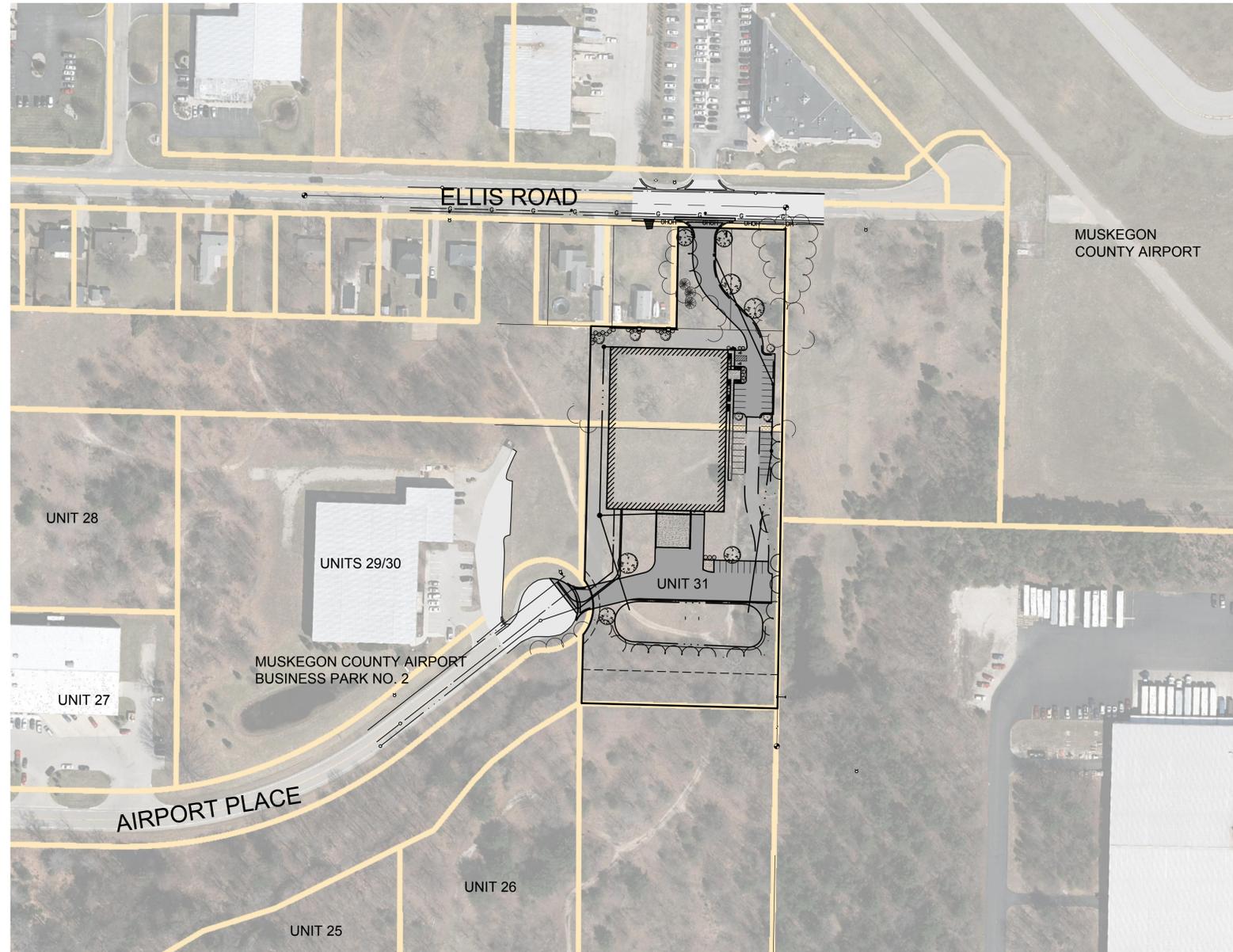
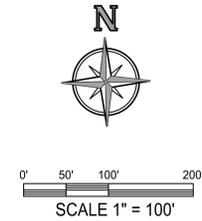


# EARTHTRONICS

E ELLIS ROAD  
NORTON SHORES, MI 49441



**OVERALL SITE PLAN**  
SCALE: 1" = 100'

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negligence, or  
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amount no greater than  
the service fee.

**LAKWOOD CONSTRUCTION**

ATTN: MR. DAVE ASH  
11253 JAMES STREET  
HOLLAND, MICHIGAN 49424

**EARTHTRONICS**

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NORTON SHORES, MI 49441  
PT. OF THE NE 1/4 SECT. 20 T9N, R16W  
MUSKEGON COUNTY, MI

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Project Manager  
REBECCA K. PAGE, P.E.

Vertical Datum  
NAVD 88

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Drawn by  
COLLIN DEPREKEL

Checked by  
Survey . . . . . Date . . . . .

Civil . . . . .

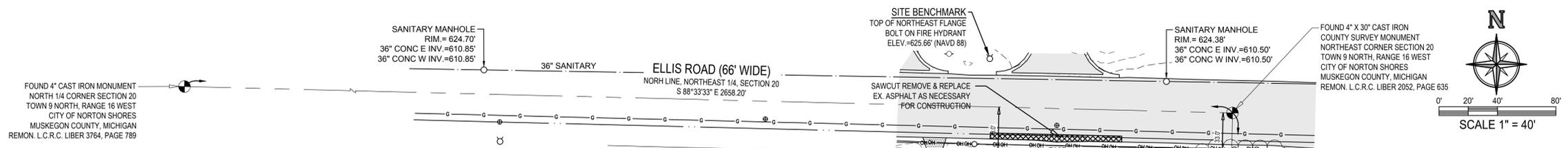
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HEI Project Number  
19-07-027

Sheet Title  
COVER SHEET

Sheet No.  
G-100



**DESCRIPTION FOR TAX PARCELS 61-27-120-200-0004-00**  
 PART OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF SECTION 20 AND SENG'S AIRPORT PARK SUBDIVISION LOT 20, LOT 23 & LOT 24. COMMENCING AT THE SOUTHWEST CORNER OF LOT 20 SENG'S AIRPORT PARK SUBDIVISION AND THE POINT OF BEGINNING; THENCE NORTH 150 FEET; THENCE EAST 75 FEET; THENCE SOUTH 150 FEET; THENCE EAST 192 FEET TO THE SOUTHWEST CORNER LOT 23; THENCE NORTH 150 FEET; THENCE EAST 160 FEET TO THE NORTHEAST CORNER LOT 24; THENCE SOUTH 00 DEGREES 27 MINUTES 50 MINUTES EAST 300 FEET MORE OR LESS TO THE NORTHEAST CORNER OF LOT 31 MUSKOGON COUNTY AIRPORT BUSINESS PARK NO. 2; THENCE WEST ALONG THE NORTH LINE OF SAID MUSKOGON COUNTY AIRPORT BUSINESS PARK NO. 2 1166.56 FEET MORE OR LESS TO THE EAST LINE OF ROBERT HUNTER DRIVE; THENCE NORTH ALONG THE EAST LINE OF ROBERT HUNTER DRIVE 150 FEET MORE OR LESS TO THE SOUTH LINE OF LOT 11 SENG'S AIRPORT PARK SUBDIVISION; THENCE EAST TO THE POINT OF BEGINNING.

**DESCRIPTION FOR TAX PARCELS 61-27-120-200-0004-00**  
 UNIT 31, MUSKOGON COUNTY AIRPORT BUSINESS PARK NO. 2, CITY OF NORTON SHORES, MUSKOGON COUNTY, MICHIGAN.

**SURVEYOR'S NOTES:**

UTILITIES SHOWN HEREON ARE BASED UPON ABOVE GROUND OBSERVATIONS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA. THE SURVEY SHOULD NOT BE RELIED UPON TO DEPICT THE LOCATION OF ALL UNDERGROUND UTILITIES.

BEARINGS ARE BASED ON THE EAST LINE OF THE NORTHEAST 1/4 OF SECTION 20 AS BEING S 00°59'01" W.

