ITEM FOR ENVIRONMENTAL COMMISSION AGENDA

COMMISSION MEETING DATE:	April 20, 2022
NAME & NUMBER OF PROJECT:	Dalfen Industrial SP-2020-0407D
NAME OF APPLICANT OR ORGANIZATION:	Hollis Scheffler Pacheco Koch Consulting Engineers, Inc
LOCATION:	6106 Ross Rd, Del Valle, TX 78617,
COUNCIL DISTRICT:	NA
ENVIRONMENTAL REVIEW STAFF:	Pamela Abee-Taulli, Environmental Program Coordinator, Development Services Department, 512.974.1879, pamela.abee-taulli@austintexas.gov
WATERSHED:	Onion Creek Watershed, Suburban Classification, Desired Development Zone
REQUEST:	Variance requests are as follows: 1. Request to vary from LDC 25-8-341 to allow cut to 17 feet. 2. Request to vary from LDC 25-8-342 to allow fill to 18 feet. 3. Request to vary from LDC 25-8-301 to allow construction of a driveway on a slope with a gradient exceeding 15 percent.
STAFF RECOMMENDATION:	Staff recommends this variance, having determined the findings of fact to have been met.
STAFF CONDITION:	1. A landscape plan with native and adapted trees, shrubs, and grasses to be planted in the parking areas will be provided, even though a landscape plan is not required in the City's extra-territorial jurisdiction (ETJ). 2. A tree-shaded outdoor seating area will be provided to encourage employees to take breaks on-site, rather than driving to another location. 3. Trees outside of the limits of construction will be preserved, even though tree preservation is not required in the City's ETJ. 4. All cut and fill over 8 feet will be terraced or contained with engineered retaining walls.

Development Services Department
Staff Recommendations Concerning Required Findings

Project Name:	Dalfen Industrial
Ordinance Standard:	Watershed Protection Ordinance
Variance Request:	Request to vary from LDC 25-8-341 to allow cut to 17 feet.

Include an explanation with each applicable finding of fact.

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

   Yes Similarly situated properties with similar development type and subject to the same code requirements have received variances for grading in excess of four feet. These developments are all large warehouses located on relatively flat sites in the Desired Development Zone. Grading over four feet is necessary to create level finished-floor elevations and level loading docks and to maintain drives at minimal grades for maneuverability.

   Examples of similar projects include: Applied Materials Logistics Service Center, at 9614 US-290, Austin, TX 78724, (SP-2020-0321C), which was allowed cut to 12 feet for a 16-acre warehouse; Crossroads Logistics Center, at 8400 E Parmer Ln, Manor, TX 78653, (SP-2021-0015D), which was allowed cut to 14.3 feet and fill to 16.5 feet for three buildings totaling 11 acres of warehouse space; and Park 183 Buildings 6 & 7, at 4800 Distribution Dr, Austin, TX 78744, (SP-2021-0072C), which was allowed fill to 17 feet for two four-acre warehouses.

   The current project proposes two buildings on a 92-acre site with slopes under 15 percent for 82.6 percent of the site. The total acreage of the buildings will be 18.4, with a truck court on the south side of Building 1 and truck courts on the north and south sides of Building 2. The use of both buildings requires a uniform finished floor elevation similar to what is found in other industrial buildings. The building type, layout, and design features are based on the needs of the industrial building use, including shipping, and receiving. This layout is similar to other such facilities in the Austin Area.

2. The variance:

a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

Yes The building placement on the property was constrained by the location of approximately 6.9 acres of critical water quality zone, lot configuration, existing topography, and roadway connectivity. Working around these considerations dictated the buildable area for the footprint of the two buildings.

The development layout was also shaped by the elevation of an existing headwall located in an easement northwest of the site. The headwall consists of five 5'x 6' box culverts to which the drainage of the site flows. The elevation of the headwall determined the elevation of the stormwater ponds, which in turn determined the building elevations.

b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes Large, industrial manufacturing warehouses are a reasonable use for this property, as it is located within the Desired Development Zone, on relatively flat terrain, along a growing manufacturing corridor.

The variance is the minimum deviation necessary to properly convey stormwater to the existing headwall, as described above.

In addition, the proposed cut is the minimum necessary to establish grades appropriate for truck maneuverability and to allow for truck courts / loading dock areas to maintain a level surface between the truck trailers and the finished floor elevations of the buildings.

c) Does not create a significant probability of harmful environmental consequences.

Yes The grading needed to provide the required overall elevation of the site will be structurally contained with retaining walls or terraced to reduce erosive flows from the site.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes The variance will result in water quality that is at least equal to the water quality achievable without the variance. The project proposes two partial sedimentation/filtrations ponds designed in accordance with the City of Austin water quality regulations. Water Quality Pond 1 provides 58,152.83 cubic feet of filtration storage and 48,235.90 cubic

feet of sedimentation storage. Water Quality Pond 2 provides 55,345.72 cubic feet of filtration storage and 53,475.95 cubic feet of sedimentation storage. Water Quality Pond 1 provides 31% more volume than the minimum required volume and Water Quality Pond 2 provides 27% more volume.

B. The Land Use Commission may grant a variance from a requirement of Section 25-8-422 (*Water Supply Suburban Water Quality Transition Zone*), Section 25-8-452 (*Water Supply Rural Water Quality Transition Zone*), Section 25-8-482 (*Barton Springs Zone Water Quality Transition Zone*), Section 25-8-368 (*Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long*), or Article 7, Division 1 (*Critical Water Quality Zone Restrictions*), after determining that::

1. The criteria for granting a variance in Subsection (A) are met;
   NA

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;
   NA

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.
   NA

Staff Determination: Staff determines that the findings of fact have been met. Staff recommends the following conditions.

1. A landscape plan with native and adapted trees, shrubs, and grasses to be planted in the parking areas will be provided, even though a landscape plan is not required in the City's extra-territorial jurisdiction (ETJ).
2. A tree-shaded outdoor seating area will be provided to encourage employees to take breaks on-site, rather than driving to another location.
3. Trees outside of the limits of construction will be preserved, even though tree preservation is not required in the City's ETJ.
4. All cut and fill over 8 feet will be terraced or contained with engineered retaining walls.

Environmental Reviewer (DSD)	*(Pamela Abee-Taulli)*	Date: 3/18/2022
Environmental Review Manager (DSD)	*(Mike McDougal)*	Date: 4/2/2022
Deputy Environmental Officer (WPD)	*(Liz Johnston)*	Date: 04/08/2022

Development Services Department
Staff Recommendations Concerning Required Findings

Project Name:	Dalfen Industrial
Ordinance Standard:	Watershed Protection Ordinance
Variance Request:	Request to vary from LDC 25-8-342 to allow fill to 18 feet.

Include an explanation with each applicable finding of fact.

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

   Yes Similarly situated properties with similar development type and subject to the same code requirements have received variances for grading in excess of four feet. These developments are all large warehouses located on relatively flat sites in the Desired Development Zone. Grading over four feet is necessary to create level finished-floor elevations and level loading docks and to maintain drives at minimal grades for maneuverability.

   Examples of similar projects include: Applied Materials Logistics Service Center, at 9614 US-290, Austin, TX 78724, (SP-2020-0321C), which was allowed cut to 12 feet for a 16-acre warehouse; Crossroads Logistics Center, at 8400 E Parmer Ln, Manor, TX 78653, (SP-2021-0015D), which was allowed cut to 14.3 feet and fill to 16.5 feet for three buildings totaling 11 acres of warehouse space; and Park 183 Buildings 6 & 7, at 4800 Distribution Dr, Austin, TX 78744, (SP-2021-0072C), which was allowed fill to 17 feet for two four-acre warehouses.

   The current project proposes two buildings on a 92-acre site with slopes under 15 percent for 82.6 percent of the site. The total acreage of the buildings will be 18.4, with a truck court on the south side of Building 1 and truck courts on the north and south sides of Building 2. The use of both buildings requires a uniform finished floor elevation similar to what is found in other industrial buildings. The building type, layout, and design features are based on the needs of the industrial building use, including shipping, and receiving. This layout is similar to other such facilities in the Austin Area.

2. The variance:

a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

Yes The building placement on the property was constrained by the location of approximately 6.9 acres of critical water quality zone, lot configuration, existing topography, and roadway connectivity. Working around these considerations dictated the buildable area for the footprint of the two buildings.

The development layout was also shaped by the elevation of an existing headwall located in an easement northwest of the site. The headwall consists of five 5'x 6' box culverts to which the drainage of the site flows. The elevation of the headwall determined the elevation of the stormwater ponds, which in turn determined the building elevations.

b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes Large, industrial manufacturing warehouses are a reasonable use for this property, as it is located within the Desired Development Zone, on relatively flat terrain, along a growing manufacturing corridor.

The variance is the minimum deviation necessary to properly convey stormwater to the existing headwall, as described above.

In addition, the proposed cut is the minimum necessary to establish grades appropriate for truck maneuverability and to allow for truck courts / loading dock areas to maintain a level surface between the truck trailers and the finished floor elevations of the buildings.

c) Does not create a significant probability of harmful environmental consequences.

Yes The grading needed to provide the required overall elevation of the site will be structurally contained with retaining walls or terraced to reduce erosive flows from the site.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes The variance will result in water quality that is at least equal to the water quality achievable without the variance. The project proposes two partial sedimentation/filtrations ponds designed in accordance with the City of Austin water quality regulations. Water Quality Pond 1 provides 58,152.83 cubic feet of filtration storage and 48,235.90 cubic

feet of sedimentation storage. Water Quality Pond 2 provides 55,345.72 cubic feet of filtration storage and 53,475.95 cubic feet of sedimentation storage. Water Quality Pond 1 provides 31% more volume than the minimum required volume and Water Quality Pond 2 provides 27% more volume.

B. The Land Use Commission may grant a variance from a requirement of Section 25-8-422 (*Water Supply Suburban Water Quality Transition Zone*), Section 25-8-452 (*Water Supply Rural Water Quality Transition Zone*), Section 25-8-482 (*Barton Springs Zone Water Quality Transition Zone*), Section 25-8-368 (*Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long*), or Article 7, Division 1 (Critical *Water Quality Zone Restrictions*), after determining that::

1. The criteria for granting a variance in Subsection (A) are met;
   NA

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;
   NA

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.
   NA

Staff Determination: Staff determines that the findings of fact have been met. Staff recommends the following conditions.

1. A landscape plan with native and adapted trees, shrubs, and grasses to be planted in the parking areas will be provided, even though a landscape plan is not required in the City's extra-territorial jurisdiction (ETJ).
2. A tree-shaded outdoor seating area will be provided to encourage employees to take breaks on-site, rather than driving to another location.
3. Trees outside of the limits of construction will be preserved, even though tree preservation is not required in the City's ETJ.
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Environmental Reviewer (DSD)	*(Pamela Abee-Taulli)*	Date: 3/18/2022
Environmental Review Manager (DSD)	*(Mike McDougal)*	Date: 4/2/2022
Deputy Environmental Officer (WPD)	*(Liz Johnston)*	Date: 04/08/2022

Development Services Department
Staff Recommendations Concerning Required Findings

Project Name:	Dalfen Industrial
Ordinance Standard:	Watershed Protection Ordinance
Variance Request:	Request to vary from LDC 25-8-301 to allow construction of a driveway on a slope with a gradient exceeding 15 percent.

Include an explanation with each applicable finding of fact.

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

   Yes Similarly situated properties with similar development type and subject to the same code requirements have received variances for grading in excess of four feet. These developments are all large warehouses located on relatively flat sites in the Desired Development Zone. Grading over four feet is necessary to create level finished-floor elevations and level loading docks and to maintain drives at minimal grades for maneuverability.

   Examples of similar projects include: Applied Materials Logistics Service Center, at 9614 US-290, Austin, TX 78724, (SP-2020-0321C), which was allowed cut to 12 feet for a 16-acre warehouse; Crossroads Logistics Center, at 8400 E Parmer Ln, Manor, TX 78653, (SP-2021-0015D), which was allowed cut to 14.3 feet and fill to 16.5 feet for three buildings totaling 11 acres of warehouse space; and Park 183 Buildings 6 & 7, at 4800 Distribution Dr, Austin, TX 78744, (SP-2021-0072C), which was allowed fill to 17 feet for two four-acre warehouses.

   The current project proposes two buildings on a 92-acre site with slopes under 15 percent for 82.6 percent of the site. The total acreage of the buildings will be 18.4, with a truck court on the south side of Building 1 and truck courts on the north and south sides of Building 2. The use of both buildings requires a uniform finished floor elevation similar to what is found in other industrial buildings. The building type, layout, and design features are based on the needs of the industrial building use, including shipping, and receiving. This layout is similar to other such facilities in the Austin Area.

2. The variance:

a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

Yes The building configuration and placement on the property was based on the location of approximately 6.9 acres of critical water quality zone that exists on site, lot configuration, existing topography, and roadway connectivity. Working around these considerations dictated the buildable area for the significant footprint of the two buildings.

The site is comprised of 92 acres of land with a grade of 15 percent or less and roughly 5 acres with a grade over 15 percent. This area of steeper grade is in a crescent that cuts off the east corner of the site from the rest of the site. The proposed layout minimizes construction on the steep slopes.

b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes Where feasible, drives on steep slopes have been removed. The remaining portion of a driveway on a slope over 15 percent is necessary for circulation and to access parking.

c) Does not create a significant probability of harmful environmental consequences.

Yes The grading necessary for construction of the driveway on steep slopes will be stabilized appropriately, with containment or vegetation.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes The variance will result in water quality that is at least equal to the water quality achievable without the variance. The project proposes two partial sedimentation/filtrations ponds designed in accordance with the City of Austin water quality regulations. Water Quality Pond 1 provides 58,152.83 cubic feet of filtration storage and 48,235.90 cubic feet of sedimentation storage. Water Quality Pond 2 provides 55,345.72 cubic feet of filtration storage and 53,475.95 cubic feet of sedimentation storage. Water Quality Pond 1 provides 31% more volume than the minimum required volume and Water Quality Pond 2 provides 27% more volume.

B. The Land Use Commission may grant a variance from a requirement of Section 25-8-422 (*Water Supply Suburban Water Quality Transition Zone*), Section 25-8-452 (*Water Supply Rural Water Quality Transition Zone*), Section 25-8-482 (*Barton Springs Zone Water Quality Transition Zone*), Section 25-8-368 (*Restrictions on Development*

Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long), or Article 7, Division 1 (*Critical Water Quality Zone Restrictions*), after determining that::

1. The criteria for granting a variance in Subsection (A) are met;
   NA

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;
   NA

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.
   NA

Staff Determination: Staff determines that the findings of fact have been met. Staff recommends the following conditions.

1. A landscape plan with native and adapted trees, shrubs, and grasses to be planted in the parking areas will be provided, even though a landscape plan is not required in the City's extra-territorial jurisdiction (ETJ).
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Environmental Reviewer (DSD)	*(Pamela Abee-Taulli)*	Date: 3/18/2022
Environmental Review Manager (DSD)	*(Mike McDougal)*	Date: 4/2/2022
Deputy Environmental Officer (WPD)	*(Liz Johnston)*	Date: 04/08/2022

3/17/2022

ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

November 20, 2020

Denise Lucas, Director
Planning and Zoning Department
City of Austin
P.O. Box 1088
Austin, TX 78767

RE: Variance Request Letter
Dalfen Industrial
6106 Ross Road
Del Valle, TX
SP-2020-0407D
§25-8-341 Cut Requirements

Dear Ms. Lucas:

On behalf of the owners, Yisrael Realty LP, we are requesting a variance for cut in excess of four (4) feet for the proposed development of the Dalfen Industrial site development permit (SP-2020-0407) located at 6106 Ross Road, Del Valle, TX.

The subject project is located approximately 0.1 miles west of the full purpose annexed area of Austin and therefore is within the 2-mile ETJ. The property is currently undeveloped and is located at the corner of Ross Road and Foley Dr. The tract borders Toll Road 130 on the western side.

The applicant plans to develop two new industrial buildings with fire lanes and parking areas, two water quality/detention ponds, utility extensions, and landscaping. The applicant proposes to place new improvements on the property in a way to minimize adverse impacts to the natural character of the property.

The site is not located within the Drinking Water Protection Zone nor the Edwards Aquifer Recharge Zone. The site is in the Onion Creek Watershed of the Colorado River Basin and is classified as a Suburban Watershed by Chapter 25-8 of the City's Land Development Code.

The project requires leniency from the following code section:

Division 5. – Cut, Fill, and Spoil

§ 25-8-341 - CUT REQUIREMENTS.

(A)Cuts on a tract of land may not exceed four feet of depth, except:

(1) in an urban watershed;

(2)in a roadway right-of-way;

(3)for construction of a building foundation or swimming pool;

(4) for construction of a water quality control or detention facility and appurtenances for conveyance such as swales, drainage ditches, and diversion berms, if:

(a) the design and location of the facility within the site minimize the amount of cut over four feet;

(b) the cut is the minimum necessary for the appropriate functioning of the facility; and

(c) the cut is not located on a slope with a gradient of more than 15 percent or within 100 feet of a classified waterway;

(5) for utility construction or a wastewater drain field, if the area is restored to natural grade;

(6) in a state-permitted sanitary landfill or a sand or gravel excavation located in the extraterritorial jurisdiction, if:

(a) the cut is not in a critical water quality zone;

(b) the cut does not alter a 100-year floodplain;

(c) the landfill or excavation has an erosion and restoration plan approved by the City; and

(d) all other applicable City Code provisions are met.

Source: Subsections 13-7-16(b), (c), and (e); Ord. 990225-70; Ord. 031211-11; Ord. No. 20170615-102 , Pt. 20, 6-15-17

The Land Development Code allows Land Use Commission Variances per the following:

Division 3. – Variances

§ 25-8-41 - LAND USE COMMISSION VARIANCES.

(A) It is the applicant's burden to establish that the findings described in this Section have been met. Except as provided in Subsections (B) and (C), the Land Use Commission may grant a variance from a requirement of this subchapter after determining that:

(1) the requirement will deprive the applicant of a privilege available to owners of other similarly situated property with approximately contemporaneous development subject to similar code requirements;

(2) the variance:

(a) is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;
(b) is the minimum deviation from the code requirement necessary to allow a reasonable use of the property; and
(c) does not create a significant probability of harmful environmental consequences; and

(3) development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Below you will find the findings of fact concerning the need for the variance.

Your favorable consideration and support of our request would be appreciated. If you have any questions, please feel free to call.

Sincerely,

Hollis Scheffler, P.E.
Project Manager
TBPE Firm #F-469

PROJECT DESCRIPTION

Applicant Contact Information

Name of Applicant	Hollis Scheffler – Pacheco Koch Consulting Engineers, Inc.
Street Address	8701 N. Mopac Expy, Suite 320
City State ZIP Code	Austin, Texas; 78759
Work Phone	512.485.0831
E-Mail Address	hscheffler@pkce.com

Variance Case Information

Case Name	Dalfen Industrial
Case Number	SP-2020-0407D

Address or Location	6106 Ross Road; Del Valle, TX 78617
Environmental Reviewer Name	Pamela Abee-Taulli
Environmental Resource Management Reviewer Name	
Applicable Ordinance	Watershed Protection Ordinance
Watershed Name	Onion Creek
Watershed Classification	☐ Urban ☐ Suburban ☐ Water Supply Suburban ☐ Water Supply Rural ☐ Barton Springs Zone
Edwards Aquifer Recharge Zone	☐ Barton Springs Segment ☐ Northern Edwards Segment ☐ Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	☐ Yes ☐ No
Distance to Nearest Classified Waterway	One unnamed, classified waterway is on the site.
Water and Waste Water service to be provided by	Austin Water
Request	**LDC §25-8-341 – Cut Requirements**

Impervious cover	Existing	Proposed
square footage:	0	860,462
acreage:	0	19.75
percentage:	0	65%

Provide general description of the property (slope range, elevation range, summary of vegetation / trees, summary of the	The project is located at the corner of Ross Road and Foley Drive with tracts bordering Toll Road 130 on the western side of the site. The site has a Gross Site Area of 91.82 acres. The site is located within the Onion Creek Watershed, which is classified as a suburban watershed. No portion of the project limits of construction is located within the limits of the FEMA 100-yr floodplain, however, there is a COA floodplain on site. The site has approximately 6.9 acres of mapped critical water quality zone (CWQZs), and potential two critical environmental features (CEFs) are within 150 ft of the site on the south side.

geology, CWQZ, WQTZ, CEFs, floodplain, heritage trees, any other notable or outstanding characteristics of the property)	The property has slopes that vary from 0.01% to 1287.85%. The site slopes down towards the north and west. Surface drainage flows generally to the northwest, west, and southwest. The slope breakdown is as follows: 0-15% Slopes = 87.58 acres 15-25% Slopes = 3.67 acres 25-35% Slopes = 0.44 acres Over 35% Slopes = 0.13 acres Topography of the project limits of construction ranges from 450 to 505 feet. The ground vegetation is made up of four habitat types; honey mesquite shrubland with disturbed open rangeland, ridgeline vegetation, fencerow vegetation, and Roosevelt-weed lowland. The geology of the site contains two geologic units, the Marlbrook Marl of the Navarro Group and the Terrace deposits within the Quaternary Terrace Group. The surface soils on the project site can be summarized as mostly Lewisville Silt Clay, Houston Black Clay, and Ferris-Heiden complex.

Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	Cut Requirements: Construction of the Dalfen Industrial project will require areas of cut exceeding four (4) feet. Cut between 8’ and 17’ will be limited to a southeast area of the site where parking flanks the side of building 200 and along the driveway access to Moores Crossing Boulevard. This area is 6.64 acres, which is 7.23 percent of the gross site area. Surrounding this area of high cut is limited cut between 4’ and 8’ totaling 2.81 acres, 3.1 percent of gross site area. Fill between 8’ and 18’ wraps around both buildings encompassing parking, driveways, and truck courts with a small area along the driveway to Moores Crossing Boulevard. The total area is 14.11 acres, 15.37 percent of gross site area

Project: Dalfen Industrial (SP-2020-0407D)

Ordinance: 25-8-341

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

   Yes / No

   Dalfen Industrial will include the construction of two Class A distribution centers totaling 801,840 square feet. Building 1 is a 234,000 square foot building with rear-loading facilities and building 2 is 567,840 square feet, with a cross-dock loading facility. A

variance request is common for large facilities of this type in this part of Austin; without this variance the applicant would be deprived of privileges available to owners of similar projects.

The building configuration and placement on the property was based on the location of approximately 6.9 acres of critical water quality zones that exist on site, lot configuration, existing topography, and roadway connectivity. Working around these considerations dictated the buildable area for the significant footprint of the two buildings.

The finished floor elevations of the two proposed buildings were dictated by an existing headwall and five 5’ by 6’ box culverts located in a drainage easement directly northwest of the site, where all stormwater flows from the site discharge. The elevation of this headwall controlled the elevation of the water quality and detention ponds, as pond outfalls needed to be at a higher elevation than the existing infrastructure. Next, the elevation of the ponds set the necessary elevations of the storm drain infrastructure, where hydraulics and minimal cover next determined the elevations of the truck courts, and therefore the finished floor elevation.

For the aforementioned reasons of working around site limitations and providing adequate storm drainage, the finished floor elevation of building 1 was set to 466 and building 2 finished floor elevation was set to 472. The south truck court of building 1 is at an elevation of 462, and the elevations of both the north and south truck courts of building 2 is 468. The main area of cut is along the eastern border of the site and the majority of fill is within the truck courts, driveways, and parking.

2. The variance:
   a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

      Yes / No

The configuration of the buildings and the placement of the property was dictated by the elevation of the existing headwall located in an easement northwest to the site. The headwall directs storm drainage under Moores Crossing Boulevard and Toll Road 130 to a series of ponds across the toll road and eventually to Onion Creek, which flows to the Colorado River.

The headwall is located in a drainage easement for highway purposes (Doc. No. 2006051184) directly northwest of the site. The headwall consists of five 5’x6’ box culverts with flow elevations ranging from 448.69 feet to 448.86. The headwall and box culverts are currently responsible for transporting all drainage from the existing site, as well as a neighboring property (Jetex Family LP (Inst. No. 200901634)) which slopes off into our site.

All proposed development on this site, regardless of design or use, would need to ultimately direct all stormwater flow to this headwall for proper transport to the final outfall at Onion Creek. However, the existing topography of the site results in a relatively flat, low area with a minimal slope change down to the existing headwall. The mean slope of the existing site is 3.34 percent, deeming considerable cut and fill necessary for any future development to convey stormwater flows.

The total square footage of the buildings will be 801,840 with a truck court on the south side of building 1 and truck courts on the north and south side of building 2. The use of both buildings requires a uniform finished floor elevation similarly found in other industrial buildings. The building type, layout, and design features are based on the needs of the industrial buildings, including shipping, and receiving. This layout is similar to other such facilities in the Austin Area, and we feel that the variance does not provide special privilege not enjoyed by other similarly situated properties and similarity timed development (Applied Materials – SP-2020-0321C –).

b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes / No

As mentioned above, cut and fill above the City of Austin limits is required due to the relatively low, flat topography of the existing site. Due to the minimal slope change currently present, cut and fill is necessary to properly convey stormwater to the existing headwall and box culverts adjacent to Moores Crossing Boulevard.

The proposed building sites, parking areas, truck courts and fire lanes that are required for development require the fill to exceed 4 feet. Most of the required fill needed to raise the overall elevation of the site will be structurally contained with structural retaining walls. Overall, there will be +/- 950 linear feet of cut wall running alongside the buildings and pond, starting in the southeast corner of the site. The grade at the top and bottom of the wall varies before ultimately tying into the grading of the proposed driveway connection to Moores Crossing Boulevard. The wall also serves to reduce erosive flows from the site. However, due to the flat nature of the site cut over the allowable limit is required for the construction of the gravity retaining wall.

c) Does not create a significant probability of harmful environmental consequences.

Yes / No

The proposed Dalfen Industrial project does not create a significant probability of harmful environmental consequences. The project will not impact any

heritage trees. There is a City of Austin fully developed floodplain on the site, but it will not be impacted by the proposed changes.

There are approximately 6.9 acres of critical water quality zone (CWQZ) on the site, all located in the northwest portion of the site. The project has been designed to protect the CWQZ and prevent any future disturbances by capturing and treating all impervious cover stormwater. The design includes two partial sedimentation/filtrations ponds that meet the necessary filtration and sedimentation requirements outlined by City of Austin water quality regulations. Water quality pond 1 provides 58,152.83 cubic feet of filtration storage and 48,235.90 cubic feet of sedimentation storage. Water quality pond 2 provides 55,345.72 cubic feet of filtration storage and 53,475.95 cubic feet of sedimentation storage. Water quality pond 1 provides 31% more volume than the minimum required volume and water quality pond 2 provides 27% more volume, indicating that the CWQZ will be fully protected.

As mentioned previously, in order for the network of ponds to convey stormwater to the existing headwall and box culverts, the outfall of the ponds must be at a higher elevation. The elevation of the outfalls and the grading requirements of an industrial site then determine the elevations and the necessary cut and fill on the remainder of the site. Therefore, in order to provide sufficient water quality cut and fill above allowable limits is required.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes / No

Exceeding the fill limitation on this project will not reduce the level of water quality achievable. By containing the fill in gravity retaining walls, and reducing the probability

of erosive flows, the proposed project will achieve the same level of water quality achievable without the variance.

Also, as previously mentioned, all impervious cover stormwater runoff will be captured and treated on site in a water quality facility that meets compliance with the Land Development Code and Environmental Criteria Manual. Two partial sedimentation/filtration ponds are designed to provide 113,498.55 cubic feet of filtration storage and 101,711.85 cubic feet of sedimentation storage.

B. Additional Land Use Commission variance determinations for a requirement of Section 25-8-422 (Water Quality Transition Zone), Section 25-8-452 (Water Quality Transition Zone), Article 7, Division 1 (Critical Water Quality Zone Restrictions), or Section 25-8-368 (Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long):

1. The criteria for granting a variance in Subsection (A) are met;

   N/A

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

   N/A

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.

