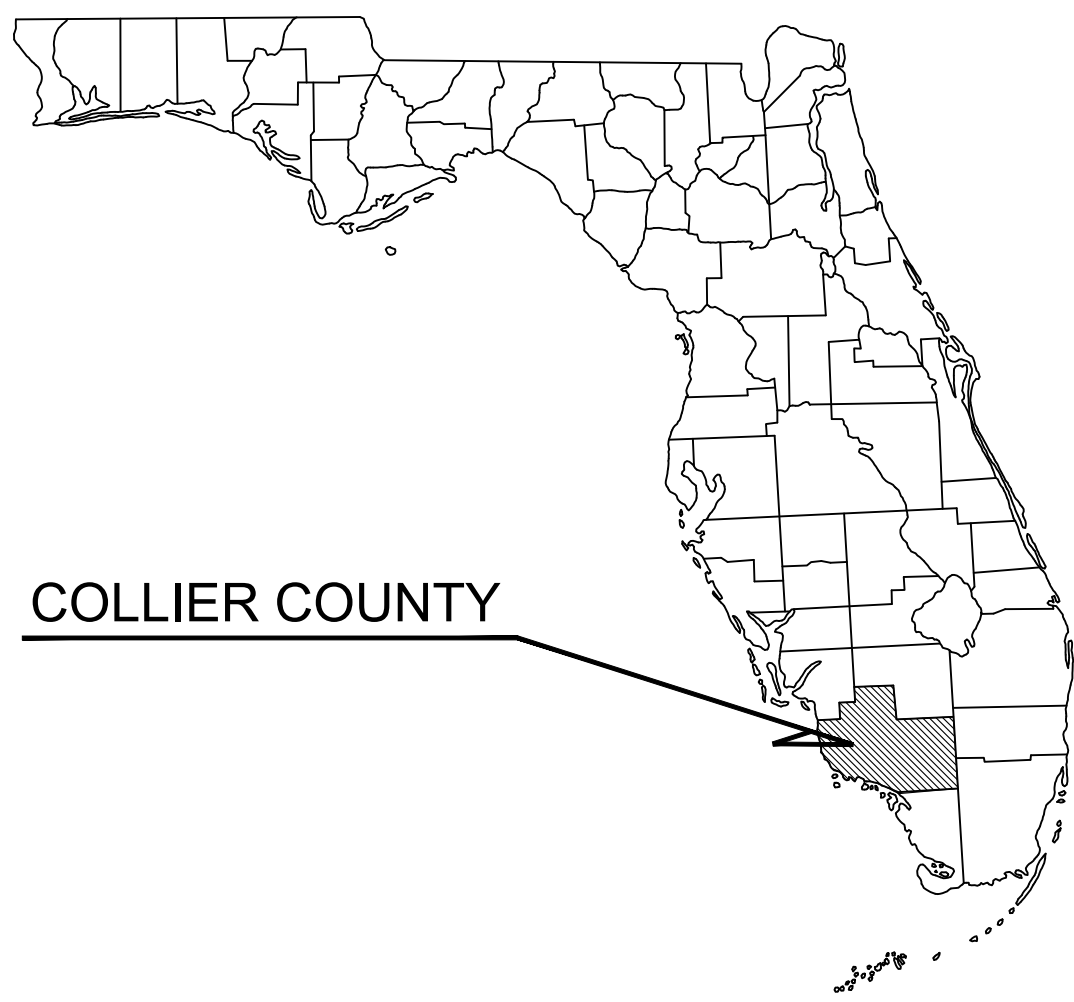


Plotted By: Andronescu, North - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-000 COVER SHEET - February 19, 2024 - 11:31:06am - K:\VIB-LOEVA\147854000 - Coastland Center Grill\CAD\PlanSheets\C-000 COVER SHEET.dwg  
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COLLIER COUNTY

# SITE PLAN APPLICATION PLANS

FOR

## OAR AND IRON AT COASTLAND MALL

LOCATED AT

### 2094 9TH STREET N

### CITY OF NAPLES, COLLIER COUNTY, FLORIDA

#### PROJECT TEAM

**DEVELOPER**  
 APW2199 DEVELOPMENT LLC  
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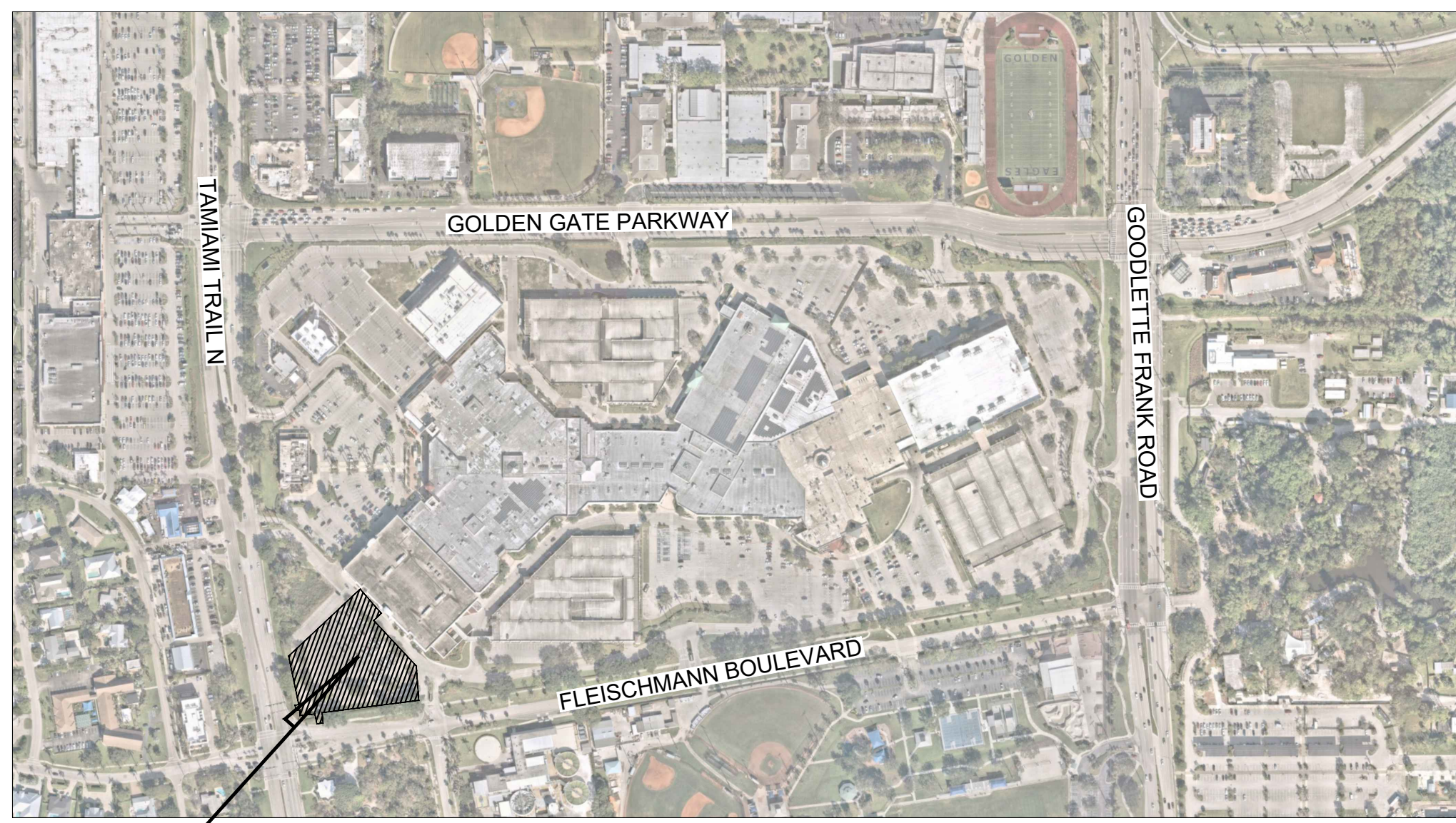
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**ELECTRIC PROVIDER**  
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**NATURAL GAS PROVIDER**  
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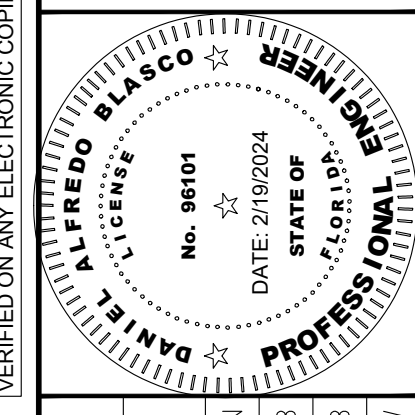
VICINITY  
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PROJECT LOCATION

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SHEET 3 OF 3	SPECIFIC PURPOSE SURVEY PARTIAL BOUNDARY, TOPOGRAPHIC, AND TREE
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C-100	DEMOLITION AND EROSION CONTROL (PHASE 1) PLAN
C-200	CONSTRUCTION SITE MANAGEMENT AND ESCP (PHASE 2) PLAN
C-201	CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS
C-202	CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS
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C-502	CITY OF NAPLES UTILITY DETAILS
C-601	STORMTECH DETAILS
C-602	STORMTECH DETAILS
C-603	STORMTECH DETAILS
C-604	STORMTECH DETAILS

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KHA PROJECT	147854000
DATE	2022-09-06
SCALE	AS SHOWN
DESIGNED BY	DAB
DRAWN BY	DAB
CHECKED BY	GDW

COVER SHEET

OAR AND IRON  
 COASTLAND MALL  
 PREPARED FOR  
 APW2199 DEVELOPMENT LLC  
 CITY OF NAPLES, FLORIDA

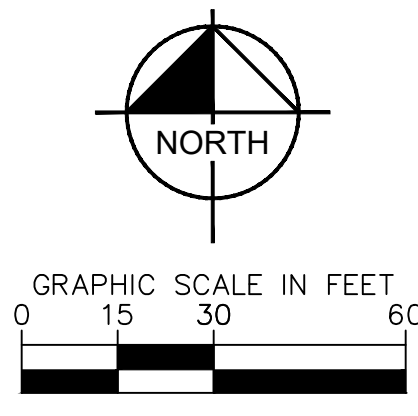
SHEET NUMBER  
**C-000**

CITY COMMENTS	10/31/2023	N/A
REVISIONS	No.	DATE

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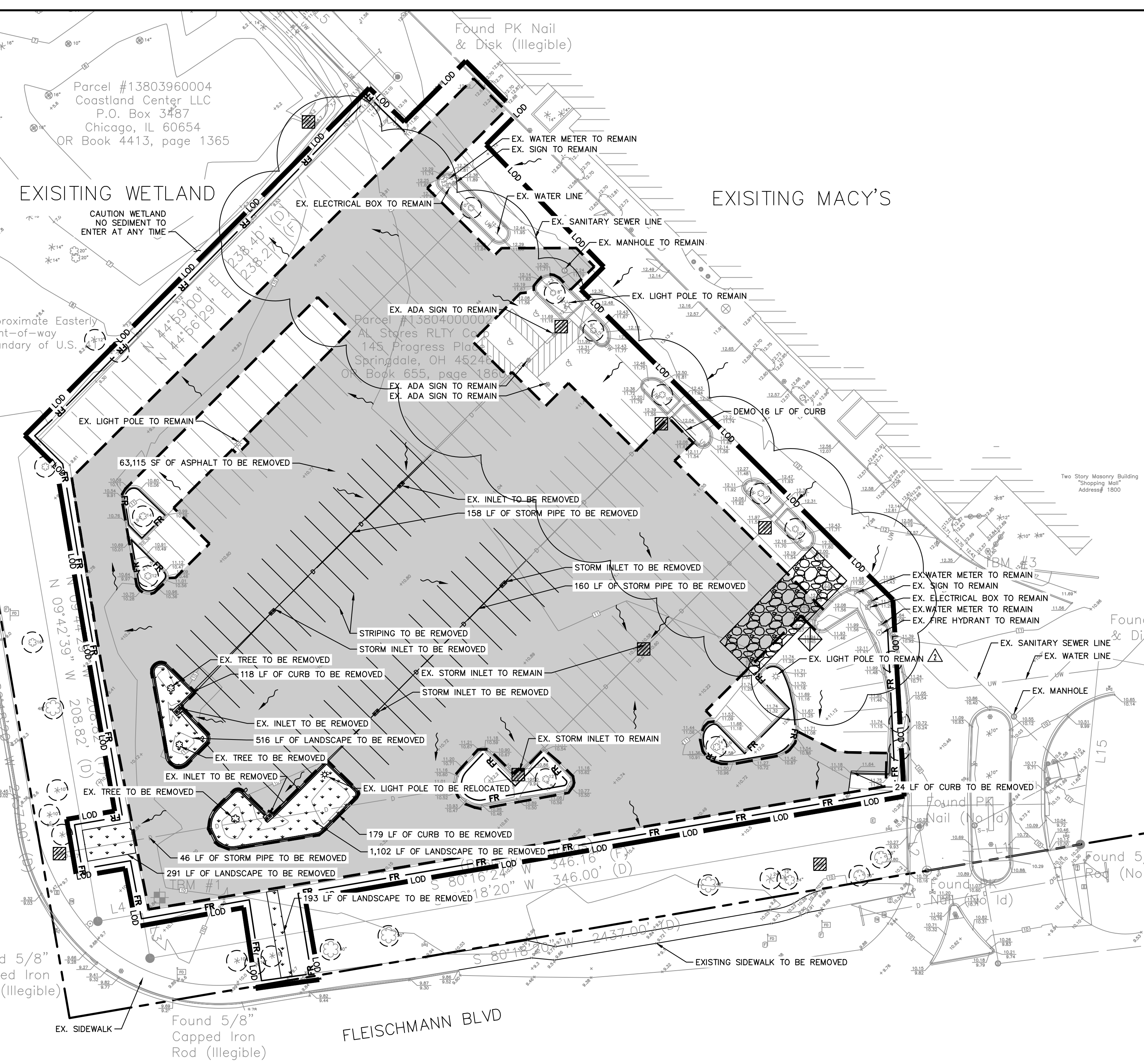


Plotted By: Anderson, North Street, Set: OAR AND IRON COASTLAND MALL, Layout: C-100 DEMOLITION AND EROSION CONTROL (PHASE 1) PLAN, February 19, 2024, 11:31:24am, K:\WEB\_IDEVA\147854000 - Coastland Center, GRIN\CAD\PlanSheets\C-100 DEMOLITION AND EROSION CONTROL (PHASE 1) PLAN.dwg  
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EXISTING WETLAND  
 CAUTION WETLAND NO SEDIMENT TO ENTER AT ANY TIME

EXISTING MACY'S



**LEGEND**

FR	FILTRXX SEDIMENT CONTROL (SEE SHEET C-202)	---	SAW CUT LINE
LOD	LIMITS OF DISTURBANCE	[Pattern]	PAVEMENT TO BE REMOVED
---	RIGHT-OF-WAY LINE	[Pattern]	LANDSCAPE TO BE REMOVED
[Symbol]	CONCRETE WASHOUT (SEE SHEET C-202)	[Pattern]	RUMBLE PAD
[Symbol]	INLET PROTECTION		
[Symbol]	TREE PROTECTION		
[Symbol]	FLOW ARROW		

**NOTES (ALL PHASES)**

- CONTRACTOR TO CONSIDER POTENTIAL DEWATERING ACTIVITIES WHEN PREPARING BID DOCUMENTS FOR THIS PROJECT.
- CONTRACTOR TO BE RESPONSIBLE FOR COMPLYING WITH DEWATERING PERMIT CONDITIONS OR MODIFYING PERMIT AS NECESSARY TO ACCOMMODATE UNFORSEEN SITE CONDITIONS.
- CONTRACTOR TO USE BMP'S TO ENSURE COMPLIANCE WITH NPDES AND WATER MANAGEMENT DISTRICT REGULATIONS FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES AND DEWATERING OPERATIONS.
- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR, OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
- CONCRETE WASHOUT AREAS SHALL BE CONSTRUCTED SIMILAR TO TEMPORARY GRAVEL CONSTRUCTION ENTRANCES WITH A WIDTH OF 15 TO 20 FEET. CONTRACTOR'S DISCRETION, HE/SHE MAY NEED TO FIT MORE THAN ONE TRUCK AT A TIME) AND A DEPTH OF 20 FEET. SIX INCHES OF AGGREGATE OVER FILTER FABRIC IS REQUIRED ON THE BOTTOM OF THE WASHOUT AREA. THIS AREA SHALL BE SURROUNDED ON THREE SIDES BY A SILT FENCE OR EARTHEN DAM WITH A BACK END A MINIMUM OF 12-INCHES LOWER TO ALLOW FOR WATER TO POOL AT THE BACK AREA. A SIGN STATING "CONCRETE WASHOUT AREA" SHALL BE PLACED AT THE SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
- THE CONTRACTOR SHALL TAKE ALL REQUIRED MEASURES TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTER 17-302, FLORIDA ADMINISTRATIVE CODE.

**DEWATERING (ALL PHASES)**

- DURING ANY EXCAVATION, THE CONTRACTOR MUST CONSTRUCT A SEDIMENT BASIN TO PROVIDE A DISCHARGE POINT FOR DEWATERING. THE SEDIMENT BASIN CAN BE IN THE PROPOSED EXCAVATION AREA FOR EXFILTRATION OR IT CAN BE A BERMED AREA ABOVE GROUND. ALL DEWATERING MUST BE HELD IN THE BASIN.
- UNDER NO CIRCUMSTANCES WILL THE DISCHARGE FROM THE DEWATERING BE DISCHARGED OFF SITE.
- IF THE CONTRACTOR ENCOUNTERS SILTY/SANDY SAND, WHICH CAUSE THE WATER TO BECOME TURBID, HE/SHE SHALL TREAT THE SEDIMENT BASIN WITH CHEMICAL ADDITIVES SUCH AS ALUM IN ORDER TO PROMOTE THE COAGULATION OF THE PARTICLES WHICH ALLOW THE PARTICLES TO SETTLE AND THE WATER TO BECOME LESS TURBID.
- THE CONTRACTOR SHALL SCHEDULE THE EXCAVATION OF THE SANITARY SEWER SYSTEM SUCH THAT A SEDIMENT BASIN WILL BE AVAILABLE AT ALL TIMES. THE SEDIMENT BASIN BEING NO-TURBID AND ACCEPTABLE FOR DISCHARGE OFF-SITE.
- CONTRACTOR SHALL OBTAIN ALL DEWATERING PERMITS REQUIRED.

**DEMOLITION NOTES (ALL PHASES):**

- THE INTENT OF THE DEMOLITION PLAN IS TO DEPICT ALL EXISTING FEATURES THAT ENCOMBER THE PROPOSED CONSTRUCTION AREA AND ARE SCHEDULED FOR REMOVAL. SOME INCIDENTAL ITEMS MAY HAVE BEEN INADVERTENTLY OMITTED FROM THE PLAN. THE CONTRACTOR IS ENCOURAGED TO THOROUGHLY INSPECT THE SITE AS WELL AS REVIEW THE PLANS AND SPECIFICATIONS PRIOR TO SUBMITTING PRICING. CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR INCIDENTAL ITEMS NOT SHOWN ON THIS DEMOLITION PLAN.
- THIS DEMOLITION PLAN IS BASED ON AVAILABLE UTILITY INFORMATION AND MAY OR MAY NOT BE ALL INCLUSIVE FOR THIS SITE. ANY UTILITIES ENCOUNTERED DURING DEMOLITION THAT ARE NOT DEPICTED/ADDRESSED ON THIS DRAWING SHOULD BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER IMMEDIATELY.
- CONTRACTOR IS REQUIRED TO OBTAIN ALL DEMOLITION PERMITS.
- ALL FEATURES IDENTIFIED ON THIS PLAN WHICH ARE LISTED TO BE DEMOLISHED ARE TO BE REMOVED FROM THE SITE. AFTER DEMOLITION IS COMPLETE THE SITE SHALL BE DELIVERED IN A CONDITION SUITABLE FOR DEVELOPMENT.
- CONTRACTOR SHALL LIMIT ALL DEMOLITION ACTIVITIES TO THOSE AREAS DELINEATED ON THE CONSTRUCTION DRAWINGS UNLESS OTHERWISE DIRECTED BY THE DEVELOPER OR AS REQUIRED FOR CONFORMANCE WITH IMPROVEMENTS PERMITS.
- CONTRACTOR TO COORDINATE WITH ALL UTILITY OWNERS PRIOR TO DEMOLITION TO ENSURE SERVICES HAVE BEEN DISCONNECTED.
- CONTRACTOR IS RESPONSIBLE FOR CONTROLLING AIRBORNE DUST AND POLLUTANTS BY USING WATER SPRINKLING OR OTHER SUITABLE MEANS OF CONTROL. CONTRACTOR TO USE CARE IN HANDLING DEBRIS FROM SITE TO ENSURE THE SAFETY OF THE PUBLIC. HAUL ROUTE TO BE CLOSELY MONITORED FOR DEBRIS OR MATERIALS TRACKED ONTO ADJACENT ROADWAYS, SIDEWALKS, ETC. ROADWAYS AND WALKWAYS TO BE CLEARED DAILY OR AS NECESSARY TO MAINTAIN PUBLIC SAFETY.
- DEWATERING SHOULD BE ANTICIPATED AND INCLUDED.
- ALL ASPHALT TO BE REMOVED SHALL BE SAW CUT ADJACENT TO REMAINING IMPROVEMENTS.
- WHERE REMAINING, INLETS, MANHOLE COVERS, AND VALVE COVERS TO BE PROTECTED IN PAVEMENT REMOVAL AREAS.
- SEE SITE AND IMPROVEMENTS PLANS FOR LIMITS AND GRADING OF RESURFACED DRIVEWAYS AND ENTRANCES.
- SEE LANDSCAPE PLAN FOR TREE REMOVAL, RELOCATION AND TREE PROTECTION.
- INGRESS AND EGRESS, AS WELL AS SUFFICIENT PARKING SHALL BE MAINTAINED, TWENTY-FOUR HOURS A DAY, SEVEN DAYS A WEEK, THROUGHOUT ALL PHASES OF CONSTRUCTION.

**EROSION CONTROL NOTES (ALL PHASES):**

- THE STORM WATER POLLUTION PREVENTION PLAN ("SWPPP") IS COMPRISED OF THE EROSION CONTROL PLAN, THE STANDARD DETAILS, PLUS THE PERMIT AND ALL SUBSEQUENT RELATED DOCUMENTS.
- ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AND DIGITED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS (INCLUDING BUT NOT LIMITED TO FDEP SURWMD AND CITY OF MOUNT DORA REQUIREMENTS) OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER. THE CONTRACTOR SHALL SUBMIT A SWPPP TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO MOBILIZING TO THE SITE TO INSTALL THE APPROPRIATE BMP'S.
- EROSION CONTROL PLAN MUST CLEARLY DELINEATE ALL STATE WATERS, PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- THE CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
- CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. MAINTENANCE OPERATIONS SHALL BE COMPLETED NO LATER THAN 24 HOURS FOLLOWING INSPECTION.
- ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
- SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
- STABILIZATION PRACTICES SHOULD BE INITIATED AS SOON AS PRACTICAL, BUT IN NO CASE MORE THAN 7 DAYS WHERE CONSTRUCTION HAS TEMPORARILY CEASED.
- DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRED IN THESE AREAS. REFER TO SECTION 811 OF THE STANDARD SPECIFICATIONS FOR SEEDING AND MAINTENANCE REQUIREMENTS.
- IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
- ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED AS SOON AS POSSIBLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
- ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE EROSION CONTROL PLAN AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- DUE TO GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION.
- ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACK FILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

NOTE: THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.

- KEY NOTES:**
- INSTALL SILT FENCE AT ALL CURRENT CONSTRUCTION PHASE BOUNDARIES AS EACH CONSTRUCTION PHASE IS BEING DISTURBED.
  - SPILL KIT MUST BE PROVIDED ONSITE DURING ENTIRE DURATION OF THE PROJECT OR UNTIL REMOVAL IS APPROVED BY FDOT. SPILL KIT MUST BE APPROPRIATE FOR SCOPE OF WORK AND EQUIPMENT ONSITE.
  - ELEVATIONS ARE BASED UPON NAVD 88 DATUM

- MAINTENANCE (ALL PHASES)**
- ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR/PRIMARY PERMITEE. THESE MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
  - ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
  - SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-QUARTER (1/4) THE HEIGHT OF THE SILT FENCE.
  - THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.
  - THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.
  - OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
  - ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN 24 HOURS FOLLOWING THE INSPECTION.

- AFTER GRADING AND DURING CONSTRUCTION**
- START WITH THE INSTALLATION OF BMP'S.
  - PERFORM MASS GRADING, ROUGH GRADE TO ESTABLISH PROPOSED DRAINAGE PATTERNS.
  - START CONSTRUCTION OF THE BUILDING PAD AND STRUCTURES.
  - TEMPORARILY SEED, THROUGHOUT CONSTRUCTION, DISTURBED AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE OR AS REQUIRED BY GENERIC PERMIT.
  - INSTALL APPROPRIATE INLET PROTECTION DEVICES FOR PAVED AREAS AS WORK PROGRESSES.
  - COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
  - CONTACT CIVIL ENGINEER ONCE THE SITE APPEARS TO BE FULLY STABILIZED.
  - REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER INSPECTION AND APPROVAL OF THE ENGINEER AND STABILIZE ANY AREA DISTURBED BY THE REMOVAL OF BMP'S.
  - CONTINUE REQUIRED INSPECTION REPORTS UNTIL THE FINAL INSPECTION IS SIGNED OFF BY THE JOB SUPERINTENDENT THAT THE SITE IS FULLY STABILIZED AND THE PERMIT MAY BE TERMINATED.

SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE												
NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE												
CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY CONSTRUCTION EXITS												
TEMPORARY CONTROL MEASURES												
SEDIMENT CONTROL BASINS												
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADE												
STORM FACILITIES												
SITE CONSTRUCTION												
PERMANENT CONTROL STRUCTURES												
FOUNDATION / BUILDING CONSTRUCTION												
FINISH GRADING												
LANDSCAPING/SEED/FINAL STABILIZATION												

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**Kimley»Horn**

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Professional Seal: DANIEL A. BLASCO, P.E., No. 98001, State of Florida, License No. 147854000, Date 2/19/2024.

KHA PROJECT: 147854000  
 DATE: 2022-09-06  
 SCALE: AS SHOWN  
 DESIGNED BY: DAB  
 DRAWN BY: DAB  
 CHECKED BY: GOW

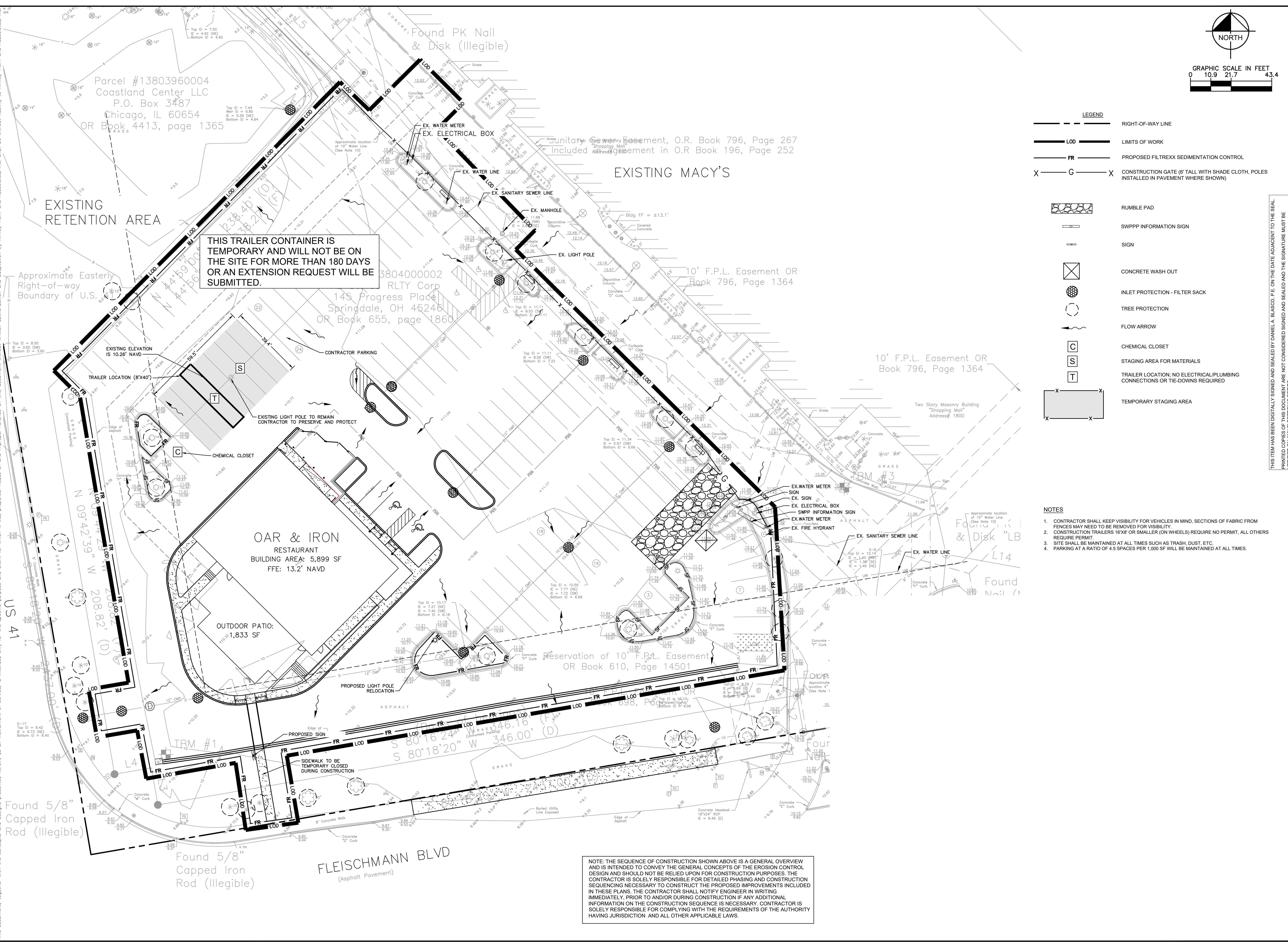
**DEMOLITION AND EROSION CONTROL (PHASE 1) PLAN**

**OAR AND IRON AT COASTLAND MALL**  
 PREPARED FOR APW2199 DEVELOPMENT  
 CITY OF NAPLES, FLORIDA

SHEET NUMBER C-100

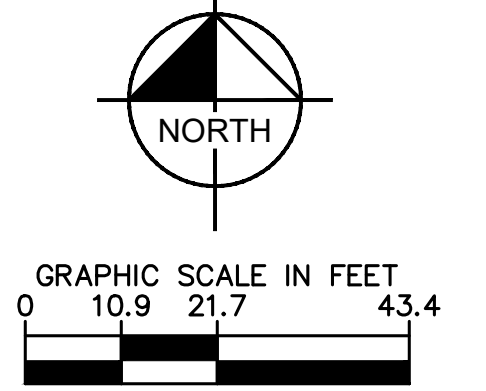
CITY COMMENTS	NO.	REVISIONS	DATE

Plotted By: Andronescu, North - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-200 CONSTRUCTION SITE MANAGEMENT AND ESCP (PHASE 2) PLAN - February 19, 2024, 11:31:35am - K:\VRB\LOEVA\147854000 - Coastland Center, Grill\CAD\PlanSheets\C-200 CONSTRUCTION SITE MANAGEMENT AND ESCP (PHASE 2) PLAN.dwg  
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THIS TRAILER CONTAINER IS TEMPORARY AND WILL NOT BE ON THE SITE FOR MORE THAN 180 DAYS OR AN EXTENSION REQUEST WILL BE SUBMITTED.