FOUNDATIONS BELOW GROUND SURFACE AND ANY OTHER BELOW GROUND IMPROVEMENTS, IF ANY, WERE NOT LOCATED UNDER THE SCOPE OF THIS SURVEY.

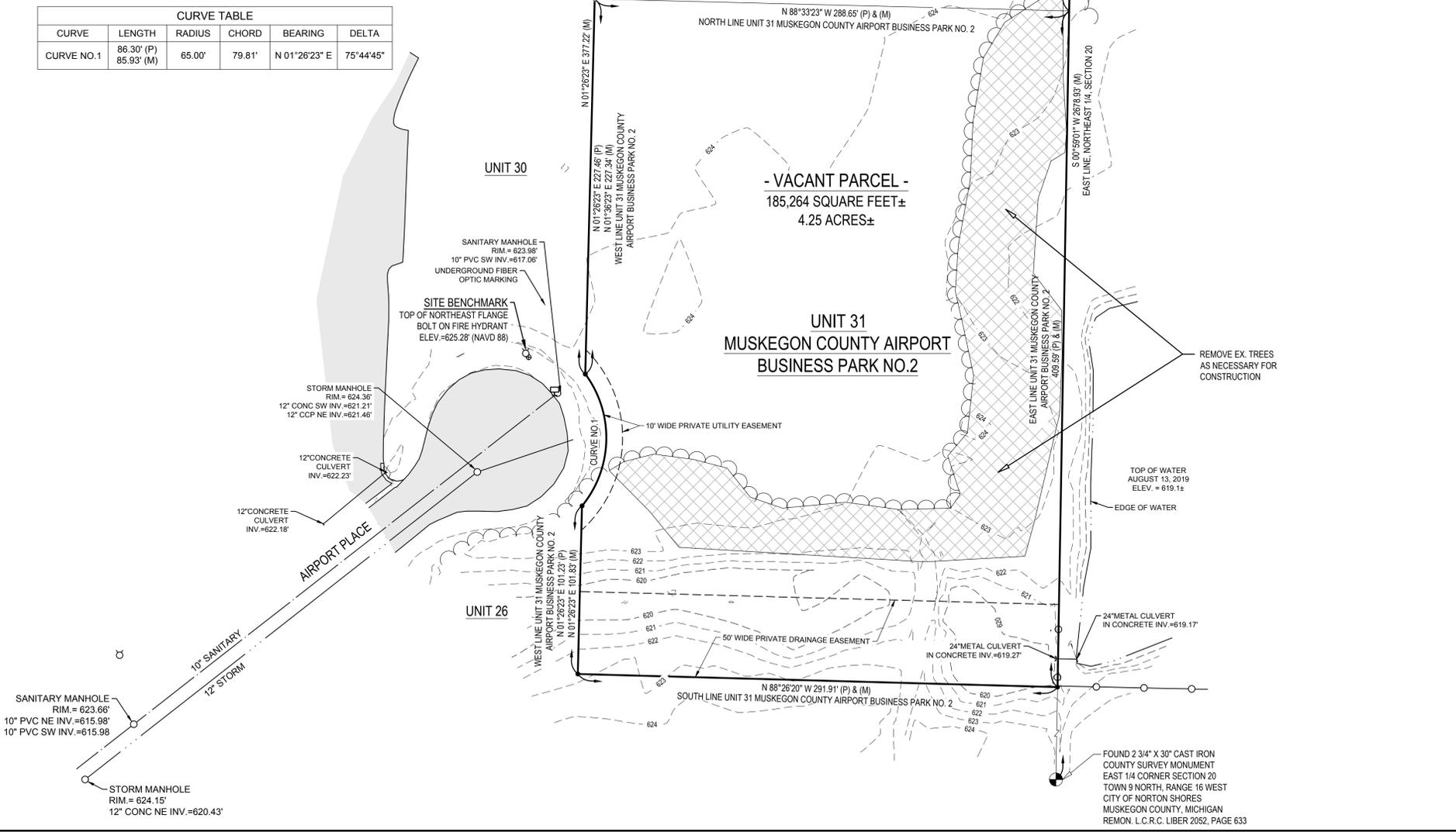
**MISS DIG TICKET RESPONSE INQUIRY**  
 (TICKET NUMBERS B92180213-00B)

- NO UTILITY FLAGS OR PAINT MARKINGS WERE FOUND DURING FIELD SURVEY.
- CONSUMERS ENERGY - NO RESPONSE
  - CHARTER COMMUNICATIONS - NO RESPONSE
  - CITY OF NORTON SHORES - MAPS PROVIDED
  - COMCAST - NO RESPONSE
  - DTE ENERGY - NO RESPONSE
  - DTE GAS - NO RESPONSE
  - FRONTIER/VERIZON - NO RESPONSE
  - MUSKOGON AREA INTERMEDIATE SCHOOL DISTRICT - NO RESPONSE
  - SM&P UTILITY RESOURCES - NO RESPONSE
  - WESTERN TEL-COM INC.

CURVE TABLE					
CURVE	LENGTH	RADIUS	CHORD	BEARING	DELTA
CURVE NO.1	86.30' (P) 85.93' (M)	65.00'	79.81'	N 01°26'23" E	75°44'45"

**LEGEND**

- SET 1/2" STEEL ROD W/CAP #45500
- FOUND 1/2" STEEL BAR
- FOUND CONCRETE MONUMENT
- (M) MEASURED DISTANCE
- (P) PLATTED DISTANCE
- ⊕ FIRE HYDRANT
- ⊕ WATER VALVE
- ⊕ SIGN
- ⊕ TELEPHONE PEDESTAL
- SANITARY / STORM MANHOLE
- UTILITY POLE
- ⊕ GUY ANCHOR
- TREE
- ▨ EXISTING PAVEMENT
- ▨ EXISTING CONCRETE / CONCRETE CURB
- ▨ EXISTING GRAVEL
- ▬ PARCEL LINE
- ▬ LOT LINE
- ▬ CHAIN LINK FENCE
- ▬ UNDERGROUND SANITARY SEWER
- ▬ UNDERGROUND STORM SEWER
- ▬ UNDERGROUND UTILITY - GAS LINE PER MAP
- ▬ UNDERGROUND UTILITY - WATER LINE
- ▬ OVERHEAD UTILITY LINE
- ▬ CULVERT - OPEN END
- ▬ EDGE OF WATER
- ▬ TREE LINE
- ▬ EXISTING EASEMENT LINE
- ▬ EXISTING CONTOUR - MAJOR
- ▬ EXISTING CONTOUR - MINOR
- ⊕ SOIL BORING HOLE



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**LAKEWOOD CONSTRUCTION**  
 ATTN: MR. DAVE ASH  
 11253 JAMES STREET  
 HOLLAND, MICHIGAN 49424

**EARTHTRONICS**  
 E ELLIS ROAD  
 NORTON SHORES, MICHIGAN 49441  
 PT. OF THE NE 1/4 SECTION 20 T9N, R16W  
 CITY OF NORTON SHORES  
 MUSKOGON COUNTY, MICHIGAN

Issued for:

No.	Description	TOPO
1	BOUNDARY & EXISTING CONDITIONS	A

Project Manager  
 REBECCA K. PAGE P.E.

Vertical Datum  
 NAVD 88

Horz. Datum  
 LOCAL

Drawn by  
 DANIEL FURBUSH

Checked by  
 Survey MOS 07/28/2019

Civil . . . . .