   N/A

**Variance approval requires all above affirmative findings.

Exhibits for Commission Variance

- Aerial photos of the site
- Site photos
- Aerial photos of the vicinity
- Context Map—A map illustrating the subject property in relation to developments in the vicinity to include nearby major streets and waterways
- Topographic Map - A topographic map is recommended if a significant grade change on the subject site exists or if there is a significant difference in grade in relation to adjacent properties.
- For cut/fill variances, a plan sheet showing areas and depth of cut/fill with topographic elevations.
- Site plan showing existing conditions if development exists currently on the property
- Proposed Site Plan- full size electronic or at least legible 11x17 showing proposed development, include tree survey if required as part of site or subdivision plan
- Environmental Map – A map that shows pertinent features including Floodplain, CWQZ, WQTZ, CEFs, Setbacks, Recharge Zone, etc.
- An Environmental Resource Inventory pursuant to ECM 1.3.0 (***if required by 25-8-121***)
- Applicant's variance request letter

ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

November 20, 2020

Denise Lucas, Director
Planning and Zoning Department
City of Austin
P.O. Box 1088
Austin, TX 78767

RE: Variance Request Letter
Dalfen Industrial
6106 Ross Road
Del Valle, TX
SP-2020-0407D
§25-8-342 Fill Requirements

Dear Ms. Lucas:

On behalf of the owners, Yisrael Realty LP, we are requesting a variance for fill in excess of four (4) feet for the proposed development of the Dalfen Industrial site development permit (SP-2020-0407) located at 6106 Ross Road, Del Valle, TX.

The subject project is located approximately 0.1 miles west of the full purpose annexed area of Austin and therefore is within the 2-mile ETJ. The property is currently undeveloped and is located at the corner of Ross Road and Foley Dr. The tract borders Toll Road 130 on the western side.

The applicant plans to develop two new industrial buildings with fire lanes and parking areas, two water quality/detention ponds, utility extensions, and landscaping. The applicant proposes to place new improvements on the property in a way to minimize adverse impacts to the natural character of the property.

The site is not located within the Drinking Water Protection Zone nor the Edwards Aquifer Recharge Zone. The site is in the Onion Creek Watershed of the Colorado River Basin and is classified as a Suburban Watershed by Chapter 25-8 of the City's Land Development Code.

The project requires leniency from the following code section:

Division 5. – Cut, Fill, and Spoil

§ 25-8-342 - FILL REQUIREMENTS.

(A) Fill on a tract of land may not exceed four feet of depth, except:

(1) in an urban watershed;

(2) in a roadway right-of-way;

(3) under a foundation with sides perpendicular to the ground, or with pier and beam construction;

(4) for construction of a water quality control or detention facility and appurtenances for conveyance such as swales, drainage ditches, and diversion berms, if:

(a) the design and location of the facility within the site minimize the amount of fill over four feet;

(b) the fill is the minimum necessary for the appropriate functioning of the facility; and

(c) the fill is not located on a slope with a gradient of more than 15 percent or within 100 feet of a classified waterway;

(5) for utility construction or a wastewater drain field; or

(6) in a state-permitted sanitary landfill located in the extraterritorial jurisdiction, if:

(a) the fill is derived from the landfill operation;

(b) the fill is not placed in a critical water quality zone or a 100-year floodplain;

(c) the landfill operation has an erosion and restoration plan approved by the City; and

(d) all other applicable City Code provisions are met.

(B) A fill area must be restored and stabilized.

(C) Fill for a roadway must be contained within the roadway clearing width described in Section 25-8-322 (Clearing For A Roadway).

The Land Development Code allows Land Use Commission Variances per the following:

Division 3. – Variances

§ 25-8-41 - LAND USE COMMISSION VARIANCES.

(A) It is the applicant's burden to establish that the findings described in this Section have been met. Except as provided in Subsections (B) and (C), the Land Use Commission may grant a variance from a requirement of this subchapter after determining that:

(1) the requirement will deprive the applicant of a privilege available to owners of other similarly situated property with approximately contemporaneous development subject to similar code requirements;

(2) the variance:

(a) is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

(b) is the minimum deviation from the code requirement necessary to allow a reasonable use of the property; and

(c) does not create a significant probability of harmful environmental consequences; and

(3) development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Below you will find the findings of fact concerning the need for the variance.

Your favorable consideration and support of our request would be appreciated. If you have any questions, please feel free to call.

Sincerely,

Hollis Scheffler, P.E.
Project Manager
TBPE Firm #F-469

PROJECT DESCRIPTION

Applicant Contact Information

Name of Applicant	Hollis Scheffler – Pacheco Koch Consulting Engineers, Inc.
Street Address	8701 N. Mopac Expy, Suite 320
City State ZIP Code	Austin, Texas; 78759
Work Phone	512.485.0831
E-Mail Address	hscheffler@pkce.com

Variance Case Information

Case Name	Dalfen Industrial
Case Number	SP-2020-0407D

Address or Location	6106 Ross Road; Del Valle, TX 78617
Environmental Reviewer Name	Pamela Abee-Taulli
Environmental Resource Management Reviewer Name	
Applicable Ordinance	Watershed Protection Ordinance
Watershed Name	Onion Creek
Watershed Classification	☐ Urban ☐ Suburban ☐ Water Supply Suburban ☐ Water Supply Rural ☐ Barton Springs Zone
Edwards Aquifer Recharge Zone	☐ Barton Springs Segment ☐ Northern Edwards Segment ☐ Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	☐ Yes ☐ No
Distance to Nearest Classified Waterway	One unnamed, classified waterway is on the site.
Water and Waste Water service to be provided by	Austin Water
Request	**LDC §25-8-342 – Fill Requirements**

Impervious cover	Existing	Proposed
square footage:	0	860,462
acreage:	0	19.75
percentage:	0	65%

Provide general description of the property (slope range, elevation range, summary of vegetation / trees, summary of the	The project is located at the corner of Ross Road and Foley Drive with tracts bordering Toll Road 130 on the western side of the site. The site has a Gross Site Area of 91.82 acres. The site is located within the Onion Creek Watershed, which is classified as a suburban watershed. No portion of the project limits of construction is located within the limits of the FEMA 100-yr floodplain, however, there is a COA floodplain on site. The site has approximately 6.9 acres of mapped critical water quality zone (CWQZs), and potential two critical environmental features (CEFs) are within 150 ft of the site on the south side.

geology, CWQZ, WQTZ, CEFs, floodplain, heritage trees, any other notable or outstanding characteristics of the property)	The property has slopes that vary from 0.01% to 1287.85%. The site slopes down towards the north and west. Surface drainage flows generally to the northwest, west, and southwest. The slope breakdown is as follows: 0-15% Slopes = 87.58 acres 15-25% Slopes = 3.67 acres 25-35% Slopes = 0.44 acres Over 35% Slopes = 0.13 acres Topography of the project limits of construction ranges from 450 to 505 feet. The ground vegetation is made up of four habitat types; honey mesquite shrubland with disturbed open rangeland, ridgeline vegetation, fencerow vegetation, and Roosevelt-weed lowland. The geology of the site contains two geologic units, the Marlbrook Marl of the Navarro Group and the Terrace deposits within the Quaternary Terrace Group. The surface soils on the project site can be summarized as mostly Lewisville Silt Clay, Houston Black Clay, and Ferris-Heiden complex.

Clearly indicate in what way the proposed project does not comply with current Code (include maps and	Fill Requirements: Construction of the Dalfen Industrial project will require areas of fill exceeding four (4) feet. Fill between 8’ and 18’ wraps around both buildings encompassing parking, driveways, and truck courts with a small area along the driveway to Moores Crossing Boulevard. The total area is 14.11 acres, 15.37 percent of gross site area. Limited areas of fill between 4’ to 8’ are in the truck courts and along the driveway to Moores Crossing Boulevard. This total area is 4.99 acres, which is 5.43 percent of the gross site area.

Project: Dalfen Industrial (SP-2020-0407D)

Ordinance: 25-8-342

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

   Yes / No

   Dalfen Industrial will include the construction of two Class A distribution centers totaling 801,840 square feet. Building 1 is a 234,000 square foot building with rear-loading facilities and building 2 is 567,840 square feet, with a cross-dock loading facility. A variance request is common for large facilities of this type in this part of Austin; without this variance the applicant would be deprived of privileges available to owners of similar

projects.

The building configuration and placement on the property was based on the location of approximately 6.9 acres of critical water quality zones that exist on site, lot configuration, existing topography, and roadway connectivity. Working around these considerations dictated the buildable area for the significant footprint of the two buildings.

The finished floor elevations of the two proposed buildings were dictated by an existing headwall and five 5’ by 6’ box culverts located in a drainage easement directly northwest of the site, where all stormwater flows from the site discharge. The elevation of this headwall controlled the elevation of the water quality and detention ponds, as pond outfalls needed to be at a higher elevation than the existing infrastructure. Next, the elevation of the ponds set the necessary elevations of the storm drain infrastructure, where hydraulics and minimal cover next determined the elevations of the truck courts, and therefore the finished floor elevation.

For the aforementioned reasons of working around site limitations and providing adequate storm drainage, the finished floor elevation of building 1 was set to 466 and building 2 finished floor elevation was set to 472. The south truck court of building 1 is at an elevation of 462, and the elevations of both the north and south truck courts of building 2 is 468. The main area of cut is along the eastern border of the site and the majority of fill is within the truck courts, driveways, and parking.

2. The variance:
   a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

      Yes / No

The configuration of the buildings and the placement of the property was dictated by the elevation of the existing headwall located in an easement northwest to the site. The headwall directs storm drainage under Moores Crossing Boulevard and Toll Road 130 to a series of ponds across the toll road and eventually to Onion Creek, which flows to the Colorado River.

The headwall is located in a drainage easement for highway purposes (Doc. No. 2006051184) directly northwest of the site. The headwall consists of five 5’x6’ box culverts with flow elevations ranging from 448.69 feet to 448.86. The headwall and box culverts are currently responsible for transporting all drainage from the existing site, as well as a neighboring property (Jetex Family LP (Inst. No. 200901634)) which slopes off into our site.

All proposed development on this site, regardless of design or use, would need to

ultimately direct all stormwater flow to this headwall for proper transport to the final outfall at Onion Creek. However, the existing topography of the site results in a relatively flat, low area with a minimal slope change down to the existing headwall. The mean slope of the existing site is 3.34 percent, deeming considerable cut and fill necessary for any future development to convey stormwater flows.

The total square footage of the buildings will be 801,840 with a truck court on the south side of building 1 and truck courts on the north and south side of building 2. The use of both buildings requires a uniform finished floor elevation similarly found in other industrial buildings. The building type, layout, and design features are based on the needs of the industrial buildings, including shipping, and receiving. This layout is similar to other such facilities in the Austin Area, and we feel that the variance does not provide special privilege not enjoyed by other similarly situated properties and similarity timed development (Applied Materials – SP-2020-0321C –).

b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes / No

As mentioned above, cut and fill above the City of Austin limits is required due to the relatively low, flat topography of the existing site. Due to the minimal slope change currently present, cut and fill is necessary to properly convey stormwater to the existing headwall and box culverts adjacent to Moores Crossing Boulevard.

The proposed building sites, parking areas, truck courts and fire lanes that are required for development require the fill to exceed 4 feet. Most of the required fill needed to raise the overall elevation of the site will be structurally contained with structural retaining walls. Overall, there will be +/- 950 linear feet of cut wall running alongside the buildings and pond, starting in the southeast corner of the site. The grade at the top and bottom of the wall varies before ultimately tying into the grading of the proposed driveway connection to Moores Crossing Boulevard. The wall also serves to reduce erosive flows from the site. However, due to the flat nature of the site cut over the allowable limit is required for the construction of the gravity retaining wall.

c) Does not create a significant probability of harmful environmental consequences.

Yes / No

The proposed Dalfen Industrial project does not create a significant probability of harmful environmental consequences. The project will not impact any heritage trees. There is a City of Austin fully developed floodplain on the site, but it will not be impacted by the proposed changes.

There are approximately 6.9 acres of critical water quality zone (CWQZ) on the site, all located in the northwest portion of the site. The project has been designed to protect the CWQZ and prevent any future disturbances by capturing and treating all impervious cover stormwater. The design includes two partial sedimentation/filtrations ponds that meet the necessary filtration and sedimentation requirements outlined by City of Austin water quality regulations. Water quality pond 1 provides 58,152.83 cubic feet of filtration storage and 48,235.90 cubic feet of sedimentation storage. Water quality pond 2 provides 55,345.72 cubic feet of filtration storage and 53,475.95 cubic feet of sedimentation storage. Water quality pond 1 provides 31% more volume than the minimum required volume and water quality pond 2 provides 27% more volume, indicating that the CWQZ will be fully protected.

As mentioned previously, in order for the network of ponds to convey stormwater to the existing headwall and box culverts, the outfall of the ponds must be at a higher elevation. The elevation of the outfalls and the grading requirements of an industrial site then determine the elevations and the necessary cut and fill on the remainder of the site. Therefore, in order to provide sufficient water quality cut and fill above allowable limits is required.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes / No

Exceeding the fill limitation on this project will not reduce the level of water quality achievable. By containing the fill in gravity retaining walls, and reducing the probability

of erosive flows, the proposed project will achieve the same level of water quality achievable without the variance.

Also, as previously mentioned, all impervious cover stormwater runoff will be captured and treated on site in a water quality facility that meets compliance with the Land Development Code and Environmental Criteria Manual. Two partial sedimentation/filtration ponds are designed to provide 113,498.55 cubic feet of filtration storage and 101,711.85 cubic feet of sedimentation storage.

B. Additional Land Use Commission variance determinations for a requirement of Section 25-8-422 (Water Quality Transition Zone), Section 25-8-452 (Water Quality Transition Zone), Article 7, Division 1 (Critical Water Quality Zone Restrictions), or Section 25-8-368 (Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long):

1. The criteria for granting a variance in Subsection (A) are met;

   N/A

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

   N/A

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.

   N/A

**Variance approval requires all above affirmative findings.

Exhibits for Commission Variance

- Aerial photos of the site
- Site photos
- Aerial photos of the vicinity
- Context Map—A map illustrating the subject property in relation to developments in the vicinity to include nearby major streets and waterways
- Topographic Map - A topographic map is recommended if a significant grade change on the subject site exists or if there is a significant difference in grade in relation to adjacent properties.
- For cut/fill variances, a plan sheet showing areas and depth of cut/fill with topographic elevations.
- Site plan showing existing conditions if development exists currently on the property
- Proposed Site Plan- full size electronic or at least legible 11x17 showing proposed development, include tree survey if required as part of site or subdivision plan
- Environmental Map – A map that shows pertinent features including Floodplain, CWQZ, WQTZ, CEFs, Setbacks, Recharge Zone, etc.
- An Environmental Resource Inventory pursuant to ECM 1.3.0 (***if required by 25-8-121***)
- Applicant's variance request letter

ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

November 20, 2020

Denise Lucas, Director
Planning and Zoning Department
City of Austin
P.O. Box 1088
Austin, TX 78767

RE: Variance Request Letter
Dalfen Industrial
6106 Ross Road
Del Valle, TX
SP-2020-0407D
§25-8-301 Slope Requirements

Dear Ms. Lucas:

On behalf of the owners, Yisrael Realty LP, we are requesting a variance for construction of a roadway or driveway on slopes in excess of 15% for the proposed development of the Dalfen Industrial site development permit (SP-2020-0407) located at 6106 Ross Road, Del Valle, TX.

The subject project is located approximately 0.1 miles west of the full purpose annexed area of Austin and therefore is within the 2-mile ETJ. The property is currently undeveloped and is located at the corner of Ross Road and Foley Dr. The tract borders Toll Road 130 on the western side.

The applicant plans to develop two new industrial buildings with fire lanes and parking areas, two water quality/detention ponds, utility extensions, and landscaping. The applicant proposes to place new improvements on the property in a way to minimize adverse impacts to the natural character of the property.

The site is not located within the Drinking Water Protection Zone nor the Edwards Aquifer Recharge Zone. The site is in the Onion Creek Watershed of the Colorado River Basin and is classified as a Suburban Watershed by Chapter 25-8 of the City's Land Development Code.

The project requires leniency from the following code section:

Division 3. – Construction on Slopes

§ 25-8-301 - CONSTRUCTION OF A ROADWAY OR DRIVEWAY.

(A) A person may not construct a roadway or driveway on a slope with a gradient of more than 15 percent unless the construction is necessary to provide primary access to:

(1) at least two contiguous acres with a gradient of 15 percent or less; or

(2) building sites for at least five residential units.

(B) For construction described in this section, a cut or fill must be revegetated, or if a cut or fill has a finished gradient of more than 33 percent, stabilized with a permanent structure. This does not apply to a stable cut.

Source: Section 13-2-590(a); Ord. 990225-70; Ord. 031211-11.

The Land Development Code allows Land Use Commission Variances per the following:

Division 3. – Variances

§ 25-8-41 - LAND USE COMMISSION VARIANCES.

(A) It is the applicant's burden to establish that the findings described in this Section have been met. Except as provided in Subsections (B) and (C), the Land Use Commission may grant a variance from a requirement of this subchapter after determining that:

(1) the requirement will deprive the applicant of a privilege available to owners of other similarly situated property with approximately contemporaneous development subject to similar code requirements;

(2) the variance:

(a) is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

(b) is the minimum deviation from the code requirement necessary to allow a reasonable use of the property; and

(c) does not create a significant probability of harmful environmental consequences; and

(3) development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

3/17/2022

Below you will find the findings of fact concerning the need for the variance.

Your favorable consideration and support of our request would be appreciated. If you have any questions, please feel free to call.

Sincerely,

Hollis Scheffler, P.E.
Project Manager
TBPE Firm #F-469

PROJECT DESCRIPTION

Applicant Contact Information

Name of Applicant	Hollis Scheffler – Pacheco Koch Consulting Engineers, Inc.
Street Address	8701 N. Mopac Expy, Suite 320
City State ZIP Code	Austin, Texas; 78759
Work Phone	512.485.0831
E-Mail Address	hscheffler@pkce.com

Variance Case Information

Case Name	Dalfen Industrial
Case Number	SP-2020-0407D

Address or Location	6106 Ross Road; Del Valle, TX 78617
Environmental Reviewer Name	Pamela Abee-Taulli
Environmental Resource Management Reviewer Name	
Applicable Ordinance	Watershed Protection Ordinance
Watershed Name	Onion Creek
Watershed Classification	☐ Urban ☐ Suburban ☐ Water Supply Suburban ☐ Water Supply Rural ☐ Barton Springs Zone
Edwards Aquifer Recharge Zone	☐ Barton Springs Segment ☐ Northern Edwards Segment ☐ Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	☐ Yes ☐ No
Distance to Nearest Classified Waterway	One unnamed, classified waterway is on the site.
Water and Waste Water service to be provided by	Austin Water
Request	**LDC §25-8-301 – Construction of Roadway or Driveway on Slopes**

Impervious cover	Existing	Proposed
square footage:	0	860,462
acreage:	0	19.75
percentage:	0	65%
Provide general description of the property (slope range, elevation range, summary of vegetation / trees, summary of the	The project is located at the corner of Ross Road and Foley Drive with tracts bordering Toll Road 130 on the western side of the site. The site has a Gross Site Area of 91.82 acres. The site is located within the Onion Creek Watershed, which is classified as a suburban watershed. No portion of the project limits of construction is located within the limits of the FEMA 100-yr floodplain, however, there is a COA floodplain on site. The site has approximately 6.9 acres of mapped critical water quality zone (CWQZs), and potential two critical environmental features (CEFs) are within 150 ft of the site on the south side.	

geology, CWQZ, WQTZ, CEFs, floodplain, heritage trees, any other notable or outstanding characteristics of the property)	The property has slopes that vary from 0.01% to 1287.85%. The site slopes down towards the north and west. Surface drainage flows generally to the northwest, west, and southwest. The slope breakdown is as follows: 0-15% Slopes = 87.58 acres 15-25% Slopes = 3.67 acres 25-35% Slopes = 0.44 acres Over 35% Slopes = 0.13 acres Topography of the project limits of construction ranges from 450 to 505 feet. The ground vegetation is made up of four habitat types; honey mesquite shrubland with disturbed open rangeland, ridgeline vegetation, fencerow vegetation, and Roosevelt-weed lowland. The geology of the site contains two geologic units, the Marlbrook Marl of the Navarro Group and the Terrace deposits within the Quaternary Terrace Group. The surface soils on the project site can be summarized as mostly Lewisville Silt Clay, Houston Black Clay, and Ferris-Heiden complex.

Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	Construction of Roadway or Driveways on Slopes: Construction of the Dalfen Industrial project will require areas of improvements to be constructed on slopes over 15%. Overall, there are 3 areas of proposed driveway construction that occur on sections of the site with slopes over 15%. The first area is 5724.9 square feet (0.13 ac) and is in the southeast corner of the property. The area has portions of slopes that are 15-25 percent, 25-35 percent, and 35 percent and over. The second area is located adjacent to the northeast corner of building 2 and covers an approximate area of 11443.4 square feet (0.26 ac). The total area has a slope that ranges from 15 percent to 25 percent. The third area is located on the access road to Moore's Crossing Boulevard and has a total area of 8632.3 square feet (0.20 ac). The area ranges in slope from either 15 to 25 percent or 25 to 35 percent.

Project: Dalfen Industrial (SP-2020-0407D)

Ordinance: 25-8-301

As seen in the overall slope exhibit, slope exhibit sheet 1 of 2, and slope exhibit sheet 2 of 2 there are areas of proposed construction for driveways, buildings, and parking areas that do not meet the requirements of sections § 25-8-301 and § 25-8-302.

Deviation from § 25-8-301:
Overall, there are 3 areas of proposed driveway construction that occur on sections of the site with slopes over 15%. The first area is5724.9 square feet (0.13 ac) and is in the southeast corner of the property. The are has portions of slopes that 15-25 percent, 25-35 percent, and 35 percent and over. The second area is located adjacent to the northeast corner of building 2 and covers an approximate area of 11443.4 square feet (0.26 ac). The total area has a slope that ranges from 15 percent to 25 percent. The third area is located on the access road to Moores Crossing Boulevard and has a total area of 8632.3 square feet (0.20 ac). The area ranges in slope from either 15 to 25 percent or 25 to 35 percent.

Justification for deviation:
Based on subsection A, item #1 of § 25-8-301 construction of driveways on existing slopes greater than 15 percent is allowed when the driveways provide primary access to a site that is at least two contiguous acres with a gradient of 15 percent or less. The overall area of this site is 91.82 acres, and as evident by the overall slope exhibit, the large majority, approximately 75.7 acres, has a slope of 15 percent or less.

Table 1: Temporary slope stabilization techniques to be utilized

Structural Practice	Point of Installation
Diversion Dikes	Immediately above cut slopes
Rock Berms	Installed at toe of slope of disturbed area
Silt Fence	At toe of slope
Sediment Trap	Installed at points of discharge

APPENDIX Q-2
IMPERVIOUS COVER

SUBURBAN WATERSHEDS

NOTE: Q1 TABLES ARE NOT REQUIRED FOR SUBURBAN WATERSHEDS

IMPERVIOUS COVER ALLOWED AT 65 % X GROSS SITE AREA = 59.68 ACRES
(91.82 AC)

ALLOWABLE IMPERVIOUS COVER BREAKDOWN BY SLOPE CATEGORY

TOTAL ACREAGE 15 - 25 % = 3.67 AC X 10 % = 0.37 AC

PROPOSED TOTAL IMPERVIOUS COVER

TOTAL PROPOSED IMPERVIOUS COVER = 40.73 ACRES = 44.36 %

PROPOSED IMPERVIOUS COVER ON SLOPES

		IMPERVIOUS COVER		
		BUILDING/ AND OTHER IMPERVIOUS COVER		DRIVEWAYS/ ROADWAYS
SLOPE CATEGORIES	ACRES	ACRES	% OF CATEGORY	ACRES
0 - 15 %	87.58 AC	27.79 AC	31.7%	8.65 AC
15 - 25 %	3.67 AC	0.32 AC	8.7%	3.88 AC
25 - 35 %	0.44 AC	0.00 AC	0.0%	0.32 AC
OVER 35 %	0.13 AC	0.00 AC	0.0%	0.09 AC
TOTAL SITE AREA	91.82 AC			

Exhibits for Commission Variance

- Aerial photos of the site
- Site photos
- Aerial photos of the vicinity
- Context Map—A map illustrating the subject property in relation to developments in the vicinity to include nearby major streets and waterways
- Topographic Map - A topographic map is recommended if a significant grade change on the subject site exists or if there is a significant difference in grade in relation to adjacent properties.
- For cut/fill variances, a plan sheet showing areas and depth of cut/fill with topographic elevations.
- Site plan showing existing conditions if development exists currently on the property
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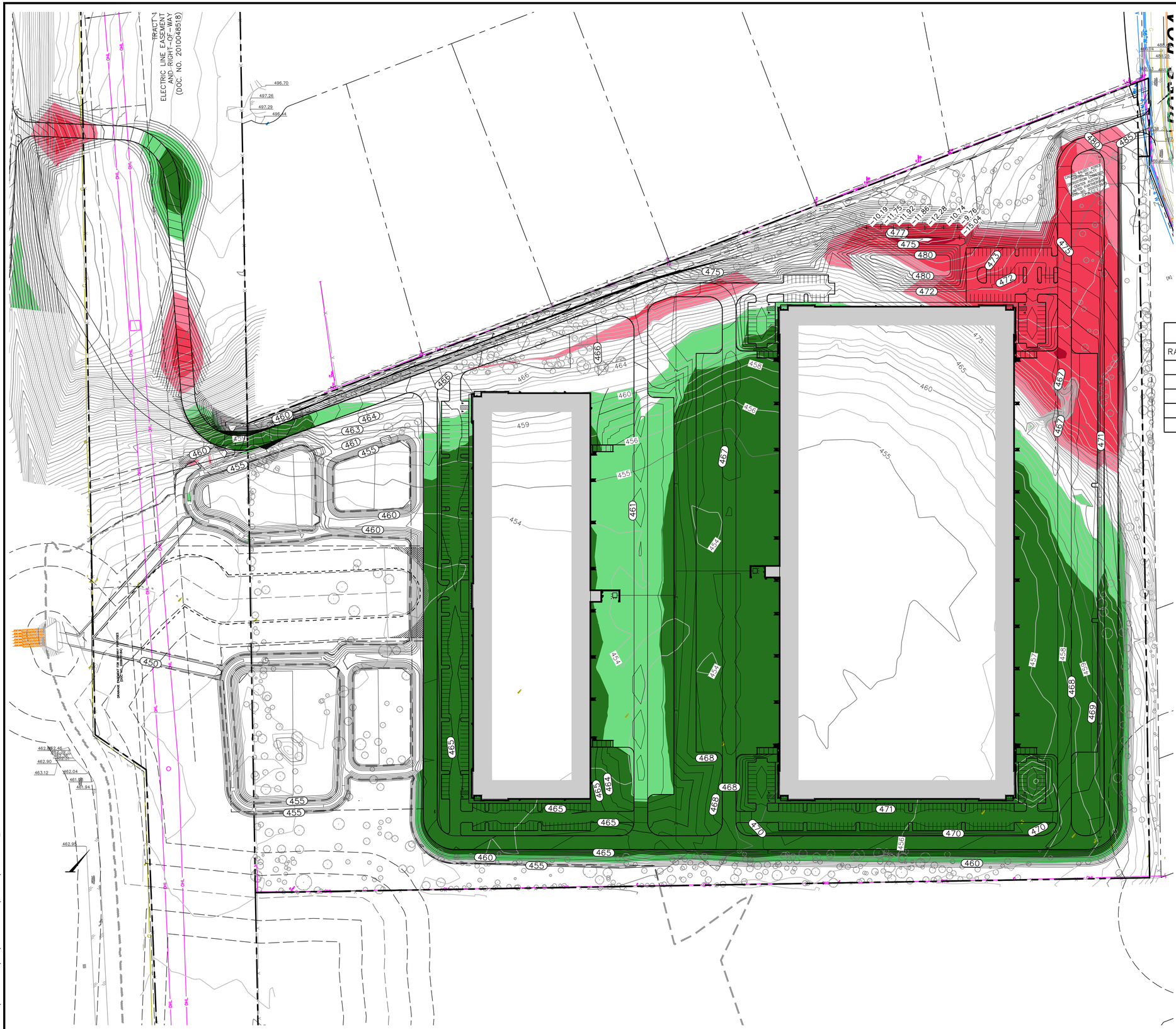
- Environmental Map – A map that shows pertinent features including Floodplain, CWQZ, WQTZ, CEFs, Setbacks, Recharge Zone, etc.
- An Environmental Resource Inventory pursuant to ECM 1.3.0 (***if required by 25-8-121***)
- Applicant's variance request letter



0 50 100 200 300

GRAPHIC SCALE IN FEET

1"=100'

LEGEND

B	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
FL	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS (C.M.)	1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
30" RCP	EXISTING STORM LINE
	UNDERGROUND ELECTRIC LINE
T	UNDERGROUND TELEPHONE LINE
	UNDERGROUND CABLE LINE
6"W	UNDERGROUND WATER LINE
6"SS	UNDERGROUND SANITARY SEWER LINE
	PROPOSED STORM LINE
TI	TOP OF INLET

CUT–FILL RANGE TABLE

RANGE NO.	MIN. ELEVATION (FT)	MAX. ELEVATION (FT)	COLOR
1	–17.00	–16.00	
2	–16.00	–8.00	
3	–8.00	–4.00	
4	4.00	8.00	
5	8.00	18.00	

MPN: 21-32183 SP-2020-0407D

Pacheco Koch
8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

NO.	DATE	DESCRIPTION	BY

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

SITE CUT-FILL EXHIBIT

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED
PROFESSIONAL ENGINEER

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0 50 100 200 300

GRAPHIC SCALE IN FEET

1" = 100'

Slopes Table				
Number	Minimum Slope	Maximum Slope	Area	Color
1	0.00%	15.00%	3597699.45	
2	15.00%	25.00%	160074.04	
3	25.00%	35.00%	19338.24	
4	35.00%	Vertical	5584.39	

MPN: 21-32183 SP-2020-0407D

Pacheco Koch

8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

NO.	DATE	DESCRIPTION	BY

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

OVERALL SLOPE EXHIBIT

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED PROFESSIONAL ENGINEER

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PK-4758-20.488_SLOPES.DWG

AERIAL PHOTO – VICINITY

AERIAL PHOTO – SITE

SITE PHOTOS

Photo 1. Access gate to property on Ross Road.