NOTE: THE SEQUENCE OF CONSTRUCTION SHOWN ABOVE IS A GENERAL OVERVIEW AND IS INTENDED TO CONVEY THE GENERAL CONCEPTS OF THE EROSION CONTROL DESIGN AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETAILED PHASING AND CONSTRUCTION SEQUENCING NECESSARY TO CONSTRUCT THE PROPOSED IMPROVEMENTS INCLUDED IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IMMEDIATELY, PRIOR TO AND/OR DURING CONSTRUCTION IF ANY ADDITIONAL INFORMATION ON THE CONSTRUCTION SEQUENCE IS NECESSARY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND ALL OTHER APPLICABLE LAWS.



- LEGEND**
- RIGHT-OF-WAY LINE
  - LOD --- LIMITS OF WORK
  - FR --- PROPOSED FILTRIX SEDIMENTATION CONTROL
  - X --- G --- X CONSTRUCTION GATE (6' TALL WITH SHADE CLOTH, POLES INSTALLED IN PAVEMENT WHERE SHOWN)
  - [Symbol] RUMBLE PAD
  - [Symbol] SWPPP INFORMATION SIGN
  - [Symbol] SIGN
  - [Symbol] CONCRETE WASH OUT
  - [Symbol] INLET PROTECTION - FILTER SACK
  - [Symbol] TREE PROTECTION
  - [Symbol] FLOW ARROW
  - [Symbol] CHEMICAL CLOSET
  - [Symbol] STAGING AREA FOR MATERIALS
  - [Symbol] TRAILER LOCATION, NO ELECTRICAL/PLUMBING CONNECTIONS OR TIE-DOWNS REQUIRED
  - [Symbol] TEMPORARY STAGING AREA

- NOTES**
- CONTRACTOR SHALL KEEP VISIBILITY FOR VEHICLES IN MIND. SECTIONS OF FABRIC FROM FENCES MAY NEED TO BE REMOVED FOR VISIBILITY.
  - CONSTRUCTION TRAILERS 16'X8' OR SMALLER (ON WHEELS) REQUIRE NO PERMIT. ALL OTHERS REQUIRE PERMIT.
  - SITE SHALL BE MAINTAINED AT ALL TIMES SUCH AS TRASH, DUST, ETC.
  - PARKING AT A RATIO OF 4:5 SPACES PER 1,000 SF WILL BE MAINTAINED AT ALL TIMES.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY DANIEL A. BLASCO, P.E. ON THE DATE ADJACENT TO THE SEAL.  
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**Kimley-Horn**  
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 PHONE: 772-794-4100  
 WWW.KIMLEY-HORN.COM    REGISTRY NO. 696

KHA PROJECT	147854000
DATE	2022-09-06
SCALE	AS SHOWN
DESIGNED BY	DAB
DRAWN BY	DAB
CHECKED BY	GDW

**OAR AND IRON AT COASTLAND MALL**  
 PREPARED FOR  
**APW2199 DEVELOPMENT**  
 CITY OF NAPLES, FLORIDA

SHEET NUMBER  
**C-200**

NO.	REVISIONS	DATE	BY

Plotted By: Andromescu, Noah - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-201 CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS - February 19, 2024 - 11:31:45am - K:\V\REV\_IDEV\147854000 - Coastland Center Off\CAD\PlanSheets\C-202 CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS, Inc. shall be without liability to Kimley-Horn and Associates, Inc. This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared.

### GENERAL EROSION AND SEDIMENT CONTROL NOTES

A. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THE SITE MAP, THIS DRAWING ("THE STANDARD DETAILS"), ATTACHMENTS INCLUDED IN SWPPP DOCUMENT AND/OR FLORIDA GENERIC PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.

B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.

C. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP DOCUMENT AND/OR FLORIDA GENERIC PERMIT. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.

F. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.

G. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.

H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.

J. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE SITE MAP AND IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE INITIATED AS SOON AS PRACTICABLE.

M. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE BUT IN NO CASE MORE THAN 7 DAYS, IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.

N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDDED. THESE AREAS SHALL BE SEEDDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. ONLY USE INGRESS/EGRESS LOCATIONS AS PROVIDED.

P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

Q. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

R. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

S. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

T. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.

U. SEE SITE PLAN FOR PERMANENT AND TEMPORARY SIGNAGE.

V. GENERAL CONTRACTOR IS TO DESIGNATE/IDENTIFY AREAS ON THE SITE MAPS, INSIDE OF THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.

W. REFER TO THE SWPPP DOCUMENT AND/OR FLORIDA GENERIC PERMIT FOR REPORTABLE SPILL QUANTITIES OF PETROLEUM PRODUCTS AND/OR HAZARDOUS WASTES.

X. REFER TO SWPPP DOCUMENT AND/OR FLORIDA GENERIC PERMIT FOR RUN-OFF SAMPLING/MONITORING REQUIREMENTS IF APPLICABLE TO SITE DURING CONSTRUCTION.

Y. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

### BMP MAINTENANCE EROSION NOTES

ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
- FILTREX SEDIMENT CONTROL SHALL BE REPAIRED TO ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT CONTROL WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SEDIMENT CONTROL.
- THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
- THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AS CONDITIONS DEMAND.
- OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
- PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS AND/OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.
- ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN 2 CALENDAR DAYS FOLLOWING THE INSPECTION.

### SOODING NOTES

- PROVIDE SOD SPECIES SUITABLE AS LAWN TURF FOR THE REGION. SOD SHALL BE STRONGLY ROOTED, WEED, DISEASE, PEST FREE AND UNIFORM IN THICKNESS.
- DO NOT PLACE TOPSOIL UNTIL SUBGRADE HAS BEEN APPROVED IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION.
- BEFORE PLACING TOPSOIL, RAKE TOPSOIL SURFACE CLEAR OF STONES, DEBRIS AND ROOTS. DISK, DRAG, HARROW OR HAND RAKE SUBGRADE TO A DEPTH OF 4" AND REMOVE STONES LARGER THAN 1-1/2" TO PROVIDE BOND FOR TOPSOIL.
- SPREAD TOPSOIL TO A DEPTH OF 4" BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. ADJUST DEPTH OF TOPSOIL IN AREAS ADJACENT TO PAVED SURFACES OR CURBS TO ALLOW FOR THE PLACEMENT OF SOD.
- INCORPORATE SOIL AMENDMENTS AND COMMERCIAL FERTILIZER INTO THE TOP 4" OF TOPSOIL TO ACHIEVE THE SPECIFIED TOPSOIL REQUIREMENTS, TILL SOIL TO A HOMOGENOUS MIXTURE OF FINE TEXTURE.
- GRADE AREAS TO FINISH GRADES, FILLING AS NEEDED OR REMOVING SURPLUS TOPSOIL. FLOAT AREAS TO SMOOTH, UNIFORM GRADES AS INDICATED ON DRAWINGS.
- CUT AND LAY SOD ON SAME DAY. ONLY HEALTHY VIGOROUS GROWING SOD SHALL BE LAID.
- LAY SOD ACROSS SLOPE AND TIGHTLY TOGETHER TO RESULT IN SOLID COVERAGE FREE OF GAPS.
- ROLL OR FIRMLY BUT LIGHTLY TAMP NEW SOD WITH SUITABLE WOODEN OR METAL TAMPER SUFFICIENTLY TO SET OR PRESS SOD INTO UNDERLYING SOIL.
- ALL FINISHED SOODING SHALL BE SMOOTH AND FREE OF LUMPS AND DEPRESSIONS.
- AFTER SOODING HAS BEEN COMPLETED, CLEAN UP AND THOROUGHLY WATER NEWLY-SOODDED AREAS.

### ONSITE BEST MANAGEMENT PRACTICES SEQUENCE

NOTE: UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, MASON'S AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ANY OFF-SITE AREAS WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.

PHASE I

- SUBMIT NOTICE OF INTENT TO STATE.
- INSTALL STABILIZED CONSTRUCTION EXIT(S) AND SWPPP ENTRANCE SIGN.
- INSTALL FILTREX SEDIMENTATION CONTROL.
- PREPARE TEMPORARY PARKING AND STORAGE AREA.
- CONSTRUCT PROTECTIVE FENCE AROUND ANY LAND TO BE PRESERVED IF NECESSARY, INCLUDING TREES.
- INSTALL INLET PROTECTION.
- BEGIN DEMOLITION OF THE SITE.
- BEGIN WATER LINE INSTALLATION.
- BEGIN SANITARY SEWER.
- BEGIN STORM SYSTEM.
- BEGIN UTILITIES.
- BEGIN FILL OPERATIONS.
- BEGIN PAVING.
- BEGIN LANDSCAPE AND IRRIGATION.
- STABILIZE THE SITE.
- PREPARE AND SUBMIT NOTICE OF TERMINATION PACKAGE TO STATE ONCE APPROVED BY KIA/OWNER.

### SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

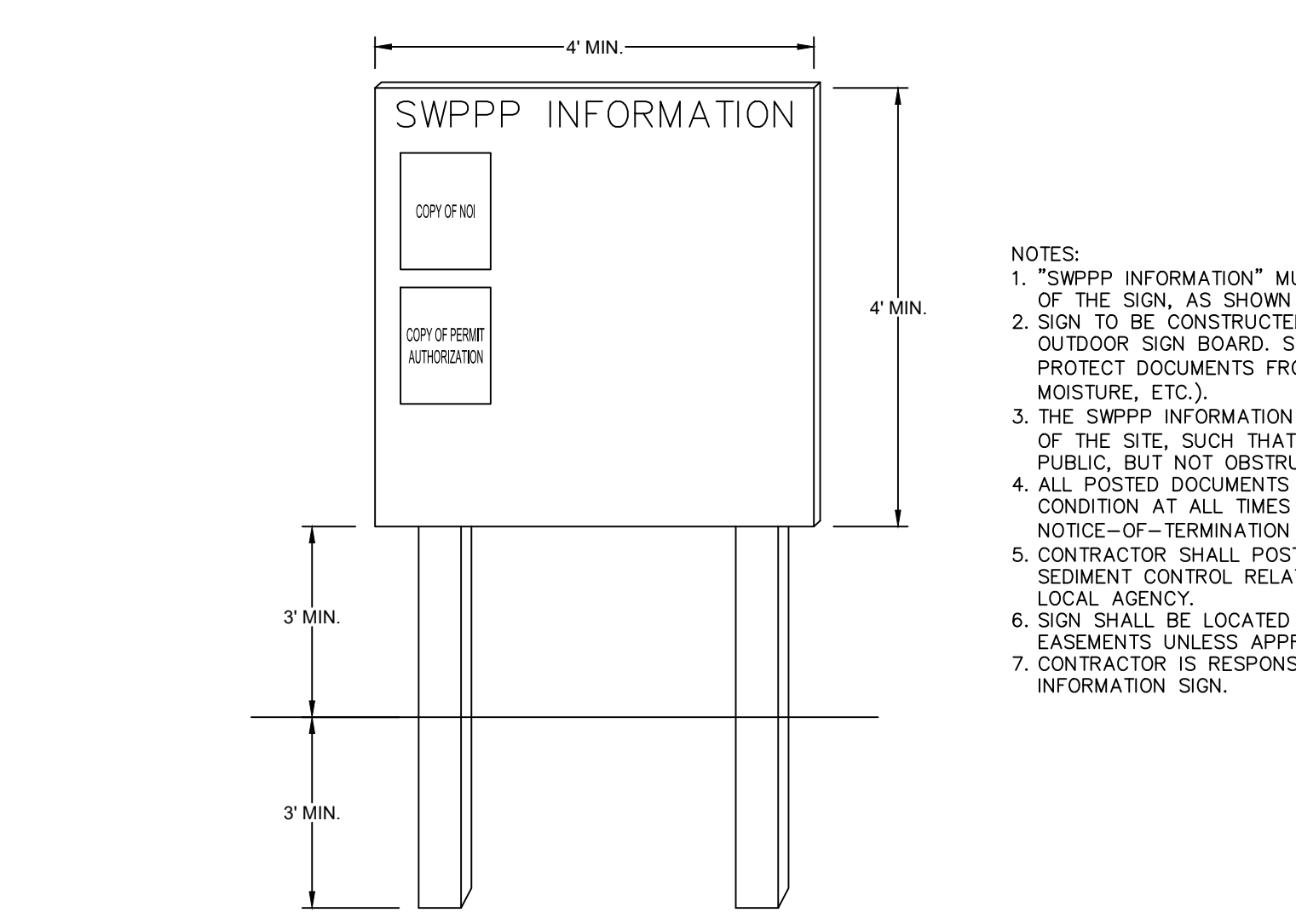
CONSTRUCTION SEQUENCE	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
TEMPORARY CONSTRUCTION EXITS																								
TEMPORARY CONTROL MEASURES																								
SEDIMENT CONTROL BASINS																								
STRIP & STOCKPILE TOPSOIL																								
ROUGH GRADE																								
STORM FACILITIES																								
SITE CONSTRUCTION																								
PERMANENT CONTROL STRUCTURES																								
FOUNDATION / BUILDING CONSTRUCTION																								
FINISH GRADING																								
LANDSCAPING/SEED/FINAL STABILIZATION																								

- CONTRACTOR SHALL UPDATE THE TABLE BY DATING THE APPLICABLE ACTIVITIES AS PROJECT PROGRESSES.
- TIME SCHEDULE MUST COINCIDE WITH SEQUENCE OF CONSTRUCTION.

### OFF-SITE MATERIAL AREA(S) INFORMATION

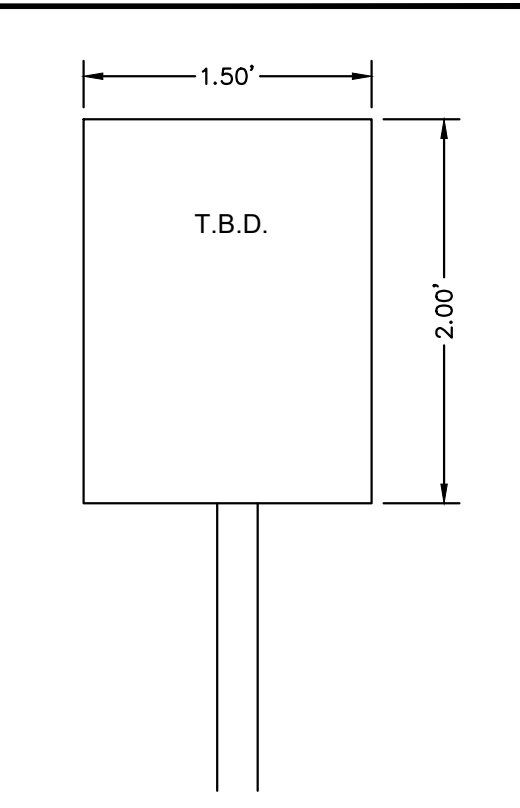
BORROW SITE NAME:	DISPOSAL SITE NAME:
BORROW SITE ADDRESS:	DISPOSAL SITE ADDRESS:
BORROW SITE PERMIT HOLDER:	DISPOSAL SITE PERMIT HOLDER:
BORROW SITE PERMIT NO.:	DISPOSAL SITE PERMIT NO.:
BORROW SITE PERMITTING AGENCY:	DISPOSAL SITE PERMITTING AGENCY:

- CONTRACTOR SHALL FILL IN BORROW AND DISPOSAL INFORMATION ABOVE.
- BORROW AND DISPOSAL INFORMATION IS NEEDED FOR SOIL FILL AND SPOIL MATERIALS ONLY.
- CONTRACTOR SHALL STATE "NOT REQUIRED FOR THIS PROJECT" IF ONE OR BOTH ARE NOT REQUIRED FOR PROJECT.



- NOTES:
- "SWPPP INFORMATION" MUST BE DISPLAYED PROMINENTLY ACROSS THE TOP OF THE SIGN, AS SHOWN IN THE DETAIL.
  - SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE CONSTRUCTED IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.).
  - THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE ENTRANCE/EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE/VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.
  - ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
  - CONTRACTOR SHALL POST OTHER STORM WATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE LOCAL AGENCY.
  - SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
  - CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THIS SWPPP INFORMATION SIGN.

SWPPP INFORMATION SIGN  
N.T.S



JOB SITE ADDRESS SIGN

### ACREAGE SUMMARY (IN ACRES)

SITE AREA	9.36 ACRES
ON-SITE DISTURBED AREA (MUST MATCH NO)	2.15 ACRES
IMPERVIOUS AREA AT COMPLETION	1.96 ACRES
PERVIOUS AREA AT COMPLETION	0.19 ACRES

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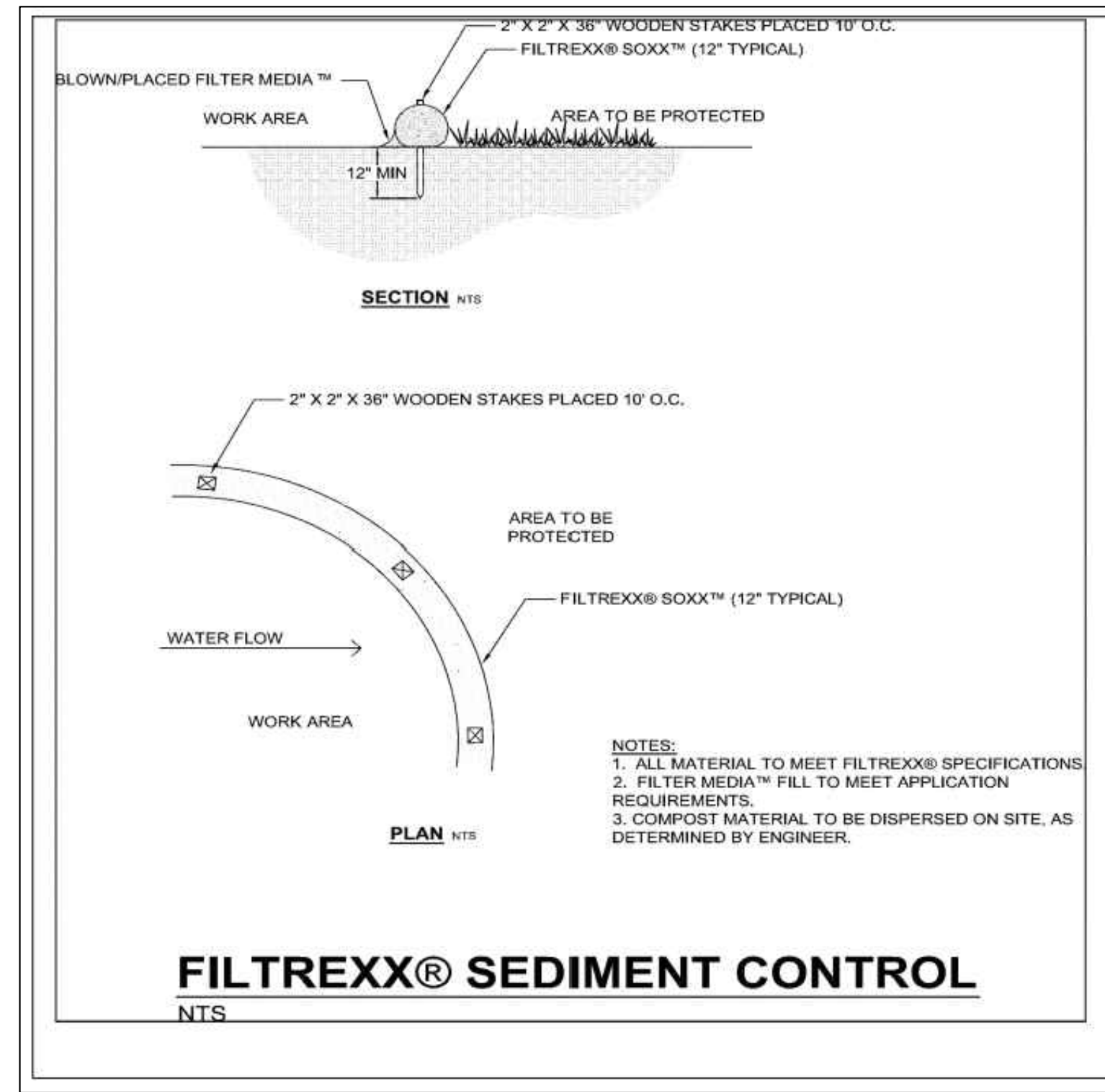
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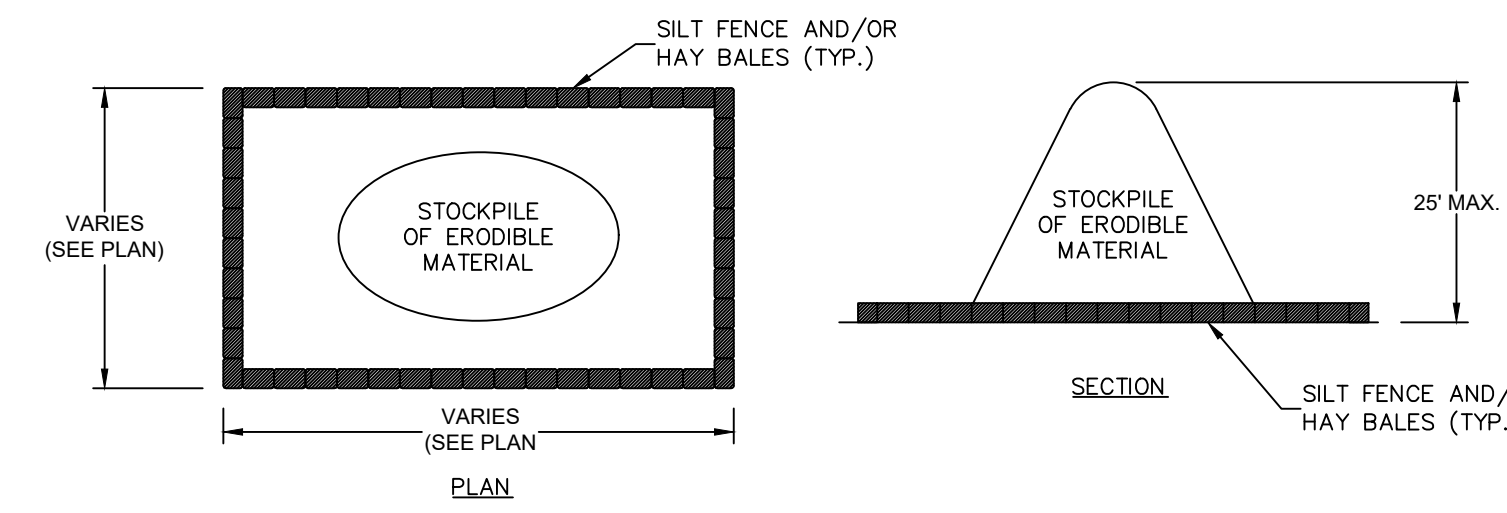
**CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS**

**OAR AND IRON AT COASTLAND MALL**  
 PREPARED FOR  
**APW2199 DEVELOPMENT**  
 CITY OF NAPLES    LLC    FLORIDA

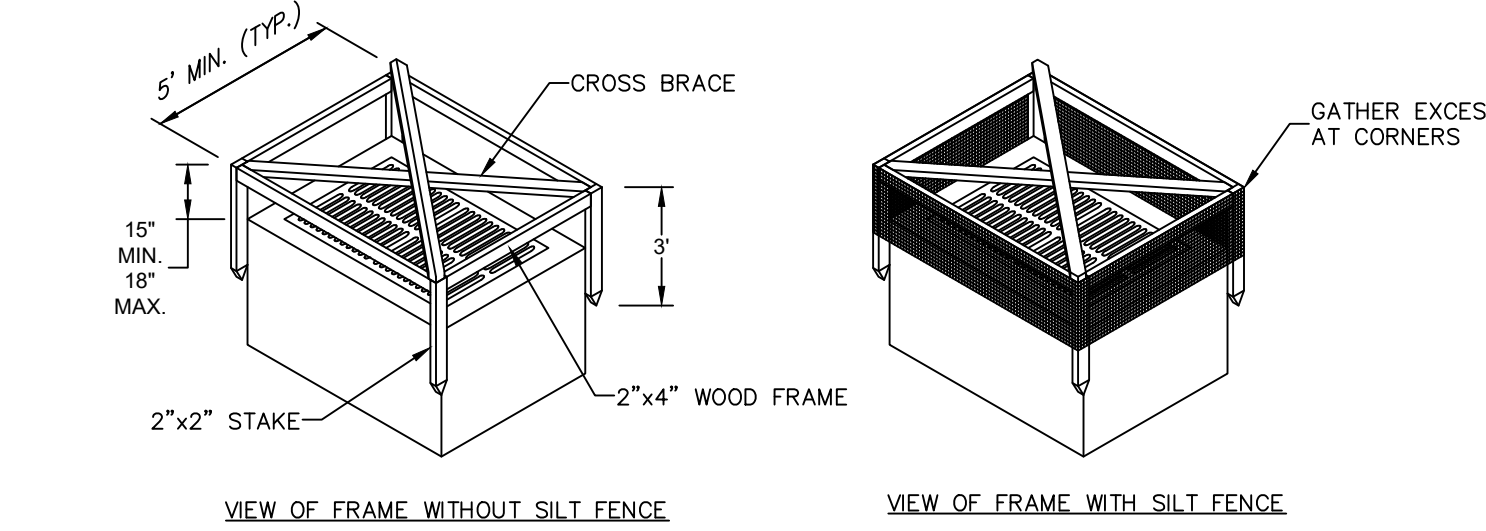
Plotted By: Andronescu, Noah - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-202 CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS - February 19, 2024 11:31:48am - K:\VIB\_DEV\147854000 - Coastland Center Civil\CAD\PlanSheets\C-202 CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS - This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



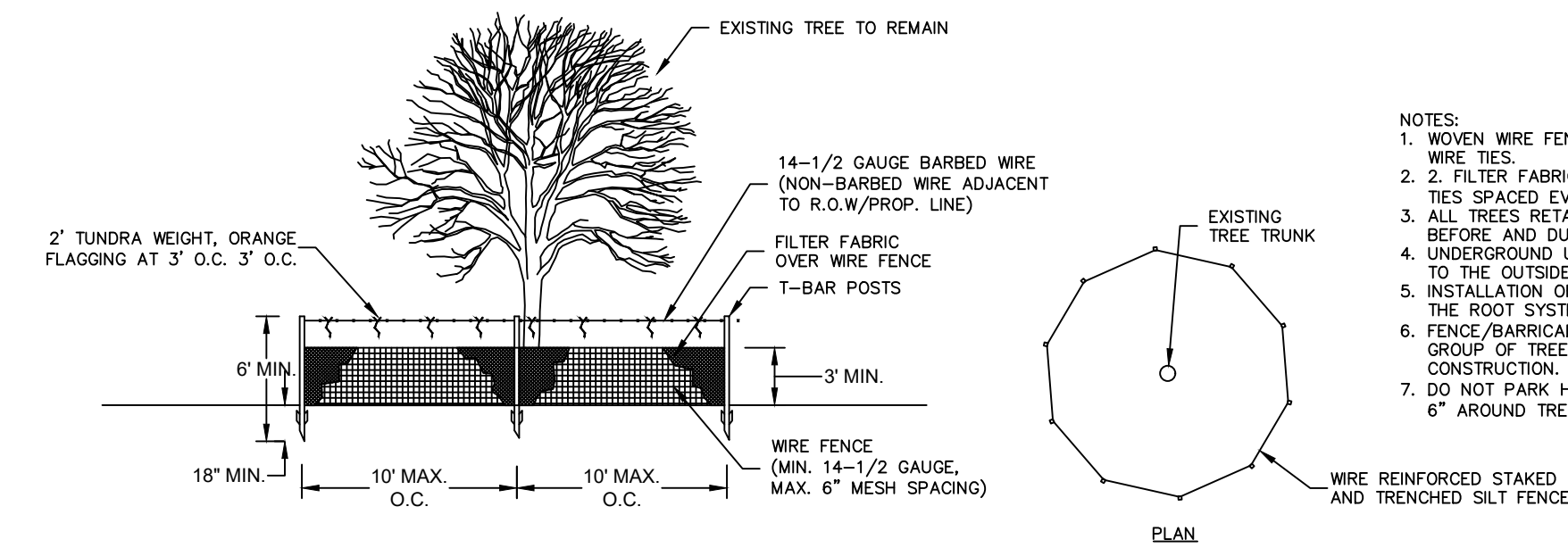
**FILTREXX® SEDIMENT CONTROL**  
N.T.S.



