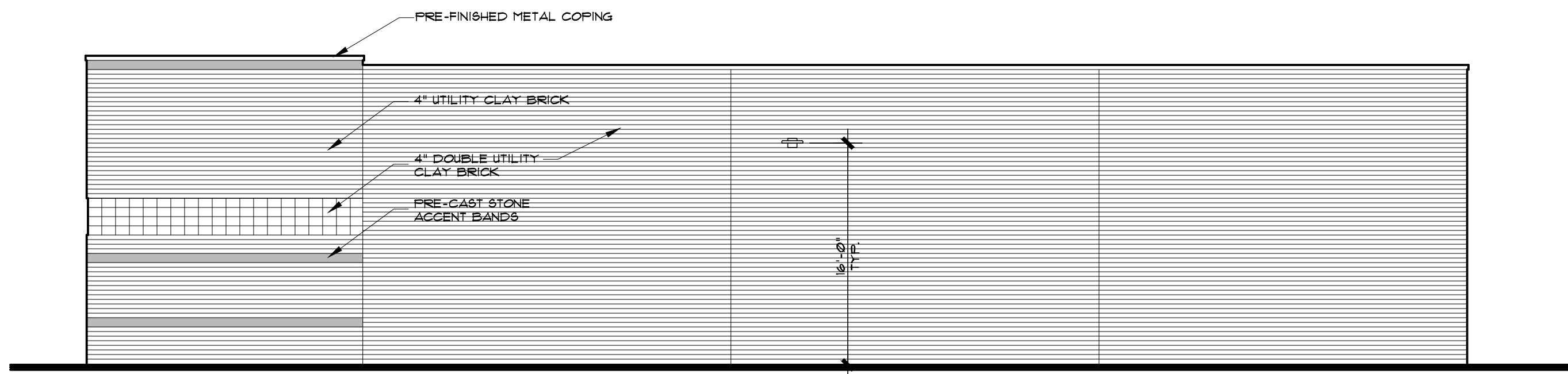
UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705





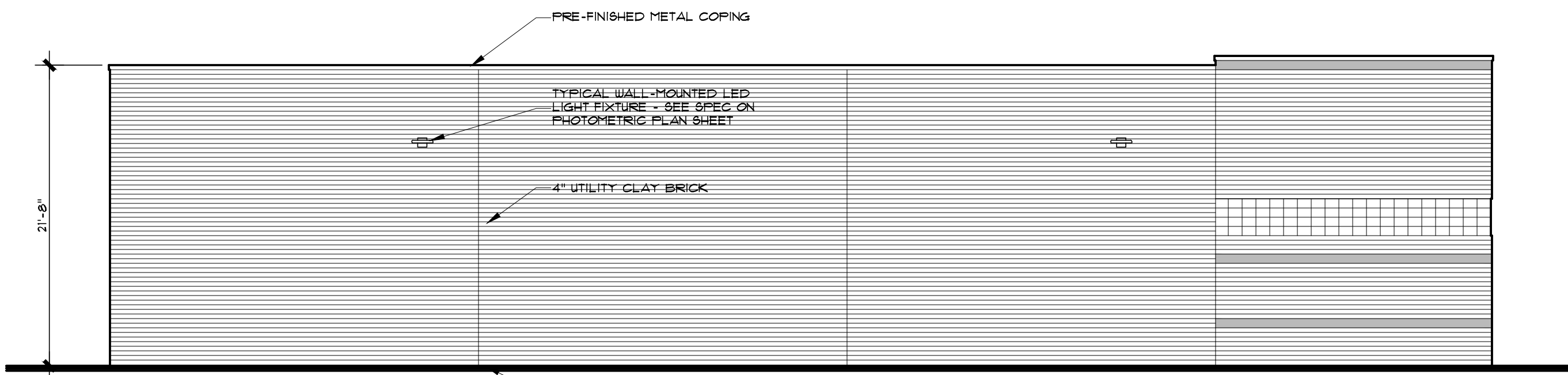
EAST ELEVATION

SCALE: 1/8" = 1'-0"



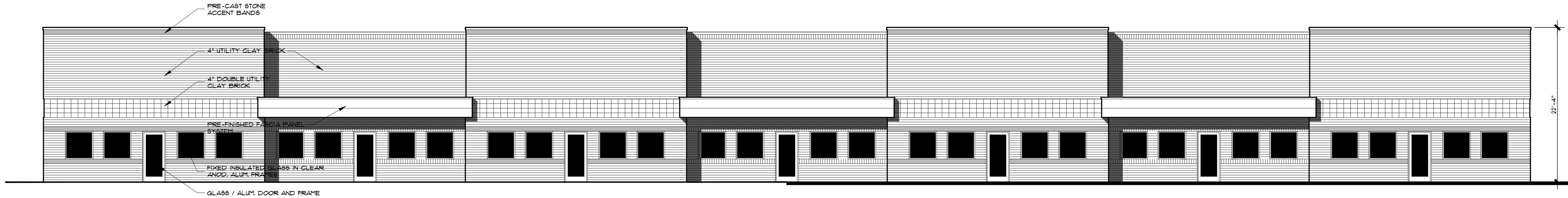
SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



NORTH ELEVATION

SCALE: 1/8" = 1'-0"



WEST ELEVATION - BLDG. 1 (BLDG. 2 IDENTICAL)

SCALE: 1/8" = 1'-0"

Dimensions are to rough framing unless noted otherwise.
DO NOT SCALE DRAWING. Use figure dimensions only.
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PROJECT NO. 2212
PROJECT NAME TOTAL SAFE SPACE STORAGE
ELEVATIONS

DATE 08/20/2024
DRAWN BY JAG
CHECKED BY JAG

DESIGNER JAG
CLIENT TOTAL SAFE SPACE STORAGE

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2212

A-2