Photo 2. Honey mesquite dominated shrubland vegetation.

SITE PHOTOS – CONT.

Photo 3. Honey mesquite dominated shrubland vegetation.

Photo 4. Lowland habitat dominated by Roosevelt-weed.

SITE PHOTOS – CONT.

Photo 9. Open gate leading to transmission line right-of-way in northwestern portion of the site with fencerow vegetation. Mapped critical water quality zone (CWQZ) occurs in this area (see **Figure 3**).

Photo 13. Ridgeline vegetation dominated by eastern red cedar, gum bumelia, and hackberry.

CONTEXT MAP


DALFEN INDUSTRIAL
92 ACRE TRACT
Travis County Correctional Complex
Austin Bergstrom International Airport
973
71
Ross Rd
Del Valle ISD High School
Del Valle ISD Middle School
Texas 130 Service Rd
Moores Crossing Blvd (Toll road)
Burleson Rd
Crossing
92 Acre - Dalfen Industrial
45
Stone Ranch North
Pearce Ln
Elroy Rd
Texas 130 (toll road)
Kellam Rd
Google Earth
© 2020 Google
N
1 mi

ENVIRONMENTAL MAP

Bowman CONSULTING

FIGURE 6
ENVIRONMENTAL RESOURCE INVENTORY
MOORES CROSSING, DEL VALLE, TX

TOPOGRAPHIC MAP

See attached

MATCH LINE - THIS SHEET

N 47°26'07" E 1040.45'

JETEX FAMILY LP
(INST. NO. 200901634)

CREEK CENTERLINE

CRITICAL WATER QUALITY ZONE

COA 100-YR FLOODPLAIN

HALF CRITICAL WATER QUALITY ZONE

CRITICAL WATER QUALITY ZONE

COA 100-YR FLOODPLAIN

DEMO EXIST GAS LINE

COA 100-YR FLOODPLAIN

N 42°31'51" W 1984.18'

LOT 12

GOOD LAND FARMS
(VOL. 81, PG. 145)

LOT 13

CHUON SAM & SRORN YOU
(VOL. 13374, PG. 477)
LOT 14

S 62°33'02" E 2140.84'

SABAS SERRANO & ESTHER F. SERRANO
(INST. NO. 2017008205)
LOT 15

YISRAEL REALTY BERGSTROM LOGISTICS CENTER AUSTIN, LIMITED PARTNERSHIP
(INST. NO. 2020212945)

ZONE X

DON BENNER & GERALYN BENNER
(VOL. 7698, PG. 979)
LOT 16

JETEX FAMILY LP
(INST. NO. 200901634)

DEMO EXIST GAS LINE

WETLAND CEF SETBACK

WETLAND

ROSENDO BUSTAMANTE & VERONICA BUSTAMANTE
(INST. NO. 2017060888)
LOT 20

MARCOS MOTAL
(INST. NO. 2017076950)
LOT 19

BRENDA LEE PRADO & LAURA LEE CERVANTES
(VOL. 11130, PG. 1018)
LOT 18

S 47°31'23" W 1600.18'

N 42°28'37" W 25.02'

JULIO CAMACHO & JULIA CAMACHO
(INST. NO. 2000054741)

GOOD LAND FARMS
(VOL. 81, PG. 145)

REMOVE 5' METAL FENCE

5' METAL FENCE

GATE

REMOVE EXIST. GATES

GATE

SAWCUT

S 47°31'23" W 173.20'

ROSS ROAD
(VARIABLE WIDTH RIGHT-OF-WAY)

PROP

MOORES CROSSING BLVD.
(VARIABLE WIDTH RIGHT-OF-WAY)

CRITICAL WATER QUALITY ZONE

SAWCUT

DRAINAGE EASEMENT FOR HIGHWAY PURPOSES (DOC^NO., 2006051184)

OHL

MATCH LINE - THIS SHEET

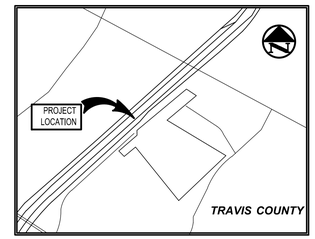
GENERAL NOTES:

A PRECONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.

0 50 100 200 300
GRAPHIC SCALE IN FEET
1"=100'

LEGEND

	BOLLARD
EM	ELECTRIC METER
PP	POWER POLE
LS	LIGHT STANDARD
WM	WATER METER
WV	WATER VALVE
ICV	IRRIGATION CONTROL VALVE
FH	FIRE HYDRANT
CO	CLEANOUT
MH	MANHOLE
TSC	TRAFFIC SIGNAL CONTROL
TSP	TRAFFIC SIGNAL POLE
TELE	TELEPHONE BOX
	FLOOD LIGHT
FP	FLAG POLE
SIGN	TRAFFIC SIGN
IRS	1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
(C.M.)	CONTROLLING MONUMENT
	PROPERTY LINE
X	FENCE
OHL	OVERHEAD UTILITY LINE
F	FIBER OPTIC LINE
30" R.C.P.	UNDERGROUND STORM LINE
E	UNDERGROUND ELECTRIC LINE
T	UNDERGROUND TELEPHONE LINE
C	UNDERGROUND CABLE LINE
6"W	UNDERGROUND WATER LINE
6"SS	UNDERGROUND SANITARY SEWER LINE
613	EXIST CONTOUR
612.39	EXIST SPOT ELEVATION
TC 612.39 G 611.89	EXIST TOP OF CURB ELEVATION / EXIST GUTTER ELEVATION
SAWCUT	LIMITS OF SAWCUT
	DEMOLITION AREA
	EXIST TREE TO REMAIN
	EXIST TREE TO BE REMOVED



VICINITY MAP
(NOT TO SCALE)

CRITICAL WATER QUALITY ZONE BUFFER AVERAGING	
EXISTING CWQZ AREA	74,717.38 SF
CWQZ AREA REMOVED	679.50 SF
CWQZ AREA ADDED	2,717.31 SF
TOTAL PROPOSED CWQZ AREA	76,755.19 SF

MPN: 21-32183 SP-2020-0407D

Pacheco Koch
8701 N. MOPAC EXPY, SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

NO.	DATE	DESCRIPTION	BY

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS
EXISTING CONDITION & DEMOLITION PLAN

STATE OF TEXAS
HOLLIS ANN SCHEFFLER
136049
LICENSED PROFESSIONAL ENGINEER

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October 8, 2020

Andrew Clamann
Watershed Protection Department
City of Austin
Austin, Texas 78767

RE: Moores Crossing Environmental Resource Inventory

Dear Mr. Clamann:

Bowman Consulting Group (BCG) has performed an Environmental Resource Inventory for the Moores Crossing site in Del Valle, Texas. Sarah Weber of BCG performed a site visit on September 11, 2020. All forms and maps are included within the ERI Report. A brief summary of the site visit is included below.

The site is to the east of SH-130 and west of Ross road. Residential development borders the site on the northeast, east, and south, and an agricultural field is adjacent to the west. There were four habitat types observed during the site visit on September 11, 2020: a honey mesquite (*Prosopis glandulosa*) shrubland in the eastern and central portion of the site; ridgeline vegetation along the northeastern and eastern site boundary dominated by gum bumelia (Sideroxylon lanuginosum), eastern red cedar (Juniperus virginiana), cedar elm (Ulmus crassifolia), hackberry (Celtis spp.), giant ragweed (Ambrosia trifida), and agarita (Mahonia trifoliolata); fencerow vegetation along the north and northwestern site boundary dominated by pecan (Carya illinoensis), black walnut (Juglans nigra), hackberry, and Japanese privet (Ligustrum japonicum); and a Roosevelt-weed (*Baccharis neglecta*) lowland in the northern and eastern portion near the center of the site. Overall plant diversity for these areas were low.

Approximately 6.9 acres of mapped critical water quality zones exist on-site, and two unmapped potential critical environmental features occur within 150’ of the site to the south. These features are bermed ponds on an adjacent property that is upgradient of the site. Due to the elevation and berms, we were unable to view the ponds from the site and cannot confirm presence of wetlands. Due to the elevational position, it is not anticipated the project will affect these potential CEFs.

BCG will be happy to discuss our findings with you and/or your organization at your convenience.

Respectfully,

Sara P. Weaver, Ph.D., AWB
Senior Ecologist/Project Manager
Bowman Consulting Group
133 W. San Antonio Street, STE 500
San Marcos, TX 78666

Case No.: _____
(City use only)

Environmental Resource Inventory

For the City of Austin
Related to LDC 25-8-121, City Code 30-5-121, ECM 1.3.0 & 1.10.0

The ERI is required for projects that meet one or more of the criteria listed in LDC 25-8-121(A), City Code 30-5-121(A).

1. SITE/PROJECT NAME: Moores Crossing
2. COUNTY APPRAISAL DISTRICT PROPERTY ID (#'s): 808064, 297538
3. ADDRESS/LOCATION OF PROJECT: 6101 Ross Road, Del Valle, Texas 78617
4. WATERSHED: Onion Creek-Colorado River
5. THIS SITE IS WITHIN THE *(Check all that apply)*
   - Edwards Aquifer Recharge Zone* *(See note below)* ..... ☐YES ☑No
   - Edwards Aquifer Contributing Zone* ..... ☐YES ☑No
   - Edwards Aquifer 1500 ft Verification Zone* ..... ☐YES ☑No
   - Barton Spring Zone* ..... ☐YES ☑No

   **(as defined by the City of Austin – LDC 25-8-2 or City Code 30-5-2)*

   Note: If the property is over the Edwards Aquifer Recharge zone, the Hydrogeologic Report and karst surveys must be completed and signed by a Professional Geoscientist Licensed in the State of Texas.

6. DOES THIS PROJECT PROPOSE FLOODPLAIN MODIFICATION?.....☐YES** ☑NO
   If yes, then check all that apply:
   - ☐ *(1) The floodplain modifications proposed are necessary to protect the public health and safety;*
   - ☐ *(2) The floodplain modifications proposed would provide a significant, demonstrable environmental benefit, as determined by a **functional assessment** of floodplain health as prescribed by the Environmental Criteria Manual (ECM), or*
   - ☐ *(3) The floodplain modifications proposed are necessary for development allowed in the critical water **quality zone under LDC 25-8-261 or 25-8-262, City Code 30-5-261 or 30-5-262.***
   - ☐ *(4) The floodplain modifications proposed are outside of the Critical Water Quality Zone in an area determined to be in poor or fair condition by a **functional assessment** of floodplain health.*

   **** If yes, then a functional assessment must be completed and attached to the ERI (see ECM 1.7 and Appendix X for forms and guidance) unless conditions 1 or 3 above apply.**

7. IF THE SITE IS WITHIN AN URBAN OR SUBURBAN WATERSHED, DOES THIS PROJECT PROPOSE A UTILITY LINE PARALLEL TO AND WITHIN THE CRITICAL WATER QUALITY ZONE? ..... ☐YES*** ☑NO

   *****If yes, then riparian restoration is required by LDC 25-8-261(E) or City Code 30-5-261(E) and a functional assessment must be completed and attached to the ERI (see ECM1.5 and Appendix X for forms and guidance).**

8. There is a total of 2 (#'s) Critical Environmental Feature(s)(CEFs) on or within150 feet of the project site. If CEF(s) are present, attach a detailed **DESCRIPTION** of the CEF(s), color **PHOTOGRAPHS**, the **CEF WORKSHEET** and provide **DESCRIPTIONS** of the proposed CEF buffer(s) and/or wetland mitigation. Provide the number of each type of CEFs on or within 150 feet of the site (*Please provide the number of CEFs*):

0 (#'s) Spring(s)/Seep(s) 0 (#'s) Point Recharge Feature(s) 0 (#'s) Bluff(s)
0 (#'s) Canyon Rimrock(s) 2 (#'s) Wetland(s)

Note: Standard buffers for CEFs are 150 feet, with a maximum of 300 feet for point recharge features. Except for wetlands, if the standard buffer is not provided, you must provide a written request for an administrative variance from LDC 25-8-281(C)(1) and provide written findings of fact to support your request. Request forms for administrative variances from requirements stated in LDC 25-8-281 are available from Watershed Protection Department.

9. The following site maps are attached at the end of this report *(Check all that apply and provide):*

All ERI reports must include:

- ☑ **Site Specific Geologic Map with 2-ft Topography**
- ☑ **Historic Aerial Photo of the Site**
- ☑ **Site Soil Map**
- ☑ **Critical Environmental Features and Well Location Map on current Aerial Photo with 2-ft Topography**

Only if present on site *(Maps can be combined):*

- ☐ **Edwards Aquifer Recharge Zone with the 1500-ft Verification Zone**
  (Only if site is over or within 1500 feet the recharge zone)
- ☐ **Edwards Aquifer Contributing Zone**
- ☐ **Water Quality Transition Zone (WQTZ)**
- ☑ **Critical Water Quality Zone (CWQZ)**
- ☐ **City of Austin Fully Developed Floodplains for all water courses with up to 64-acres of drainage**

10. **HYDROGEOLOGIC REPORT –** Provide a description of site soils, topography, and site specific geology below *(Attach additional sheets if needed):*

Surface Soils on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups*. If there is more than one soil unit on the project site, show each soil unit on the site soils map.

Soil Series Unit Names, Infiltration Characteristics & Thickness		
Soil Series Unit Name & Subgroup**	Group*	Thickness (feet)
Lewisville silt clay, 0 to 1 percent slopes	C	0-5'
Houston Black clay, 3 to 5 percent slopes, moderately eroded	D	0-5'
Ferris-Heiden complex, 8 to 20 percent slopes, severely eroded	D	0-5'
Houston Black clay, 1 to 3 percent slopes	D	0-6.5'

Soil Hydrologic Groups Definitions *(Abbreviated)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate *infiltration* rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

**Subgroup Classification – See Classification of Soil Series Table in County Soil Survey.

Description of Site Topography and Drainage *(Attach additional sheets if needed)*:

Elevation at the site ranges from 505' in the northeastern portion of the site to 452' to the northwest. The site slopes down towards the north and west. Surface drainage flows generally to the northwest, west, and southwest towards a series of freshwater ponds off-site and towards an unnamed intermittent stream that is a tributary to Dry Creek.

List surface geologic units below:

Geologic Units Exposed at Surface		
Group	Formation	Member
Navarro Group	Kemp	Unknown
Quaternary Terrace	Quarternary Terrace	Recent Channel Deposit

Brief description of site geology *(Attach additional sheets if needed)*:

Two geologic units are present on-site at Moores Crossing, Navarro Group and Marlbrook Marl, undivided (Knb), and the Terrace deposits (Qt). No rock outcrops or faults are observed or mapped on site.

Wells – Identify all recorded and unrecorded wells on site (test holes, monitoring, water, oil, unplugged, capped and/or abandoned wells, etc.):

There are 4 (#) wells present on the project site and the locations are shown and labeled

0 (#'s) The wells are not in use and have been properly abandoned.

4 (#'s) The wells are not in use and will be properly abandoned.

0 (#'s) The wells are in use and comply with 16 TAC Chapter 76.

There are 0 (#'s) wells that are off-site and within 150 feet of this site.

11. **THE VEGETATION REPORT** – Provide the information requested below:

Brief description of site plant communities *(Attach additional sheets if needed)*:

Four habitat types are observed at the site. The first is a honey mesquite dominated shrubland in the eastern and central portion of the site that is interspersed with distrubed open rangeland dominated by forbs such as broomweed, prairie tea, and western ragweed. The second is ridgeline vegetation along the northeastern and eastern site boundary dominated by gum bumelia, sorrel vine, eastern cedar, hackberry, cedar elm, and Japanese privet. The third habitat type is fencerow vegetation along the boundary running northeast to southwest dominated by hackberry, pecan, black walnut, and Japanese privet. The fourth is a Roosevelt-weed dominated lowland area in the northern and eastern portion near the center of the site.

There is woodland community on site ……..☑YES ☐ NO *(Check one).*
If yes, list the dominant species below:

Woodland species	
Common Name	Scientific Name
Honey Mesquite	Prosopis glandulosa
Gum Bumelia	Sideroxylon lanuginosum
Hackberry	Celtis spp.
Cedar Elm	Ulmus crassifolia
Eastern Red Cedar	Juniperus virginiana

There is grassland/prairie/savanna on site……..☑YES ☐ NO *(Check one).*
If yes, list the dominant species below:

Grassland/prairie/savanna species	
Common Name	Scientific Name
Annual Broomweed	Amphiachyris dracunculoides
Prairie Tea	Croton monanthogynus
Western Ragweed	Ambrosia psilostachya
Sumpweed	Iva annua
Unknown grass	Unknown spp.
Roosevelt-weed	Baccharis neglecta
Agarita	Mahonia trifoliolata

There is hydrophytic vegetation on site ……..☑YES ☐ NO *(Check one).*
If yes, list the dominant species in table below *(next page):*

Hydrophytic plant species		
Common Name	Scientific Name	Wetland Indicator Status
Pecan	Carya illinoensis	FAC+
Roosevelt-weed	Baccharis neglecta	FAC

A tree survey of all trees with a diameter of at least eight inches measured four and one-half feet above natural grade level has been completed on the site.
☐YES ☑ NO *(Check one).*

12. **WASTEWATER REPORT –** Provide the information requested below.

Wastewater for the site will be treated by *(Check of that Apply)*:

☐ On-site system(s)

☐ City of Austin Centralized sewage collection system

☑ Other Centralized collection system

Note: All sites that receive water or wastewater service from the Austin Water Utility must comply with City Code Chapter 15-12 and wells must be registered with the City of Austin

The site sewage collection system is designed and will be constructed to in accordance to all State, County and City standard specifications.
☑YES ☐ NO *(Check one).*

Calculations of the size of the drainfield or wastewater irrigation area(s) are attached at the end of this report or shown on the site plan.
☐YES ☑ NO ☐ Not Applicable *(Check one).*

Wastewater lines are proposed within the Critical Water Quality Zone?
☐YES ☑ NO *(Check one)*. If yes, then provide justification below:

Is the project site is over the Edwards Aquifer?
☐YES ☑ NO *(Check one).*

If yes, then describe the wastewater disposal systems proposed for the site, its treatment level and effects on receiving watercourses or the Edwards Aquifer.

13. One (1) hard copy and one (1) electronic copy of the completed assessment have been provided.

Date(s) ERI Field Assessment was performed: September 11, 2020
Date(s)

My signature certifies that to the best of my knowledge, the responses on this form accurately reflect all information requested.

Sara Weaver	512-774-7806
Print Name	Telephone
Sara Weaver Digitally signed by Sara Weaver Date: 2020.10.08 15:58:45 -05'00'	sweaver@bowmanconsulting.com
Signature	Email Address
Bowman Consulting Group	10/08/2020
Name of Company	Date

For project sites within the Edwards Aquifer Recharge Zone, my signature and seal also certifies that I am a licensed Professional Geoscientist in the State of Texas as defined by ECM 1.12.3(A).

City of Austin Environmental Resource Inventory - Critical Environmental Feature Worksheet

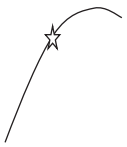
1	Project Name:	Moores Crossing
2	Project Address:	6101 Ross Road, Del Valle
3	Site Visit Date:	September 11, 2020
4	Environmental Resource Inventory Date:	October 5, 2020

5	Primary Contact Name:	Sarah Weber
6	Phone Number:	737-213-8557
7	Prepared By:	Sarah Weber
8	Email Address:	sweber@bowmanconsulting.com

9	FEATURE TYPE {Wetland,Rimrock, Bluffs,Recharge Feature,Spring}	FEATURE ID (eg S-1)	FEATURE LONGITUDE (WGS 1984 in Meters)		FEATURE LATITUDE (WGS 1984 in Meters)		WETLAND DIMENSIONS (ft)		RIMROCK/BLUFF DIMENSIONS (ft)		RECHARGE FEATURE DIMENSIONS				Springs Est. Discharge
			coordinate	*notation*	*coordinate*	*notation*	X	Y	Length	Avg Height	X	Y	Z	Trend	cfs
10	Potential Wetlands	W-1	-97.6384		30.1644		n/a	n/a							
11	Potential Wetlands	W-2	-97.6378		30.1649		n/a	n/a							

City of Austin Use Only CASE NUMBER:	

For rimrock, locate the midpoint of the segment that describes the feature.



For wetlands, locate the approximate centroid of the feature and the estimated area.

For a spring or seep, locate the source of groundwater that feeds a pool or stream.

Please state the method of coordinate data collection and the approximate precision and accuracy of the points and the unit of measurement.

Method		Accuracy	
GPS	☐	sub-meter	☐
Surveyed	☐	meter	☐
Other	☑	> 1 meter	☑

Professional Geologists apply seal below

ENVIRONMENTAL RESOURCE INVENTORY

FOR MOORES CROSSING

IN TRAVIS COUNTY, TEXAS

BOWMAN PROJECT NO. 070376-01-001

OCTOBER 8, 2020

1.0 BACKGROUND INFORMATION

Bowman Consulting Group Ltd. was contracted by Dalfen Industries to perform an Environmental Resource Inventory (ERI) for the City of Austin at Moores Crossing in Travis County, Texas. This tract is located at 6101 Ross Road in Del Valle, Texas and is approximately 85 acres.

The City of Austin (COA) requires ERIs to be performed per City Code 30-5-121(A) and Land and Development Code (LDC) 25-8-121(A). This ERI will identify the hydrogeology, vegetation, and critical environmental features of an area with an inventory checklist used during the desktop review and associated site visit. This report is a supplement to describe the features identified on the ERI checklist and associated site visit performed on September 11, 2020. **Appendix A** contains photographs from the site visit.

PROJECT NAME:	Moores Crossing
SIZE:	Approximately 85 acres
COUNTY:	Travis County, Texas
LOCATION:	Located at 6101 Ross Road in Del Valle, Texas (**Figure 1**)
USGS 7.5' QUAD:	Austin East, Texas
CLIENT:	Dalfen Industries
CLIENT ADDRESS:	17304 Preston Road, Suite 550, Dallas Texas 75252

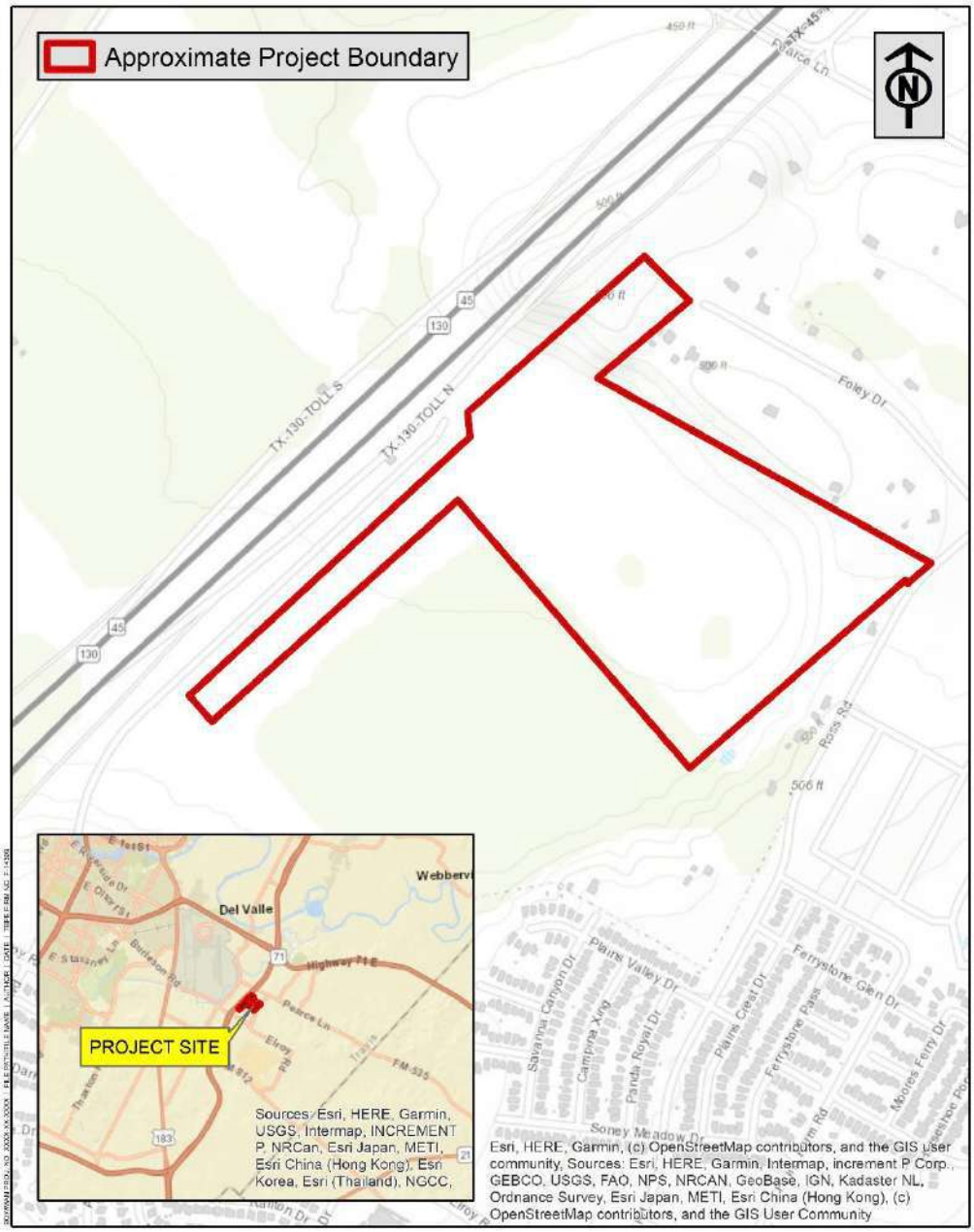


Figure 1. Overview and Project Location

2.0 METHODS

Bowman Consulting Group, Ltd. reviewed available digital data to identify the watersheds, aquifers, floodplains, soils, and geological units as part of the desktop review prior to site visit. Additionally, aerial imagery was used to create field maps and identify areas of concern prior to site visit.

An on-site field visit was performed by Bowman Consulting Group. On September 11, 2019, Sarah Weber of BCG conducted the field visit for Moores Crossing. During the site visit, a list of vegetation and wildlife on-site was collected.

Site characteristics observed during the desktop review and the on-site field visit including hydrogeology, vegetation, wildlife, and critical environmental features are described in the following sections.