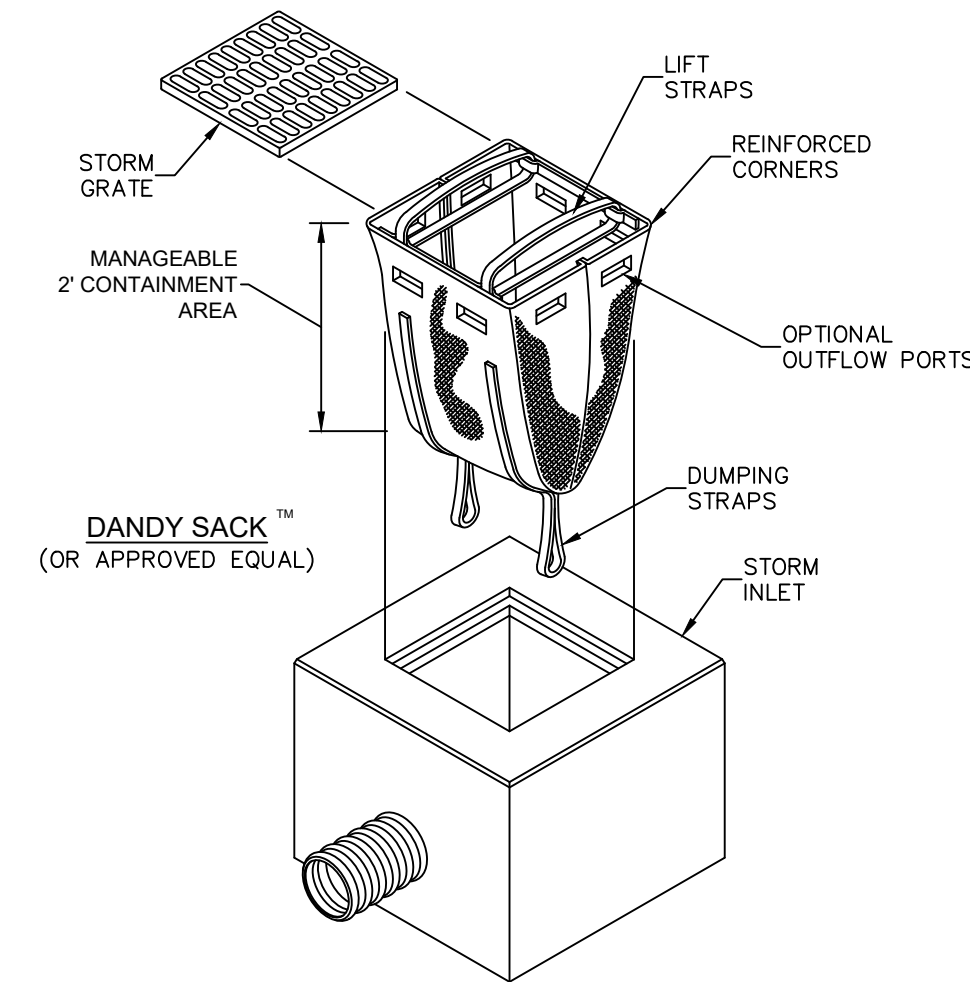
**SEDIMENT CONTROL FOR STOCKPILING OF ERODIBLE MATERIAL**  
N.T.S.



**SILT FENCE INLET PROTECTION**  
N.T.S.



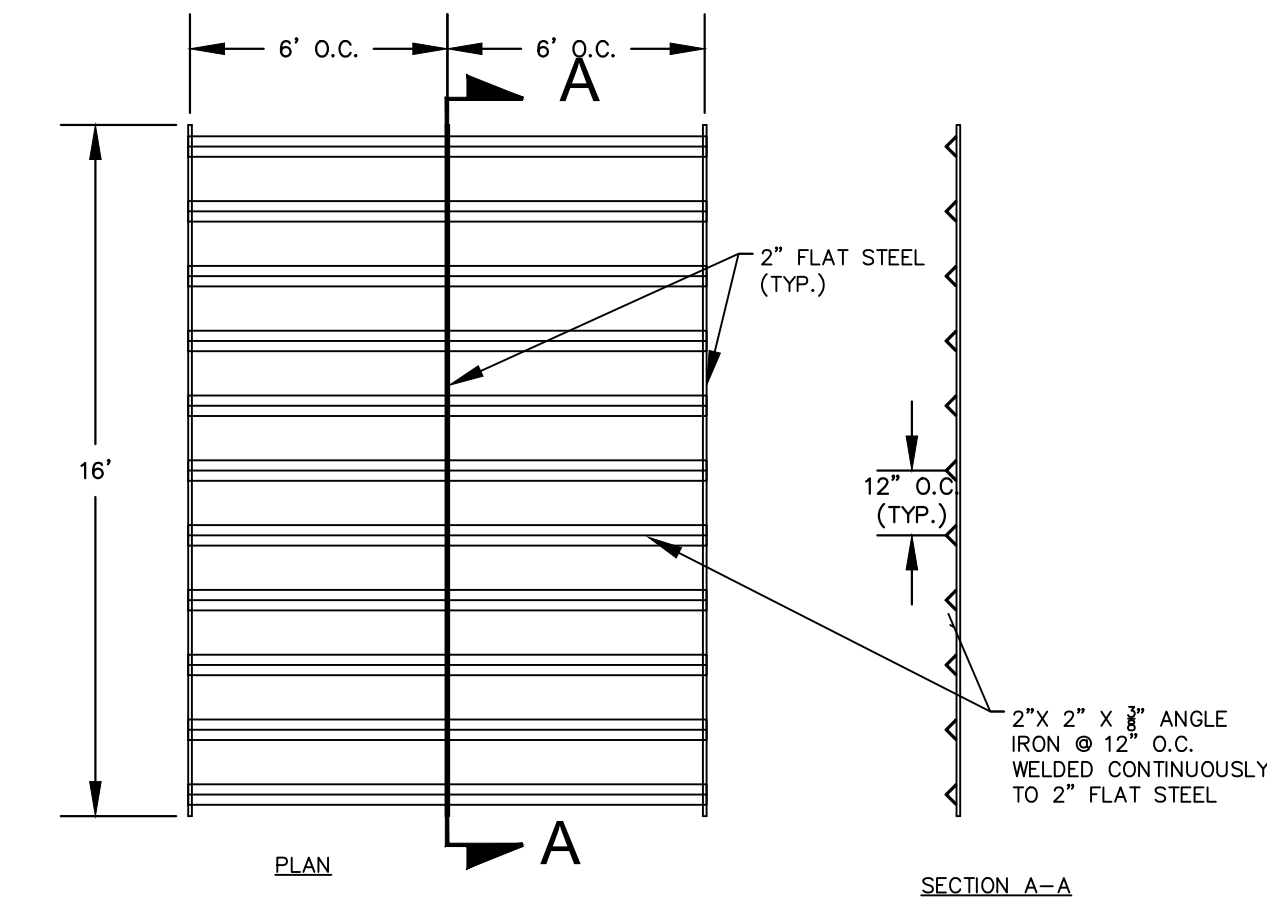
**PROTECTIVE FENCING FOR TREES**  
N.T.S.



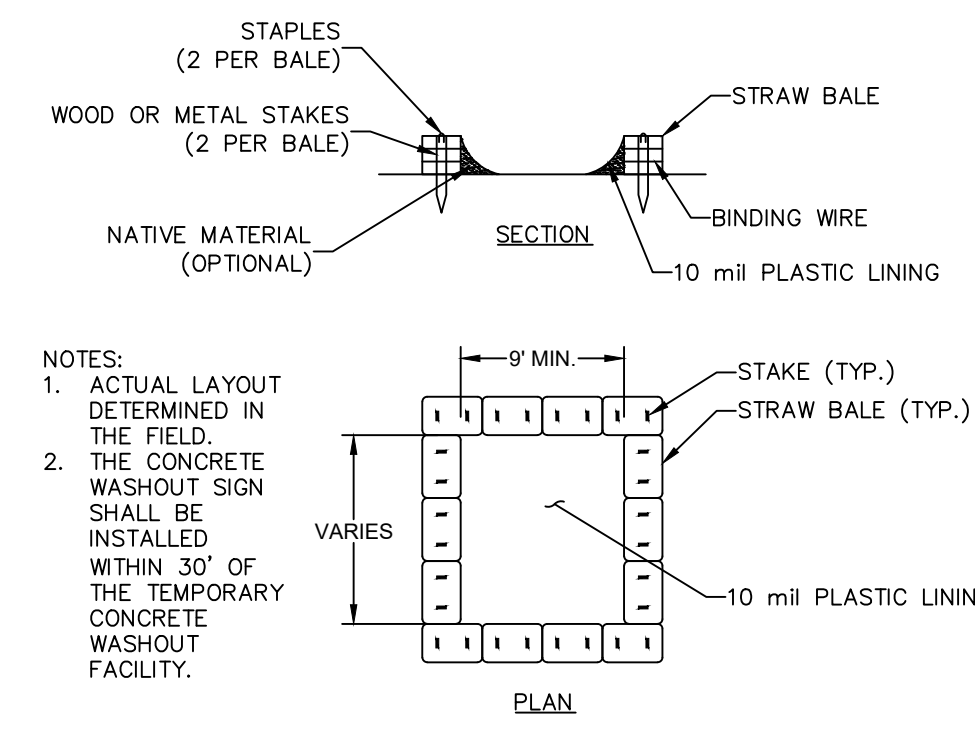
**INLET INSERT**  
N.T.S.

LOW TO MODERATE FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1
MODERATE TO HIGH FLOW GEOTEXTILE FABRIC SPECIFICATION TABLE		
PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

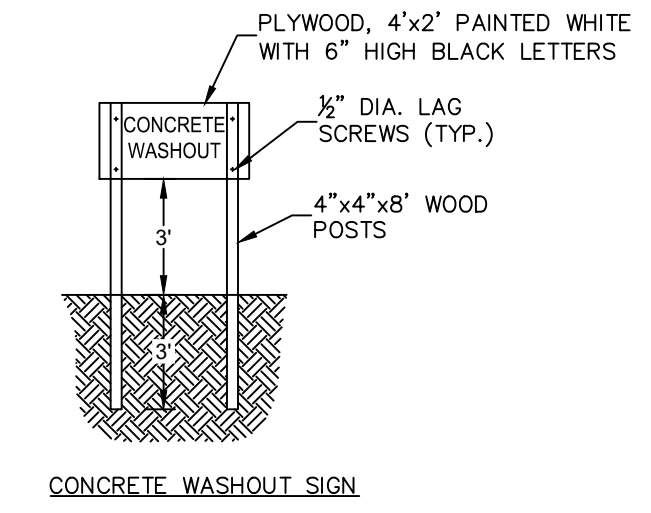
- NOTES:
- FOR TEMPORARY USE TO CAPTURE LARGER DIAMETER SEDIMENTS.
  - NOT TO BE UTILIZED AS THE ONLY SEDIMENT CONTAINMENT SYSTEM
  - GEOTEXTILE WILL BE A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS REQUIREMENTS IN THE SPECIFICATIONS TABLE.
  - AN OIL ADSORBENT PAD OR PILLOW CAN BE PURCHASED WHEN OIL SPILLS ARE A CONCERN.
  - INSPECT PER REGULATORY REQUIREMENTS.



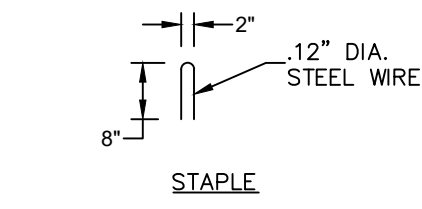
**RUMBLE PAD**  
N.T.S.



**CONCRETE & STUCCO WASTE MANAGEMENT**  
N.T.S.

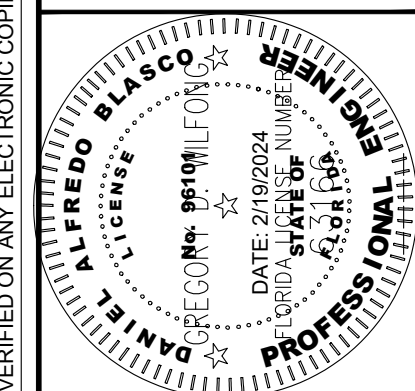


**CONCRETE WASHOUT SIGN**



**STAPLE**

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KHA PROJECT	147854000
DATE	2022-09-06
SCALE	AS SHOWN
DESIGNED BY	DAB
DRAWN BY	AB
CHECKED BY	GDW

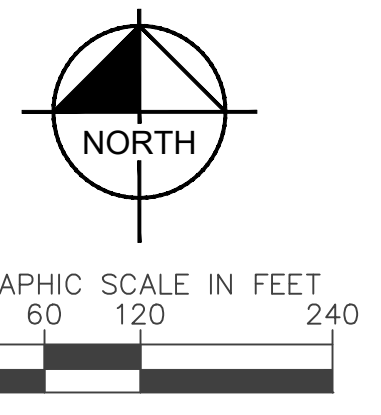
**CONSTRUCTION SITE MANAGEMENT AND ESCP NOTES AND DETAILS**

**OAR AND IRON AT COASTLAND MALL**  
 PREPARED FOR APW2199 DEVELOPMENT  
 CITY OF NAPLES, FLORIDA

NO.	REVISIONS	DATE	BY

**Kimley-Horn**  
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 445 24TH STREET, SUITE 200, VERO BEACH, FL 32960  
 PHONE: 772-794-4100  
 WWW.KIMLEY-HORN.COM    REGISTRY NO. 696

Plotted By: Andronescu, North - Sheet Set: OAR AND IRON COASTLAND MALL - Overall Site Plan - February 19, 2024 - 11:32:01am - K:\WEB\_DESIGN\147854000 - Coastland Center - Overall Site Plan - Overall Site Plan.dwg  
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**SITE DATA TABLE**

**EXISTING COASTLAND SHOPPING CENTER DATA (18-SP-22)**  
 (FROM PRIOR APPROVALS: ORDINANCE 92-608)  
 LAND USE: MIX USE  
 ZONING: PD (PLANNED DEVELOPMENT DISTRICT)  
 TOTAL SHOPPING CENTER AREA: APPROX. 70 ACRES  
 TOTAL BUILDING AREA: 929,001 S.F.  
 TOTAL PARKING REQUIRED: 4,181 STALLS (4.5/1000)  
 TOTAL PARKING PROVIDED: 4,181 STALLS (4.5/1000) WHICH INCLUDES:  
 2,680 STALLS (ON GRADE)  
 82 HANDICAP STALLS  
 302 COMPACT STALLS (7%)  
 195 GRASS PARKING (ON GRADE)  
 922 STALLS (PARKING DECKS)  
 MAXIMUM HEIGHT: 42'  
 MINIMUM BUILDING SETBACK: 75'  
 PARKING STALL SIZES: 9'X18'  
 DRIVEWAYS: 24' TWO WAY, 12 ONE WAY

**DEVELOPMENT DATA AFTER SEARS DEMOLITION (18-SP-22)**  
 TOTAL BUILDING AREA TO BE DEMOLISHED: 151,899 SF  
 SEARS (FIRST FLOOR): 94,696 S.F. SEARS (SECOND FLOOR): 67,203 S.F.  
 TOTAL BUILDING AREA TO REMAIN: 777,203 S.F.

NEW BUILDING DATA:	SQUARE FOOTAGE (SF)	REQUIRED PARKING
THEATER (4.5 STALLS/1000 S.F.)	36,232	164
RESTAURANTS (4.5 STALLS/1000 S.F.)	30,740	139
BANK (4.5 STALLS/1000 S.F.)	3,060	14
TOTAL	70,032	317

PARKING PROVIDED FOR NEW DEVELOPMENT:	REQUIRED	PROVIDED
STANDARD STALLS (9'X18')	309	313
HANDICAP PARKING STALLS:	8	14
TOTAL	317	327 (4.74 STALLS/1000) (SEE NOTE 1)

NOTE 1: THE SHOPPING CENTER CURRENTLY SHARES PARKING BETWEEN ALL EXISTING AND PROPOSED USERS.  
 2: A TOTAL OF 43 PAVED PARKING STALLS WILL BE REMOVED AND GRASS STALLS INSTALLED IN ANOTHER PORTION OF SHOPPING CENTER.  
 OPEN SPACE EXISTING (WITHIN LIMITS OF WORK): 1.92 ACRES  
 PROPOSED OPEN SPACE (WITHIN LIMITS OF WORK): 2.08 ACRES  
 MINIMUM FINISH FLOOR ELEVATION REQUIRED: 13.2' NAVD88  
 MINIMUM FINISH FLOOR ELEVATION PROPOSED: 13.2' NAVD88

**NOTE:**  
 1. A TOTAL OF 338 PARKING STALLS WILL BE REMOVED AS PART OF THE SEARS BUILDING AND SITE DEMOLITION. THE TOTAL REQUIRED PARKING FOR THE TWO STORY SEAR BUILDING IS BASED ON 151,899 SF WHICH IS 684 STALLS. THEREFORE THERE IS A SURPLUS OF 346 PARKING STALLS.  
 2. THE SIDEWALKS, STORAGE AREA FOR EQUIPMENT, LANDSCAPING AND BUILDING WILL BE BY SEPARATE BUILDING PERMIT.

**PREVIOUSLY REVISED COASTLAND SHOPPING CENTER DATA (18-SP-22 & UNCLE JULIOS 19-DRB37)**

TOTAL BUILDING AREA: 772,203 S.F. + 70,032 S.F. = 842,235 S.F.  
 TOTAL PARKING REMOVED: 296 STALLS (ON GRADE) NEAR SEARS  
 7 STALLS (PARKING DECK)  
 43 GRASS STALLS (THESE STALLS NEAR SEARS WILL BE MOVED TO NEW LOCATION) (SEE SHEET C-301)  
 TOTAL: 345 STALLS (REMOVED)  
 TOTAL PARKING REQUIRED: 3,790 TOTAL STALLS (BASED ON 842,235 S.F. : 4.5 STALLS/1000 S.F.)  
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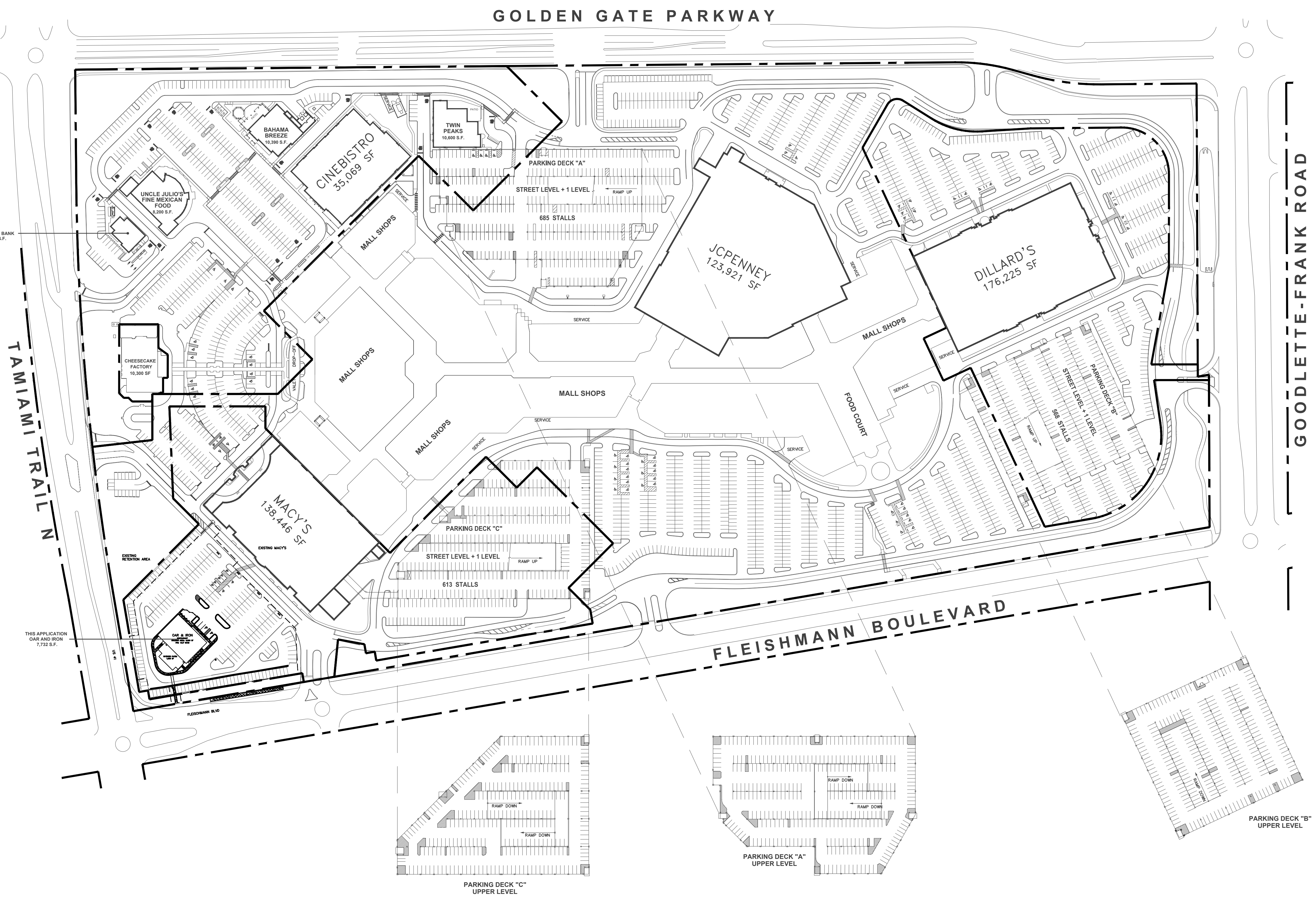
**UNCLE JULIOS (19-DRB37):**  
 TOTAL PARKING REQUIRED: 317 STALLS  
 TOTAL PARKING PROVIDED: 332 STALLS  
 SURPLUS PARKING AT END OF PROJECT: 369 STALLS

**PROPOSED COASTLAND SHOPPING CENTER DATA:**

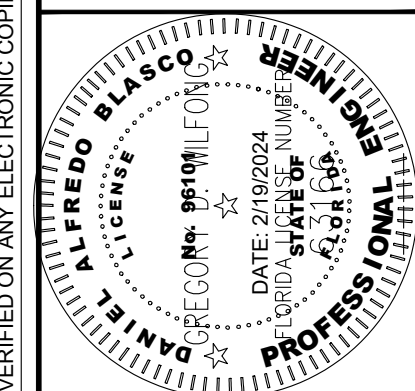
ALLOWABLE BUILDING AREA (GLA): 955,000 SF  
 TOTAL BUILDING AREA: 842,235 S.F. + 5,899 S.F. + 1,833 S.F. (OUTDOOR DINING) = 849,967 S.F.  
**NEW BUILDING DATA:**

RESTAURANT INCLUDING PATIO (4.5 STALLS/1000 SF)	SQUARE FOOTAGE (SF)	REQUIRED PARKING
7,732 S.F.	7,732 S.F.	35 SPACES

TOTAL PARKING REMOVED: 61 STALLS (ON GRADE) NEAR MACY'S  
 TOTAL PARKING REQUIRED: 3,825 TOTAL STALLS (BASED ON 849,967 S.F. : 4.5 STALLS/1000 S.F.)  
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 92 HANDICAP STALLS  
 302 COMPACT STALLS (7.4%)  
 200 GRASS PARKING (ON GRADE)  
 915 STALLS (PARKING DECKS)  
 TOTAL SURPLUS PARKING: 273



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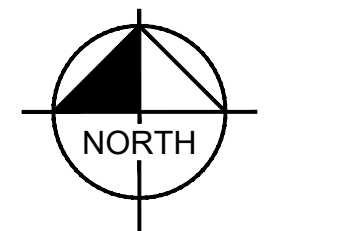
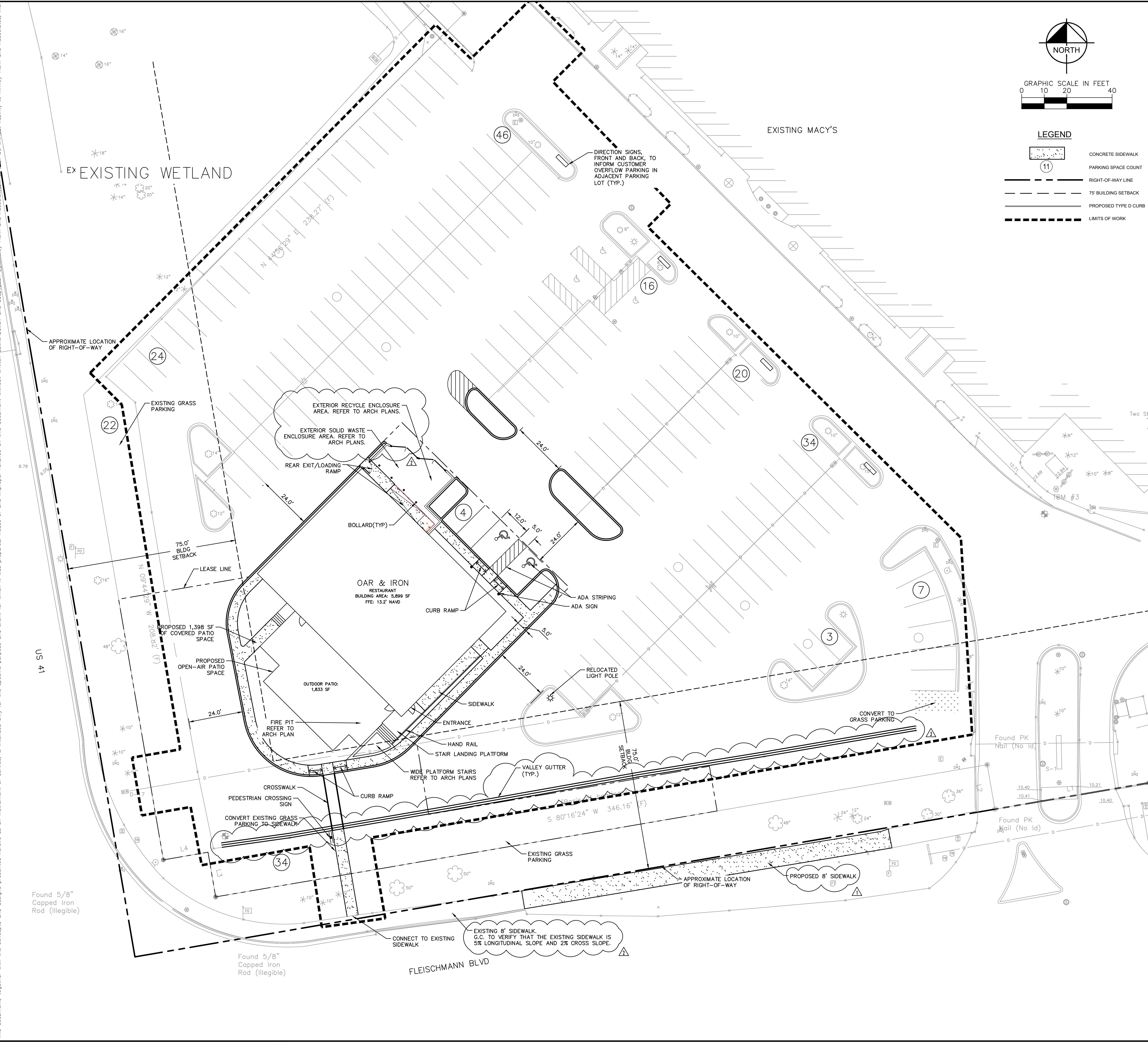
KHA PROJECT	147854000
DATE	2022-09-06
SCALE	AS SHOWN
DESIGNED BY	DAB
DRAWN BY	DAB
CHECKED BY	GDW

**OVERALL SITE PLAN**

**OAR AND IRON COASTLAND MALL**  
 PREPARED FOR  
**APW2199 DEVELOPMENT LLC**  
 CITY OF NAPLES, FLORIDA

No.	REVISIONS	DATE	BY

Plotted By: Andronescu, North Street Set: OAR AND IRON COASTLAND MALL Layout: C-300 SITE PLAN February 19, 2024 11:32:10am K:\VFB-LDEV\147854000 - Coastland Center Grill\CAD\PlanSheets\C-300 SITE PLAN.dwg  
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**LEGEND**

	CONCRETE SIDEWALK
	PARKING SPACE COUNT
	RIGHT-OF-WAY LINE
	75' BUILDING SETBACK
	PROPOSED TYPE D CURB
	LIMITS OF WORK

**SITE DATA TABLE**

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 PHONE: 772-794-4100  
 WWW.KIMLEY-HORN.COM REGISTRY NO. 696