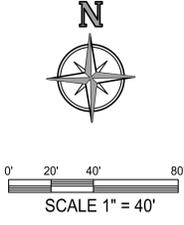
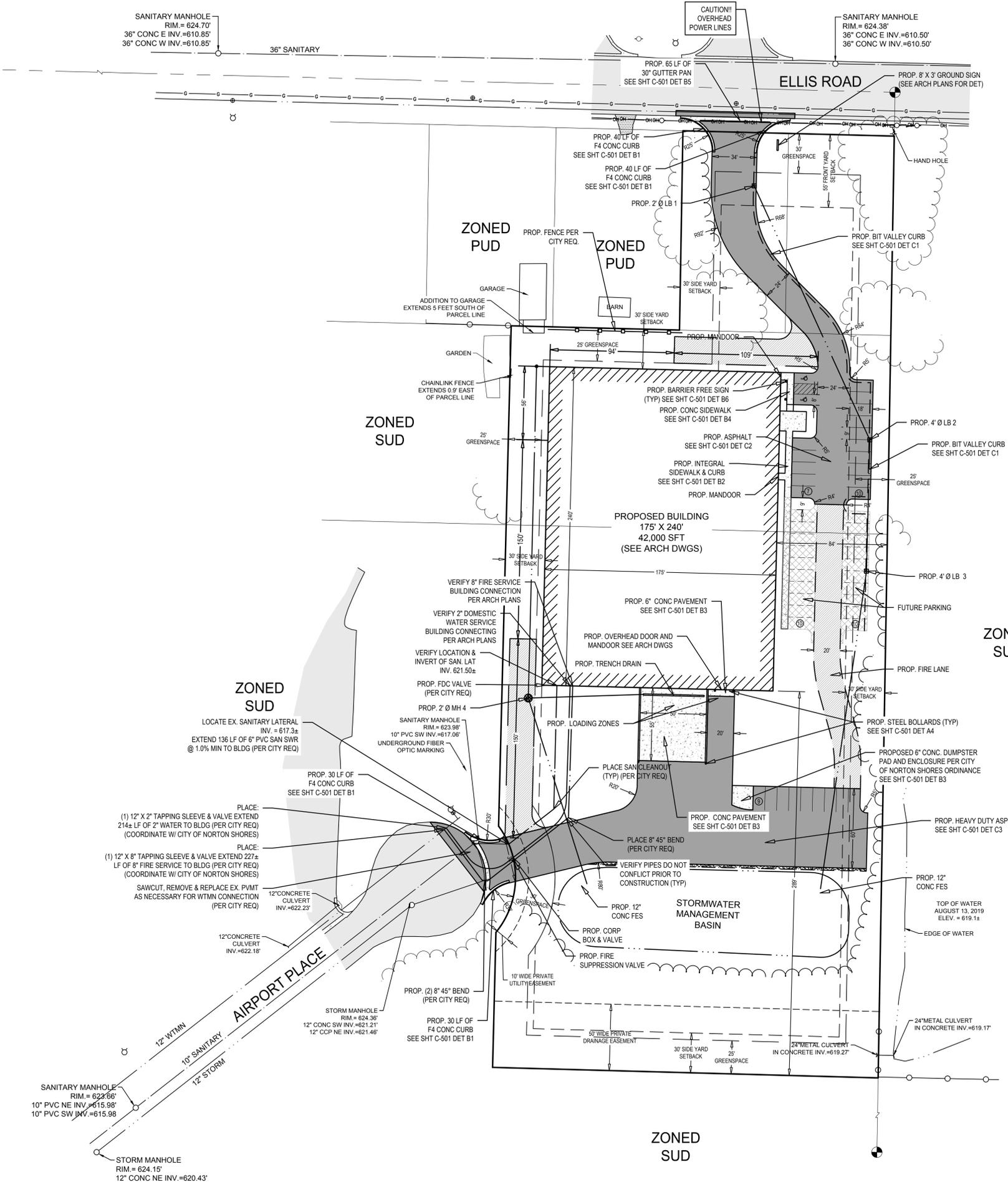
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L. A. . . . .

HEI Project Number  
 19-07-027

Sheet Title  
**BOUNDARY & EXISTING CONDITIONS**

Sheet No.  
**V-101**



**ZONING**

**SUD - SPECIAL USE DEVELOPMENT**

SETBACKS (PER AIRPORT PARK COVENANTS):  
 FRONT YARD 45 FEET FOR FRONT WALL WIDTH EQUAL TO OR LESS THAN 150'  
 SIDE YARD 55 FEET FOR FRONT WALL WIDTH GREATER THAN 150'  
 REAR YARD EQUAL TO BUILDING HEIGHT NOT LESS THAN 20 FEET  
 EQUAL TO BUILDING HEIGHT NOT LESS THAN 20 FEET

MAX. BLDG. COVERAGE MIN. 20% MAX 50%  
 MAX BLDG. HEIGHT REGULATED BY AIRPORT ZONING PLAN: 50 FT  
 PROP. MAX. BLDG HEIGHT 25 FT

**PARKING**

**PARKING REQUIREMENTS:**  
 1 SPACE / 300 SFT OF OFFICE SPACE  
 1 SPACE / EMPLOYEE DURING LARGEST SHIFT  
 1 SPACE / 2,000 SFT OF MANUFACTURING, COMPOUNDING, PROCESSING  
 5 SPACES + 1 / EMPLOYEE DURING LARGEST SHIFT (WAREHOUSING)

**PARKING REQUIRED:** 12 - 15 ± SPACES  
**PARKING PROVIDED:** 26 SPACES (INCLUDING 2 B.F.)  
**FUTURE PARKING:** 20 SPACES

- LAYOUT & UTILITY NOTES:**
- ON SITE SOILS CONSIST OF FINE TO MEDIUM SAND, PER GEOTECHNICAL REPORT COMPLETED FOR THE PROJECT.
  - SITE DESIGN WAS DEVELOPED IN ACCORDANCE WITH THE INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT AND SOIL BORINGS COMPLETED FOR THE PROJECT. CONTRACTOR SHALL ACQUIRE A COPY OF THE GEOTECHNICAL REPORT AND SOIL BORING INFORMATION. SOIL CONDITIONS MAY VARY FROM THE GEOTECHNICAL INFORMATION, WHICH MAY AFFECT THE SITE DESIGN, EARTHWORK QUANTITIES, USABLE SOILS, AND SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES. CONTRACTOR SHALL NOTIFY DESIGN ENGINEER AND GEOTECHNICAL ENGINEER IF SITE CONDITIONS VARY FROM SOILS INFORMATION CONTAINED IN THE GEOTECHNICAL INFORMATION.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN ACQUIRED PRIOR TO CONSTRUCTION.
  - CALL MISS DIG AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING ANY EXCAVATION.
  - CONTRACTOR SHALL CONTACT ENGINEER IF ANY DISCREPANCIES ARE DETERMINED BETWEEN SITE LAYOUT DIMENSIONS AND ACTUAL SITE CONDITIONS.
  - COORDINATE ALL UTILITY CONSTRUCTION WITH UTILITY PROVIDER, AS REQUIRED.
  - CONTRACTOR SHALL VERIFY THAT THERE ARE NO UTILITY CONFLICTS PRIOR TO CONSTRUCTION.
  - ALL SANITARY SEWER WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF NORTON SHORES STANDARDS & SPECIFICATIONS.
  - ALL WATERMAIN, WATER SERVICES, AND FIRE PROTECTION LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF NORTON SHORES STANDARDS & SPECIFICATIONS.
  - ALL WORK WITHIN THE PUBLIC ROAD RIGHT-OF-WAY WILL REQUIRE A PERMIT AND OR APPROVAL FROM THE CITY OF NORTON SHORES AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THEIR STANDARDS & SPECIFICATIONS.
  - COORDINATE ALL SIGNAGE REMOVAL AND RELOCATION WITHIN THE RIGHT-OF-WAY WITH CITY OF NORTON SHORES.
  - SITE CONTRACTOR RESPONSIBLE TO CONNECT EXISTING AND PROPOSED BUILDING TO WATER SERVICE AND SANITARY SEWER LATERAL. REFER TO PLUMBING PLANS FOR CONNECTION LOCATION AND DETAILS.
  - REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS. BUILDING SHALL BE STAKED BASED ON FOUNDATION PLAN. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE ARE DISCREPANCIES BETWEEN THE BUILDING AND SITE DRAWINGS.
  - ON SITE LIGHTING SHALL DIRECTED DOWNWARD AND AWAY FROM ADJACENT PROPERTIES AS REQUIRED PER THE CITY OF NORTON SHORES ZONING ORDINANCE AND FAA REQUIREMENTS.
  - SITE SIGNAGE SHALL MEET THE STANDARDS AND REQUIREMENTS OF THE CITY OF NORTON SHORES ZONING ORDINANCE. A SIGN PERMIT SHALL BE ACQUIRED PRIOR TO CONSTRUCTION.
  - CONTRACTOR SHALL BE RESPONSIBLE TO MEETING THE STANDARDS AND REQUIREMENTS OF THE LOCAL NOISE ORDINANCE FOR ALL CONSTRUCTION PRACTICES.
  - SEE OTHER SHEETS IN PLAN SET FOR MORE INFORMATION.