3.0 RESULTS

3.1 HYDROGEOLOGY

3.1.1 SITE TOPOGRAPHY AND DRAINAGE

The site has a slight gradient from 505-feet to 452-feet above mean sea level (amsl). Drainage onsite occurs primarily by sheet flow in a north and northwest direction. Storm water runoff from the site flows toward the TX-130 Toll N where it appears to flow through a culvert to a series of ponds across the toll road and then eventually into Onion Creek which flows to the Colorado River.

3.1.2 WATERSHED

Moores Crossing is located within Onion Creek-Colorado River Watershed (1). The watershed is classified as a suburban water supply.

3.1.3 AQUIFER ZONES

The site does not occur in, or within 1,500-feet of, the Edwards Aquifer Recharge Zone or the Contributing Zone. Moores Crossing occurs within the southern portion of the Trinity Aquifer System (2). The aquifer is within the Groundwater Management Area 10 (2).

3.1.4 FLOODPLAINS

According to the FEMA Flood Map Service Center, the Moores Crossing is located within a “Zone X”, “area of minimal flood hazard” (5). See **Figure 2** for City of Austin and FEMA floodplains mapping at Moores Crossing.

3.1.5 CRITICAL WATER QUALITY ZONE

Approximately 6.9 acres of the Moores Crossing site is located within critical water quality zones (CWQZ). **Figure 3** shows the locations of the CWQZs within the Moores Crossing site. No construction can be implemented within this CWQZ, unless as permitted under §25-8-261 of the Environmental Criteria Manual.

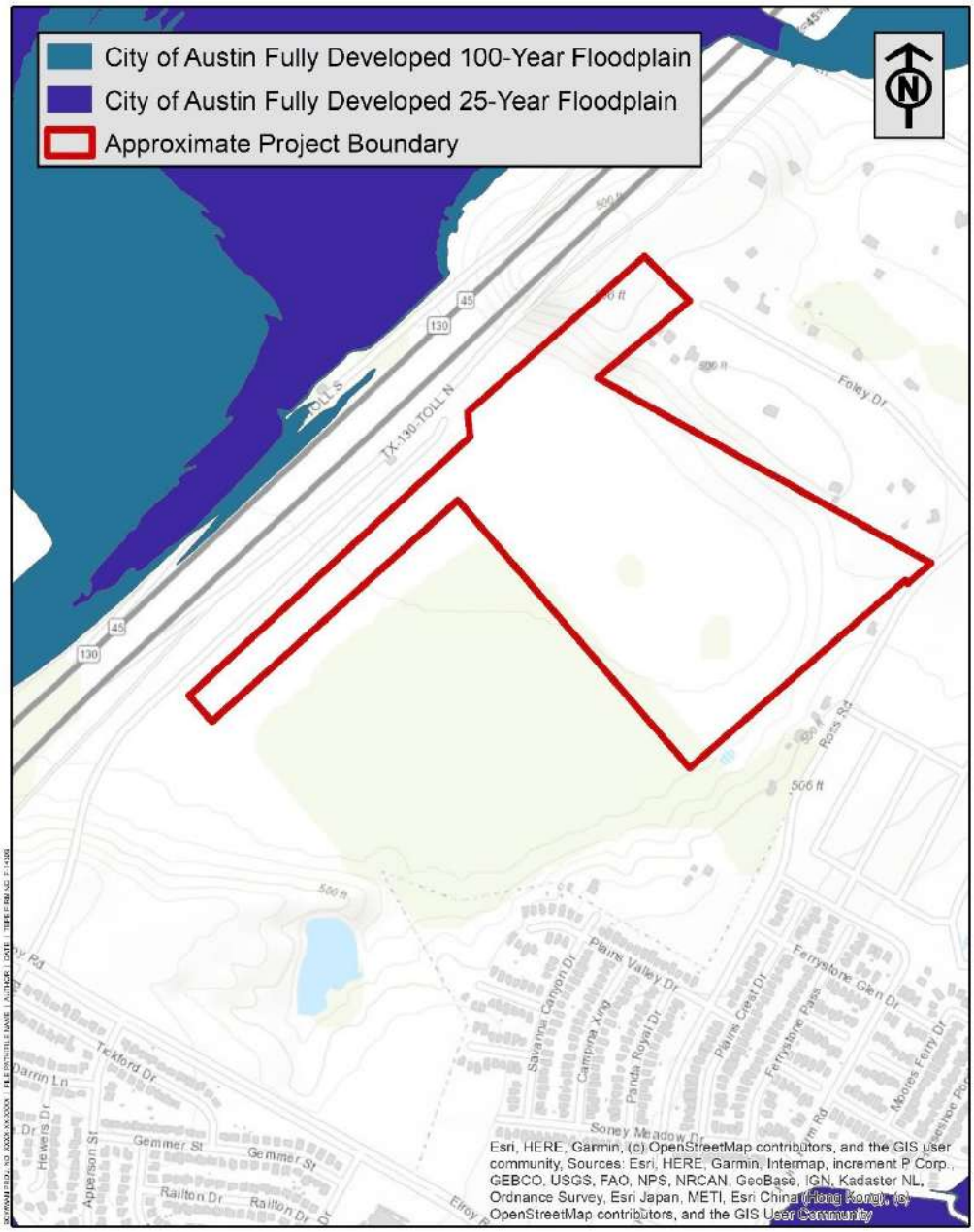


Figure 2. FEMA and City of Austin Floodplain Map

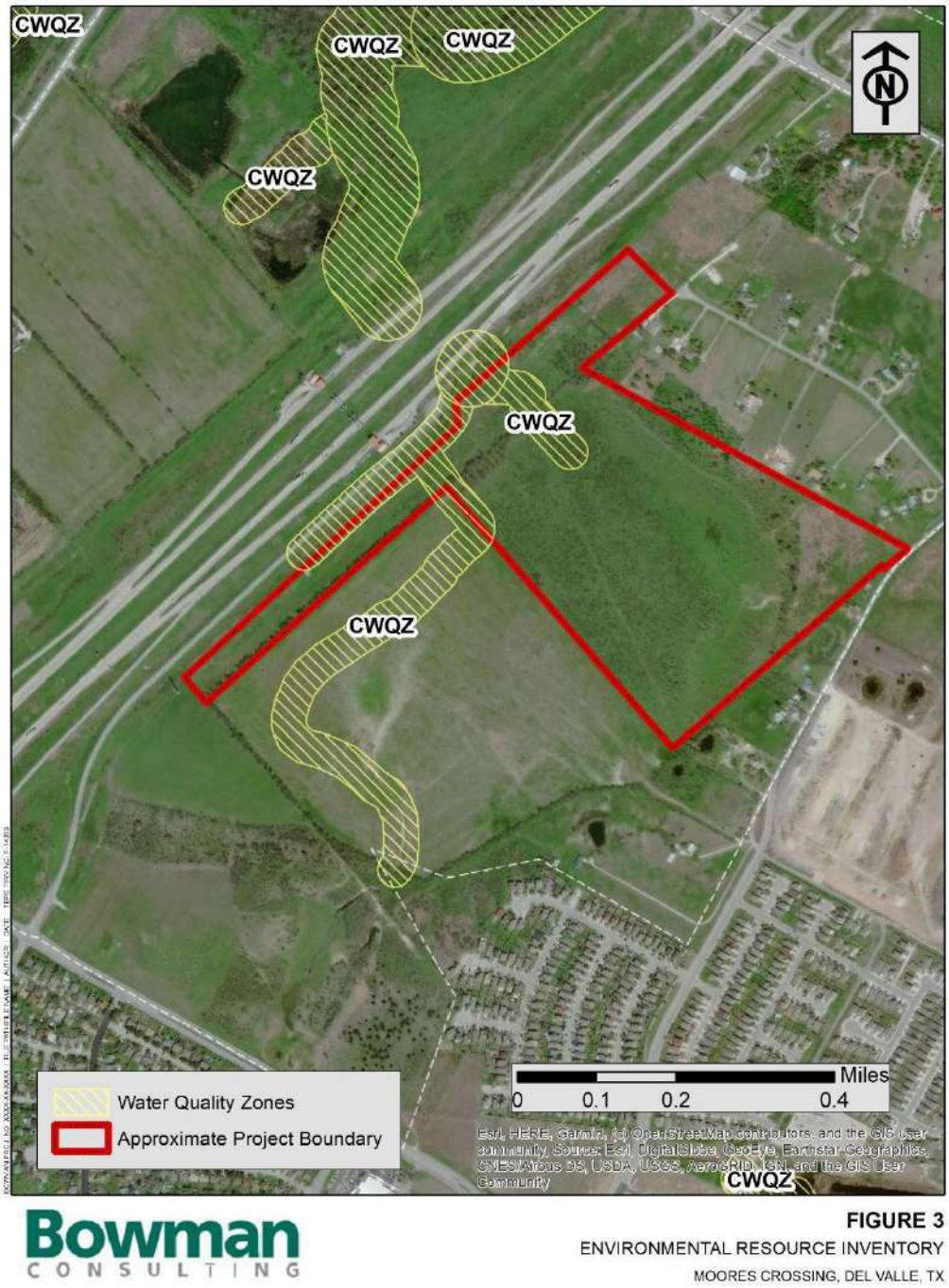


Figure 3. Critical Water Quality Zone

3.1.6 SURFACE SOILS

According to Web Soil Survey (6), there are four main surface soils present at Moores Crossing. The first is Lewisville silt clay, 0 to 1 percent slopes. This soil type has a high water capacity and is well drained with a typical profile of 0 to 61 inches below ground surface (6). The second soil found on-site is the Houston Black clay, 3 to 5 percent slopes, moderately eroded. This soil type is moderately well drained with a high water capacity and typical profile of 0 to 80 inches below ground surface (6). The third soil type is Houston Black clay, 1 to 3 percent slopes with the same properties as the previous Houston Black clay soil described (6). Lastly, is the Ferris-Heiden complex, 8 to 20 percent slopes, severely eroded. This soil is well drained with a low water capacity and typical profile of 0 to 60 inches below ground surface (6). See **Figure 4** for soils map at Moores Crossing.

3.1.7 GEOLOGIC UNITS

Two geologic units are present on-site at the Moores Crossing (7). The Navarro Group and Marlbrook Marl, undivided (Knb) is a geological formation from the cretaceous time period within the Navarro Group (7). The Terrace deposits (Qt) is a geological formation from the cretaceous time period within the Quaternary Terrace Group (7). **Figure 5** shows the geological unit present at the Moores Crossing.

3.1.8 WELLS

Four recorded water wells are present at Moores Crossing (**Figure 6**), although only two were observed during the site visit (**Photos 5–6 and 14–15**). This included a search for test holes, monitoring wells, water wells, oil wells, unplugged wells, capped and/or abandoned wells, and more.

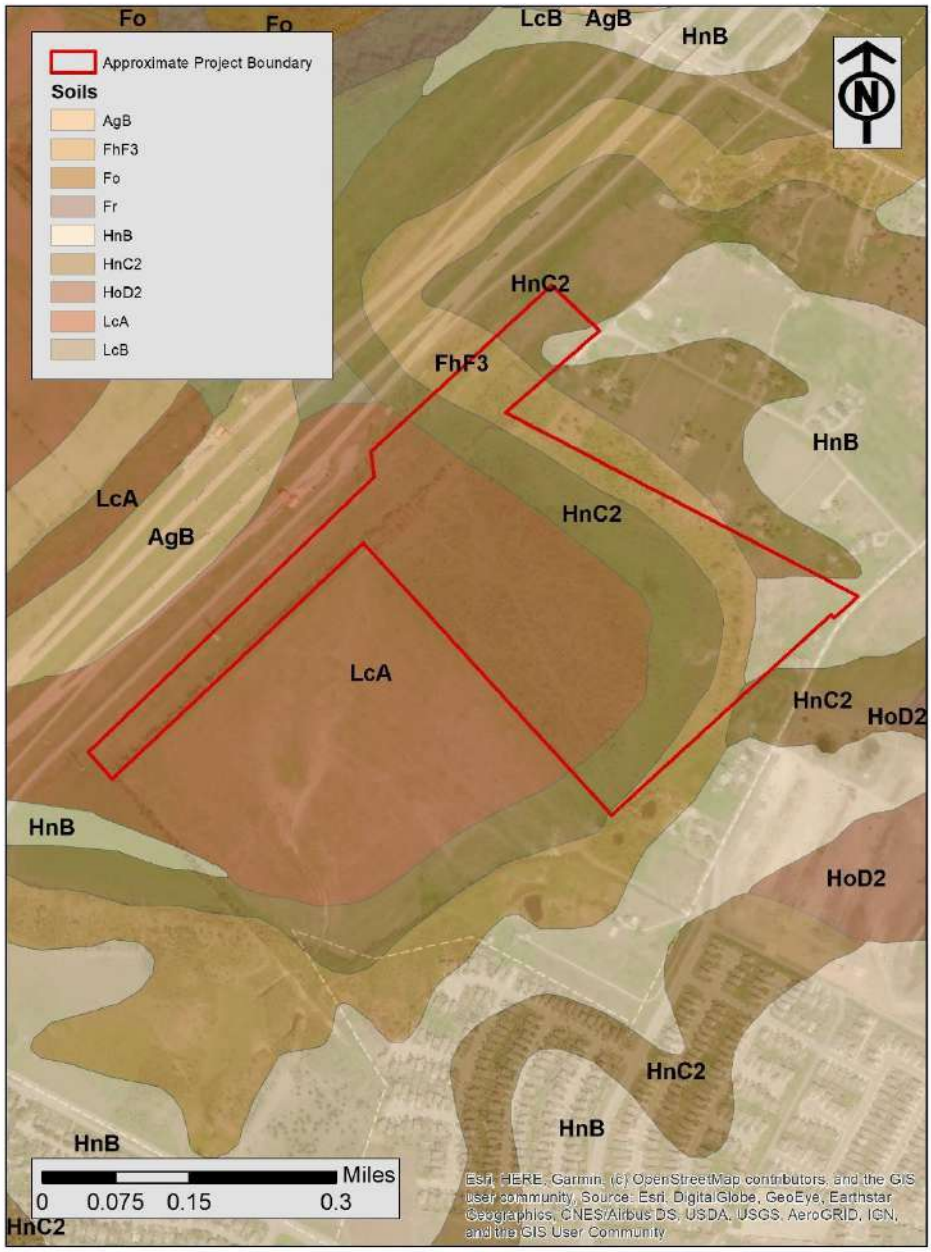


Figure 4. USDA Soil Associations

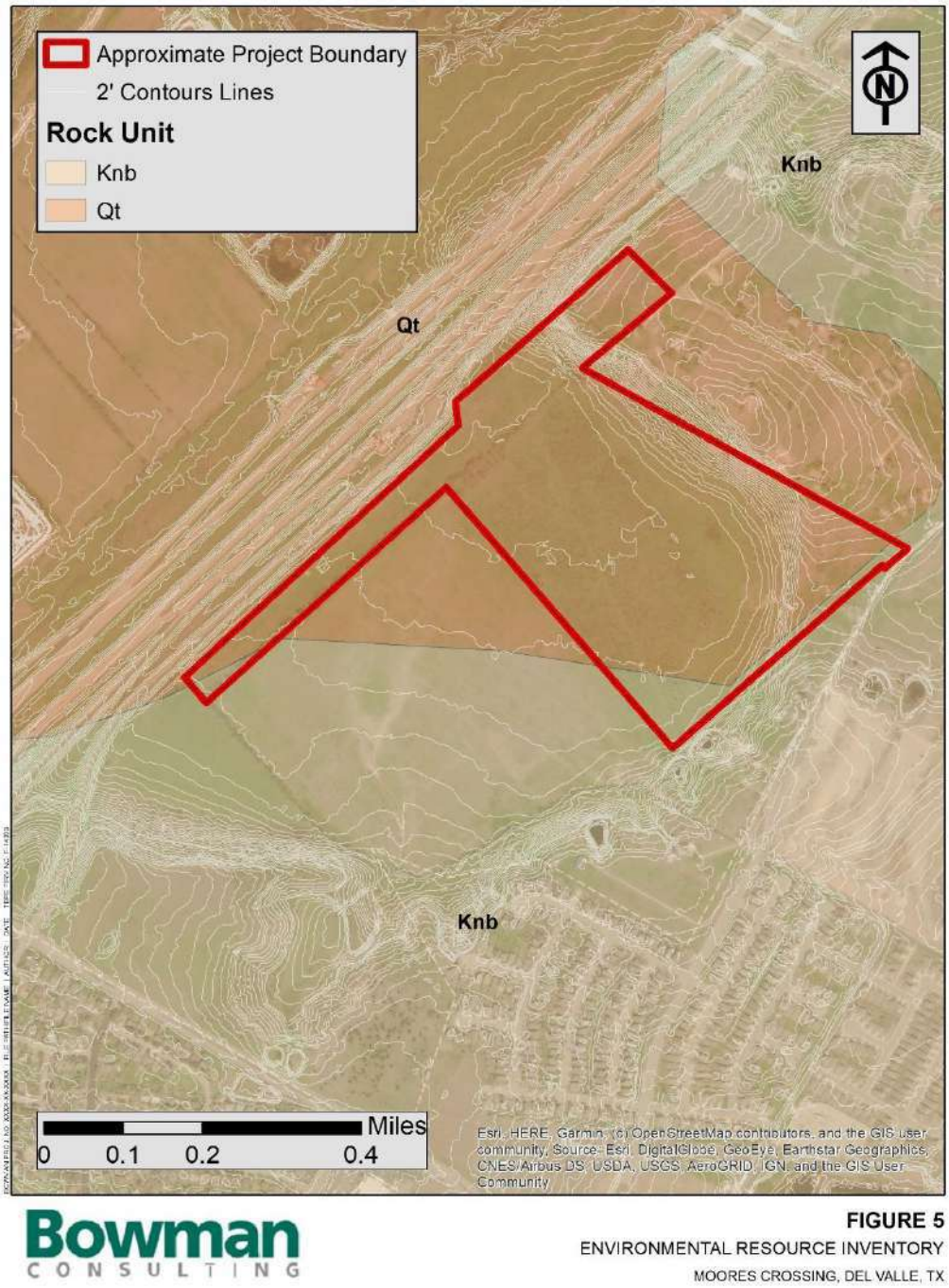


Figure 5. Geological Associations with 2 ft. Contours

Figure 6. Critical Environmental Features and Well Locations with 2 ft. Contours

3.2 VEGETATION

There were four habitat types observed during the site visit on September 11, 2020: a honey mesquite shrubland in the eastern and central portion of the site, ridgeline vegetation along the northeastern and eastern site boundary, fencerow vegetation along the north and northwestern site boundary, and a Roosevelt-weed lowland in the northern and eastern portion near the center of the site. Overall plant diversity for these areas were low. **Table 1** lists the plants present on Moores Crossing. The site has evidence of cattle grazing with a cattle staging area and a lick feeder with molasses (**Appendix A, Photos 7–8)**.

In the honey mesquite shrubland, the most dominant plants present were honey mesquite (*Prosopis glandulosa*), annual broomweed (*Amphiachyris dracunculoides*), prairie tea (*Croton monanthogynus*), and western ragweed (*Ambrosia psilostachya*). The ridgeline vegetation was primarily comprised of gum bumelia (*Sideroxylon lanuginosum*), eastern red cedar (*Juniperus virginiana*), cedar elm (*Ulmus crassifolia*), hackberry (*Celtis* spp.), giant ragweed (*Ambrosia trifida*), and agarita (*Mahonia trifoliolata*). The fencerow vegetation was dominated by pecan (*Carya illinoensis*), black walnut (*Juglans nigra*), hackberry, and Japanese privet (*Ligustrum japonicum*). Finally, the dominant species in the lowland area were Roosevelt-weed (*Baccharis neglecta*). Other vegetation present included snailseed vine (*Cocculus carolinus*), greenbrier (*Smilax bona-nox*), morning glory (*Ipomoea* spp.), lotebush (*Ziziphus obtusifolia*), prickly pear (*Opuntia linheimeri*), balloonvine (*Cardiospermum halicacabum*), boneset (*Eupatorium perfoliatum*), western horse nettle (*Solanum dimidiatum*), as well as an unknown grass and an unknown sunflower species. No other woody species were documented.

Table 1. Dominant vegetation at Moores Crossing.

Common Name	Scientific Name
Forbs	
Western Ragweed	*Ambrosia psilostachya*
Sumpweed	*Iva annua*
Prairie Tea	*Croton monanthogynus*
Broomweed	*Amphiachyris dracunculoides*
Giant Ragweed	*Ambrosia trifida*
Roosevelt-weed[1]	*Baccharis neglecta*
Agartita	*Mahonia trifoliolata*
Snailseed Vine	*Cocculus carolinus*
Greenbrier	*Smilax bona-nox*
Morning Glory	*Ipomoea* spp.
Lotebush	*Ziziphus obtusifolia*
Balloonvine	*Cardiospermum halicacabum*
Boneset	*Eupatorium perfoliatum*
Western Horse Nettle	*Solanum dimidiatum*
Trees/Shrubs	
Honey Mesquite	*Prosopis glandulosa*
Gum Bumelia	*Sideroxylon lanuginosum*

Common Name	Scientific Name
Hackberry	*Celtis* spp.
Cedar Elm	*Ulmus crassifolia*
Prickly Pear	*Opuntia linheimeri*
Eastern Red Cedar	*Juniperus virginiana*
Pecan[2]	*Carya illinoensis*
Black Walnut	*Juglans nigra*
Japanese Privet	*Ligustrum japonicum*

[1] Facultative hydrophyte (FAC); [2] Facultative hydrophytes more frequently found in wetlands (FAC$^+$).

3.3 WILDLIFE

During the on-site field visit, the following wildlife were observed (**Table 2**). All species were common, and no threatened or endangered species were observed during the site visit.

Table 2. Wildlife observations at Moores Crossing.

Species Code	Common Name	Scientific Name
Birds		
NOMO	Northern Mockingbird	*Mimus polyglottos*
AMCR	American Crow	*Corvus brachyrhynchos*
COGR	Common Grackle	*Quiscalus quiscula*
CARW	Carolina Wren	*Thryothorus ludovicianus*
EAPH	Eastern Phoebe	*Sayornis phoebe*
RSHA	Red-shouldered Hawk	*Buteo lineatus*
MODO	Mourning Dove	*Zenaida macroura*
WWDO	White-winged Dove	*Zenaida asiatica*
BLVU	Black Vulture	*Coragyps atratus*
EABL	Eastern Bluebird	*Sialia sialis*

4.0 CRITICAL ENVIRONMENTAL FEATURES

Critical environmental features (CEF) include springs/seeps, point recharge features, bluffs, canyon rimrocks, and wetlands. Two ponds with potential wetlands that are possible critical environmental features were identified off-site but within 150' buffer of the site during the desktop review (see **Figure 6**). These ponds were not originally mapped by City of Austin as CEFs but are considered in this evaluation due to potential for wetlands to occur. In addition, the 150' buffers for these features extend approximately 0.35 acres into the Moores Crossing boundary. We do not have access to these locations and cannot perform a wetland delineation to determine if these features qualify as wetlands and therefore are CEFs. Moreover, both features have earthen berms to the northwest blocking view of them from the Moores Crossing property (see **Appendix A, Photos 16 and 17**). However, the features are upgradient from the Moores Crossing site. Therefore, water from these features flows to Moores Crossing. Thus, it is not anticipated the project will affect these potential CEFs.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The Environmental Resource Inventory for Moores Crossing identified 6.9 acres of City of Austin mapped CWQZs (**Figure 3**) and two potential CEFs not mapped by City of Austin that are off-site but within the 150' buffer of Moores Crossing project boundary and with standard buffers extending into 0.35 acres of the project boundary in the southwest (**Figure 6**). Bowman Consulting Group, Ltd recommends avoiding construction in these locations. If avoidance is not feasible to the project, we recommend consulting with City of Austin on options, such as an administrative reduction or modification of standard buffers and/or mitigation.

6.0 SIGNATURES

This report was prepared by a certified wildlife biologist at the consulting firm of Bowman Consulting Group, Ltd. in conformance with the methods and limitations described herein. The findings of this Environmental Resource Inventory are completely and accurately documented in this report.

PREPARED AND APPROVED BY:

SIGNATURE

SARAH WEBER, CWB
SENIOR ENVIRONMENTAL SCIENTIST
PRINTED NAME

OCTOBER 8, 2020
DATE

Bowman CONSULTING

FIGURE 7
ENVIRONMENTAL RESOURCE INVENTORY
MOORES CROSSING, DEL VALLE, TX

Figure 7. Historical Map (ca. 1995) of Moores Crossing.

7.0 REFERENCES

1. **Texas Parks and Wildlife.** Texas Watershed Viewer. [Online] https://tpwd.maps.arcgis.com/apps/Viewer/index.html?appid=2b3604bf9ced441a98c500763b8b1048.

2. **Texas Water Development Board.** Water Data Interactive. *Major Aquifer 3D Viewer.* [Online] [Cited: September 16, 2020.] https://www2.twdb.texas.gov/apps/waterdatainteractive/gamsdataviewer.

3. **City of Austin.** Property Profile Map Viewer. [Online] [Cited: September 16, 2020.] https://www.austintexas.gov/gis/propertyprofile/.

4. —. Floodplain Development Information. [Online] [Cited: September 16, 2020.]

5. **FEMA.** Flood Map Service Center. [Online] 2019. [Cited: September 16, 2020.] https://msc.fema.gov/portal/home.

6. **U.S. Geological Survey.** Web Soil Survey. [Online] April 9, 2019. [Cited: September 16, 2020.] https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

7. —. Texas Geology Web Map Viewer. [Online] [Cited: September 16, 2020.] https://txpub.usgs.gov/txgeology/.

8. **City of Austin.** Central Texas Wetland Plants Field Guide. [Online] [Cited: September 11, 2020.] http://www.austintexas.gov/watershed_protection/publications/document.cfm?id=203088.

APPENDIX A

SITE PHOTOS OF MOORES CROSSING

SEPTEMBER 11, 2020 SITE VISIT

Photo 1. Access gate to property on Ross Road.

Photo 2. Honey mesquite dominated shrubland vegetation.

Photo 3. Honey mesquite dominated shrubland vegetation.

Photo 4. Lowland habitat dominated by Roosevelt-weed.

Photo 5. Open well in the northwestern portion of the site in the fencerow vegetation.

Photo 6. Open well in the northwestern portion of the site in the fencerow vegetation.

Photo 7. Cattle lick feeder in eastern portion of the site.

Photo 8. Cattle staging area in the eastern portion of the site.

Photo 9. Open gate leading to transmission line right-of-way in northwestern portion of the site with fencerow vegetation. Mapped critical water quality zone (CWQZ) occurs in this area (see **Figure 3**).

Photo 10. Fence row vegetation in the northwestern portion of the site. Mapped critical water quality zone (CWQZ) occurs in this area (see **Figure 3**).

Photo 11. Honey mesquite dominated shrubland vegetation.

Photo 12. Honey mesquite dominated vegetation and pipeline right-of-way.