**SITE PLAN**

KHA PROJECT: 147854000  
 DATE: 2022-09-06  
 SCALE: AS SHOWN  
 DESIGNED BY: DAB  
 DRAWN BY: DAB  
 CHECKED BY: GDW

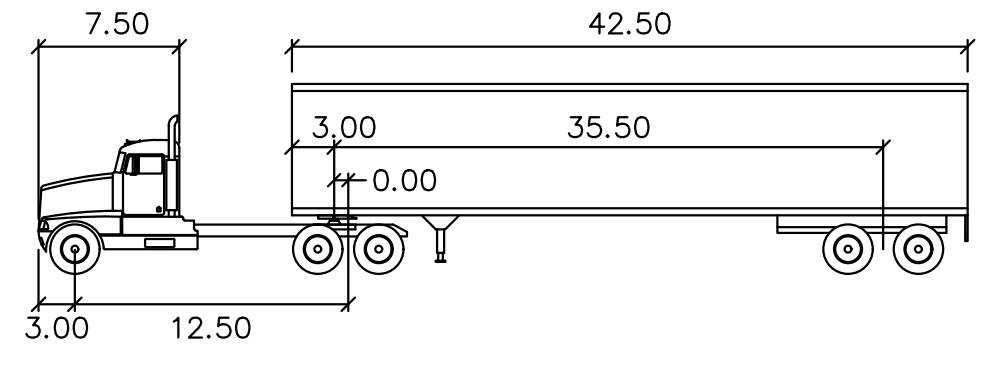
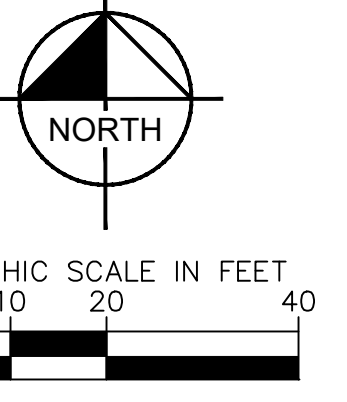
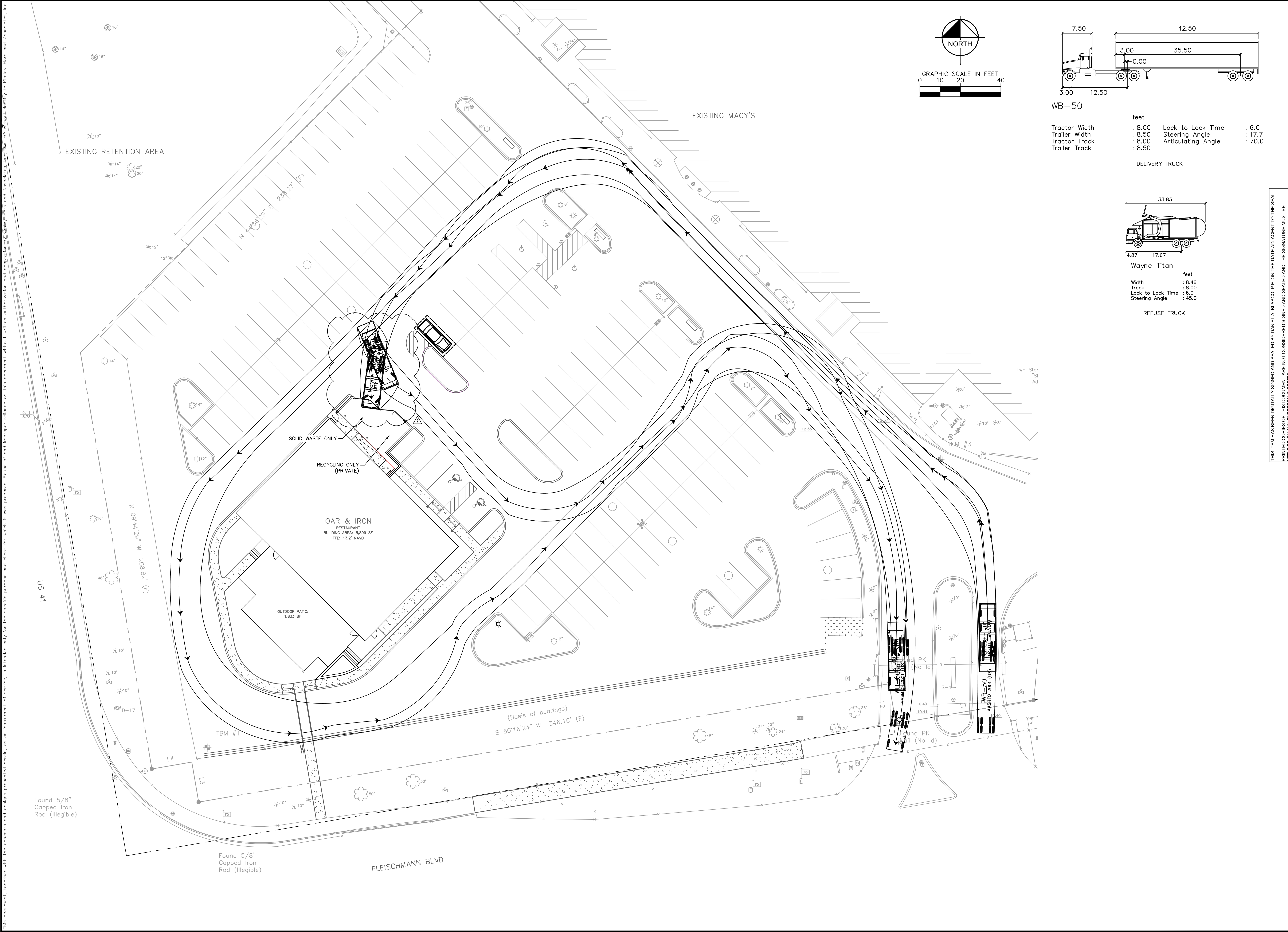
**OAR AND IRON COASTLAND MALL**  
 PREPARED FOR  
**APW2199 DEVELOPMENT LLC**  
 CITY OF NAPLES, FLORIDA

SHEET NUMBER  
**C-300**

DATE	BY	REVISIONS
08/07/2023		
10/31/2023		
01/10/2023		



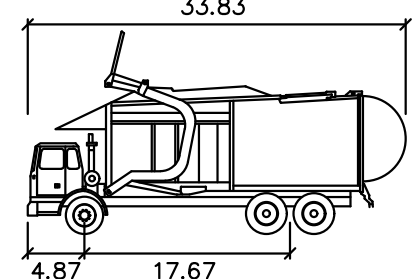
Plotted By: Andronescu, North - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-301 TRUCK MANEUVERING PLAN - February 19, 2024 - 11:32:20am - K:\VRB\LOB\147854000 - Coastland Center Grill\CAD\PlanSheets\C-301 TRUCK MANEUVERING PLAN.dwg  
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WB-50

feet			
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

DELIVERY TRUCK



Wayne Titan

feet	
Width	: 8.46
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

REFUSE TRUCK

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<b>Kimley»»Horn</b>	XXXXXXXXX NKA
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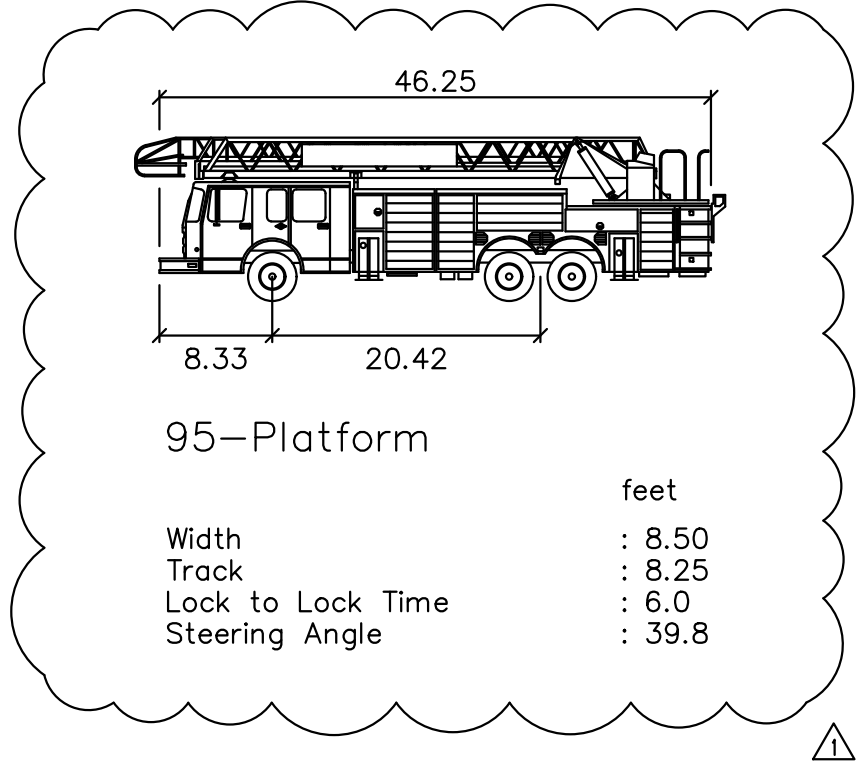
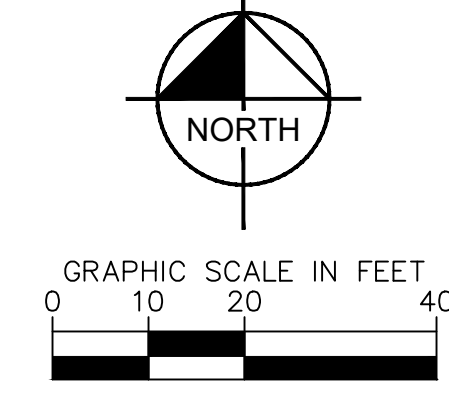
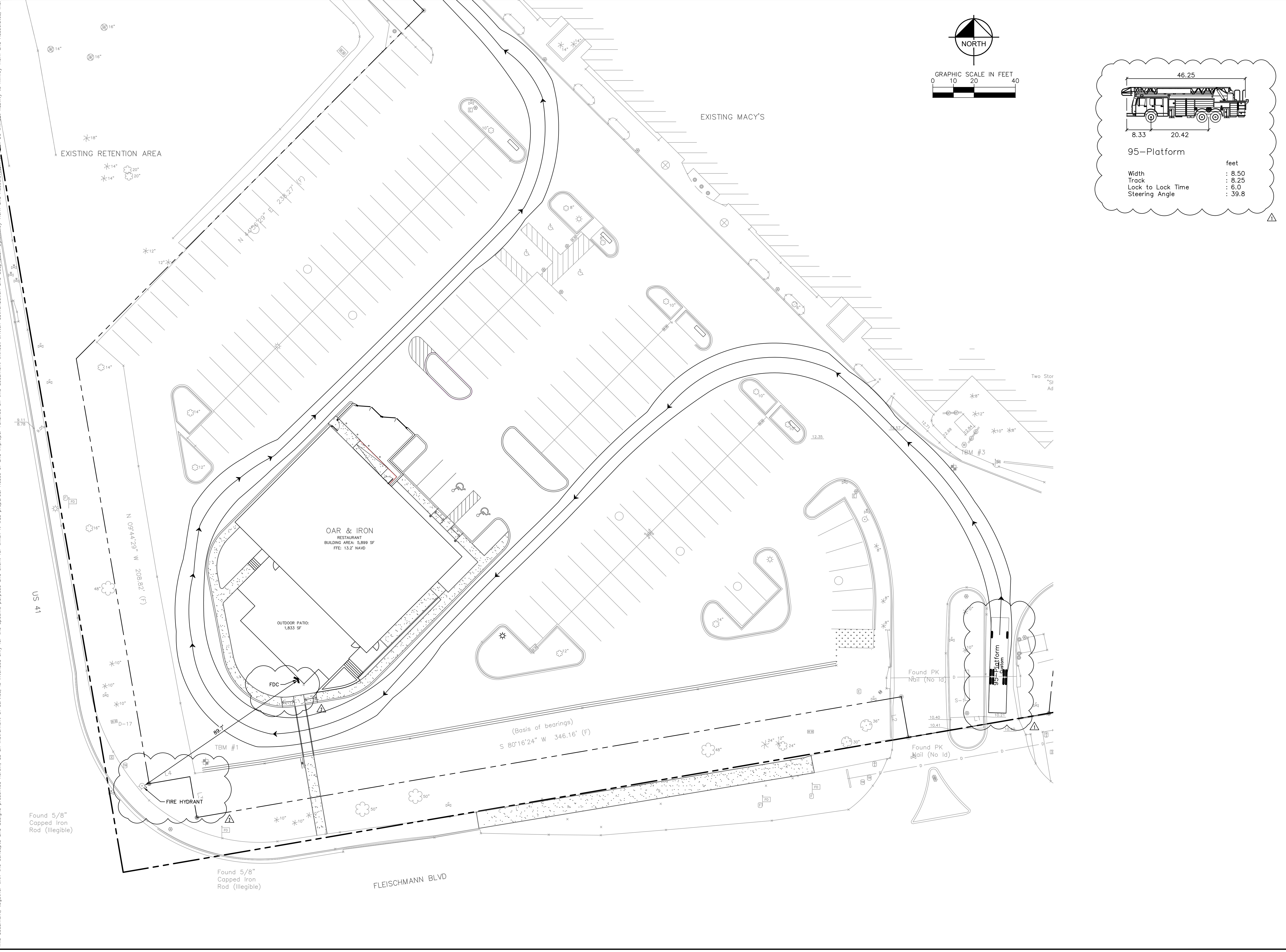
  

KHA PROJECT	147854000
DATE	2022-09-06
SCALE AS SHOWN	DAB
DESIGNED BY	DAB
DRAWN BY	DAB
CHECKED BY	GDW

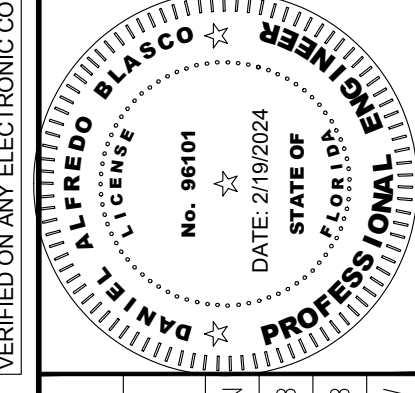
  

<b>OAR AND IRON COASTLAND MALL</b>	<b>TRUCK MANEUVERING PLAN</b>	FLORIDA
PREPARED FOR APW2199 DEVELOPMENT LLC CITY OF NAPLES	SHEET NUMBER <b>C-301</b>	REVISIONS

Plotted By: Andronescu, Noah - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-302 FIRE ACCESS PLAN - February 19, 2024 - 11:32:30am - k:\ARB-DEVELOPMENT\147854000 - Coastland Center, Grill\CAD\Plan\Sheet\C-302 FIRE ACCESS PLAN.dwg  
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KHA PROJECT	147854000
DATE	2022-09-06
SCALE AS SHOWN	DAB
DESIGNED BY	DAB
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**OAR AND IRON COASTLAND MALL**  
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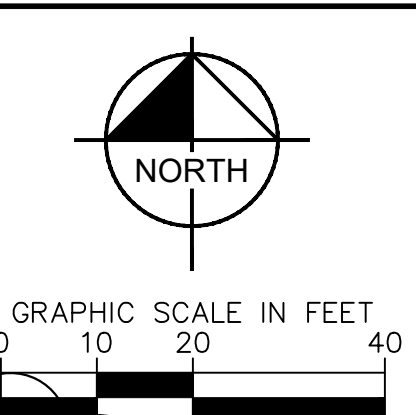
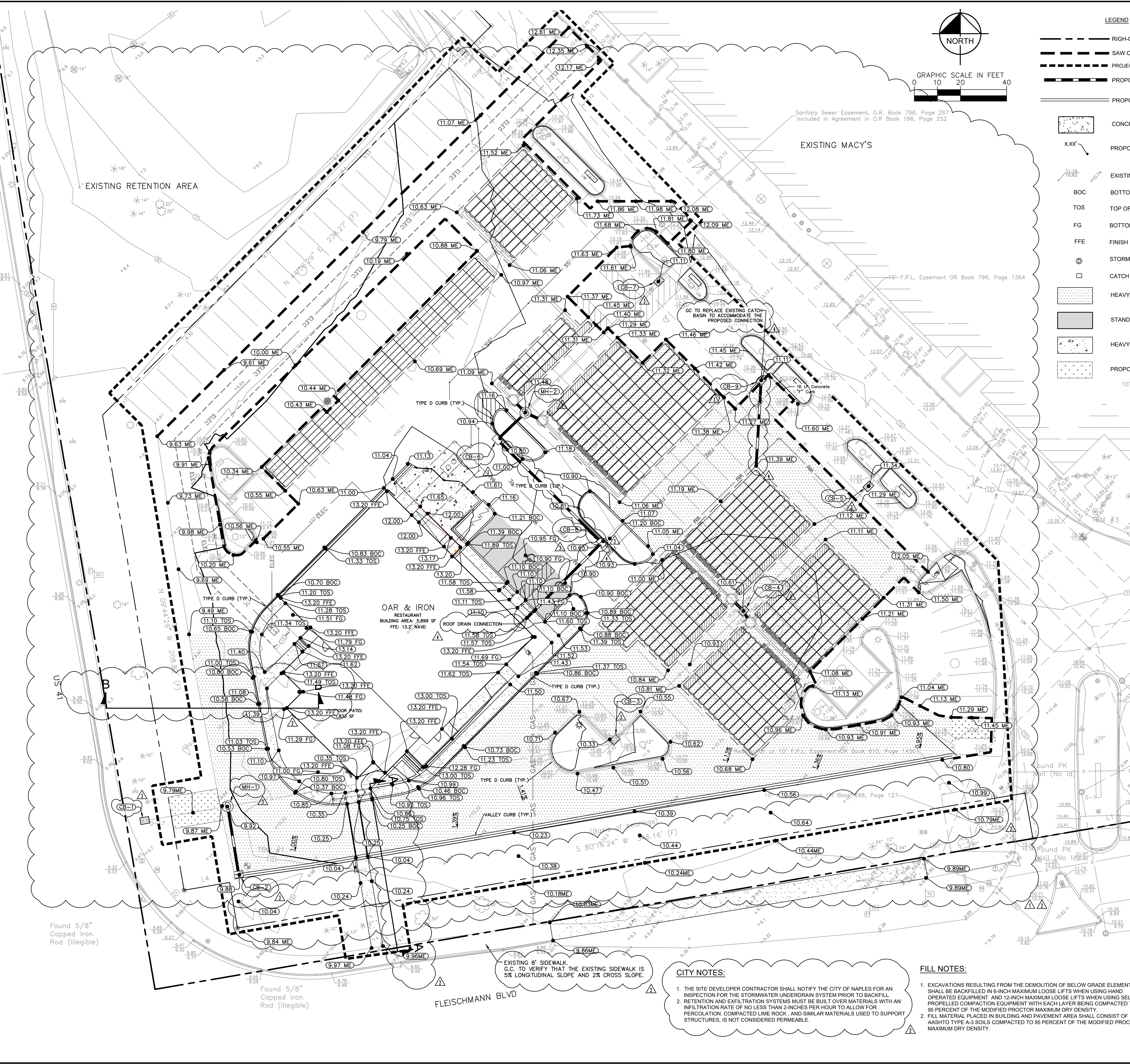
## FIRE ACCESS PLAN

**Kimley-Horn**  
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 PHONE: 772-794-4100  
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CITY COMMENTS	DATE
	08/07/2023
	11/09/2023

SHEET NUMBER  
**C-302**

Plotted By: Anderson, North  
 Street: OAR AND IRON COASTLAND MALL  
 Layout: C-400 PAVING, GRADING, AND DRAINAGE PLAN  
 February 19, 2024, 11:32:35am  
 K:\VRB\DEV\147854000 - Coastland Center Grill\CAD\PlanSheets\C-400 PAVING, GRADING, AND DRAINAGE PLAN.dwg  
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**LEGEND**

- RIGHT-OF-WAY LINE
- SAW CUT LINE
- PROJECT LIMITS OF WORK
- PROPOSED STORM PIPE
- PROPOSED TYPE "D" CURB
- CONCRETE SIDEWALK
- PROPOSED GRADE
- EXISTING GRADE
- BOC (BOTTOM OF CURB)
- TOS (TOP OF SIDEWALK)
- FG (BOTTOM/GROUND ELEVATION)
- FFE (FINISH FLOOR ELEVATION)
- SM (STORM MANHOLE)
- CATCH BASIN
- HEAVY DUTY ASPHALT
- STANDARD DUTY ASPHALT
- HEAVY DUTY CONCRETE
- PROPOSED SOD
- 10' F.P.

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
CB-1	EXISTING CONTROL STRUCTURE PER SFWMD APP NO. 940 309-2 RIM: 9.42 INV OUT: 6.73 E
CB-2	VALLEY GUTTER TYPE V FDOF INDEX 425-041 RIM: 9.88 INV IN: 7.04 N
CB-3	EXISTING CATCH BASIN RIM: 10.17 INV IN: 7.40 W INV OUT: 7.27 NE
CB-4	EXISTING CATCH BASIN RIM: 10.61 INV IN: 7.72 SW INV OUT: 7.77 NE INV OUT: 7.72 SE INV OUT: 7.72 NW
CB-5	EXISTING CATCH BASIN RIM: 11.34 INV IN: 5.97 SW
CB-6	TYPE 9 INLET FDOF INEX 425-024 RIM: 10.92 INV IN: 8.21 NE INV OUT: 8.20 SE
CB-7	EXISTING CATCH BASIN RIM: 11.11 INV IN: 8.53 SW
CB-8	TYPE 9 INLET FDOF INEX 425-024 RIM: 10.65 INV IN: 7.48 NE INV IN: 7.48 SW INV OUT: 7.48 SW
CB-9	EXISTING CATCH BASIN GC TO REPLACE EXISTING STRUCTURE TO ACCOMMODATE THE PROPOSED CONNECTION. RIM: 11.28 INV OUT: 8.56 SW INV OUT: 8.56 S
MH-1	MANHOLE FOOT INDEX 425-001 DOGHOUSE STRUCTURE RIM: 9.92 INV IN: 6.84 W INV OUT: 6.89 E INV OUT: 6.89 S
MH-2	MANHOLE FOOT INDEX 425-001 RIM: 11.48 INV IN: 8.12 SW INV OUT: 8.12 NW

**PAVING AND GRADING NOTES**

- TOPOGRAPHIC INFORMATION IS TAKEN FROM EXISTING AS BUILTS. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CHECK THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- ALL MATERIALS AND CONSTRUCTION WITHIN THE FOOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST FDOT DESIGN STANDARDS AND LATEST STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE SPECIFICATIONS AND LOCAL JURISDICTIONAL AGENCY. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
- WHERE EXISTING PAVEMENT IS TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW-CUT THE FULL DEPTH OF PAVEMENT FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
- WHERE NEW PAVEMENT MEETS THE EXISTING PAVEMENT, THE CONTRACTOR SHALL SAW-CUT THE FULL DEPTH OF EXISTING PAVEMENT FOR A SMOOTH AND STRAIGHT JOINT AND MATCH THE EXISTING PAVEMENT ELEVATION WITH THE PROPOSED PAVEMENT UNLESS OTHERWISE INDICATED.
- ELEVATIONS SHOWN AT CURB LINE ARE EDGE OF PAVEMENT UNLESS SPECIFIED OTHERWISE.
- CONTRACTOR SHALL MAINTAIN EXISTING SIDEWALK AREAS THAT ARE TO BE LANDSCAPED A MINIMUM OF 30" OR DEEPER AS NECESSARY TO ENSURE ALL STONE BASE / PAVEMENT MATERIAL IS REMOVED (WHICHEVER IS GREATER) AND BACKFILL WITH CLEAN / DRAINING SAND TO WITHIN 4" OF TOP OF CURB TO ENSURE PROPER SOIL FOR PLANT MATERIALS.
- THE CONTRACTOR SHALL ENSURE THAT ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT OVER-COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.
- ALL CUT OR FILL SLOPES SHALL BE 4H:1V OR FLATTER UNLESS OTHERWISE NOTED.
- ALL UN-SURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
- THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL RE-GRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED OR ADEQUATE STABILIZATION OCCURS.
- LANDSCAPE ISLANDS IN PARKING AREA TO BE BERMED 18" ABOVE BACK OF CURB ELEVATION.

**DRAINAGE NOTES**

- CONTRACTOR TO CONSTRUCT DRAINAGE STRUCTURES WITH USF GRATES, RIMS AND COVERS AS CALLED OUT OR APPROVED EQUAL. SHOP DRAWINGS ARE TO BE PROVIDED TO ENGINEER FOR APPROVAL PRIOR TO ANY CONSTRUCTION.
- CONTRACTOR TO REFER TO 2018/2019 FDOT DESIGN STANDARD (AND NOT LIMITED TO) INDEXES 200, 201, 210, 211, 214, 232 & 233 FOR MANHOLE, INLET AND GRATE SPECIFICATIONS.
- ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED WITH (4) SIDED BEARING HEAVY DUTY H-20 RATED TRAFFIC GRATES.
- CONTRACTOR TO VERIFY ALL EXISTING UTILITY RINGS AND COVERS ON SITE ARE HEAVY DUTY TRAFFIC RATED. CONTRACTOR TO REPLACE DEFICIENT RINGS AND COVERS WITH HEAVY DUTY TRAFFIC RATED RINGS AND COVERS. CONTRACTOR TO ADJUST RIM ELEVATIONS OF ANY UTILITIES THAT CHANGE IN ELEVATION DURING CONSTRUCTION. ALL CLEAN-OUT COVERS SHOULD BE RATED FOR HEAVY DUTY TRAFFIC.
- SIDEWALKS AND CROSSWALKS SHALL NOT EXCEED 2% CROSS SLOPE NOR 5% LONGITUDINALLY. GRADES IN ACCESSIBLE PARKING SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION. IN CASES OF SIDEWALK LANDINGS AT BUILDING ENTRANCES, GRADES SHALL NOT EXCEED 2% IN ANY DIRECTION. ACCESSIBLE CURB RAMPS SHALL NOT EXCEED 6" IN LENGTH AND 1:12 SLOPE. LANDINGS AT CHANGES IN DIRECTION SHALL BE MINIMUM 60"x60" AND SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION.
- ROOF DRAIN CONNECTIONS TO DRAINAGE PIPE SHALL BE AS FOLLOWS:
  - A. FOR ADS N-12 CORRUGATED POLYETHYLENE DRAINAGE PIPE USE ADS DUAL WALL FABRICATED REDUCING SADDLE TEE 4"x24" DIAMETER.
  - B. FOR RCP DRAINAGE PIPE MAKE CONNECTION PER FDOT INDEX 280, CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE DETAIL.
  - C. NOTIFY CONSULTANT FOR CONNECTION METHOD TO STEEL PIPE.
- ALL DRAINAGE PIPE JOINTS SHALL BE FILTER FABRIC WRAPPED PER FDOT INDEX #280. ALL DRAINAGE PIPE JOINTS NEED TO BE FILTER FABRIC WRAPPED REGARDLESS OF MATERIAL.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- CONTRACTOR TO BE RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE.
- EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
- PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.
- ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ADEQUATE CONNECTION AT STRUCTURE IS WATERTIGHT.
- ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
- ALL CATCH BASINS WITHIN PROPOSED TRAFFIC AREAS SHALL HAVE BICYCLE PROOF GRATES.
- CONTRACTOR TO FLUSH AND VACUUM ENTIRE ON-SITE STORM WATER SYSTEM UPON COMPLETION OF PROPOSED WORK.

**CITY NOTES:**

- THE SITE DEVELOPER CONTRACTOR SHALL NOTIFY THE CITY OF NAPLES FOR AN INSPECTION FOR THE STORMWATER UNDERDRAIN SYSTEM PRIOR TO BACKFILL.
- RETENTION AND EXFILTRATION SYSTEMS MUST BE BUILT OVER MATERIALS WITH AN INFILTRATION RATE OF NO LESS THAN 2 INCHES PER HOUR TO ALLOW FOR PERCOLATION. COMPACTED LIME ROCK, AND SIMILAR MATERIALS USED TO SUPPORT STRUCTURES, IS NOT CONSIDERED PERMEABLE.

**FILL NOTES:**

- EXCAVATIONS RESULTING FROM THE DEMOLITION OF BELOW GRADE ELEMENTS SHALL BE BACKFILLED IN 6-INCH MAXIMUM LOOSE LIFTS WHEN USING HAND OPERATED EQUIPMENT AND 12-INCH MAXIMUM LOOSE LIFTS WHEN USING SELF PROPELLED COMPACTION EQUIPMENT WITH EACH LAYER BEING COMPACTED TO 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
- FILL MATERIAL PLACED IN BUILDING AND PAVEMENT AREA SHALL CONSIST OF ASHTO TYPE A-3 SOILS COMPACTED TO 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.