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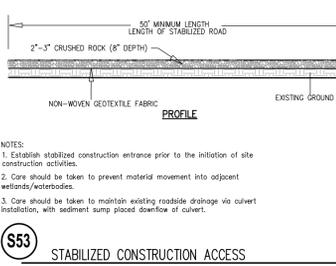
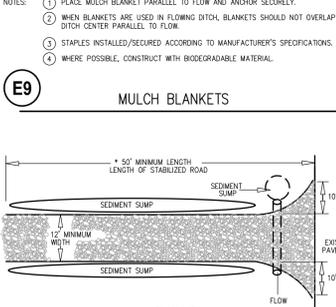
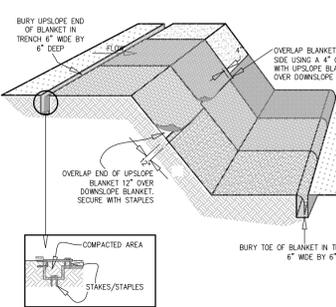
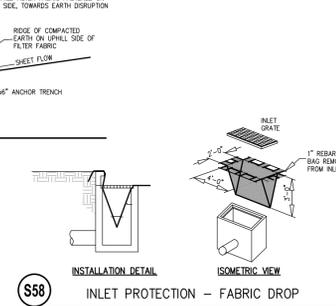
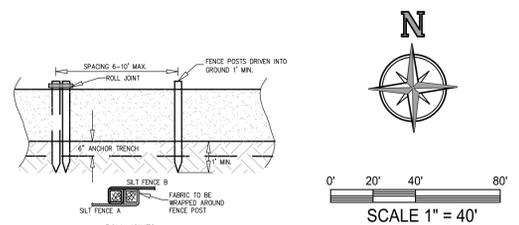
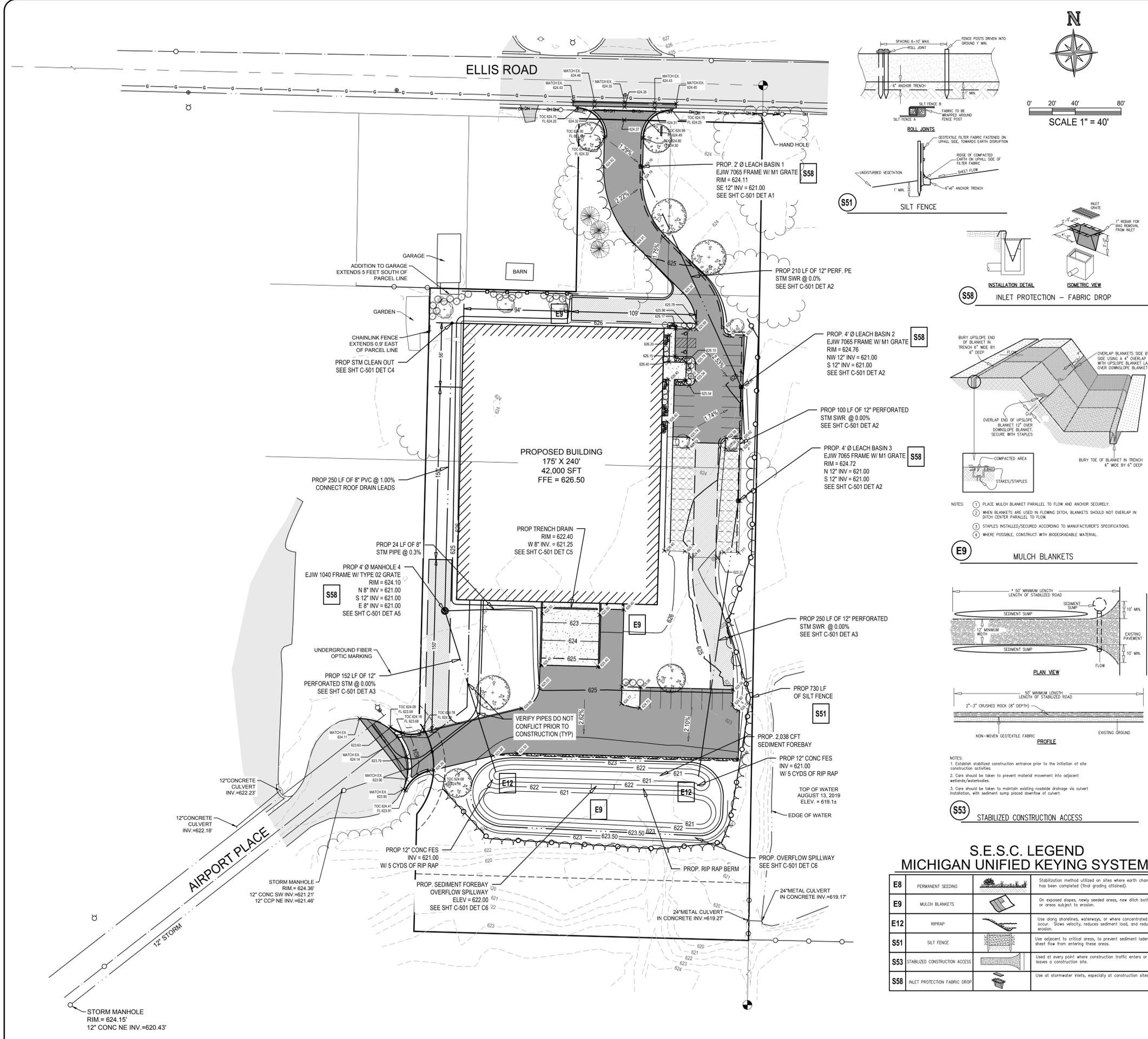
**LAKWOOD CONSTRUCTION**

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 NORTON SHORES, MI 49441  
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Project Manager <b>REBECCA K. PAGE, P.E.</b>	
Vertical Datum <b>NAVD 88</b>	Horz. Datum <b>LOCAL</b>
Drawn by <b>COLLIN DEPREKEL</b>	
Checked by <b>Survey</b>	Date
Civil	
Struc.	
L.A.	
HEI Project Number <b>19-07-027</b>	
Sheet Title <b>SITE LAYOUT PLAN</b>	
Sheet No. <b>C-101</b>	



- GRADING & STORM SEWER NOTES:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL NECESSARY PERMITS AND APPROVALS HAVE BEEN ACQUIRED PRIOR TO CONSTRUCTION.
  - SITE DESIGN WAS DEVELOPED IN ACCORDANCE WITH THE INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT AND SOIL BORINGS COMPLETED FOR THE PROJECT. CONTRACTOR SHALL ACQUIRE A COPY OF THE GEOTECHNICAL REPORT AND SOIL BORING INFORMATION. SOIL CONDITIONS MAY VARY FROM THE GEOTECHNICAL INFORMATION WHICH MAY AFFECT THE SITE DESIGN, EARTHWORK QUANTITIES, USABLE SOILS, AND SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES. CONTRACTOR SHALL NOTIFY DESIGN ENGINEER AND GEOTECHNICAL ENGINEER IF SITE CONDITIONS VARY FROM SOILS INFORMATION CONTAINED IN THE GEOTECHNICAL INFORMATION.
  - CALL MISS DIG AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING ANY EXCAVATION.
  - CONTRACTOR SHALL VERIFY THAT THERE ARE NO UTILITY CONFLICTS PRIOR TO CONSTRUCTION.
  - ALL WORK WITHIN THE RIGHT-OF-WAY WILL REQUIRE A PERMIT AND/OR APPROVAL FROM THE CITY OF NORTON SHORES AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THEIR STANDARDS & SPECIFICATIONS.
  - STORM WATER MANAGEMENT SYSTEM AND GRADING SHALL BE IN ACCORDANCE WITH THE MUSKEGON COUNTY DRAIN COMMISSION STORM WATER ORDINANCE.
  - SITE CONTRACTOR RESPONSIBLE TO CONNECT STORM/ROOF WATER TO STORM DRAIN AS SHOWN. REFER TO PLUMBING PLANS FOR CONNECTION TO THE BUILDING AND DETAILS.
  - SITE SHALL BE GRADED WITH SMOOTH CONTOURS IN ALL AREAS OF DISTURBANCE AND GRADED TO SLOPE AWAY FROM THE EXISTING AND PROPOSED BUILDINGS AND SIDEWALKS.
  - SEE OTHER SHEETS IN PLAN SET FOR MORE INFORMATION.