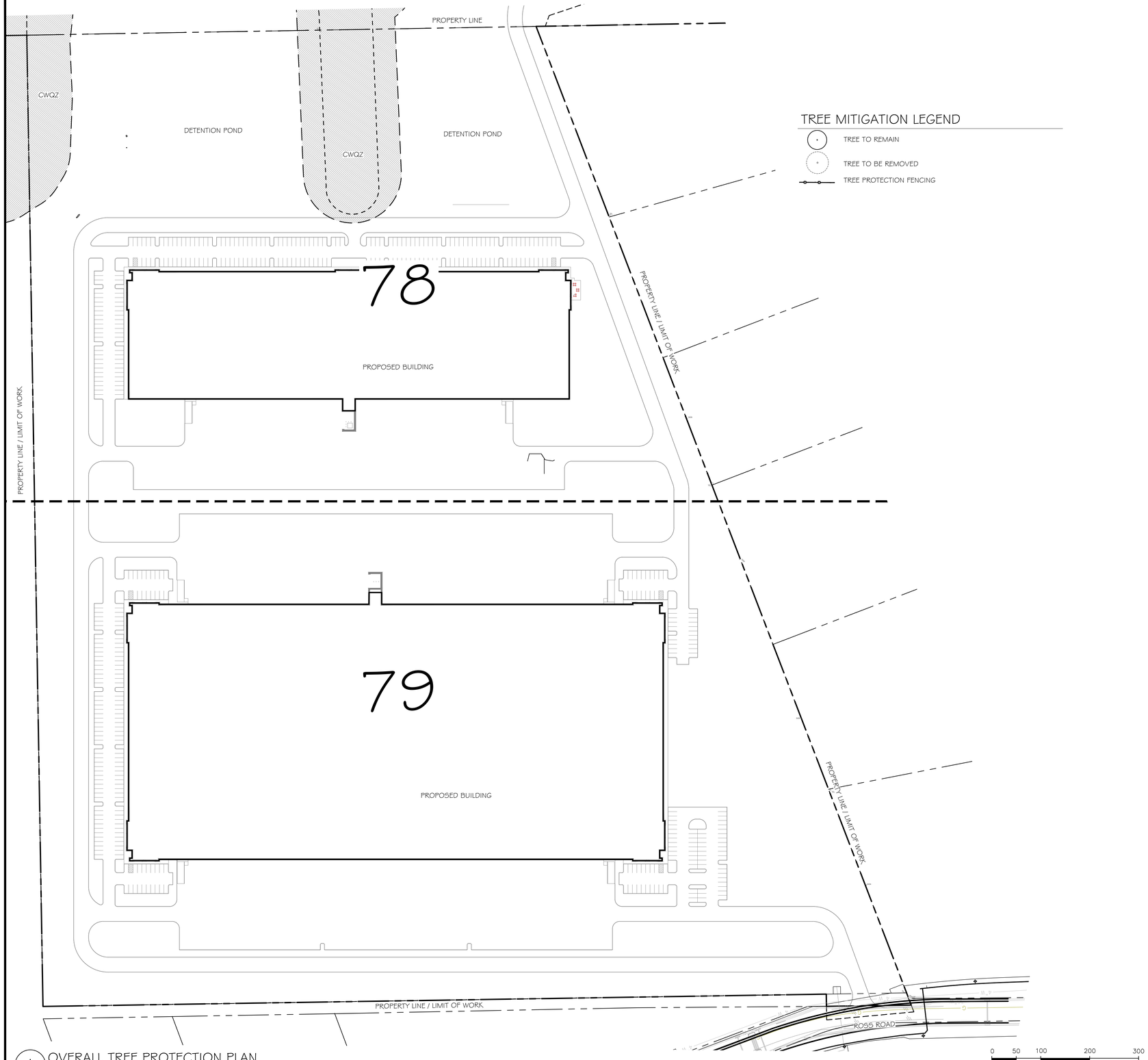
Photo 13. Ridgeline vegetation dominated by eastern red cedar, gum bumelia, and hackberry.

Photo 14. Closed water well and pump near the western boundary of the site.

Photo 15. Closed water well near western boundary of the site.

Photo 16. Photo from the southwestern corner of the site looking towards adjacent property with earthen bermed pond and potential wetlands.

Photo 17. Photo from the southwestern corner of the site looking towards adjacent property with earthen bermed pond and potential wetlands.

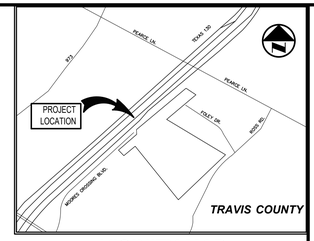


TREE MITIGATION LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TREE PROTECTION FENCING

1 OVERALL TREE PROTECTION PLAN
1" = 100'-0"

0 50 100 200 300
GRAPHIC SCALE IN FEET



VICINITY MAP
(NOT TO SCALE)

APPENDIX P-2 CITY OF AUSTIN STANDARD NOTES FOR TREE PROTECTION:

1. ALL TREES AND NATURAL AREAS SHOWN ON PLAN TO BE PRESERVED SHALL BE PROTECTED DURING CONSTRUCTION WITH TEMPORARY FENCING.
2. PROTECTIVE FENCES SHALL BE ERECTED ACCORDING TO CITY OF AUSTIN STANDARDS FOR TREE PROTECTION.
3. PROTECTIVE FENCES SHALL BE INSTALLED PRIOR TO THE START OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING), AND SHALL BE MAINTAINED THROUGHOUT ALL PHASES OF THE CONSTRUCTION PROJECT.
4. EROSION AND SEDIMENTATION CONTROL BARRIERS SHALL BE INSTALLED OR MAINTAINED IN A MANNER WHICH DOES NOT RESULT IN SOIL BUILD-UP WITHIN TREE DRIP LINES.
5. PROTECTIVE FENCES SHALL SURROUND THE TREES OR GROUP OF TREES, AND WILL BE LOCATED AT THE OUTERMOST LIMIT OF BRANCHES (DRIP LINE) , FOR NATURAL AREAS, PROTECTIVE FENCES SHALL FOLLOW THE LIMIT OF CONSTRUCTION LINE, IN ORDER TO PREVENT THE FOLLOWING:
   A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS;
   B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 6 INCHES CUT OR FILL), OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY ARBORIST;
   C. WOUNDS TO EXPOSED ROOTS, TRUNK OR LIMBS BY MECHANICAL EQUIPMENT;D.OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING, AND FIRES.
6. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIP LINES MAY BE PERMITTED IN THE FOLLOWING CASES:
   A. A.WHERE THERE IS TO BE AN APPROVED GRADE CHANGE, IMPERMEABLE PAVING SURFACE, TREE WELL, OR OTHER SUCH SITE DEVELOPMENT, ERECT THE FENCE APPROXIMATELY 2 TO 4 FEET BEYOND THE AREA DISTURBED;
   B. WHERE PERMEABLE PAVING IS TO BE INSTALLED WITHIN A TREES DRIP LINE, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA (PRIOR TO SITE GRADING SO THAT THIS AREA IS GRADED SEPARATELY PRIOR TO PAVING INSTALLATION TO MINIMIZED ROOT DAMAGE);
   C. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE TO ALLOW 6 TO 10 FEET OF WORK SPACE BETWEEN THE FENCE AND THE BUILDING;D.WHERE THERE ARE SEVERE SPACE CONSTRAINTS DUE TO TRACT SIZE, OR OTHER SPECIAL REQUIREMENTS, CONTACT THE CITY ARBORIST AT 974-1876 TO DISCUSS ALTERNATIVES.
   D. SPECIAL NOTE: FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED.
7. WHERE ANY OF THE ABOVE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TREE TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8 FT (OR TO THE LIMITS OF LOWER BRANCHING) IN ADDITION TO THE REDUCED FENCING PROVIDED.
8. TREES APPROVED FOR REMOVAL SHALL BE REMOVED IN A MANNER WHICH DOES NOT IMPACT TREES TO BE PRESERVED.
9. ANY ROOTS EXPOSED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES WATER LOSS DUE TO EVAPORATION.
10. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF LANDSCAPE IRRIGATION SHALL BE PLACED AS FAR FROM EXISTING TREE TRUNKS AS POSSIBLE.
11. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 4 INCHES SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
12. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC AND EQUIPMENT SHALL TAKE PLACE BEFORE DAMAGE OCCURS (RIPPING OF BRANCHES, ETC.).
13. ALL FINISHED PRUNING SHALL BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES AVAILABLE ON REQUEST FROM THE CITY ARBORIST).
14. DEVIATIONS FROM THE ABOVE NOTES MAY BE CONSIDERED ORDINANCE VIOLATIONS IF THERE IS SUBSTANTIAL NON-COMPLIANCE OR IF A TREE SUSTAINS DAMAGE AS A RESULT.

Pacheco Koch
8701 N. MOPAC EXPY. SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

NO.	DATE	DESCRIPTION	BY
	05/14/2021	CITY SUBMITTAL	AMH
	09/03/2021	CITY SUBMITTAL	AMH
	01/06/2022	CITY SUBMITTAL	AMH
	03/17/2022	CITY SUBMITTAL	AMH
	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

OVERALL TREE PROTECTION PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
77
-OF 98

DRAINAGE EASEMENT FOR HIGHWAY PURPOSES
(DOC. NO. 2006051184)

PROPERTY LINE/ LIMIT OF WORK

TRACT 2
ELECTRIC LINE EASEMENT AND RIGHT-OF-WAY
(DOC. NO. 2010048518)

GRADING LIMITS, REF. CIVIL DWGS

LIMIT OF WORK

GRADING LIMITS, REF. CIVIL DWGS

TREE PROTECTION FENCE, TYP.
REF. DETAILS ON SHEET 80

CWQZ

DETENTION POND

DETENTION POND

CWQZ

PROPERTY LINE / LIMIT OF WORK

PROPERTY LINE / LIMIT OF WORK

TREE PROTECTION FENCE, TYP.
REF. DETAILS ON SHEET 80

PROPOSED BUILDING

FFE: 466.00

MATCH LINE SEE SHEET 79

TREE MITIGATION LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TREE PROTECTION FENCING

1 TREE PROTECTION PLAN
1" = 60'-0"

0 30 60 120 180
GRAPHIC SCALE IN FEET

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	03/17/2022	CITY SUBMITTAL	AMH
	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

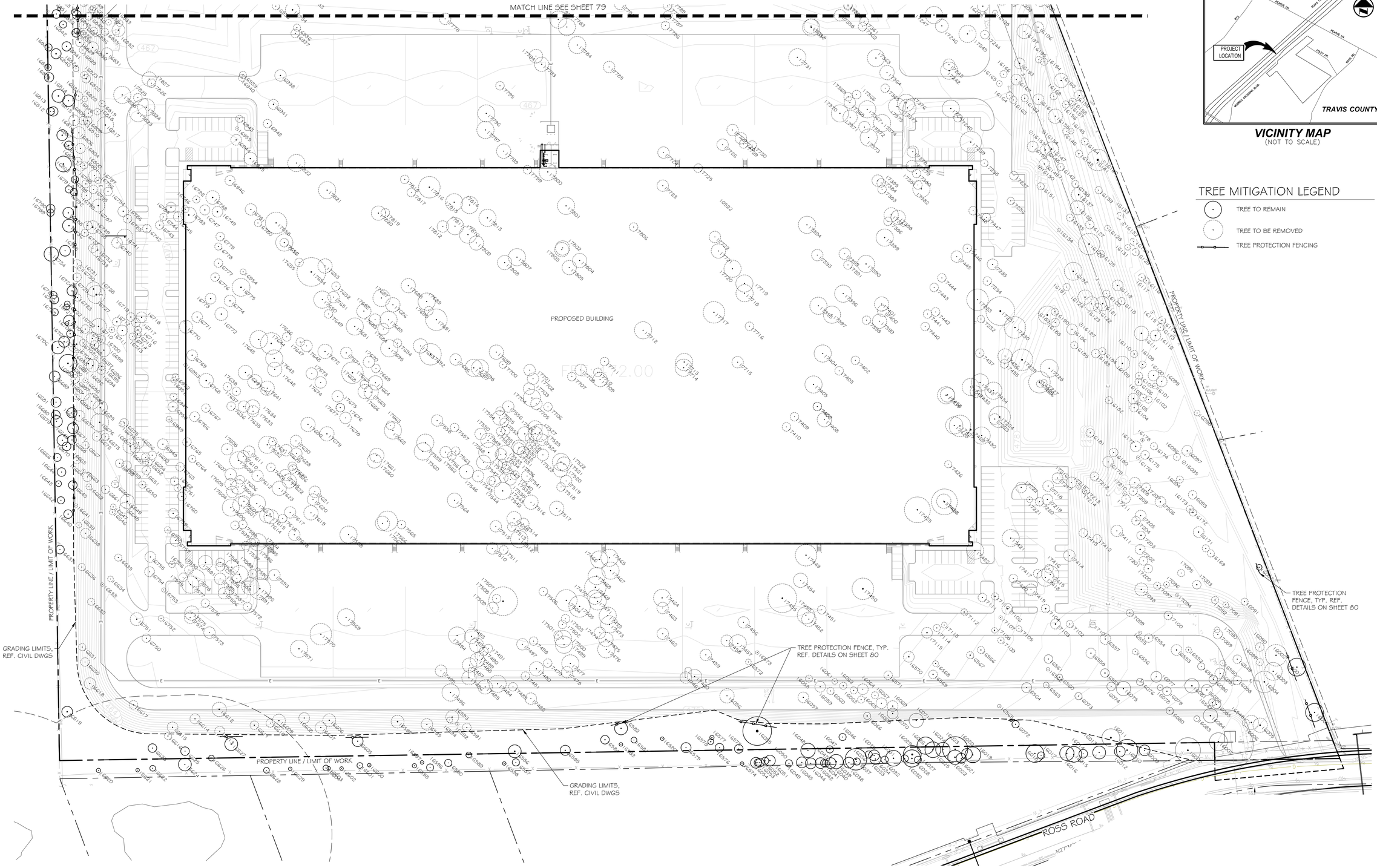
TREE PROTECTION PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
78
-OF 98



VICINITY MAP
(NOT TO SCALE)

TREE MITIGATION LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TREE PROTECTION FENCING

1 TREE PROTECTION PLAN
1" = 60'-0"

0 30 60 120 180
GRAPHIC SCALE IN FEET

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	01/06/2022	CITY SUBMITTAL	AMH
	03/17/2022	CITY SUBMITTAL	AMH
	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

TREE PROTECTION PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
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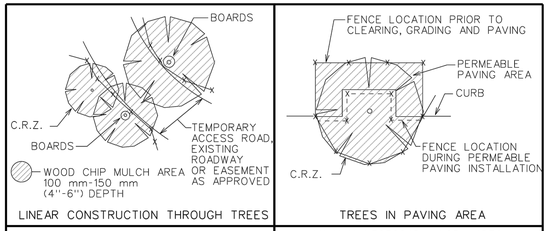
STATE OF TEXAS

03/29/2022

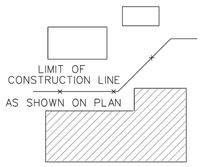
DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
79
-OF 98

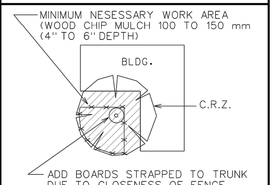


LINEAR CONSTRUCTION THROUGH TREES

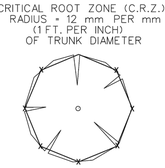
TREES IN PAVING AREA



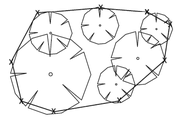
NATURAL AREAS



TREES NEAR CONSTRUCTION ACTIVITY

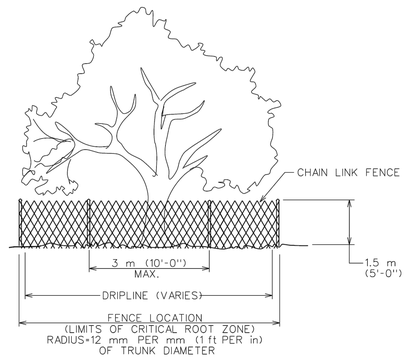


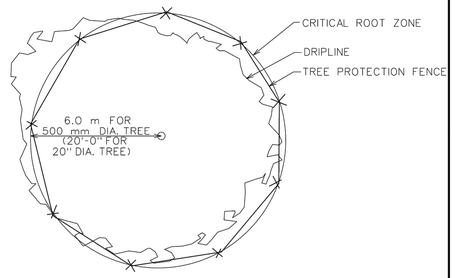
INDIVIDUAL TREE



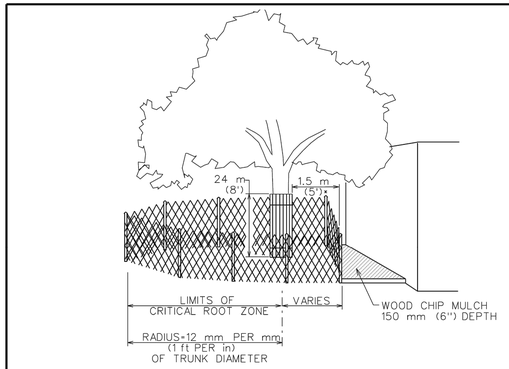
GROUP OF TREES

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE LOCATIONS	
RECORD COPY SIGNED BY J. PATRICK MURPHY	*11/15/99* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-1

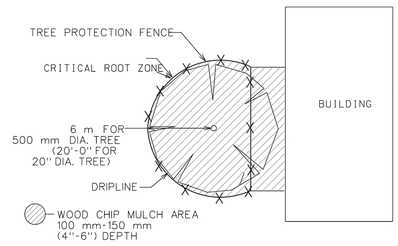




CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROPTECTION FENCE TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY	*11/15/99* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-2



*AS NEEDED TO PROVIDE MINIMUM NECESSARY WORK SPACE. IF LESS THAN 1.5 m (5'), THEN ADD BOARDS STRAPPED TO TRUNK.



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT		TREE PROTECTION FENCE MODIFIED TYPE A - CHAIN LINK	
RECORD COPY SIGNED BY J. PATRICK MURPHY	*11/15/99* ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 610S-4

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REVISIONS

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	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

TREE PROTECTION DETAILS

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
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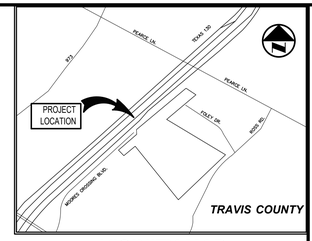
APPENDIX O - LANDSCAPE/IRRIGATION NOTES:

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

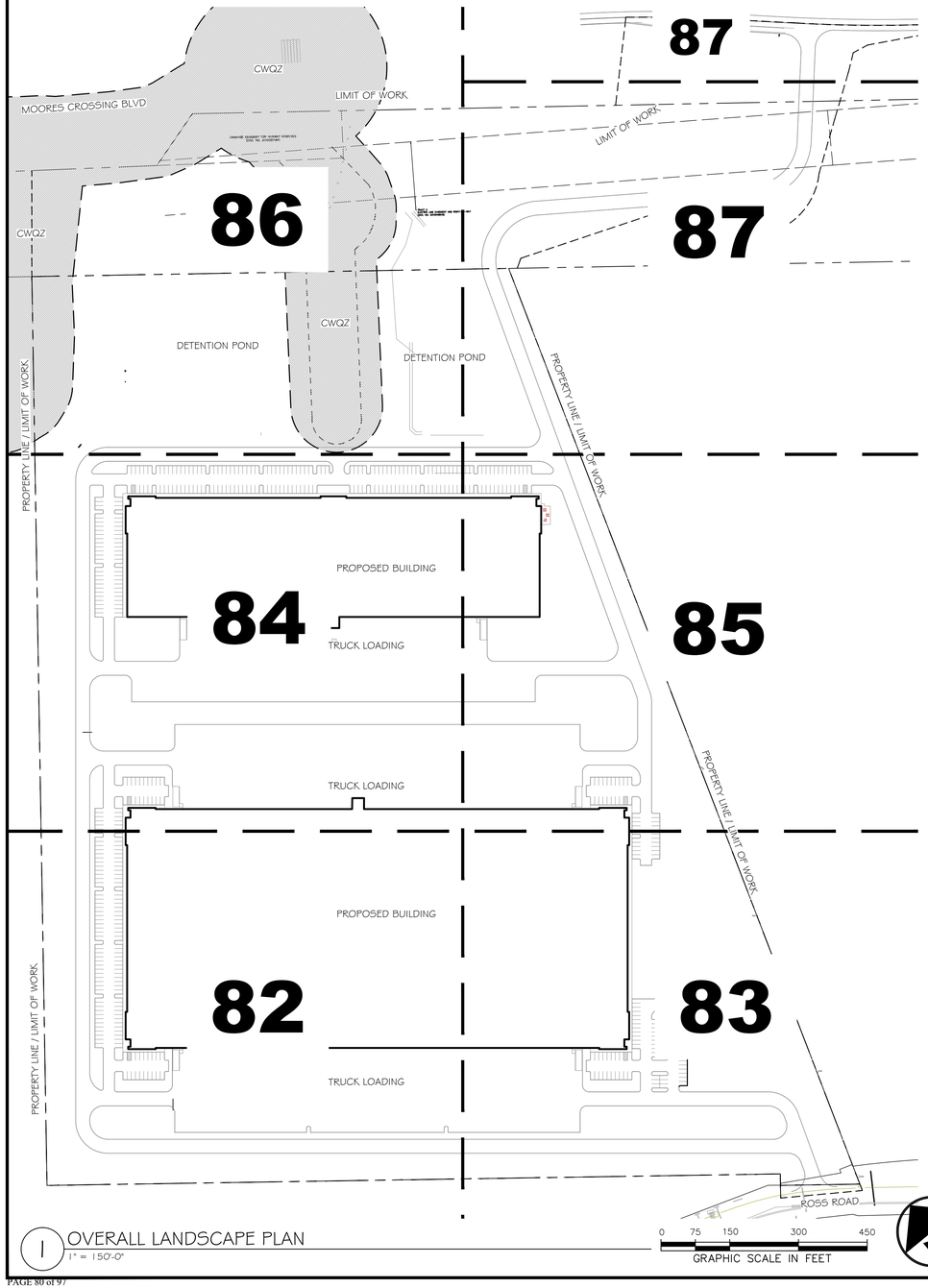
1. THESE REQUIREMENTS SHALL BE NOTED ON THE SITE DEVELOPMENT PERMIT AND SHALL BE IMPLEMENTED AS PART OF THE LANDSCAPE INSPECTION:
   - A. THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANT MATERIALS;
   - B. THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN TEN (10) FEET WIDE (SUCH AS MEDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS);
   - C. CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS;
   - D. SERVICEABLE IN-HEAD CHECK VALVES AREA ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE;
   - E. A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER;
   - F. ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES FROM IMPERVIOUS SURFACES;
   - G. AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER NO MORE THAN A ONE-HALF INCH (½") RAINFALL; AND
   - H. NEWLY PLANTED TREES SHALL HAVE PERMANENT IRRIGATION CONSISTING OF DRIP OR BUBBLERS.
2. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN TO THE CITY AT THE TIME THE FINAL IRRIGATION INSPECTION IS PERFORMED;
   - A. UNLESS FISCAL SECURITY IS PROVIDED TO THE CITY FOR THE INSTALLATION OF THE SYSTEM, IT MUST BE OPERATIONAL AT THE TIME OF THE FINAL LANDSCAPE INSPECTION.
3. THE IRRIGATION INSTALLER SHALL ALSO PROVIDE EXHIBITS TO BE PERMANENTLY INSTALLED INSIDE OR ATTACHED TO THE IRRIGATION CONTROLLER, INCLUDING:
   - A. A LAMINATED COPY OF THE WATER BUDGET CONTAINING ZONE NUMBERS, PRECIPITATION RATE, AND GALLONS PER MINUTE AND THE LOCATION OF THE ISOLATION VALVE; AND A ZONE MAP WITH THE ISOLATION VALVE LOCATION AS BUILT PLAN.
4. THE IRRIGATION INSTALLER SHALL PROVIDE A REPORT TO THE CITY ON A FORM PROVIDED BY AUSTIN WATER CERTIFYING COMPLIANCE WITH SUBSECTION 1. WHEN THE FINAL PLUMBING INSPECTION IS PERFORMED BY THE CITY.
5. IF ESTABLISHING VEGETATION DURING ANY STAGE OF A DROUGHT, SECTION 6-4-30 MAY REQUIRE A VARIANCE. CONTACT AUSTIN WATER CONSERVATION STAFF AT WATERUSECOMPVAR@AUSTINTEXAS.GOV OR CALL (512) 974-2199.
6. THE OWNER WILL CONTINUOUSLY MAINTAIN THE REQUIRED LANDSCAPING IN ACCORDANCE WITH LDC 25-2-984.
7. ALL LANDSCAPED AREAS ARE TO BE PROTECTED BY 6-INCH WHEEL CURBS, WHEELSTOPS, OR OTHER APPROVED BARRIERS AS PER ECM 2.4.7.

NOTE:

1. AN AUTOMATIC OR MANUAL UNDERGROUND IRRIGATION SYSTEM (CONVENTIONAL SPRAY, BUBBLERS, DRIP, EMITTERS, DRIP TUBING, POROUS PIPE AND THE LIKE WITH TURF ZONES SEPARATED FROM PLANTING ZONES UNLESS OTHERWISE APPROVED.
2. A HOSE ATTACHMENT WITHIN 100 FT OF A LANDSCAPED AREA OR PLANT WHERE THERE IS NO ROAD OR PARKING PAVEMENT BETWEEN THE HOSE ATTACHMENT AND LANDSCAPED AREA OR PLANT; OR
3. A TEMPORARY AND ABOVE GROUND IRRIGATION SYSTEM IN ACCORDANCE WITH THE DESIGN CRITERIA IN APPENDIX O OF THIS SHEET.