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DANIEL A. BLASSER  
Professional Engineer  
No. 9801  
DATE 2/19/2024  
STATE OF FLORIDA

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CITY COMMENTS	NO.	REVISIONS	DATE	BY
DAB	08/07/2023			
NKA	10/31/2023			
NKA	01/10/2024			
NKA	02/15/2024			

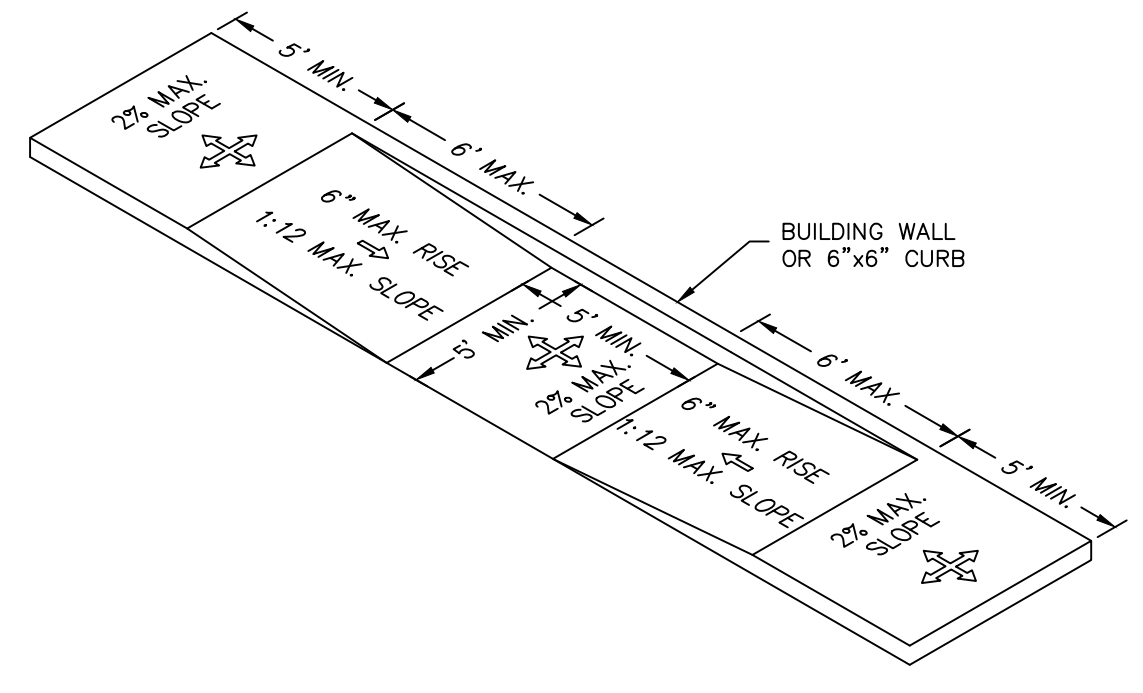
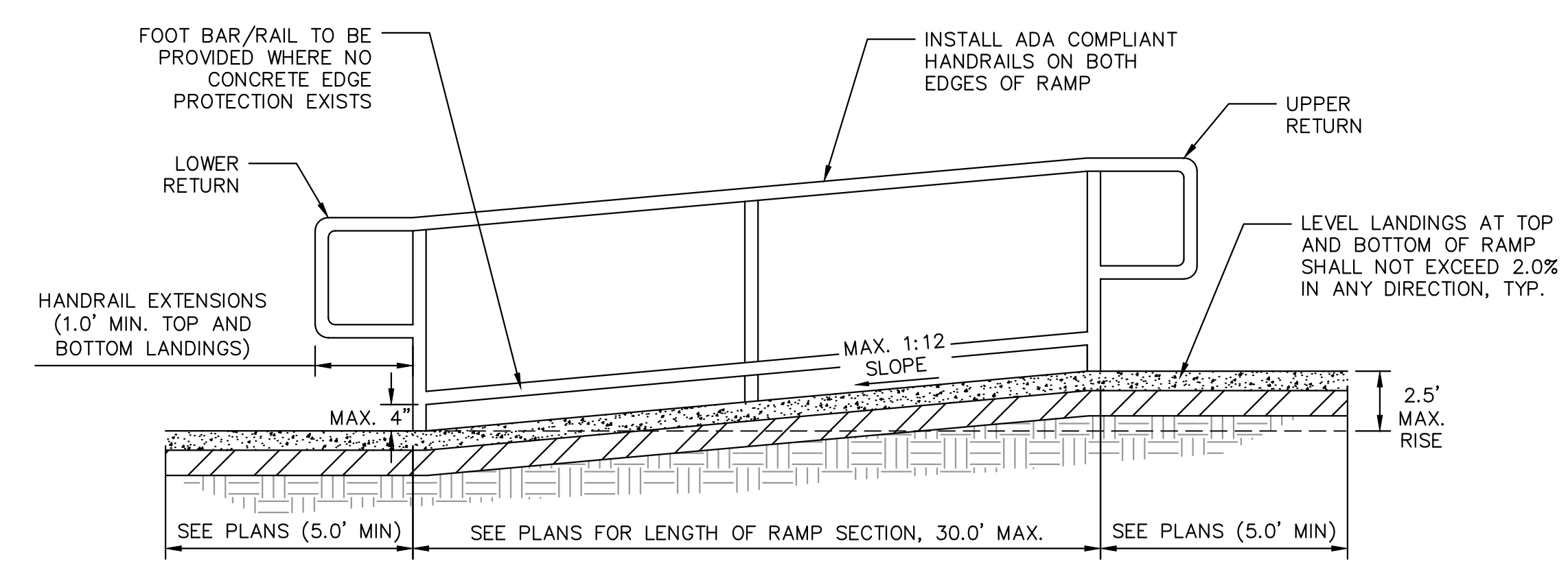
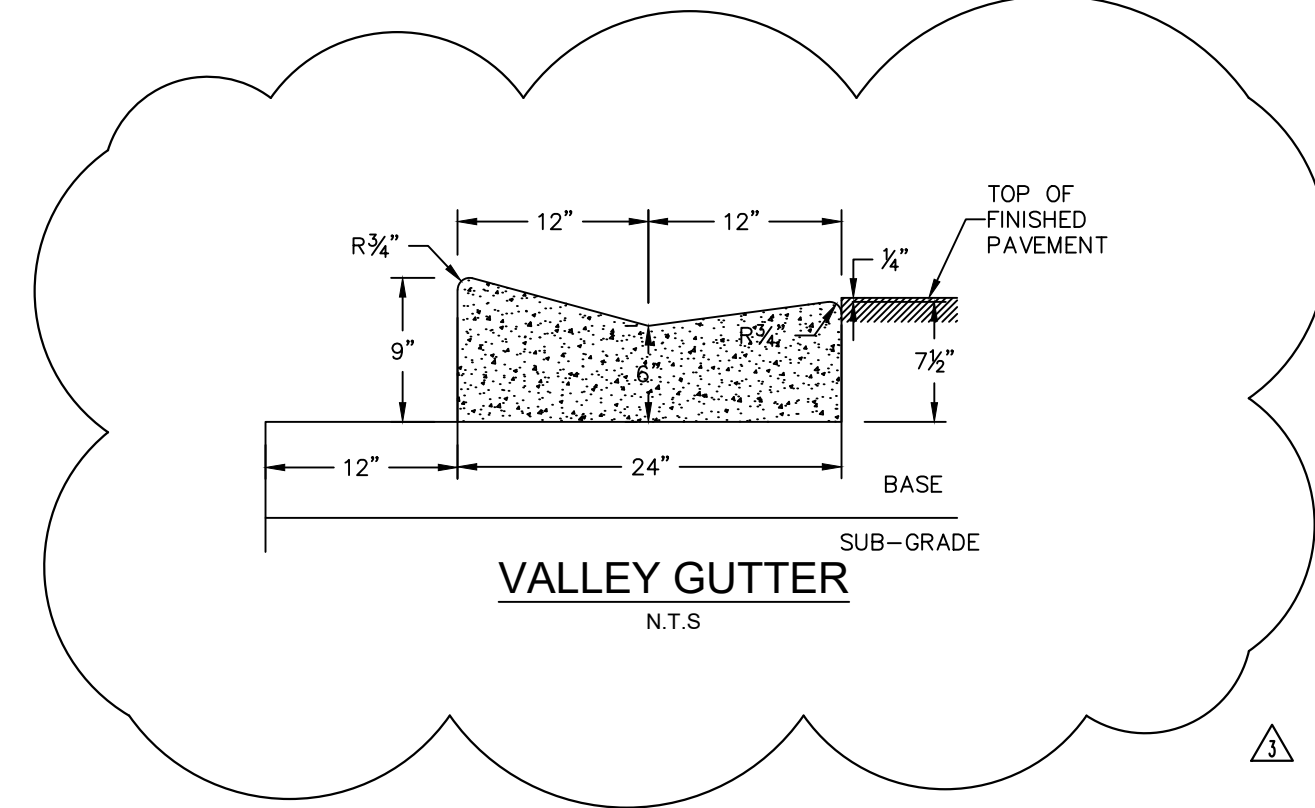
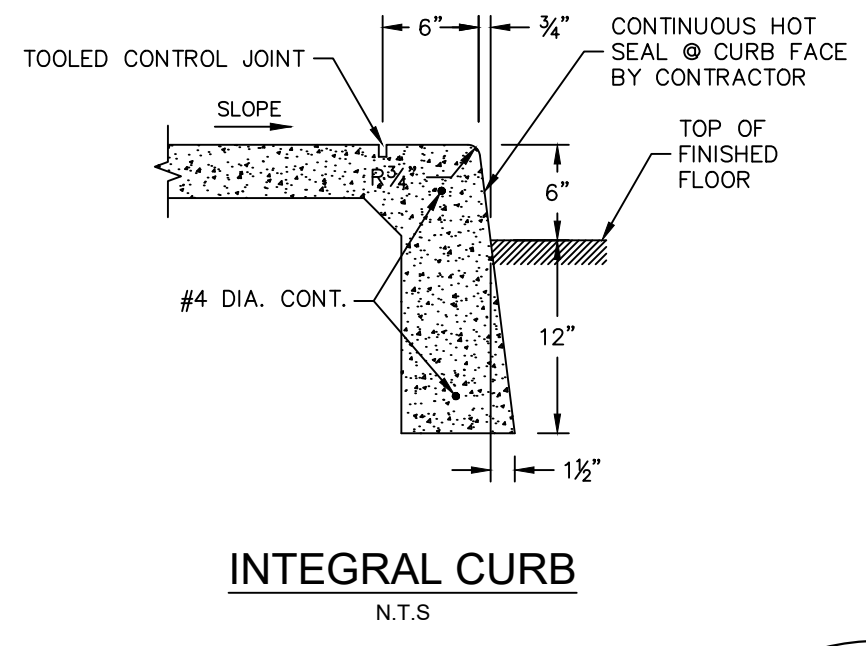
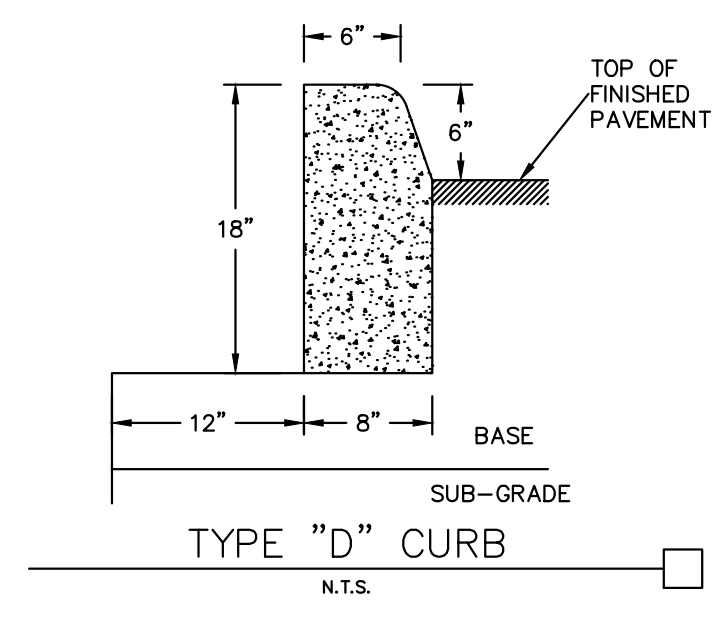
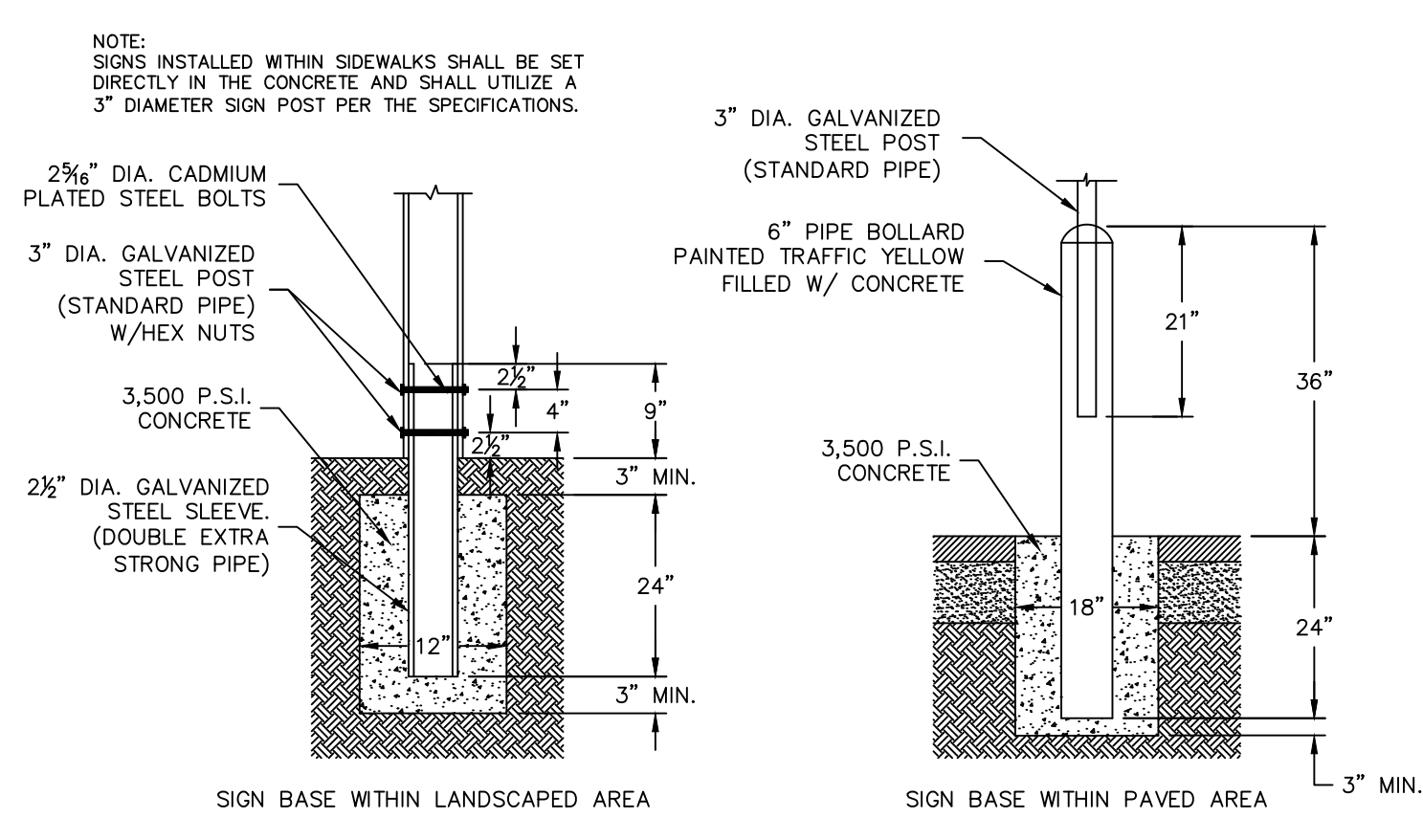
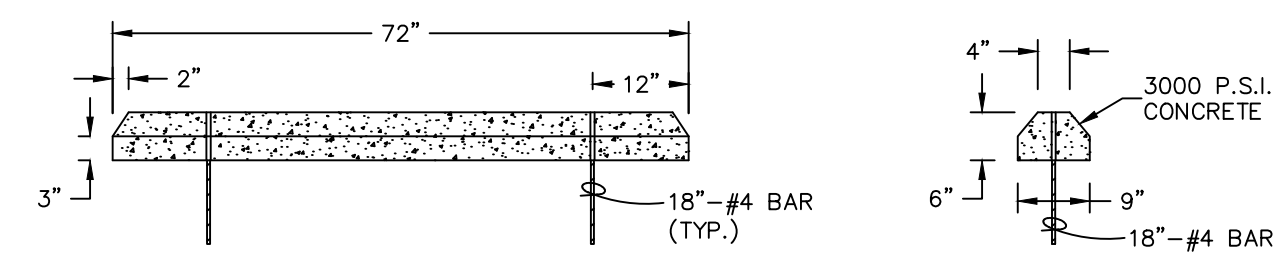
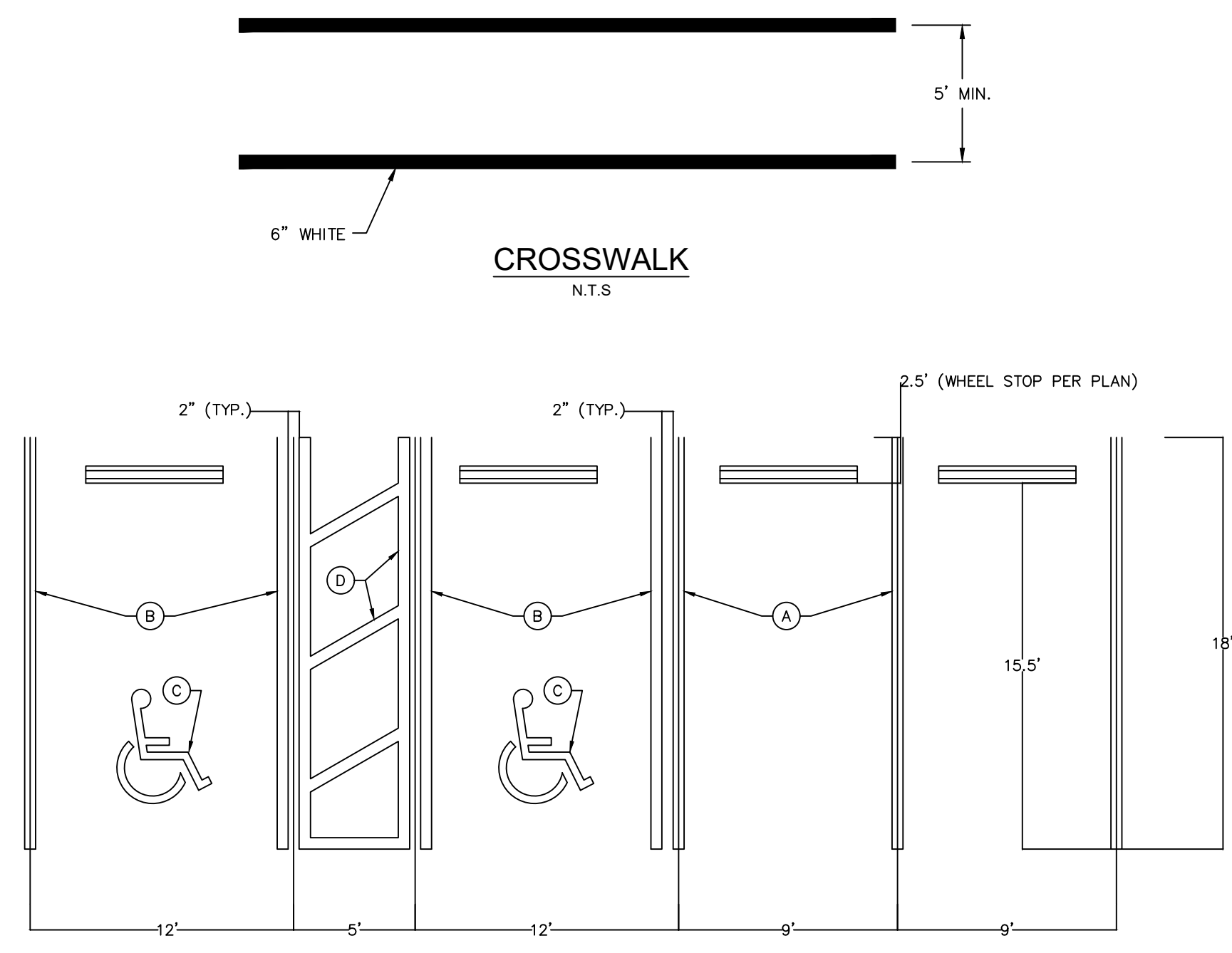
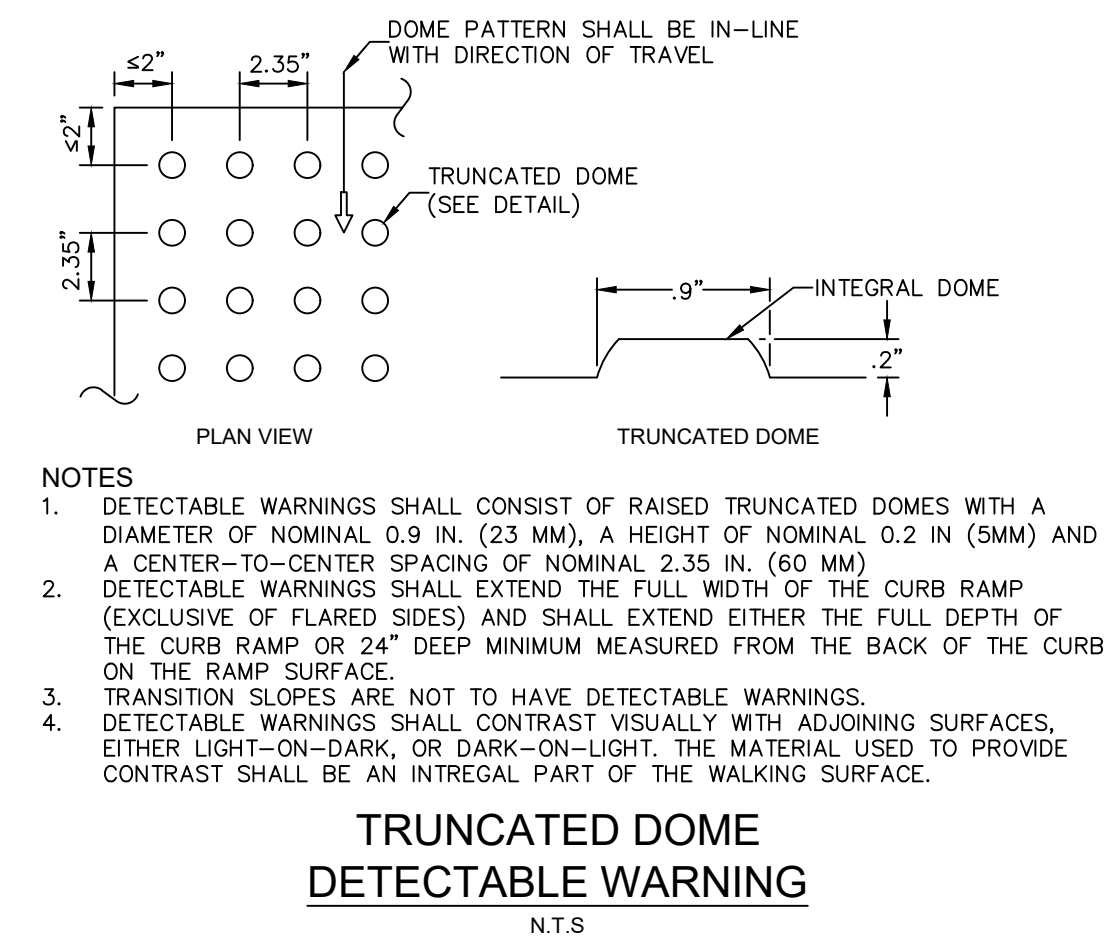
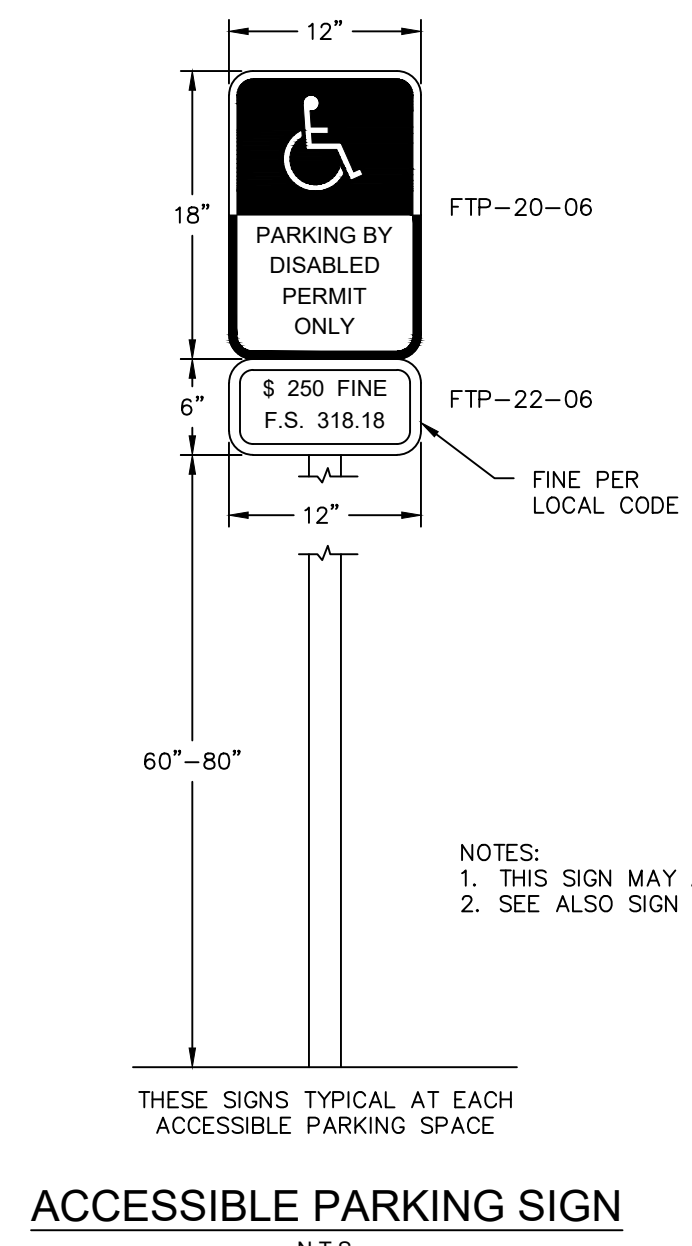
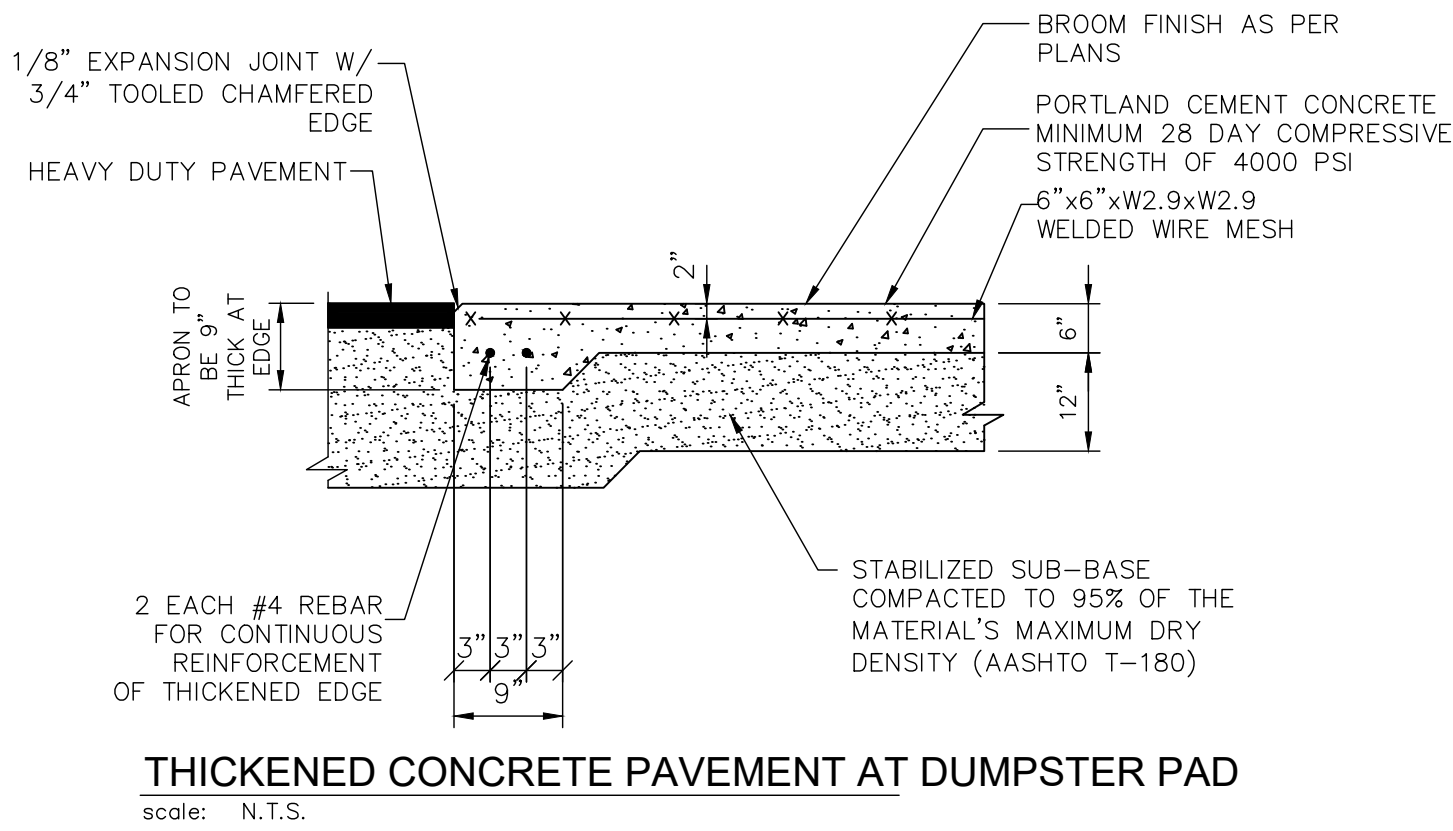
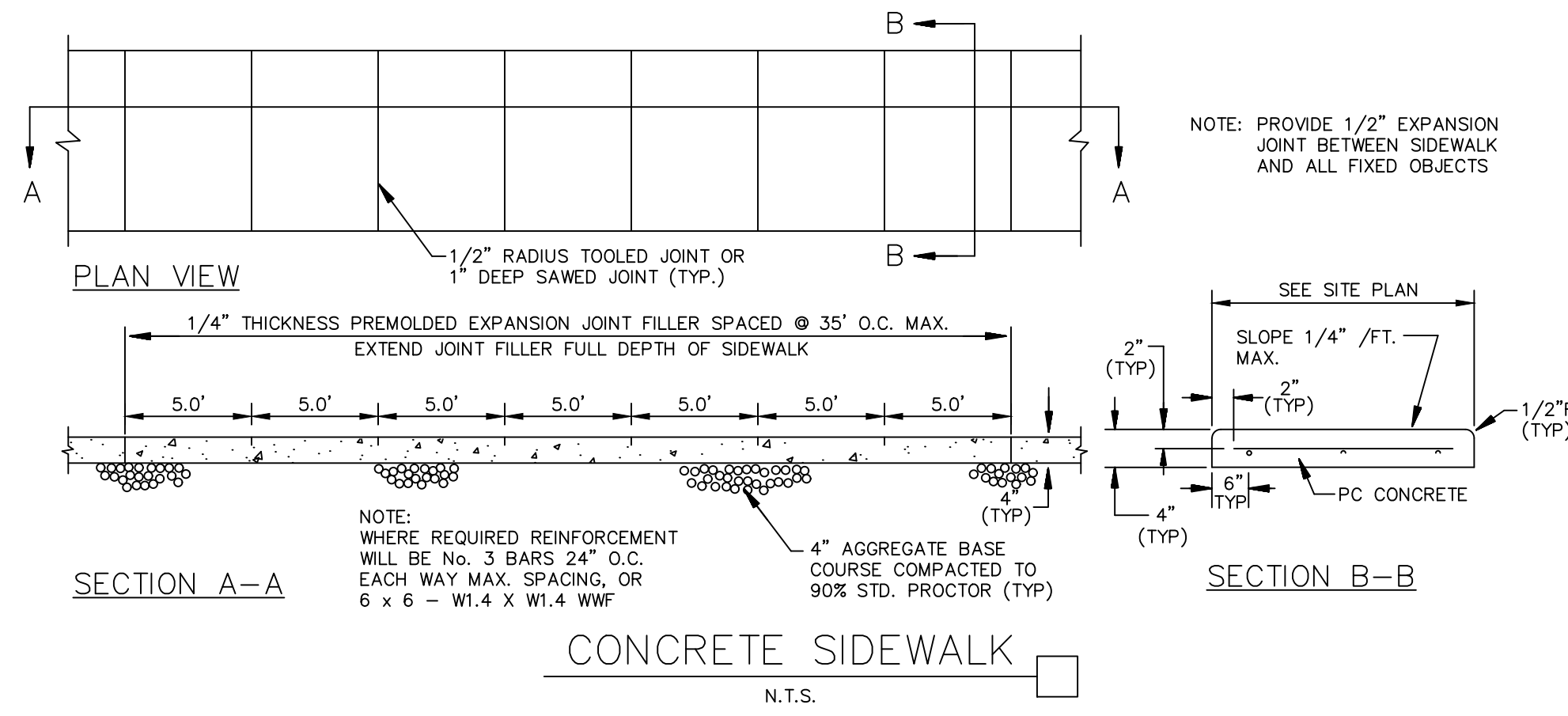
**DOLLAR TREE ST. CLOUD (HARMONY) AND DRAINAGE PLAN**