- STORM WATER INFILTRATION BASIN NOTES:**
- CONTRACTOR SHALL OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS AS NECESSARY FOR CONSTRUCTION.
  - CALL MISS DIG AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING ANY EXCAVATION.
  - THIS PROJECT RELIES ON THE INFILTRATION OF RUNOFF TO PROVIDE STORMWATER MANAGEMENT FOR THE SITE IMPROVEMENTS. THEREFORE, ALL APPROPRIATE MEASURES SHALL BE TAKEN TO MINIMIZE COMPACTION OF ONSITE SOILS IN THE AREA OF THE INFILTRATION BASIN AND/OR INFILTRATION TRENCHES.
  - CONTRACTOR SHALL CONSTRUCT SIDE SLOPES OF THE STORM WATER INFILTRATION BASIN UTILIZING A BOBCAT OR SMALL MECHANIZED EQUIPMENT IN AN EFFORT TO MAINTAIN THE INFILTRATION PROPERTIES OF THE SIDE SLOPES.
  - IF THE WATER TABLE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY TO VERIFY THAT THE WATER TABLE ELEVATION UTILIZED IN THE DESIGN MATCHES THE WATER TABLE ELEVATION WITNESSED ONSITE DURING CONSTRUCTION.
  - ONSITE SOILS WITHIN THE LIMITS OF THE INFILTRATION BASIN WERE DETERMINED TO BE SAND. SHOULD CONTRACTOR ENCOUNTER OTHER SOILS WITHIN THE LIMITS OF THE STORM WATER INFILTRATION BASIN AND/OR INFILTRATION TRENCHES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT DESIGN CHANGES CAN BE MADE AS NECESSARY.
  - STORM WATER MANAGEMENT BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUSKEGON COUNTY DRAIN COMMISSION MOST CURRENT STANDARDS AND REQUIREMENTS.
  - EXISTING ONSITE INFILTRATIVE SOILS SHALL BE LEFT IN PLACE WITHIN THE INFILTRATION BASIN AREA.
  - NO FILL OR ORGANIC MATERIAL SHALL BE PLACED WITHIN THE INFILTRATION BASIN, WITH THE EXCEPTION OF THE TOPSOIL AND SEED.
  - FOLLOWING CONSTRUCTION COMPLETION, THE CONTRACTOR SHALL REMOVE ANY SILT OR SEDIMENT THAT HAS ACCUMULATED IN THE STORM WATER INFILTRATION BASIN PRIOR TO FINAL RESTORATION.
  - THE STORM WATER MANAGEMENT BASIN WAS DESIGNED TO PROVIDE CAPACITY FOR 13,372 CUBIC FEET OF STORAGE. CONTRACTOR SHALL CONSTRUCT BASIN PER THE DESIGN DRAWINGS TO ACHIEVE THIS STORAGE VOLUME.
  - FOLLOWING CONSTRUCTION OF THE STORM WATER MANAGEMENT BASIN, CONTRACTOR SHALL NOTIFY ENGINEER TO COMPLETE A SURVEY OF THE CONSTRUCTED STORM WATER MANAGEMENT SYSTEM AND PREPARE STORM WATER AS-BUILT DRAWINGS AS REQUIRED PER THE MUSKEGON COUNTY DRAIN COMMISSION STANDARDS AND REQUIREMENTS.
  - AFTER FINAL RESTORATION AND PROJECT COMPLETION, PROPERTY OWNER SHALL COMPLETE MAINTENANCE AND CLEANING PER THE SIGNED MAINTENANCE AGREEMENT.
  - SEE OTHER SHEETS IN PLAN SET FOR MORE INFORMATION.

- SESC NOTES:**
- CONTRACTOR SHALL OBTAIN ALL STATE AND LOCAL PERMITS AS NECESSARY FOR CONSTRUCTION.
  - SITE DESIGN WAS DEVELOPED IN ACCORDANCE WITH THE INFORMATION CONTAINED IN THE GEOTECHNICAL REPORT AND SOIL BORINGS COMPLETED FOR THE PROJECT. CONTRACTOR SHALL ACQUIRE A COPY OF THE GEOTECHNICAL REPORT AND SOIL BORING INFORMATION. SOIL CONDITIONS MAY VARY FROM THE GEOTECHNICAL INFORMATION WHICH MAY AFFECT THE SITE DESIGN, EARTHWORK QUANTITIES, USABLE SOILS, AND SOIL EROSION AND SEDIMENTATION CONTROL PRACTICES. CONTRACTOR SHALL NOTIFY DESIGN ENGINEER AND GEOTECHNICAL ENGINEER IF SITE CONDITIONS VARY FROM SOILS INFORMATION CONTAINED IN THE GEOTECHNICAL INFORMATION.
  - CONTRACTOR IS RESPONSIBLE TO ACQUIRE THE MUSKEGON COUNTY DEPARTMENT OF PUBLIC WORKS SOIL EROSION AND SEDIMENTATION CONTROL PERMIT AND COMPLY WITH ALL PERMIT REQUIREMENTS AND WITH ALL STANDARDS AND REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION.
  - BEST MANAGEMENT PRACTICES SHALL BE UTILIZED DURING AND AFTER CONSTRUCTION FOR TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.
  - CONTRACTOR SHALL PROVIDE A CERTIFIED STORM WATER OPERATOR FROM CONSTRUCTION COMMENCEMENT THROUGH FINAL SITE STABILIZATION.
  - THE TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED WEEKLY AND AFTER EACH SIGNIFICANT RAIN EVENT IN ACCORDANCE WITH THE EGLE REQUIREMENTS.
  - CALL MISS DIG AT LEAST THREE (3) WORKING DAYS PRIOR TO STARTING ANY EXCAVATION.
  - ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF NORTON SHORES STANDARDS AND SPECIFICATIONS.
  - SOIL EROSION CONTROL MEASURES SHALL BE PLACED PRIOR TO EARTH MOVING OR GROUND DISTURBANCE AND REMAIN IN PLACE UNTIL FINAL RESTORATION HAS BEEN ESTABLISHED.
  - THE STORM WATER MANAGEMENT BASIN SHALL BE CONSTRUCTED FIRST. CONTRACTOR IS RESPONSIBLE TO REMOVE SEDIMENT FROM BOTTOM OF DETENTION BASIN UNTIL THE SITE IS FULLY STABILIZED.
  - ALL FOREIGN MATERIAL OR DEBRIS FROM JOB SITE WHICH IS DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED IMMEDIATELY.
  - DURING THE CONSTRUCTION PHASE OF THE PROPOSED PROJECT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE CLEAN-UP OPERATIONS ALONG & ON THE ROADWAY WHERE DIRT AND/OR DEBRIS HAS BEEN DEPOSITED DUE TO CONSTRUCTION ACTIVITIES AND/OR RELATED WORK. AS A MINIMUM, CLEANUP WILL BE DONE ON A DAILY BASIS. ADDITIONAL CLEANUP WILL BE PERFORMED AS DEEMED NECESSARY BY THE CITY.
  - TEMPORARY CONSTRUCTION ENTRANCES SHALL BE PLACED AS LOCATED ON THE DEMOLITION SHEET (CD-101).
  - SOIL EROSION CONTROL MEASURES ARE THE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION AND THE OWNER UPON COMPLETION.
  - CONTRACTOR SHALL PHASE THE PLACEMENT OF THE SOIL EROSION CONTROL MEASURES AS NECESSARY FOR THE SITE IMPROVEMENTS WITHIN THE LIMITATIONS OF THE ACQUIRED SOIL EROSION CONTROL PERMIT.
  - STOCKPILE AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT SEED IN ACCORDANCE WITH THE MUSKEGON COUNTY DPW SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS. ALL EXCESS SPOILS SHALL BE REMOVED FROM SITE.
  - THERE SHALL BE NO EARTH MOVEMENT OR DISTURBANCE OUTSIDE THE LIMITS OF DISTURBANCE WITHOUT PRIOR AUTHORIZATION FROM THE MUSKEGON COUNTY DPW.
  - THE MINIMUM AMOUNT OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE SHOWN IN THE DRAWINGS. CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL MEASURES, MAINTENANCE, AND/OR STABILIZATION MEASURES AS NECESSARY FOR CONSTRUCTION ACTIVITIES.
  - SEE OTHER SHEETS IN PLAN SET FOR MORE INFORMATION.