VICINITY MAP
(NOT TO SCALE)



1 OVERALL LANDSCAPE PLAN
1" = 150'-0"

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	SIZE/COND.	REMARKS
QS	QUERCUS SHUMARDII SHUMARD RED OAK	B & B	3" CAL, SINGLE, STRAIGHT LEADER, MATCHING, NATIVE, 6FT HT
QV2	QUERCUS VIRGINIANA LIVE OAK	B & B	3" CAL, SINGLE, STRAIGHT LEADER, MATCHING, NATIVE, 6FT HT
TD	TAXODIUM DISTICHUM BALD CYPRESS	B & B	3" CAL, SINGLE, STRAIGHT LEADER, MATCHING, DROUGHT TOLERANT, 6FT HT
UP	ULMUS PARVIFOLIA LACEBARK ELM	B & B	3" CAL, SINGLE, STRAIGHT LEADER, MATCHING, DROUGHT TOLERANT, 6FT HT

SHRUBS	BOTANICAL / COMMON NAME	SIZE	SPACING	REMARKS
IB	ILEX CORNUTA `BURFORDII NANA` DWARF BURFORD HOLLY	5 GAL	36" o.c.	FULL, MATCHING, 3` HT @ PLANTING
MC2	MUHLENBERGIA LINDHEIMERI MUHLY GRASS	5 GAL	36" o.c.	FULL, MATCHING, 3` HT @ PLANTING, NATIVE
PRC	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL	15 GAL	60" o.c.	FULL, MATCHING, NATIVE, SCREENING PLANT, WILDLIFE FOOD, 6FT HT @ PLANTING
RI	RHAPHIOLEPIS INDICA INDIAN HAWTHORN	5 GAL	36" o.c.	FULL, MATCHING, 3FT HT @ PLANTING

GROUND COVERS	BOTANICAL / COMMON NAME	SIZE	SPACING	REMARKS
CD2	CAREX DIVULSA BERKELEY SEDGE	1 GAL	24" o.c.	FULL, MATCHING
NT	NASSELLA TENUISSIMA MEXICAN FEATHER GRASS	1 GAL	24" o.c.	FULL, MATCHING

SEED	BOTANICAL / COMMON NAME	SIZE	SPACING	REMARKS
CS	CYNODON DACTYLON BERMUDA GRASS	HYDROMULCH		HANCOCK SEED COMPANY, OR APPROVED EQUAL, 3 LBS PER 1000SF, REF. SPECS
NSM	NATIVE SEED MIX	HYDROMULCH		50/50 MIX, NATIVE AMERICAN SEED, DAM SLOPE MIX #2808, 1 LB PER 1500 SF, UPPER SLOPE WILDFLOWERS #1815, 1 LB PER 1700 SF, OVERSEED WITH CEREAL RYE

SOD	BOTANICAL / COMMON NAME	SIZE	SPACING	REMARKS
BP	BUCHLOE DACTYLOIDES `PRESTIGE` BUFFALO GRASS	SOD		SOLID, ROLLED TIGHT, SAND FILLED JOINTS, 100% WEED, PEST AND DISEASE FREE

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	CONCRETE APRON	1/7G
2	COBBLE, BULLROCK, 2-4" SIZE, BROOKS STONE RANCH, OR APPROVED EQUAL.	5/7G
3	STEEL EDGING	4/7G
4	EROSION CONTROL BLANKET, NATIVE AMERICAN SEED, ITEM# 7059, 8X90SF	PER MANUFACTURER RECOMMENDATIONS

Pacheco Koch
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	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

OVERALL LANDSCAPE PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
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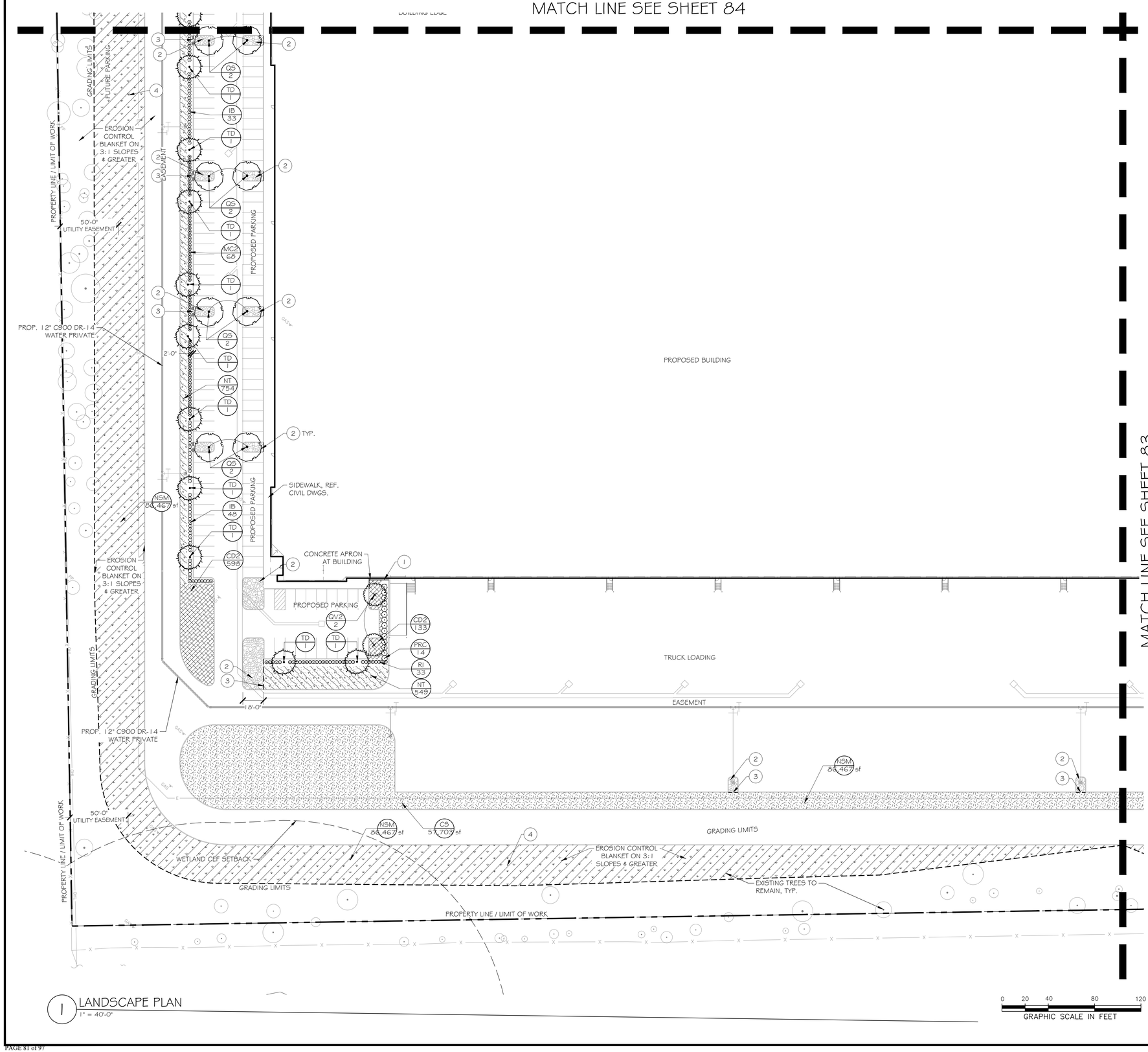

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME
QS	QUERCUS SHUMARDII SHUMARD RED OAK
QV2	QUERCUS VIRGINIANA LIVE OAK
TD	TAXODIUM DISTICHUM BALD CYPRESS
UP	ULMUS PARVIFOLIA LACEBARK ELM
SHRUBS	BOTANICAL / COMMON NAME
IB	ILEX CORNUTA `BURFORDII' DWARF BURFORD HOLLY
MC2	MUHLENBERGIA LINDHEIMERI MUHLY GRASS
PRC	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL
RI	RHAPHIOLEPIS INDICA INDIAN HAWTHORN
GROUND COVERS	BOTANICAL / COMMON NAME
CD2	CAREX DIVULSA BERKELEY SEDGE
NT	NASSELLA TENUISSIMA MEXICAN FEATHER GRASS
SEED	BOTANICAL / COMMON NAME
CS	CYNODON DACTYLON BERMUDA GRASS
NSM	NATIVE SEED MIX
SOD	BOTANICAL / COMMON NAME
BP	BUCHLOE DACTYLOIDES `PE BUFFALO GRASS

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	CONCRETE APRON	1/76
2	COBBLE, BULLROCK, 2-4" SIZE, BROOKS STONE RANCH, OR APPROVED EQUAL.	5/76
3	STEEL EDGING	4/76
4	EROSION CONTROL BLANKET, NATIVE AMERICAN SEED, ITEM# 7059, 8X90SF	PER MANUFACTURER RECOMMENDATIONS

1 LANDSCAPE PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

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AUSTIN, TX 78759
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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

LANDSCAPE PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
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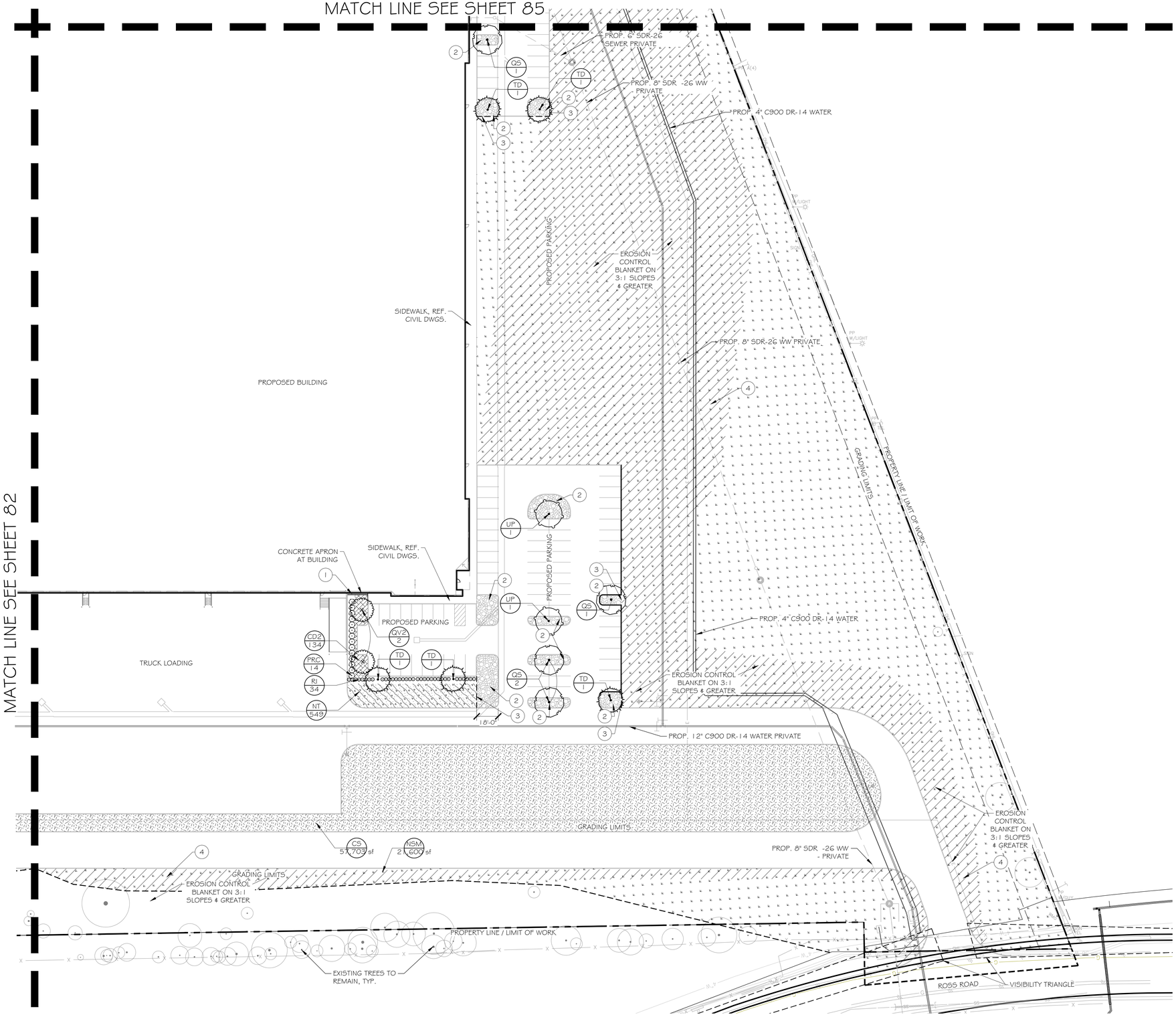
MATCH LINE SEE SHEET 85

MATCH LINE SEE SHEET 82



PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME
QS	QUERCUS SHUMARDII SHUMARD RED OAK
QV2	QUERCUS VIRGINIANA LIVE OAK
TD	TAXODIUM DISTICHUM BALD CYPRESS
UP	ULMUS PARVIFOLIA LACEBARK ELM
SHRUBS	BOTANICAL / COMMON NAME
IB	ILEX CORNUTA `BURFORDII N DWARF BURFORD HOLLY
MC2	MUHLENBERGIA LINDHEIMERI MUHLY GRASS
PRC	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL
RI	RHAPHIOLEPIS INDICA INDIAN HAWTHORN
GROUND COVERS	BOTANICAL / COMMON NAME
CD2	CAREX DIVULSA BERKELEY SEDGE
NT	NASSELLA TENUISSIMA MEXICAN FEATHER GRASS
SEED	BOTANICAL / COMMON NAME
CS	CYNODON DACTYLON BERMUDA GRASS
NSM	NATIVE SEED MIX
SOD	BOTANICAL / COMMON NAME
BP	BUCHLOE DACTYLOIDES `PRE BUFFALO GRASS

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	CONCRETE APRON	1/76
2	COBBLE, BULLROCK, 2-4" SIZE, BROOKS STONE RANCH, OR APPROVED EQUAL.	5/76
3	STEEL EDGING	4/76
4	EROSION CONTROL BLANKET, NATIVE AMERICAN SEED, ITEM# 7059, 8X905F	PER MANUFACTURER RECOMMENDATIONS

1 LANDSCAPE PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

LANDSCAPE PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNIE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

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SHEET NO.
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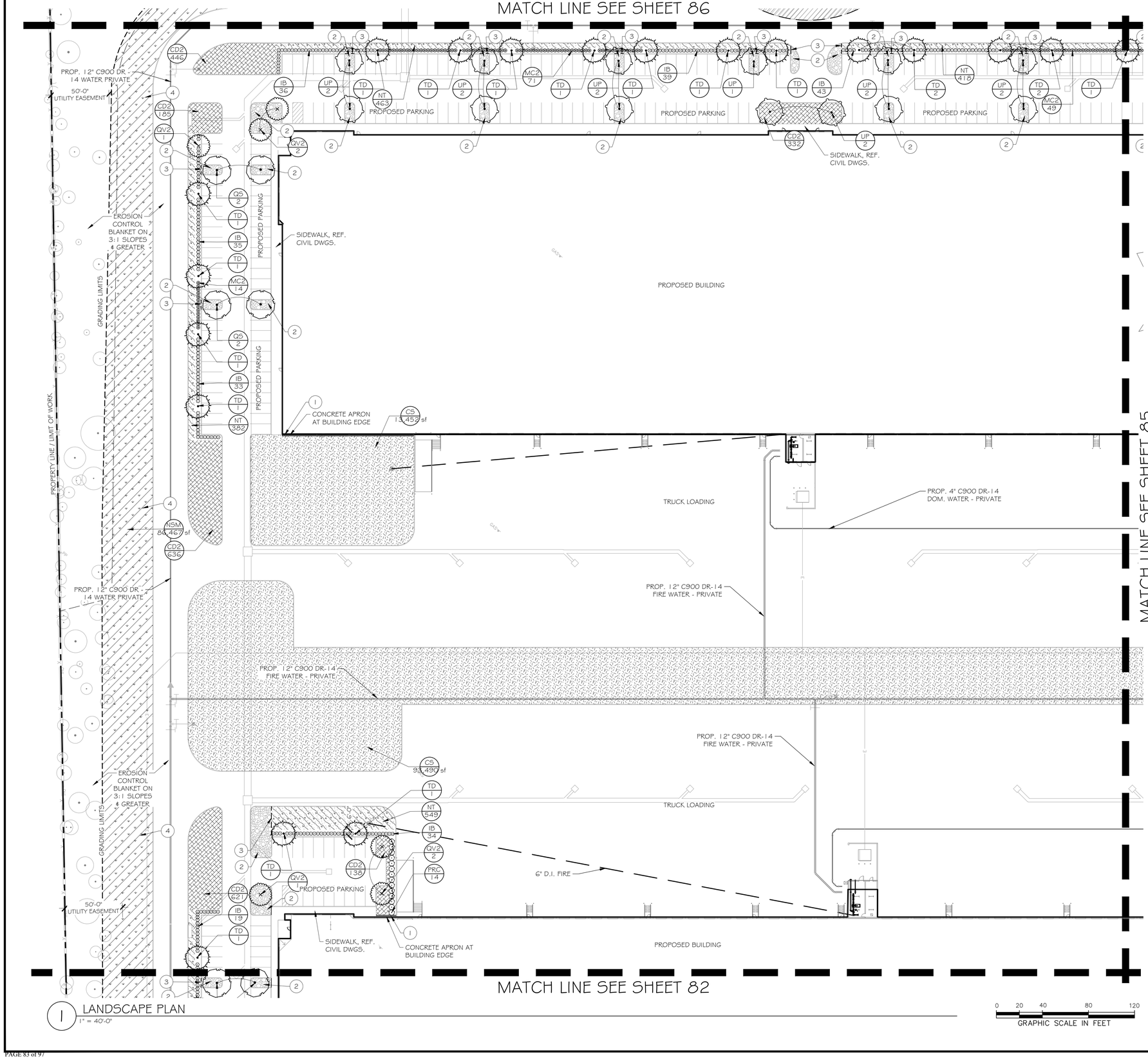

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAM
QS	QUERCUS SHUMARDII SHUMARD RED OAK
QV2	QUERCUS VIRGINIANA LIVE OAK
TD	TAXODIUM DISTICHUM BALD CYPRESS
UP	ULMUS PARVIFOLIA LACEBARK ELM
SHRUBS	BOTANICAL / COMMON NAM
IB	ILEX CORNUTA `BURFORDII DWARF BURFORD HOLLY
MC2	MUHLENBERGIA LINDHEIMEF MUHLY GRASS
PRC	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL
RI	RHAPHIOLEPIS INDICA INDIAN HAWTHORN
GROUND COVERS	BOTANICAL / COMMON NAM
CD2	CAREX DIVULSA BERKELEY SEDGE
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SEED	BOTANICAL / COMMON NAM
CS	CYNODON DACTYLON BERMUDA GRASS
NSM	NATIVE SEED MIX
SOD	BOTANICAL / COMMON NAM
BP	BUCHLOE DACTYLOIDES `PI BUFFALO GRASS

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	CONCRETE APRON	1/7G
2	COBBLE, BULLROCK, 2-4" SIZE, BROOKS STONE RANCH, OR APPROVED EQUAL.	5/7G
3	STEEL EDGING	4/7G
4	EROSION CONTROL BLANKET, NATIVE AMERICAN SEED, ITEM# 7059, 8X905F	PER MANUFACTURER RECOMMENDATIONS

1 LANDSCAPE PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

LANDSCAPE PLAN

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
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STATE OF TEXAS

03/29/2022

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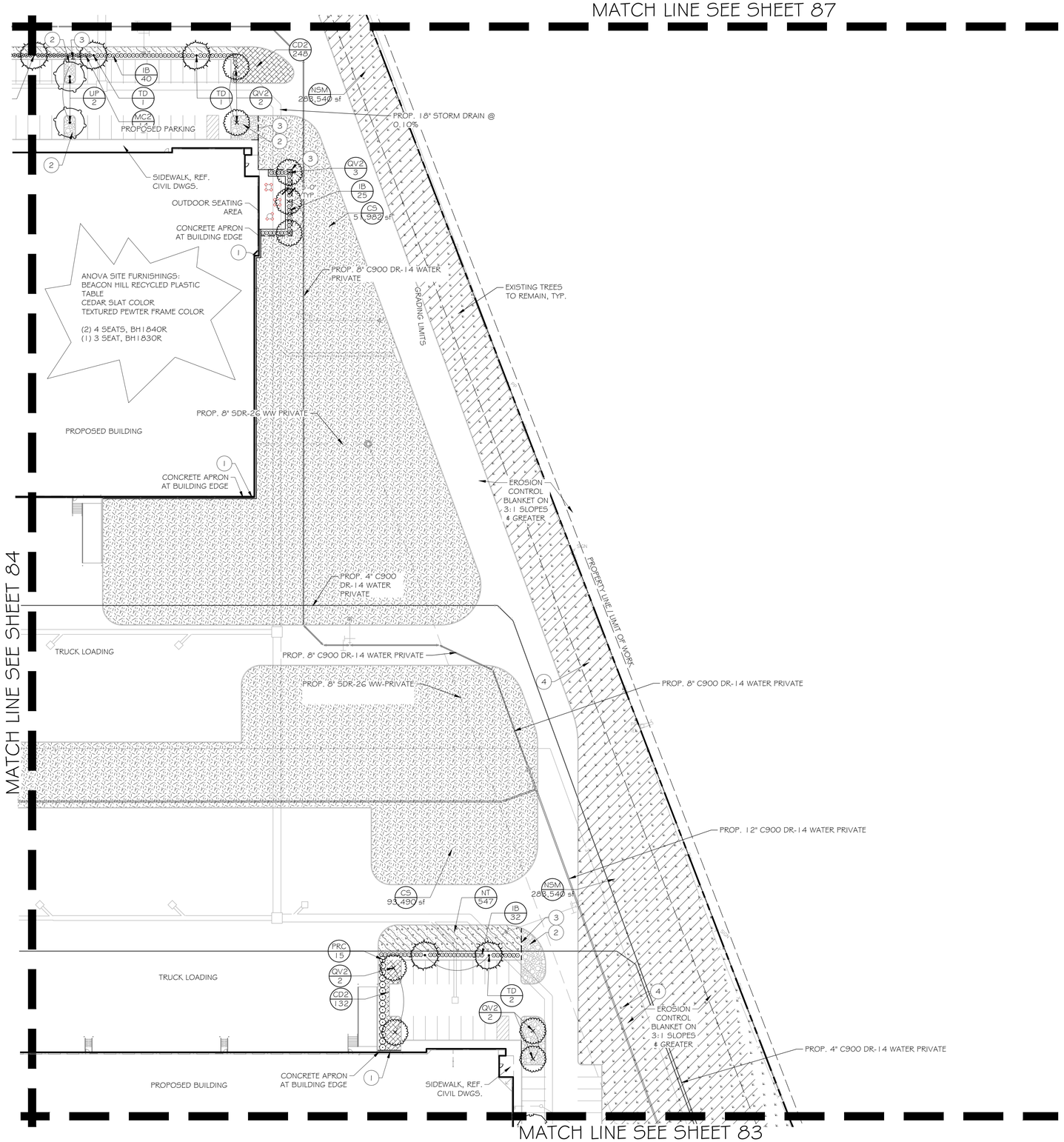

PLANT SCHEDULE

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IB	ILEX CORNUTA `BURFORDII NA DWARF BURFORD HOLLY
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SEED	BOTANICAL / COMMON NAME
CS	CYNODON DACTYLON BERMUDA GRASS
NSM	NATIVE SEED MIX
SOD	BOTANICAL / COMMON NAME
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REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
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1 LANDSCAPE PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

LANDSCAPE PLAN

REGISTERED LANDSCAPE ARCHITECT
AYNNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

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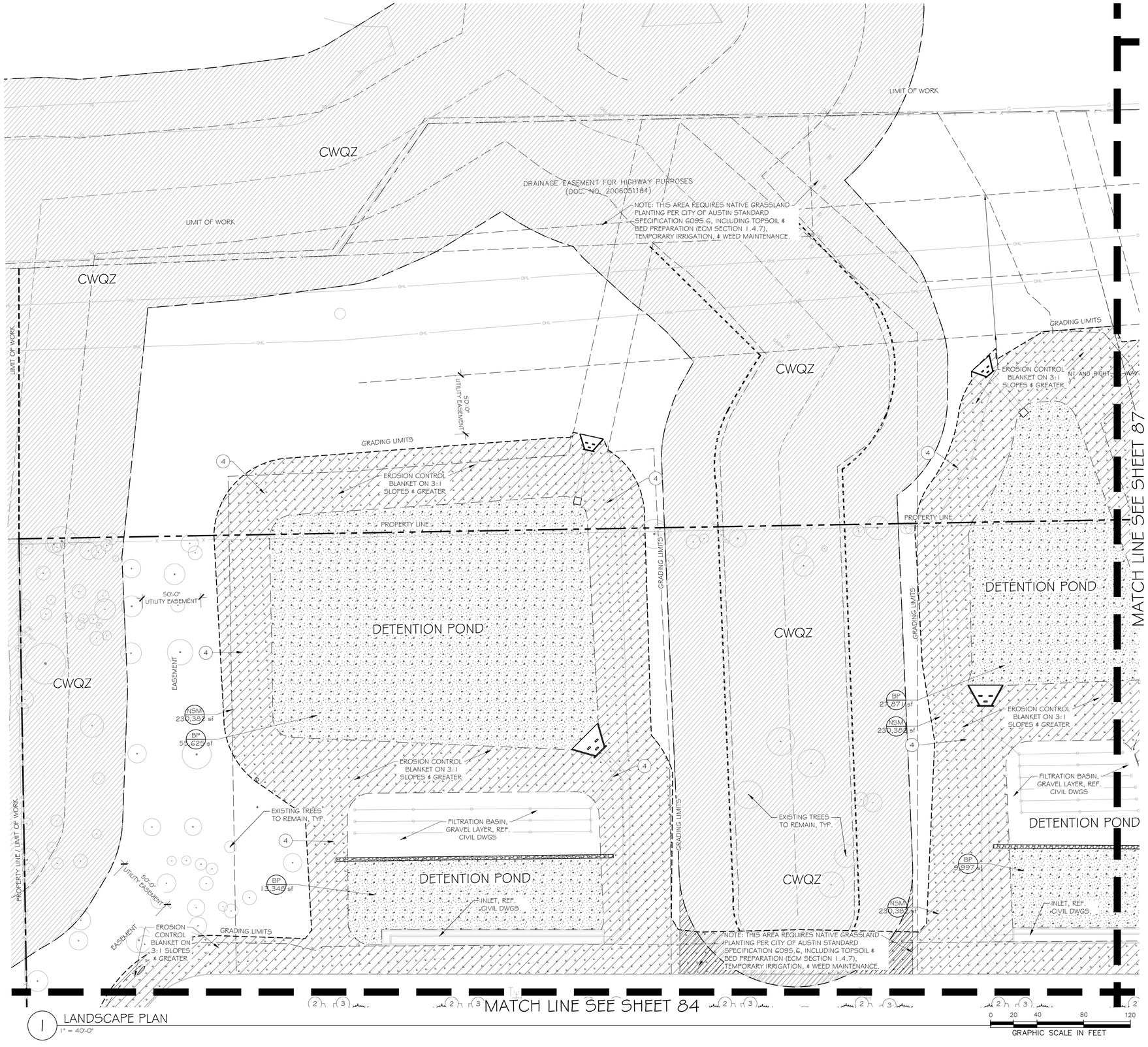

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PLANT SCHEDULE

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NSM	NATIVE SEED MIX
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	03/17/2022	CITY SUBMITTAL	AMH
	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

LANDSCAPE PLAN

REGISTERED LANDSCAPE ARCHITECT
AYNNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
86
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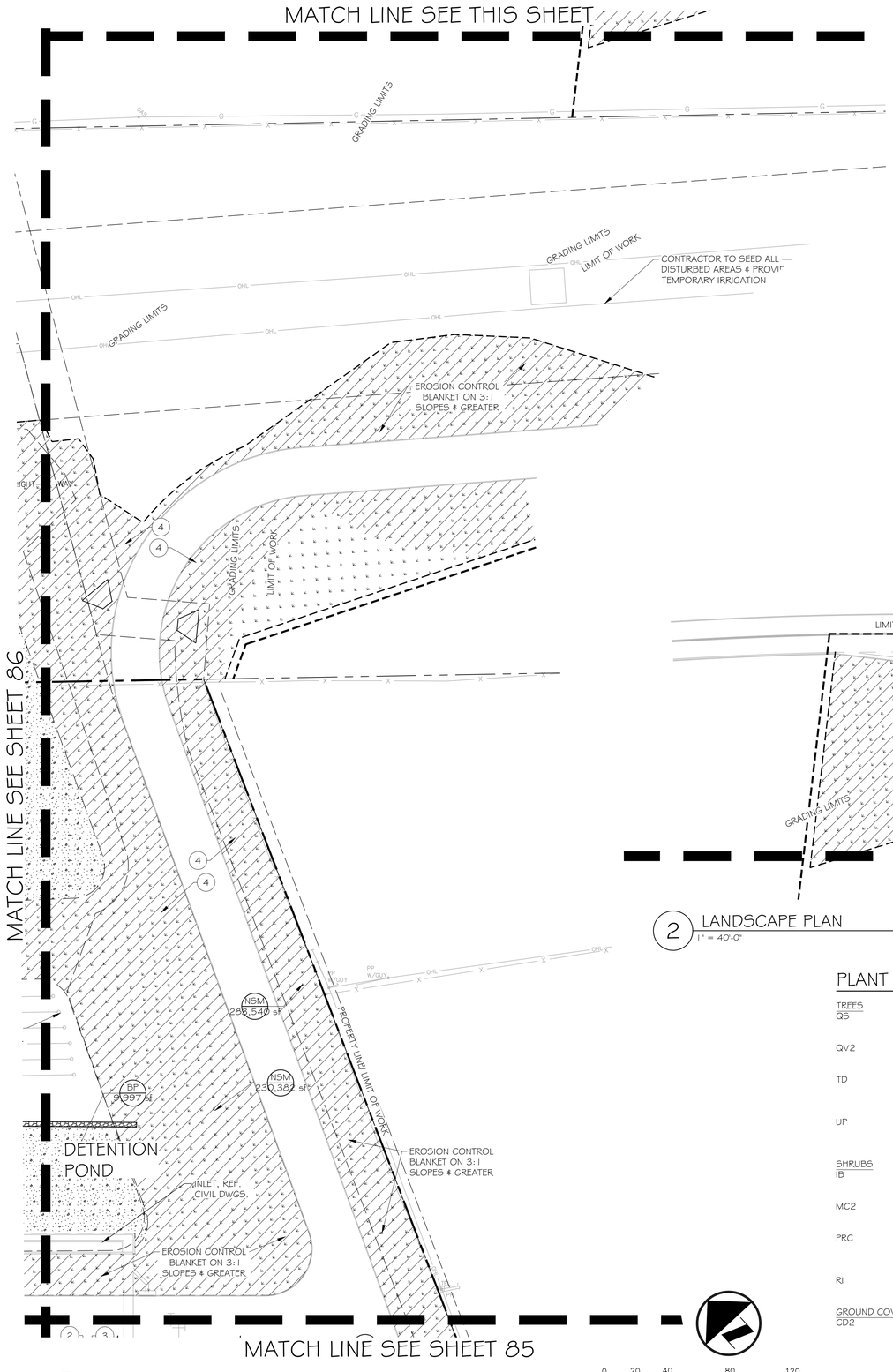
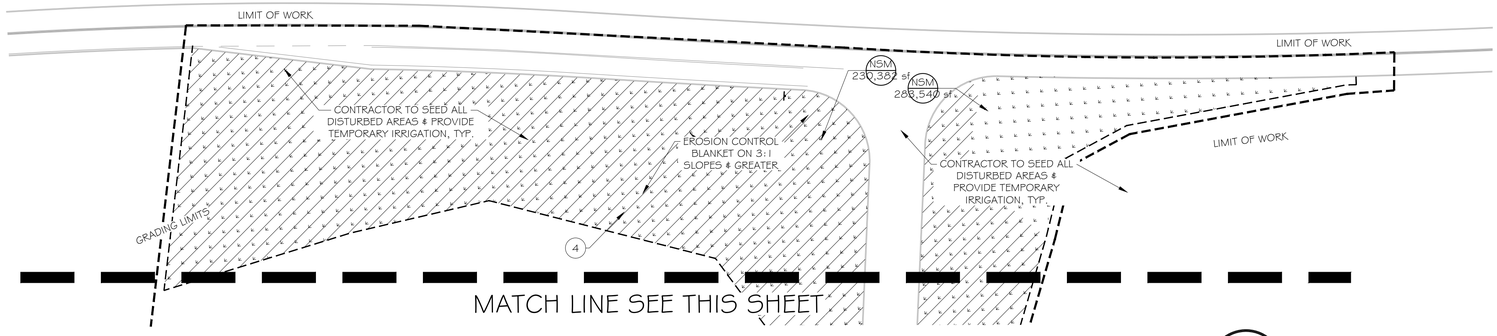