PREPARED FOR  
**APW2199 DEVELOPMENT LLC**  
 FLORIDA  
 CITY OF NAPLES

KHA PROJECT	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
147854000	2022-09-06	DAB	DAB	CDW

SHEET NUMBER  
**C-400**

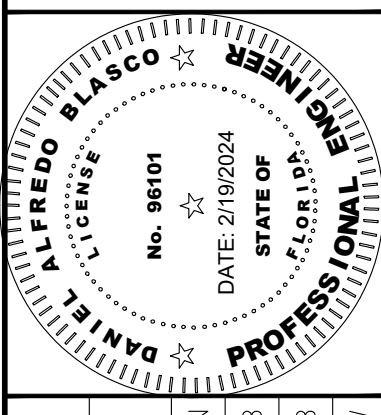
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NO.	REVISIONS	DATE	BY
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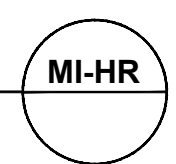


KHA PROJECT	147854000
DATE	2022-09-06
SCALE	AS SHOWN
DESIGNED BY	DAB
DRAWN BY	DAB
CHECKED BY	GDW

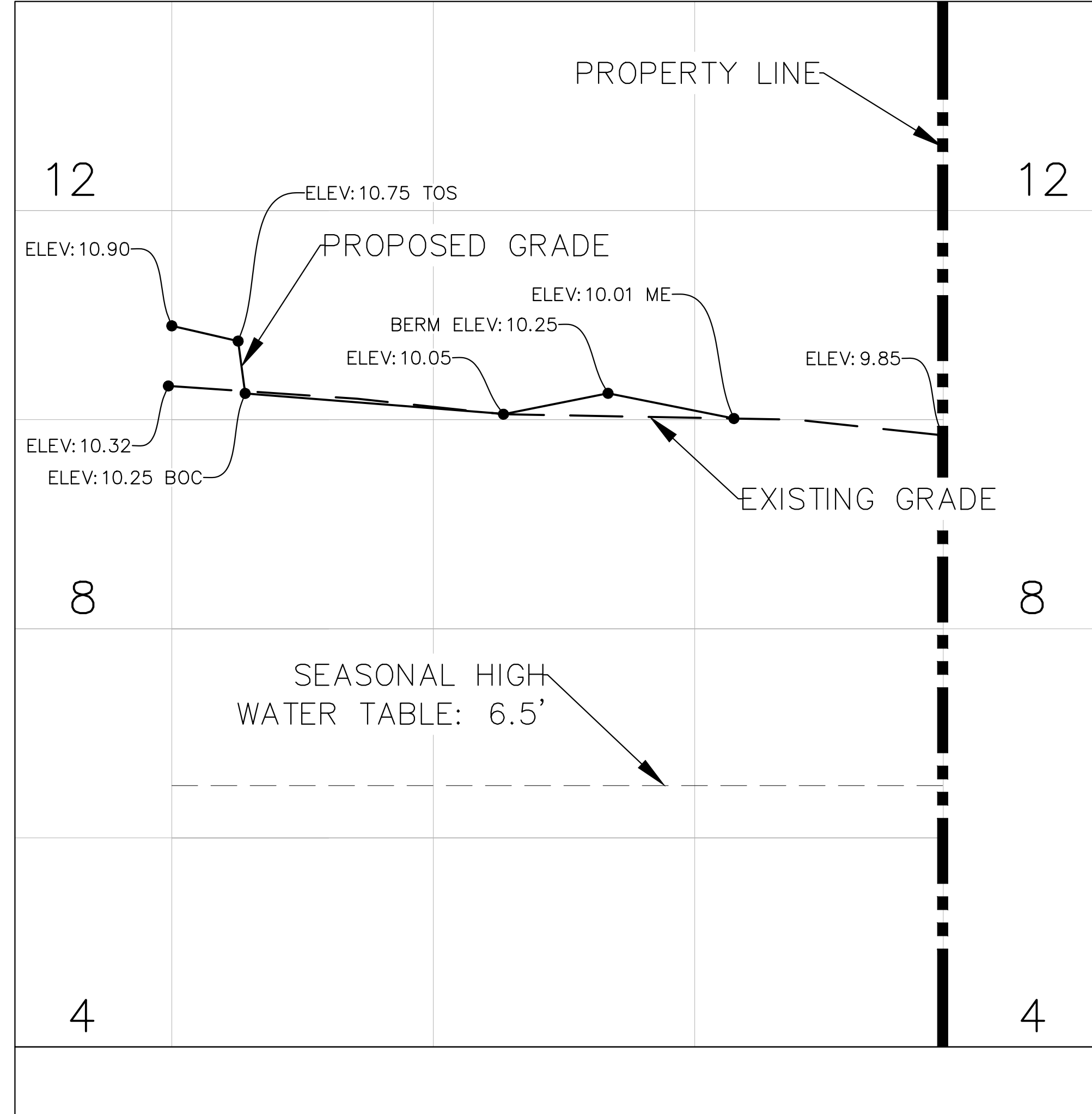
**PAVING, GRADING, AND DRAINAGE AND DRAINAGE DETAIL**

**OAR AND IRON AT COASTLAND MALL**  
 PREPARED FOR APW2199 DEVELOPMENT  
 CITY OF NAPLES, FLORIDA LLC

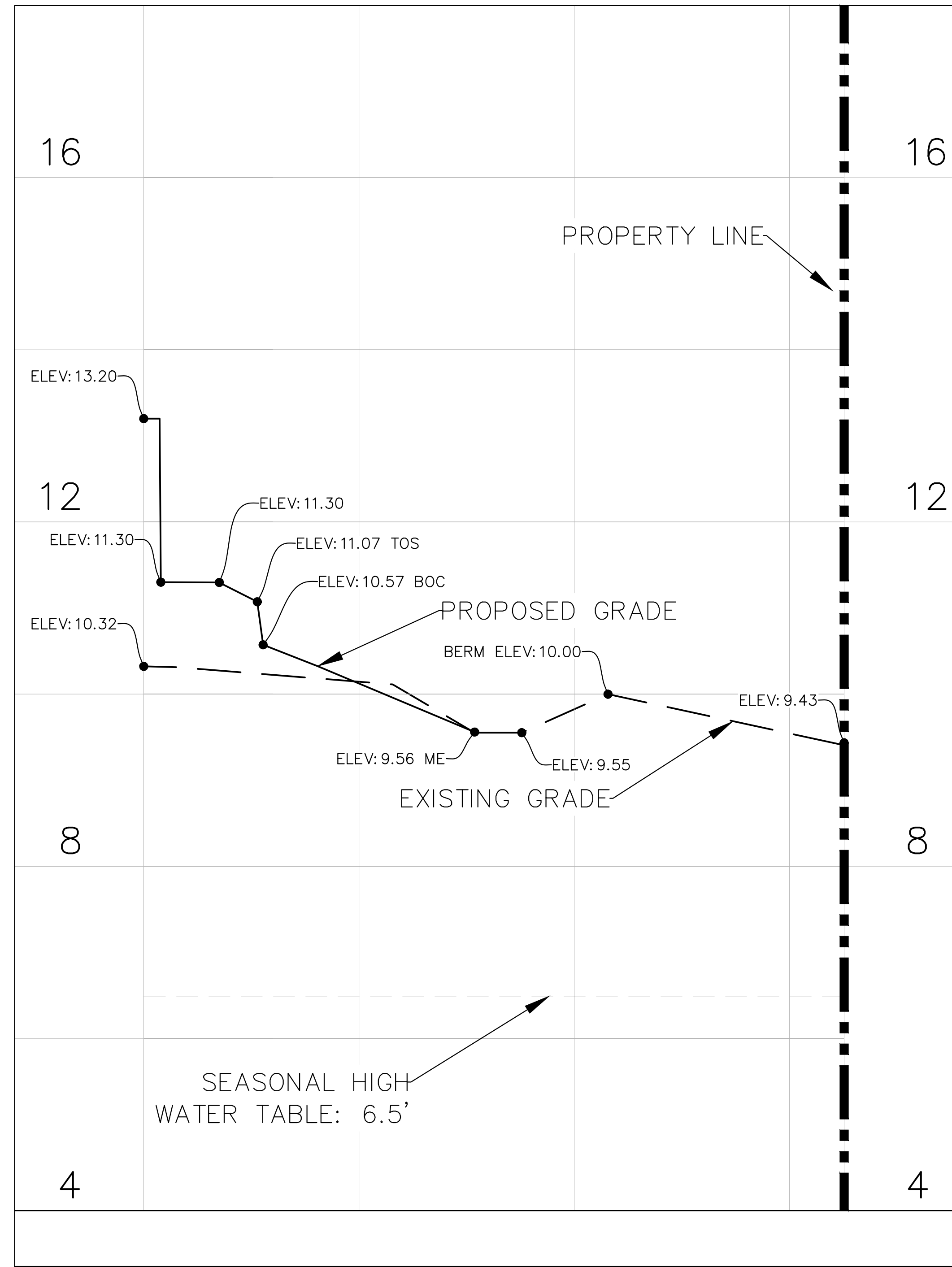
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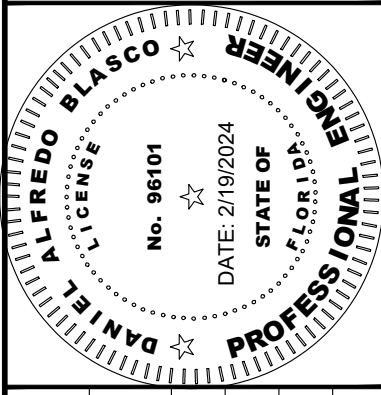


SECTION A-A  
 H=1":10' V=1":1'



SECTION B-B  
 H=1":10' V=1":1'

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KHA PROJECT  
 147854000  
 DATE  
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 SCALE AS SHOWN  
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 DRAWN BY DAB  
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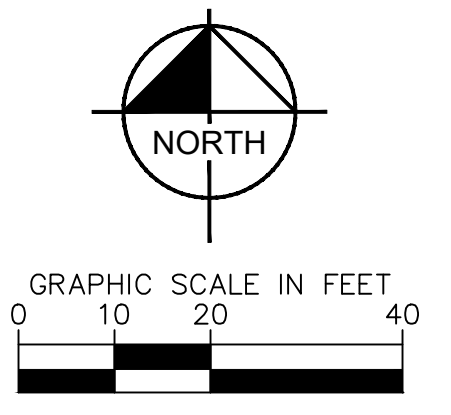
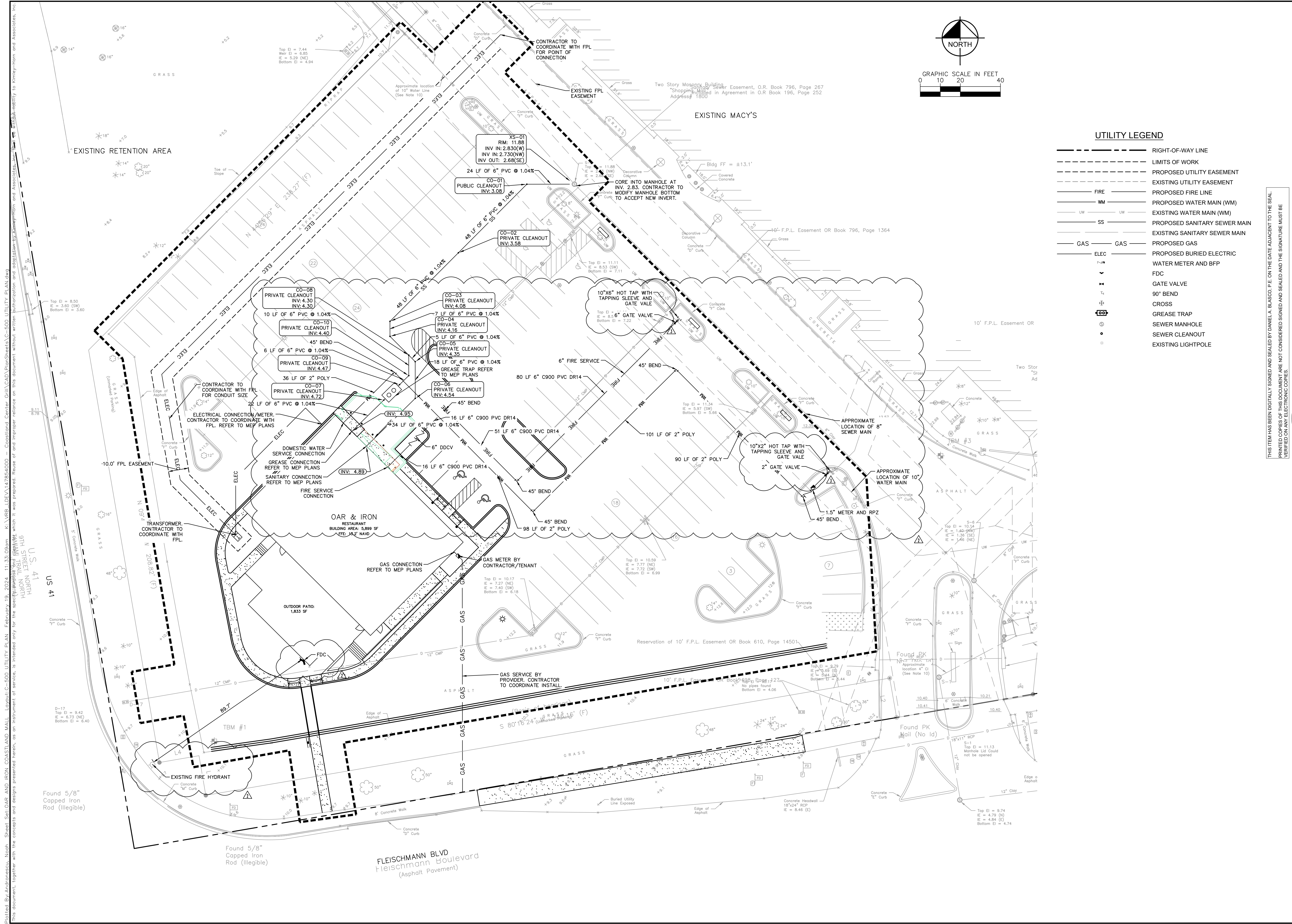
PAVING GRADING  
 AND DRAINAGE  
 PROFILES

OAR AND IRON  
 COASTLAND MALL  
 PREPARED FOR  
 APW2199 DEVELOPMENT LLC  
 CITY OF NAPLES FLORIDA

SHEET NUMBER  
**C-402**

No.	REVISIONS	DATE	BY

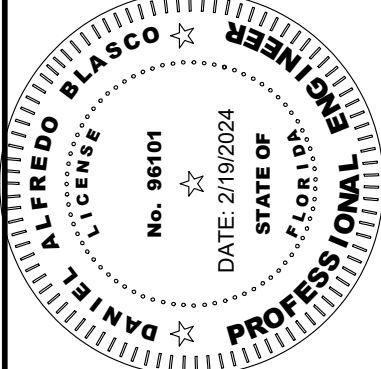
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**UTILITY LEGEND**

---	RIGHT-OF-WAY LINE
---	LIMITS OF WORK
---	PROPOSED UTILITY EASEMENT
---	EXISTING UTILITY EASEMENT
---	PROPOSED FIRE LINE
---	PROPOSED WATER MAIN (WM)
---	EXISTING WATER MAIN (WM)
---	PROPOSED SANITARY SEWER MAIN
---	EXISTING SANITARY SEWER MAIN
---	PROPOSED GAS
---	PROPOSED BURIED ELECTRIC
---	WATER METER AND BFP
---	FDC
---	GATE VALVE
---	90° BEND
---	CROSS
---	GREASE TRAP
---	SEWER MANHOLE
---	SEWER CLEANOUT
---	EXISTING LIGHTPOLE

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DATE	2022-09-06
SCALE	AS SHOWN
DESIGNED BY	DAB
DRAWN BY	DAB
CHECKED BY	GDW

# UTILITY PLAN

**OAR AND IRON**  
**COASTLAND MALL**  
 PREPARED FOR  
**APW2199 DEVELOPMENT LLC**  
 CITY OF NAPLES, FLORIDA

SHEET NUMBER  
**C-500**

CITY COMMENTS	NO.	REVISIONS	DATE

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**TYPICAL THRUST BLOCKS**

\* THRUST BLOCKS TYPICAL FOR ALL NON-RESTRAINED PIPE SYSTEMS, ESPECIALLY A.C. & C.I. PIPES.  
 \* FOR FULLY RESTRAINED PIPE SYSTEMS, THE USE, LOCATION, AND TYPE OF THRUST BLOCKS SHALL BE DETERMINED BY THE CITY UTILITY ENGINEER IF REQUIRED.

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		VALVES & PLUGS	
	TEES	REDUCERS	TEES	REDUCERS	TEES	REDUCERS	TEES	REDUCERS
4"	1	1	1	1	1	1	1	1
6"	3	4	2	1	3			
8"	5	7	4	2	5			
10"	8	12	6	3	9			
12"	12	16	9	5	12			
16"	16	20	12	7	16			
20"	24	30	17	10	24			
24"	34	44	24	13	34			

**NOTES:**

- ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH.
- PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
- POUR THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE SOIL AND EXTEND THRUST BLOCK TO UNDISTURBED SOIL.
- IN BACK FILLING, ANY ROCK ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL.
- BACK FILL MATERIAL SHALL NOT INCLUDE ROCK OR BOLLERS.
- THRUST BLOCK AREAS BASED ON SOIL BEARING LOAD OF 2000 P.S.F. AND LINE PRESSURE OF 150 P.S.I.
- ALL CONCRETE SHALL BE MINIMUM 3000 PSI.

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **THRUST BLOCKS NO. 1**      **SHEET:** U-04  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-04-16.DWG

**TYPICAL THRUST BLOCKS**

\* THRUST BLOCKS TYPICAL FOR ALL NON-RESTRAINED PIPE SYSTEMS, ESPECIALLY A.C. & C.I. PIPES.  
 \* FOR FULLY RESTRAINED PIPE SYSTEMS, THE USE, LOCATION, AND TYPE OF THRUST BLOCKS SHALL BE DETERMINED BY THE CITY UTILITY ENGINEER IF REQUIRED.

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		VALVES & PLUGS	
	TEES	REDUCERS	TEES	REDUCERS	TEES	REDUCERS	TEES	REDUCERS
4"	1	1	1	1	1	1	1	1
6"	3	4	2	1	3			
8"	5	7	4	2	5			
10"	8	12	6	3	9			
12"	12	16	9	5	12			
16"	16	20	12	7	16			
20"	24	30	17	10	24			
24"	34	44	24	13	34			

**NOTES:**

- ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH.
- PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
- POUR THRUST BLOCKS AGAINST UNDISTURBED SOIL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE SOIL AND EXTEND THRUST BLOCKS TO UNDISTURBED SOIL.
- IN BACK FILLING, ANY ROCK ENCOUNTERED SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL.
- BACK FILL MATERIAL SHALL NOT INCLUDE ROCK OR BOLLERS.
- THRUST BLOCK AREAS BASED ON SOIL BEARING LOAD OF 2000 P.S.F. AND LINE PRESSURE OF 150 P.S.I.
- ALL CONCRETE SHALL BE MINIMUM 3000 PSI.

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **THRUST BLOCKS NO. 2**      **SHEET:** U-05  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-05-16.DWG

**CROSS OVER**

**NOTES:**

- SANITARY SEWER LINES OR FORCE MAINS SHALL BE SEPARATED FROM WATER MAINS BY A MINIMUM CLEAR VERTICAL DISTANCE OF 18" AND A HORIZONTAL DISTANCE OF 10'-0".
- ALL CROSSING WITH VERTICAL CLEARANCE LESS THAN 18" SHALL BE MADE USING THICKNESS CLASS 200 AWWA C-900 P.V.C. OR DUCTILE IRON, CLASS 300 PIPE FOR DISTANCE OF 10' EACH SIDE OF THE CROSSING AND SEWER SHALL BE CONCRETE ENCASED.
- THE 18" CLEAR DISTANCE SHALL NOT BE REDUCED IN CASES WHERE WATER MAIN CROSSES UNDER SEWER LINE.
- VERTICAL CLEARANCE LESS THAN 12" SHALL NOT BE ALLOWED UNLESS APPROVED BY THE CITY UTILITY ENGINEER.

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **CROSS OVER**      **SHEET:** U-07  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-07-16.DWG

**TYPICAL CONFLICT CROSSING**

\*RESTRAINED JOINT PIPE DISTANCES FOR NEW PIPE (IN FEET)

PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
8"	74	31	15	7
10"	87	36	17	9
12"	100	41	20	10
16"	123	51	24	12
20"	143	59	29	14
24"	162	67	32	16
30"	184	76	37	18
36"	207	86	41	20

\*FOR FITTINGS NOT SHOWN HERE, REFER TO PIPE RESTRAINT DETAIL DRAWING

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **TYPICAL CONFLICT CROSSING**      **SHEET:** U-08  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-08-16.DWG

PIPE SIZE IN INCHES	HORIZONTAL BENDS					VERTICAL BENDS UPPER LOWER	
	90°	45°	22-1/2°	11-1/4°	DEAD ENDS (2)		
4	23	9	5	2	55	23	8
6	32	13	6	3	77	32	11
8	44	18	8	4	100	44	14
10	57	24	10	5	120	57	17
12	70	30	12	6	141	70	20
16	95	40	16	8	181	95	25
18	110	46	18	9	200	110	28
20	125	52	20	10	218	125	30
24	162	67	24	12	253	162	35
30	198	84	30	15	303	198	41
36	234	101	36	18	350	234	47

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)	
	TEE (3)	REDUCER (4)
6 x 4	0	40
8 x 6	34	
8 x 8	0	72
10 x 6	3	74
10 x 10	75	
12 x 4	0	122
12 x 8	31	75
12 x 12	95	
16 x 6	0	153
16 x 10	44	107
16 x 16	134	
18 x 8	0	157
18 x 12	68	108
18 x 18	152	
20 x 10	20	161
20 x 16	120	77
20 x 20	170	
24 x 12	37	187
24 x 18	132	109
24 x 24	204	
30 x 16	78	213
30 x 20	138	165
30 x 30	252	
36 x 18	84	259
36 x 24	170	191
36 x 36	298	

**NOTES:**

- RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
- ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS, WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
- RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
- RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
- THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **PIPE RESTRAINT SCHEDULE**      **SHEET:** U-09  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-09-16.DWG

**TYPICAL IN-LINE VALVE (WATER/SEWER/REUSE)**

**NOTES:**

- RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
- ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS, WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
- RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
- RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
- THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **TYPICAL IN-LINE VALVE (WATER/SEWER/REUSE)**      **SHEET:** U-14  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-14-16.DWG

**VALVE PAD DETAIL**

RAW WATER (WHITE), FIRE HYDRANT (RED), RECLAIMED WATER (PURPLE), POTABLE WATER (BLUE), SANITARY FORCE MAIN (GREEN), IRRIGATION WATER (PURPLE)

2" DIAM. BRONZE DISC. ANCHORED IN CONCRETE

— MAIN — VALVE TYPE  
 — MAIN — SIZE OF MAIN  
 — TURNS — # OF TURNS TO OPEN  
 — OPEN — VALVE OPENS DIRECTION  
 — CO. — VALVE MANUFACTURER  
 — YEAR INSTALLED

**FOR:** UTILITIES DEPARTMENT      **CITY OF NAPLES**  
**DATE:** JAN. 2016      **VALVE PAD DETAIL**      **SHEET:** U-15  
**DRAWN:** DAG/AMH      **DIR:** UTILSTDS  
**SCALE:** N.T.S.      380 RIVERSIDE CIRCLE, NAPLES, FL. 34102      **DWG.** U-15-16.DWG

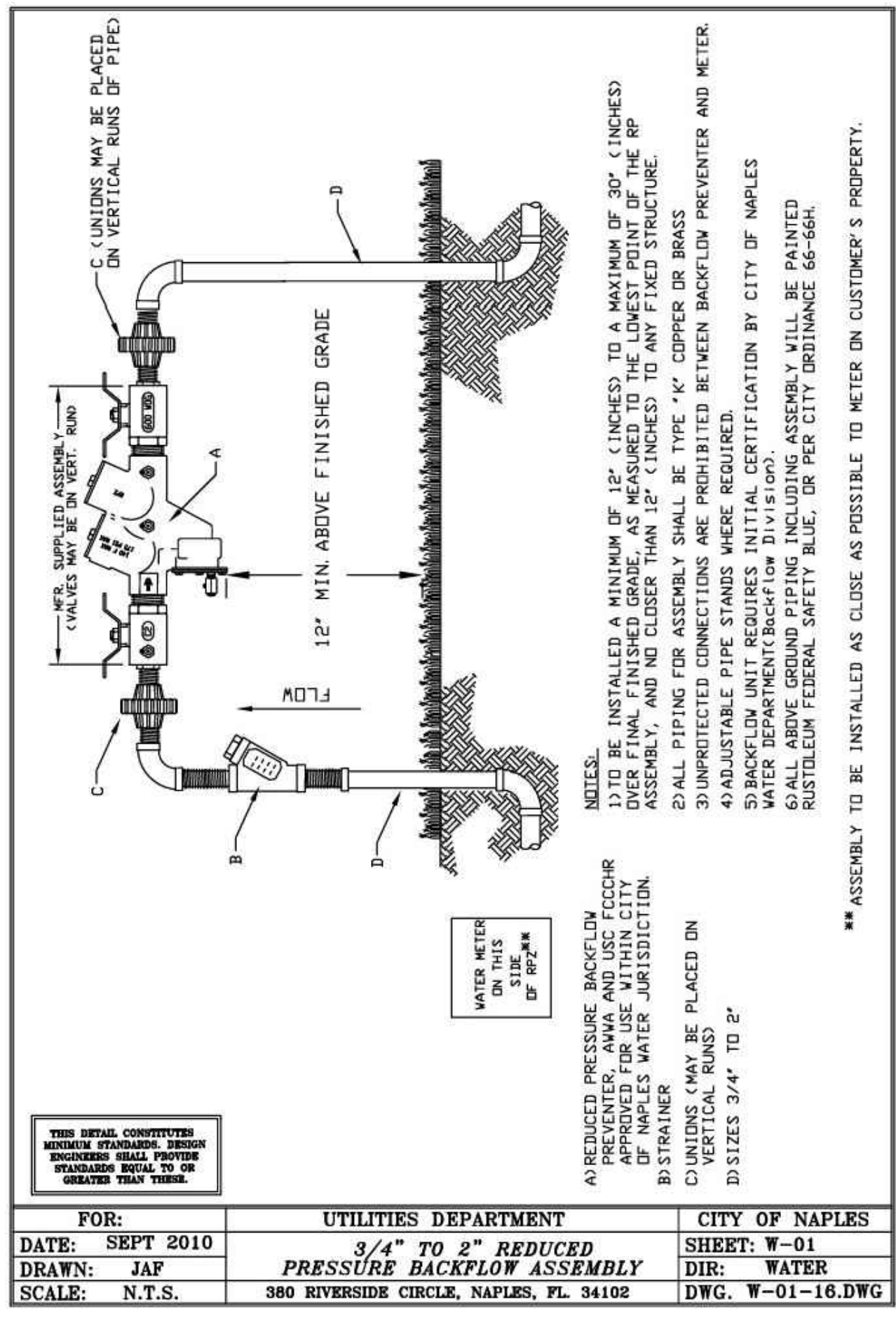
**Kimley»Horn**  
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 445 24TH STREET, SUITE 200, VERO BEACH, FL 32960  
 PHONE: 772-794-4100  
 WWW.KIMLEY-HORN.COM      REGISTRY NO. 696

**CITY OF NAPLES**  
 COASTLAND MALL  
 APW2199 DEVELOPMENT  
 PREPARED FOR  
 OAR AND IRON AT  
 CITY OF NAPLES      FLORIDA      LLC