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Date	Description	No.	Issued for:
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09/20/2019	REVISED PER ENGINEER	B	
09/26/2019	SUBMITTED TO MDCD	C	
10/01/2019	RESUBMITTED TO CITY	D	
10/04/2019	RESUBMITTED TO CITY	E	

Plans are preliminary & incomplete until ISSUED FOR CONSTRUCTION

Project Manager: REBECCA K. PAGE, P.E.  
 Vertical Datum: NAVD 88  
 Horizontal Datum: Local  
 Drawn by: COLLIN DEPREKEL  
 Checked by: Survey  
 Date: .  
 Civil: .  
 Struct.: .  
 L.A.: .

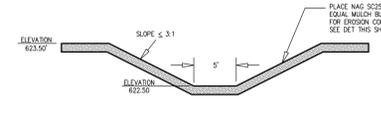
HEI Project Number: 19-07-027  
 Sheet Title: GRADING DRAINAGE & SESC PLAN  
 Sheet No.: C-201

Issued for:

No.	Date	Description
A	08/10/2019	SITE PLAN SUBMITTAL TO CITY
B	08/22/2019	REVISION PER ENGINEER
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D	10/01/2019	REVISION PER CITY
E	10/04/2019	RESUBMITTED TO CITY

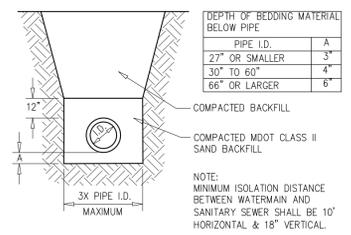
Plans are preliminary & incomplete until ISSUED FOR CONSTRUCTION

Project Manager: REBECCA K. PAGE, P.E.  
 Vertical Datum: NAVD 88  
 Horizontal Datum: LOCAL  
 Drawn by: COLLIN DEPREKEL  
 Checked by: Survey  
 Date: .  
 Civil: .  
 Struc.: .  
 L.A.: .  
 HEI Project Number: 19-07-027  
 Sheet Title: GENERAL DETAILS  
 Sheet No.: C-501

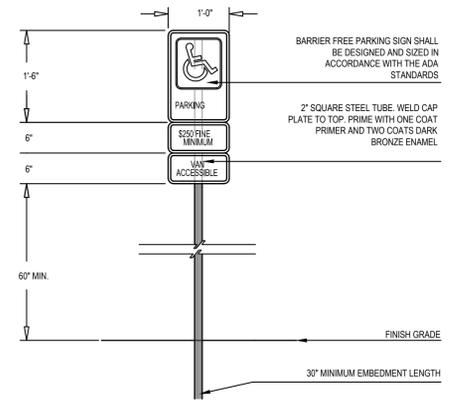


**C6 EMERGENCY SPILLWAY**

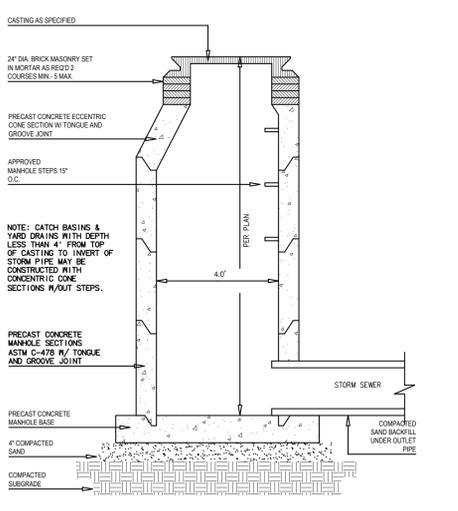
FOR COMPACTED BACKFILL FOR PIPES UNDERNEATH PAVEMENT OR WITHIN 10' OF PAVEMENT, USE MDT CLASS II SAND BACKFILL. ALL OTHER AREAS USE CLEAN SITE SUBSOIL.



**C7 CLASS B PIPE BEDDING**

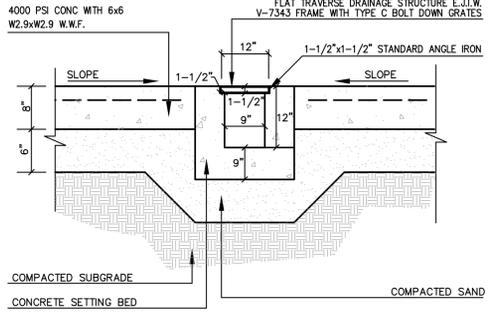


**B6 BARRIER FREE PARKING SIGN**

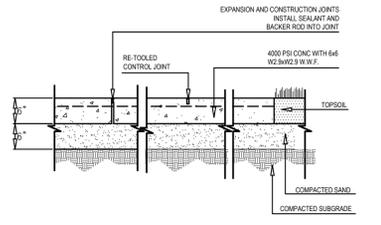


**A5 4' DIA. STORM MANHOLE**

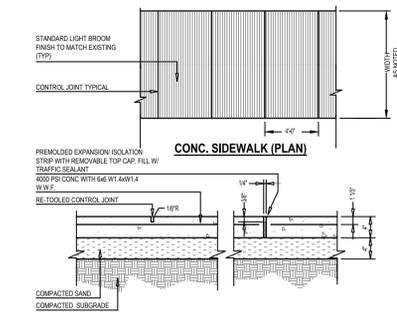
NOTE: MATERIALS AND HOOKUP TO SITE STORM SEWER TO BE INCLUDED IN SITE CONCRETE CONTRACTORS' WORK.