1 LANDSCAPE PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET



2 LANDSCAPE PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAM	SEED	BOTANICAL / COMMON NAM
QS	QUERCUS SHUMARDII SHUMARD RED OAK	CS	CYNODON DACTYLON BERMUDA GRASS
QV2	QUERCUS VIRGINIANA LIVE OAK	NSM	NATIVE SEED MIX
TD	TAXODIUM DISTICHUM BALD CYPRESS		
UP	ULMUS PARVIFOLIA LACEBARK ELM	SOD	BOTANICAL / COMMON NAM
		BP	BUCHLOE DACTYLOIDES `PI BUFFALO GRASS
SHRUBS	BOTANICAL / COMMON NAM		
IB	ILEX CORNUTA `BURFORDII DWARF BURFORD HOLLY		
MC2	MUHLENBERGIA LINDHEIMEI MUHLY GRASS		
PRC	PRUNUS CAROLINIANA CAROLINA CHERRY LAUREL		
RI	RHAPHIOLEPIS INDICA INDIAN HAWTHORN		
GROUND COVERS	BOTANICAL / COMMON NAM		
CD2	CAREX DIVULSA BERKELEY SEDGE		

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	CONCRETE APRON	1/7G
2	COBBLE, BULLROCK, 2-4" SIZE, BROOKS STONE RANCH, OR APPROVED EQUAL.	5/7G
3	STEEL EDGING	4/7G
4	EROSION CONTROL BLANKET, NATIVE AMERICAN SEED, ITEM# 7059, 8X90SF	PER MANUFACTURER RECOMMENDATIONS

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TX REG. SURVEYING FIRM LS-10008000

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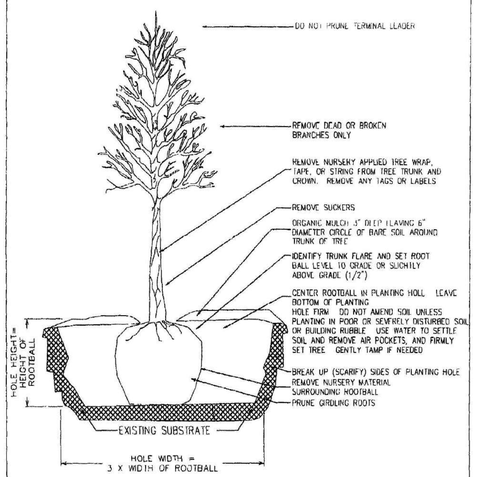
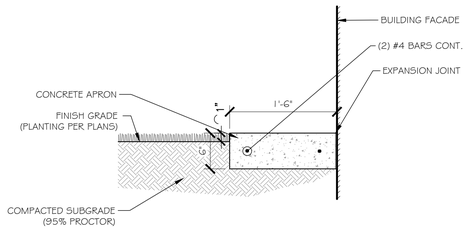
CITY OF AUSTIN

FIGURE 3-14 TREE PLANTING DETAIL

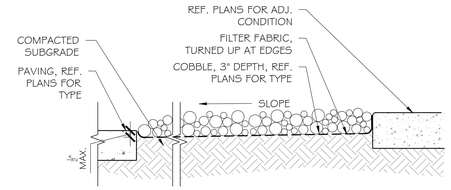


* ALTERNATIVE DETAILS CAN BE REVIEWED BY THE CITY ARBORISTS
* STAKING MAY BE USED AT THE DISCRETION OF THE APPLICANT. POST AND TIES ARE TO BE ESTABLISHED WITHOUT HARMING THE TREE (E.G. NON-BINDING STRAPS. POSTS ESTABLISHED OUTSIDE OF ROOTBALL) BUT ENSURE THAT ALL STAKING MATERIAL IS REMOVED AFTER ONE YEAR
* SEE ANSI A300 (PART 1) FOR ADDITIONAL INFORMATION REGARDING PRUNING STANDARDS
* SEE ANSI Z60.1 FOR NURSERY STOCK STANDARDS

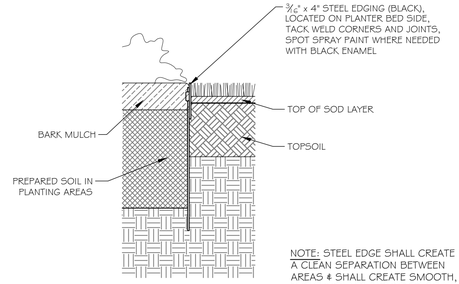
NOTE: CONTROL JOINTS @ 10' O.C.
SEALED EXPANSION JOINTS @ 30' O.C.



1 18" CONCRETE APRON @ BUILDING
1" = 1'-0"

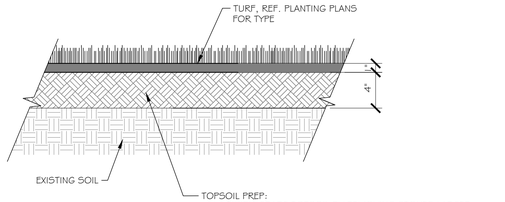


2 COBBLE
1" = 1'-0"



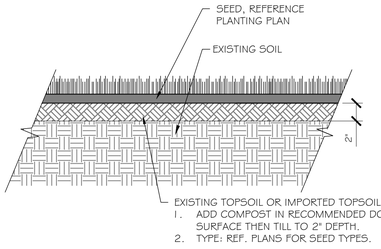
NOTE: STEEL EDGE SHALL CREATE A CLEAN SEPARATION BETWEEN AREAS & SHALL CREATE SMOOTH, EVEN LINES (AS INDICATED ON THE PLANS)

3 STEEL EDGING AT PLANTING
1 1/2" = 1'-0"



TOPSOIL PREP:
1. FINISH GRADE TOPSOIL BY REMOVING STONES LARGER THAN 1" IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER TO LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
2. ADD 1" COMPOST ON THE SURFACE, THEN TILL TO 4" DEPTH
3. INSTALL SOD AS SHOWN, REF. PLANTING PLANS FOR TYPE

4 SOIL PROFILE FOR SOD
1 1/2" = 1'-0"



EXISTING TOPSOIL OR IMPORTED TOPSOIL PREP:
1. ADD COMPOST IN RECOMMENDED DOES ON SURFACE THEN TILL TO 2" DEPTH.
2. TYPE: REF. PLANS FOR SEED TYPES.

NOTE:
REFERENCE C.O.A. SEED PREPARATION FOR AREAS SHOWN ON PLANS.

5 DRILL SEED & CAP
1 1/2" = 1'-0"

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

PLANTING DETAILS

REGISTERED LANDSCAPE ARCHITECT
ANNE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
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SECTION 32 84 00 - PLANTING IRRIGATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes piping, valves, sprinklers, specialties, controls, and wiring for automatic control irrigation system.

1.2 DEFINITIONS

A. Lateral Piping: Downstream from control valves to sprinklers, specialties, and drain valves. Piping is under pressure during flow.

B. Irrigation Main Piping: Downstream from point of connection to water distribution piping to, and including, control valves. Piping is under water-distribution-system pressure.

1.3 SUBMITTALS

A. Product Data: Include pressure ratings, rated capacities, and settings of selected models for the following:

1. System valves.
2. Specialty valves.
3. Control-valve boxes.
4. Sprinklers.
5. Irrigation specialties.

B. Operation and maintenance data.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. As indicated on the drawings.

2.2 PIPES, TUBES, AND FITTINGS

A. PVC Pipe: ASTM D 1785, PVC 1120 compound, Class 200.

1. PVC Socket Fittings, Schedule 40: ASTM D 2466.

2.3 GENERAL-DUTY VALVES

A. PVC Ball Valves: MSS SP-122, nonunion type, with full-port ball, socket or threaded detachable end connectors, and pressure rating not less than 150 psig.

2.4 SPECIALTY VALVES

A. Plastic Automatic Control Valves: Molded-plastic body, normally closed, diaphragm type with manual flow adjustment, and operated by 24-V ac solenoid.

1. Manufacturer as indicated on the drawings.

B. Drainage Backfill: Cleaned gravel or crushed stone, graded from 3/4 inch minimum to 1 inch maximum.

2.5 SPRINKLERS

A. Description: Plastic housing and corrosion-resistant interior parts designed for uniform coverage over entire spray area indicated, at available water pressure.

1. Manufacturer as indicated on the drawings.

2.6 AUTOMATIC-CONTROL SYSTEM

A. Manufacturer as indicated on the drawings.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Install piping and wiring in sleeves under sidewalks and paving per the drawings.

B. Provide minimum cover over top of underground piping according to the following:

1. Irrigation Main Piping: Minimum depth of 18 inches.
2. Lateral Piping: 12 inches.
3. Sleeves: 18 inches.

C. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the lateral and mainline pipes. Place and compact final backfill of satisfactory soil to final subgrade elevation.

3.2 PIPING APPLICATIONS

A. Underground Irrigation Main Piping: As indicated on plans, socket fittings; and solvent-cemented joints per the drawings.

B. Lateral Piping: Class 200 PVC pipe and socket fittings per the drawings and details.

C. Sleeves: Class 200 PVC pipe and socket fittings; and solvent-cemented joints.

3.3 VALVE APPLICATIONS

A. Control Valves: Per the drawings.

3.4 INSTALLATION

A. Install piping free of sags and bends.

B. Install groups of pipes parallel to each other, spaced to permit valve servicing.

C. Install fittings for changes in direction and branch connections.

D. Install unions adjacent to valves and to final connections to other components.

E. Lay piping on solid base, uniformly sloped without humps or depressions.

F. Control Valves: Install in control-valve box.

G. Flush circuit piping with full head of water and install sprinklers after hydrostatic test is completed.

H. Locate sprinkler heads to maintain a minimum distance of 2 inches from paved surfaces.

I. Install freestanding controllers on precast concrete bases per the drawing.

J. Install control cable in same trench as irrigation piping and at least 2 inches below or beside piping. Provide conductors of size not smaller than recommended by controller manufacturer. Install cable in separate sleeve under paved areas if irrigation piping is installed in sleeve.

3.5 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

B. Remove and replace units and re-inspect as specified above.

3.6 ADJUSTING

A. Adjust settings of controllers.

B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

C. Adjust sprinklers so they will be flush with, or not more than 1/2 inch above, finish grade.

END OF SECTION 32 84 00

SECTION 32 92 00 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil Preparation.
2. Sod.
3. Seed.
4. Hydro-mulch.
5. Temporary Irrigation.

1.2 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

C. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

D. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.3 SUBMITTALS

A. Any deviation from this specification and drawings must be approved in writing by the Owner via submittal.

1. Certification of seed source.
2. Certification of sod source.
3. Soil Test Results.

1.4 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

B. Topsoil Analysis: Contractor shall furnish soil analysis from (2) locations of stockpiled existing topsoil to be re-used on site. If imported topsoil is proposed, a soil analysis shall be provided from the source material as well. Test shall be performed by a qualified soil-testing laboratory, such as the Texas A&M Extension service.

1. Test Type: Report suitability of topsoil for Turf Grass. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

1.5 MAINTENANCE SERVICE

A. Initial Lawn Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Sodded Lawns: 30 days from date of Substantial Completion.
2. Seeded Lawns: 40 days from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOD

Sod per the planting schedule.

2.2 SEED

A. Seed per the planting schedule.

2.3 HYDRO-MULCH CAP

A. Pro Matrix by Profile, or approved equal. Application rate per. manuf.

2.4 TOPSOIL

A. Topsoil: On site soil, stripped prior to mass grading, or imported meeting criteria herein.

1. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth. If stripped topsoil is insufficient in quantity or quality, the contractor shall import, at no additional expense, sufficient soils to bring the site grades to the required elevations.
2. 2" minimum profile for all areas to receive seed.

2.5 COMPOST

A. Compost: well-composted, stable, and weed-free organic matter, ph range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m. Living Earth Compost or approved equal.

PART 3 - EXECUTION

3.1 LAWN PREPARATION

A. Newly Graded Topsoil: Finish grade by removing stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

B. Sod Areas: Apply fertilizer in recommended rates from soil test, then till into 3" existing soil to prepare turf areas.

C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

E. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

3.2 SOD INSTALLATION

A. Sod: Roll sod over the areas identified on the plans with staggered joints. Use a manual roller drum following first watering. Use fine sand to fill joints and re-roll after the first week of watering. Any settling in areas of trenches, or other areas will not be accepted until a smooth, evenly draining slope is obtained.

3.3 SEED INSTALLATION

A. Seeding in large open areas: Contractor shall seed the mixes in the specification at the rates described in 2.1 Culti-Packer or Drill Seeding are acceptable methods.

B. Hydro-Mulch Cap: Apply over seed installed per 2.3.

C. Seeding in reinforced Channel Areas:

1. Surface broadcast, culti-pack or drill seed 50% of the specified seed mix in the reinforced area.
2. Install the Enkamat per manufacturer's recommendations.
3. Apply Flexterra at the rates specified above with the remaining 50% of the seed mix.

D. Temporary Irrigation

1. The contractor shall utilize temporary irrigation by any method approved by the Owner's Representative on the condition that planting establishment and acceptance is the sole responsibility of the Contractor.
2. The Temporary Irrigation Plan identifies areas that are to receive vegetation and temporary watering for establishment. Fire hydrants area located on the plan for water access.

3.4 LAWN MAINTENANCE

A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, re-grade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

B. Mow sod for maintenance. Mow lawn one time as soon as top growth is tall enough to cut.

C. Mow seeded areas once when average height reaches 12" inches, down to a height of 6" inches.

3.5 SATISFACTORY TURF

A. Satisfactory Sod: Fully rooted, evenly colored sod without visible sod joints that has been mowed at least twice.

B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

C. Satisfactory Seeded Areas: A healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 8 by 8 inches that has been mowed at least twice. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

END OF SECTION 32 92 00

SECTION 32 93 00 - PLANTS

PART 1 - GENERAL

1.1 SUMMARY

B. Section Includes:

1. Trees.
2. Ornamental Grasses
3. Shrubs
4. Bark Mulch

1.2 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Finish Grade: Elevation of finished surface of planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

E. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product certificates.

1.4 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

B. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not prune trees before delivery. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery and handling.

B. Handle planting stock by root ball.

C. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.

1.6 WARRANTY

A. Special Warranty: Installer's standard form in which Installer agrees to repair or replace plantings that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:
   a. Death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, abuse by Owner, or incidents that are beyond Contractor's control.
   b. Structural failures including plantings falling or blowing over.
2. Warranty Periods from Date of Substantial Completion:
   a. Trees and Plants: One year.

1.7 MAINTENANCE SERVICE

A. Initial Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until plantings are acceptably healthy and well established, but for not less than maintenance period below.

1. Maintenance Period for Trees and Plants: Three months from date of substantial completion.

PART 2 - PRODUCTS

2.1 TREE AND PLANT MATERIAL

A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

C. Provide container-grown trees or B&B per planting schedule.

D. Plant sizes indicated on Drawings are sizes after pruning.

2.2 TOPSOIL

A. Topsoil:

1. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth. If stripped topsoil is insufficient in quantity or quality, the contractor shall import, at no additional expense, sufficient soils to bring the site grades to the required elevations.

2.3 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m.

1. LIVING EARTH OR APPROVED EQUAL.

2.4 MULCHES

A. Organic Mulch: Finely Ground or shredded cedar bark.

2.5 PLANTING SOIL MIX

A. Planting Soil Mix: Mix topsoil with the following soil amendments in the following quantities:

1. Per drawing details.

PART 3 - EXECUTION

3.1 PLANTING BED ESTABLISHMENT

A. Per 2.5A. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

3.2 TREES AND PLANTS

A. Excavation of Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.

1. Excavate per plans and details.

B. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1.

C. Stock with Root Balls: Set trees and plants plumb and in center of pit or trench with top of root ball 1 inch above adjacent finish grades.

1. Container Grown: Carefully remove root ball from container without damaging root ball or plant.

D. Organic Mulching: Apply 3-inch average thickness of organic mulch. Do not place mulch within 3 inches of trunks or stems.

3.3 TREE PRUNING

A. Remove only dead, dying, or broken branches. Do not prune for shape.

3.4 PLANTING BED MULCHING

A. Mulch backfilled surfaces of planting beds and other areas indicated. In the details with bark, decomposed granite or decorative gravel as indicated.

3.5 PLANT MAINTENANCE

A. Tree and Plant Maintenance: Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray or treat as required to keep and plants free of insects and disease.

B. Ground Cover and Plant Maintenance: Maintain and establish plantings by watering, weeding, fertilizing, mulching, and other operations as required to establish healthy, viable plantings.

C. Protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

END OF SECTION 32 93 00

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ET-J, TRAVIS COUNTY, TEXAS

SPECIFICATIONS

REGISTERED LANDSCAPE ARCHITECT
ANNIE M. HARMAN
3146
STATE OF TEXAS

03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
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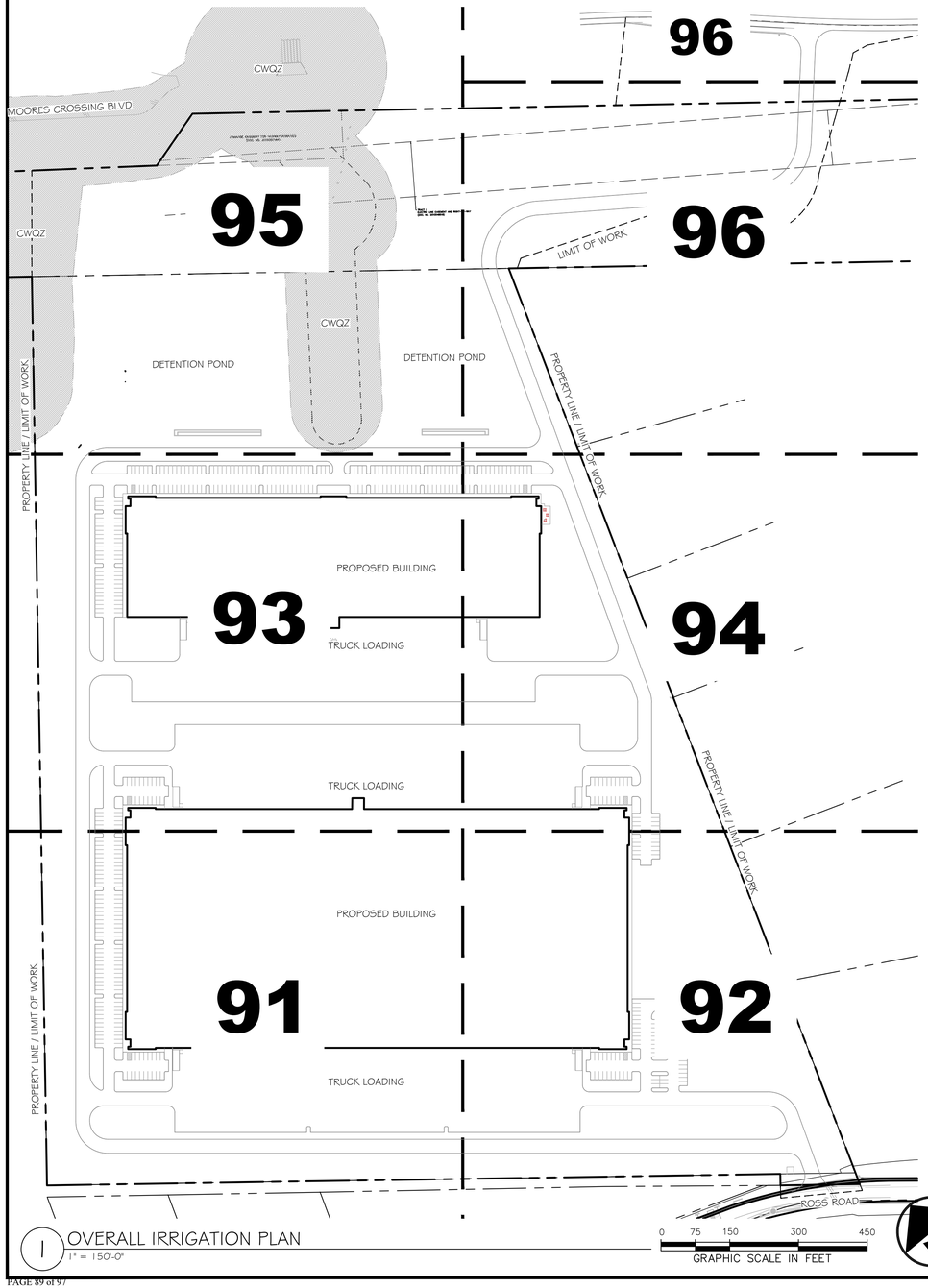
APPENDIX O - LANDSCAPE/IRRIGATION NOTES:

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

1. THESE REQUIREMENTS SHALL BE NOTED ON THE SITE DEVELOPMENT PERMIT AND SHALL BE IMPLEMENTED AS PART OF THE LANDSCAPE INSPECTION:
   A. THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANT MATERIALS;
   B. THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN TEN (10) FEET WIDE (SUCH AS MEDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS);
   C. CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS;
   D. SERVICEABLE IN-HEAD CHECK VALVES AREA ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE;
   E. A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER;
   F. ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES FROM IMPERVIOUS SURFACES;
   G. AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER NO MORE THAN A ONE-HALF INCH (½") RAINFALL; AND
   H. NEWLY PLANTED TREES SHALL HAVE PERMANENT IRRIGATION CONSISTING OF DRIP OR BUBBLERS.
2. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN TO THE CITY AT THE TIME THE FINAL IRRIGATION INSPECTION IS PERFORMED;
   A. UNLESS FISCAL SECURITY IS PROVIDED TO THE CITY FOR THE INSTALLATION OF THE SYSTEM, IT MUST BE OPERATIONAL AT THE TIME OF THE FINAL LANDSCAPE INSPECTION.
3. THE IRRIGATION INSTALLER SHALL ALSO PROVIDE EXHIBITS TO BE PERMANENTLY INSTALLED INSIDE OR ATTACHED TO THE IRRIGATION CONTROLLER, INCLUDING:
   A. A LAMINATED COPY OF THE WATER BUDGET CONTAINING ZONE NUMBERS, PRECIPITATION RATE, AND GALLONS PER MINUTE AND THE LOCATION OF THE ISOLATION VALVE; AND A ZONE MAP WITH THE ISOLATION VALVE LOCATION AS BUILT PLAN.
4. THE IRRIGATION INSTALLER SHALL PROVIDE A REPORT TO THE CITY ON A FORM PROVIDED BY AUSTIN WATER CERTIFYING COMPLIANCE WITH SUBSECTION 1. WHEN THE FINAL PLUMBING INSPECTION IS PERFORMED BY THE CITY.
5. IF ESTABLISHING VEGETATION DURING ANY STAGE OF A DROUGHT, SECTION 6-4-30 MAY REQUIRE A VARIANCE. CONTACT AUSTIN WATER CONSERVATION STAFF AT WATERUSECOMPVAR@AUSTINTEXAS.GOV OR CALL (512) 974-2199.
6. THE OWNER WILL CONTINUOUSLY MAINTAIN THE REQUIRED LANDSCAPING IN ACCORDANCE WITH LDC 25-2-984.
7. ALL LANDSCAPED AREAS ARE TO BE PROTECTED BY 6-INCH WHEEL CURBS, WHEELSTOPS, OR OTHER APPROVED BARRIERS AS PER ECM 2.4.7.



1 OVERALL IRRIGATION PLAN
1" = 150'-0"

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
25 50 10 20	HUNTER PROS-PRS30-04-CV-PCN 10 FLOOD BUBBLER, 4.0" POP-UP,FACTORY INSTALLED DRAIN CHECK VALVE.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICZ-101-25 DRIP CONTROL ZONE KIT. 1" ICV GLOBE VALVE WITH 1" HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV HDL-06-12-CV: HUNTER DRIPLINE W/ 0.6 GPH EMITTERS AT 12" O.C. CHECK VALVE, DARK BROWN TUBING WITH GRAY STRIPING. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. INSTALL WITH HUNTER PLD BARBED OR PLD-LOC FITTINGS.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER PGV-101G 1" PLASTIC ELECTRIC REMOTE CONTROL VALVE, FOR RESIDENTIAL/LIGHT COMMERCIAL USE. FEMALE NPT INLET/OUTLET. GLOBE CONFIGURATION, WITH FLOW CONTROL.
	HUNTER HQ-44LRC QUICK COUPLER VALVE, YELLOW RUBBER LOCKING COVER, RED BRASS AND STAINLESS STEEL, WITH 1" NPT INLET, 2-PIECE BODY.
	SHUT OFF VALVE
MV	HUNTER ICV-G 2" 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
BF	FEBCO 825Y 2" REDUCED PRESSURE BACKFLOW PREVENTER
C	HUNTER A2C-3600-SS 36-STATION CONTROLLER WITH FOUR (4) A2M-600 MODULES IN AN OUTDOOR STAINLESS STEEL WALL MOUNT ENCLOSURE.
SYNC	HUNTER SOLAR-SYNC SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER PCC, PRO-C, AND I-CORE CONTROLLERS, INSTALL AS NOTED. INCLUDES 10 YEAR LITHIUM BATTERY AND RUBBER MODULE COVER, AND GUTTER MOUNT BRACKET. WIRED.
FS	HUNTER HFS-200 FLOW SENSOR FOR USE WITH ACC CONTROLLER, 2" SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.
M	WATER METER 2"
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.
	IRRIGATION MAINLINE: PVC SCHEDULE 40
	PIPE SLEEVE: PVC CLASS 200 SDR 21 2 SIZES LARGER THAN PIPE WITHIN.

Valve Callout
Valve Number
Valve Flow
Valve Size

TEMPORARY IRRIGATION UNTIL ESTABLISHMENT OF SOD

NOTE:

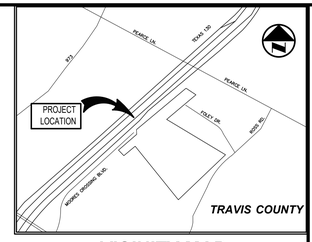
1. AN AUTOMATIC OR MANUAL UNDERGROUND IRRIGATION SYSTEM (CONVENTIONAL SPRAY, BUBBLERS, DRIP, EMITTERS, DRIP TUBING, POROUS PIPE AND THE LIKE WITH TURF ZONES SEPARATED FROM PLANTING ZONES UNLESS OTHERWISE APPROVED.
2. A HOSE ATTACHMENT WITHIN 100 FT OF A LANDSCAPED AREA OR PLANT WHERE THERE IS NO ROAD OR PARKING PAVEMENT BETWEEN THE HOSE ATTACHMENT AND LANDSCAPED AREA OR PLANT; OR
3. A TEMPORARY AND ABOVE GROUND IRRIGATION SYSTEM IN ACCORDANCE WITH THE DESIGN CRITERIA IN APPENDIX O OF THIS SHEET.