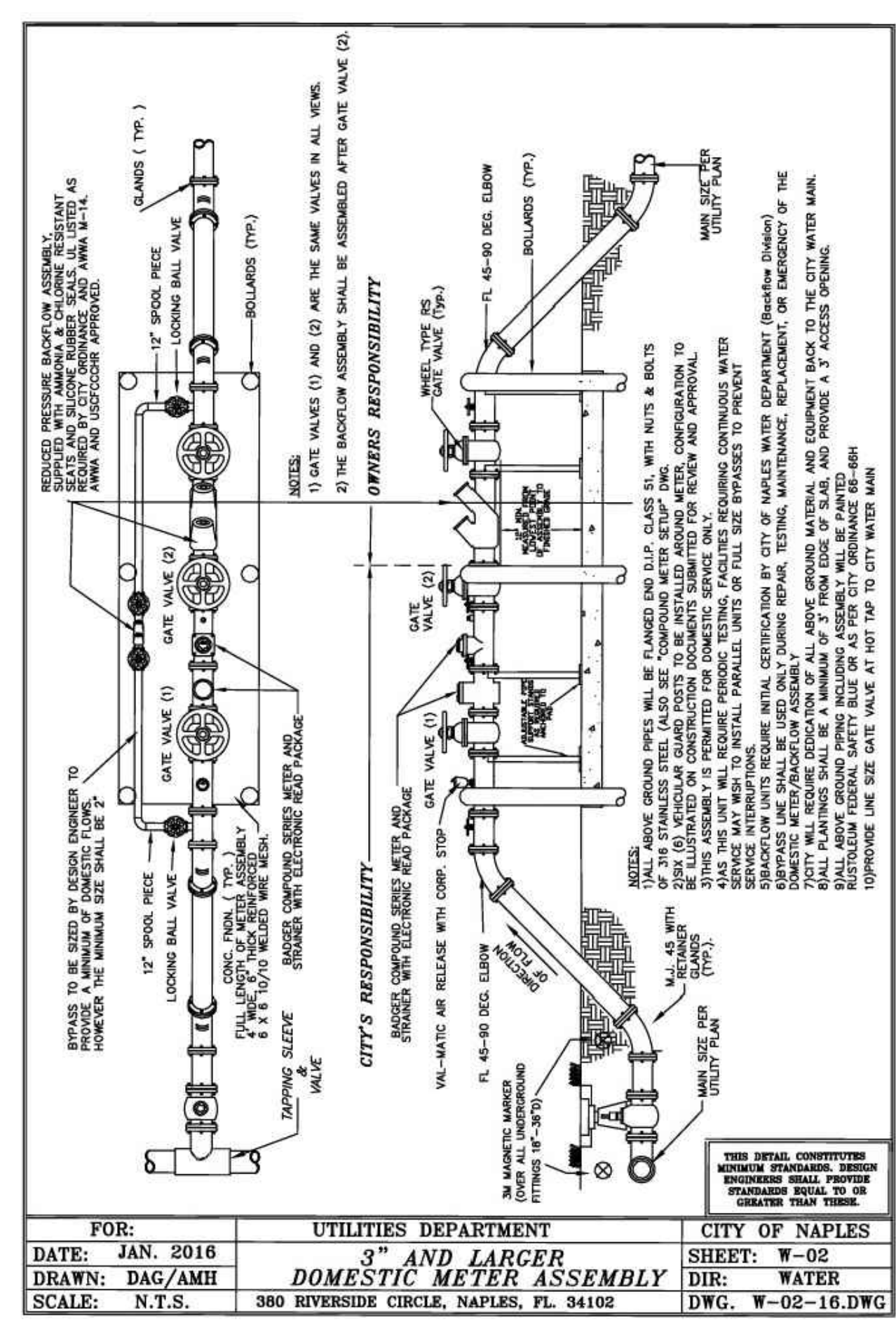
KHA PROJECT 147854000  
 DATE 2022-09-06  
 SCALE AS SHOWN  
 DESIGNED BY DAB  
 DRAWN BY DAB  
 CHECKED BY GDW

SHEET NUMBER  
**C-501**

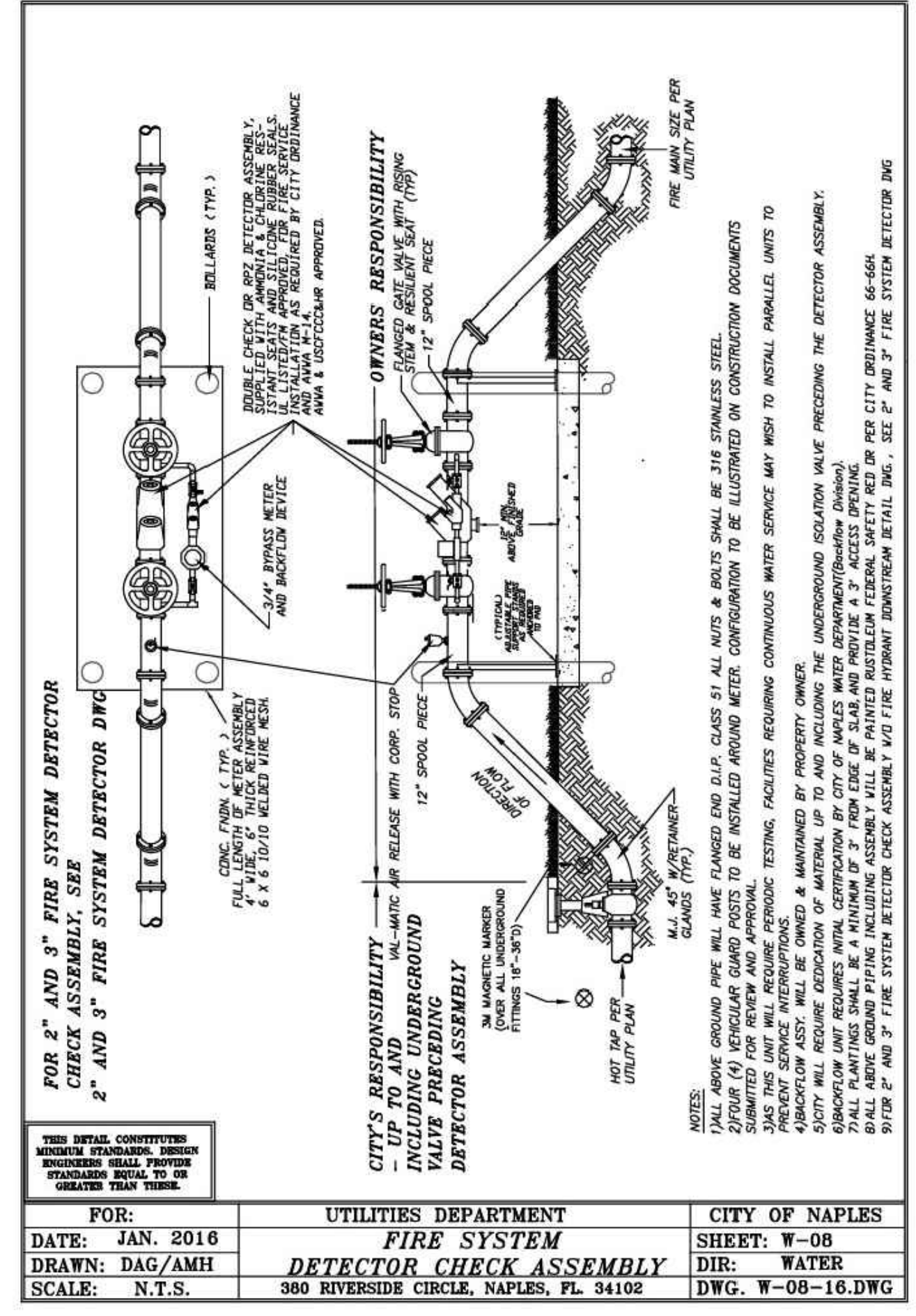
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 BY \_\_\_\_\_



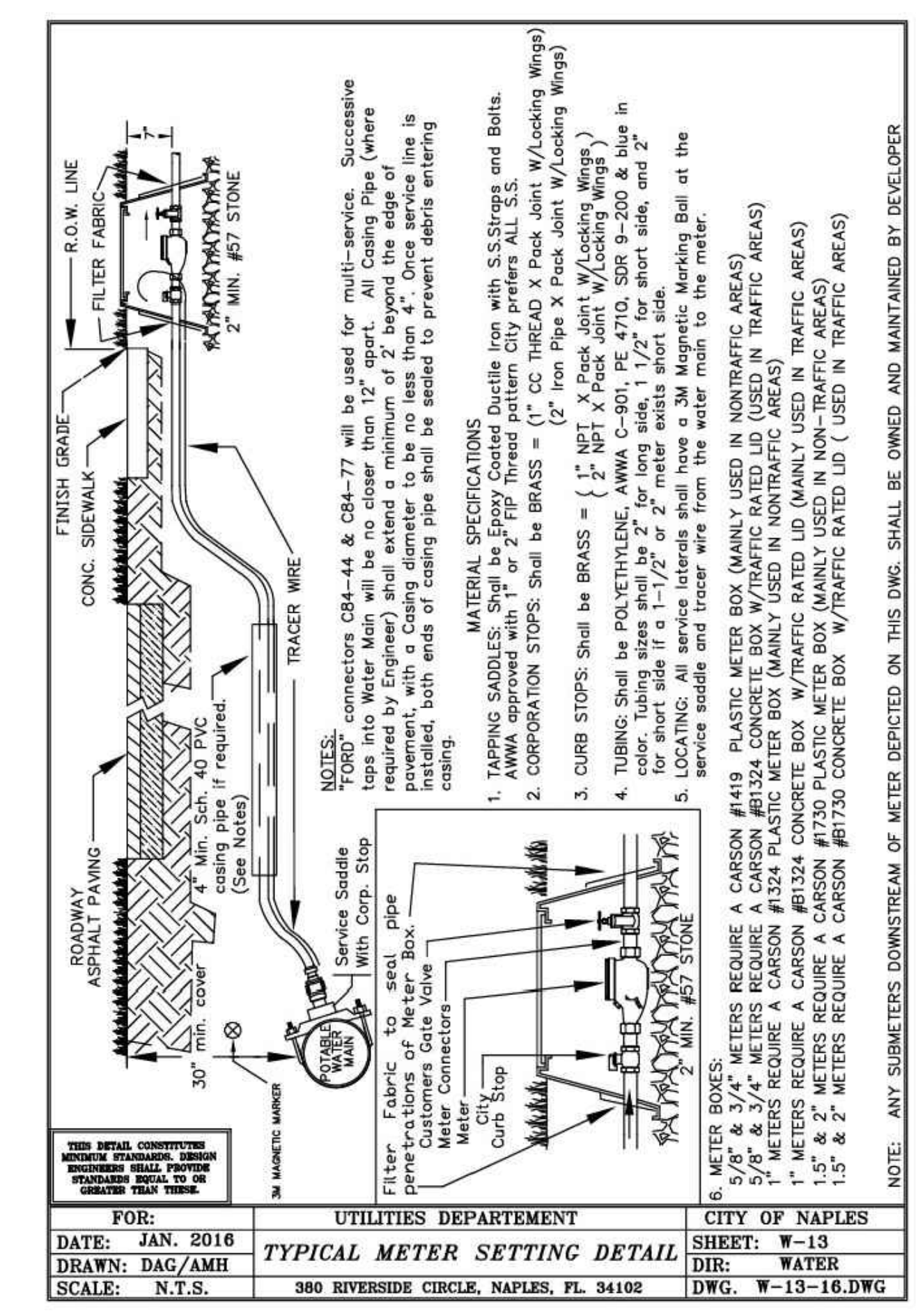
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE:	SEPT 2010	SHEET: W-01
DRAWN:	JAF	DIR: WATER
SCALE:	N.T.S.	DWG. W-01-16.DWG



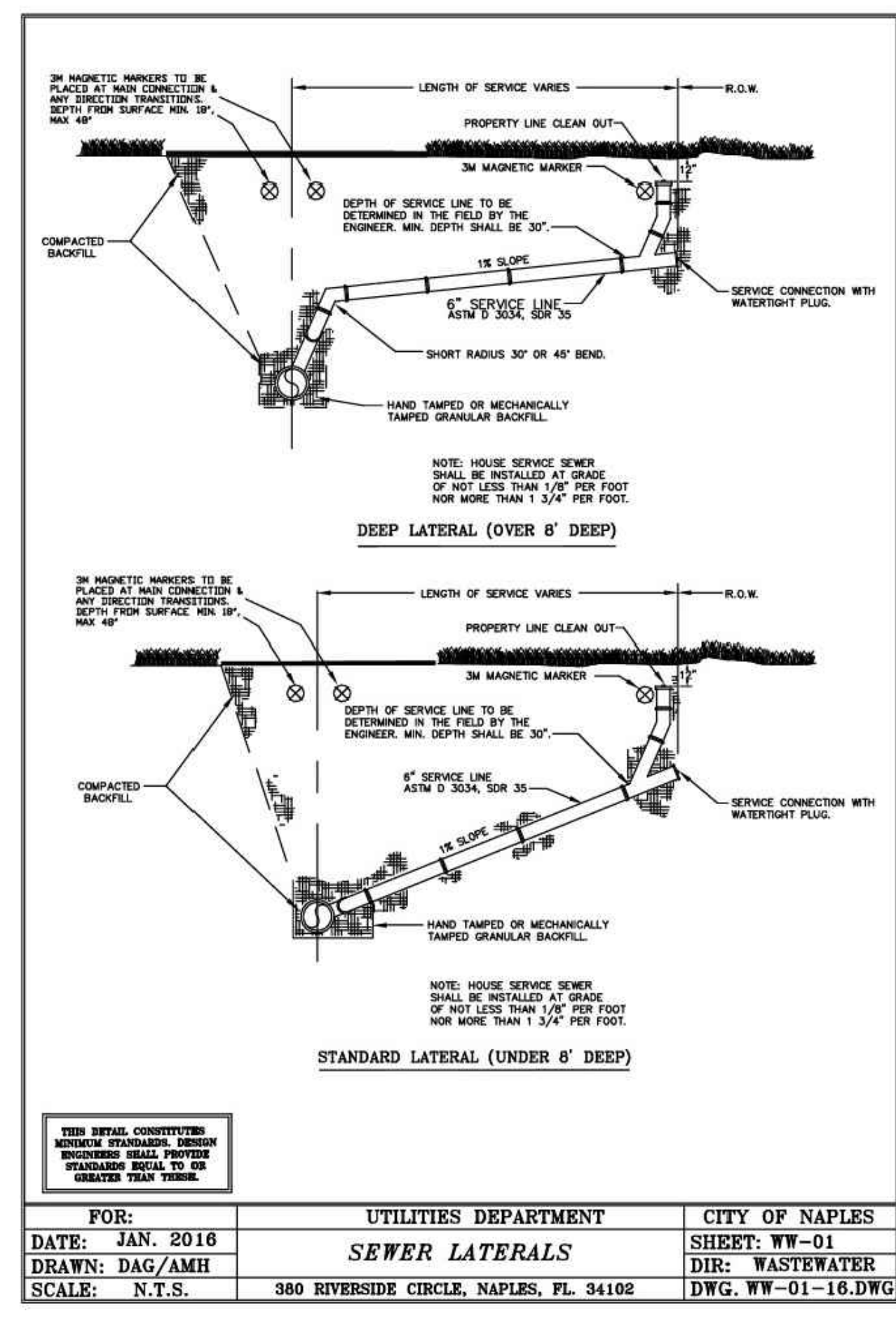
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DATE:	JAN. 2016	SHEET: W-02
DRAWN:	DAG/AMH	DIR: WATER
SCALE:	N.T.S.	DWG. W-02-16.DWG



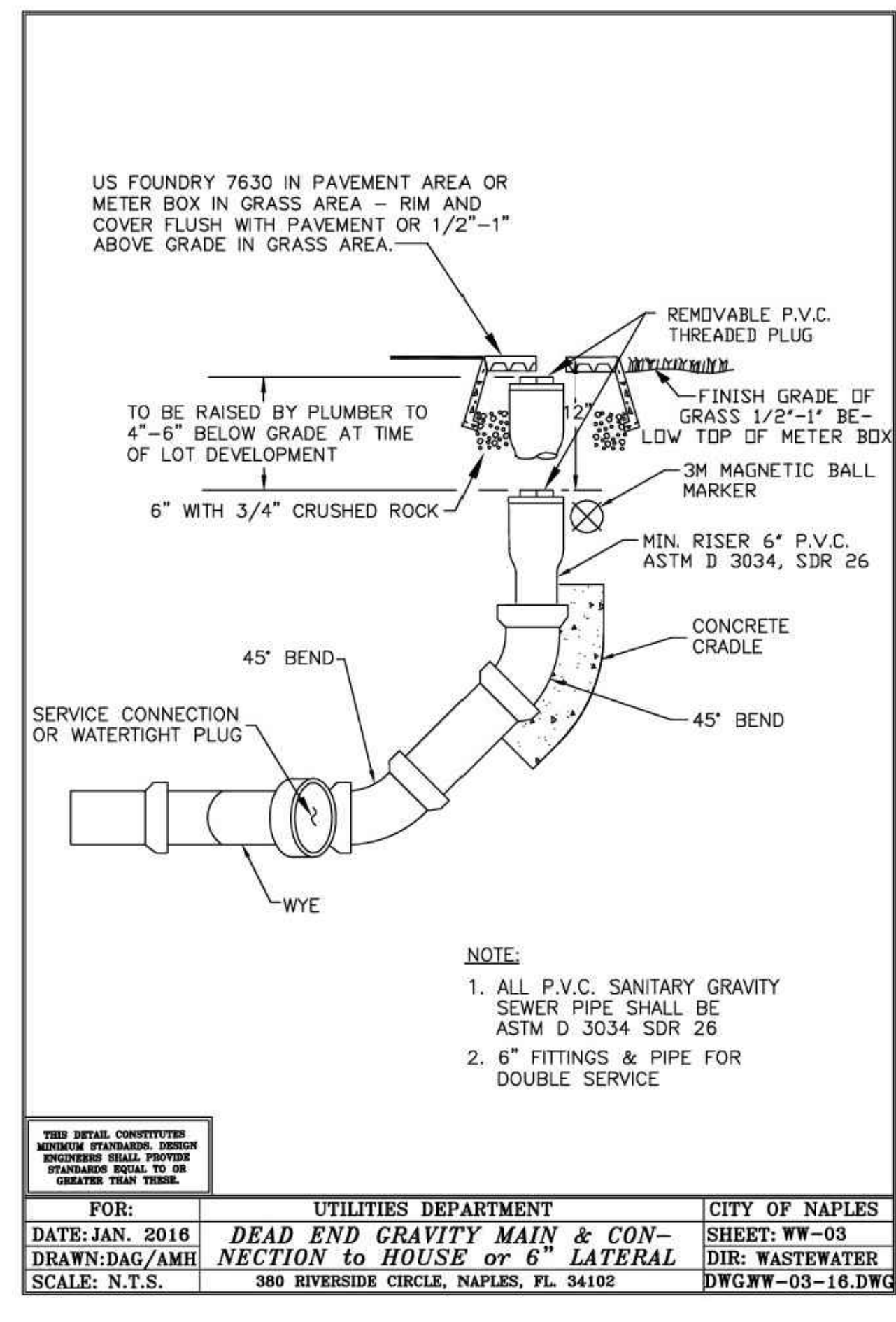
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE:	JAN. 2016	SHEET: W-06
DRAWN:	DAG/AMH	DIR: WATER
SCALE:	N.T.S.	DWG. W-08-16.DWG



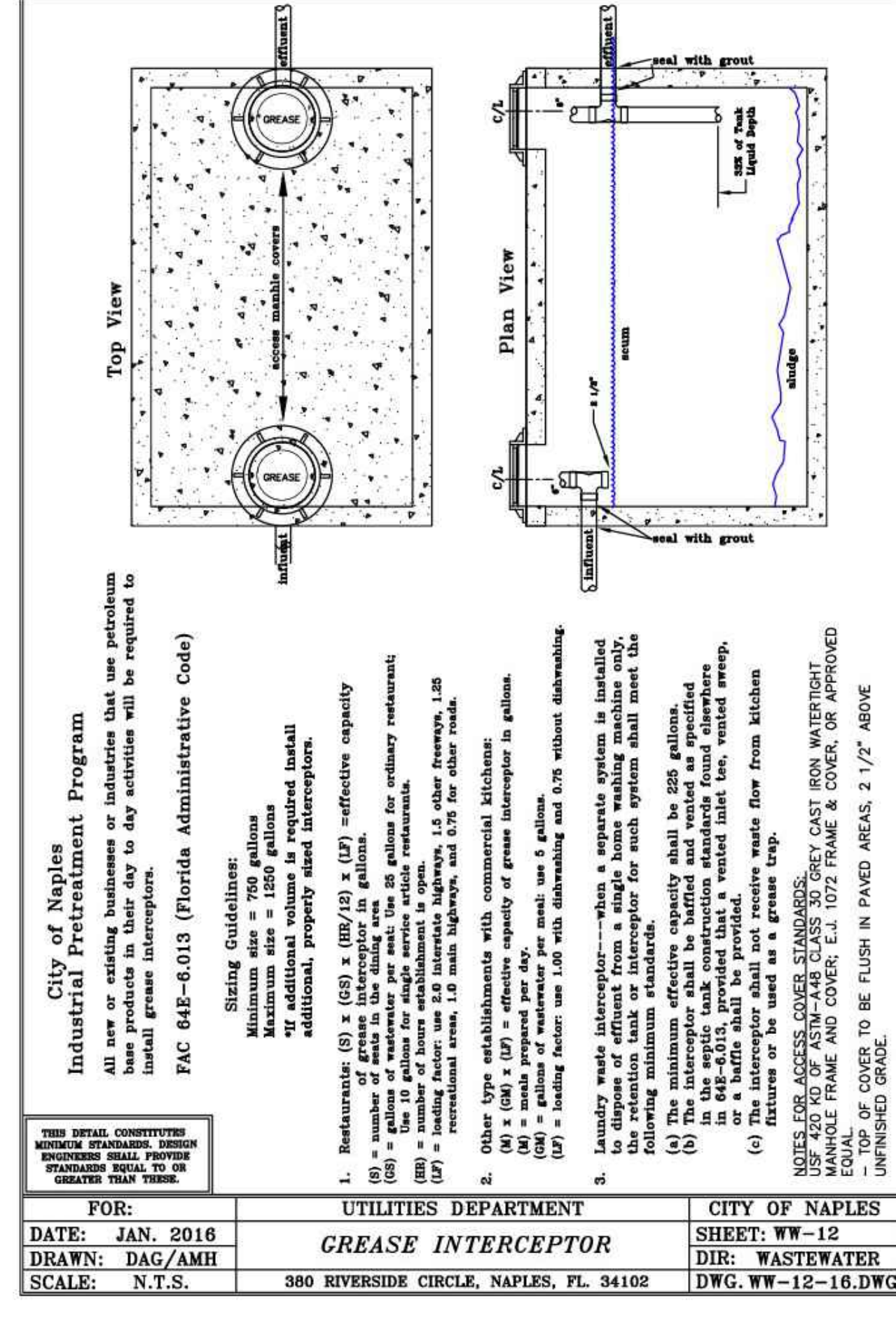
FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE:	JAN. 2016	SHEET: W-13
DRAWN:	DAG/AMH	DIR: WATER
SCALE:	N.T.S.	DWG. W-13-16.DWG



FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE:	JAN. 2016	SHEET: WW-01
DRAWN:	DAG/AMH	DIR: WASTEWATER
SCALE:	N.T.S.	DWG. WW-01-16.DWG



FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE:	JAN. 2016	SHEET: WW-03
DRAWN:	DAG/AMH	DIR: WASTEWATER
SCALE:	N.T.S.	DWG. WW-03-16.DWG



FOR:	UTILITIES DEPARTMENT	CITY OF NAPLES
DATE:	JAN. 2016	SHEET: WW-12
DRAWN:	DAG/AMH	DIR: WASTEWATER
SCALE:	N.T.S.	DWG. WW-12-16.DWG



Plotted By: Andronescu, Noah - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-601 - StormTech Details - February 19, 2024 11:33:39am - K:\VRB\_LDEV\147854000 - Coastland Center - GRILL CAD - PlanSheets\C-601 - STORMTECH DETAILS.dwg  
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ADS SALES REP	RICK PFAFFENDORF
	RICK.PFAFFENDORF@ADSPPE.COM
PROJECT NO.	S31955



## OAR AND IRON (110 GRILL COASTLAND MALL) NAPLES, FL

### SC-310 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-310.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK), AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT<sup>3</sup>. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
  - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
  - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.98 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
  - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

### IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

- STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-790 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
  - STONESHOOTER LOCATED OFF THE CHAMBER BED.
  - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
  - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4"-2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

### NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-790 CONSTRUCTION GUIDE".
  - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
    - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
    - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-790 CONSTRUCTION GUIDE".
    - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-790 CONSTRUCTION GUIDE".
  - FULL 30" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



### SC-160LP STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-160LP.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK), AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1.5".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT<sup>3</sup>. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
  - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
  - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.98 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
  - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

### IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-160LP SYSTEM

- STORMTECH SC-160LP CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-160LP CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- FOUNDATION STONE AND EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE; AASHTO M43 #37, 4, 4ET, 5, 5E, OR 57.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- THE DEPTH OF FOUNDATION STONE SHALL BE DETERMINED BASED ON THE SUBGRADE BEARING CAPACITY PROVIDED BY THE SITE DESIGN ENGINEER.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES CONCERNING CHAMBER FOUNDATION DESIGN AND SUBGRADE BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- CHAMBERS SHALL BE INSTALLED "TOE TO TOE" NO ADDITIONAL SPACING BETWEEN ROWS IS REQUIRED.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS:
  - STONESHOOTER LOCATED OFF THE CHAMBER BED.
  - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
  - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

### NOTES FOR CONSTRUCTION EQUIPMENT

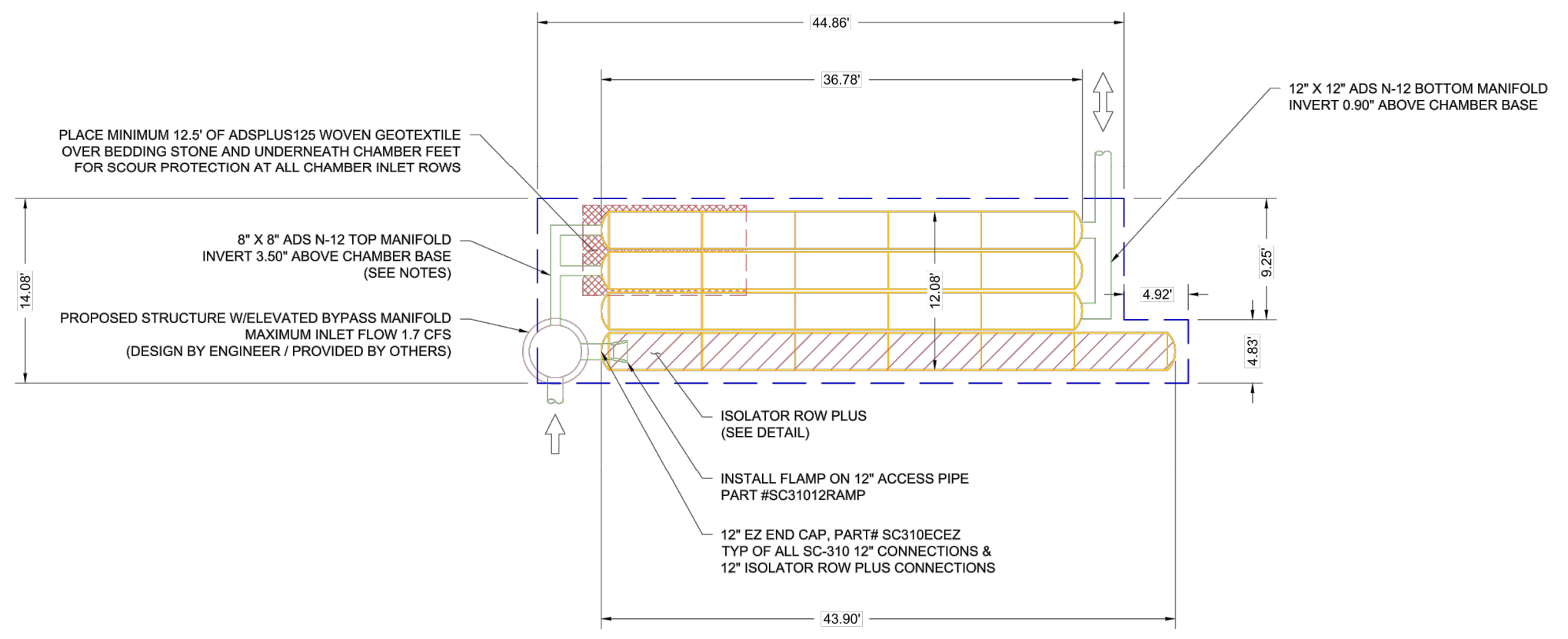
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-160LP CHAMBERS IS LIMITED:
    - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
    - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
    - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
  - FULL 30" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT - SYSTEM 1A	
21	STORMTECH SC-310-3 CHAMBERS
8	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	1/4" STONE VOID
798	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
656	SYSTEM AREA (ft <sup>2</sup> )
128	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS - SYSTEM 1A	
17.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
11.33	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
10.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
9.83	TOP OF STONE
9.33	TOP OF SC-310 CHAMBER
8.29	8" TOP MANIFOLD INVERT
8.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
8.08	12" BOTTOM MANIFOLD INVERT
8.00	BOTTOM OF SC-310 CHAMBER
7.50	BOTTOM OF STONE

- ### NOTES
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
  - DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
  - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
  - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



OAR AND IRON (110 GRILL COASTLAND MALL) NAPLES, FL	
DATE:	10/12/22
DRAWN:	MPV
CHECKED:	WOM
PROJECT #:	S31955
CHECKED:	WOM
DATE:	10/12/22
DRAWN:	MPV
CHECKED:	WOM
PROJECT #:	S31955
CHECKED:	WOM

4640 TREMAM BLVD FELLSBURG, VA 22828	StormTech® Chamber System	WWW.STORMTECH.COM
0	17'	20'
3	SHEET	OF 12

KHA PROJECT 147854000		DATE 2022-09-06		SCALE AS SHOWN		DESIGNED BY DAB		DRAWN BY DAB		CHECKED BY GDW	
KIMLEY-HORN & ASSOCIATES, INC. 445 24TH STREET, SUITE 200, VERO BEACH, FL 32960 PHONE: 772-794-4100 WWW.KIMLEY-HORN.COM    REGISTRY NO. 696											
KIMLEY-HORN											
STORMTECH DETAILS											
OAR AND IRON AT COASTLAND MALL PREPARED FOR APW2199 DEVELOPMENT CITY OF NAPLES    LLC    FLORIDA											
SHEET NUMBER C-601											
REVISIONS											
No.											
DATE											
BY											

Plotted By: Andronescu, Noah - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-602 - STORMTECH DETAILS - February 19, 2024 11:33:48am - K:\VRB-ALDEV\147854000 - Coastland Center Grail CAD\PlanSheets\C-602 - STORMTECH DETAILS.dwg  
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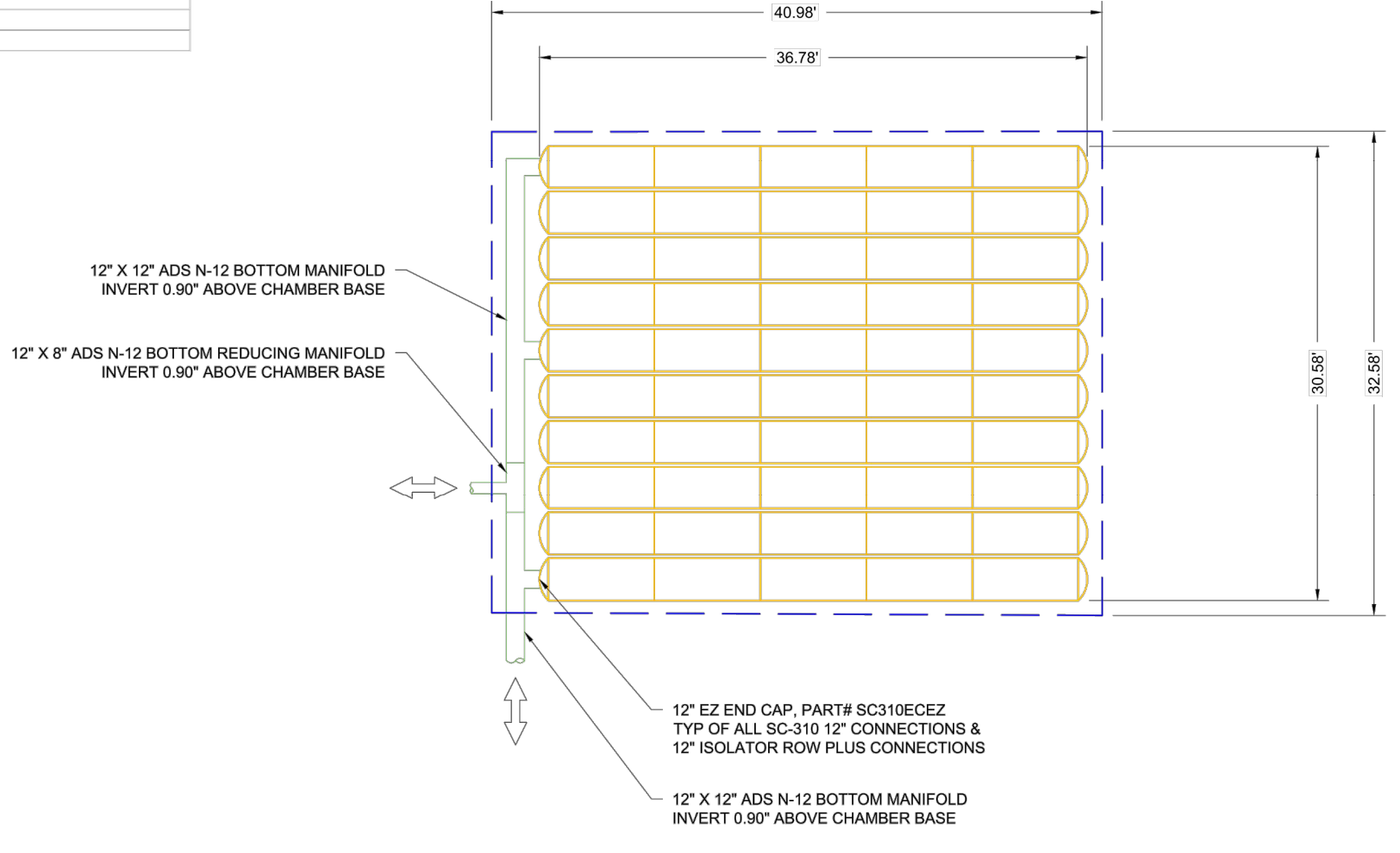
**PROPOSED LAYOUT - SYSTEM 1B**

50	STORMTECH SC-310-3 CHAMBERS
20	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
1,685	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
1331	SYSTEM AREA (sq ft)
147	SYSTEM PERIMETER (ft)

**PROPOSED ELEVATIONS - SYSTEM 1B**

17.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
11.33	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
10.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
9.83	TOP OF STONE
9.33	TOP OF SC-310 CHAMBER
8.08	12" BOTTOM MANIFOLD INVERT
8.00	12" X 8" BOTTOM MANIFOLD INVERT
8.00	BOTTOM OF SC-310 CHAMBER
7.50	BOTTOM OF STONE

- NOTES**
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
  - DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
  - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
  - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSTANT SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
  - NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.