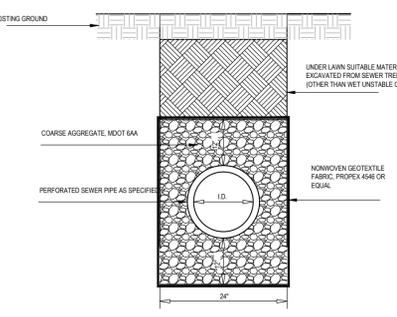
**C5 TRENCH DRAIN**



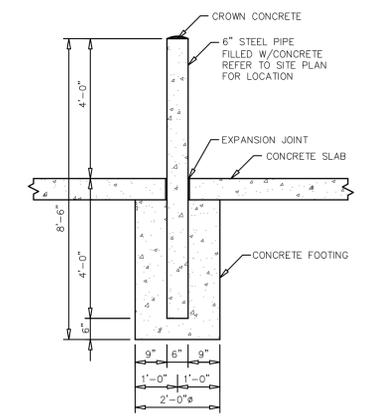
**B3 6\"/>**



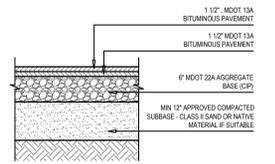
**B4 4\"/>**



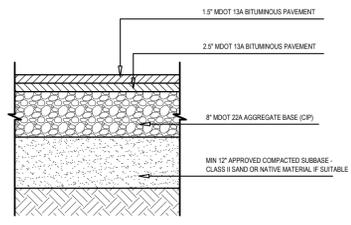
**A3 PERFORATED TRENCH DETAIL**



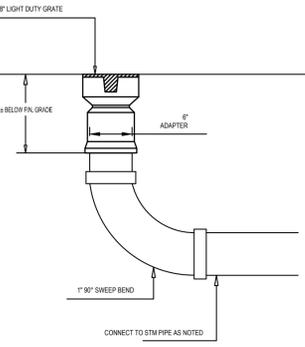
**A4 6\"/>**



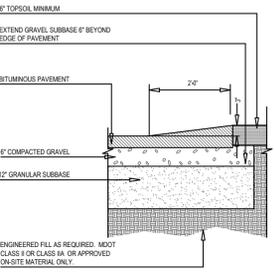
**C2 PARKING LOT BITUMINOUS PAVEMENT SECTION**



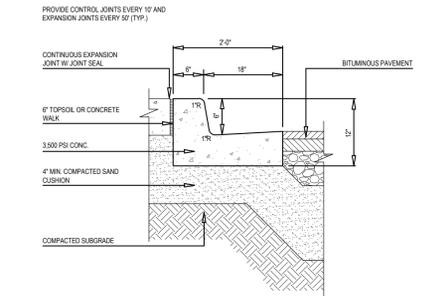
**C3 HEAVY DUTY BITUMINOUS PAVEMENT SECTION**



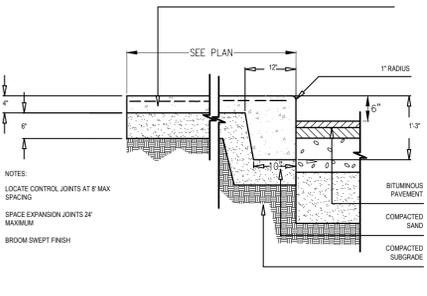
**C4 CLEANOUT DETAIL**



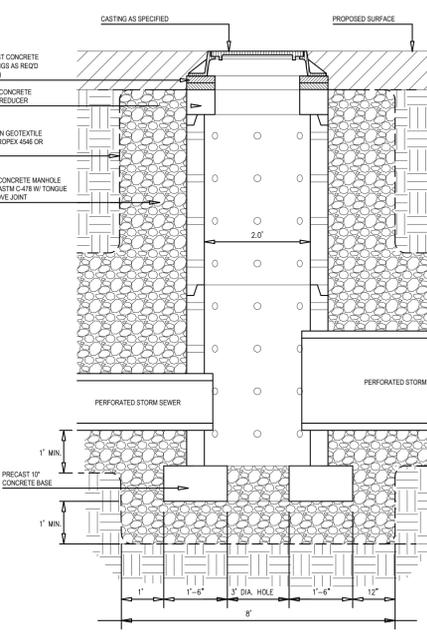
**C1 BITUMINOUS VALLEY GUTTER**



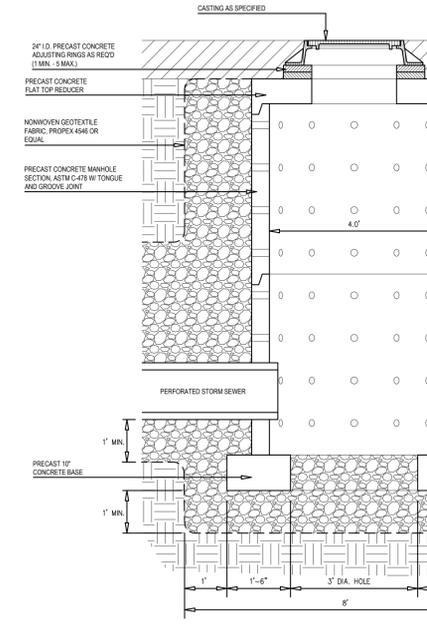
**B1 24\"/>**



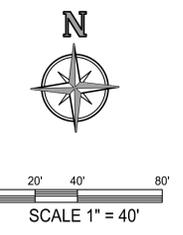
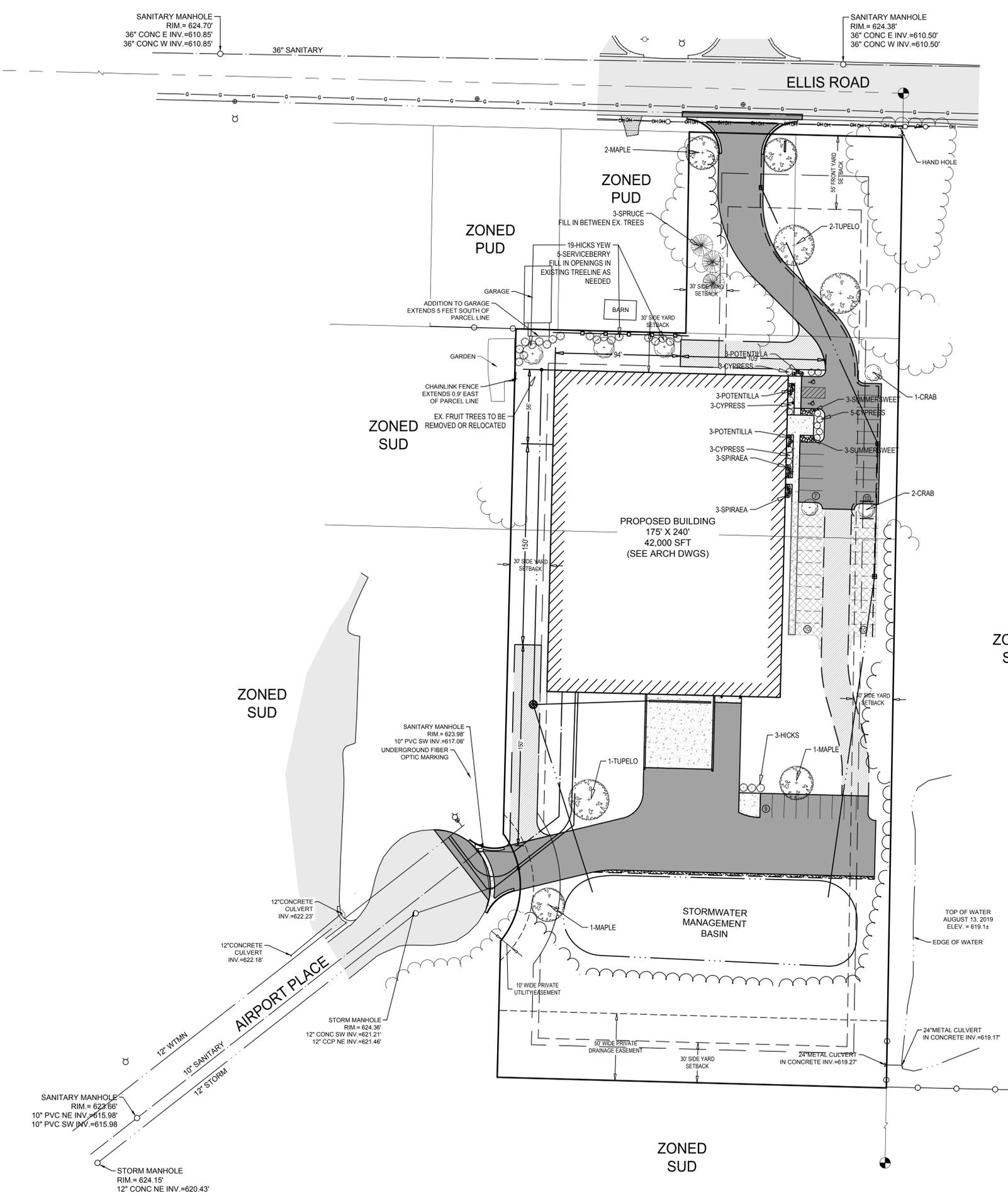
**B2 4\"/>**