IRRIGATION GENERAL NOTES

1. POINT OF CONNECTION IS APPROXIMATE. IRRIGATION CONTRACTOR SHALL COORDINATE WITH THOSE INSTALLING THE IRRIGATION METER TO ASSURE THAT IT IS LOCATED IN THE AREA SHOWN AND IS OF THE SIZE REQUIRED TO SERVICE THE SYSTEM AS DESIGNED.
2. IRRIGATION CONTRACTOR IS RESPONSIBLE TO COORDINATE THE APPROPRIATE ELECTRICAL CONNECTION FOR THE SYSTEM CONTROLLER, INCLUDING ANY DATA OR MASTER VALVE WIRING AS REQUIRED.
3. IRRIGATION CONTRACTOR IS RESPONSIBLE TO EXAMINE THE PLANS IN THEIR ENTIRETY TO DETERMINE THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITIES. HE SHALL ALSO CONTACT THE APPROPRIATE AUTHORITY TO MARK UTILITIES ON THE SITE. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO UTILITIES ON THE SITE CAUSED BY HIS WORK.
4. CONTRACTOR SHALL EXAMINE THE DETAILS FOR ADDITIONAL REQUIREMENTS FOR THE IRRIGATION SYSTEM AND ITS INSTALLATION.
5. IRRIGATION DRAWINGS ARE SCHEMATIC IN NATURE. AT TIMES MAIN LINES, LATERALS AND VALVES MAY BE SHOWN IN PAVED AREAS OR OUTSIDE THE PROPERTY LINE FOR PLAN CLARITY PURPOSES ONLY. THE CONTRACTOR SHALL STAKE OUT IN THE FIELD ALL PRINCIPLE SYSTEM COMPONENTS FOR APPROVAL BY THE OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.
6. THE SYSTEM HAS BEEN DESIGNED TO FUNCTION WITH A MINIMUM DYNAMIC WATER PRESSURE OF 78 PSI AT A MINIMUM RATE OF 57 GPM AT THE POINT WHERE THE WATER METER IS CONNECTED. THE CONTRACTOR SHALL TAKE THREE READINGS (ONE AT 7:00 A.M., ONE AT 12:00 P.M., AND ONE AT 7:00 P.M.) ON TWO SEPARATE DAYS AND SUBMIT TO THE OWNERS REPRESENTATIVE FOR VERIFICATION OF PRESSURE PRIOR TO BEGINNING THE WORK.
7. ALL TRENCHING WITHIN DRIP LINES OF EXISTING TREES SHALL BE BY HAND TOOLS. SHOULD ROOTS OVER 3" IN DIAMETER BE ENCOUNTERED, THE CONTRACTOR MAY PROVIDE ANOTHER PIPE ROUTE IF LOCATION IS PROVIDED ON THE AS-BUILT DOCUMENTS.
8. THE CONTRACTOR SHALL DEMONSTRATE TO AN OWNER'S REPRESENTATIVE THAT THE IRRIGATION SYSTEM IS FULLY FUNCTIONAL AND RUNNING PROPERLY PRIOR TO FINAL ACCEPTANCE AND BEGINNING OF THE WARRANTY PERIOD.
9. NEW SYSTEM COMPONENTS ARE SHOWN. CONTRACTOR SHALL PRODUCE AND INCLUDE IN HIS PRICING AN AS-BUILT FILE MARK UP, LAMINATED AT 24"X36" OF THE IRRIGATION SYSTEM, INCLUDING ANY DEVIATIONS FROM THE PROPOSED PLAN.

TEMPORARY IRRIGATION NOTES

1. THE TEMPORARY IRRIGATION PLAN IDENTIFIES AREAS THAT ARE TO RECEIVE VEGETATION AND TEMPORARY WATERING FOR ESTABLISHMENT.
2. CONTRACTOR MUST MAKE ALL ARRANGEMENTS & PAYMENT FOR TEMPORARY WATER, MEETING ALL REQUIREMENTS OF LOCAL JURISDICTION.
3. CONTRACTOR IS RESPONSIBLE FOR METHODS, COST, FREQUENCY, QUANTITY, AND ALL MAINTENANCE UNTIL LANDSCAPE HAS BEEN ESTABLISHED & ACCEPTED BY THE OWNER'S REPRESENTATIVE & MEETS THE REQUIREMENTS OF THE SPECIFICATIONS.
4. THE CONTRACTOR SHALL UTILIZE TEMPORARY IRRIGATION BY ANY METHOD APPROVED BY THE OWNER'S REPRESENTATIVE ON THE CONDITION THAT PLANTING ESTABLISHMENT AND ACCEPTANCE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.



VICINITY MAP
(NOT TO SCALE)

Pacheco Koch
8701 N. MOPAC EXPY. SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

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	05/14/2021	CITY SUBMITTAL	AMH
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	03/17/2022	CITY SUBMITTAL	AMH
	03/29/2022	CITY SUBMITTAL	AMH

DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

OVERALL IRRIGATION PLAN

STATE OF TEXAS
JEFFREY B. HALL
20304
LICENSED IRRIGATOR
03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
90
-OF 98

MATCH LINE SEE SHEET 93

MATCH LINE SEE SHEET 92

PROPOSED BUILDING

PROPERTY LINE / LIMIT OF WORK

GRADING LIMITS

PROPOSED PARKING

PROPOSED PARKING

PROPOSED PARKING

TRUCK LOADING

TEMPORARY IRRIGATION UNTIL ESTABLISHMENT OF SEED

GRADING LIMITS

PROPERTY LINE/ LIMIT OF WORK

11.8 22 1"

13.0 23 1"

15.0 24 1"

4.00 25 1"

15.0 26 1"

9.07 27 1"

14.1 28 1"

2"

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL
25 30 10 20	HUNTER PROS-PRS30-04-CV-PCN 10
SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV
SYMBOL	MANUFACTURER/MODEL
	HUNTER PGV-101G
	HUNTER HQ-44LRC
	SHUT OFF VALVE
MV	HUNTER ICV-G 2"
BF	FEBCO 825Y 2"
C	HUNTER A2C-3600-SS
SS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-200
M	WATER METER 2"

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC CLASS 200 SDR 21

Valve Callout
- # — Valve Number
- # — Valve Flow
- # — Valve Size

TEMPORARY IRRIGATION

1 IRRIGATION PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

Pacheco Koch
8701 N. MOPAC EXPY. SUITE 320
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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

IRRIGATION PLAN

LICENSED IRRIGATOR
GEOFFREY B HALL
20304
03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
91
-OF 98

MATCH LINE SEE SHEET 94

MATCH LINE SEE SHEET 91

PROPOSED BUILDING

PROPERTY LINE/ LIMIT OF WORK

PROPERTY LINE / LIMIT OF WORK

PROPOSED PARKING

TRUCK LOADING

TEMPORARY IRRIGATION UNTIL ESTABLISHMENT OF SEED

GRADING LIMTS

LIMIT OF WORK

ROSS ROAD

4 5.00 1"

3 6.00 1"

2 10.5 1"

1 13.3 1"

¾"

2"

PP W/LIGHT

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL
25 50 10 20	HUNTER PROS-PRS30-04-CV-PCN 10

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV

SYMBOL	MANUFACTURER/MODEL
	HUNTER PGV-101G
	HUNTER HQ-44LRC
	SHUT OFF VALVE
MV	HUNTER ICV-G 2"
BF	FEBCO 825Y 2"
C	HUNTER A2C-3600-55
SS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-200
M	WATER METER 2"

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC CLASS 200 SDR 21

Valve Callout
#" Valve Number
#" Valve Flow
#" Valve Size

TEMPORARY IRRIGATION

1 IRRIGATION PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

IRRIGATION PLAN

STATE OF TEXAS
GEOFFREY B. HALL
20304
LICENSED
PROFESSIONAL
ENGINEER
03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
92
-OF 98

MATCH LINE SEE SHEET 95

PROPERTY LINE / LIMIT OF WORK

GRADING LIMITS

PROPOSED PARKING

PROPOSED BUILDING

TRUCK LOADING

TEMPORARY IRRIGATION UNTIL ESTABLISHMENT OF SOD

CONTRACTOR TO COORDINATE FINAL PLACEMENT OF CONTROLLER WITH ARCHITECT & OWNER

CONTRACTOR TO COORDINATE POWER W/ MEP

MATCH LINE SEE SHEET 94

MATCH LINE SEE SHEET 91

1 IRRIGATION PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL
25 50 10 20	HUNTER PROS-PRS30-04-CV-PCN 10

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV

SYMBOL	MANUFACTURER/MODEL
	HUNTER PGV-101G
	HUNTER HQ-44LRC
	SHUT OFF VALVE
MV	HUNTER ICV-G 2"
BF	FEBCO 825Y 2"
C	HUNTER A2C-3600-SS
SS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-200
M	WATER METER 2"

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC CLASS 200 SDR 21

Valve Callout
Valve Number
Valve Flow
Valve Size

TEMPORARY IRRIGATION

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ET-J, TRAVIS COUNTY, TEXAS

IRRIGATION PLAN

STATE OF TEXAS
GEOFFREY B. HALL
20304
LICENSED IRRIGATOR
03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
93
-OF 98

MATCH LINE SEE SHEET 96

MATCH LINE SEE SHEET 93

MATCH LINE SEE SHEET 92

8 12.5 1"

7 14.2 1"

PROPOSED PARKING

TEMPORARY IRRIGATION UNTIL ESTABLISHMENT OF SEED

PROPOSED BUILDING

TRUCK LOADING

PROPERTY LINE/ LIMIT OF WORK

6 13.7 1"

5 10.2 1"

TRUCK LOADING

PROPOSED PARKING

PROPOSED BUILDING

PROPERTY LINE/ LIMIT OF WORK

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL
25 50 10 20	HUNTER PROS-PRS30-04-CV-PCN 10

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV

SYMBOL	MANUFACTURER/MODEL
	HUNTER PGV-101G
	HUNTER HQ-44LRC
	SHUT OFF VALVE
MV	HUNTER ICV-G 2"
BF	FEBCO 825Y 2"
C	HUNTER A2C-3600-SS
SYNC	HUNTER SOLAR-SYNC
FS	HUNTER HFS-200
M	WATER METER 2"

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC CLASS 200 SDR 21

Valve Callout
#
Valve Number
#" Valve Flow
Valve Size

TEMPORARY IRRIGATION

1 IRRIGATION PLAN
1" = 40'-0"

0 20 40 80 120
GRAPHIC SCALE IN FEET

Pacheco Koch
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DALFEN INDUSTRIAL
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CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

IRRIGATION PLAN

STATE OF TEXAS
JEFFREY B. HALL
20304
LICENSED IRRIGATOR
03/29/2022

DESIGN	DRAWN	DATE
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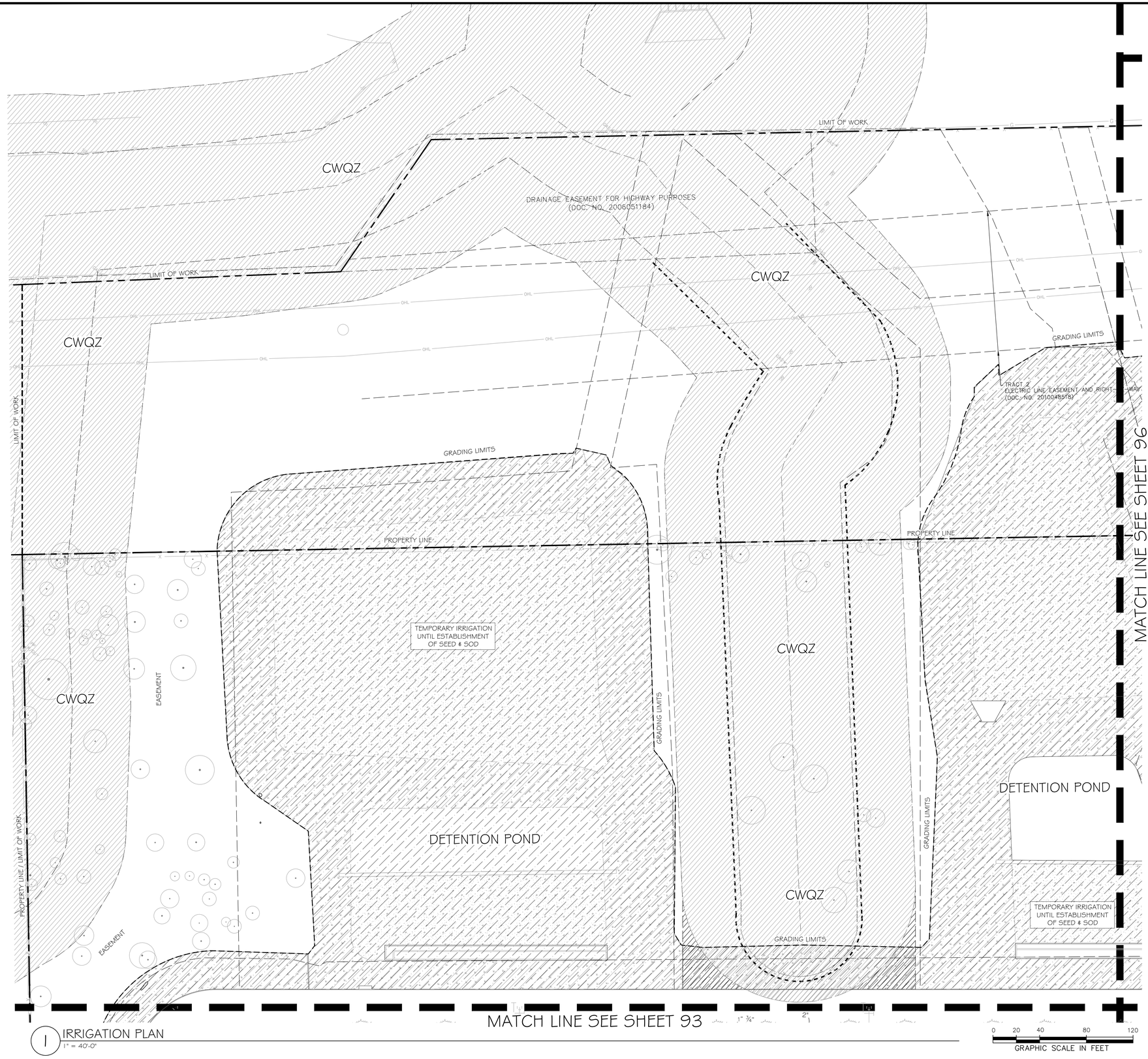
SHEET NO.
94
-OF 98



1 IRRIGATION PLAN
1" = 40'-0"

IRRIGATION SCHEDULE

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25 50 10 20	HUNTER PROS-PRS30-04-CV-PCN 10

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV

SYMBOL	MANUFACTURER/MODEL
	HUNTER PGV-101G
	HUNTER HQ-44LRC
	SHUT OFF VALVE
MV	HUNTER ICV-G 2"
BF	FEBCO 825Y 2"
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SS	HUNTER SOLAR-SYNC
FS	HUNTER HFS-200
M	WATER METER 2"

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC CLASS 200 SDR 21

Valve Callout
Valve Number
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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

IRRIGATION PLAN

STATE OF TEXAS
GEOFFREY B. HALL
20304
LICENSED IRRIGATOR
03/29/2022

DESIGN	DRAWN	DATE
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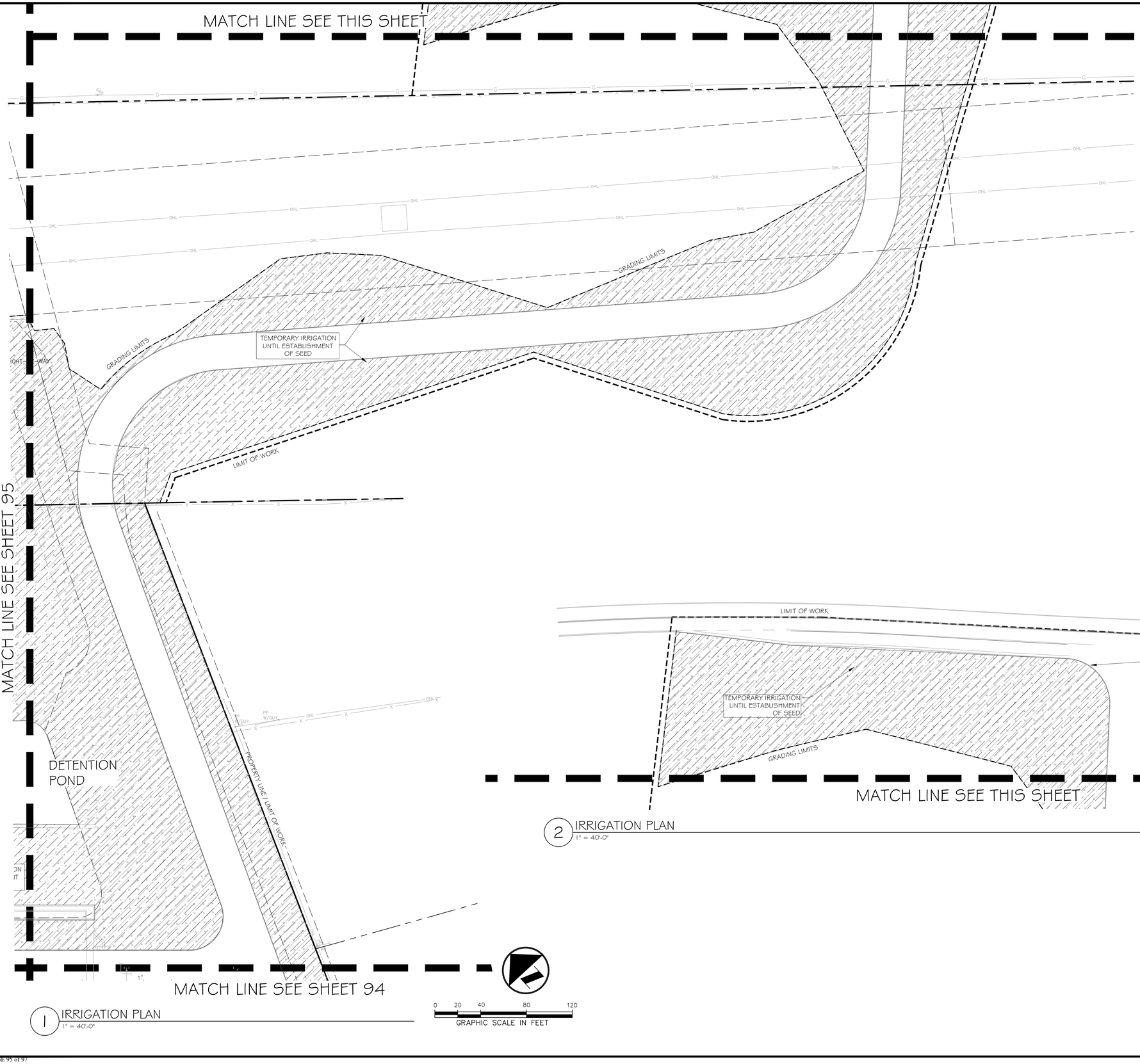
SHEET NO.
95
-OF 98



1 IRRIGATION PLAN
1" = 40'-0"

2 IRRIGATION PLAN
1" = 40'-0"

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL
25 50 10 20	HUNTER PROS-PRS30-04-CV-PCN 10

SYMBOL	MANUFACTURER/MODEL
	HUNTER ICZ-101-25
	AREA TO RECEIVE DRIPLINE HUNTER HDL-06-12-CV

SYMBOL	MANUFACTURER/MODEL
	HUNTER PGV-101G
	HUNTER HQ-44LRC
	SHUT OFF VALVE
MV	HUNTER ICV-G 2"
BF	FEBCO 825Y 2"
C	HUNTER A2C-3600-SS
SYNC	HUNTER SOLAR-SYNC
FS	HUNTER HFS-200
M	WATER METER 2"

IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21

IRRIGATION MAINLINE: PVC SCHEDULE 40

PIPE SLEEVE: PVC CLASS 200 SDR 21

Valve Callout
#↓ Valve Number
Valve Flow
#→ Valve Size

TEMPORARY IRRIGATION

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DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ETJ, TRAVIS COUNTY, TEXAS

IRRIGATION PLAN

STATE OF TEXAS
GEOFFREY B HALL
20304
LICENSED
PROFESSIONAL
ENGINEER
03/29/2022

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
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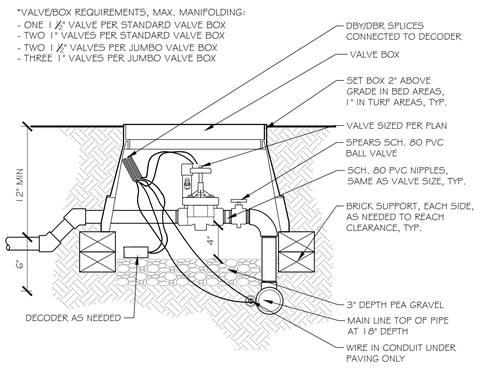
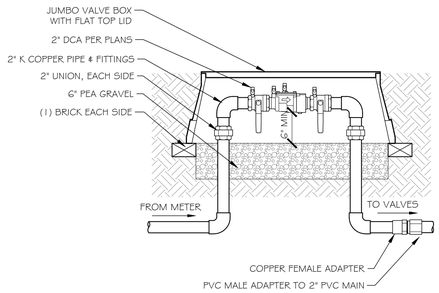
-OF 98



1 AUTOMATIC SYSTEM VALVE WITH DECODER

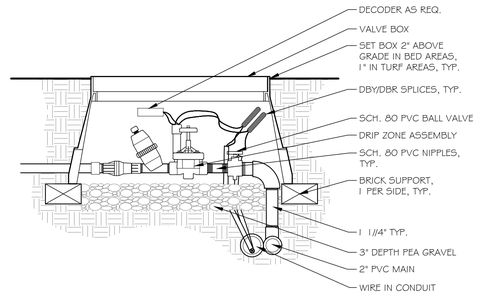
1 1/2" = 1'-0"

NOTE:
CONTRACTOR SHALL INSTALL Y STRAINER PER TCEQ REQUIREMENTS WITH DCA



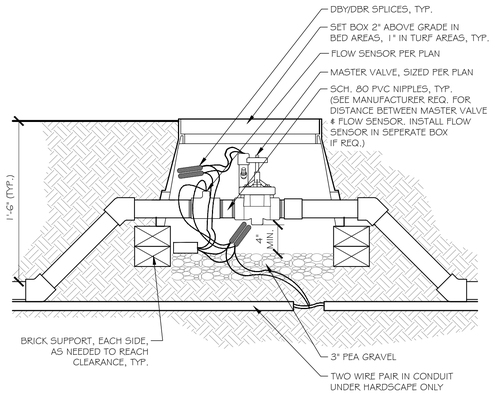
2 DOUBLE CHECK ASSEMBLY

1" = 1'-0"



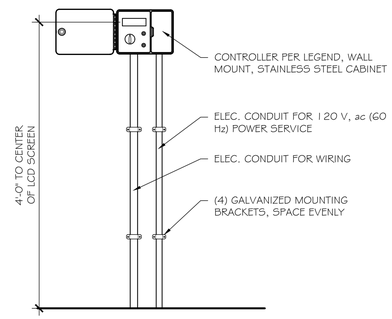
3 DRIP ZONE VALVE ASSEMBLY WITH DECODER

1 1/2" = 1'-0"



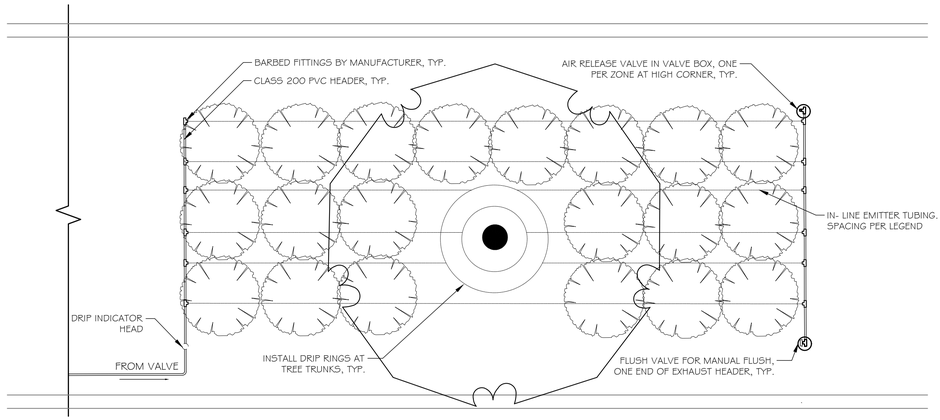
4 MASTER VALVE & FLOW SENSOR WITH DECODER

1 1/2" = 1'-0"



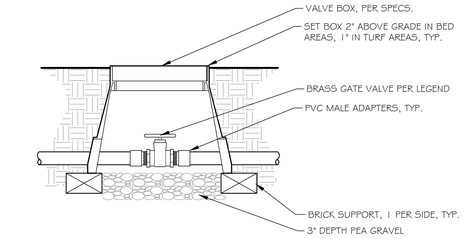
5 IRRIGATION CONTROLLER - WALL MOUNT

1" = 1'-0"



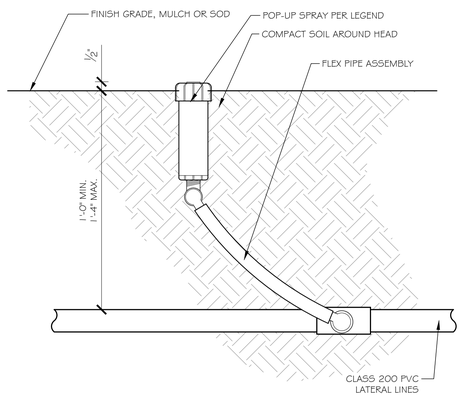
6 DRIP ZONE TYPICAL ENLARGEMENT

3/8" = 1'-0"



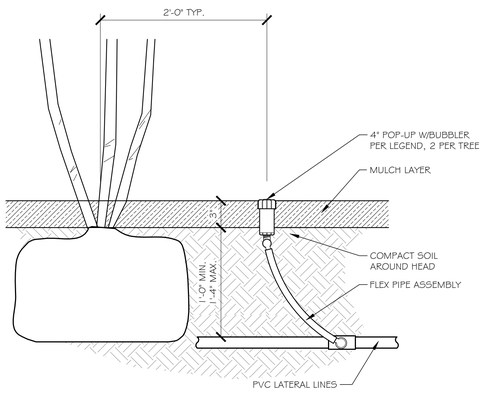
7 BRASS ISOLATION VALVE

1 1/2" = 1'-0"



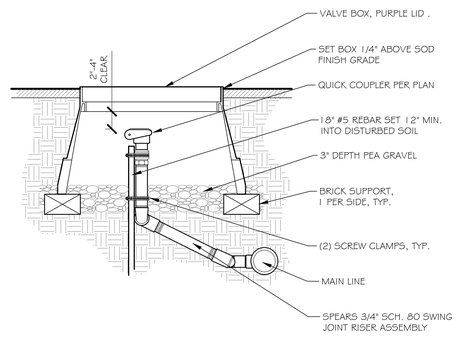
8 SPRAY HEAD / ROTATOR HEAD

3" = 1'-0"



9 BUBBLER HEAD

1 1/2" = 1'-0"



10 QUICK COUPLER VALVE

1 1/2" = 1'-0"

Pacheco Koch
8701 N. MOPAC EXPY. SUITE 320
AUSTIN, TX 78759
T: 512.485.0831
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008000

REVISIONS

NO.	DATE	DESCRIPTION	BY
	05/14/2021	CITY SUBMITTAL	AMH
	09/03/2021	CITY SUBMITTAL	AMH
	01/06/2022	CITY SUBMITTAL	AMH
	03/17/2022	CITY SUBMITTAL	AMH
	03/29/2022	CITY SUBMITTAL	AMH

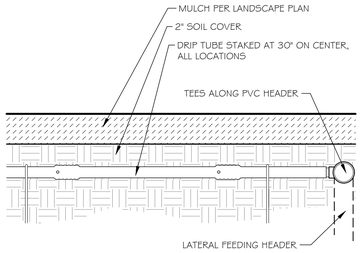
DALFEN INDUSTRIAL
6106 ROSS ROAD
CITY OF AUSTIN ET-J, TRAVIS COUNTY, TEXAS

IRRIGATION DETAILS

STATE OF TEXAS
GEOFFREY B. HALL
20304
LICENSED IRRIGATOR
03/29/2022

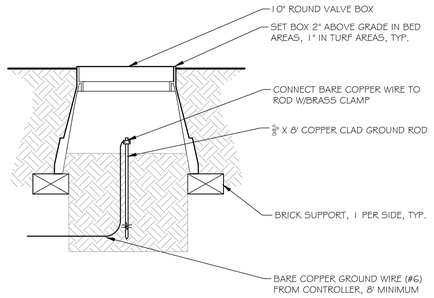
DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.
97
-OF 98



1 DRIP TUBE INSTALLATION - AT GRADE

3" = 1'-0"



2 CONTROLLER GROUNDING (ROD)

1 1/2" = 1'-0"

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IRRIGATION DETAILS

DESIGN	DRAWN	DATE
AMH	AMH	MAR 2022

SHEET NO.

98

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