**OAR AND IRON**  
 (110 GRILL COASTLAND MALL)  
 NAPLES, FL

DATE: 10/12/22 DRAWN: MPV  
 PROJECT #: S31965 CHECKED: WCM

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 Chamber System  
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 HELLAND, OH 43028  
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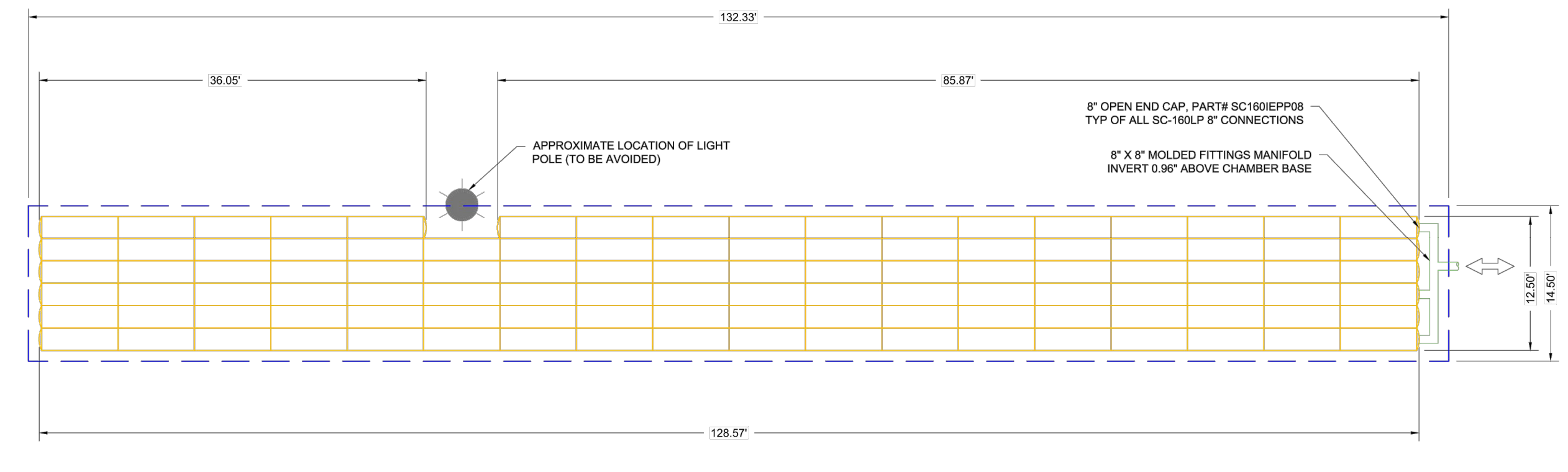
**PROPOSED LAYOUT - SYSTEM 1C**

107	STORMTECH SC-160LP CHAMBERS
14	STORMTECH SC-160LP END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
1,875	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
1919	SYSTEM AREA (sq ft)
204	SYSTEM PERIMETER (ft)

**PROPOSED ELEVATIONS - SYSTEM 1C**

19.00	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
10.87	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
10.17	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
10.17	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
10.17	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
8.90	TOP OF STONE
8.00	TOP OF SC-160LP CHAMBER
8.08	8" X 8" MANIFOLD INVERT
8.00	BOTTOM OF SC-160LP CHAMBER
7.50	BOTTOM OF STONE

- NOTES**
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
  - DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
  - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
  - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSTANT SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
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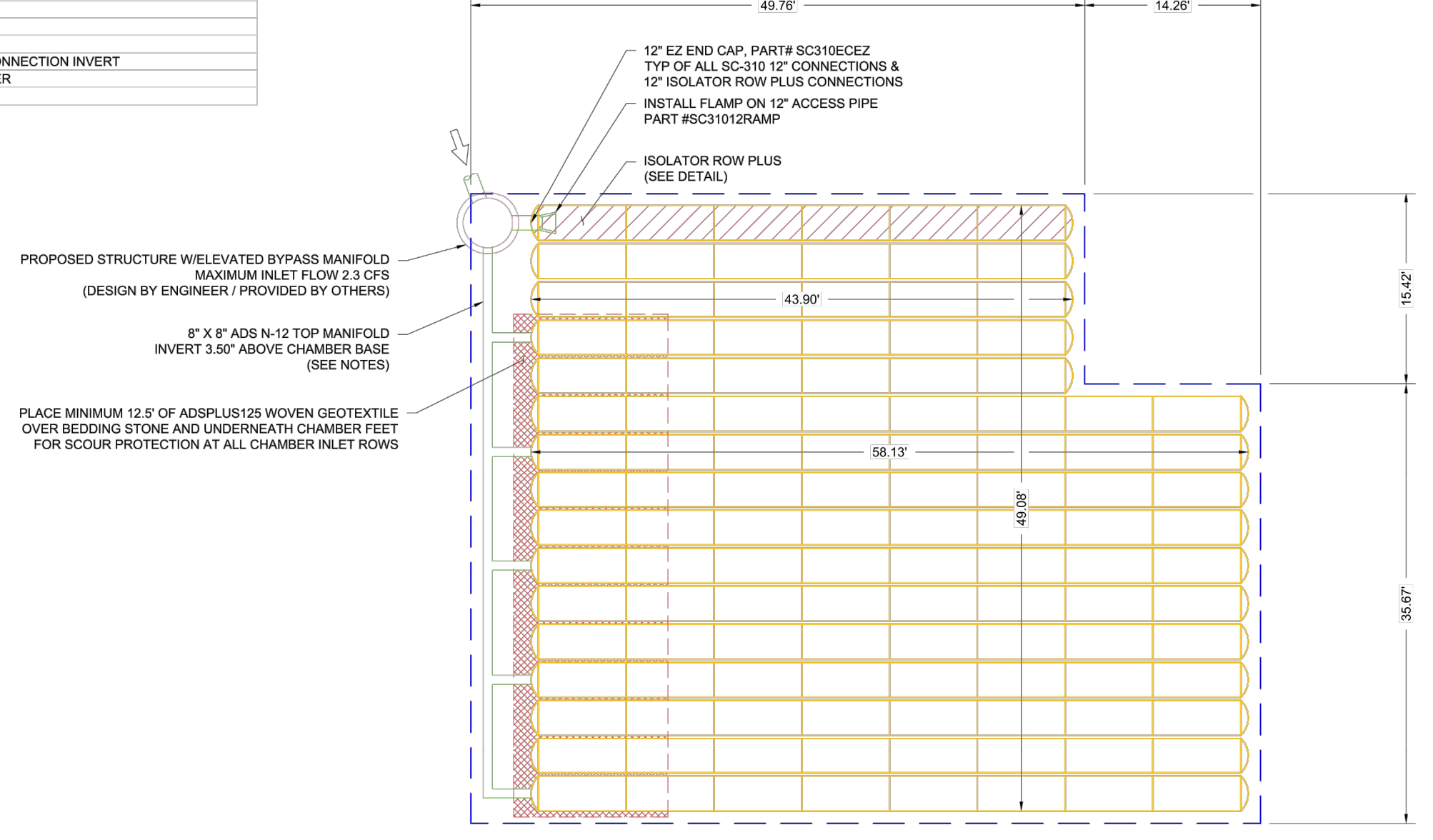
**PROPOSED LAYOUT - SYSTEM 2**

115	STORMTECH SC-310-3 CHAMBERS
32	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
3,892	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
3050	SYSTEM AREA (sq ft)
230	SYSTEM PERIMETER (ft)

**PROPOSED ELEVATIONS - SYSTEM 2**

17.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
11.33	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
10.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
9.83	TOP OF STONE
9.33	TOP OF SC-310 CHAMBER
8.29	8" TOP MANIFOLD INVERT
8.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
8.00	BOTTOM OF SC-310 CHAMBER
7.50	BOTTOM OF STONE

- NOTES**
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
  - DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
  - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
  - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSTANT SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
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 NAPLES, FL

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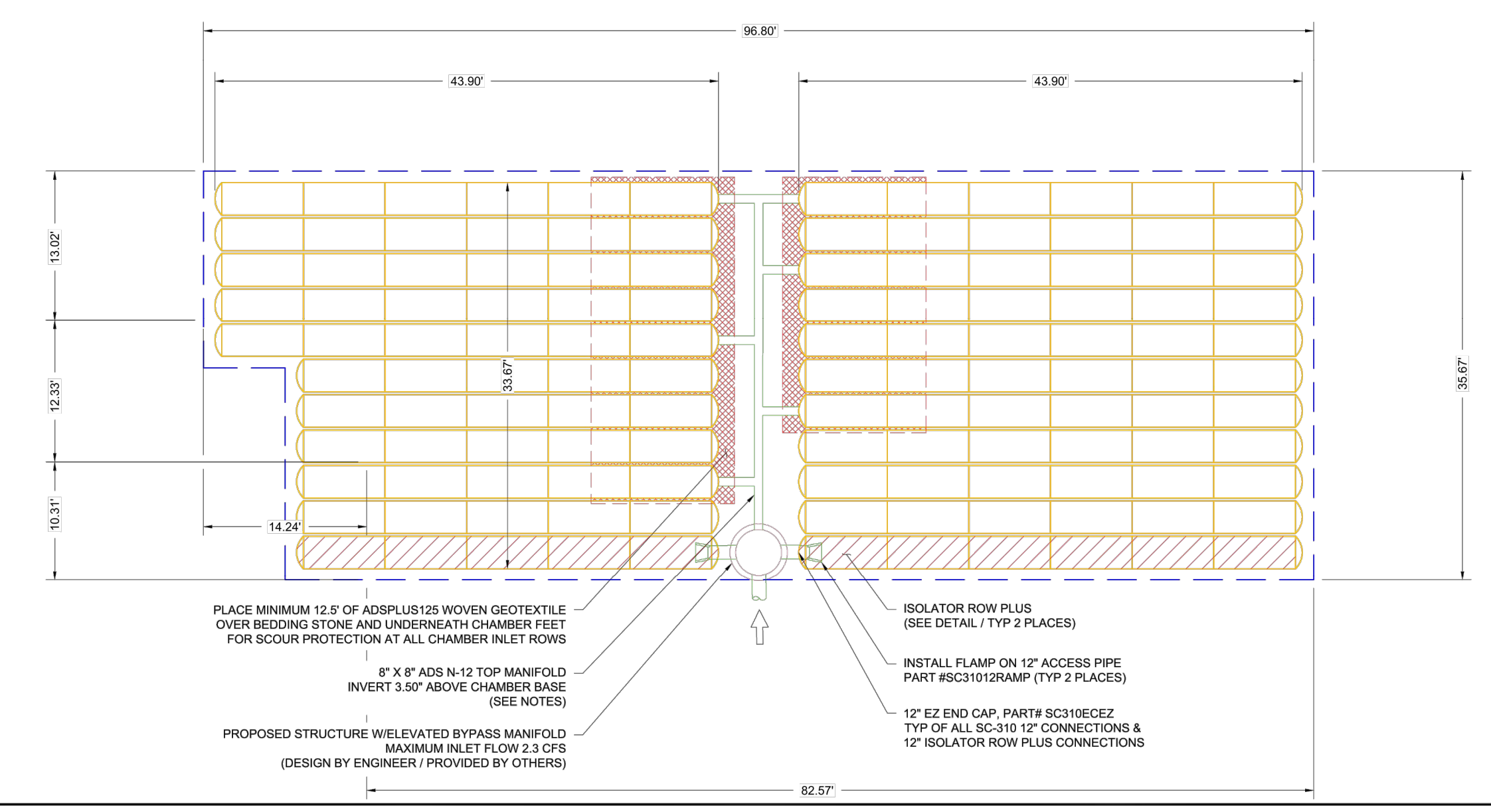
**PROPOSED LAYOUT - SYSTEM 3**

125	STORMTECH SC-310-3 CHAMBERS
44	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
4,215	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
3321	SYSTEM AREA (sq ft)
265	SYSTEM PERIMETER (ft)

**PROPOSED ELEVATIONS - SYSTEM 3**

17.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
11.33	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
10.66	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
9.83	TOP OF STONE
9.33	TOP OF SC-310 CHAMBER
8.29	8" TOP MANIFOLD INVERT
8.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
8.00	BOTTOM OF SC-310 CHAMBER
7.50	BOTTOM OF STONE

- NOTES**
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE.
  - DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
  - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
  - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSTANT SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
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**OAR AND IRON**  
 (110 GRILL COASTLAND MALL)  
 NAPLES, FL

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 445 24TH STREET, SUITE 200, VERO BEACH, FL 32960  
 PHONE: 772-794-4100  
 WWW.KIMLEY-HORN.COM REGISTRY NO. 696

**STORMTECH DETAILS**

**OAR AND IRON AT COASTLAND MALL**  
 PREPARED FOR APW2199 DEVELOPMENT  
 CITY OF NAPLES, LLC FLORIDA

KHA PROJECT 147854000  
 DATE 2022-09-06  
 SCALE AS SHOWN  
 DESIGNED BY DAB  
 DRAWN BY DAB  
 CHECKED BY GDW

SHEET NUMBER C-602

NO. REVISIONS BY DATE

Plotted By: Andromescu, Noah - Sheet Set: OAR AND IRON COASTLAND MALL - Layout: C-603 STORMTECH DETAILS - February 19, 2024 - 11:32:58am - K:\VRB-LEVA\147854000 - Coastland Center, Grill CAD, VpnSheets\C-603 STORMTECH DETAILS.dwg  
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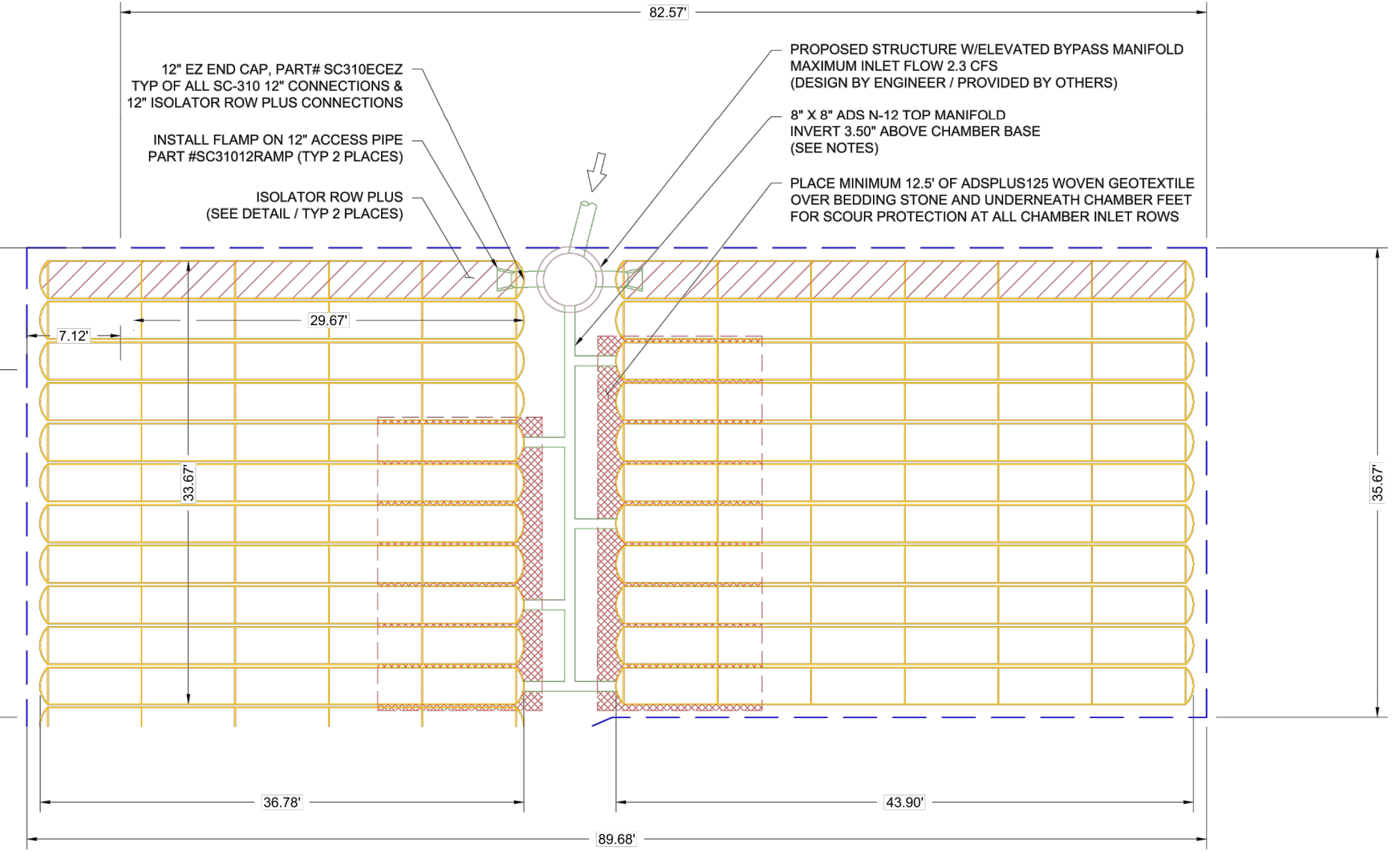
**PROPOSED LAYOUT - SYSTEM 4**

133	STORMTECH SC-310-3 CHAMBERS
50	STORMTECH SC-310 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
4456	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)
3512	SYSTEM AREA (ft <sup>2</sup> )
282	SYSTEM PERIMETER (ft)

**PROPOSED ELEVATIONS - SYSTEM 4**

17.33	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT UNPAVED)
11.33	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
10.83	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
10.86	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
9.83	TOP OF STONE
9.33	TOP OF SC-310 CHAMBER
8.29	8" TOP MANIFOLD INVERT
8.08	12" ISOLATOR ROW PLUS CONNECTION INVERT
8.00	BOTTOM OF SC-310 CHAMBER
7.50	BOTTOM OF STONE

- NOTES**
- MANHOLE SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANHOLE SIZING GUIDANCE.
  - DU TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANHOLE COMPONENTS IN THE FIELD.
  - THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
  - THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
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**OAR AND IRON (110 GRILL COASTLAND MALL) NAPLES, FL**

DATE: 10/12/22 DRAWN: MPV  
PROJECT # : S315656 CHECKED: WCM

REVIEW THE DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION.

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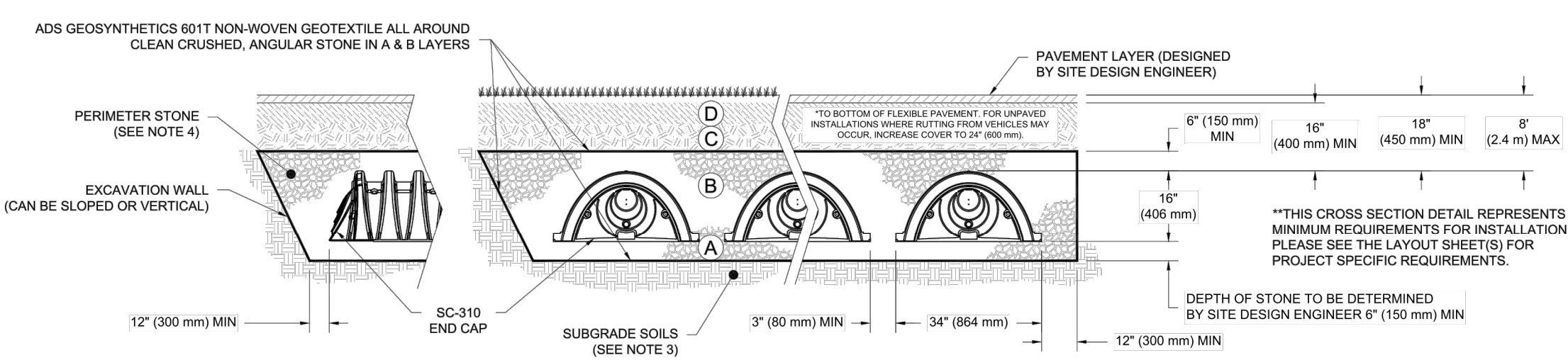
**ADS**  
4640 TRILEMAN BLVD  
HILLIARD, OH 43026  
10' 20' 30'

8 SHEET OF 12

**ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2.4, A-3 OR AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

- PLEASE NOTE:**
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



- NOTES:**
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
  - SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
  - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
  - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
  - REQUIREMENTS FOR HANDLING AND INSTALLATION:
    - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
    - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
    - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT<sup>2</sup> AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

**OAR AND IRON (110 GRILL COASTLAND MALL) NAPLES, FL**

DATE: 10/12/22 DRAWN: MPV  
PROJECT # : S315656 CHECKED: WCM

REVIEW THE DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION.

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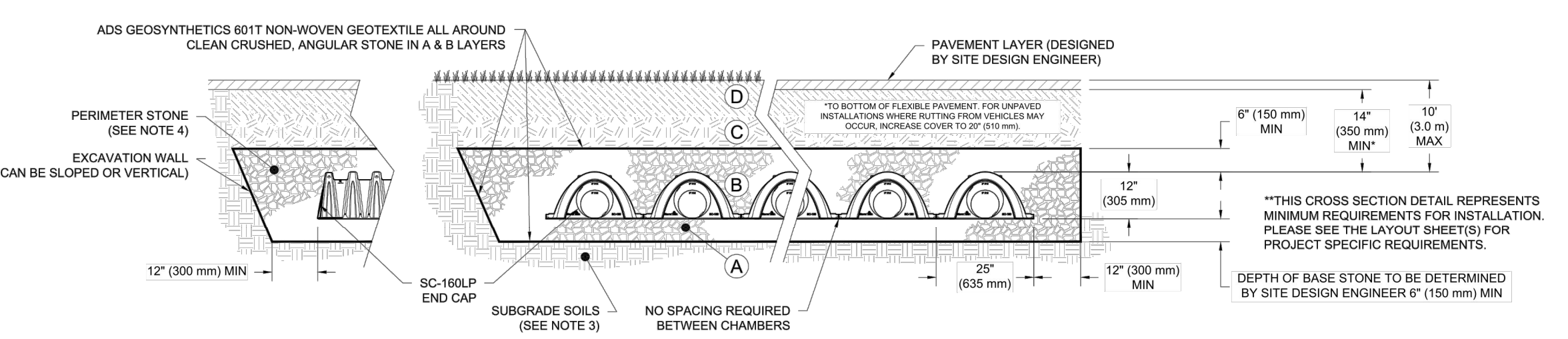
**ADS**  
4640 TRILEMAN BLVD  
HILLIARD, OH 43026  
10' 20' 30'

9 SHEET OF 12

**ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 14" (356 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2.4, A-3 OR AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 <sup>2</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

- PLEASE NOTE:**
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



- NOTES:**
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
  - CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
  - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
  - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
  - REQUIREMENTS FOR HANDLING AND INSTALLATION:
    - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS
    - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1.5"
    - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT<sup>2</sup> AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

**OAR AND IRON (110 GRILL COASTLAND MALL) NAPLES, FL**

DATE: 10/12/22 DRAWN: MPV  
PROJECT # : S315656 CHECKED: WCM

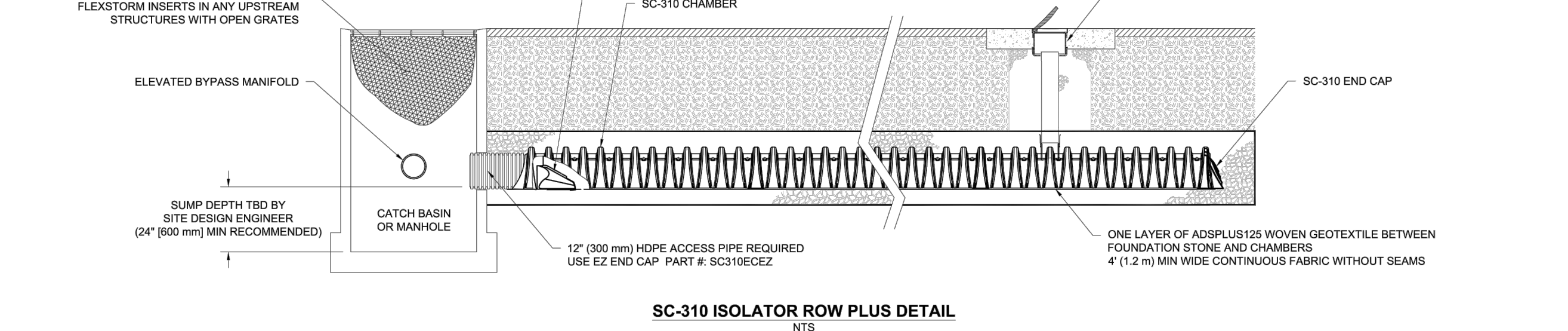
REVIEW THE DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE ACCURACY OF ALL INFORMATION AND ASSOCIATED DETAILS SHOWN ON THIS DRAWING PRIOR TO CONSTRUCTION.

**StormTech**  
Chamber System  
888-882-2684 | WWW.STORMTECH.COM

**ADS**  
4640 TRILEMAN BLVD  
HILLIARD, OH 43026  
10' 20' 30'

10 SHEET OF 12

**ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 ISOLATOR ROW PLUS DETAIL**



- INSPECTION & MAINTENANCE**
- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
    - REMOVE/OPEN LID ON NYLOPLAST IN-LINE DRAIN
    - REMOVE AND CLEAN FLEXISTORM FILTER IF INSTALLED
    - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
    - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
    - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
  - ALL ISOLATOR ROW PLUS ROWS
    - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS USING A FLASHLIGHT. INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
    - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
  - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
  - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS. RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.
- NOTES**
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
  - CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

**OAR AND IRON (110 GRILL COASTLAND MALL) NAPLES, FL**

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PHONE: 772-794-4100  
WWW.KIMLEY-HORN.COM REGISTRY NO. 696

**STORMTECH DETAILS**

**OAR AND IRON AT COASTLAND MALL**  
PREPARED FOR APW2199 DEVELOPMENT  
CITY OF NAPLES, LLC FLORIDA

KHA PROJECT 147854000  
DATE 2022-09-06  
SCALE AS SHOWN  
DESIGNED BY DAB  
DRAWN BY DAB  
CHECKED BY GOW

SHEET NUMBER C-603

NO. REVISIONS DATE BY