**A1 2' DIA. LEACHING BASIN**



**A2 4' DIA. LEACHING BASIN**



**PLANTING NOTES:**

- ALL LAWN AND PLANTING AREAS SHALL BE IRRIGATED WITH UNDERGROUND IRRIGATION IN SUCH WAY TO MAINTAIN VEGETATION IN A HEALTHY AND GROWING MANNER.
- ALL LANDSCAPE AREAS SHALL BE MAINTAINED BY OWNER. TREES AND OTHER VEGETATION THAT DIE SHALL BE PROMPTLY REPLACED WITH IN KIND VEGETATION.
- CONTRACTOR SHALL PROVIDE SPECIFIED TREES, SHRUBS, GROUND COVERS AND OTHER PLANT MATERIAL THAT COMPLY WITH ALL RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS STOCK GROWN WITH GOOD HORTICULTURAL PRACTICE AND INSTALLED IN ACCORDANCE WITH METHODS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- SEED SHALL BE PLACED OVER 6" TOPSOIL IN ALL PROPOSED LAWN AREAS AND ALL AREAS DISTURBED BY CONSTRUCTION EXCEPT AS NOTED ON THE PLANS. SOD SHALL BE PLACED IN ALL AREAS AS SHOWN ON THE PLANS OVER 4" TOPSOIL.
- PLANTING SOIL CONSISTING OF 1/3 TOPSOIL, 1/3 PEAT MOSS AND 1/3 SAND SHALL BE PLACED IN ALL GROUND COVER AND FLOWER BEDS. DEPTH SHALL BE NOT LESS THAN 8".
- FOLLOWING CONSTRUCTION, RESTORE ALL DISTURBED AREAS WITH EARTH CARPET SEED MIX "A" SEED MIX, UNLESS OTHERWISE NOTED.
- PLANT MATERIAL SUBSTITUTIONS SHALL BE APPROVED BY OWNER & LANDSCAPE ARCHITECT.

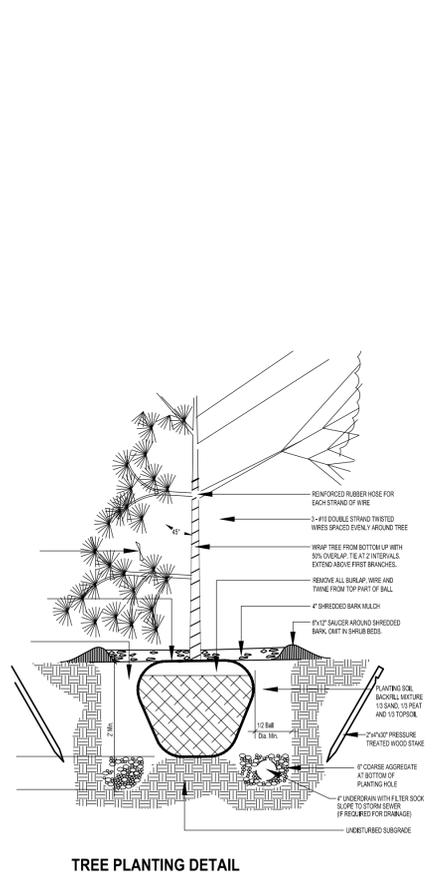
KEY	SIZE	COMMON NAME	BOTANICAL NAME	MATURE SIZE/COMMENTS
<b>SHADE TREES</b>				
MAPLE	2-1/2"BB	CELEBRATION MAPLE	ACER X FREEMANI 'CELZAM'	45Hx25S; SEEDLESS; COMPACT; RED & GOLD FALL COLOR
TUPELO	2-1/2"BB	TUPELO / BLACK GUM	NYSSA SYLVATICA	50Hx30S; PYRAMIDAL; ORANGE, RED & GOLD FALL COLOR
<b>ORNAMENTAL TREES</b>				
SERVICEBERRY	2"BB	SHADBLOW SERVICEBERRY	AMELANCHIER CANADENSIS	20Hx15S; TREE FORM; MOIST SOILS ACCEPTABLE
CRAB	2"BB	RED JEWEL CRAB	MALUS 'JEWELCOLE'	15Hx12S
<b>EVERGREEN TREES</b>				
SPRUCE	7-8" BB	BLACK HILLS SPRUCE	PICEA GLAUCA DENSATA	40Hx12S
<b>EVERGREEN SHRUBS</b>				
CYPRESS	24" CONT.	SIBERIAN CYPRESS	MICROBIOTA DECUSSATA	1Hx5S
HICKS	30" CONT.	HICK'S YEW	TAXUS X MEDIA 'HICKSI'	10Hx6S
<b>ORNAMENTAL SHRUBS</b>				
SUMMERSWEET	24" CONT.	HUMMINGBIRD SUMMERSWEET	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	4Hx4S; WHITE FLOWERS, JULY-AUGUST; MOIST SOILS ACCEPTABLE
POTENTILLA	24" CONT.	ABBOTSWOOD POTENTILLA	POTENTILLA FRUITICOSA 'ABBOTSWOOD'	2Hx3S; WHITE FLOWERS, EARLY SPRING-LATE FALL
SPIRAEA	24" CONT.	LITTLE PRINCESS SPIRAEA	SPIRAEA JAPONICA 'LITTLE PRINCESS'	3Hx4S; MID-SUMMER-FALL PINK FLOWERS

**LAWN- SPARTAN GRADE A MIX**  
 SPARTAN GRADE A MIXTURE by Earth Carpet  
 10% Canton Kentucky Bluegrass  
 10% Gold Rush Kentucky Bluegrass  
 20% Ronde Kentucky Bluegrass  
 15% SRS100 Chewings Fescue  
 25% SRS210 Creeping Red Fescue  
 10% SRA500 Perennial Ryegrass  
 10% Manhattan 4 Perennial Ryegrass

SEEDING RATE: 5 LBS. PER 1,000 SQUARE FEET  
 HYDROSEED ALL AREAS WITH A SLURRY OF SEED, PULVERIZED MULCH, FERTILIZER AND WATER. PLACE EROSION CONTROL BLANKET, FUTERRA BY CONWED FIBERS OR EQUAL, ON ALL SLOPES GREATER THAN 1.3 AFTER SEEDING. REFER TO SHEET C-101 FOR LIMITS OF SEEDING AND C-201 FOR SLOPE INFORMATION.

**DETENTION BASIN SEED MIX**  
 SEED BIO-SHALE AREA WITH CARDNO SWALE SEED MIX @ 30 POUNDS/ACRE  
 PLACE EROSION CONTROL BLANKET ON ALL SLOPES GREATER THAN 1.3 AFTER SEEDING.

**SHRUB PLANT DETAIL**



**HOLLAND ENGINEERING**  
 220 Hoover Boulevard  
 Holland, Michigan 49424  
 www.hollandeng.com  
 T 616-392-5938 F 616-392-2116

The Contractor is responsible for any and all claims, including but not limited to those arising from the use of the Engineer's professional services, negligence, gross negligence, or willful or wanton disregard of the law. The amount of any such claim shall not be limited to the amount of the fee for the service fee.

**LAKWOOD CONSTRUCTION**  
 ATTN: MR. DAVE ASH  
 11253 JAMES STREET  
 HOLLAND, MICHIGAN 49424

**EARTHTRONICS**  
 E ELLIS ROAD  
 NORTON SHORES, MI 49441  
 PT. OF THE NE 1/4 SECT. 20 T9N, R16W  
 MUSKEGON COUNTY, MI

Issued for:

Date	Description	No.	By
08/10/2019	SITE PLAN SUBMITTAL TO CITY	A	
08/22/2019	REVISED PER ENGINEER	B	
08/26/2019	SUBMITTED TO MDCD	C	
10/01/2019	REVISED PER CITY	D	
10/04/2019	RESUBMITTED TO CITY	E	

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 Date: . . . . .  
 Civil: . . . . .  
 Struct.: . . . . .  
 L.A.: . . . . .  
 HEI Project Number: 19-07-027  
 Sheet Title: LANDSCAPE PLAN  
 Sheet No.: L-101